



Executive Board Meeting
AGENDA
Fri, November 20, 2020 9:00 AM - 12:30 PM (PDT)
[https://zoom.us/j/97636415436?
pwd=WEJoM0paaGdla0hNcWFBL3Yrd015dz09](https://zoom.us/j/97636415436?pwd=WEJoM0paaGdla0hNcWFBL3Yrd015dz09)

You can also dial in with your phone +1 669 900 9128 US
Meeting ID: 976 3641 5436
Passcode: 516216

Agenda Item	Time	Pages
ROLL CALL, INTRODUCTIONS, AND TELECONFERENCE ETIQUETTE	9:00 AM	
PUBLIC COMMENT Guidelines	9:03 AM	
CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER	9:04 AM	
CONSENT CALENDAR	9:05 AM	
1 October 16, 2020 BACWA Executive Board Meeting Minutes		3-9
2 October 26 Special BACWA Executive Board Meeting Minutes		10-11
3 September 2020 Treasurer's Reports		12-21
APPROVALS AND AUTHORIZATIONS	9:12 AM	
4 Approval: BACWA Annual Report		22-32
5 Approval: Audit Report		33-55
POLICY/STRATEGIC	9:30 AM	
6 <u>Discussion</u> : Region 2 PFAS Study Update	10:45 AM	56-113
7 <u>Discussion</u> : PFAS Pollution Prevention		
8 <u>Discussion</u> : Nutrients		
a. Regulatory		
i. Next steps with Water Board		
ii. NST agenda 12/3		114
b. Technical Work		
i. Changing nitrogen inputs to the northern San Francisco Estuary report Link to Report		
ii. Update on RFP		
iii. NTT formation		
c. Governance Structure		
i. December 17 meeting to discuss nutrient BPA and permitting - BACWA participation		
BREAK		
9 <u>Discussion</u> : Debrief from Chlorine Residual Basin Plan Amendment adoption Link to 11/18 RWG agenda		
10 <u>Discussion</u> : Vulnerability Assessments for Climate Change - update		115-119
11 <u>Discussion</u> : Toxicity update - comments at adoption and NPDES implementation SWB Toxicity Page		120-121
12 <u>Discussion</u> : Nov 30 Draft agenda for Joint meeting with RWB		122
13 <u>Discussion</u> : Draft agenda for meeting with BAAQMD Managers		123
14 <u>Discussion</u> : Emergency management Roundtable (fires, PSPS, COVID)		
15 <u>Informational</u> : Support for BABC proposal for Prop 68 OPC grant		124-125
OPERATIONAL	12:00 PM	
16 <u>Discussion</u> : Draft Strategic Plan		126-132
17 <u>Discussion</u> : BACWA Power Supply Reliability Infoshare draft agenda		133
18 <u>Discussion</u> : Website Policy		134-135
19 <u>Discussion</u> : Committee leadership appreciation		
20 <u>Discussion</u> : Annual Meeting Planning - agenda and technical support		136
REPORTS	12:15 PM	
21 Committee Reports		137-139
22 Member Highlights		
23 Executive Director Report		140-141
24 Board Calendar and Action Items		142-143
25 Regulatory Program Manager Report		144

<div>26 Other BACWA Representative Reports</div> <div> <div>a. RMP Technical Committee</div> <div>b. RMP Steering Committee</div> <div>c. Summit Partners</div> <div>d. ASC/SFEI</div> <div>e. Nutrient Governance Steering Committee</div> <div> <div>e.i Nutrient Planning Subgroup</div> <div>e.ii NMS Technical Workgroup</div> </div> <div>f. SWRCB Nutrient SAG</div> <div>g. NACWA Taskforce on Dental Amalgam</div> <div>h. BAIRWMP</div> <div>i. NACWA Emerging Contaminants</div> <div>j. CASA State Legislative Committee</div> <div>k. CASA Regulatory Workgroup</div> <div>l. ReNUWit</div> <div>m. ReNUWit One Water</div> <div>n. RMP Microplastics Liaison</div> <div>o. Bay Area Regional Reliability Project</div> <div>p. WaterReuse Working Group</div> <div>q. San Francisco Estuary Partnership</div> <div>r. CPSC Policy Education Advisory Committee</div> <div>s. California Ocean Protection Council</div> <div>t. Countywide Water Reuse Master Plan</div> <div>u. CHARG - Coastal Hazards Adampation Resiliancy Group</div> </div> <div> <div>Mary Lou Esparza, Yuyun Shang, Samantha Engelage</div> <div>Karin North; Robert Wilson; Eric Dunlavey</div> <div>Lorien Fono; Lori Schectel</div> <div>Lorien Fono; Eileen White</div> <div>Eric Dunlavey; Eileen White; Lori Schectel</div> <div>Eric Dunlavey</div> <div>Eric Dunlavey</div> <div>Lorien Fono</div> <div>Tim Potter</div> <div>Cheryl Munoz; Linda Hu; Lorien Fono</div> <div>Karin North; Melody LaBella</div> <div>Lori Schectel</div> <div>Lorien Fono</div> <div>Jackie Zipkin; Karin North</div> <div>Jackie Zipkin, Eric Hansen</div> <div>Artem Dyachenko</div> <div>Eileen White</div> <div>Cheryl Munoz</div> <div>Eileen White; Lorien Fono</div> <div>Colleen Henry</div> <div>Lorien Fono</div> <div>Karin North, Pedro Hernandez</div> <div>Jackie Zipkin</div> </div>		145-149
27 SUGGESTIONS FOR FUTURE AGENDA ITEMS	12:25 PM	
NEXT MEETING	12:29 PM	
The next meeting of the Board is scheduled for December 18, 2020		
ADJOURNMENT	12:30 PM	



Executive Board Meeting Minutes

October 16, 2020

ROLL CALL AND INTRODUCTIONS

Executive Board Representatives: Lori Schectel (Central Contra Costa Sanitary District); Amit Mutsuddy (City of San Jose); Eileen White (East Bay Municipal Utility District); Amy Chastain (San Francisco Public Utilities Commission); Jackie Zipkin (EBDA).

Other Attendees:

<u>Name</u>	<u>Agency/Company</u>
Eric Dunlavey	City of San Jose
Lorien Fono	BACWA
Alina Constantinescu	LWA
Jennifer Dymont	BACWA
Tom Hall	EOA
Amanda Roa	Delta Diablo
Karin North	City of Palo Alto
Mary Cousins	Woodard & Curran
David Richardson	Woodard & Curran
Jennie Pang	SFPUC
Kevin Cesar	City of Millbrae
Talyon Sortor	Fairfield-Suisun Sewer District (FSSD)
Steve Moore	Ross Valley Sanitary District
Jared Voskuhl	CASA
Wynn Morgan	City of Burlingame WWTP
Ba Tran	City of Millbrae

Amit Mutsuddy started meeting at 9:01

ROLL CALL - taken

PUBLIC COMMENT – None

CONSIDERATION TO TAKE AGENDA ITEMS OUT OF ORDER

Agenda Item 4 was pulled from meeting.

CONSENT CALENDAR

- 1 August 21, 2020 BACWA Executive Board Meeting Minutes
- 2 September 17-18 Special BACWA Executive Board Meeting Minutes

3 August 2020 Treasurer's Reports

Consent Calendar Items 1, 2 and 3: A motion to approve was made by EBDA, Jackie Zipkin and seconded by CCCSD, Lori Schectel. The motion was approved unanimously.

APPROVALS AND AUTHORIZATIONS

4 Approval: SGS AXYS Contract for \$60,932, PFAS Phase I study analytical costs

Item 4: Pulled.

5 Authorization: EOA Contract for FY21 (\$3,600) Chlorine BPA support

BACWA Executive Director reviewed contract briefly. The contract was to provide support for responding to the draft Chlorine Residual BPA through comments to the Regional Water Board. No approval necessary.

POLICY/STRATEGIC

6 Discussion: Debrief from Online Pardee meeting

BACWA ED discussed AIR issues and reported that Sarah Deslauriers gave an update and strategies presentation on second day of Pardee Online meeting in September 2020. Sarah Deslauriers is scheduling a meeting with upper management at AIR Board in December and the agenda will be available in November meeting packet. Group discussed board attendance and mentioned it becomes a public meeting if more than 2 board members attend the meeting in December. BACWA ED mentioned in January 2021 there is a regular BACWA AIR Committee meeting.

BACWA ED discussed CEC monitoring studies and fair & equitable funding for research. Ongoing discussion to develop sampling plan. More details at November meeting.

BACWA ED discussed Biosolids. Significant biosolids land application in region with little oversight from the Regional Water Board. BACWA RPM summarized presentation – safety, quality, and public support of expansion. Discussion followed.

BACWA ED discussed power supply reliability and their strategy on communicating this issue with regulators. Lengthy group discussion on power supply plans and communication from power entities.

7 Discussion: Nutrients

a. Regulatory

i. Outcomes from Online Pardee NST meeting

October 16, 2020 Executive Board Meeting Minutes

BACWA ED summarized discussion at Pardee Online meeting regarding load caps based on science or antidegradation approach. BACWA ED wanted to know how discussion influenced members' thoughts on the subject. Lengthy general discussion on load caps; members discussed whether they were better off agreeing to antidegradation approach to give us time to research the science. Some questions on the long-term sustainability of BACWA funding the science program were raised. Timing and flexibility of implementing load caps were discussed. Two key issues highlighted were the importance of implementing the caps on a subembayment basis to allow trading, and the importance of defining protection for early adopters for nutrient removal. NST group will meet to discuss & strategize more before end of year.

Action item – BACWA ED to send out doodle poll to schedule next NST meeting

ii. Communicating Competing Priorities relative to nutrient reduction

BACWA ED discussed nutrient reduction in the context of competing and balancing priorities as well as stable rate increases. Lengthy group discussion followed about regulatory oversight, their facilities and seismic, flood, and sea rise priorities. Taking a leadership role in this area is important. Group would like to present individual agency challenges at State Water Board meetings to educate them on their different issues. Group felt this should be a standing item in the meetings or presented during permit negotiations, in the context of requesting appropriate implementation time frames. Consensus was that presentations should be issue specific vs. agency specific those be tied to negotiation points. This issue will be an ongoing discussion.

BREAK 10:50-11:05

b. Technical Work

i. Draft RFP for technical review support - final review

BACWA ED shared RFP document. This will be an ongoing as-needed contract, and the document has been updated with comments from members. Group discussed level of financial effort is \$50,000 for FY21, and proposed evaluation criteria. BACWA ED also asked for selection committee volunteers and reviewed project schedule. Board member requested that final selection be brought to November board meeting and approval of contract will happen at December board meeting.

ii. Formation of BACWA Nutrient Technical Team - mission and timing

BACWA ED summarized other groups where Nutrients are discussed. Discussed the idea of forming a group to have in-depth discussion about implications and science around NMS documents. Group agreed to support group with their staff.

Action item: BACWA ED to move forward with creating group.

iii. Support for Hazen & Sawyer Proposal: Linking Nutrient Reductions to Receiving Water Responses (RFP 5078)

October 16, 2020 Executive Board Meeting Minutes

BACWA ED stated BACWA will participate, but will not be exclusive to this proposal team. BACWA is listed as an interested utility/association on the RFP.

c. Governance Structure

The planning subcommittee is planning a special meeting to discuss the relationship between a standard action (Basin Plan Amendment), the permitting approach, and scientific findings.

Action item: BACWA ED to share meeting date with board once it's scheduled.

- i. September 11 Steering Committee meeting summary
- ii. September 2 PSC meeting notes
- iii. October 7 PSC meeting notes

8 Discussion: Region 2 PFAS Study Update

BACWA RPM shared there was a BACWA Lab Committee & SFEI call to talk through the proposed sampling plan. The 13 agencies that are participating have been identified. Samples will be collected in November. There will be an additional conference call with SFEI regarding sampling process and review of phase 1 contract. State Water Board does want recycled water samples so it is TBD if this will be done now or in phase 2.

9 Discussion: Comments on Chlorine Residual Basin Plan Amendment

BACWA RPM submitted comment letter on October 2, 2020. Results will be known in November. RPM did share that ML will likely not be changed and ask group if they wanted to push this point more in our testimony or not. Group agreed to only express support during oral comments and to ask for a regional blanket permit amendment to incorporate BPA into existing permits.

10 Discussion: Vulnerability Assessments for Climate Change

BACWA ED said State Water Board would like more information on facility vulnerability due to climate change. Shared State Water Board's draft 13267 info request in packet and reviewed draft Regional Water Board questionnaire in meeting. Regional Water Board questionnaire is more in-depth and includes sea level, ground water rise, changing climate and weather, power outage and wildfires. Lengthy group discussion followed on the methods of gathering information to answer questions. Group agreed that individual agencies, not BACWA staff, will be responsible for responding to the Regional Water Board's survey.

Action item – BACWA staff to work with Regional Water Board to develop template to gather information on vulnerability to climate change and summarize regional adaptation efforts.

11 Discussion: BACWA Power Supply Reliability Infoshare

October 16, 2020 Executive Board Meeting Minutes

BACWA ED asked which POTW staff should answer questions about power supply reliability? Group discussed and felt individual agencies should decide because they are all structured differently.

12 Discussion: Toxicity engagement with the State Water Board

BACWA ED mentioned that different stakeholders see different purposes in the proposed *Ceriodaphnia* study. Group discussed study timing, costs, and how to finance the *Ceriodaphnia* study. Next draft toxicity policy will be released October 31, 2020 and there are plans for it to be adopted on December 1, 2020.

13 Discussion: Emergency management Roundtable (fires, PSPS, COVID)

BACWA ED brought up that we were running out of time. Board agreed to just discuss COVID. EBMUD allowing staff to work remotely through end of year and is concerned about COVID in winter season. City of San Jose engineering is working onsite, others are at home, and the agency is doing inspections. CCCSD staff who can telework are still working remotely, the lab is rotating, and pretreatment is conducting inspections on rotation. General discussion on the possibility of working remotely permanently to meet green goals, save money on rent, better traffic. Group also discussed staff working remotely out of the area temporarily and how they are handling those requests.

OPERATIONAL

14 Discussion: BACWA Succession Plan

BACWA ED reviewed recently alternates and new members. Referred to document in packet. Need a new vice-chair for Collection Systems Committee.

15 Discussion: Annual Meeting Planning

BACWA ED discussed preliminary agenda for annual meeting. Annual meeting is in February 2021. Topics & timing can be refined at next meeting. Group agreed on topics.

REPORTS

16 Committee Reports

BACWA ED referred to committee reports in the packet.

17 Member Highlights

CCCSD settled with Riverwatch and suggested visiting their website to watch board meeting.

18 Executive Director Report

BACWA ED referred to report in the packet.

October 16, 2020 Executive Board Meeting Minutes

19 Regulatory Program Manager Report

BACWA RPM referred to report in the packet.

20 Other BACWA Representative Reports

- a. RMP Technical Committee Mary Lou Esparza, Yuyun Shang, Samantha Engelage
- b. RMP Steering Committee Karin North; Robert Wilson; Eric Dunlavey
- c. Summit Partners Lorien Fono; Lori Schectel
- d. ASC/SFEI Lorien Fono; Eileen White
- e. Nutrient Governance Steering Committee Eric Dunlavey; Eileen White; Lori Schectel
- e.i Nutrient Planning Subgroup Eric Dunlavey
- e.ii NMS Technical Workgroup Eric Dunlavey
- f. SWRCB Nutrient SAG Lorien Fono
- g. NACWA Taskforce on Dental Amalgam Tim Potter
- h. BAIRWMP Cheryl Munoz; Linda Hu; Lorien Fono
- i. NACWA Emerging Contaminants Karin North; Melody LaBella
- j. CASA State Legislative Committee Lori Schectel
- k. CASA Regulatory Workgroup Lorien Fono
- l. ReNUWIt Jackie Zipkin; Karin North
- m. ReNUWIt One Water Jackie Zipkin, Eric Hansen
- n. RMP Microplastics Liaison Artem Dyachenko
- o. Bay Area Regional Reliability Project Eileen White
- p. WaterReuse Working Group Cheryl Munoz
- q. San Francisco Estuary Partnership Eileen White; Lorien Fono
- r. CPSC Policy Education Advisory Committee Colleen Henry
- s. California Ocean Protection Council Lorien Fono
- t. Countywide Water Reuse Master Plan Karin North, Pedro Hernandez

u. CHARG - Coastal Hazards Adaptation Resiliency Group Jackie Zipkin

19 SUGGESTIONS FOR FUTURE AGENDA ITEMS

NEXT MEETING

The next meeting of the Board is scheduled for November 20, 2020

ADJOURNMENT

12:49 PM

DRAFT



BACWA Executive Board Meeting – Special Meeting

Monday, October 26 10:30-11am

Amit Mutsuddy started meeting at 10:30 am

Agenda

1) Introductions/roll call –10:30am

Amit Mutsuddy announced Zoom participants

Executive Board Representatives: Lori Schectel (Central Contra Costa Sanitary District); Eileen White (EBMUD); Amit Mutsuddy (City of San Jose); Amy Chastain (San Francisco Public Utilities Commission); Jacqueline Zipkin (East Bay Dischargers Authority)

Other Attendees:

Name	Agency/Company
Ryan Batjiaka	SFPUC
Jennie Pang	SFPUC
Sarah Deslauriers	Carollo Engineers
Lorien Fono	BACWA
Jennifer Dymont	BACWA

2) Instructions and etiquette

3) Approvals and Authorizations

- a) Approval: SGS AXYS Contract for \$60,932, PFAS Phase I study analytical costs.
BACWA ED explained contract. This is the same contract that was presented at BACWA Executive Board Meeting on October 16, 2020 but was pulled due to a delay in legal review by SGS AXYS. BACWA ED asked if there were any questions. Questions about cost of sample shipping and schedule of project. No other questions.

***Item 3a:** A motion to approve was made by CCCSD, Lori Schectel and seconded by EBDA, Jaclyn Zipkin. The motion was approved unanimously.*

- b) Approval: UC Davis contract on behalf of BABC for \$64,500 Study of plant Uptake of PFAS Grown in Biosolid-Amended Soils.
BACWA ED explained scope of project. SFPUC staff and Carollo Engineers explained project in more depth and the schedule.

***Item 3b:** A motion to approve was made by EBMUD, Eileen White and seconded by SFPUC, Jennie Pang. The motion was approved unanimously.*

4) Adjournment 10:40 am



Bay Area Clean Water Agencies

A Joint Powers Public Agency

Leading the Way to Protect our Bay

October 19th, 2020

MEMO TO: Bay Area Clean Water Agencies Executive Board
MEMO FROM: Damien Charléty, Treasurer, East Bay Municipal Utility District
SUBJECT: Third Month FY 2021 Treasurer's Report

As required by section eight of the Joint Powers Agreement establishing the Bay Area Clean Water Agencies (BACWA) and California Government Code Sections 6500 et seq., attached is the BACWA Treasurer's Report for the period covering **July 1, 2020 through September 30, 2020** (Three months of Fiscal Year 2021). This report covers expenditures, cash receipts, and cash transfers for the following BACWA funds

- Bay Area Clean Water Agencies (BACWA),
- BACWA Legal Reserve Fund (Legal Rsrv),
- Water Quality Attainment Strategy (WQA CBC),
- Bay Area Biosolids Coalition (BABC),
- Bay Area Chemical Consortium (BACC),
- Water/Wastewater Operator Training (WOT),
- Prop84 Bay Area Integrated Regional Water Mgmt (PRP84)

Houck, Matt

From: Charléty, Damien
Sent: Thursday, October 22, 2020 9:45 AM
To: Houck, Matt
Subject: RE: BACWA - September 2020 Treasurer's Report

Approved.

From: Houck, Matt
Sent: Wednesday, October 21, 2020 9:02 AM
To: Charléty, Damien
Subject: BACWA - September 2020 Treasurer's Report

Hi Damien,

Please approve BACWA - September 2020 Treasurer's Report for distribution.

Thanks,

Matt Houck

Accountant I
East Bay Municipal Utility District
375 11TH St, MS 402, Oakland, CA 94607
P 510-287-0238



MONTHLY FINANCIAL SUMMARY REPORT

September 2020

Fund Balances

In FY21 BACWA has three operating funds (BACWA, Legal, and CBC) and two pass-through funds for which BACWA provides only contract administration services (WOT, BABC & BACC).

BACWA Fund: This fund provides the resources for BACWA staff, its committees, and other administrative needs. The ending fund balance on September 30, 2020 was \$1,576,953 which is significantly higher than the target reserve of \$209,430 which is intended to cover 3 months of normal operating expenses based on the BACWA FY21 budget. \$559,790 of the ending fund balance is shown on the BACWA Fund & Investments Balance Report September 30, 2020 as encumbered to meet ongoing operating line item expenses for BAPPG Committee Support, Legal services, IT services, Board meeting expenses, accounting services and BACWA staff support. This leaves actual unencumbered excess funds of \$807,733 (i.e., actual fund balance of \$1,017,163 less target reserves) as of September 30, 2020. As the details of the costs of the various regulatory requirements included in the 2nd Nutrient Watershed Permit become better defined, these excess funds may be transferred to the CBC fund and used to offset potential Nutrient Surcharge increases to the BACWA members.

CBC Fund: This fund provides the resources for completing special investigations as well as meeting regulatory requirements. The ending fund balance on September 30, 2020 was \$1,919,383 which is significantly higher than the target reserve of \$1,000,000. \$755,877 of the ending fund balance is encumbered to meet line item expenses for completion of the Group Annual Report contract, completion of the NBS Study and Recycled Water Evaluation. This leaves an actual unencumbered fund balance of \$163,506 (i.e., actual fund balance of \$1,163,506 less \$1,000,000 target reserves) as of September 30, 2020. Disbursements for FY21 from the CBC fund include \$2.8m fund the nutrient scientific investigations as required by Nutrient Watershed Permit.

Legal Fund: This fund provides for needed legal services. The ending balance was \$300,000 which is at the target reserve of \$300,000.


Budget to Actual

The BACWA Annual Budget includes all expected revenues as well as budgeted expenses. Transfers are made from the BACWA Fund and/or the CBC Fund to balance the Annual Budget if expenses exceed revenues and vice versa. It is therefore important to achieve the anticipated revenues and not exceed the budgeted expenses on an annual basis to maintain the BACWA and CBC Fund balances at the levels projected in the 5 Year Plan.

Revenues as of September 30, 2020 (25% of the FY) are at 54%.

Expenses as of September 30, 2020 (25% of the FY) are at 29%

**FY 2021
BACWA BUDGET to ACTUAL**

						
<u>BACWA FY21 BUDGET</u>	<u>Line Item Description</u>	<u>FY 2021 Budget</u>	<u>Actual Sept 2020</u>	<u>Actual % of Budget Sept 2020</u>	<u>Variance</u>	<u>NOTES</u>
REVENUES & FUNDING						
Dues	Principals' Contributions	\$516,909	\$516,910	100%	\$1	5 @ \$103,382
	Associate & Affiliate Contributions	\$187,793	\$1,675	1%	-\$186,118	13 Assoc @ \$8,531; 45 Affiliate @ \$1,708.
Fees	Clean Bay Collaborative	\$675,000	\$360,750	53%	-\$314,250	Prin: \$450,000; Assoc/Affil: \$225,000
	Nutrient Surcharge	\$1,700,000	\$821,955	48%	-\$878,045	See Nutrient Surcharge Spreadsheet
	Voluntary Nutrient Contributions	\$0	\$0	0%	\$0	
Other Receipts	AIR Non-Member	\$7,075	\$0	0%	-\$7,075	Santa Rosa
	BAPPG Non-Members	\$3,954	\$0	0%	-\$3,954	Stanta Rosa, Sac Reg'l, Vacaville; \$1,317/each
	Other	\$0	\$0	0%	\$0	
Fund Transfer	Special Program Admin Fees (WOT)	\$5,202	\$0	0%	-\$5,202	Flat fee
	Special Program Admin Fees (BACC)	\$20,010	\$0	0%	-\$20,010	300 hours of AED support, based on hours billed
	Special Program Admin Fees (BABC)	\$6,000	\$0	0%	-\$6,000	AED and RPM support, hours billed
Interest Income	LAIF	\$20,000	\$8,265	41%	-\$11,735	BACWA, Legal, & CBC Funds invested in LAIF
	Higher Yield Investments	\$18,000	\$0	0%	-\$18,000	Alternative Investment Interest (Legal & CBC Funds invested in AltInv)
	Total Revenue	\$3,159,943	\$1,709,555	54.10%	-\$1,450,388	
EXPENSES						
Labor						
	Executive Director	\$190,000	\$31,667	17%	-\$158,333	No change from FY20 contract
	Assistant Executive Director	\$102,551	\$26,191	26%	-\$76,360	\$66.7/hour; Reflects 1500 hours
	Regulatory Program Manager	\$141,170	\$40,155	28%	-\$101,015	\$100.16/hour; Reflects 1375 hours/yr - Contract TBD
	Total	\$433,721	\$98,013	23%	-\$335,708	
Administration						
	EBMUD Financial Services	\$42,448	\$0	0%	-\$42,448	
	Auditing Services	\$5,345	\$0	0%	-\$5,345	Financial Audit Services through EBMUD
	Administrative Expenses	\$7,959	\$0	0%	-\$7,959	Travel, Supplies, Parking, Mileage, Tolls, Misc.
	Insurance	\$4,776	\$4,971	104%	\$195	SLIP Insurance. Alliant Insurance.
	Total	\$60,528	\$4,971	8%	-\$55,557	
Meetings						
	EB Meetings	\$2,653	\$0	0%	-\$2,653	Catering, Venue, other expenses
	Annual Meeting	\$14,369	\$0	0%	-\$14,369	Catering, Venue, other expenses
	Pardee	\$6,367	\$0	0%	-\$6,367	Catering, Venue, other expenses
	Misc. Meetings	\$5,306	\$125	2%	-\$5,181	Hol & Comm Chair Lunch, Staff Mtgs, Fin Comm, Summit Ptnrs, CASA, NACWA Tech WS, Low Flow WS
	Total	\$28,695	\$125	0%	-\$28,570	
Communication						
	Website Hosting	\$612	\$0	0%	-\$612	Computer Courage
	File Storage	\$765	\$0	0%	-\$765	Box.com
	Website Development/Maintenance	\$1,530	\$0	0%	-\$1,530	Domain registrations, website changes
	IT Support	\$2,652	\$0	0%	-\$2,652	As needed
	Other Commun	\$1,785	\$370	21%	-\$1,415	MS Exchange, Survey Monkey, Carbonite, Doodle Polls, PollEv, GoToMtg, HelloSign, Zoom
	Total	\$7,344	\$370	5%	-\$6,974	

FY 2021
BACWA BUDGET to ACTUAL

EXPENSES						
Legal						
	Regulatory Support	\$2,706	\$0	0%	-\$2,706	Downey Brand LLP
	Executive Board Support	\$2,176	\$0	0%	-\$2,176	Day Carter & Murphy LLP
	Total	\$4,882	\$0	0%	-\$4,882	
Committees						
	AIR	\$76,000	\$3,905	5%	-\$72,095	\$75k consulting support, \$1k misc expenses. Carollo Engineers
	BAPPG	\$130,000	\$31,161	24%	-\$98,839	Includes CPSC @ \$10,000, OWOW @ \$10,000, and Pest. Reg Spt. @ \$60,000. S.Hughes, TDC and SGA
	Biosolids Committee	\$1,000	\$0	0%	-\$1,000	
	Collections System	\$1,000	\$0	0%	-\$1,000	
	InfoShare Groups	\$1,750	\$0	0%	-\$1,750	Funds for 2 workgroups (\$750 for Asset Mgmt - new in FY21; \$1,000 for O&M)
	Laboratory Committee	\$1,000	\$0	0%	-\$1,000	
	Permits Committee	\$1,300	\$0	0%	-\$1,300	All meetings moved to include lunch hour for commuting purposes
	Pretreatment	\$1,000	\$0	0%	-\$1,000	
	Recycled Water Committee	\$1,000	\$0	0%	-\$1,000	
	Misc Committee Support	\$45,000	\$0	0%	-\$45,000	
	Manager's Roundtable	\$1,000	\$0	0%	-\$1,000	
	Total	\$260,050	\$35,066	13%	-\$224,984	
Collaboratives						
	Collaboratives					
	State of the Estuary (SFEP-biennial)	\$20,000	\$0	0%	-\$20,000	Biennial in Odd Fiscal Years. (Paid biennially in odd years for even year conference)
	Arleen Navarret Award	\$0	\$0	0%	\$0	Biennial in Even Fiscal Years. Award amount increased in FY20
	FWQC (Fred Andes)	\$7,500	\$0	0%	-\$7,500	
	Stanford ERC (ReNUWit)	\$10,000	\$0	0%	-\$10,000	
	Misc	\$5,000	\$0	0%	-\$5,000	BayCAN, NBWA
	Total	\$42,500	\$0	0%	-\$42,500	
Other						
	Unbudgeted Items					
	Other	\$0	\$0	0%	\$0	
	Total	\$0	\$0	0%	\$0	
Tech Support						
	Technical Support					
	Nutrients					
	Watershed	\$2,800,000	\$1,000,000	36%	-\$1,800,000	Advance funding for 2nd Watershed Permit Science Studies. SFEI
	NMS Voluntary Contributions	\$0	\$30,000	0%	\$30,000	SFEI \ City of Palo Alto 2017 Lower South Bay modeling
	Additional work under permit	\$100,000	\$0	0%	-\$100,000	Includes HDR PO for \$225k spread out over FY20-24.
	Regional Study on Nature based sysemts	\$200,000	\$62,702	31%	-\$137,298	New Line item in FY20. SFEI
	Regional Recycling Evaluation	\$60,000	\$6,176	10%	-\$53,824	HDR PO for \$154K FY20-24
	Nutrient Workshop(s)	\$0	\$0	0%	\$0	Pilot Studies/Plant Review/Innovative Technologies
	General Tech Support	\$250,000	\$0	0%	-\$250,000	AB617 emission factors, nutrient technical review, other nutrient support, PFAS
	CEC Investigations	\$50,000	\$0	0%	-\$50,000	Support for studies through RMP (PFAS in FY21). SFEI
	Risk Reduction	\$7,500	\$0	0%	-\$7,500	\$50,000 over 5 years (FY19-FY23) 2 Contracts for \$25,000 each over FY19, 20, & 21
	Total	\$3,467,500	\$1,098,878	32%	-\$2,368,622	
	TOTAL EXPENSES	\$4,305,220	\$1,237,423	28.74%	-\$3,067,797	
	NET INCOME BEFORE TRANSFERS	-\$1,145,277				
	TRANSFERS FROM RESERVES	\$1,145,277				aligns with strategy of drawing down reserves to lessen impact of Nutrient Surcharge
	NET INCOME AFTER TRANSFERS	\$0				
	TOTAL OPERATING BUDGET	\$837,720				
	OPERATING RESERVE	\$209,430				

BACWA Fund Report as of September 30, 2020

BACWA FUND BALANCES - DATA PROVIDED BY ACCOUNTING DEPT.							
DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL RECEIPTS TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	OUTSTANDING ENCUMBRANCES	MONTH-END UNOBLIGATED FUND BALANCE
800	BACWA	1,195,233	520,265	138,545	1,576,953	559,790	1,017,163
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000
805	CBC	1,772,881	1,245,380	1,098,878	1,919,383	755,877	1,163,506
	SUBTOTAL 1	3,268,114	1,765,645	1,237,423	3,796,336	1,315,667	2,480,669
802	BABC	216,514	36,750	12,332	240,932	78,793	162,139
806	BACC	(1,563)	-	-	(1,563)	-	(1,563)
810	WOT	276,164	-	-	276,164	-	276,164
	SUBTOTAL 2	491,115	36,750	12,332	515,533	78,793	436,740
*811	PRP84	196,806	-	-	196,806	-	196,806
	SUBTOTAL 3	196,806	-	-	196,806	-	196,806
	GRAND TOTAL	3,956,035	1,802,395	1,249,755	4,508,675	1,394,460	3,114,215

Top Chart: Reflects CASH on the Books Includes Encumbrances
Bottom Chart: Reflects CASH in the Bank Includes Payables (bills received but not paid)
Allocations: Priority for non-liquid investments

BACWA INVESTMENTS BALANCES - DATA PROVIDED BY TREASURY DEPT.													
DEPTID	DESCRIPTION	FISCAL YEAR BEGINNING FUND BALANCE	TOTAL RECEIPTS TO-DATE	TOTAL DISBURSEMENTS TO-DATE	MONTH-ENDING FUND BALANCE	RECONCILIATION TO FINANCIAL STATEMENTS	MONTH-END RECONCILED FUND BALANCE	UNINVESTED CASH BALANCES	LAIF INVESTMENTS AMOUNTS	LAIF INVESTMENTS PERCENTAGE	ALTERNATIVE INVESTMENTS AMOUNTS	ALTERNATIVE INVESTMENTS IDENTIFIERS	ALTERNATIVE INVESTMENT INSTRUCTIONS AND NOTES
800	BACWA	1,195,233	520,265	138,545	1,576,953	116,879	1,693,832	1,650,615	43,217	2%	-		priority # 3 for allocation
804	LEGAL RSRV	300,000	-	-	300,000	-	300,000	-	300,000	13%	-		priority # 1 for allocation
805	CBC	1,772,881	1,245,380	1,098,878	1,919,383	-	1,919,383	-	1,919,383	85%	-		priority # 2 for allocation
	SUBTOTAL 1	3,268,114	1,765,645	1,237,423	3,796,336	116,879	3,913,215	1,650,615	2,262,600	100%	-		

802	BABC	216,514	36,750	12,332	240,932	-	240,932	240,932	-	0%	-		pass-through funds, no allocation
806	BACC	(1,563)	-	-	(1,563)	-	(1,563)	(1,563)	-	0%	-		
810	WOT	276,164	-	-	276,164	-	276,164	276,164	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 2	491,115	36,750	12,332	515,533	-	515,533	515,533	-	0%	-		
811	PRP84	196,806	-	-	196,806	-	196,806	196,806	-	0%	-		pass-through funds, no allocation
	SUBTOTAL 3	196,806	-	-	196,806	-	196,806	196,806	-	0%	-		
	GRAND TOTAL	3,956,035	1,802,395	1,249,755	4,508,675	116,879	4,625,554	2,362,954	2,262,600	-			

*Org 811 beg balance adjusted to reflect disbursement (147.7K) accrued after June 2020 TR published.

To be used to cover Reconciliation to Financial Statements (\$0)

Reconciliation to Trial Balance - accrual basis

Per Report above:

General	1,765,645	STB	1493	2,262,600	
WOT	36,750	STB	1505	<u>2,362,954</u>	
PROP	-			4,625,554	-
		STB	2135	<u>(116,879)</u>	
subtotal	1,802,395			4,508,675	-

Billings-Pending Receipts

4686	Mem Contrib	89,250
4687	Transfer	-
4690	Assoc Contrib	(1,675)
4696	Other	294,964
4731	State Grant	-
4732	Grant Retention	-
subtotal		382,539

Trial Balance Revenue Accounts

4411	Interest	(8,265)
4686	Mem Contrib	(1,003,660)
4687	Transfer	-
4690	Assoc Contrib	-
4696	Other	(1,173,009)
4731	State Grant	-
4732	Grant Retention	-
subtotal		(2,184,934)
Difference		(0)

BACWA Revenue Report as of September 30, 2020

FUND #	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers, Others	Admin & General	Contributons	Interest, Transfers, Others	ACTUAL	
800	Bay Area Clean Water Agencies	0408511	Administrative & General	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1011099	BDO Member Contributions	516,909	-	206,764	-	-	516,910	-	516,910	(1)
800	Bay Area Clean Water Agencies	1011108	BDO Other Receipts	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1011109	BDO Fund Transfers	5,202	-	-	-	-	-	-	-	5,202
800	Bay Area Clean Water Agencies	1011117	BDO- Interest Income from LAIF	20,000	-	-	-	-	-	1,680	1,680	18,320
800	Bay Area Clean Water Agencies	1011133	BDO Assoc.&Affiliate Contr	187,793	-	-	-	-	-	-	-	187,793
800	Bay Area Clean Water Agencies	1014251	BDO Non-Member Contr BAPPG	3,954	-	-	-	-	-	-	-	3,954
800	Bay Area Clean Water Agencies	1014252	BDO Non-Member Contr AIR	7,075	-	-	-	-	-	-	-	7,075
800	Bay Area Clean Water Agencies	1014511	BDO-Alternative Investment Inc	18,000	-	-	-	-	-	-	-	18,000
800	Bay Area Clean Water Agencies	1015567	BACC - AED Support	20,010	-	-	-	-	-	-	-	20,010
800	Bay Area Clean Water Agencies	1015568	BABC - AED and RPM Support	6,000	-	-	-	-	-	-	-	6,000
800	Bay Area Clean Water Agencies	1015265	BDO Other Receipts (Misc)	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1015266	BDO Affiliate/Associate Dues	-	-	-	-	-	-	-	-	-
800	Bay Area Clean Water Agencies	1015267	BDO Affil/CS/Assoc Dues	-	-	-	-	-	1,675	-	1,675	(1,675)
BACWA TOTAL				784,943	-	206,764	-	-	518,585	1,680	520,265	264,678
805	WQA-CBC	1011099	BDO Member Contributions	675,000	-	180,000	-	-	360,750	-	360,750	314,250
805	WQA-CBC	1011108	BDO Other Receipts	1,700,000	-	293,173	-	-	878,045	-	878,045	821,955
805	WQA-CBC	1011117	BDO- Interest Income from LAIF	-	-	-	-	-	-	6,585	6,585	(6,585)
805	WQA-CBC	1014528	BDO-Voluntary Nutrient Contrib	-	-	-	-	-	-	-	-	-
WQA CBC TOTAL				2,375,000	-	473,173	-	-	1,238,795	6,585	1,245,380	1,129,620
TOTAL				3,159,943	-	679,937	-	-	1,757,380	8,265	1,765,645	1,394,298

	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers, Others	Admin & General	Contributons	Interest, Transfers, Others	ACTUAL	
802	BABC	1011099	BDO Member Contributions	-	-	12,250	-	-	36,750	-	36,750	(36,750)
802	BABC	1011109	BDO Fund Transfers	-	-	-	-	-	-	-	-	-
BABC TOTAL				-	-	12,250	-	-	36,750	-	36,750	(36,750)
810	WOT	1011117	BDO- Interest Income from LAIF	-	-	-	-	-	-	-	-	-
WOT TOTAL				-	-	-	-	-	-	-	-	-

	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers, Others	Admin & General	Contributons	Interest, Transfers, Others	ACTUAL	
811	PROP 84	1011142	Administrative Support	-	-	-	-	-	-	-	-	-
PROP TOTAL				-	-	-	-	-	-	-	-	-

Grand Total				3,159,943	-	692,187	-	-	1,794,130	8,265	1,802,395	1,357,548
--------------------	--	--	--	------------------	---	----------------	---	---	------------------	--------------	------------------	------------------

BACWA Expense Detail Report for September 30, 2020

EXPENSE TYPE	JOB	AMENDED BUDGET	CURRENT PERIOD				YEAR TO DATE				OBLIGATED	UNOBLIGATED
			ENC	PV	DA	JV	ENC	PV	DA	JV		
LABOR												
AS-Executive Director	1011123	190,000	(31,667)	31,667	-	-	158,333	31,667	-	-	190,000	-
AS-Assistant Executive Directo	1011124	102,551	(9,071)	9,071	-	-	76,360	26,191	-	-	102,551	-
AS-Regulatory Program Manager	1011149	141,170	(27,619)	27,619	-	-	140,966	40,155	-	-	181,121	(39,951)
ADMINISTRATION												
AS-EBMUD Financial Services	1011125	42,448	-	-	-	-	42,448	-	-	-	42,448	-
AS-Audit Services	1014512	5,345	(5,240)	5,240	-	-	5,240	5,240	-	(5,240)	5,240	105
AS-BACWA Admin Expense	1011118	7,959	-	-	-	-	-	-	-	-	-	7,959
AS-Insurance	1011126	4,776	-	-	4,971	-	-	-	4,971	-	4,971	(195)
MEETINGS												
GBS-Meeting Support-Annual	1014514	14,369	-	-	-	-	-	-	-	-	-	14,369
GBS-Meeting Support-Exec Bd	1014513	2,653	-	-	-	-	2,653	-	-	-	2,653	-
GBS-Meeting Support-Misc	1014516	5,306	-	-	125	-	-	-	125	-	125	5,181
GBS-Meeting Support-Pardee	1014515	6,367	-	-	-	-	-	-	-	-	-	6,367
COMMUNICATION												
CAR-BACWA File Storage	1014518	765	-	-	-	-	-	-	-	-	-	765
CAR-BACWA IT Software	1014520	1,785	-	-	64	-	-	-	370	-	370	1,415
CAR-BACWA IT Support	1014519	2,652	-	-	-	-	2,652	-	-	-	2,652	-
CAR-BACWA Website Dev/Maint	1011116	612	-	-	-	-	-	-	-	-	-	612
CAR-BACWA Website Hosting	1014517	1,530	-	-	-	-	-	-	-	-	-	1,530
LEGAL												
LS-Executive Board Support	1011110	2,176	-	-	-	-	2,176	-	-	-	2,176	-
LS-Regulatory Support	1011107	2,706	-	-	-	-	2,706	-	-	-	2,706	-
COMMITTEES												
AIR-Air Issues&Regulation Grp	1014253	76,000	-	-	-	-	71,095	3,905	-	-	75,000	1,000
BC-BAPPG	1011147	130,000	(4,257)	6,520	168	-	55,161	23,101	10,085	(2,025)	86,322	43,678
BC-Biosolids Committee	1011101	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Collections System	1011097	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-InfoShare Groups	1011102	1,750	-	-	-	-	-	-	-	-	-	1,750
BC-Laboratory Committee	1011103	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Permit Committee	1011098	1,300	-	-	-	-	-	-	-	-	-	1,300
BC-Pretreatment Committee	1011146	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Water Recycling Committee	1011100	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Manager's Roundtable	1014777	1,000	-	-	-	-	-	-	-	-	-	1,000
BC-Miscellaneous Committee Sup	1011104	45,000	-	-	-	-	-	-	-	-	-	45,000
COLLABORATIVES												
CAS-Arleen Navaret Award	1012201	-	-	-	-	-	-	-	-	-	-	-
CAS-FWQC	1012202	7,500	-	-	-	-	-	-	-	-	-	7,500
CAS-Misc Collaborative Sup	1014521	5,000	-	-	-	-	-	-	-	-	-	5,000
CAS-PSSEP	1011112	20,000	-	-	-	-	-	-	-	-	-	20,000
CAS-Stanford ERC	1011969	10,000	-	-	-	-	-	-	-	-	-	10,000
BACWA TOTAL		837,720	(77,854)	80,117	5,328	-	559,790	130,259	15,551	(7,265)	698,335	139,385
TECH SUPPORT												
WQA-CE-Technical Support	1011127	250,000	-	-	-	-	-	-	3,548	(3,548)	-	250,000
WQA-CE-Nutrient WS Permit Comm	1014021	2,800,000	-	-	-	-	-	-	1,000,000	-	1,000,000	1,800,000
WQA-CE Risk Reduction	1014023	7,500	-	-	-	-	-	-	-	-	-	7,500
WQA-CE Addl Work Under Permit	1014254	100,000	-	-	-	-	182,000	-	-	-	182,000	(82,000)
WQA-CE Voluntary Nutr Contrib	1014529	-	-	-	-	-	-	-	30,000	-	30,000	(30,000)
Nutrient Workshops	1015015	-	-	-	-	-	-	-	-	-	-	-
WQA-CE-Nature Based Solutions	1015367	200,000	(62,703)	62,703	-	-	373,218	62,702	-	-	435,920	(235,920)
Recycled Water Evaluation	1015566	60,000	-	-	-	-	135,659	6,176	-	-	141,835	(81,835)
WQA - CEC Investigations	1015569	50,000	65,000	-	-	-	65,000	-	-	-	65,000	(15,000)
TECH SUPPORT (CBC) TOTAL		3,467,500	2,297	62,703	-	-	755,877	68,878	1,033,548	(3,548)	1,854,755	1,612,745
GRAND TOTAL		4,305,220	(75,557)	142,820	5,328	-	1,315,667	199,137	1,049,099	(10,813)	2,553,090	1,752,130
BABC												
AS-Assistant Executive Directo	1011124	-	-	-	-	-	-	-	-	-	-	-
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
AS-Regulatory Program Manager	1011149	-	-	-	-	-	-	-	-	-	-	-
Collateral Development	1015374	-	-	-	-	-	1,125	-	-	-	1,125	(1,125)
Program Manager Expense	1015376	-	(5,919)	5,919	-	-	77,668	12,332	-	-	90,000	(90,000)
BABC TOTAL		-	(5,919)	5,919	-	-	78,793	12,332	-	-	91,125	(91,125)
BACC												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BACC TOTAL		-	-	-	-	-	-	-	-	-	-	-
WOT												
Administrative Support	1011142	-	-	-	-	-	-	-	-	-	-	-
BDO Contract Expenses	1011143	-	-	-	-	-	-	-	-	-	-	-
GRAND TOTAL (BDO, CBC, BABC, BACC, WOT)		4,305,220	(81,476)	148,739	5,328	-	1,394,460	211,469	1,049,099	(10,813)	2,644,215	1,661,005

BACWA Expense Detail Report for September 30, 2020

DEPTID	DEPARTMENT	EXPENSE TYPE	AMENDED BUDGET	CURRENT PERIOD				YEAR TO DATE				OBLIGATED	UNOBLIGATED
				ENC	PV	DA	JV	ENC	PV	DA	JV		
811	Prop84BayAreaIntegRegnlWtrMgmt	BDO Fund Transfers	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Administrative Support	-	-	-	5,840	(5,840)	-	-	5,840	(5,840)	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	BDO Contract Expenses	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Regional Green Infrastructure	-	-	-	118,045	(118,045)	-	-	118,045	(118,045)	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Hacienda Ave Green St Improvem	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Sears Point Wtlnd & Wtrshd Res	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Bay Friendly Landscape TP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Weather Based Irrigation Cntrl	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	High Efficiency Toilet & UR	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	High Efficiency Toilet & UI	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	High Efficiency Clothes Washrs	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Napa Co. Rainwater HP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Conservation Program Admin	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Flood Infrastructure Mapping T	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Stormwater Improvements & PBP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Richmond Shoreline & San PFP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Pescadero Integrated FRAH	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Restoration Guidance, San FC	-	-	-	15,353	(15,353)	-	-	15,353	(15,353)	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	SF Estuary Steelhead MP	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Stream Restoration in North BD	-	-	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnlWtrMgmt	Watershed Program Admnstrtn	-	-	-	8,463	(8,463)	-	-	8,463	(8,463)	-	-
PRP84 TOTAL			-	-	-	147,701	(147,701)	-	-	147,701	(147,701)	-	-

BACWA Revenue Report as of September 30, 2020

DEPTID	DEPARTMENT	JOB	REVENUE TYPE	AMENDED BUDGET	CURRENT PERIOD			YEAR TO DATE				UNOBLIGATED
					Admin & General	Contributons	Interest, Transfers, Others	Admin & General	Contributons	Interest, Transfers, Others	ACTUAL	
811	Prop84BayAreaIntegRegnIWtrMgmt	1011117	BDO- Interest Income from LAIF	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1011142	Administrative Support	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1011691	Water Efficient Landscape Reba	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1011702	Sears Point Wtlnd & Wtrshd Res	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1011705	Regional Green Infrastructure	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1011706	Hacienda Ave Green St Improvem	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1011707	WQ Improve Flood Mgmt & EP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1011911	Stream Restoration w/Schools i	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1011912	Flood Infrastructure Mapping	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012209	Water Efficient LRP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012210	Bay Friendly Landscape TP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012211	Weather Based Irrigation Cntrl	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012212	High Efficiency Toilet & UR	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012213	High Efficiency Toilet & UI	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012214	High Efficiency Clothes Washrs	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012215	Napa Co. Rainwater HP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012216	Conservation Program Admin	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012218	Stream Restoration in North BD	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012219	Flood Infrastructure Mapping T	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012220	Stormwater Improvements & PBP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012221	Richmond Shoreline & San PFP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012222	Pescadero Integrated FRAH	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012223	Restoration Guidance, San FC	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012224	SF Estuary Steelhead MP	-	-	-	-	-	-	-	-	-
811	Prop84BayAreaIntegRegnIWtrMgmt	1012225	Watershed Program Admnstrtn	-	-	-	-	-	-	-	-	-
PROP 84 TOTAL				-	-	-	-	-	-	-	-	-



BACWA EXECUTIVE BOARD AUTHORIZATION REQUEST

AGENDA NO.: 4

FILE NO.: 20-21

MEETING DATE: November 20, 2020

TITLE: Approval of the BACWA Annual Report to its Members for FY2020.

☐ RECEIPT

☐ DISCUSSION

☐ RESOLUTION

☒ APPROVAL

RECOMMENDED ACTION

Approve the BACWA Annual Report to its membership for FY2020.

SUMMARY

At the end of each fiscal year BACWA is required to prepare and Annual Report to its membership which describes the technical and financial activities of the Association for the preceding year.

FISCAL IMPACT

The Annual Report to its members is prepared by BACWA staff.

ALTERNATIVES

Do not approve the Annual Report to the membership. This is not recommended as the Annual Report is required by the BACWA JPA.

Attachment:

BACWA FY2020 Annual Report to Members

Approved:

Amit Mutsuddy, BACWA Chair

Date: _____



BACWA Annual Report

Fiscal Year 2019/2020

As water quality regulation becomes increasingly complex and stringent, BACWA provides technical expertise and a venue for collaboration to its membership, and a public utility perspective to negotiations and partnerships with regulators. With over forty Publicly Owned Treatment Works (POTWs) and more than a hundred collection systems in the San Francisco Bay (SF Bay) region, BACWA provides a needed forum for effective coordination to ensure good science-based regulations and continued water quality improvements throughout the Bay Area.

The clean water community's focus has shifted rapidly from industrial pollutant reduction to renewable resource generation, climate change mitigation and adaptation, and understanding the potential impacts of emerging contaminants on the aquatic ecosystem. Concurrently, tightening, and sometimes conflicting, air quality and biosolids management regulations are increasing cross-media challenges. Nutrient science and policy continue to be a major focus for BACWA. Member dues and fees support BACWA's goal of ensuring that nutrient regulations are well-supported by science and that any necessary reductions in nutrient loading will be equitable and lead to quantifiable improvements in water quality. Even as the issues change, BACWA continues to offer the services to our members and the public that have garnered the organization much respect and success.

Below is a list of BACWA's accomplishments over the previous fiscal year.

List of Accomplishments

Nutrient Activities – see [BACWA Nutrient Webpage](#)

- Submitted Scoping and Evaluation Plans for the [Nature Based Systems Studies](#), and the [Recycled Water Evaluation](#) required by the 2nd Watershed Permit, adopted on May 8, 2019.
- Worked with HDR and SFEI to complete a 'Request for Information' for the Nature Based Systems Studies and the Recycled Water Evaluation.
- Submitted the Annual Update to the Nutrient Management Strategy Science Plan.
- Submitted the [Group Nutrient Annual Report](#), using the new water year reporting period (October 1 through September 30), in compliance with the 2nd Nutrient Watershed Permit.
- Committed to accelerated science funding and funded \$2.4M in scientific studies and program coordination overseen by the Steering Committee for the Nutrient Management Strategy (NMS).
- Participated in the Nutrient Management Strategy Steering Committee and Planning Subcommittee governing the scientific studies.
- Participated in the Nutrient Technical Workgroup.



Permit Compliance Activities

- Continue funding [risk reduction work](#) via a grant program in compliance with the 2017 Mercury and PCB Watershed Permit.
- Prepared a [letter](#) to the Regional Water Board, on behalf of our members demonstrating compliance with special studies required by NPDES permits.
- Reported participation in the Alternate Monitoring Plan, and contributions to the Regional Monitoring Program to the Regional Water Board.
- Worked with members to submit the Land Application of Biosolids Annual Report to the Solano County Board of Supervisors.

Regulatory Advocacy

- Conducted regular bimonthly meetings with Regional Water Board staff to discuss regulatory issues of interest to the BACWA community.
- Worked with the Regional Water Board to revise the instantaneous chlorine residual effluent limit in the Basin Plan.
- Kept in communication with the Regional Water Board and Bay Area Air Quality Management District regarding operational, compliance, and enforcement challenges related to the COVID-19 public health emergency.
- Secured legal review of enforcement provisions for State Water Board's proposed ELAP regulations.
- Worked with POTWs statewide to respond to common issues, such as the State Water Board's proposed Toxicity Provisions, newly adopted ELAP Regulations, CECs science and regulation, proposed mandate to eliminate costal discharges, sewer exfiltration, and the Sanitary Sewer Systems Waste Discharge Requirements reissuance.
- Worked with Regional Water Board and State Water Board staff to ensure a smooth transition of the R2-1996-011 recycled water permittees to the State General Order; the transition was completed in April 2020.
- Collaborated with SFEI to measure background enterococcus levels in the SF Bay to be used in effluent limit calculations in members' permits. The [report](#) was finalized in June 2020.
- Worked with Regional Water Board, SFEI, and members to develop Regional POTW jurisdictional map.
- Worked to strengthen relationship with the Bay Area Air Quality Management District and collaborate in Rule development impacting POTWs.
- Provided the following [comment letters](#), including letters submitted jointly with other Associations:
 - *Letters to State Water Board*
 - Comments on California Water Resilience Portfolio Initiative – 9-30-19
 - Comments on the Proposed Environmental Laboratory Accreditation Program (ELAP) Regulations – 12-20-19

- Comments on Appendices J and K to the Draft Staff Report of the Draft Toxicity Provisions – 02-10-20
- Comments on Draft Supplemental Guidance: Screening and Evaluating Vapor Intrusion – 06-01-20
- *Letters to BAAQMD*
 - Feedback to inform the development of Regulation 13, and Rules 2, 3, and 4. – 10-24-19
 - Letter on the Revised Proposed Rule 13-2 (Organic Material Handling Operations) – 03-06-2020
- *Letters to EPA*
 - Comments on Endangered Species Risk Assessment Process for Biological Evaluations of Pesticides – 08-15-19
 - Zinc and Zinc Salts Registration Review – Proposed Interim Decision (antimicrobials used in pools, spas, and hot tubs) – 09-30-19
 - Comments on the Draft National Water Reuse Action Plan (with CVCWA) – 12-16-19
 - Comment on the Preliminary Registration Review Work Plan for Methoprene – 03-24-20
- *Letters to Other Legislative Bodies and Regulatory Entities:*
 - *US Senate and House of Representatives:* Support Letter for Federal Wipes Legislation (Coalition Letter) – 11-21-19
 - *California Ocean Protection Council:* Comments on Strategic Plan to Protect California’s Coast and Ocean 2020-2025 (Coalition Letter) – 12-13-19
 - *California Department of Toxic Substances Control:* Letter of Support for Listing Carpets and Rugs Containing Perfluoroalkyl or Polyfluoroalkyl Substance as a Priority Product (Coalition Letter) – 05-15-20

Member communication and educational opportunities

- Conducted routine communication with our membership through the Annual Meeting and Monthly Board meetings.
- Published the monthly [BACWA Bulletin](#).
- Maintained BACWA [website](#) to improve usability and access to documents.
- Provided three updates to the BACWA [Regulatory Issues summary matrix](#).
- Provided support to the informal group, Managers Roundtable, to help provide an ongoing forum for Bay Area general managers and directors to convene and discuss issues of mutual concern as well as share information and experiences.
- Maintained continuity through the COVID-19 public health emergency, by switching to teleconference only meetings.
- Provided coordination between POTWs and researchers for Wastewater Epidemiology related to SARS-CoV-2 monitoring.



- Kept members apprised on COVID-19 resources for wastewater professionals through regular updates on available webinars, published research, collaboration opportunities, and updates from CWEA, CASA, WEF, CDC, and other regional and national organizations.
- Collaborated with CWEA to issue Continuing Education Units (CEUs) to members who attend committee meetings with a strong education component (mostly through technical presentations at BAPPG, Collection Systems, and Laboratory Committee meetings).

Support Educational, Research, Advocacy Efforts, and Programs of Special Benefit

- Conducted regional outreach campaigns related to flushable wipes, pharmaceutical disposal, pesticides in toxic flea and tick control, and Fats, Oils, and Grease (FOG). Flushable wipes campaign was especially important in Spring 2020 at the onset of the COVID-19 public health emergency. A community advisory notice on this topic was issued in April 2020 and the campaign was also featured in the Mercury News.
- Provided funding for the California Product Stewardship Council and the Product Stewardship Institute.
- Provided funding for the Reinventing the Nation's Urban Water Infrastructure (ReNUWIt), an interdisciplinary, multi-institution research center whose goal is to change the ways in which we manage urban water.
- Provided funding for the EPA's Water Reuse Action Plan to "Support Local and Regional Reuse Projects by Identifying Challenges, Opportunities, and Models for interagency Collaboration" (Action Item 2.2.16).
- Provided administrative assistance for member agency funding of Wastewater Operator Training courses offered through Solano Community College.
- Provided administrative and contract support for the Bay Area Biosolids Coalition

External Representation and Collaboration

- Provided representation at external groups such as:
 - Risk Management Plan (RMP) Technical Review Committee
 - RMP Steering Committee
 - Aquatic Science Center (ASC)/SFEI Governing Board
 - San Francisco Bay Nutrient Governance Steering Committee
 - San Francisco Bay Nutrient Technical Workgroup
 - State Water Resources Control Board (SWRCB) Nutrient Stakeholder advisory group
 - SWRCB Bacterial Objectives stakeholder group
 - SWRCB Mercury Amendments to the State Plan stakeholder group
 - Summit Partners
 - Bay Area Integrated Regional Water Management Plan (BAIRWMP)
 - National Association of Clean Water Agencies (NACWA) Emerging Contaminants
 - California Association of Sanitation Agencies (CASA) State Legislative Committee
 - CASA Regulatory Workgroup



- ReNUWIt
- RMP Microplastics Workgroup
- Bay Area Regional Reliability Task Force
- Association of Water Technologies (AWT) Certification Committee
- WaterReuse Workgroup on Recycled Water Policy
- San Francisco Estuary Partnership
- California Product Stewardship Coalition
- Ocean Protection Council
- Bay Area Climate Adaptation Network
- One Water Network
- Coastal Hazards Adaptation Resiliency Group

Grant Efforts

- Managed Administration of Proposition 84, Round 1, grant funds.
- Supported member agencies and partner organizations in grant applications for nutrient and biosolids treatment projects, and wetlands projects.

BACWA Staffing

In FY20, BACWA completed recruitments for the Executive Director and Assistant Executive Director positions upon the retirement of David Williams and Lorrie O'Neill. BACWA welcomed Lorien Fono and Jennifer Dymant as they fill those respective roles and work with the BACWA Executive Board to envision BACWA's role as we move into the next decade.

BACWA Committees

Support for BACWA's committees is a key means for BACWA to ensure communication between our members and to formulate positions on emerging issues that accurately reflect the needs of our membership. BACWA maintains the following active committees:

- Air Issues and Regulations (AIR)
- Bay Area Pollution Prevention Group – see BAPPG 2019 Annual Report
- Collection Systems
- Laboratory
- Operations/Maintenance Infoshare
- Permits
- Pretreatment
- Recycled Water



Financial Report

<u>BACWA FY20 BUDGET</u>	<u>Line Item Description</u>	<u>FY 2020 Budget</u>	<u>Actuals June 2020</u>	<u>Actual % of Budget June 2020</u>	<u>Variance</u>
<u>REVENUES & FUNDING</u>					
Dues	Principals' Contributions	\$506,774	\$506,775	100.00%	\$1
	Associate & Affiliate Contributions	\$184,111	\$185,712	101%	\$1601
Fees	Clean Bay Collaborative	\$675,000	\$674,250	100%	-\$750
	Nutrient Surcharge	\$1,700,000	\$1,700,00	100%	\$0
	Member Voluntary Nutrient Contributions	\$0	\$0		\$0
Other Receipts	AIR Non-Member	\$6,936	\$6,936	100%	\$0
	BAPPG Non-Members	\$3,876	\$3,876	100%	\$0
	Other	\$0	\$2,500		\$2,500
Fund Transfer	Special Program Admin Fees	\$5,100	\$9,117	179%	\$4017
Interest Income	LAIF	\$20,000	\$52,827	264%	32,827
	Higher Yield Investments	\$18,000	\$1,588	9%	-\$16,413
	Total Revenue	\$3,119,797	\$3,143,631	100.76%	\$23,834

<u>BACWA FY20 BUDGET</u>	<u>Line Item Description</u>	<u>FY 2020 Budget</u>	<u>Actuals June 2020</u>	<u>Actual % of Budget June 2020</u>	<u>Variance</u>
<u>EXPENSES</u>					
Labor					
	Executive Director	\$207,531	\$200,226	96%	-\$7,305
	Assistant Executive Director	\$100,907	\$62,140	62%	-\$38,767
	Regulatory Program Manager	\$137,727	\$131,857	96%	-\$5,870
	Total	\$446,165	\$394,223	88%	-\$51,942
Administration					
	EBMUD Financial Services	\$41,616	\$29,028	70%	-\$12,588
	Auditing Services	\$5,240	\$8,740	167%	\$3,500
	Administrative Expenses	\$7,803	\$3,490	45%	-\$4,313
	Insurance	\$4,682	\$4,696	100%	\$14
	Total	\$59,341	\$45,954	77%	-\$13,387
Meetings					
	EB Meetings	\$2,601	\$1,552	60%	-\$1,049
	Annual Meeting	\$12,000	\$13,928	116%	\$1,928
	Pardee	\$6,242	\$5,835	93%	-\$407
	Misc. Meetings	\$5,202	\$765	15%	-\$4,437
	Total	\$26,045	\$22,080	85%	-\$3,965
Communication					
	Website Hosting	\$600	\$600	100%	\$0
	File Storage	\$750	\$720	96%	-\$30
	Website Development/Maintenance	\$1,500	\$618	41%	-\$882
	IT Support (As Needed)	\$2,600	\$637	25%	-\$1,963
	Other Communication	\$1,750	\$680	39%	-\$1,070
	Total	\$7,200	\$3,255	45%	-\$3,945

Legal					
	Regulatory Support	\$2,653	\$3,652	138%	\$999
	Executive Board Support	\$2,133	\$6,518	306%	\$4,385
	Total	\$4,786	\$10,170	212%	\$5,384
Committees					
	AIR	\$76,000	\$61,681	81%	-\$14,319
	BAPPG	\$100,000	\$118,719	119%	\$18,719
	Biosolids Committee	\$1,000	\$0	0%	-\$1,000
	Collections System	\$1,000	\$0	0%	-\$1,000
	InfoShare Groups	\$1,000	\$1,110	110%	\$100
	Laboratory Committee	\$1000	\$0	0%	-\$1000
	Permits Committee	\$1,300	\$569	44%	-\$731
	Pretreatment	\$2,00	\$3,402	170%	\$1,402
	Recycled Water Committee	\$1,000	\$0	0%	-\$1000
	Misc Committee Support	\$45,000	\$13,327	30%	-\$31,673
	Manager's Roundtable	\$1,000	\$372	37%	-\$628
	Total	\$230,300	\$199,170	86%	-\$31,130
Collaboratives					
	State of the Estuary (SFEP-biennial)	\$0	\$0	0%	\$0
	Arleen Navarret Award	\$2,500	\$1,923	77%	-\$577
	FWQC (Fred Andes)	\$7,500	\$0	0%	-\$7,500
	Stanford ERC (ReNUWIt)	\$10,000	\$10,000	100%	\$0
	Misc	\$5,000	\$3,100	62%	-\$1,900
	Total	\$25,000	\$15,023	60%	-\$9,977
Other					
	Unbudgeted Items				
	Other	\$0	\$25,000		\$25,000
	Total	\$0	\$25,000		\$25,000



Technical Support					
	Nutrients				
	Watershed	\$2,000,000	\$2,400,000	120%	\$400,000
	NMS Voluntary Contributions	\$0	\$0	0%	\$0
	Additional work under permit	\$100,000	\$50,298	50%	-\$49,702
	Regional Study on Non-Gray Scape	\$500,000	\$64,080	13%	-\$435,920
	Member Voluntary Nutrient Contributions	\$0	\$0		\$0
	Nutrient Workshop(s)	\$0	\$0	0%	\$0
	General Tech Support	\$52,020	\$45,950	88%	-\$6,070
	Risk Reduction	\$20,000	\$12,500	63%	-\$7,500
	Total	\$2,672,020	\$2,572,828	96%	-\$99,192
	TOTAL EXPENSES	\$3,470,857	\$3,287,703	94.72%	-\$183,154
	NET INCOME BEFORE TRANSFERS	-\$351,060	-\$144,072		
	TRANSFERS FROM RESERVES	\$351,060	\$144,072		
	NET INCOME AFTER TRANSFERS	\$0	\$0		

List of BACWA Members as of June 30, 2020

Principals

East Bay Municipal Utility District

East Bay Dischargers Authority

- Castro Valley Sanitary District
- City of Hayward
- City of San Leandro
- Oro Loma Sanitary District
- Union Sanitary District

San Francisco Public Utilities Commission

Central Contra Costa Sanitary District

City of San Jose



Associates

Central Marin Sanitation Agency
City of Livermore
City of Palo Alto
City of Sunnyvale
Delta Diablo
Dublin-San Ramon Services District
Fairfield Suisun Sewer District
Napa Sanitation District
Silicon Valley Clean Water
San Mateo Wastewater Treatment Plant
South San Francisco
Vallejo Flood & Wastewater
West County Agency

Affiliates

City of Alameda	Las Gallinas Valley Sanitary District
City American Canyon	Mt. View Sanitary District
City of Albany	North San Mateo Sanitation District
City of Antioch	Novato Sanitary District
City of Belmont	City of Pacifica
City of Benicia	Pinole/ Hercules Wastewater Treatment Plant
City of Berkeley	Rodeo Sanitary District
City of Brisbane	San Francisco International Airport
City of Burlingame	San Mateo County, Department of Public Works
City of Calistoga	Sanitary District of Marin County No. 1
City of Crockett	Sanitary District of Marin No. 2
City of Fairfield	Sanitary District of Marin No. 5
City of Millbrae	Sausalito/Marin City Sanitary District
City of Milpitas	Sewer Authority Mid-Coastside
City of Mountain View	Sewerage Agency of Southern Marin
City of Petaluma	Sonoma County Water Agency
City of Piedmont	Stege Sanitary District
City of Pleasanton	Tamalpais Community Services District
City of Redwood City	Treasure Island
City of Richmond	West Bay Sanitary District
City of San Bruno	West Valley Sanitation District
City of San Carlos	Yountville
City of St. Helena	
Cupertino Sanitary District	



BACWA EXECUTIVE BOARD AUTHORIZATION REQUEST

AGENDA NO.: 5

FILE NO.: 20-22

MEETING DATE: November 20, 2020

TITLE: Approval of Audited Financial Reports for the Year Ended June 30, 2020

☐ RECEIPT

☐ DISCUSSION

☐ RESOLUTION

☒ APPROVAL

RECOMMENDED ACTION

Approve the Audited Financial Report for Fiscal Year 2020 (BACWA Audit Communication Letter and BACWA Basic Financial Statement provided by EBMUD acting as Treasurer of BACWA.

SUMMARY

At the end of each fiscal year EBMUD requests an audit of the BACWA financials and provides the reports to BACWA. The audit are provided for Board approval. There were no significant issues found in the audit.

FISCAL IMPACT

Audits are prepared by Auditors engaged by EBMUD and paid for under the budgeted Audit Fees.

ALTERNATIVES

Do not approve the audited financial reports. This is not recommended as the audits are required by the BACWA JPA.

Attachments:

BACWA Audit Communication Letter

BACWA Financial Statement

Approved:

Amit Mutsuddy, BACWA Chair

Date: _____



September 2, 2020

To the Board of Directors
Bay Area Clean Water Agencies
Oakland, California

We have audited the financial statements of the Bay Area Clean Water Agencies (BACWA) for the year ended June 30, 2020. Professional standards require that we provide you with information about our responsibilities under generally accepted auditing standards, *Government Auditing Standards* and the Uniform Guidance, as well as certain information related to the planned scope and timing of our audit. We have communicated such information in our letter to you dated September 2, 2020. Professional standards also require that we communicate to you the following information related to our audit.

Significant Audit Findings

Qualitative Aspects of Accounting Practices

Management is responsible for the selection and use of appropriate accounting policies. The significant accounting policies used by BACWA are described in the notes to the financial statements. No new accounting policies were adopted and the application of existing policies was not changed during fiscal year 2019-2020.

We noted no transactions entered into by BACWA during the year for which there is a lack of authoritative guidance or consensus. All significant transactions have been recognized in the financial statements in the proper period.

Accounting estimates are an integral part of the financial statements prepared by management and are based on management's knowledge and experience about past and current events and assumptions about future events. Certain accounting estimates are particularly sensitive because of their significance to the financial statements and because of the possibility that future events affecting them may differ significantly from those expected.

The financial statement disclosures are neutral, consistent, and clear.

Difficulties Encountered in Performing the Audit

We encountered no significant difficulties in dealing with management in performing and completing our audit.

Corrected and Uncorrected Misstatements

Professional standards require us to accumulate all known and likely misstatements identified during the audit, other than those that are trivial, and communicate them to the appropriate level of management. No misstatements were found.



To the Board of Directors
Bay Area Clean Water Agencies
Oakland, California

Disagreements with Management

For purposes of this letter, a disagreement with management is a financial accounting, reporting, or auditing matter, whether or not resolved to our satisfaction, that could be significant to the financial statements or the auditor's report. We are pleased to report that no such disagreements arose during the course of our audit.

Management Representations

We have requested certain representations from management that are included in the management representation letter dated September 2, 2020.

Management Consultations with Other Independent Accountants

In some cases, management may decide to consult with other accountants about auditing and accounting matters, similar to obtaining a "second opinion" on certain situations. If a consultation involves application of an accounting principle to BACWA's financial statements or a determination of the type of auditor's opinion that may be expressed on those statements, our professional standards require the consulting accountant to check with us to determine that the consultant has all the relevant facts. To our knowledge, there were no such consultations with other accountants.

Other Audit Findings or Issues

We generally discuss a variety of matters, including the application of accounting principles and auditing standards, with management each year prior to retention as BACWA's auditors. However, these discussions occurred in the normal course of our professional relationship and our responses were not a condition to our retention.

Other Matters

We applied certain limited procedures to management discussion and analysis which is required supplementary information (RSI) that supplements the basic financial statements. Our procedures consisted of inquiries of management regarding the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We did not audit the RSI and do not express an opinion or provide any assurance on the RSI.

New Accounting Standards

The following new Governmental Accounting Standards Board (GASB) pronouncements were effective for fiscal year 2019-2020 audit:

GASB Statement No. 95, *Postponement of Effective Dates of Certain Authoritative Guidance* – The following pronouncements have been postponed as a temporary relieve to governments and other stakeholders in light of the COVID-19 pandemic and the new effective date are reflected in the following fiscal years.

GASB Statement No. 88, *Certain Disclosure Related to Debt, including Direct Borrowing and Direct Placements*.



To the Board of Directors
Bay Area Clean Water Agencies
Oakland, California

The following Governmental Accounting Standards Board (GASB) pronouncements are effective in the following fiscal year audit and should be reviewed for proper implementation by management:

Fiscal year 2021

GASB Statement No. 84, *Fiduciary Activities*.

GASB Statement No. 90, *Majority Equity Interests - an Amendment of GASB Statement Nos. 14 and 61*.

Fiscal year 2022

GASB Statement No. 87, *Leases*.

GASB Statement No. 89, *Accounting for Interest Cost Incurred before the End of a Construction Period*.

Fiscal year 2023

GASB Statement No. 91, *Conduit Debt Obligations*.

Restriction on Use

This information is intended solely for the use of the Board of Directors and management of the Bay Area Clean Water Agencies and is not intended to be, and should not be, used by anyone other than these specified parties.

Very truly yours,

A handwritten signature in black ink that reads "Lance, Solt & Loughard, LLP". The signature is written in a cursive, flowing style.

Sacramento, California



BAY AREA CLEAN WATER AGENCIES

FOR THE YEARS ENDED JUNE 30, 2020 AND 2019

BASIC FINANCIAL STATEMENTS

Focused
on YOU



BAY AREA CLEAN WATER AGENCIES
BASIC FINANCIAL STATEMENTS
For The Years Ended June 30, 2020 and 2019

Table of Contents

	<u>Page</u>
<i>Independent Auditors' Report</i>	1
<i>Management's Discussion and Analysis</i>	3
<i>Basic Financial Statements</i>	
Statements of Net Position	7
Statements of Revenues, Expenses and Changes in Net Position	8
Statements of Cash Flows	9
Notes to Basic Financial Statements.....	11
Independent Auditors' Report on Internal Control Over Financial Reporting and on Compliance and Other Matters Based on an Audit of Financial Statements Performed in Accordance with <i>Government Auditing Standards</i>	19



INDEPENDENT AUDITORS' REPORT

To the Board of Directors
Bay Area Clean Water Agencies
Oakland, California

Report on the Financial Statements

We have audited the accompanying financial statements of the Bay Area Clean Water Agencies (BACWA) as of and for the year ended June 30, 2020 and 2019, and the related notes to the financial statements, which collectively comprise the BACWA's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express opinions on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States; and the State Controller's Minimum Audit Requirements for California Special District. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.



To the Board of Directors
Bay Area Clean Water Agencies
Oakland, California

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Bay Area Clean Water Agencies, as of June 30, 2020 and 2019, and the respective changes in financial position and, where applicable, cash flows thereof for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board, who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated September 2, 2020 on our consideration of BACWA's internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of BACWA's internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering BACWA's internal control over financial reporting and compliance.

A handwritten signature in black ink that reads "Lance, Soll & Lughard, LLP".

Sacramento, California
September 2, 2020

BAY AREA CLEAN WATER AGENCIES

Management's Discussion and Analysis

June 30, 2020 and 2019

This section presents management's analysis of the Bay Area Clean Water Agencies (BACWA) financial condition and activities as of and for the years ended June 30, 2020 and 2019. Management's Discussion and Analysis (MD&A) is intended to serve as an introduction to the Agency's basic financial statements. The MD&A represents management's examination and analysis of the Agency's financial condition and performance.

This information should be read in conjunction with the audited financial statements that follow this section. The information in the MD&A is presented under the following headings:

- Organization and Business
- Overview of the Financial Statements
- Financial Analysis
- Request for Information

Organization and Business

The Bay Area Dischargers Association (BADA) was created as a public entity in accordance with the terms of a Joint Powers Agreement, dated January 4, 1984, for the purpose of collecting, interpreting and disseminating data on the aquatic life and quality of waters of the San Francisco Bay System (the Bay) with emphasis on pollution-related effects. Renamed BACWA on February 22, 2001, it is composed of BADA's five original signatory agencies ("BACWA principals"): East Bay Municipal Utility District (EBMUD), a public corporation; Central Contra Costa Sanitary District (CCCSD), a public corporation; East Bay Dischargers Authority (EBDA), a joint powers public corporation; the City and County of San Francisco (San Francisco), a municipal corporation; and the City of San Jose (San Jose), a municipal corporation. BACWA membership includes other San Francisco Bay Area sanitation agencies who are not BACWA principals. BACWA members contribute funds to cover operating expenses based on an annual work plan and budget, in accordance with sections 9 and 10 of BACWA's Joint Powers Agreement. There are thirteen associate members and forty-six affiliate members that contribute a minimum of \$8,364 and \$1,675 annually, respectively.

For additional information, please see the notes to the basic financial statements.

Overview of the Financial Statements

The financial statements include a *statement of net position*, a *statement of revenues, expenses, and changes in net position*, a *statement of cash flows*, and *notes to the financial statements*. The report also contains other required supplementary information in addition to the basic financial statements.

BACWA's financial statements include:

The *statement of net position* presents information on the Agency's assets and liabilities, with the difference between the two reported as net position. It provides information about the nature and amount of resources and obligations at year-end.

BAY AREA CLEAN WATER AGENCIES

Management's Discussion and Analysis

June 30, 2020 and 2019

The *statement of revenues, expenses, and changes in net position* presents the results of the Agency's operations over the course of the fiscal year and information as to how the *net position* changed during the year.

The *statement of cash flows* presents changes in cash and cash equivalents resulting from operational and investing activities. This statement summarizes the annual flow of cash receipts and cash payments, without consideration of the timing of the event giving rise to the obligation or receipt.

The *notes to basic financial statements* provide additional information that is essential to a full understanding of the data provided in the basic financial statements. The notes to basic financial statements can be found on pages 9 to 15 of this report.

Financial Analysis:

Table 1 summarizes net assets at June 30, 2020 and 2019, and Table 2 summarizes revenues, expenses and changes in net position for the years ended June 30, 2020 and 2019. Both tables also include variances from the prior year.

Table 1
Summary of Net Position

	June 30, 2020 and 2019		
	2020	2019	Variance
Current assets	<u>\$ 4,277,411</u>	<u>\$ 4,814,772</u>	<u>\$ (537,361)</u>
Current liabilities	<u>360,991</u>	<u>774,871</u>	<u>(413,880)</u>
Net Postion			
Restricted for operating projects	14,923	194,982	(180,059)
Unrestricted	<u>3,901,497</u>	<u>3,844,919</u>	<u>56,578</u>
Total net position	<u>\$ 3,916,420</u>	<u>\$ 4,039,901</u>	<u>\$ (123,481)</u>

- Current Assets decreased by \$537,361 primarily due to the decrease in investments and Proposition 84 grant receivable.
- Current liabilities decreased by \$413,880 primarily due to the decrease in accounts payable.

BAY AREA CLEAN WATER AGENCIES

Management's Discussion and Analysis

June 30, 2020 and 2019

Table 2

Summary of Revenues, Expenses and Changes in Net Position

Years ended June 30, 2020 and 2019

	2020	2019	Variance
Operating revenues	\$ 3,391,446	\$ 4,572,897	\$ (1,181,451)
Operating Expenses	<u>(3,563,521)</u>	<u>(4,580,066)</u>	<u>1,016,545</u>
Net Operating Income/(Loss)	(172,075)	(7,169)	(164,906)
Nonoperating revenues	<u>48,594</u>	<u>67,850</u>	<u>(19,256)</u>
Total net position	<u><u>\$ (123,481)</u></u>	<u><u>\$ 60,681</u></u>	<u><u>\$ (184,162)</u></u>

- Operating revenue decreased by \$1,181,451 primarily due to decrease in Proposition 84 grant disbursements and an increase in Nutrient Surcharge Contributions.
- Operating expenses decreased by \$1,016,545 primarily due to the decrease in Proposition 84 grant disbursements and an increase in expenses for contributions in funding Nutrient Management.
- Non-operating revenues for the years ended June 30, 2020 and 2019 consisted primarily of interest income. The decrease of \$19,256 is due to the decrease in interest rates.

Request for Information

This financial report is designed to provide viewers with a general overview of The Bay Area Clean Water Agencies' finances and demonstrate BACWA's accountability for the monies it manages. If you have any questions about this report, or need additional information, please contact: the BACWA Treasurer, Damien Charléty, PO Box 24055, MS 809, Oakland, CA 94623.

BAY AREA CLEAN WATER AGENCIES
STATEMENTS OF NET POSITION
JUNE 30, 2020 AND JUNE 30, 2019

	<u>June 30, 2020</u>	<u>June 30, 2019</u>
ASSETS		
Cash and cash equivalents (Note 2)	\$ 1,923,426	\$ 1,977,231
Investments (Note 2)	2,262,600	2,562,700
Restricted Cash and cash equivalents	65,500	65,500
Accounts receivable	2,638	214
Prop 84 grant receivable	14,923	194,982
Accrued interest receivable	<u>8,324</u>	<u>14,145</u>
Total assets	<u>4,277,411</u>	<u>4,814,772</u>
LIABILITIES		
Accounts payable	295,491	709,371
Miscellaneous liabilities	<u>65,500</u>	<u>65,500</u>
Total liabilities	<u>360,991</u>	<u>774,871</u>
NET POSITION (Note 1B)		
Restricted	14,923	194,982
Unrestricted	<u>3,901,497</u>	<u>3,844,919</u>
Total net position	<u>\$ 3,916,420</u>	<u>\$ 4,039,901</u>

See accompanying notes to financial statements

**BAY AREA CLEAN WATER AGENCIES
STATEMENTS OF REVENUE, EXPENSE
AND CHANGES IN NET POSITION
FOR YEARS ENDED JUNE 30, 2020 AND 2019**

	<u>2020</u>	<u>2019</u>
Operating income:		
Member contributions	\$ 1,368,275	\$ 1,319,585
State grants	-	2,254,464
Other receipts	<u>2,023,171</u>	<u>998,848</u>
Total operating revenue	3,391,446	4,572,897
Operating expense:		
Professional services	(2,933,941)	(1,763,977)
General and administrative	(484,737)	(448,221)
Grants and other	<u>(144,843)</u>	<u>(2,367,868)</u>
Total operating expense	<u>(3,563,521)</u>	<u>(4,580,066)</u>
Operating Income	(172,075)	(7,169)
Nonoperating revenue:		
Interest income	<u>48,594</u>	<u>67,850</u>
Changes in net position	(123,481)	60,681
Total net position - beginning	<u>4,039,901</u>	<u>3,979,220</u>
Total net position - ending	<u><u>\$ 3,916,420</u></u>	<u><u>\$ 4,039,901</u></u>

See accompanying notes to financial statements

**BAY AREA CLEAN WATER AGENCIES
STATEMENTS OF CASH FLOWS
FOR THE YEARS ENDED JUNE 30, 2020 AND 2019**

	<u>2020</u>	<u>2019</u>
Cash flows from operating activities:		
Cash received from member contributions	\$ 1,545,910	\$ 1,531,458
Cash received from State Grants	-	2,254,464
Cash received from other receipts	2,023,171	998,848
Cash paid for supplies and services	<u>(3,977,401)</u>	<u>(3,993,932)</u>
Net Cash from Operating Activities	(408,320)	790,838
Cash flows from investing activities:		
Interest received on investments	<u>54,415</u>	<u>63,990</u>
Net (decrease) increase in cash and cash equivalents	(353,905)	854,828
Cash and equivalents at beginning of period	<u>4,605,431</u>	<u>3,750,603</u>
Cash and equivalents at end of period	<u><u>\$ 4,251,526</u></u>	<u><u>\$ 4,605,431</u></u>
Reconciliation of net operating income (loss) to net cash provided by operating activities:		
Operating loss	\$ (172,075)	\$ (7,169)
Adjustments to reconcile operating loss to cash flows from operating activities:		
Changes in operating assets and liabilities:		
Accounts receivable and other receivables	177,635	211,873
Accounts payable and miscellaneous liabilities	<u>(413,880)</u>	<u>586,134</u>
Net cash flow used by operating activities	<u><u>\$ (408,320)</u></u>	<u><u>\$ 790,838</u></u>

See accompanying notes to financial statements

**BAY AREA CLEAN WATER AGENCIES
BASIC FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2020 AND 2019**

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

A. Description of Reporting Entity

The Bay Area Clean Water Agencies (BACWA) was organized on January 4, 1984 as the Bay Area Dischargers Association (BADA), and changed its name to BACWA effective February 22, 2001. BACWA was established for the purpose of collecting, interpreting and disseminating data on the aquatic life and quality of waters of the San Francisco Bay System with emphasis on pollution-related effects. BACWA is composed of five original BADA signatory agencies: East Bay Municipal Utility District (EBMUD), a public corporation; Central Contra Costa Sanitary District (CCCSD), a public corporation; East Bay Dischargers Authority (EBDA), a joint powers public corporation; the City and County of San Francisco (San Francisco), a municipal corporation; and the City of San Jose (San Jose), a municipal corporation. BACWA membership includes other San Francisco Bay Area sanitation agencies who are not BACWA principals. BACWA principals and other members contribute funds to cover operating expenses based on an annual work plan and budget, in accordance with Sections 9 and 10 of BACWA's Joint Powers Agreement. There are thirteen associate members and forty-six affiliate members that contribute a minimum of \$8,364 and \$1,675 annually, respectively BACWA has the following special programs in the fiscal year 2020. Each special program's revenues and expenses are tracked separately from BACWA's other revenues and expenses.

- *State Proposition 84 (Prop84)* is a California Department of Water Resources (DWR) program to administer funds consistent with the Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coastal Projection Bond Act of 2006. BACWA applied for and was awarded a Prop 84 grant, State Grant No. 4600009715. The Prop 84 revenue and expenses include disbursements from DWR, disbursements to participating agencies, and administrative costs.
- *The Water Quality Attainment Strategies (WQAS)* is a program to develop and fund regional projects that benefit participants. The program changed its name to the Clean Bay Collaborative during Fiscal Year 2010. Revenues come from contributions from program participants and expenditures are determined by the BACWA principals.
- *Water/Wastewater Operator Training (WOT)* was a program formed with Solano County Community College to provide water operators with educational training to help them understand the standard environmental rules and regulations related to water and wastewater. Revenues are provided by participating agencies and expenditures determined by those agencies. BACWA continues its educational relationship with Solano Community College.
- *Bay Area Biosolids Coalition (BABC)* - The Bay Area Biosolids Coalition became a Special Benefits Program in FY 20, where the participants establish their budget and associated revenue needs. BABC is a regional collaboration between San Francisco Bay Area wastewater agencies that are working to develop sub-regional projects with a primary focus on beneficial use of biosolids.

**BAY AREA CLEAN WATER AGENCIES
BASIC FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2020 AND 2019**

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

B. Basis of Accounting and Presentation

The accompanying financial statements report the financial position of BACWA in accordance with accounting standards generally accepted in the United States of America. As BACWA is exclusively comprised of governmental entities, the preparation of its financial statements is governed by the pronouncements of the Governmental Accounting Standards Board (GASB).

BACWA as a proprietary enterprise is accounted for on a flow of economic resources measurement focus using the accrual basis of accounting. Measurement focus refers to what is being measured; basis of accounting refers to when revenues and expenditures are recognized in the accounts and reported in the financial statements.

BACWA distinguishes *operating* revenues and expenses from *nonoperating* items. Operating revenues and expenses generally result from providing services and producing deliverable goods in connection with a proprietary fund's principal ongoing operations. Operating expenses for BACWA include the cost of sales and services and administrative expenses. All revenues and expenses not meeting this definition are reported as nonoperating revenues and expenses.

Statement of Net Position – The statement of net position is designed to display the financial position of BACWA. BACWA's fund equity is reported as net position, which is the excess of all of the Agency's assets and deferred outflow over all its liabilities and deferred inflows. Net Position is divided into three captions under GASB Statement 34. These captions apply only to Net Position and are described below:

Net Investment in Capital Assets describes an agency's capital assets, including restricted capital assets, net of accumulated depreciation and reduced by any outstanding balances of any bonds, notes, or other borrowings that are attributable to the acquisition, construction, or improvement of those assets.

Restricted describes the portion of Net Position which is restricted as to use by the terms and conditions of agreements with outside parties, governmental regulations, laws, or other restrictions which the Agency cannot unilaterally alter. These principally include developer fees received for use on capital projects, debt service requirements, and fees charged for the provision of future water resources.

Unrestricted describes the portion of Net Position which is not restricted to use.

Statement of Revenues, Expenses, and Changes in Net Position – The statement of revenues, expenses, and changes in net position is the operating statement for proprietary funds. Revenues are reported by major source. This statement distinguishes between operating and non-operating revenues and expenses and presents a separate subtotal for operating revenues, operating expenses, and operating income.

When both restricted and unrestricted resources are available for use, it is BACWA's policy to use restricted resources first, then unrestricted resources as they are needed.

**BAY AREA CLEAN WATER AGENCIES
BASIC FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2020 AND 2019**

NOTE 1 - SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES (Continued)

C. Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect certain reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements, and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

D. Cash and Cash Equivalents

BACWA considers all highly liquid investments with original maturities of three months or less when purchased to be cash equivalents.

Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. BACWA categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The fair value hierarchy categorizes the inputs to valuation techniques used to measure fair value into three levels based on the extent to which inputs used in measuring fair value are observable in the market.

Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities.

Level 2 inputs are inputs – other than quoted prices included within level 1 – that are observable for an asset or liability, either directly or indirectly.

Level 3 inputs are unobservable inputs for an asset or liability.

If the fair value of an asset or liability is measured using inputs from more than one level of the fair value hierarchy, the measurement is considered to be based on the lowest priority level input that is significant to the entire measurement.

E. Allocation of Costs

In accordance with the adopted work plan and approved budget for the year ended June 30, 2020, all costs incurred by BACWA for general overhead and for programs with general benefit are shared by BACWA members consistent with the terms of the Joint Powers Agreement establishing the agency, between each of the original signatory members.

Costs incurred for programs of special benefit are allocated in direct proportion to the benefits received as approved by BACWA's Executive Board.

Prop 84 and WOT have their own budgets, and their expenditures are funded from their own separate revenues.

**BAY AREA CLEAN WATER AGENCIES
BASIC FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2020 AND 2019**

NOTE 2 - CASH AND INVESTMENTS

A. Composition

BACWA's cash and cash equivalents consisted of the following at June 30:

	<u>2020</u>	<u>2019</u>
Demand deposits with banks	\$ 1,988,926	\$ 2,042,731
U.S. Government-Sponsored Enterprise Agencies (callable)	-	300,100
Local Agency Investment Fund	<u>2,262,600</u>	<u>2,262,600</u>
	<u>\$ 4,251,526</u>	<u>\$ 4,605,431</u>

B. Collateralization of Cash and Cash Equivalents

California Law requires banks and savings and loan institutions to pledge government securities with a market value of 110% of BACWA's cash on deposit or first trust deed mortgage notes with a value of 150% of BACWA's cash on deposit as collateral for these deposits. Under California Law this collateral is held in an investment pool by an independent financial institution in BACWA's name and places BACWA ahead of general creditors of the institution pledging the collateral. BACWA has waived collateral requirements for the portion of deposits covered by federal deposit insurance.

BACWA's investments are carried at fair value, as required by generally accepted accounting principles. BACWA adjusts the carrying value of its investments to reflect their fair value at each fiscal year end, and it includes the effects of these adjustments in income for that fiscal year.

C. Credit Risk

Credit risk is the risk that an issuer of an investment will not fulfill its obligation to the holder of the investment. This is measured by the assignment of a rating by a nationally recognized statistical rating organization. As an external investment pool, the Local Agency Investment Fund was not rated as of June 30, 2020 and 2019.

**BAY AREA CLEAN WATER AGENCIES
BASIC FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2020 AND 2019**

NOTE 2 - CASH AND INVESTMENTS (Continued)

D. Fair Value Hierarchy

BACWA categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure fair value of the assets. Level 1 inputs are quoted prices in an active market for identical assets; Level 2 inputs are significant other observable inputs; and Level 3 inputs are significant unobservable inputs.

The following is a summary of the fair value hierarchy of the fair value of investments of the District as of June 30, 2020 and 2019:

2020		
Type	Level 2	Total
U.S. Government-Sponsored Enterprise Agencies (callable)	\$ -	\$ -
Total Investments at Fair Value	\$ -	-

Investments Not Subject to Fair Value Hierarchy

California Local Agency Investment Fund	-	2,262,600
Cash in Banks	-	1,988,926
Total Cash, Cash Equivalents and Investments	\$ -	\$ 4,251,526

2019		
Type	Level 2	Total
U.S. Government-Sponsored Enterprise Agencies (callable)	\$ 300,100	\$ 300,100
Total Investments at Fair Value	\$ 300,100	300,100

Investments Not Subject to Fair Value Hierarchy

California Local Agency Investment Fund	-	2,262,600
Cash in Banks	-	2,042,731
Total Cash, Cash Equivalents and Investments	\$ 300,100	\$ 4,605,431

**BAY AREA CLEAN WATER AGENCIES
BASIC FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2020 AND 2019**

NOTE 2 - CASH AND INVESTMENTS (Continued)

For the year ended June 30, 2019, federal agency securities totaling \$300,100, classified in Level 2 of the fair value hierarchy, are valued using matrix pricing techniques maintained by various pricing vendors. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by our custodian bank.

E. Interest Rate Risk

Interest rate risk is the risk that changes in market interest rates will adversely affect the fair value of an investment. Normally, the longer the maturity of an investment, the greater the sensitivity of its fair value to changes in market interest rates. BACWA generally manages its interest rate risk by purchasing a combination of short-term and long-term investments and holding investments to maturity. BACWA's only investment is in the California Local Agency Investment Fund which can be withdrawn at any time usually within a day.

F. Local Agency Investment Fund (LAIF)

BACWA is a participant in the Local Agency Investment Fund (LAIF), which is regulated by California Government Code §16429 under the oversight of the Treasurer of the State of California. The value of the pool shares in LAIF is determined on an amortized cost basis, which is different from the fair value of its position in the pool. BACWA's investments with LAIF at June 30, 2020 and 2019 included a portion of the pool funds invested in Structured Notes and Asset-Backed Securities. These investments included the following:

- Structured Notes are debt securities (other than asset-backed securities) whose cash-flow characteristics (coupon rate, redemption amount, or stated maturity) depend upon one or more indices and/or that have embedded forwards or options.
- Asset-Backed Securities, the bulk of which are mortgage-backed securities, entitle their purchasers to receive a share of the cash flows from a pool of assets, such as principal and interest repayments from a pool of mortgages (such as Collateralized Mortgage Obligations) or credit card receivables.

As of June 30, 2020 and 2019, BACWA had investments of \$2,262,600 and \$2,262,600, respectively, invested in LAIF, which had invested 3.37% and 1.77% of the pooled investment funds in Structured Notes and Asset-Backed Securities. The LAIF fair value factor of 1.004912795 and 1.001711790 as of June 30, 2020 and 2019, respectively was used to calculate the fair value of the investments in LAIF.

NOTE 3 – RELATED PARTY TRANSACTION

As BACWA does not have any employees, EBMUD provides BACWA with ongoing treasury, accounting and auditing pass-through costs, and certain technical (laboratory) services, which are reimbursed by BACWA and the related organizations on no less than a quarterly basis. Total reimbursements for the year ended June 30, 2020 and 2019, were \$29,028 and \$27,032 respectively, and are primarily reflected in the general and administrative expenditures on the Statement of Revenues, Expenditures, and Changes in Net Position.

**BAY AREA CLEAN WATER AGENCIES
BASIC FINANCIAL STATEMENTS
FOR THE YEARS ENDED JUNE 30, 2020 AND 2019**

NOTE 4 – RISK MANAGEMENT

BACWA's liability and property risks are insured by commercial insurance carriers. Selected insurance coverage includes:

Coverage	Policy Limit
Bodily injury	\$ 5,000,000
Property damage	5,000,000
Personal injury	5,000,000
Non-owned and hired automobile liability	5,000,000
Public officials, errors and omissions	5,000,000
Fire damage liability	1,000,000
Employment practices liability	2,000,000
Security and privacy liability	10,000,000

Any liability BACWA may have for uninsured claims are limited to general liability claims. However, BACWA has experienced no losses from such claims during the preceding three years and it therefore believes there is no liability for claims incurred but not reported.



INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL
OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS
BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE
WITH *GOVERNMENT AUDITING STANDARDS*

To the Board of Directors
Bay Area Clean Water Agencies
Oakland, California

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the Bay Area Clean Water Agencies (BACWA), as of and for the year ended June 30, 2020, and the related notes to the financial statements, which collectively comprise BACWA's basic financial statements, and have issued our report thereon dated September 2, 2020.

Internal Control over Financial Reporting

In planning and performing our audit of the financial statements, we considered the BACWA's internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinions on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of BACWA's internal control. Accordingly, we do not express an opinion on the effectiveness of BACWA's internal control.

A deficiency in internal control exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or, significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.



To the Board of Directors
Bay Area Clean Water Agencies
Oakland, California

Compliance and Other Matters

As part of obtaining reasonable assurance about whether BACWA's financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the Agencies internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Agencies internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

A handwritten signature in black ink that reads "Lance, Soll & Lughard, LLP".

Sacramento, California
September 2, 2020

Study of Per- and Polyfluoroalkyl Substances in Bay Area POTWs: Phase 1

Sampling and Analysis Plan

San Francisco Estuary Institute
4911 Central Avenue
Richmond, CA 94804



Introduction	3
Key Personnel and Approvals	4
Sampling Schedule	6
Sampling Procedure	7
4.1 General Sampling Guidelines	7
4.2 Sample Equipment: Acceptable and Prohibited Materials	8
4.3 Sample Equipment Cleaning and Decontamination Procedures	12
4.4 Aqueous Sampling Guidelines	12
4.5 Biosolids Sampling Guidelines	18
Sampling Sites	21
Sample Labeling	21
Sample Handling and Custody	21
Laboratory Analytical Methods	22
Quality Control Requirements	24
Data Management	25
Reporting	25
Data Validation and Usability	26
References	26
Appendix A: Field Sampling Forms	27
Appendix B: POTW Process Diagrams	31
Appendix C: DOD QSM	46

1. Introduction

This Sampling and Analysis Plan (SAP) details the plan associated with the Per- and Polyfluoroalkyl Substances Monitoring for Bay Area Publicly-Owned Treatment Works, Phase 1: Study design, coordination of sample collection, data quality assurance and reporting. This study was developed to investigate per- and polyfluoroalkyl substances (PFAS) in matrices from Bay Area publicly-owned treatment works (POTWs) to inform the monitoring strategy and program decisions for the Regional Monitoring Program for Water Quality in San Francisco Bay (RMP) and address monitoring needs for the State Water Board. The study is a two-part study, and this plan details the tasks associated with Phase 1 of the study. Phase 1 will analyze samples from a representative set of Bay Area POTWs to measure concentrations of PFAS in wastewater influent, effluent, biosolids, and reverse osmosis concentrate. Phase 2 (currently planned for summer 2021) will be informed by results from Phase 1 and will also include sampling of tertiary recycled water.

The specific objectives of the sampling effort are:

1. Collect influent, effluent, and biosolids samples for PFAS target and Total Oxidizable Precursors (TOP) analyses from the following POTWs:
 - Central Contra Costa Sanitary District (CCCSD)
 - City of San Mateo Wastewater Treatment Plant (CSM)
 - East Bay Municipal Utility District Main Wastewater Treatment Plant (EBMUD)
 - Fairfield-Suisun Sewer District (FSSD)
 - Novato Sanitary District (NSD)
 - Oceanside Water Pollution Control Plant (OSP), SFPUC
 - Palo Alto Regional Water Quality Control Plant (PA)
 - San Francisco International Airport Mel Leong Treatment Plant (SFO-S)
 - San Francisco International Airport Mel Leong Treatment Industrial Plant (SFO-I)
 - San Jose-Santa Clara Regional Wastewater Facility (SJ-SC)
 - Southeast Water Pollution Control Plant (SEP), SFPUC
 - Union City Sanitary District (USD)
 - Vallejo Flood & Wastewater District (VFWD)
2. Collect effluent samples at East Bay Dischargers Authority (EBDA) for PFAS target and TOP analyses
3. Collect reverse osmosis concentrate at Valley Water (VW) for PFAS target and TOP analyses.

The RMP's Quality Assurance Program Plan (QAPP) (Yee et al., 2019) for field sampling design and analysis and Department of Defense (DoD) Table B-15 of Quality Systems Manual (QSM), version 5.3 for laboratory analysis of PFAS, will be applied to this study unless otherwise stated (DOD and Department of Energy (DOE), 2019). A short summary of relevant QAPP program requirements are included in this SAP for easy reference and review.

2. Key Personnel and Approvals

The personnel who will approve this SAP before it is finalized are shown in Table 1.

Table 1. Key Personnel Approvals for this SAP.

Name	Affiliation	Duties	Initial and Date to Indicate Approval of Plan
Diana Lin	SFEI	Project Manager/Lead Scientist	
Rebecca Sutton	SFEI	Lead Scientist	
Don Yee	SFEI	RMP QA Officer	
Adam Wong	SFEI	RMP Data Manager	
Lorien Fono	BACWA	Executive Director	
Wendy Linck?	State Water Board	Senior Engineering Geologist	
??	Regional Water Board		
Richard Grace	SGS AXYS	Director - Sales, Marketing, and Service	
Sean Campbell	SGS AXYS	Business and Technical Consultant	

The personnel who should be contacted in case of any questions regarding this SAP are shown in Table 2.

Table 2. Key Personnel for PFAS sampling 2020 Contact

Name	Affiliation	Duties	Contact Information (email/phone/cell)
Diana Lin	SFEI	Project Manager/Lead Scientist	diana@sfei.org (510) 746-7385 / (714) 932-8085
Miguel Mendez	SFEI	Environmental Analyst	miguelm@sfei.org (510) 746-7319 / (773) 698-5472
Adam Wong	SFEI	RMP Data Manager	adamw@sfei.org (510) 746-7309

The personnel who should be contacted at each participating POTW in case of any questions regarding PFAS monitoring are shown in Table 3.

Table 3. POTW Contact Information

Name	Affiliation	Title/Duties	Contact Information (email/phone)
Blake Brown	CCCSD	Senior Chemist	bbrown@centralsan.org (925) 229-7237
Mary Lou Esparza	CCCSD	Laboratory Superintendent	mesparza@centralsan.org (925) 335-7751
Time Potter	CCCSD	Environmental Compliance Superintendent	tpotter@centralsan.org (925) 229-7380
Xiongbing Liang	CSM	Laboratory Supervisor	xliang@cityofsanmateo.org (650) 522-7388
Angie Berumen	EBDA	City of San Leandro Lab Manager	ABerumen@sanleandro.org (510) 577-6042
Jackie Zipkin	EBDA	General Manager	jzipkin@ebda.org (510) 206-3820
Alicia Chakrabarti	EBMUD	Manager of WW Environmental Services	alicia.chakrabarti@ebmud.com (510) 287 2059
Nicole Van Aken	FSSD	Laboratory Manager	nvanaken@fssd.com (707) 428-9153
Liz Falejczyk	NSD	Environmental Services Supervisor, Veolia Water at NSD	lizf@novatosan.com (415) 892-1694 (ext 119)
Jennie Pang	OSP & SEP	Regulatory Specialist (SFPUC WWE)	jypang@sfwater.org (415) 934- 5762
Samantha Bialorucki	PA	Lab Manager	Samantha.Bialorucki@CityofPaloAlto.org (650) 329-2334
Samantha Engelage	PA	Senior Engineer	Samantha.Engelage@CityofPaloAlto.org (650) 329-2123
Suguna Pillay	PA	Senior Chemist	Suguna.Pillay@CityofPaloAlto.org

Jennifer Acton	SFO-S & SFO-I	Acting Utility Manage	Jennifer.acton@flysfo.com (650) 821-8380
Eric Dunlavey	SJ-SC	Wastewater Compliance Manager	eric.dunlavey@sanjoseca.gov (408) 635-4017
Tim Grillo	USD	Research and Support Coach	timg@unionsanitary.ca.gov (510) 477-7561
Dan Jackson	USD	Lab Director	danj@unionsanitary.ca.gov (510) 517-1413
Anita Setty	VFWD	Environmental Services Superintendent	asetty@vallejowastewater.org (707) 652-7825
Medi Sinaki	VW	Senior Engineer	msinaki@valleywater.org (408) 630-2280

The personnel who should be contacted at SGS AXYS in case of any questions on analysis of PFAS are shown in Table 4.

Table 4. Laboratory Contact Information

Lab / Company	Name	Phone	email	Shipping Address
SGS Axys	Sean Campbell	(206) 632-6206	Sean.Campbell@sgs.com	2045 Mills Rd W V8L5X2 Sidney, British Columbia, CA

3. Sampling Schedule

The anticipating sampling schedule is shown in Table 4.

Table 5. Anticipated Schedule for 2020 BACWA PFAS Study, Phase 1

Date	Activity
Friday, October 20, 2020	Draft sampling and analysis plan
Wednesday, November 6, 2020	Final Sampling and Analysis Plan

November 6 - December 4, 2020	<p>Sample Collection. Avoid sampling on the week of November 23 to avoid shipping issues related to the Thanksgiving holiday.</p> <p>*Samples should be collected during dry weather conditions. If a light precipitation event occurs during this period, sampling should be delayed by three days, and if heavy precipitation occurs, sampling should be delayed by a week, to avoid impacts to measured wastewater concentrations.</p>
-------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Laboratory analytical results are expected within 6 weeks of receiving final samples from facilities. Analyses are expected to be completed by January 2021. SFEI will upload analytical results to GeoTracker on behalf of facilities within 60 days of receiving final analytical results. SFEI will upload a monitoring report to GeoTracker within 90 days of receiving the final laboratory analytical report. This is expected to be completed during the first quarter of 2021. SFEI will provide a technical memo describing results of Phase 1 of this study during the second quarter of 2021.

4. Sampling Procedure

The following guidelines were adapted using guidance from California State Water Quality Control Board (California State Water Resources Control Board, 2020), Michigan Department of Environmental Quality (Michigan Department of Environmental Quality, 2018) and current literature on PFAS background contamination (Bartlett and Davis, 2018; Rodowa et al., 2020). These recent literature studies examining sources of PFAS contamination during sampling suggests background contamination may not be as common as previously suggested. To be consistent with published guidance, previous studies, and in an abundance of caution, several materials are best avoided if they do not compromise safety or practicality.

4.1 General Sampling Guidelines

At each POTW, samples should be collected in the following order at peak flow. The purpose of this order is to avoid contamination of samples by collecting the cleanest sample first.

1. Effluent or ROC (if applicable)
2. Influent
3. Biosolids

Site Set-Up

The sampling site should be evaluated prior to sampling to identify potential contamination risks and to select dedicated staging and sampling areas as defined below:

- **Eating Area:** The eating area is separate from the sampling and staging areas, and the only place where food and drink should be stored and consumed. Food packaging must not be in the sampling and staging areas during sampling due to the potential for PFAS cross-contamination.
- **Staging Area:** The staging area is where equipment is set-up and personal protective equipment is put on and taken off. PFAS-free over-boots and PPE should be put on in the staging area prior to sampling activities.

- **Sampling Area:** Sampling areas are the areas of the field where samples are collected. When staff needs to leave the site, they should move to the staging area before removing gloves, coveralls, and any other appropriate PPE, if worn.

Sample Collection

Most samples for this study will be collected via grab sampling to minimize background contamination, increase method consistency, and best ensure each facility has the capabilities to meet sampling needs. Grab sampling will occur at peak flow. As a comparison, a few facilities (CCCSD, FSSD, and SFO-I) will also be collecting composite influent and effluent samples. This will aid in understanding how grab samples compare with 24-hour composites in representing influent and effluent PFAS concentrations, while informing future sampling design and collection.

Field Sampling Form

For all sampling events, please fill out the associated (aqueous or biosolids) field sampling form shown in Appendix A. The information requested specifically relates to each sampling event including sampling equipment used, procedures followed, and daily conditions at the POTW. The form may be completed after each sampling event and once all information requested is available. Please send completed forms to diana@sfei.org and miguelm@sfei.org.

4.2 Sample Equipment: Acceptable and Prohibited Materials

The typical field sampling environment has many potential sources of PFAS including sampling equipment, field documentation, personal protective equipment, clothing, and personal care products. As this can lead to background contamination, common materials in the field sampling environment have been separated into three categories as defined below:

Acceptable Materials: These materials are known not to be sources of PFAS cross contamination and can be used during all sampling stages and in the immediate sampling environment.

Staging area-only materials: These materials may contain PFAS and should not come into direct contact with the sample. These materials can be used in the staging area, but should be used away from all sampling equipment. Thoroughly wash hands and use new gloves after handling any of these materials.

Prohibited materials: These materials are known to contain PFAS that may present a threat to sample integrity and should not be used during any stage of the sampling events.

Each facility has been provided with a PFAS field sampling kit including sample containers and shipping materials to collect and ship all requested samples. The contents of each kit shipped to participating POTWs is found in **Table 6**.

All Sampling Equipment

Prohibited: Any and all sampling equipment that contain PFAS-based (fluoropolymer) parts that would be in direct contact with the sample or sampling environment. These fluoropolymers include, but are not limited to:

Table 6. POTW shipping addresses and supplies provided in each PFAS sampling kit.

Facility	Shipping Address	Effluent, Equipment Blanks (500 mL HDPE)	Influent (125 mL HDPE)	Influent TOP (60 mL HDPE)	Biosolids (250 mL HDPE)	Field Blank Spring Water (500 mL HDPE)	PFAS-Free Reagent Water (4 L)
CCCSD	ATTN: Mary Lou Esparza, Blake Brown Central San District Offices & Treatment Plant 5019 Inhoff Place Martinez, CA 94553	16	15	4	6	3	1
CSM	ATTN: Xiongbing Liang City of San Mateo WWTP 2050 Detroit Dr San Mateo, CA 94404	4	4	4	3	-	-
EBDA	ATTN: Angie Bertumen San Leandro WWTP 3000 Davis St. San Leandro, CA 94577	4	-	-	-	-	-
EBMUD	ATTN: Nick Klumpp EBMUD WWTP, EBMUD Lab MS 59 2020 Wake Ave Oakland, CA 94608	4	4	4	4	-	-
FSSD	ATTN: Nicole Van Aken Fairfield Suisun Sewer District WWTP 1010 Chadbourne Rd Fairfield, CA 94534	16	15	4	3	3	1
NSD	ATTN: Liz Falejczyk Novato Sanitary District WWTP 500 Davidson Street Novato, CA 94945	4	4	4	3	-	-
PA	ATTN: Lab, Samantha Bialorucki City of Palo Alto RWQCP 2501 Embarcadero Way Palo Alto, CA 94303	4	4	4	3	-	-
OSP	ATTN: Dolson Kvan, PFAS Study Southeast Treatment Plant, Lab Sample Receiving 750 Phelps St. San Francisco, CA, 94124	4	4	4	3	-	-
SEP		4	3	4	3	-	-
SFO-S	ATTN: Brian Kuhn San Francisco International Airport PO Box 8097 San Francisco, CA 94128	5	4	4	3	1	1
SFO-I		21	9	4	4	2	1
SJ-SC	ATTN: Payal Sarkar San Jose-Santa Clara RWF 700 Los Esteros Road San Jose, CA 95134	9	8	4	0	-	-

USD	ATTN: Dan Jackson, Laboratory Raymond A. Boege Alvarado WWTP 5072 Benson Rd. Union City, CA 94587	6	5	6	4	-	1
VFW	ATTN: Anita Setty Vallejo Flood & Wastewater District WWTP 450 Ryder St Vallejo, CA 94590	4	4	4	3	-	-
VW	ATTN: Jason Chiar Silicon Valley Advanced Water Purification Center 4190 Zanker Road San Jose, CA 95134	8	-	-	-	-	-
SFEI (Extras)	ATTN: Diana Lin 2622 Henry Ave Pinole CA 94564 (temporary receiving address for SFEI packages)	20	20	-	-	-	-

Two extras have been included for all sample containers.

Facilities highlighted in blue have been provided with 2 additional (a total of 4 extra) 500 mL HDPE containers

- Polytetrafluoroethylene (PTFE), including the trademark Teflon® and Hostaflon® which can be in the ball lining of some hoses and tubing, and some objects that require the sliding action of parts.
- Polyvinylidene fluoride (PVDF), including the trademark Kynar®, which can be in tubing and films/coatings on aluminum, galvanized or aluminized steel.
- Polychlorotrifluoroethylene (PCTFE), including the trademark Neoflon®, which can be in many valves, seals, and gaskets.
- Ethylene-tetrafluoro-ethylene (ETFE), including the trademark Tefzel®, which can be in many wire and cable insulation and covers, liners in pipes, and some cable tie wraps.
- Fluorinated ethylene propylene (FEP), including the trademarks Teflon® FEP and Hostaflon® FEP, and may also include Neoflon®, which can be in wire and cable insulation and covers, pipe linings, and some labware.

Staging area-only: Low density polyethylene (LDPE) should be avoided if it comes into direct contact with the sample. If absolutely necessary, LDPE parts may be used if an equipment blank has confirmed it is PFAS-free. LDPE resealable storage bags (i.e. Ziploc bags) may be used for storage and shipping.

Sample Containers

Acceptable: High-density polyethylene (HDPE) containers of various sizes (500 mL, 250 mL, 125 mL, and/or 60 mL) provided by SGS AXYS.

Pumps, Tubing and Sampling Instruments

Acceptable: Supplies must be made from acceptable materials known to be PFAS free, which include HDPE, polypropylene, silicone, stainless steel, nylon (e.g., cable ties), polyvinyl chloride (PVC), acetate, and cotton. Glass may be used as long as it is known to be PFAS-free (or decontaminated; see Section 4.3) and comes into contact with the sample for a short period of time (not appropriate for storage).

To collect composite samples, automatic samplers may be used though there may be an increased potential for cross-contamination because the tubing, valves, strainers, suction lines, distribution nozzles, and other parts may be made from PFAS (fluoropolymers). It is recommended that parts on the sampler be screened prior to sampling by reviewing the safety data sheets (if available) and collection of an equipment blank to verify that the parts are PFAS-free.

Field Documentation

Acceptable: Ballpoint pens and Sharpie® markers (only fine or ultra-fine) for writing and labeling. Loose paper (non-waterproof, non-recycled) as well as aluminum, polypropylene, or Masonite field clipboards may be used.

Staging area-only: Rite in the Rain® notebooks.

Prohibited: Regular and thick sized markers of any brand, sticky notes, plastic clipboards, or waterproof paper and notebooks.

Personal Protective Equipment and Other Clothing

Acceptable: Synthetic or 100% cotton clothing that has been well-laundered without the use of fabric softeners. Any clothing (including shoes) made of or with polyurethane, PVC, wax coated fabrics, rubber and neoprene. Powderless nitrile gloves for all sampling events.

Staging area-only: Non PFAS-free boots and first aid adhesive wrappers.

Prohibited: Latex gloves, new or unwashed clothing, any clothes recently treated with fabric softeners, fabric protectors, insect resistance and water/stain/dirt-resistant chemicals. Anything made with water/stain/dirt-resistant fabrics such as Coated Tyvek®, Gore-Tex®, Scotchgard™, and RUCO®.

Personal safety is paramount and should not be compromised to prevent cross-contamination. Therefore, if the use of PPE is necessary to ensure the health and safety of sampling personnel and no PFAS-free alternative is available, then note the use in the field sampling form. Please wash hands and change gloves after handling any PFAS containing products (including items designated only to the staging-area).

Personal Care Products

Staging area-only: Sunscreens and insect repellents, preferably from products known to not contain PFAS (nonexhaustive list provided from the [Michigan PFAS Sampling Quick Reference Field Guide](#)).

Prohibited: Application of any PCPs in the sampling area.

If possible, please try to avoid use of personal care products (hair products, make-up, perfume/cologne, moisturizers, etc.) on the day of sampling. If any are used on the day of sampling, record in the field sampling form.

Food Packaging Materials

Prohibited: PFAS are known to be prevalent in food packaging, including paper plates, aluminum foil, paper towels, food containers, bags, and wraps. Food and beverages should not be consumed at the sampling site. If they must be consumed during the sampling event, a dedicated eating area should be identified (see section 4.1).

4.3 Sample Equipment Cleaning and Decontamination Procedures

Sample equipment that comes into contact with the sampling media (i.e., buckets, carboys, extension rods, scoops, tubing, parts of automatic samplers) should be cleaned and decontaminated (or new) prior to use where possible. Automatic samplers should be decontaminated, or the strainer replaced between each sampling event. If new tubing is used, decontamination procedures are not necessary. Sampling equipment can be scrubbed using a polyethylene or PVC brush to remove particulates.

The following procedure is recommended for cleaning and decontamination:

Wash with PFAS-free soap (i.e., Alconox®), scrub (if applicable). Follow up with a methanol rinse and rinse with PFAS free water. The laboratory will provide PFAS free water (4 L reagent water) to facilities collecting the composite samples. Please note if this, or any other cleaning method, has been used in the field sampling form.

4.4 Aqueous Sampling Guidelines

Tables 7 and 8 detail the aqueous samples each POTW will be collecting for PFAS analysis. The contents of the table as they relate to sample guidelines are summarized below:

Table 7. Influent Samples collected at each POTW.

Facility	PFAS Target Analysis			PFAS TOP Analysis		Influent Composite (125 mL)	PFAS Target Analysis			Influent Composite Duplicate (125 mL)	PFAS Target Analysis		Influent Composite Back-Up (125 mL)	Influent Field Blank (Pre-filled 500 mL)	Influent Equipment Blank (500 mL)	Total Influent Samples Collected
	Influent Grab (125 mL)	Influent Grab Duplicate (125 mL)	Influent Grab Back-Up (125 mL)	Influent Grab + Backup (60 mL)	Influent Composite (125 mL)		Influent Composite Duplicate (125 mL)	Influent Composite Back-Up (125 mL)	Influent Field Blank (Pre-filled 500 mL)		Influent Composite Duplicate (125 mL)	Influent Composite Back-Up (125 mL)				
CCCSD	2	1	3	2	2	2	1	3	1	1	1	3	1	1	1	16
CSM	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4
EBMUD	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4
FSSD	2	1	3	2	2	2	1	3	1	1	1	3	1	1	1	16
NSD	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4
OSP	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4
PA	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4
SEP	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4
SFO-S	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4
SFO-I	2	1	3	2	2	2	1	3	1	1	1	3	1	1	1	16
SJ-SC	1	2*	3*	2	-	-	-	-	-	-	-	-	-	-	-	8
USD	1	-	1	4 (incl. 2 dup.)	-	-	-	-	-	-	-	-	-	-	1	7
VFWD	1	-	1	2	-	-	-	-	-	-	-	-	-	-	-	4

Sample container size noted in parenthesis. Sample containers should be filled with 10-20% headspace to allow for expansion upon freezing.

Facilities highlighted in blue are collecting grab and composite samples to compare sampling methods

* Sampling includes one Matrix Spike (MS) and one Matrix Spike Duplicate (MSD)

Table 8. Effluent Samples collected at each POTW.

Facility	Effluent Grab (500 mL)	Effluent Grab Duplicate (500 mL)	Effluent Grab Back-Up (500 mL)	Effluent Composite (500 mL)	Effluent Composite Duplicate (500 mL)	Effluent Field Blank (Pre-filled 500 mL)	Effluent Equipment Blank (500 mL)	Total Effluent Samples Collected
	PFAS Target Analysis					QA/QC		
CCCSD	2	1	3	2	1	1	1	11
CSM	1	-	1	-	-	-	-	2
EBDA	1	-	1	-	-	-	-	2
EBMUD	1	-	1	-	-	-	-	2
FSSD	2	1	3	2	1	1	1	11
NSD	1	-	1	-	-	-	-	2
OSP	1	-	1	-	-	-	-	2
PA	1	-	1	-	-	-	-	2
SEP	1	-	1	-	-	-	-	2
SFO-S	1	-	1	-	-	-	-	2
SFO-I	2	1	3	2	1	1	1	11
SJ-SC	1	2*	3	-	-	-	-	6
USD	1	-	1	-	-	-	1	3
VFWD	1	-	1	-	-	-	-	2
VW^	2	1	3	-	-	-	-	6

Sample container size noted in parenthesis. Sample containers should be filled with 10-20% headspace to allow for expansion upon freezing.

Facilities highlighted in blue are collecting grab and composite samples to compare sampling methods

* Sampling includes one Matrix Spike (MS) and one Matrix Spike Duplicate (MSD)

^ Sampling is for Reverse Osmosis Concentrate (ROC)

The following facilities will focus only on **grab** sampling for influent, effluent, and/or reverse osmosis concentrate (ROC):

- City of San Mateo Wastewater Treatment Plant (CSM)
- East Bay Dischargers Authority (EBDA),
- East Bay Municipal Utility District Main Wastewater Treatment Plant (EBMUD)
- Novato Sanitary District (NSD)
- Oceanside Water Pollution Control Plant (OSP)
- Southeast Water Pollution Control Plant (SEP),
- Palo Alto Regional Water Quality Control Plant (PA)
- San Francisco International Airport Mel Leong Treatment Plant (SFO-S)
- Vallejo Flood & Wastewater District (VFWD)
- Valley Water (VW)

Two facilities will conduct **grab** sampling on influent and effluent and collect additional **duplicate grab** samples:

- San Jose-Santa Clara Regional Wastewater Facility (SJ-SC)
- Union Sanitary District (USD)

The remaining facilities will run **both grab and composite** sampling for influent and effluent while also taking **duplicates (grab and composite), field blanks, and equipment blanks**:

- Central Contra Costa Sanitary District (CCCSD)
- Fairfield-Suisun Sewer District (FSSD)
- San Francisco International Airport Mel Leong Treatment Industrial Plant (SFO-I)

The following protocols should be followed when collecting any aqueous PFAS samples:

- Powderless nitrile gloves must be worn on hands before collecting samples, handling sample containers, or handling sampling equipment.
- The sample container must be kept sealed and only opened during sample collection. The sampling container cap or lid should never be placed on the ground or on any other surface unless it is PFAS-free. If it is necessary to set the cap down, it should be set on a clean surface (cotton sheeting, HDPE sheeting, triple rinsed cooler lid, etc.).
- Do not insert or let tubing or any materials inside the sample bottle. Dust and fibers must be kept out of sample bottles.
- Samples containers should be filled to 80-90% capacity (providing 10-20% volume headspace) to allow for expansion during freezing (all samples will be frozen upon receipt at the laboratory). Final volumes should correspond to roughly 400-450 mL (500 mL container), 100-110 mL (125 mL), and 48-55 mL (60 mL).

Grab Sampling

Influent and effluent samples will be collected at peak flow at each facility to ensure capture of dominant flows. Wastewater influent and effluent will be directly collected in HDPE containers (500 mL, 125 mL or 60 mL) provided by SGS AXYS. If this is not possible, a beaker made of a known PFAS-free material (examples of allowable materials listed above) may be used to pour into the HDPE container. It is acceptable to collect chlorinated effluent samples and ship to the laboratory without any further treatment. Please note if samples are chlorinated in the field sampling form.

Various types of immersion sampling equipment may be used for sampling. Equipment used must be PFAS-free (see section 4.2), new or decontaminated (see section 4.3), and may include extension rods to immerse the laboratory sample bottle at the sample location, cable ties, beakers, and peristaltic pumps with tubing that extends into the wastewater. If the sampling bottle can not be used to directly sample, a sampling port or pump may be used instead. Sampling locations for all facilities are shown in process diagrams in Appendix B. Please document the use of any equipment or materials that come in direct contact with the sample and any change in sampling location in the field sampling form.

Samples should be collected at peak flow on a weekday to capture representative weekday flows; avoid sampling on weekends and Mondays.

Influent

Influent samples should be collected at a point and manner that is representative of all influent received by the facility prior to treatment. Influent samples should be collected in a well mixed location prior to primary settling, which include but are not limited to the headworks of the inlet to the grit chamber or prior to any biological treatment. If possible, samples should be collected after bar screening and grit removal but before fine screening to obtain a representative influent sample. Please note any treatment processes before the influent sampling location in the field sampling form. The sampling location is also marked in the facility diagrams in Appendix B.

Each 125 mL influent field sample will have a back-up sample collected in a separate 125 mL HDPE container. In addition, two 60 mL samples will be collected to conduct TOP analysis. This means each influent grab sampling event will consist of two 125 mL samples and two 60 mL samples (both PFAS target and TOP analysis will be conducted on influent samples). Since collecting a 60 or 125 mL grab sample directly into a container may be difficult, it is suggested that the sample can be poured off from a larger beaker. A 500 mL HDPE container (extras provided) could be used to pour into a smaller container.

Effluent

Effluent should be collected at a point and manner that is representative of final effluent discharged to receiving waters. If effluent is discharged to storage ponds before release to surface water, sampling can be collected before discharge to the storage pond or after the storage pond. Only 500 mL effluent samples will be collected (PFAS target analysis will be conducted on effluent samples). Each 500 mL effluent field sample will have a 500 mL back-up collected.

ROC

ROC samples should be collected at a point and manner that is representative of the final ROC discharged to receiving waters or combined with effluent discharge. A grab sample and field duplicate will be collected on the same day and time (to capture variation from sampling the same day and time). The second field sample will be collected on any different day of the week. This is being done to capture the day-to-day variation. Only 500 mL ROC samples will be collected (PFAS target analysis will be conducted on ROC samples). Each 500 mL ROC field sample will have a 500 mL back-up collected.

Field Duplicate including Matrix Spike (MS) and Matrix Spike Duplicate (MSD)

For grab sampling, field duplicates are replicate samples collected in the field and submitted to the laboratory as two different samples. Field duplicates can be used to evaluate both field and laboratory precision. For grab sampling, field duplicates are replicate samples collected in the field and submitted to

the laboratory as two or more different samples. Influent and effluent field duplicates will be collected in HDPE containers (500 mL or 125 mL) provided by SGS AXYS using the same procedures noted above.

Facilities performing both grab and composite sampling (CCCSD, FSSD, SFO-I) will collect a total of three grab samples. A field duplicate will be collected at the same day and time as the first field sample (to capture variation from sampling the same day and time). The second field sample will be collected on any different day of the week. This is being done to capture the day-to-day variation. The purpose of these samples are to compare how grab samples compare with 24-hour composites in representing influent and effluent PFAS concentrations. This evaluation will inform how representative wastewater samples should be collected in future PFAS POTW studies.

Also, two 60 mL field duplicates will be collected at USD at the same time as the other 60 mL samples being used for TOP analysis (4 samples total). The MS and MSD will be collected as 500 mL duplicate samples at SJ-SC at the same time as influent and effluent sampling events.

Field Blank

The field blank is collected to verify that the sampling environment does not introduce PFAS and cross-contaminate samples during the sampling event. The field blank is collected by opening a 500 mL container pre-filled with PFAS-free water (provided by SGS-AXYS) while collecting the grab sample. The field blank is treated the same throughout field and laboratory procedures as other collected field samples. A field blank will be collected at four facilities (CCCSD, FSSD, SFO-S, SFO-I) to be representative of typical POTW sampling environments.

Equipment Blank

For grab sampling, only USD will be collecting an equipment blank due to its particular sampling set-up. Equipment blanks are collected by passing PFAS-free reagent water (provided by SGS-AXYS) over or through field sampling equipment before the collection of samples to assess the adequacy of the decontamination process and to evaluate potential contamination from the equipment used during sampling. Each equipment blank should fill up to 500 mL (450 mL if frozen) in provided HDPE containers. Equipment blanks should be collected prior to sample collection.

Composite Sampling

Influent and effluent samples at CCCSD and FSSD will be collected as 24-hour composites using autosamplers. HDPE containers (500 mL) can be filled directly from the autosampler or poured from a PFAS-free container where a larger composite is collected. If possible, new tubing should be used for each sampling event. Automatic samplers should be decontaminated or strainer replaced between each sampling event. Record if tubing and strainers were decontaminated prior to use or new in the field sampling form.

Manual composites will be collected at SFO-I. This will require the collection of at least 4 grab samples spaced evenly through a 24-hour period that would be combined for a 125 (influent) or 500 mL (effluent). For four grab samples, each grab would consist of roughly ~25 or 110 mL samples collected with a PFAS-free container and poured into their respective HDPE container after each successive collection. Sample should be well-mixed to ensure solids are homogenized and the sample is representative of solids content. It is acceptable to collect chlorinated effluent samples and ship to the laboratory without any further treatment. Please note if samples are chlorinated in the field sampling form.

Field Duplicate

For composite sampling, field duplicates are replicate or split samples collected in the field and submitted to the laboratory as two or more different samples. Influent and effluent field duplicates will be collected in HDPE containers (125 or 500 mL) provided by SGS AXYS using the same procedures as in the sections above.

Facilities performing both grab and composite sampling (CCCCSD, FSSD, SFO-I) will collect a total of three grabs and three composites. A field duplicate will be collected with the first field composite sample. Ideally, the field duplicate is a true replicate, where the sample is collected the same day but from different sips from the composite sampler. For example, if the normal sampling procedure is hourly sips into the composite bottle, the field replicate would be a second composite bottle; hourly sips would first go in Bottle A, then another in bottle B, repeated throughout the day. Another option is for replicates to be collected from a separate autosampler at the same location. If these options are not possible, then the field duplicate could be a split sample poured from a larger composite bottle on the same day, making sure the larger composite bottle is well-mixed and homogenized before pouring. The third sample will be collected as a separate field sample on a different day of the week to capture daily variations. The purpose of these samples are to compare how grab samples compare with 24-hour composites in representing influent and effluent PFAS concentrations. This evaluation will inform how representative wastewater samples should be collected in future PFAS POTW studies.

Equipment Blank

For automatic samplers, equipment blanks are collected by passing PFAS-free reagent water (provided by SGS-AXYS) over or through field sampling equipment (i.e., tubing) before the collection of samples to assess the adequacy of the decontamination process and to evaluate potential contamination from the equipment used during sampling. Each equipment blank should fill up to 500 mL (or 450 mL if the sample will be frozen) in provided HDPE containers. If a larger composite container is used to collect samples prior to pouring into the sample container, the composite container should also be rinsed and sampled. Equipment blanks should be collected prior to sample collection.

Sample Storage

It is recommended that aqueous samples to be analyzed for PFAS be frozen (below 0°C) as soon as possible. When frozen, the hold time for wastewater influent and effluent is 90 days from collection. If samples cannot be frozen on site after collection, samples should be shipped immediately to SGS AXYS (see section 7). Samples will be frozen there when they arrive.

4.5 Biosolids Sampling Guidelines

Table 9 details the biosolids samples each POTW will be collecting for PFAS analysis. The contents of table as they relate to sample guidelines are summarized below:

The following facilities will focus only on a **single biosolids sample**: CSM, NSD, OSP, PA, SEP, VFWD

Three facilities will be collecting a **biosolids sample and duplicate**: EBMUD, SJ-SC, USD, SFO-I

The remaining facilities will be taking a **biosolids sample, field blank, and equipment blank**: CCCSD, FSSD, SFO-S

Table 9. Biosolids samples collected at each POTW.

Facility	Biosolids (250 mL)	Biosolids Duplicate (250 mL)	Biosolids Field Blank (Pre-filled 500 mL)	Biosolids Equipment Blank (500 mL)	
	Target and TOP Analysis		QA/QC Target Analysis		Total Biosolids Samples Collected
CCCSD	3*	-	1	1	5
CSM	1	-	-	-	1
EBMUD	1	1	-	-	2
FSSD	1	-	1	1	3
NSD	1	-	-	-	1
OSP	1	-	-	-	1
PA	1	-	-	-	1
SEP	1	-	-	-	1
SFO-S	1	-	1	1	3
SFO-I	1	1	-	-	2
SJ-SC	1	1	-	-	2
USD	1	1	-	-	2
VFWD	1	-	-	-	1

Sample container size noted in parenthesis. Sample containers should be filled half-way (125 mL).

* Facility has various biosolids waste streams

The following protocols should be followed when collecting any biosolids PFAS samples:

- Powderless nitrile gloves must be worn on hands before collecting samples, handling sample containers, or handling sampling equipment.
- The sample container must be kept sealed and only opened during sample collection. The sampling container cap or lid should never be placed on the ground or on any other surface unless it is PFAS-free.

Biosolids Sampling

A biosolids sample should be collected from the final step in the treatment process at each facility to represent the final product (highest solids content possible) that is produced and removed from each POTW. If liquids are present, a representative whole sample aliquot that includes both liquid and solid fractions should be collected.

Samples should be collected in a way that is representative of biosolids produced by the facility. A single grab sample is appropriate if collected from a well-mixed treatment process. The 250 mL HDPE containers should be filled half-way (125 mL) by directly pouring or scooping from a well mixed location. If biosolids piles are heterogenous, several grab samples may be collected and composited to create a representative sample of biosolids.

To fully assess the presence of PFAS in the biosolids treatment process, CCCSD will be collecting three biosolids samples. The first two samples (sludge cake and scum) will be collected before the biosolids are incinerated. A wet ash sample will also be collected after biosolids incineration.

Field Duplicate

For biosolids sampling, field duplicates are replicate samples collected in the field and submitted to the laboratory as two or more different samples. Biosolids field duplicates will be collected in HDPE containers (250 mL) provided by SGS AXYS on the same day as biosolids samples using identical procedures noted in the section above.

Field Blank

The field blank is collected by opening a 500 mL container pre-filled PFAS-free water (provided by the SGS-AXYS) while out in the field conducting grab sampling. The field blank is treated the same throughout field and laboratory procedures as collected grab samples.

Equipment Blank

For biosolids, equipment blanks are collected by passing PFAS-free reagent water (provided by SGS-AXYS) over or through field sampling equipment (i.e., scoops and/or containers used to grab biosolids) before the collection of samples. Each equipment blank should fill up to 500 mL (or 450 mL if the sample will be frozen) in the provided HDPE containers.

Sample Storage

It is recommended that biosolids samples to be analyzed for PFAS be frozen (below 0°C) as soon as possible. When frozen, the hold time is extended to one year for biosolids. If samples cannot be frozen on site after collection, samples should be shipped immediately to SGS AXYS (see section 7).

5. Sampling Sites

See Appendix B for individual POTW processing diagrams and location of sampling sites.

6. Sample Labeling

The sample ID system used for the PFAS POTW analytical samples is as follows:

Facility Acronym - Matrix - Identifying Letter - Collection Method - Analysis

Where:

Facility Acronym = CCCSD, CSM, EBDA, EBMUD, FSSD, NSD, OSP, PA, SEP, SFOS, SFOI, SJSC, USD, VFWD, VW

Matrix = Influent (INF), Effluent (EFF), Reverse Osmosis Concentrate (ROC), Biosolids (BIO)

Identifying Letter = field sample (F), field sample from different day (F2), field replicate (R), field blank (B), and equipment rinse blank (E), back-up additional influent samples (A), matrix spike (MS), matrix spike duplicate (MSD)

Collection Method = Grab or Composite (Comp)

Analysis = Target or TOP (Total Oxidizable Precursor)

Example: SJSC-INF-F-Grab-TOP

Every container will be labeled with a unique sample ID following this system. **SFEI will provide a full list of the sample labels including sample IDs and requested analytical methods from SGS AXYS that will be collected from each facility.** The sample ID will be recorded on the field sampling form.

7. Sample Handling and Custody

Chain of custody (COC) records will be maintained throughout the course of the sampling effort. SFEI will provide a pre-filled COC form for each facility listing the expected samples collected and indicate the requested laboratory analysis for each sample. Each participating facility will complete the COC form by filling out any missing information and include the original form with the sample shipment, and provide an electronic copy of the form to SFEI at the time of the shipment.

Samples must be chilled during storage and shipment. It is preferred for samples to be frozen (below 0°C) as soon as possible at the facility until all samples are ready for shipment. Once frozen, hold time is one year for the biosolids and 90 days for aqueous matrices (influent, effluent, ROC). Otherwise, the samples should be shipped immediately to the analytical laboratory, where they will be frozen when they arrive.

When preparing samples for shipment, it is recommended to double-bag samples (especially influent) using PFAS-free bags. HDPE bags are preferred, though LDPE bags may be used if they do not come into direct contact with the sample media. As much double-bagged wet ice as will fit in the cooler should be used for transporting and shipping liquid and frozen samples. Chemical or blue ice should not be used.

Samples must be shipped by FEDEX priority overnight service. As this is an international shipment, a commercial invoice (CI) is needed. The CI will be partially completed by SGS AXYS and sent together with the PFAS field sampling kit, which will also include facility specific packaging and shipping instructions. Both SFEI (diana@sfei.org; miguelm@sfei.org) and SGS AXYS (Sean.Campbell@sgs.com) should be included in any FedEx shipment notifications.

8. Laboratory Analytical Methods

Aqueous samples are analyzed using target PFAS analysis and Total Oxidizable Precursors analysis (TOP). The method information including analytical list, reporting limits, and laboratory QA/QC measures can be directly obtained from SGS AXYS. TOP analysis is used to evaluate the presence of precursors that may not be included in the target analyte list.

Target PFAS analysis includes the following analytes with reported detection limits, which are below the reporting requirements specified by the Water Board (State Water Resources Control Board, 2020).

Table 10: Target PFAS analyte list (MLA-110, SGS AXYS) including reporting limits (RLs) for aqueous and biosolids samples.

Abbreviation	Geotracker PARLABEL	PFAS Chemical Name	Aqueous RLs (ng/L)	Biosolids RLs (ng/g)
PFBA	PFTBA	Perfluorobutanoic acid	1.6	0.32
PFPeA	PFPA	Perfluoropentanoic acid	0.8	0.16
PFHxA	PFHA	Perfluorohexanoic acid	0.4	0.08
PFHpA	PFHPA	Perfluoroheptanoic acid	0.4	0.08
PFOA	PFOA	Perfluorooctanoic acid	0.4	0.08
PFNA	PFNA	Perfluorononanoic acid	0.4	0.08
PFDA	PFNDCA	Perfluorodecanoic acid	0.4	0.08
PFUnA	PFUNDCA	Perfluoroundecanoic acid	0.4	0.08
PFDoA	PFDOA	Perfluorododecanoic acid	0.4	0.08
PFTTrDA	PFTRIDA	Perfluorotridecanoic acid	0.4	0.08
PFTeDA	PFTEDA	Perfluorotetradecanoic acid	0.4	0.08
PFBS	PFBSA	Perfluorobutanesulfonic acid	0.4	0.08
PFPeS	PFPEs	Perfluoropentanesulfonic acid	0.4	0.08
PFHxS	PFHXSA	Perfluorohexanesulfonic acid	0.4	0.08
PFHpS	PFHPSA	Perfluoroheptanesulfonic acid	0.4	0.08
PFOS	PFOS	Perfluorooctanesulfonic acid	0.4	0.08
PFNS	PFNS	Perfluorononanesulfonic acid	0.4	0.08

PFDS	PFDSA	Perfluorodecanesulfonic acid	0.4	0.08
PFDoS	-	Perfluorododecanesulfonic acid	0.4	0.08
4:2 FTS	4:2FTS	1H, 1H, 2H, 2H-perfluorohexane sulfonic acid	1.6	0.32
6:2 FTS	6:2FTS	1H, 1H, 2H, 2H-perfluorooctane sulfonic acid	1.6	0.32
8:2 FTS	8:2FTS	1H, 1H, 2H, 2H-perfluorodecane sulfonic acid	1.6	0.32
3:3 FTCA	3:3FTCA	2H, 2H, 3H, 3H-perfluorohexanoic acid	1.6	0.32
5:3 FTCA	5:3FTCA	2H, 2H, 3H, 3H-perfluorooctanoic acid	10	2
7:3 FTCA	7:3FTCA	2H, 2H, 3H, 3H-perfluorodecanoic acid	10	2
PFOSA	PFOSA	Perfluorooctanesulfonamide	0.4	0.08
N-MeFOSA	MEFOSA	N-Methylperfluorooctanesulfonamide	0.4	0.08
N-EtFOSA	ETFOSA	N-Ethylperfluorooctanesulfonamide	0.4	0.08
N-MeFOSAA	NMEFOSAA	N-Methylperfluoro-1-octanesulfonamidoacetic acid	0.4	0.08
N-EtFOSAA	NETFOSAA	N-Ethylperfluoro-1-octanesulfonamidoacetic acid	0.4	0.08
N-MeFOSE	MEFOSE	N-Methylperfluoro-1-octanesulfonamidoethanol	4	0.8
N-EtFOSE	ETFOSE	N-Ethylperfluoro-1-octanesulfonamidoethanol	4	0.8
HFPO-DA (GenX)	HFPO-DA	2,3,3,3-Tetrafluoro-2-(1,1,2,2,3,3,3-heptafluoro-propoxy)propionic acid	1.6	0.32
ADONA	ADONA	Decafluoro-3H-4,8-dioxanonoate	1.6	0.32
NFDHA	NFDHA	Perfluoro-3,6-dioxahexanoate	0.8	0.16
PFMBA	PFMBA	Perfluoro-3-methoxypropanoate	0.8	0.08
PFMPA	PFMPA	Perfluoro-4-methoxybutanoate	1.6	0.16
9Cl-PF3ONS	9-Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid	1.6	0.32
11Cl-PF3OUdS	11-Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	1.6	0.32
PFEESA	PFEESA	Perfluoro(2-ethoxyethane)sulfonic acid	0.4	0.08

Table 11: TOP analysis PFAS analyte list (MLA-11, SGS-AXYS) including reporting limits (RLs) for aqueous samples.

Abbreviation	PFAS Chemical Name	Aqueous RLs (ng/L)
PFBA	Perfluorobutanoate	6-32 For Perfluorinated Carboxylates C4-C14
PFPeA	Perfluoropentanoate	
PFHxA	Perfluorohexanoate	
PFHpA	Perfluoroheptanoate	
PFOA	Perfluorooctanoate	
PFNA	Perfluorononanoate	

PFDA	Perfluorodecanoate	
PFUnA	Perfluoroundecanoate	
PFDoA	Perfluorododecanoate	
PFTTrDA	Perfluorotridecanoate	
PFTeDA	Perfluorotetradecanoate	
PFBS	Perfluorobutanesulfonate	8 For perfluorinated sulfonates C4-C10, C12
PFPeS	Perfluoropentanesulfonate	
PFHxS	Perfluorohexanesulfonate	
PFHpS	Perfluoroheptanesulfonate	
PFOS	Perfluorooctanesulfonate	
PFNS	Perfluorononanesulfonate	
PFDS	Perfluorodecanesulfonate	
PFDoS	Perfluorododecanesulfonate	

Analytical SOPs will be requested from the laboratory and stored at SFEI, but will not be released to external parties without prior consent of the laboratory.

9. Quality Control Requirements

Field Quality Control Samples

Field blanks and equipment rinse blanks for each matrix are included in the sampling plan.

The field blank is collected to verify that the sampling environment does not introduce PFAS and cross-contaminate samples during the sampling event. The field blank is collected by opening a 500 mL container pre-filled PFAS-free spring water (provided by SGS-AXYS) while collecting the grab sample.

Additionally, the equipment blank is collected to evaluate potential contamination from equipment used during sampling, including automated samplers used to collect aqueous samples and scoops used to collect biosolids. The field blank and equipment rinse blank is treated the same throughout field and laboratory procedures as collected from other field samples.

The number of field blanks and field duplicates in this study exceed the minimum outlined in the RMP QAPP, which is a minimum frequency of one per 20 samples to evaluate variability including performance of the sampling system and methodology. Field blanks and field duplicates are collected from three different facilities that are meant to represent all participating facilities.

Laboratory Quality Control Procedures

Laboratory QC measures will comply with QA/QC criteria specified in DoD Table B-15 of Quality Systems Manual (QSM), version 5.3, which is included in Appendix C.

10. Data Management

SFEI will request information about the field sampling parameters from each facility in the field sampling form. SFEI will use the information provided by the facility to fill out the appropriate CEDEN/electronic data format.

SGS AXYS will provide data to SFEI in the appropriate CEDEN/electronic data format templates (as provided by SFEI) within the timeframe stipulated in the contract (6 weeks). SGS AXYS should use the current on-line data checker to review data for vocabulary and business rule violations prior to submitting to SFEI using the SFEI Data Submittal Portal <https://rdcdupload.sfei.org/> (contact DS@sfei.org for the current login and password). SFEI will work with the laboratory to address vocabulary and business rule issues identified from using the data checker.

SFEI will require data to be corrected and resubmitted if any of the following issues are encountered:

- Data submittal is missing target analytes listed in the contract
- Results not reported in the units and basis requested in the contract
- Field and QC samples not reported in equivalent units and basis for a given analyte.

The QA officer or designee will review the data for quality assurance and quality control and appropriate QA codes are applied to the dataset. The QAO or designee writes a report for each dataset outlining the quality of the data. This report highlights any issues that need to be addressed by the laboratory, project manager, or data management staff.

11. Reporting

Each participating facility will be responsible for providing SFEI the facility's GeoTracker Global ID and Field Point IDs for each of the sampling sites associated with the study (influent, effluent, biosolids, and/or RO concentrate). These Global IDs should be included on the sampling form, or transmitted to SFEI after the sampling event. Additionally, each facility may need to add the sampling site to the GeoTracker system, unless a separate arrangement is made between SFEI and BACWA.

Within 60 days of receiving the final analytical laboratory report, SFEI will upload an Electronic Data Format (EDF) of the analytical results into the Water Board's GeoTracker system on behalf of BACWA and participating POTWs. SFEI will coordinate with participating facilities to upload laboratory results. Field sampling analytical results corresponding to each facility will be uploaded. If appropriate, associated QA/QC samples, such as field blanks and field duplicates, which may have been collected from another facility, will be included. Only target PFAS analytical results for influent, effluent, and biosolids will be uploaded to GeoTracker. (TOP analytical results will not be uploaded to avoid misinterpretation of the results. ROC results will also not be uploaded to GeoTracker. A summary of TOP PFAS analytical results and ROC results will be included in the technical memo submitted to the state and regional Water Boards.)

One monitoring report will be developed from this SAP, and which will include target and TOP results from all participants of this study. Within 90 days of the receipt of the final analytical laboratory report, SFEI will upload a monitoring report via GeoTracker's ESI portal on behalf of each facility. It is expected that each facility will provide SFEI with information about the sampling locations, flow measurements,

and flow measurement devices used during sampling in a timely manner. SFEI will compile all reported data (analytical results, QA/QC analyses, any deviations from the SAP reported from each facility, and sampling locations and flow measurements reported by each facility) into one monitoring report.

12. Data Validation and Usability

SFEI staff will examine the data set for completeness (e.g., correct numbers of samples and analyses, appropriate QC sample data included) and accuracy (e.g., in sample IDs). The SFEI QAO or designee will examine submitted QA data for conformance with MQOs, specified in DoD Table B-15 of Quality Systems Manual (QSM), version 5.3 (Appendix C). Data that are incomplete, inaccurate, or failing MQOs without appropriate explanation will be referred back to the laboratory for correction or clarification. The QAO will discuss data failing MQOs with laboratory staff to determine whether modifications to analytical methods can be made to improve results on reanalysis. If problems cannot be readily corrected (insufficient sample, irremovable interferences, or blank contamination based on past attempts with the lab), results outside the MQOs may be flagged to alert data users to uncertainties in quantitation. Results will not be censored.

13. References

- Bartlett, S.A., Davis, K.L., 2018. Evaluating PFAS cross contamination issues. *Remediat. J.* 28, 53–57. <https://doi.org/10.1002/rem.21549>
- California State Water Resources Control Board, 2020. Per- and Polyfluoroalkyl Substances (PFAS) Sampling Guidelines for Non-Drinking Water.
- Department of Defense (DOD), Department of Energy (DOE), 2019. DOD/DOE Consolidated Quality Systems Manual (QSM) for Environmental Laboratories (DoD Quality Systems Manual Version 5.3).
- Michigan Department of Environmental Quality, 2018. General PFAS Sampling Guidance.
- Rodowa, A.E., Christie, E., Sedlak, J., Peaslee, G.F., Bogdan, D., DiGuseppi, B., Field, J.A., 2020. Field Sampling Materials Unlikely Source of Contamination for Perfluoroalkyl and Polyfluoroalkyl Substances in Field Samples. *Environ. Sci. Technol. Lett.* 7, 156–163. <https://doi.org/10.1021/acs.estlett.0c00036>
- State Water Resources Control Board, 2020. Water Code Sections 13267 and 13383 Order for the determination of the presence of per-and polyfluoroalkyl substances at publicly owned treatment works.
- Yee, D., Franz, A., Wong, A., Ross, J., 2019. Quality Assurance Program Plan for the Regional Monitoring Program for Water Quality in San Francisco Bay (No. Contribution Number 966). San Francisco Estuary Institute, Richmond, CA.

Appendix A: Field Sampling Forms

BACWA PFAS Study - Phase 1 (2020)
Wastewater Facility Field Sampling Form - Aqueous

Instructions: Please fill out the following form for each influent, effluent, and/or ROC sampling event. Please email completed form to: diana@sfei.org and miguelm@sfei.org.

Parameter	Description / examples	Response
Personnel collecting sample	Name	
Facility		
Geotracker Global ID #		
Geotracker Field point name (Influent)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Geotracker Field point name (Effluent)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Geotracker Field point name (ROC)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Geotracker Field point name (Field Blank)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Geotracker Field point name (Field Duplicate)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Geotracker Field point name (Equipment Blank)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Influent flow rate for sampling date	units mgd (peak and daily average flow)	
Effluent flow rate for sampling date	units mgd (peak and daily average flow)	
Influent TSS	measurement from date closest to sampling date	
Effluent TSS	measurement from date closest to sampling date	
Aqueous Sample Storage	e.g. Are samples frozen after collection? If not, note date shipped to SGS AXYS.	
Has your facility accepted landfill leachate?	Indicate yes or no	
Industrial Dischargers	If applicable, indicate known industrial dischargers that ARE represented in the sample(s) collected	
	If applicable, indicate known industrial dischargers NOT represented in the sample(s) collected	
Additional Notes		
Influent Grab Sample IDs	e.g. SJSC-INF-F-Grab-TOP	
Influent grab back-up Sample ID	e.g. SJSC-INF-A-Grab-TOP	
Influent collection date and time	e.g. 10/19/20 8:00 AM	
Influent sample collection location	e.g. after grit chamber, in settling tank (note if location is indoors or outdoors)	
Additional influent samples collected	Sample ID(s) for field blanks, field duplicates (include MS and MSD), and equipment blanks.	
Sampling collection equipment	e.g. What sampling equipment (extension rod, pump, tubing) was used that came in contact with the sample (please be specific)? Were recommended equipment cleaning and decontaminating procedures used? If not, were other cleaning procedures used? Please note any modifications.	
Effluent Grab Sample IDs	e.g. SJSC-EFF-F-Grab-Target	
Effluent grab back-up Sample ID	e.g. SJSC-EFF-A-Grab-TOP	
Effluent collection date and time	e.g. 10/19/20 8:00 AM	
Effluent sample collection location	e.g. secondary treatment after dechlorination (note if location is indoors or outdoors and if they are chlorinated)	
Additional effluent samples collected	Sample ID(s) for field blanks, field duplicates (include MS and MSD), and equipment blanks.	
Sampling collection equipment	e.g. What sampling equipment (extension rod, pump, tubing) was used that came in contact with the sample (please be specific)? Were recommended equipment cleaning and decontaminating procedures used? If not, were other cleaning procedures used? Please note any modifications.	
Influent Composite Sample IDs	e.g. SJSC-INF-F-Comp-Target	
Influent composite type	e.g. time-weighted composite, flow-weighted composite, manual composite	

Influent collection start date and time	e.g. 10/19/20 8:00 AM	
Influent collection end date and time	e.g. 10/20/20 8:00 AM	
Influent sample collection location	e.g. after grit chamber, in settling tank (note if location is indoors or outdoors)	
Influent collection method	e.g. automated sampler into composite container, poured into sample container	
Additional influent samples collected	Sample ID(s) for field blanks, field duplicates (include MS and MSD), and equipment blanks.	
Manual Composite Sampling collection equipment	e.g. What sampling equipment (extension rod, pump, tubing) was used that came in contact with the sample (please be specific)? Were recommended equipment cleaning and decontaminating procedures used? If not, were other cleaning procedures used? Please note any modifications.	
Autosampler information	e.g. Type and brand of autosampler, type of tubing used (note if new). Were tubing and strainer replaced or decontaminated before sample collection? Were recommended equipment cleaning and decontaminating procedures used? If not, were other cleaning procedures used? Please note any modifications.	
Effluent Composite Sample IDs	e.g. SJSC-EFF-F-Comp-Target	
Effluent composite type	e.g. time-weighted composite, flow-weighted composite, manual composite	
Effluent composite start date and time	e.g. 10/19/20 8:00 AM	
Effluent composite end date and time	e.g. 10/20/20 8:00 AM	
Effluent sample collection location	e.g. secondary treatment after dechlorination (note if location is indoors or outdoors and if they are chlorinated)	
Effluent collection method	e.g. automated sampler into composite container, poured into sample container	
Additional effluent samples collected	Sample ID(s) for field blanks, field duplicates (include MS and MSD), and equipment blanks.	
Manual Composite Sampling collection equipment	e.g. What sampling equipment (extension rod, pump, tubing) was used that came in contact with the sample (please be specific)? Were recommended equipment cleaning and decontaminating procedures used? If not, were other cleaning procedures used? Please note any modifications.	
Autosampler information	e.g. Type and brand of autosampler, type of tubing used (note if new). Were tubing and strainer replaced or decontaminated before sample collection? Were recommended equipment cleaning and decontaminating procedures used? If not, were other cleaning procedures used? Please note any modifications.	
Contact with PFAS containing products Please note if you have handled or come into contact with any of the following in the last 8 hours:		
Personal care products	Hair products	
	Insect Repellants	
	Make-up	
	Perfume/Cologne	
	Moisturizers	
	Sunblock	
Personal protective equipment and other clothing	Brand new clothes	
	Chemically treated clothing (e.g. water/stain/dirt/insect resistance)	
	Recently laundered clothes	
	If applicable, please indicate PFAS containing PPE or other clothing used during the sampling event.	
Additional Notes	Indicate if any other products containing PFAS were used while sampling.	

BACWA PFAS Study - Phase 1 (2020)
Wastewater Facility Field Sampling Form - Biosolids

Instructions: Please fill out the following form for each biosolids event. Please email completed form to: diana@sfei.org and miguelm@sfei.org.

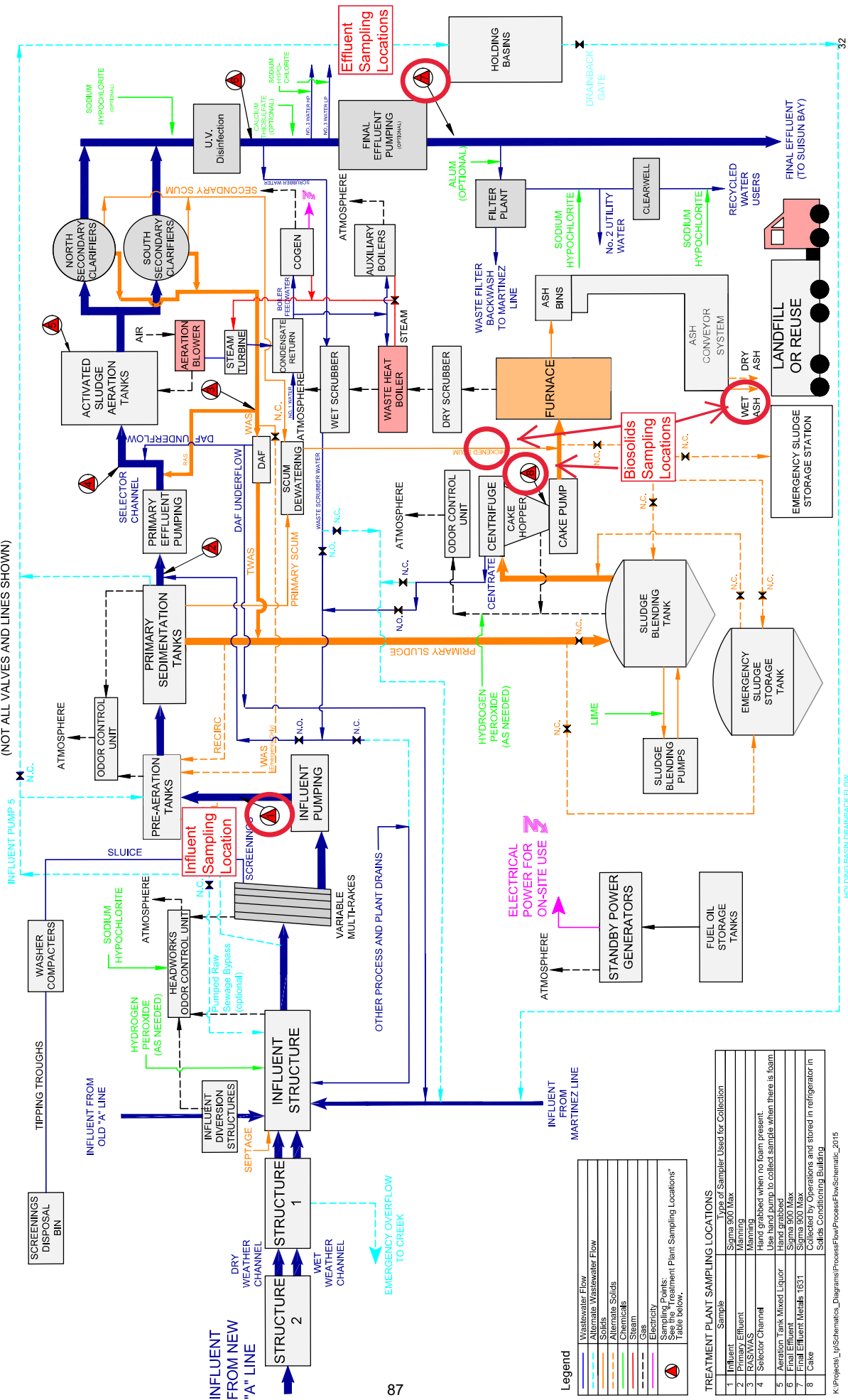
Parameter	Description / examples	Response
Personnel collecting sample	Name	
Facility		
Geotracker Global ID #		
Geotracker Field point name (Biosolids)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Geotracker Field point name (Field Blank)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Geotracker Field point name (Field Duplicate)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Geotracker Field point name (Equipment Blank)	sampling point name, geographical coordinates (latitude and longitude) Please update once points are added to geotracker.	
Biosolids Sample Storage	e.g. Are samples frozen? If not, note date shipped to SGS AXYS.	
Has your facility accepted landfill leachate?	Indicate yes or no	
Industrial Dischargers	If applicable, indicate known industrial dischargers that ARE represented in the sample(s) collected.	
	If applicable, indicate known industrial dischargers NOT represented in the sample(s) collected.	
Additional Notes		
Biosolids Sample ID(s)	e.g. SJSC-BIO-F-Grab-TOP	
Sampling Method	Please note if the sample was collected as a single grab or a composite (indicate the number of samples combined).	
Biosolids collection date and time	e.g. 10/19/20 8:00 AM (indicate all times if a composite)	
Biosolids sample collection location changes	Please clarify if a sampling location is indoors or outdoors. Also note if the location is different from what was indicated in the SAP.	
Biosolids moisture content	% weight of solid per volume of sample	
Additional biosolids samples collected	Sample ID(s) for field blanks, field duplicates (include MS and MSD), and equipment blanks.	
Sampling collection equipment	e.g. What sampling equipment was used that came in contact with the sample? Were recommended equipment cleaning and decontaminating procedures used? If not, were other cleaning procedures used? Please note any modifications.	
Contact with PFAS containing products Please note if you have handled or come into contact with any of the following in the last 8 hours:		
Personal care products	Hair Products	
	Insect Repellants	
	Make-up	
	Perfume/Cologne	
	Moisturizers	
	Sunblock	
Personal protective equipment and other clothing	Brand new clothes	
	Chemically treated clothing (e.g. water/stain/dirt/insect resistance)	
	Recently laundered clothes	
	If applicable, please indicate PFAS containing PPE or other clothing used during the sampling event.	
Additional Notes	Indicate if any other products containing PFAS were used while sampling.	

Appendix B: POTW Process Diagrams

WASTEWATER TREATMENT PROCESS FLOW SCHEMATIC 2020

CENTRAL CONTRA COSTA SANITARY DISTRICT

(NOT ALL VALVES AND LINES SHOWN)



Legend	
Wastewater Flow	
Alternate Wastewater Flow	
Solids	
Alternate Solids	
Chemicals	
Steam	
Gas	
Electricity	
Sampling Points: See the "Treatment Plant Sampling Locations" table below.	

TREATMENT PLANT SAMPLING LOCATIONS

Sample	Type of Sampler Used for Collection
1 Influent	Sigma 900 Max
2 Primary Effluent	Manning
3 RAS/WAS	Hand grabbed when no foam present
4 Selector Channel	Hand grabbed when no foam present
5 Aeration Tank Mixed Liquor	Hand grabbed when no foam present
6 Final Effluent	Sigma 900 Max
7 Final Effluent Metals	Sigma 900 Max
8 Cake	Collected by Operations and stored in refrigerator in Solids Conditioning Building

K:\Projects_1\ProcessFlow\ProcessFlowSchematic_2015

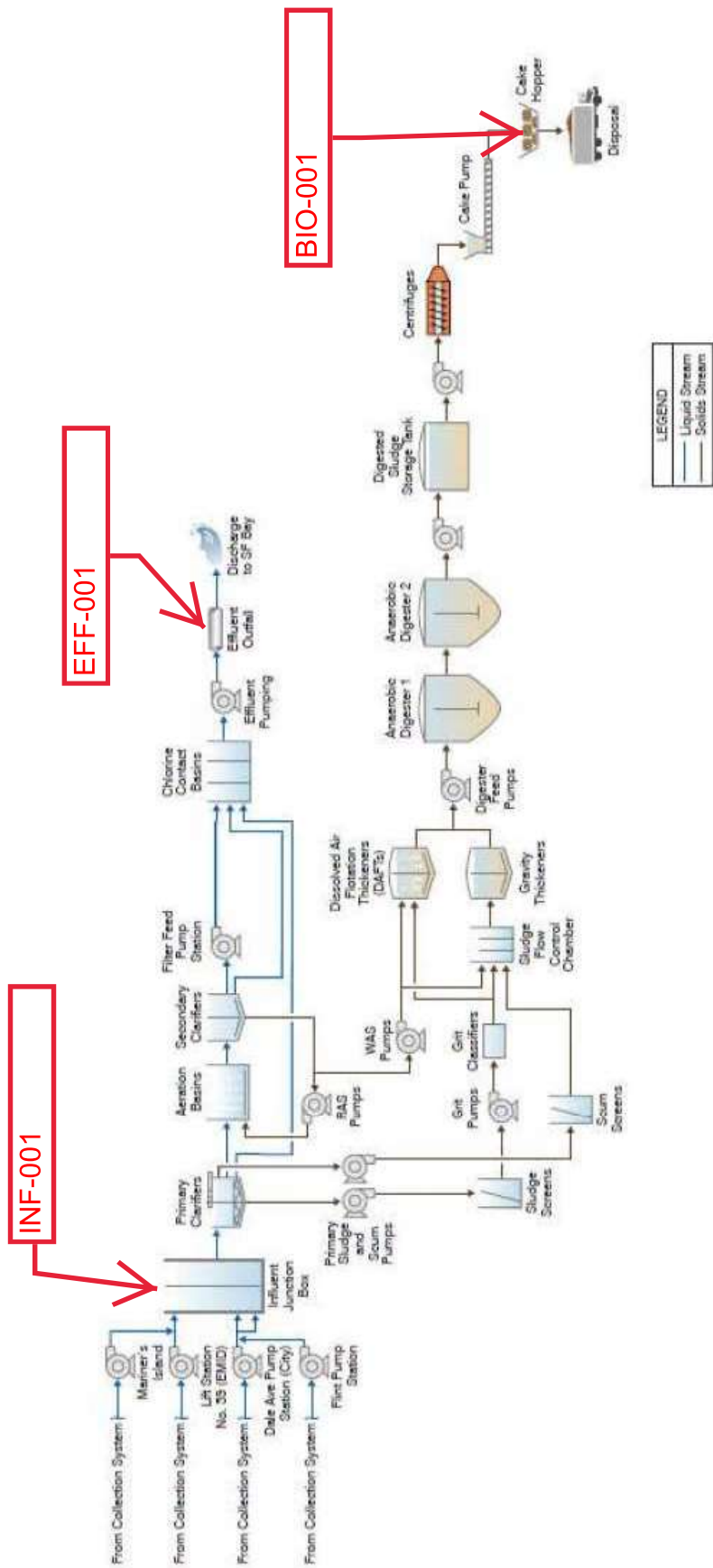
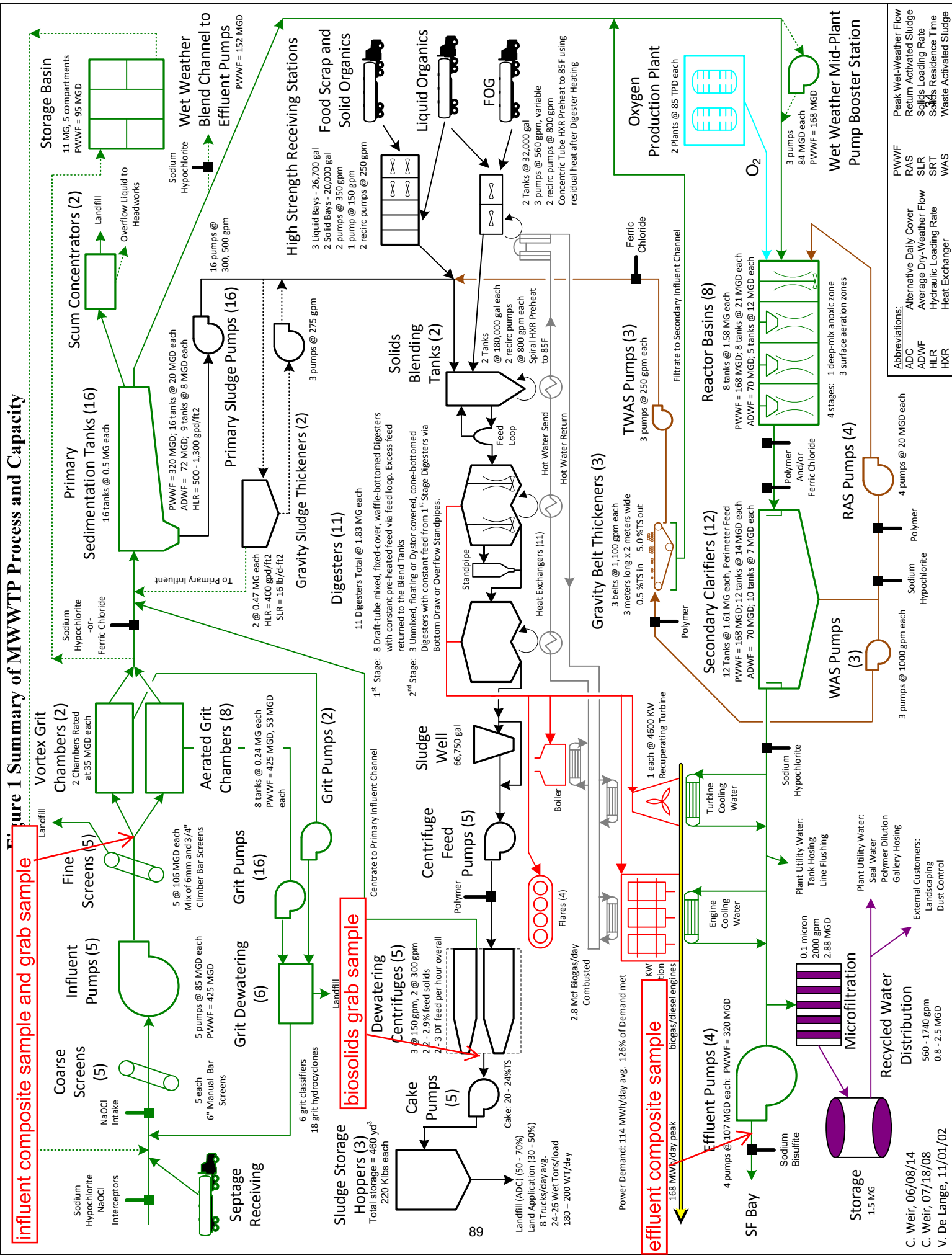
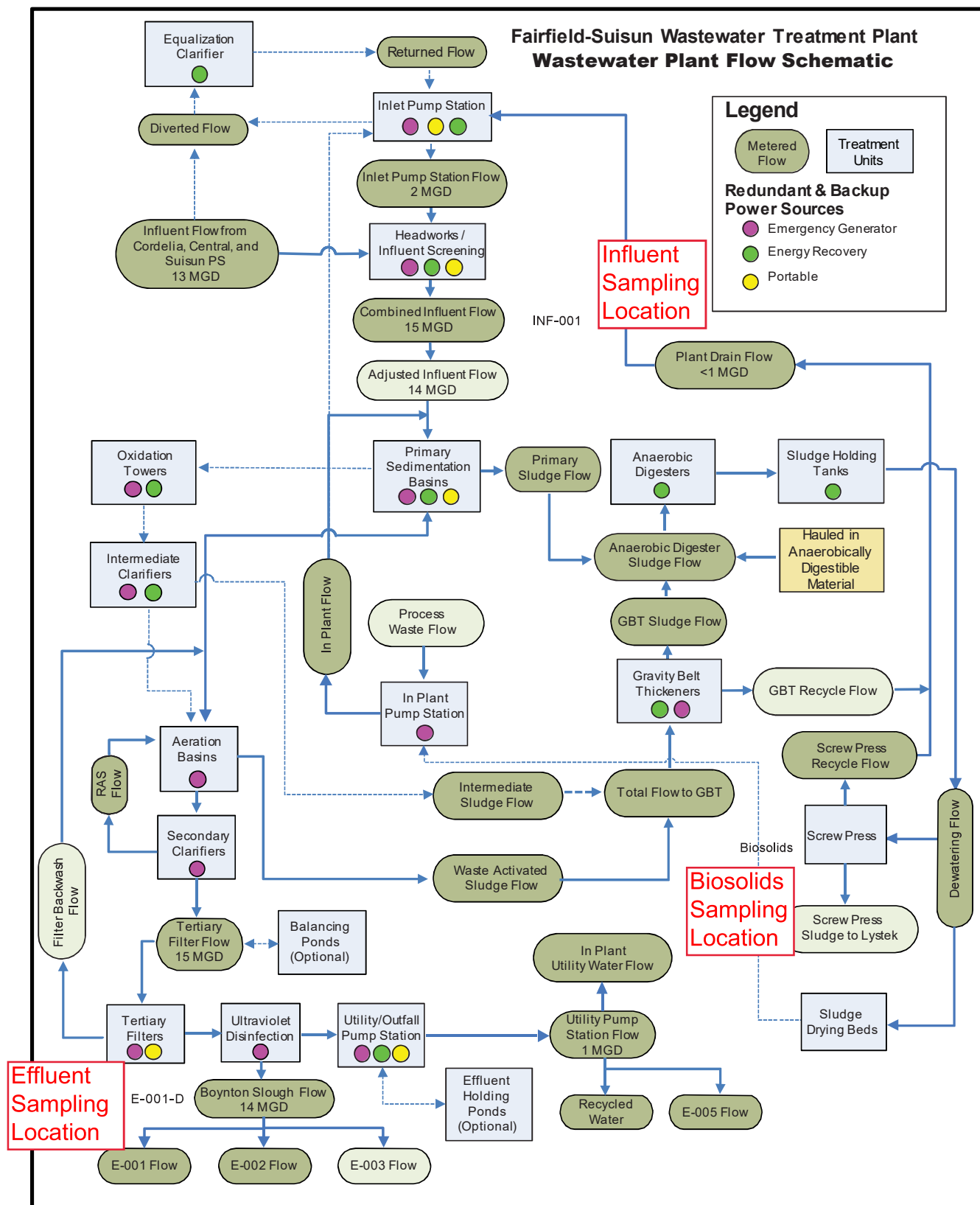


Figure 1 Summary of MWWTP Process and Capacity

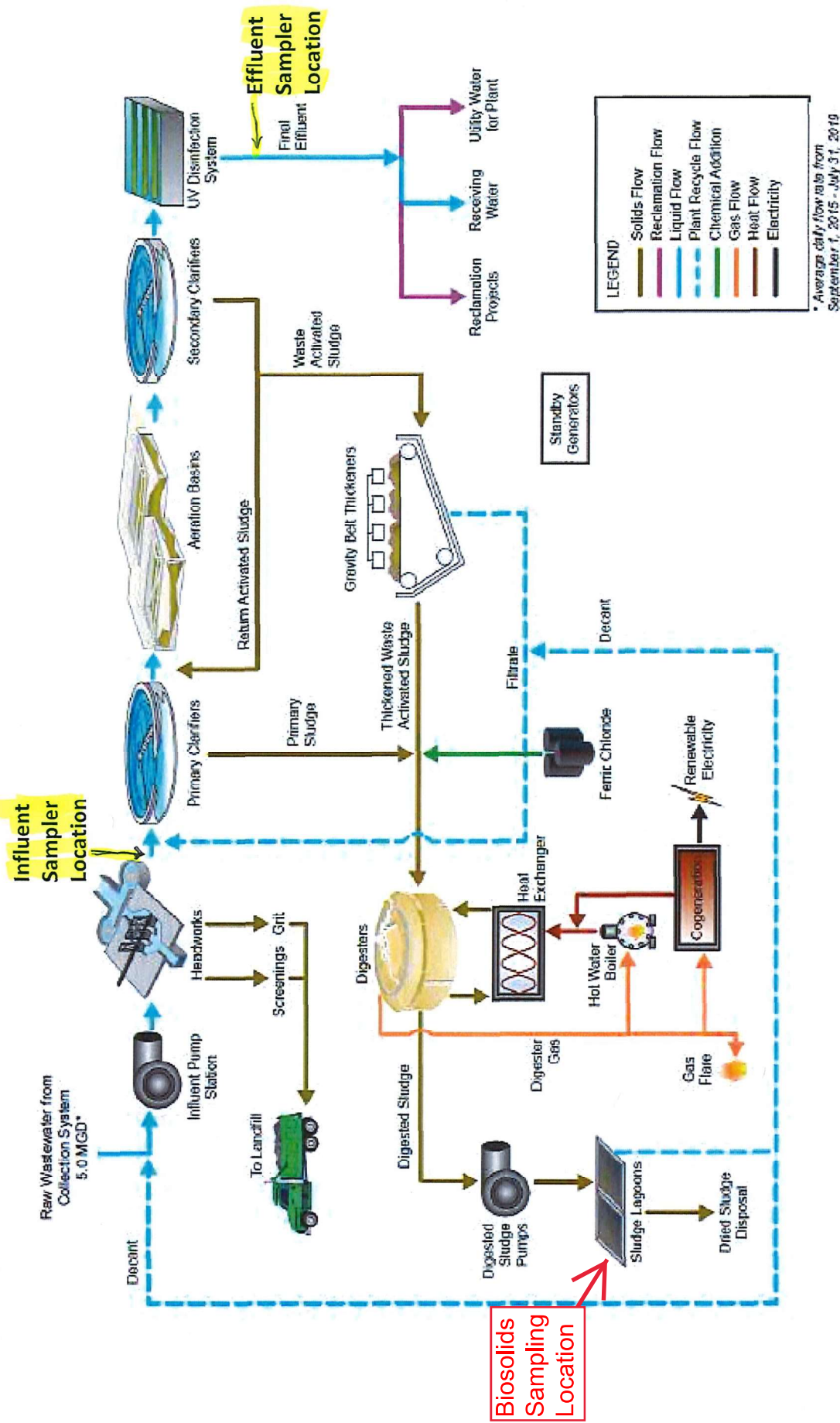


C. Weir, 06/08/14
C. Weir, 07/18/08
V. De Lange, 11/01/02

ATTACHMENT C – PROCESS FLOW DIAGRAM



ATTACHMENT C – PROCESS FLOW DIAGRAM

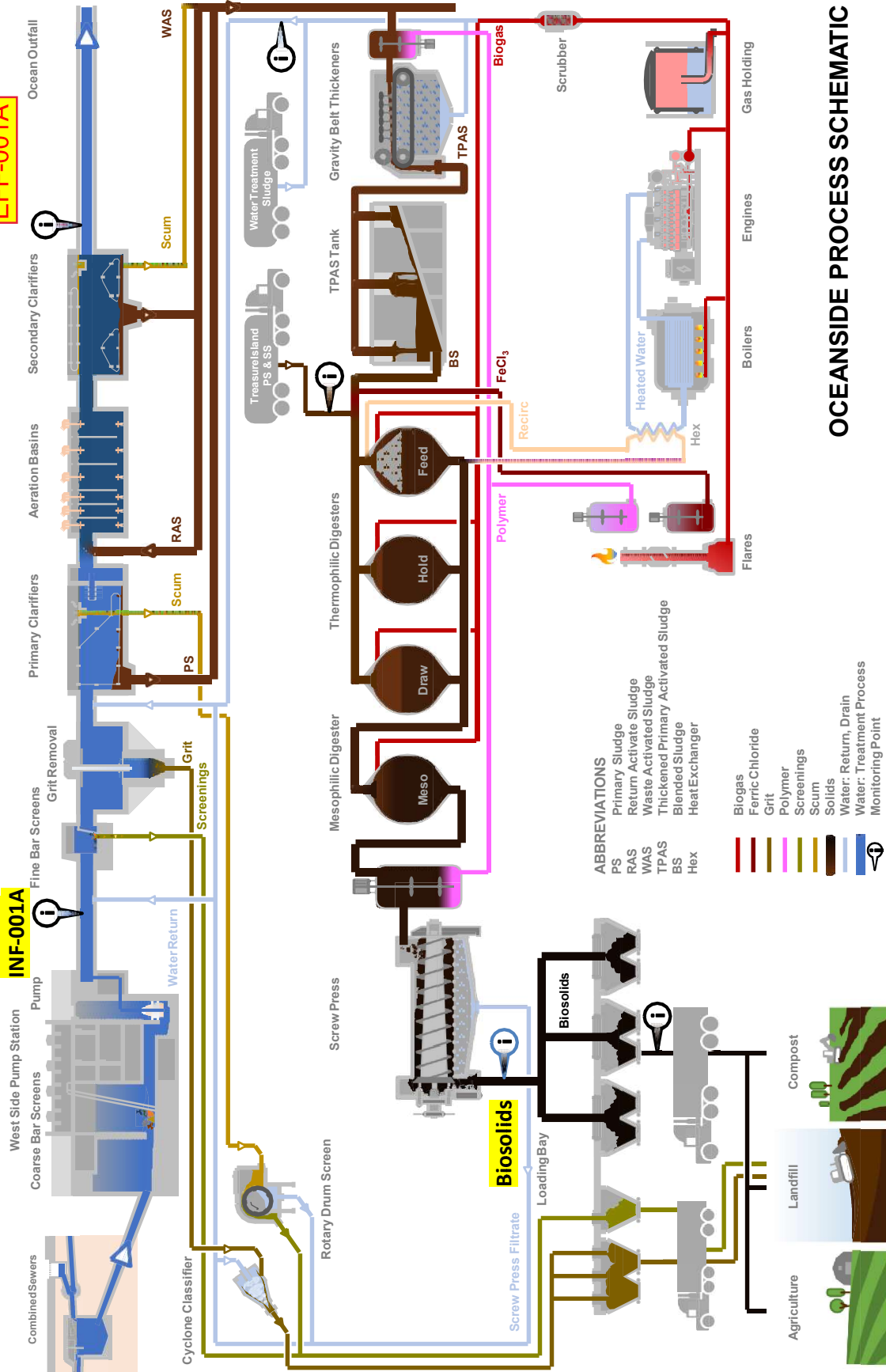


ATTACHMENT C

Plant Process Schematic Oceanside Water Pollution Control Plant

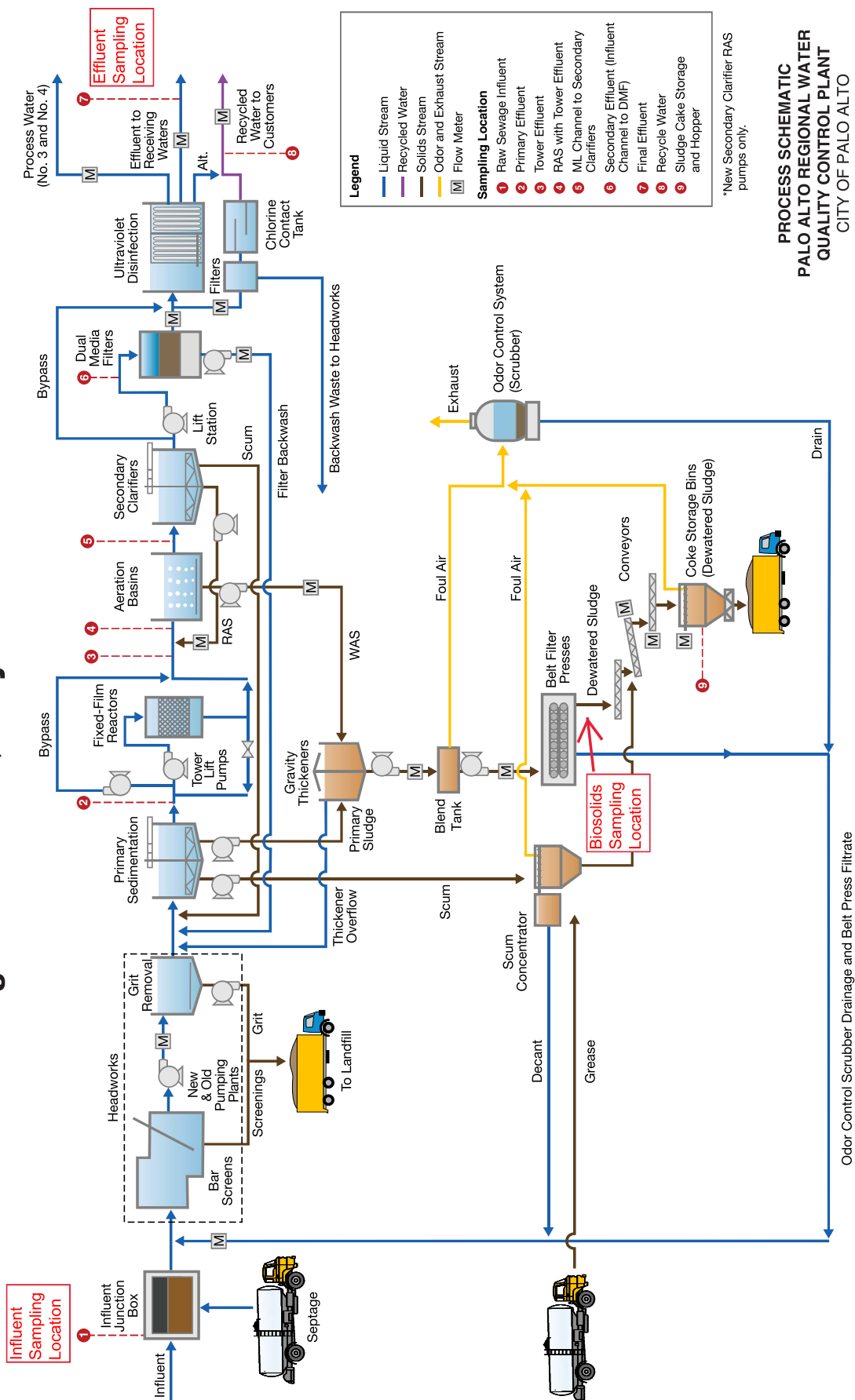
Effluent
Sampling
EFF-001A

Influent
INF-001A

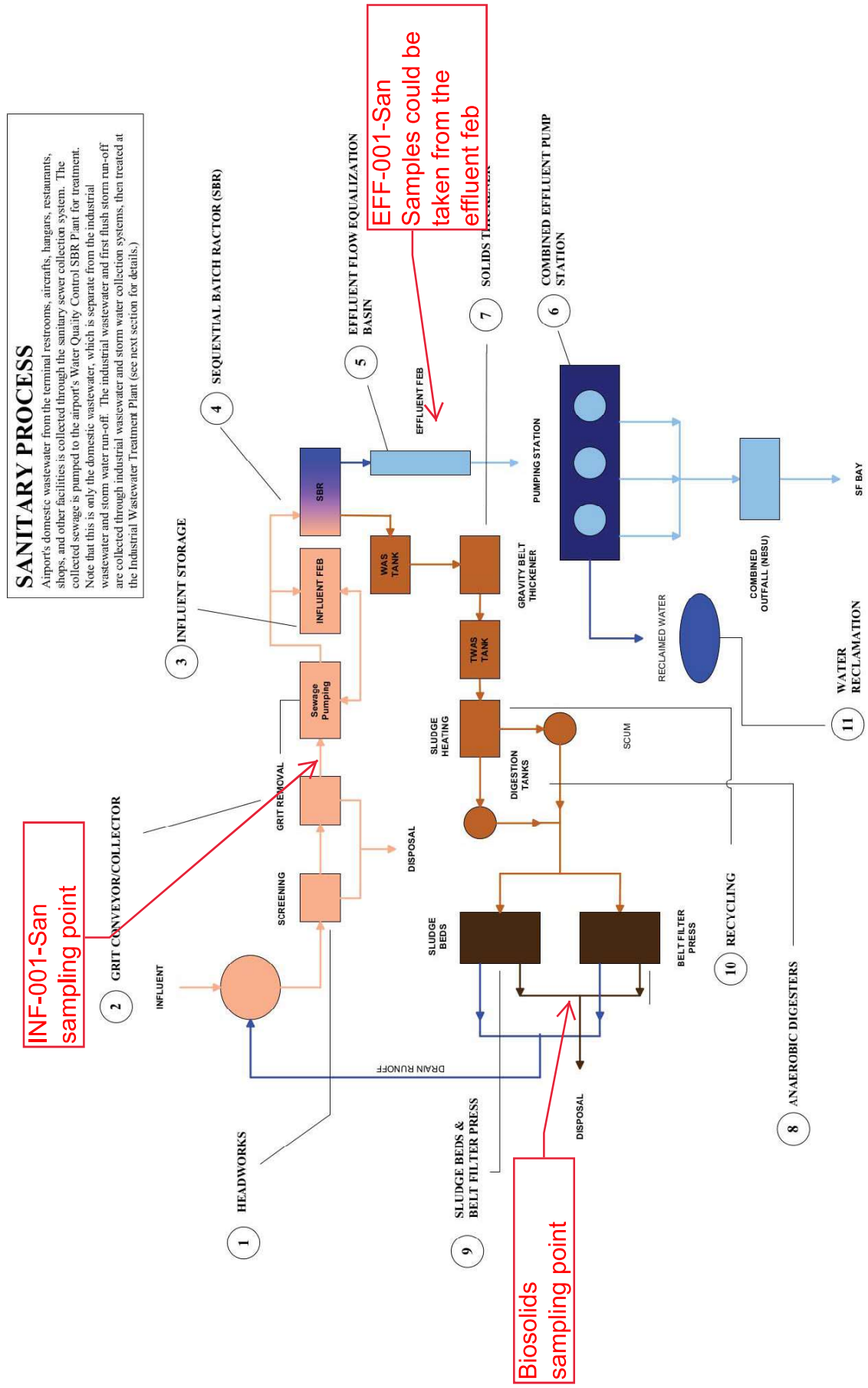


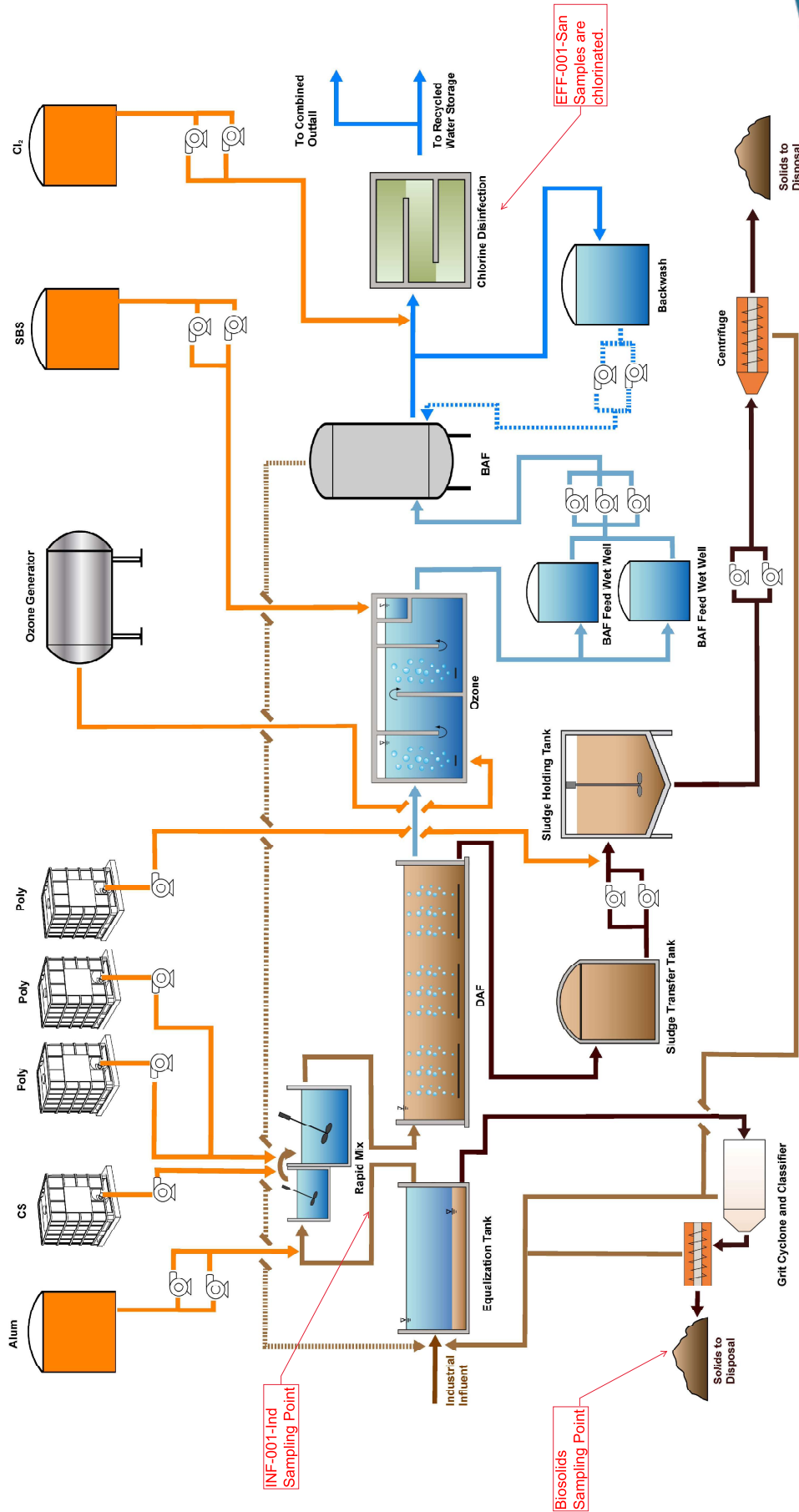
OCEANSIDE PROCESS SCHEMATIC

Palo Alto Regional Water Quality Control Plant Schematic



SANITARY PROCESS FLOW DIAGRAM





Mel Leong Industrial Water Treatment Plant at San Francisco International Airport



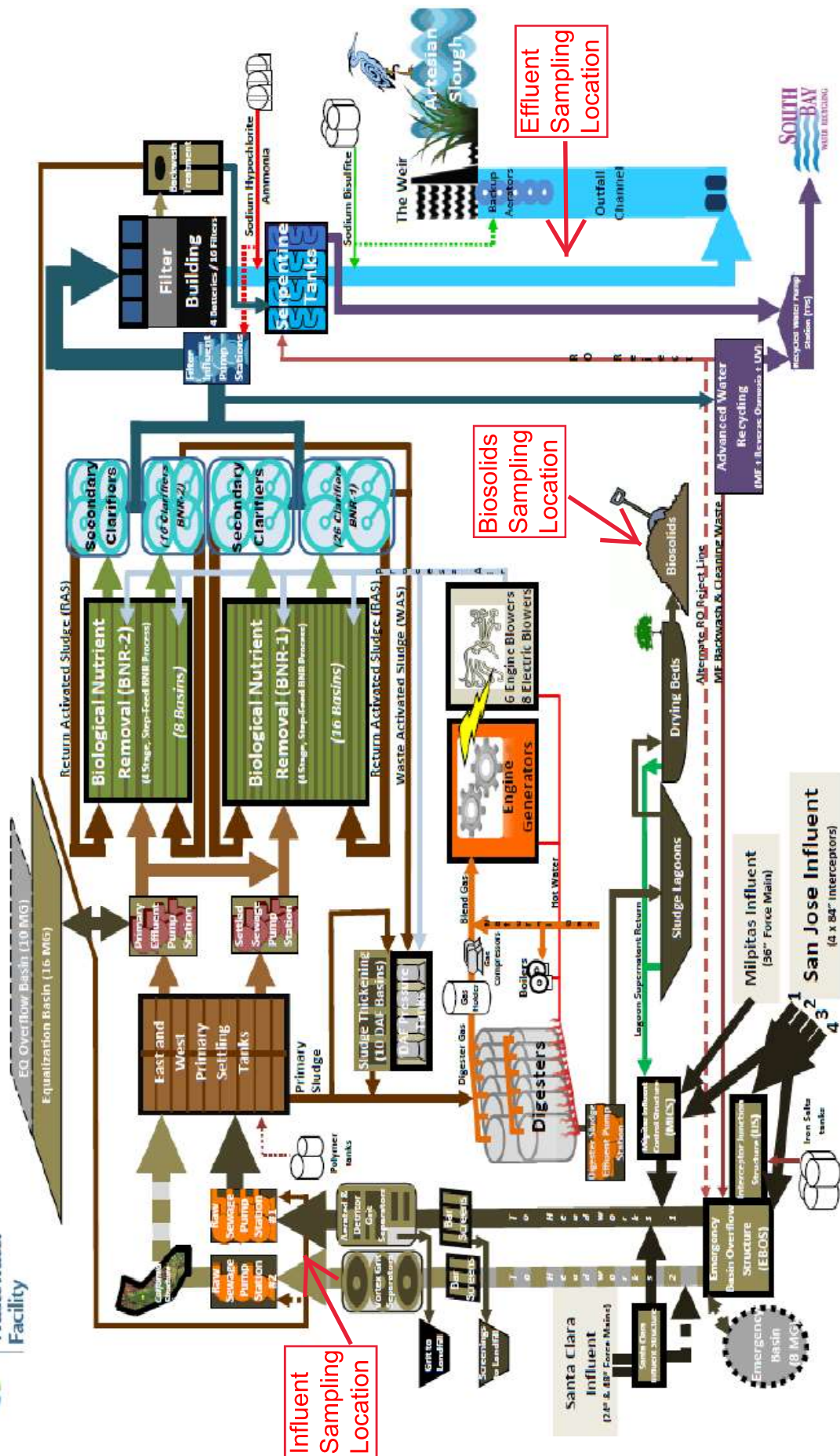


ATTACHMENT C – PROCESS FLOW DIAGRAM



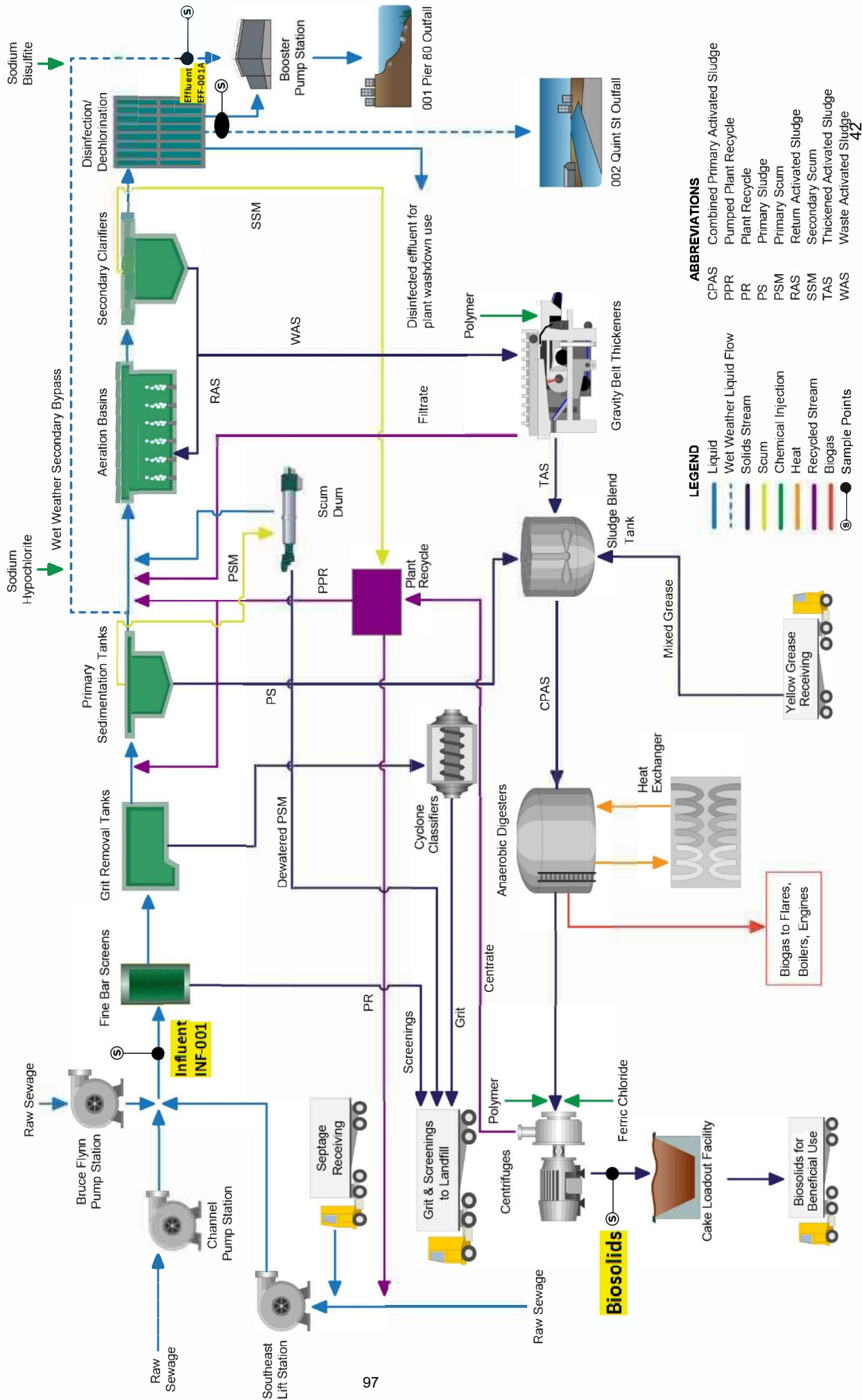
Process Schematic

Revised: 9/2019



October 6, 2020. Process schematic being provided only to provide understanding of three monitoring locations for the purposes of PFAS investigative regional study. See overlaid yellow highlighted text.

ATTACHMENT D Plant Process Schematic Southeast Water Pollution Control Plant



Existing Process

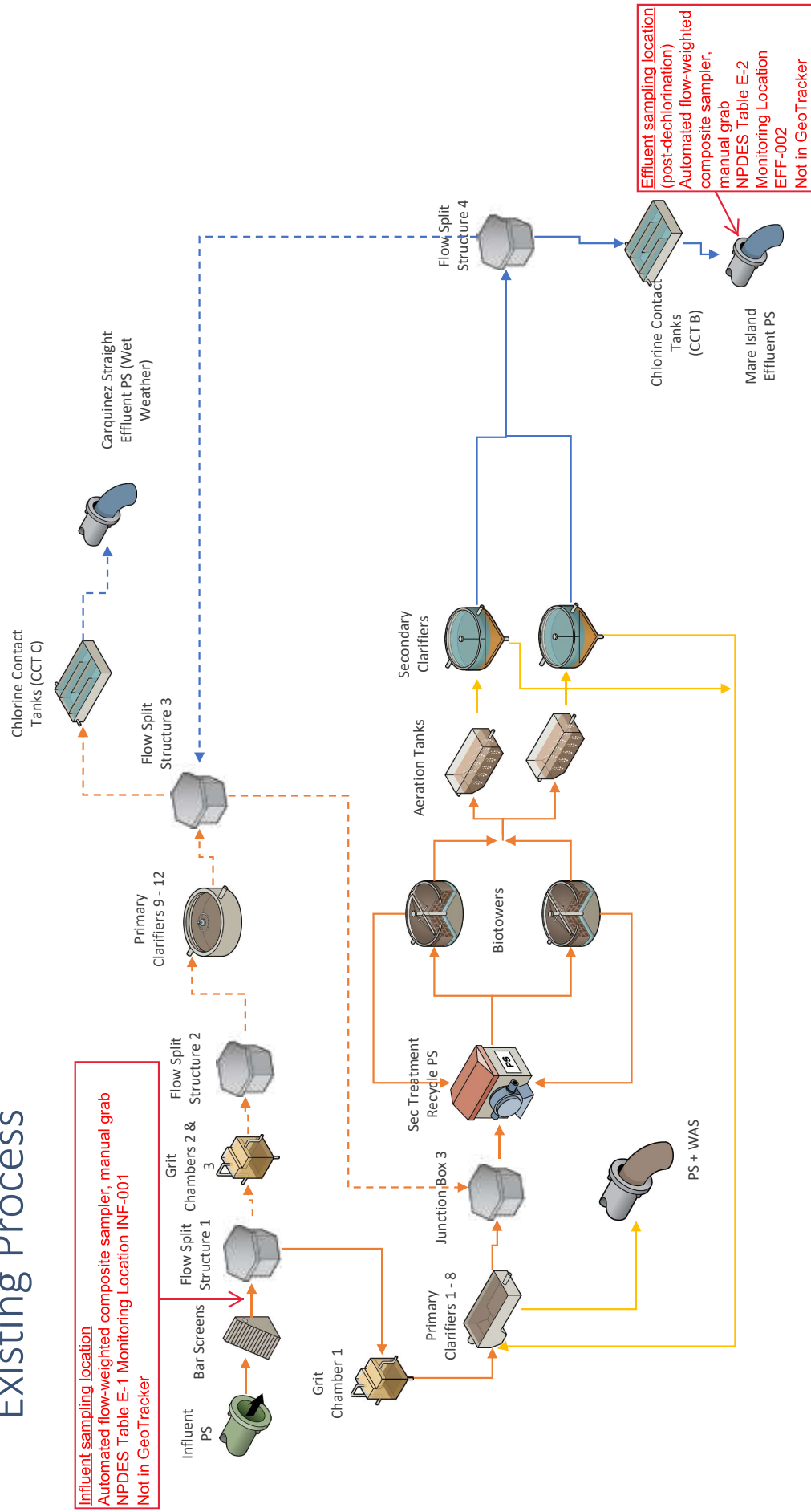
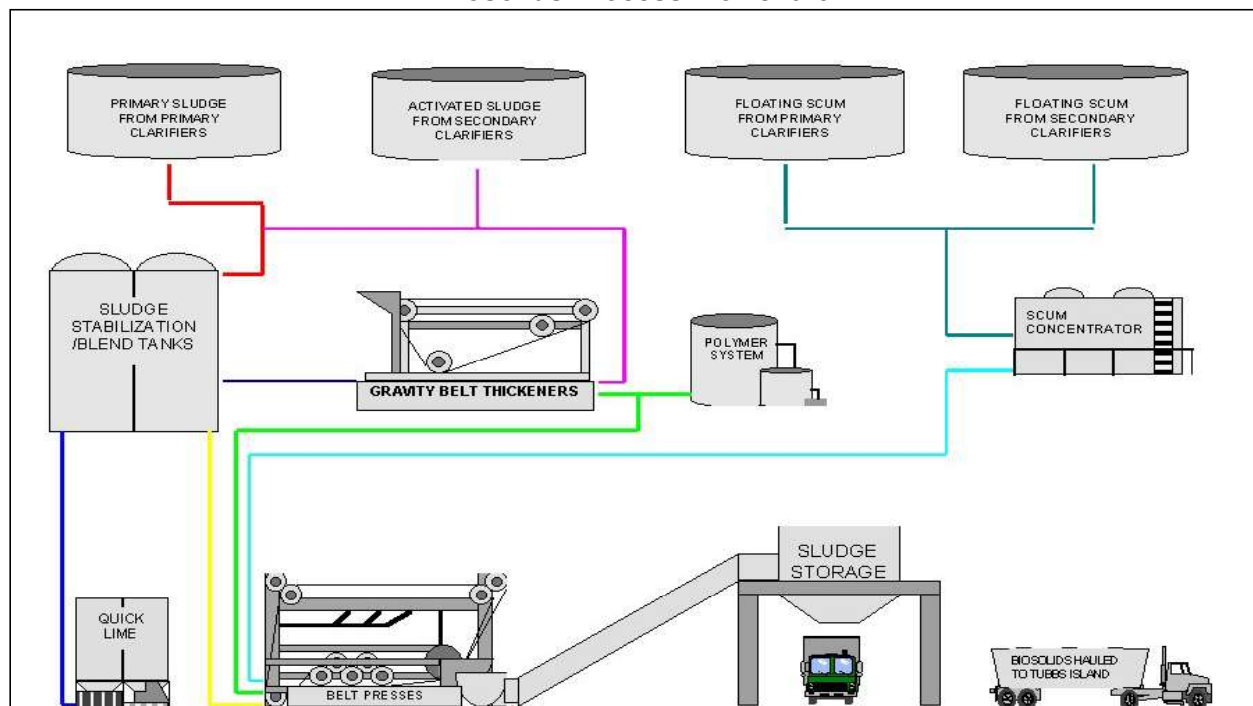


Figure 1
Biosolids Process Flowchart



Biosolids sampling location
Grab, manually composited
NPDES Table E-1 Monitoring Location BIO-001
Not in GeoTracker

Appendix C: DOD QSM

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Aqueous Sample Preparation	Each sample and associated batch QC samples.	Solid Phase Extraction (SPE) must be used unless samples are known to contain high PFAS concentrations (e.g., Aqueous Film Forming Foam (AFFF) formulations). Inline SPE is acceptable. Entire sample plus bottle rinseate must be extracted using SPE. Known high PFAS concentration samples require serial dilution be performed in duplicate. Documented project approval is needed for samples prepared by serial dilution as opposed to SPE.	NA.	NA. Samples with > 1% solids may require centrifugation prior to SPE extraction. Pre-screening of separate aliquots of aqueous samples is recommended.
Solid Sample Preparation	Each sample and associated batch QC samples.	Entire sample received by the laboratory must be homogenized prior to subsampling.	NA.	NA.
Biota Sample Preparation	Each sample and associated batch QC samples.	Sample prepared as defined by the project (e.g., whole fish versus filleted fish).	NA.	NA.

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
AFFF and AFFF Mixture Samples Preparation	Each sample and associated batch QC samples.	Each field sample must be prepared in duplicate (equivalent to matrix duplicate). Serial dilutions must be performed to achieve the lowest LOQ possible for each analyte.	NA.	NA.
Sample Cleanup Procedure	Each sample and associated batch QC samples. Not applicable to AFFF and AFFF Mixture Samples.	ENVI-Carb™ or equivalent must be used on each sample and batch QC sample.	NA.	Flagging is not appropriate.
Mass Calibration	Instrument must have a valid mass calibration prior to any sample analysis. Mass calibration is verified after each mass calibration, prior to initial calibration (ICAL).	Calibrate the mass scale of the MS with calibration compounds and procedures described by the manufacturer. Mass calibration range must bracket the ion masses of interest. The most recent mass calibration must be used for every acquisition in an analytical run. Mass calibration must be verified to be ± 0.5 amu of the true value, by acquiring a full scan continuum mass spectrum of a PFAS stock standard.	If the mass calibration fails, then recalibrate. If it fails again, consult manufacturer instructions on corrective maintenance.	Problem must be corrected. No samples may be analyzed under a failing mass calibration. The mass calibration is updated on an as-needed basis (e.g., QC failures, ion masses fall outside of the ± 0.5 amu of the true value, major instrument maintenance is performed, or the instrument is moved).

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Mass Spectral Acquisition Rate	Each analyte, Extracted Internal Standard (EIS) Analyte.	A minimum of 10 spectra scans are acquired across each chromatographic peak.	NA.	Flagging is not appropriate.
Calibration, Calibration Verification, and Spiking Standards	All analytes.	Standards containing both branched and linear isomers must be used when commercially available. PFAS method analytes may consist of both branched and linear isomers, but quantitative standards that contain the linear and branched isomers do not exist for all method analytes. For PFAS that do not have a quantitative branched and linear standard, identify the branched isomers by analyzing a qualitative standard that includes both linear and branched isomers and determine retention times, transitions and transition ion ratios. Quantitate samples by integrating the total response (i.e., accounting for peaks that are identified as linear and branched isomers) and relying on the initial calibration that uses the linear isomer quantitative standard.	NA.	Flagging is not appropriate.
				Standards containing both branched and linear isomers are to be used during method validation and when reestablishing retention times, to ensure the total response is quantitated for that analyte. Technical grade standards cannot be used for quantitative analysis.

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Sample PFAS Identification	All analytes detected in a sample.	<p>The chemical derivation of the ion transitions must be documented. A minimum of two ion transitions (Precursor → quant ion and precursor → confirmation ion) and the ion transitions ratio per analyte are required for confirmation. Exception is made for analytes where two transitions do not exist (PFBA and PFPeA).</p> <p>Documentation of the primary and confirmation transitions and the ion ratio is required.</p> <p>In-house acceptance criteria for evaluation of ion ratios must be used and must not exceed 50-150%.</p> <p>Signal to Noise Ratio (S/N) must be ≥ 10 for all ions used for quantification and must be ≥ 3 for all ions used for confirmation.</p> <p>Quant ion and confirmation ion must be present and must maximize simultaneously (±2 seconds).</p>	NA.	<p>PFAS identified with Ion ratios that fail acceptance criteria must be flagged.</p> <p>Any quantitation ion peak that does not meet the maximization criteria shall be included in the summed integration and the resulting data flagged as “estimated, biased high”.</p> <p>For example: Ion Ratio = (quant ion abundance/ confirm ion abundance)</p> <p>Calculate the average ratio (A) and standard deviation (SD) using the ICAL standards. An acceptance range of ratio could be within $A \pm 3SD$ for confirmation of detection.</p>

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Ion Transitions (Precursor->Product)	Every field sample, standard, blank, and QC sample.	<p>In order to avoid biasing results high due to known interferences for some transitions, the following transitions must be used for the quantification of the following analytes:</p> <p>PFOA: 413 → 369 PFOS: 499 → 80 PFHxS: 399 → 80 PFBS: 299 → 80 4:2 FTS: 327 → 307 6:2 FTS: 427 → 407 8:2 FTS: 527 → 507 NEtFOSAA: 584 → 419 NMeFOSAA: 570 → 419</p> <p>If these transitions are not used, the reason must be technically justified and documented (e.g., alternate transition was used due to observed interferences).</p>	NA.	Flagging is not appropriate
				NA.

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Initial Calibration (ICAL)	At instrument set-up and after ICV or CCV failure, prior to sample analysis.	<p>The isotopically labeled analog of an analyte (Extracted Internal Standard Analyte) must be used for quantitation if commercially available (Isotope Dilution Quantitation).</p> <p>Commercial PFAS standards available as salts are acceptable providing the measured mass is corrected to the neutral acid concentration. Results shall be reported as the neutral acid with appropriate CAS number.</p> <p>If a labeled analog is not commercially available, the Extracted Internal Standard Analyte with the closest retention time or chemical similarity to the analyte must be used for quantitation. (Internal Standard Quantitation)</p> <p>Analytes must be within 70-130% of their true value for each calibration standard.</p> <p><i>(continued next page)</i></p>	Correct problem, then repeat ICAL.	<p>Flagging is not appropriate.</p> <p>No samples shall be analyzed until ICAL has passed.</p> <p>External Calibration is not allowed for any analyte.</p> <p>Calibration can be linear (minimum of 5 standards) or quadratic (minimum of 6 standards); weighting is allowed.</p>

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Initial Calibration (ICAL) (Continued)		ICAL must meet one of the two options below: Option 1: The RSD of the RFs for all analytes must be $\leq 20\%$. Option 2: Linear or non-linear calibrations must have $r^2 \geq 0.99$ for each analyte.		
Retention Time window position establishment	Once per ICAL and at the beginning of the analytical sequence.	Position shall be set using the midpoint standard of the ICAL curve when ICAL is performed. On days when ICAL is not performed, the initial CCV is used.	NA.	NA.
Retention Time (RT) window width	Every field sample, standard, blank, and QC sample.	RT of each analyte and EIS analyte must fall within 0.4 minutes of the predicted retention times from the daily calibration verification or, on days when ICAL is performed, from the midpoint standard of the ICAL. Analytes must elute within 0.1 minutes of the associated EIS. This criterion applies only to analyte and labeled analog pairs.	Correct problem and reanalyze samples.	NA.
				Calculated for each analyte and EIS.
				Calculated for each analyte and EIS.

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Instrument Sensitivity Check (ISC)	Prior to analysis and at least once every 12 hours.	Analyte concentrations must be at LOQ; concentrations must be within $\pm 30\%$ of their true values.	Correct problem, rerun ISC. If problem persists, repeat ICAL.	Flagging is not appropriate.
Initial Calibration Verification (ICV)	Once after each ICAL, analysis of a second source standard prior to sample analysis.	Analyte concentrations must be within $\pm 30\%$ of their true value.	Correct problem, rerun ICV. If problem persists, repeat ICAL.	Flagging is not appropriate.
Continuing Calibration Verification (CCV)	Prior to sample analysis, after every 10 field samples, and at the end of the analytical sequence.	Concentration of analytes must range from the LOQ to the mid-level calibration concentration. Analyte concentrations must be within $\pm 30\%$ of their true value.	Immediately analyze two additional consecutive CCVs. If both pass, samples may be reported without reanalysis. If either fails, or if two consecutive CCVs cannot be run, perform corrective action(s) and repeat CCV and all associated samples since last successful CCV. Alternately, recalibrate if necessary; then reanalyze all associated samples since the last acceptable CCV.	Results may not be reported without valid CCVs. Instrument Sensitivity Check (ISC) can serve as a bracketing CCV. If reanalysis cannot be performed, data must be qualified and explained in the Case Narrative. Apply Q-flag to all results for the specific analyte(s) in all samples since the last acceptable calibration verification.
				No samples shall be analyzed until ISC has met acceptance criteria. ISC can serve as the initial daily CCV. No samples shall be analyzed until calibration has been verified. Results may not be reported without valid CCVs. Instrument Sensitivity Check (ISC) can serve as a bracketing CCV.

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Instrument Blanks	Immediately following the highest standard analyzed and daily prior to sample analysis.	Concentration of each analyte must be $\leq \frac{1}{2}$ the LOQ. Instrument Blank must contain EIS to enable quantitation of contamination.	If acceptance criteria are not met after the highest calibration standard, calibration must be performed using a lower concentration for the highest standard until acceptance criteria is met. If sample concentrations exceed the highest allowed standard and the sample(s) following exceed this acceptance criteria ($>1/2$ LOQ), they must be reanalyzed.	Flagging is only appropriate in cases when the sample cannot be reanalyzed and when there is no more sample left. No samples shall be analyzed until instrument blank has met acceptance criteria. Note: Successful analysis following the highest standard analyzed determines the highest concentration that carryover does not occur. When the highest standard analyzed is not part of the calibration curve, it cannot be used to extend out the calibration range, it is used only to document a higher concentration at which carryover still does not occur.

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water					
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria	Comments
Extracted Internal Standard (EIS) Analytes	Every field sample, standard, blank, and QC sample.	Added to solid sample prior to extraction. Added to aqueous samples, into the original container, prior to extraction.	Correct problem. If required, re-extract and reanalyze associated field and QC samples.	Apply Q-flag and discuss in the Case Narrative only if reanalysis confirms failures in exactly the same manner.	Failing analytes shall be thoroughly documented in the Case Narrative.
		For aqueous samples prepared by serial dilution instead of SPE, added to final dilution of samples prior to analysis. Extracted Internal Standard Analyte recoveries must be within 50% to 150% of ICAL midpoint standard area or area measured in the initial CCV on days when an ICAL is not performed.	If recoveries are acceptable for QC samples, but not field samples, the field samples must be re-extracted and analyzed (greater dilution may be needed). Samples may be re-extracted and analyzed outside of hold times, as necessary for corrective action associated with QC failure.		EIS should be 96% (or greater) purity. When the impurity consists of the unlabeled analyte, the EIS can result in a background artifact in every sample, standard and blank, if the EIS is fortified at excessive concentrations.
Method Blank (MB)	One per preparatory batch.	No analytes detected $> \frac{1}{2}$ LOQ or $> 1/10^{th}$ the amount measured in any sample or $1/10^{th}$ the regulatory limit, whichever is greater.	Correct problem. If required, re-extract and reanalyze MB and all QC samples and field samples processed with the contaminated blank. Samples may be re-extracted and analyzed outside of hold times, as necessary for corrective action associated with QC failure. Examine the project-specific requirements. Contact the client as to additional measures to be taken.	If reanalysis cannot be performed, data must be qualified and explained in the Case Narrative. Apply B-flag to all results for the specific analyte(s) in all samples in the associated preparatory batch.	Results may not be reported without a valid MB. Flagging is only appropriate in cases where the samples cannot be reanalyzed.

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water				
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria
Laboratory Control Sample (LCS)	One per preparatory batch.	Blank spiked with all analytes at a concentration \geq LOQ and \leq the mid-level calibration concentration. A laboratory must use the DoD/DOE QSM Appendix C Limits for batch control if project limits are not specified. If the analyte(s) are not listed, use in-house LCS limits if project limits are not specified.	Correct problem, then re-extract and reanalyze the LCS and all samples in the associated preparatory batch for failed analytes if sufficient sample material is available. Samples may be re-extracted and analyzed outside of hold times, as necessary for corrective action associated with QC failure. Examine the project-specific requirements. Contact the client as to additional measures to be taken.	If reanalysis cannot be performed, data must be qualified and explained in the Case Narrative. Apply Q-flag to specific analyte(s) in all samples in the associated preparatory batch. Results may not be reported without a valid LCS. Flagging is only appropriate in cases where the samples cannot be reanalyzed.
Matrix Spike (MS)	One per preparatory batch. Not required for aqueous samples prepared by serial dilution instead of SPE.	Sample spiked with all analytes at a concentration \geq LOQ and \leq the mid-level calibration concentration. A laboratory must use the DoD/DOE QSM Appendix C Limits for batch control if project limits are not specified. If the analyte(s) are not listed, use in-house LCS limits if project limits are not specified.	Examine the project-specific requirements. Contact the client as to additional measures to be taken.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met and explain in the Case Narrative. For matrix evaluation only. If MS results are outside the limits, the data shall be evaluated to determine the source(s) of difference (i.e., matrix effect or analytical error).

Table B-15. Per- and Polyfluoroalkyl Substances (PFAS) Using Liquid Chromatography Tandem Mass Spectrometry (LC/MS/MS) With Isotope Dilution or Internal Standard Quantification in Matrices Other Than Drinking Water					
QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Flagging Criteria	Comments
Matrix Spike Duplicate (MSD) or Matrix Duplicate (MD)	For MSD: One per preparatory batch. For MD: Each aqueous sample prepared by serial dilution instead of SPE.	For MSD: Sample spiked with all analytes at a concentration \geq LOQ and \leq the mid-level calibration concentration. A laboratory must use the DoD/DOE QSM Appendix C Limits for batch control if project limits are not specified. If the analyte(s) are not listed, use in-house LCS limits if project limits are not specified. RPD \leq 30% (between MS and MSD or sample and MD).	Examine the project-specific requirements. Contact the client as to additional measures to be taken.	For the specific analyte(s) in the parent sample, apply J-flag if acceptance criteria are not met and explain in the Case Narrative.	The data shall be evaluated to determine the source of difference. For Sample/MD: RPD criteria only apply to analytes whose concentration in the sample is \geq LOQ. The MD is a second aliquot of the field sample that has been prepared by serial dilution.
Post Spike Sample	Only applies to aqueous samples prepared by serial dilution instead of SPE that have reported value of $<$ LOQ for analyte(s).	Spike all analytes reported as $<$ LOQ into the dilution that the result for that analyte is reported from. The spike must be at the LOQ concentration to be reported for this sample as $<$ LOQ. When analyte concentrations are calculated as $<$ LOQ, the post spike for that analyte must recover within 70-130% of its true value.	When analyte concentrations are calculated as $<$ LOQ, and the spike recovery does not meet the acceptance criteria, the sample, sample duplicate, and post spike sample must be reanalyzed at consecutively higher dilutions until the criteria is met.	Flagging is not appropriate.	When analyte concentrations are calculated as $<$ LOQ, results may not be reported without acceptable post spike recoveries.

DRAFT AGENDA
BACWA Nutrient Strategy Team Meeting
Thursday December 3, 2020
10:00 am – 12:00 pm

1. Summary of Discussions with the Water Board
2. Load Caps in the 3rd Watershed Permit
 - a. The argument for performance-based load caps
 - b. Features of load caps (e.g., compliance schedules, incentives for early action and multibenefit projects, consideration of variability)
3. Timing considerations for the 3rd Watershed Permit
 - a. Pros and cons of a permit extension
 - b. Science needs prior to 3rd Watershed Permit adoption
4. Subembayment designation and trading
 - a. Alternatives for subembayment designation
 - b. Paul Stacey presentation to BACWA Executive Board 12/18 on LIS Trading program
5. Support for a long-term science program
 - a. Potential future load reduction requirements based on science
 - b. Long-term science funding level
 - c. Future of the NMS
6. Next steps – develop BACWA key tenets document
7. Adjourn

**CLIMATE CHANGE INFO REQUEST FOR REGION 2 POTWS
SEPTEMBER 23, 2020 DRAFT**

Dear Discharger:

We request that you provide information that describes how you will ensure operations at your facility are not disrupted by existing and future climate conditions. Climate change is shifting precipitation and temperature patterns, exacerbating extreme weather events, and causing sea level rise. These conditions have significant implications for wastewater collection, treatment, and discharge operations.

Your organization recently contributed to the Bay Area Clean Water Agencies' [Nutrient Reduction Study](#),¹ which compiled preliminary sea level rise results (see Figures 4 and 5 of the report, shown below). Now, either independently or in coordination with others such as the Bay Area Clean Water Agencies, we ask that you provide the following information by [date]:

1. **Vulnerability Assessment.** Assess the vulnerability of your collection, treatment, and discharge systems to the following: (1) sea level rise, (2) groundwater level rise, (3) changing climate and weather, and (4) power outages and wildfires. To assess your vulnerability to sea level rise, we consider the Ocean Protection Council's [Sea-Level Rise Guidance](#)² to be the most authoritative source supporting planning for sea level rise in California. You may wish to consider an additional factor of safety to account for higher storm surges.

- a. Sea Level Rise. If your facility is currently within the FEMA 100-year flood plain but not protected by a FEMA-accredited levee³ (see large red dots on Figures 4 and 5), explain how you manage your existing flooding risks (e.g., protective measures already in place, planned, or proposed).

If your facility is currently within the FEMA 100-year flood plain but not protected by a FEMA-accredited levee or if your facility is projected to be affected by sea level rise within 50 years⁴ (see small orange and pink dots on Figures 4 and 5), explain how you intend to manage future flooding risks over a 50-year time horizon (e.g., ongoing planning efforts and protective measures already in place, planned, or proposed). If you have not yet established a plan, explain your process and timeline for doing so in your response to item 2, below.

- b. Groundwater Level Rise. If your facility is susceptible to groundwater level rise or if your facility is projected to be affected by groundwater level rise

¹ https://bacwa.org/wp-content/uploads/2018/06/BACWA_Final_Nutrient_Reduction_Report.pdf

² https://opc.ca.gov/webmaster/ftp/pdf/agenda_items/20180314/Item3_Exhibit-A_OPC_SLR_Guidance-rd3.pdf

³ City of Benicia, Central Contra Costa Sanitation District, Central Marin Sanitation Agency, City of Millbrae, Napa Sanitation District, Oro Loma/Castro Valley Sanitary District, City of Palo Alto, City of Pinole, Rodeo Sanitation District, Cities of San Jose and Santa Clara, City of San Leandro, Sausalito-Marin city Sanitary District, City of Sunnyvale, Union Sanitary District, Vallejo Sanitation and Flood Control District, West County Wastewater District.

⁴ City of Burlingame, San Francisco International Airport, Cities of South San Francisco and San Bruno, Treasure Island.

CLIMATE CHANGE INFO REQUEST FOR REGION 2 POTWS
SEPTEMBER 23, 2020 DRAFT

within 50 years⁵ (circles in Figure 4 containing red or orange wedges⁶), explain how you intend to manage future flooding risks over a 50-year time horizon (e.g., ongoing planning efforts and protective measures already in place, planned, or proposed). If you have not yet established a plan, explain your process and timeline for doing so in your response to item 2, below.

- c. Changing Climate and Weather. Assess how increased temperatures, greater rainfall intensity, and longer and drier summers may affect your collection, treatment, and discharge systems. For example, under drought conditions, wastewater treatment plants are expected to face numerous challenges related to conveying and treating wastewater.⁷ Explain how you intend to manage future risks. If you have not yet established a plan, explain your process and timeline for doing so in your response to item 2, below.
 - d. Power Outages and Wildfires. Assess critical equipment and any need for additional back-up power. This may be necessary due to increasing stress on the power grid from more extreme heat waves and expanded public safety power shutoffs to your service area due to wildfires. Explain how you intend to manage future risks. If you have not yet established a plan, explain your process and timeline for doing so in your response to item 2, below.
2. **Adaptation Strategies**. Based on the vulnerabilities of your collection, treatment and discharge systems, identify mitigation and control measures needed to maintain, protect, and improve your wastewater infrastructure under existing and possible future conditions.
- a. Regional Collaboration. Document how you plan to work with regional stakeholders to address sea level rise and groundwater level rise in your area. A regional approach may best provide cost-effective ways to manage sea level rise and groundwater level rise, while ensuring that the actions of one party do not adversely affect the adaptation plans of other parties.

⁵ Ellis Creek (City of Petaluma), Sonoma Valley, Novato, Ryder Street (Vallejo Sanitation and Flood Control District), City of Benicia, Mt. View Sanitary District, Central Marin Sanitation Agency, City of San Leandro, Oro Loma/Castro Valley Sanitary District, City of Hayward, Alvarado (Union Sanitary District), Cities of South San Francisco and San Bruno, San Francisco International Airport, City of Millbrae, City of San Mateo, Silicon Valley Clean Water, City of Sunnyvale, Cities of San Jose and Santa Clara.

⁶ Hummel, M., M. Berry, and M. Stacey. 2018. *Sea Level Rise Impacts on Wastewater Treatment Systems Along the US Coasts*. *Earth's Future* 6 (4): 622–633).

⁷ California Urban Water Agencies. 2017. *Adapting to Change: Utility Systems and Declining Flows*.

CLIMATE CHANGE INFO REQUEST FOR REGION 2 POTWS
SEPTEMBER 23, 2020 DRAFT

- b. Time-Critical Measures. If time-critical mitigation and control measures are identified, propose an implementation schedule to complete them.
 - c. Design Modifications and Improvements. Address how you will modify infrastructure identified as vulnerable to sea level rise or groundwater level rise in the future. For example, it may be necessary to relocate critical equipment above projected flood levels or waterproof facilities at risk of flooding. As sea level rises, increasing your pumping capacity may also be necessary to ensure you can discharge treated wastewater under an increased hydraulic pressure head.
 - d. Monitoring. Describe monitoring plans to assess the need to change how you manage your collection, treatment, and discharge systems. For example, influent monitoring may be necessary to assess wastewater strength and the need to modify treatment processes (e.g., by increasing chemical use or aeration intensity). If drought conditions result in reduced influent flows, increased residence times in the collection system could cause corrosion if wastewater turns septic, and increased salinity levels could impair your ability to beneficially reuse treated wastewater. Identify key parameters (e.g., biochemical oxygen demand, total suspended solids, ammonia, salinity, and hydrogen sulfide) and thresholds that may affect the design flow and integrity of your treatment system.
 - e. Emergency Response Planning. Describe actions you will take to keep your facilities operating, or to return to operation as quickly as practicable, if flooding occurs. Your emergency response plan should also address how you will ensure the health and safety of your employees under such conditions.
3. **Financing**. Describe financing needed to pay for necessary mitigation and control measures, and how your organization will likely to arrange needed financing.

We hope your organization has already initiated some of this work, and you may rely on existing planning, to the extent that it is relevant, to comply with this request. If you have any questions, please contact **[who]**?

CLIMATE CHANGE INFO REQUEST FOR REGION 2 POTWS SEPTEMBER 23, 2020 DRAFT

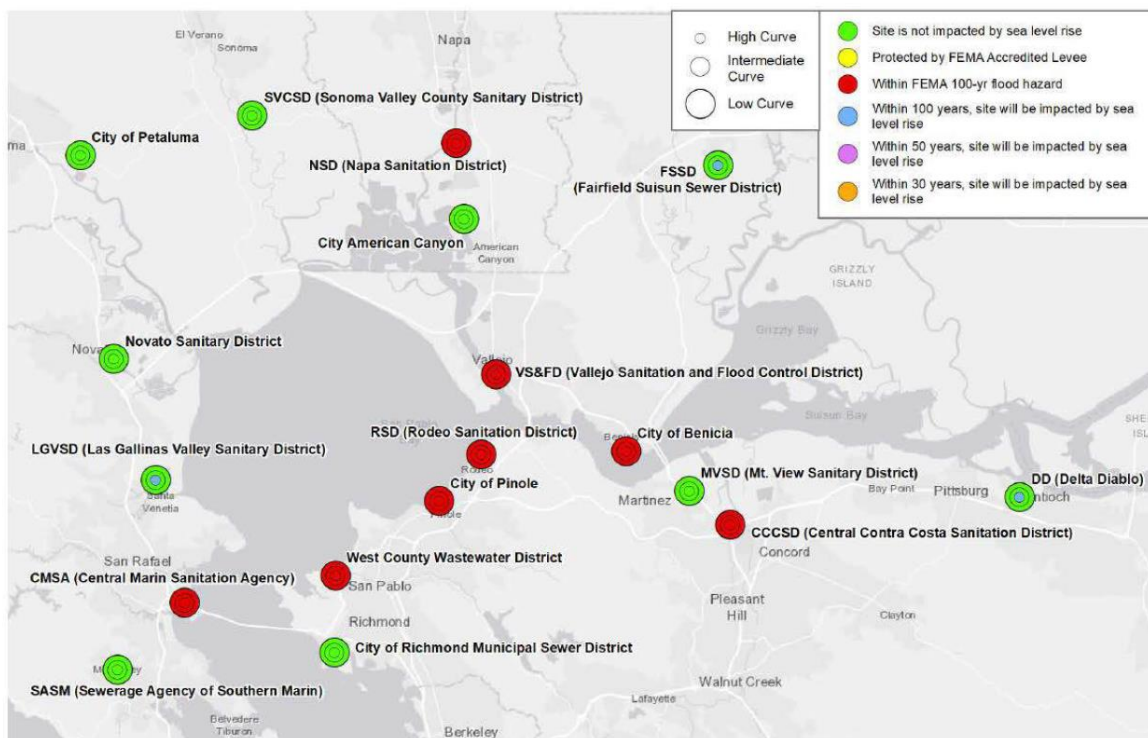


Figure 4 – Sea Level Rise Evaluation Results, North Bay

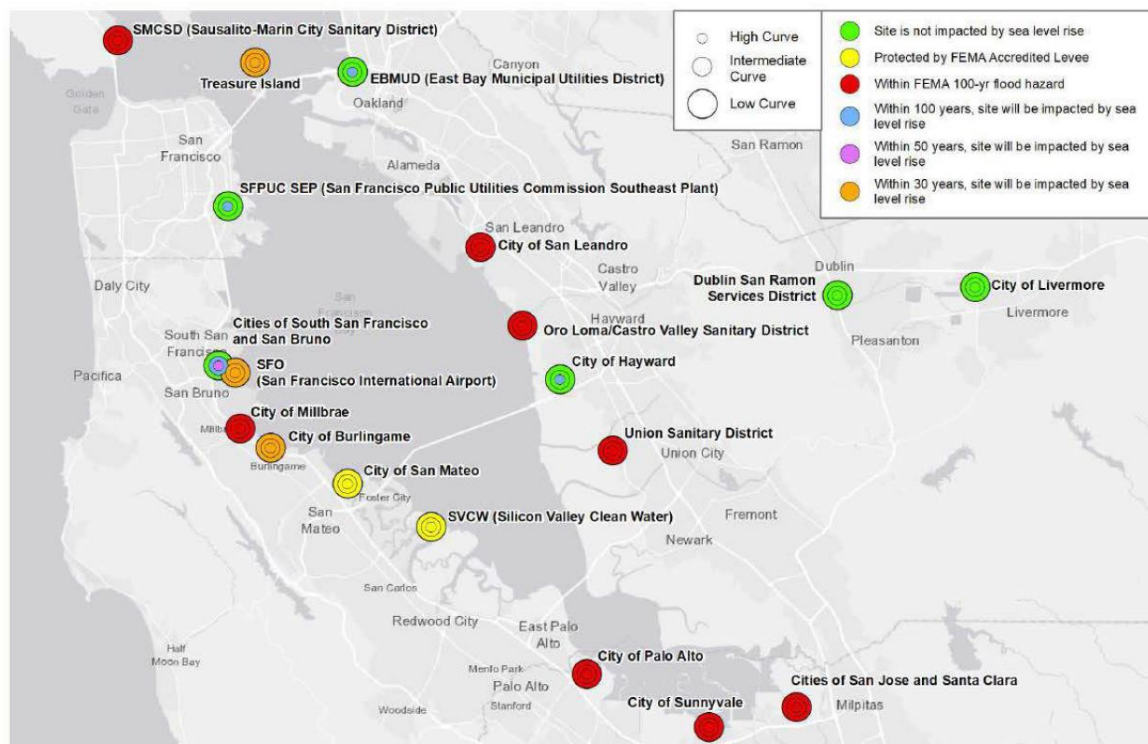


Figure 5 – Sea Level Rise Evaluation Results, South Bay

**CLIMATE CHANGE INFO REQUEST FOR REGION 2 POTWS
SEPTEMBER 23, 2020 DRAFT**

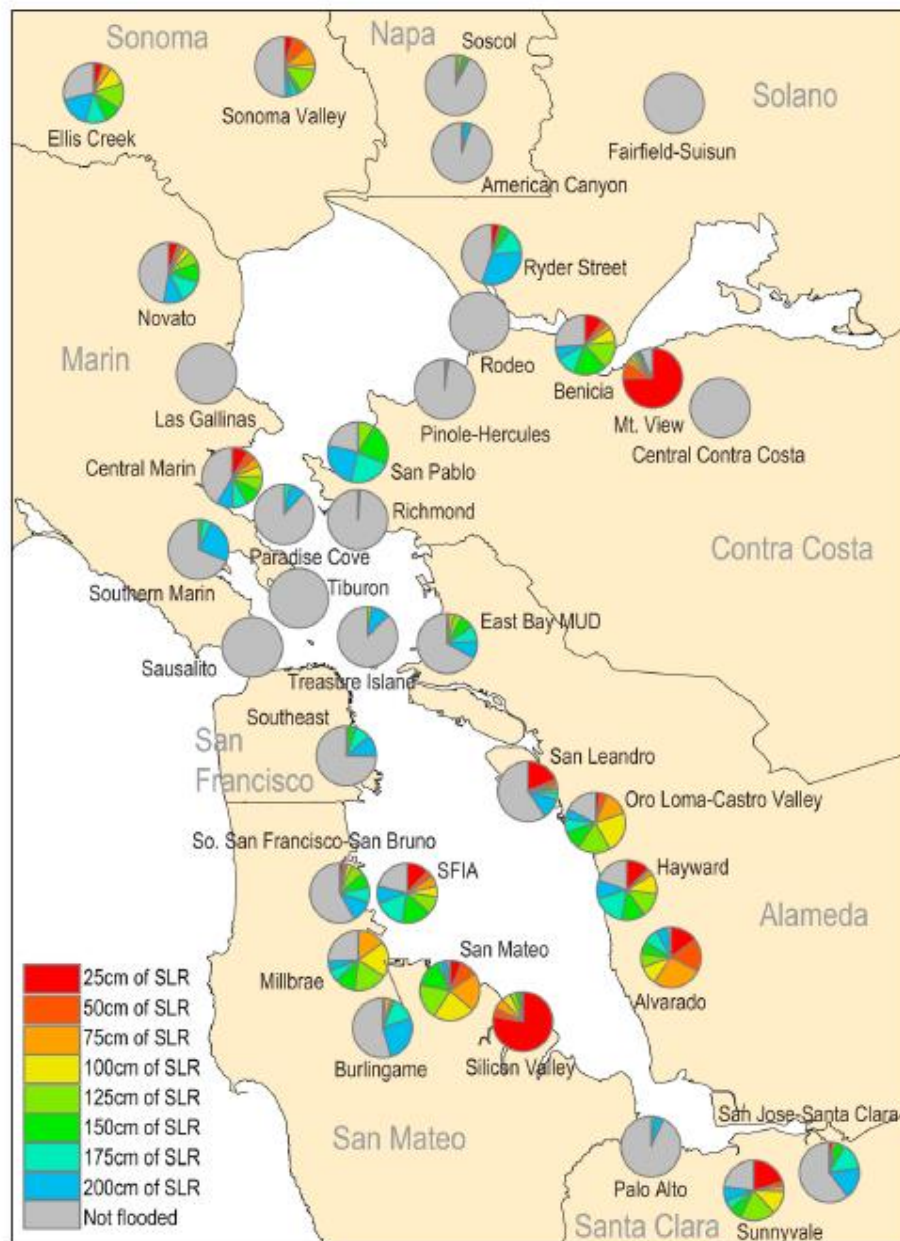


Figure 4. Map of groundwater flooding impacts to wastewater treatment plants in the San Francisco Bay Area. Each pie chart represents flooding at a single wastewater treatment plant and shows the incremental percent increase in area flooded at the plant for the given sea level rise scenarios.

CASA's Remaining Issues in Brief

Issue #1: The toxicity provisions include an automatic implementation date for imposition of numeric limits (MMEL) for the *ceriodaphnia dubia* (*cerio*) reproduction test, despite a lack of knowledge regarding the design or results of the impending *cerio* study intended to increase the performance and comparability of the test.

Requested Action: Include a specific decision point for the State Water Board before December 31, 2023 to consider the findings in the *cerio* study and accept public comment before implementing an MMEL for those with *cerio* as their most sensitive species.

Toxicity Provision Reference: Section IV.B.2.e.i on p. 28 of [the final draft provisions](#).

Supporting Rationale: The State Water Board has agreed to pursue a *cerio* reproduction study to analyze issues associated with this test, and potentially improve the results and eliminate variability. The data demonstrates that the *cerio* reproduction test appears to have a high rate of variability, sometimes leading to inaccurate determinations of toxicity. When paired with numeric limits, this could result in violations of numeric water quality limits and potential enforcement liability, third party lawsuits, and public perception issues associated with labeling effluent as “toxic.” Allowing automatic implementation of this test without further consideration of additional data being generated by the study is not appropriate.

Recommendation: We recommend adding provisions for a specific decision point by the State Water Board, which would take place in 2022 or 2023 when the study is completed, to exercise its authority and discretion over the full range of options available based on the findings of the research. The Board will be informed at that time by the study results.

Requested Language: The attached draft language for section IV.B.2.e.i provides the Board multiple options for a decision.

Issue #2: Recent revisions to the toxicity provisions now include a provision requiring the Regional Boards to document the basis for determining that an MMEL using *cerio* is not required by federal law. This provision as written is overly broad, undercuts statewide consistency, and could represent a very fundamental change to our understanding of the provisions.

Requested Action: Clarify that this language is only relevant or applicable to those dischargers that fall under “Scenario 3” in the *cerio* options table, which is those that already have numeric limits. This should address any backsliding or anti-degradation concerns raised by USEPA and appropriately limit its applicability.

Toxicity Provision Reference: Section IV.B.2.e on p. 28 of [the final draft provisions](#): “The PERMITTING AUTHORITY may choose to include Option B in the NPDES permit if it determines that an MMEL using *Ceriodaphnia dubia* is not required by federal law. The PERMITTING AUTHORITY shall document the basis for this determination in the NPDES fact sheet (or equivalent document).”

Supporting Rationale: Concerns expressed by USEPA regarding backsliding and anti-degradation requirements only potentially apply to those dischargers described in Scenario 3. Numeric toxicity limits (MMELs) are not required by federal law, and if there is a concern that converting from a numeric limit (MMEL) for another species to a trigger (MMET) isn't consistent with federal law, that should be sorted out at the policy level, not the individual permit level.

Other issues

1. **Test Timing:** Many dischargers (particularly smaller dischargers) are concerned they will not be able to initiate three tests within a Calendar Month timeframe for routine monitoring tests. CVCWA and Regional San have and will discuss this issue in more depth, but we are supportive of their concerns and approaches.
2. **Targets for those with No RP:** The revised provisions include numeric “targets” for permittees who do not have reasonable potential. The prior language was actually preferable in this case and we recommend the Board consider the proposals submitted by both CVCWA and Regional San to address this.

Attached Language for Issue #1

On or before [date], the State Water Board will reopen this Section, based on new information, to specify one of the following:

- Require that permits renewed, reissued or reopened on or after December 31, 2023 shall include the MDEL indicated in Section IV.B.2.e.iii and the MMEL indicated in Section IV.B.2.e.iv.*
- Revise Section IV.B.2.e.i. to extend the time period that Section IV.B.2.e.i is operative.*
- Revise Section IV.B.2.e.i to specify that where *C. dubia* is the most sensitive species, permits may include either (1) monthly median trigger (MMET) and a maximum daily effluent limit (MDEL) using *C. dubia* or (2) a monthly median effluent limit (MMEL) and an MDEL using the next most sensitive species.¹*

FN 1: The revised provision Revised Section IV.B.2.e.i would read as follows:

For NON-STORMWATER NPDES DISCHARGERS when the MOST SENSITIVE SPECIES identified by the PERMITTING AUTHORITY is not *Ceriodaphnia dubia*, the PERMITTING AUTHORITY shall include the MDEL indicated in Section IV.B.2.e.iii and the MMEL indicated in Section IV.B.2.e.iv using the MOST SENSITIVE SPECIES.

For NON-STORMWATER NPDES DISCHARGERS when the MOST SENSITIVE SPECIES identified by the PERMITTING AUTHORITY is *Ceriodaphnia dubia*, the PERMITTING AUTHORITY shall include either (1) the MDEL indicated in Section IV.B.2.e.iii and the MMET indicated in Section IV.B.2.g.ii using *Ceriodaphnia dubia* as the MOST SENSITIVE SPECIES or (2) the MDEL indicated in Section IV.B.2.e.iii and the MMEL indicated in Section IV.B.2.e.iv using the next applicable species as the MOST SENSITIVE SPECIES.



Executive Board Special Meeting Agenda
SF Bay Regional Water Board / BACWA Executive Board
Joint Meeting
Monday, November 30, 2020, 10am to 12pm

ROLL CALL AND INTRODUCTIONS – 10:00

PUBLIC COMMENT – 10:05

DISCUSSION/OTHER BUSINESS- 10:10

Topic	Goal	Time
1. COVID-19 Response	<ul style="list-style-type: none">• Roundtable from BACWA and Regulators about impacts and management strategies	10:15
2. Nutrients	<ul style="list-style-type: none">• Discussion of load cap implementation• 3rd Watershed Permit timeline alternatives• Long-term nutrient science plan	10:35
3. PFAS	<ul style="list-style-type: none">• Update on Regional Special Study, Phase I• Discussion of what Phase II may include• Update on potential PFAS legislation	11:10
4. Chlorine Residual Basin Plan Amendment	<ul style="list-style-type: none">• Blanket permit amendment timing, staffing needs, and prerequisites	11:25
5. Toxicity	<ul style="list-style-type: none">• Update on adoption, changes from previous draft• Discussion of NPDES implementation in Region 2	11:35
6. Alternate Monitoring Requirements overhaul	<ul style="list-style-type: none">• Update on BACWA efforts to identify monitoring and reporting elements for reduction• Update on Statewide efforts on CECs and any impacts on RMP CEC budget	11:40
7. Climate Change Adaptation	<ul style="list-style-type: none">• Update on efforts to solicit information from BACWA members on Climate change planning	11:50

ADJOURNMENT



BAAQMD-BACWA AIR Committee Quarterly Meeting Agenda

Date:	December ##, 2020
Time:	2-hour time slot
BAAQMD:	Greg Nudd, Damian Breen
BACWA:	Amit Mutsuddy (City of San Jose – BACWA Chair), Lorien Fono (BACWA ED), Mary Cousins (BACWA), Sarah Deslauriers, Courtney Mizutani
Virtual Mtg Link:	Access Link in Meeting Invite
Call-in:	Included in Meeting Invite

1) Introductions

2) Discussion of Common Air Quality Goals

- a) Methane Reduction
 - i) BAAQMD Regulation 13
 - ii) SB 1383 Implementation - Organic Waste Diversion
- b) Air Toxics Reporting/Reduction
 - i) CARB Regulation 617 Reporting Protocol / AB 2588 Compound List Updates
 - ii) Emission Factor Development (statewide wastewater sector effort)
 - iii) BAAQMD Rule 11-18 Risk Assessments Using Updated Emission Factors

3) Standardize Permit Conditions for WWTPs

4) Standardize Enforcement Priorities and Actions

5) Next Meeting



November 11, 2020

Dr. Mark Gold, Executive Director
California Ocean Protection Council
1416 Ninth Street, Suite 1311
Sacramento, CA 95814

RE: Letter of Support for Proposition 68 Coastal Resilience proposal "Bay Adaptation Hub: Connecting Communities with Opportunities Across the Bay"

Dear Dr. Gold,

I am writing to express the Bay Area Clean Water Agencies' (BACWA's) strong support of the proposal entitled "Bay Adaptation Hub: Connecting Communities with Opportunities Across the Bay," which will better connect disadvantaged communities with sea level rise adaptation projects and funding opportunities, through online tools and technical capacity building, to increase equitable shoreline resilience in the San Francisco Bay.

BACWA is a joint powers agency, formed under the California Government Code by the five largest wastewater treatment agencies in the San Francisco Bay Area. Our members include the many municipalities and special districts that provide sanitary sewer services to more than 7.1 million people. BACWA is dedicated to working with our members, state and federal regulatory agencies, and non-governmental organizations to improve and enhance the San Francisco Bay environment.

The proposed project addresses several critical gaps for climate adaption planning throughout the San Francisco Bay. Engaging local communities, particularly disadvantaged communities, in all stages of adaptation planning and implementation has been highlighted as critical for ensuring equitable outcomes of adaptation. The data and tool development proposed as part of this project will support this goal by creating a centralized hub of information related to existing and planned adaptation projects and local community-based organizations (CBOs). This need has been articulated by frontline community organizations participating in BCDC's recent Environmental Justice Bay Plan Amendment, and in Bay Adapt, an ongoing initiative seeking regional agreement on priority sea level rise actions. It has also been championed by local governments. The innovative approach described in the project, directly involving CBOs in the co-development of these data and tools while building technical capacity, will ensure that the project results in a resource that meets community needs, has long term sustainability, and advances regional adaptation to sea level rise.

Many of BACWA's member agencies own infrastructure that is vulnerable to sea level rise and other impacts of climate change. BACWA supports regional solutions to climate change adaptation, and increasing coordination among regional entities is a key first step. Having a resource to quickly identify potentially aligned projects will be useful to the BACWA member agencies, and will provide a needed link to communities that are impacted by future projects.

BACWA supports BCDC's grant proposal, and looks forward to continue participating in Bay Adapt. Please do not hesitate to contact us with any additional questions or concerns regarding our support.

Sincerely,

A handwritten signature in cursive script, reading "Lorien Fono". The signature is written in a dark ink and is positioned above the printed name and title.

Lorien J. Fono,
BACWA Executive Director

lfono@bacwa.org

2020 STRATEGIC PLAN - DRAFT

Bay Area Clean Water Agencies

BACWA's Mission

BACWA provides an effective regional voice for clean water agencies' stewardship of the Bay's ecological, community, and economic resources.

BACWA's Vision

Public clean water agencies are leaders in protecting and enhancing the San Francisco Bay ecosystem.

BACWA's Values

- Environmental stewardship
- Leadership
- Science-based decision making
- Collaboration
- Fiscal responsibility
- Watershed-based solutions

BACWA's Goals

- Advocate for regulation based on science
- Foster collaboration and relationship building with regulators and other stakeholders
- Pursue regional, multi-benefit approaches to environmental solutions
- Exemplify service and responsiveness to members and public
- Practice good governance

GOAL 1: ADVOCATE FOR REGULATION BASED ON SCIENCE

Strategy 1 – Advocate for nutrient permitting based on science

- **Objective 1** – Establish a Nutrient Technical Team made up of BACWA and member agency staff to engage with the San Francisco Bay Nutrient Management Strategy (NMS) by reviewing their work products and participating in the Assessment Framework process.
- **Objective 2** – Solicit and contract consultant support for review and interpretation of NMS Work Products and review of the Assessment Framework process.
- **Objective 3** – Convene BACWA's Nutrient Strategy Team to plan BACWA position on 3rd Nutrient Watershed Permit.
- **Objective 4** – Phase payments to the NMS to optimize scientific study workflow and timing that will inform management actions.

Strategy 2 – Advocate for air regulation based on science

- **Objective 1** – Meet frequently with Bay Area Air Quality Management District (BAAQMD) staff to communicate clean water agencies' perspective and capabilities. Support BAAQMD staff by providing technical information during development of regulations for short-lived climate pollutants and air toxics.
- **Objective 2** – Collaborate with CASA and other clean water agencies statewide on projects to inform California Air Resources Board regulations, such as the AB 2588 compound list update and emission factor development.

Strategy 3 – Advocate for biosolids management regulations based on science

- **Objective 1** – Work with local and state regulators to support sustainable biosolids reuse alternatives.
- **Objective 2** – Collaborate with Bay Area Biosolids Coalition in supporting initiatives aimed at establishing the safety and benefits of biosolids reuse.

Strategy 4 – Advocate for emerging water quality regulations to be based on science.

- **Objective 1** – Provide support for Constituents of Emerging Concern (CEC) pollution prevention and pesticides control by state and federal agencies.

- **Objective 2** – Engage in State Water Board and Ocean Protection Council initiatives, such as the reconvening of the Science Advisory Panel on CECs in Aquatic Ecosystems and the Microplastic Strategy.
- **Objective 3** – Continue to participate actively in Regional Monitoring Program (RMP) technical and steering committees.
- **Objective 4** – Demonstrate to regulators that BACWA can effectively implement solutions through regional projects, such as conducting the PFAS Regional Study in lieu of being compelled via a 13267 Order.

Strategy 5 – Advocate for the update of existing water quality regulations based on science.

- **Objective 1** – Support Basin Plan amendments and triennial reviews of the Basin Plan through cooperation with the Regional Water Board.
- **Objective 2** – Work with Regional Water Board to adopt blanket permit amendment to incorporate Chlorine Residual Basin Plan Amendment into NPDES Permits.
- **Objective 3** – Work with regulators to reduce required monitoring of low priority constituents in exchange for increased funding for RMP CEC studies.

GOAL 2: FOSTER COLLABORATION AND RELATIONSHIP-BUILDING WITH REGULATORS AND OTHER STAKEHOLDERS

Strategy 1 - Maintain and broaden collaboration with regulators by engaging on existing regulatory initiatives and emerging issues.

- **Objective 1** - Continue constructive engagement with regulators to communicate clean water agencies' challenges and opportunities related to projects of environmental benefit, so that these factors will be considered when developing new regulations and implementing existing regulations.
- **Objective 2** – Collaborate with regulators on emerging initiatives such as sea level rise adaptation planning, development of incentives for climate change mitigation, identification of feasible biosolids reuse strategies, and exploration of other resource recovery opportunities.
- **Objective 3** – Work with Summit Partners to provide educational opportunities to State Water Board/Ocean Protection Council members and staff regarding clean water agencies' challenges and opportunities. Identify and develop a common understanding of mutual priorities.
- **Objective 4** – Work with BAAQMD staff to reduce permitting hurdles that impede the implementation of projects of environmental benefit.

Strategy 2 - Monitor legislative efforts that impact BACWA members.

- **Objective 1** – Work with industry associations and individual members to inform their efforts on legislative advocacy.
- **Objective 2** – Consider a BACWA policy or position on how to engage in targeted legislative advocacy.

Strategy 3 - Maintain industry leadership by collaborating with other Clean Water Associations.

- **Objective 1** – Work with Summit Partners to define issues of importance on a statewide basis.
- **Objective 2** – Inform, learn from, and jointly advocate with Clean Water Associations.

GOAL 3: PURSUE REGIONAL, MULTI-BENEFIT APPROACHES TO ENVIRONMENTAL SOLUTIONS

Strategy 1 - Promote integrated approach to a healthy Bay.

- **Objective 1** – Identify and establish effective collaborations with Drinking Water and Stormwater communities to further the One Water concept and/or other multi-benefit project types.
- **Objective 2** – Identify and establish collaborators to implement integrated approaches to sea level rise adaptation.
- **Objective 3** – Identify and implement effective pollution prevention strategies in partnership with regulators and partners.
- **Objective 4** – Work with members and other regional entities to maximize grant funding for projects benefiting the region.

Strategy 2 - Support innovation to better address ecological, community, and economic challenges.

- **Objective 1** – Provide membership with information on technology pilot opportunities.
- **Objective 2** – Establish and continue partnerships with universities and other research institutions and initiatives to develop collaborative approaches to issues of importance to the clean water community.
- **Objective 3** – Support existing coalitions and agencies that are pursuing regional solutions to challenges impacting the San Francisco Bay ecosystem and community.

Strategy 3 - Provide value to members with regional solutions.

- **Objective 1** – Continue to provide joint compliance activities on behalf of members, and report via the Annual NPDES compliance letter to the Regional Water Board.
- **Objective 2** – Continue to support and report compliance with Mercury/PCB and Nutrient Watershed Permits.
- **Objective 3** – Engage with regulators on behalf of individual member agencies when issues of regional importance arise.
- **Objective 4** – Coordinate regional solutions to comply with new Environmental Laboratory Accreditation Program (ELAP) regulations.
- **Objective 5** – Support members' biosolids programs via data-gathering, reporting, and information exchange related to biosolids management.

GOAL 4: EXEMPLIFY SERVICE AND RESPONSIVENESS TO MEMBERS AND PUBLIC

Strategy 1 - Ensure members are knowledgeable about critical issues and activities

- **Objective 1** – Communicate timely regulatory and technical information and events via committees, the BACWA Bulletin newsletter, and emails to members.
- **Objective 2** – Ensure that BACWA contact lists are up-to-date.

Strategy 2 - Provide education and outreach to members and the public.

- **Objective 1** – Provide support for pollution prevention messaging to the public via BAPPG.
- **Objective 2** – Explore ways to support members' public communication on nutrients and other issues.

Strategy 3 - Provide forum to hear all member voices.

- **Objective 1** – Conduct outreach to less engaged members to inform them about opportunities for participation via committees and other events.
- **Objective 2** – Ensure that each member agency is engaged and understands the negotiations for the 3rd Nutrient Watershed Permit.
- **Objective 3** – Provide forums and opportunities for information-sharing between members on issues of importance.
- **Objective 4** – Use technology to maximize member participation in committee meetings.

Strategy 4 - Provide support for Projects of Special Benefit to assist membership.

- **Objective 1** – Continue to support the Bay Area Biosolids Coalition (BABC).
- **Objective 2** – Take over administration of the Bay Area Chemical Consortium (BACC) from DSRSD.
- **Objective 3** – Support Bay Area Consortium for Water/Wastewater Education (BACWWE) as they transition to a scholarship-based system and continue collaboration with BAYWORK.

- **Objective 4** – Consider any new requests for BACWA support based on members' benefit and potential costs to BACWA.

GOAL 5: PRACTICE GOOD GOVERNANCE

Strategy 1 - Ensure BACWA Policies and Procedures conform to applicable laws and best practices.

- **Objective 1** – Continue review and update of BACWA Policies and Procedures.

Strategy 2 - Enhance fiscal transparency.

- **Objective 1** – Work with EBMUD to improve readability and transparency of treasurer's reports in Executive Board Packet.
- **Objective 2** – Continue to update 5-Year Plan to ensure BACWA can strategically plan its financial status and has capacity for future initiatives.
- **Objective 3** – Continue to improve transparency and security of authorizations and invoice approval process.

DRAFT Agenda
BACWA Power Supply Reliability Infoshare meeting
January 2020 - tbd

1. Presentations on power supply reliability plans
 - Central San?
 - SJ?
 - SFPUC?
2. Do agencies have different strategies for specific scenarios?
 - Stage 3 emergency shutdowns
 - Public Safety Power Shutoff
 - Temporary Substation power loss
 - Planned power shutdowns
 - Natural disaster loss of regional power (Storm, earthquake, fire)
 - Do strategies differentiate between average dry weather flow and peak wet weather flow conditions?
3. What consequences are the strategies focused on preventing?
 - Staff life / safety
 - SSOs/street and home backups
 - Discharges of untreated/partially treated sewage to the Bay
 - Loss of secondary treatment process biology
 - Loss of biosolids process biology
4. Treatment plant power backup strategies, which combo do agencies use?
 - Dual PGE power feeds (automatic transfer v. PG&E transfer; determination of fault location)
 - Cogen (automatic transfer, responding to trips after PG&E outage)
 - Emergency backup generation (size & fuel storage)
 - Battery
 - Temporary Influent storage or mid-treatment storage
5. Collection system power supply strategies
 - Definition of “critical” load
 - Full v. H&S on-site generators
 - Portable generators
 - Portable pumps, bypass piping, and hauling sewage
6. What trainings/drills do agencies do? How frequently?
7. What documents codify their strategies?
 - Contingency plan
 - PS process SOPs
 - Emergency Ops plans
 - Other?

SUMMARY OF PROPOSED BOARD POLICIES AND PROCEDURES					
POLICY #	POLICIES	PROCEDURE #	STAFF PROCEDURES (if needed)	DATE FOR INITIAL REVIEW	APPROVAL DATE
BAP 1.01	BACWA Representation	101		Nov-18	Dec-18
BFP 2.04	Reserve Policy	204		Nov-18	Dec-18
BFP 2.03	Contracting Policy (11/13)	203	Entering into Contracts	Dec-18	Feb-19
BAP 1.06	Succession Planning	106	Updating Succession Plan	Feb-19	Mar-19
BFP 2.01	Category of Membership Policy (12/16)	201	Requesting Membership	Feb-19	Mar-19
BFP 2.05	Budgeting	205	Preparation of Budget Documents	Feb-19	Mar-19
BAP 1.08	Website Policies	108	Updating Web Site	Nov-20	Dec-20
BAP 1.02	Committees	102	Committee Responsibilities		
BAP 1.03	Conflict of Interest	103	Submittal of Conflict of Interest Forms		
BAP 1.05	Access by Professionals and Vendors	105	Communication with Membership		
BFP 2.02	Investment Policy (10/07)	202	Coordination with EBMUD Accounting		
BAP 1.07	Travel Policies (6/07)	107	Expense Reimbursement		
BAP 1.04	Document Retention Policy	104	Filing and Purging of Documents		
SOP #	Description	Target Date for Completion			
SOP 1	Processing Invoices				
SOP 2	Admin Calendar				
SOP 3	Review of Monthly Financial Reports				



POLICY NUMBER: BAP – 1.08

NAME OF POLICY: Website Policy

DATE APPROVED:

LAST REVISED:

PURPOSE: To provide direction on development, use, and maintenance of a website for the organization.

POLICY: BACWA shall develop and maintain a website for the benefit of its members and to assist in completing its mission. At a minimum the website should contain the following key information or categories which can be searched for information:

- agendas and packets for BACWA Executive Board Meetings
- documents produced by BACWA
- calendar of meeting and events
- announcements
- BACWA committee information
- general information about BACWA
- key contact information

The goal is to keep the website current and informative to foster use by the BACWA members. The website should be available to the public but may have one or more member-only sections, requiring a password to access. The website should contain information of benefit to the BACWA membership including information on regulatory, technical, and public education issues. The website will not contain any advertising materials for third-party entities. The BACWA Executive Director or their designee will serve as the Administrator of the website.

The website and its contents will be maintained so as to comply with open meeting laws and other applicable statute.



B A C W A
BAY AREA
CLEAN WATER
AGENCIES

BAY AREA CLEAN WATER AGENCIES
ANNUAL MEETING DRAFT PROGRAM
February 19, 2021
Webinar

TIME	DESCRIPTION	SPEAKER
9:00 am - 9:15 am	Welcome/Introduction and Year in Review	Amit Mutsuddy
9:15 am - 10:30 am	BAAQMD/EPA/SWRCB/RWQCB/ Priorities Bay Area Air Quality Management District State Water Resources Control Board member San Francisco Water Board member San Francisco Water Board staff Q&A	Jack Broadbent - invited Sean McGuire - confirmed Jim McGrath - invited Mike Montgomery - confirmed
10:30 am - 10:45 am	Break	
10:45 am - 12:00pm	BACWA Hot Topics PFAS Study SARS-CoV-2 Monitoring <i>Biosolids</i> <i>Toxicity</i> <i>Chlorine Residual BPA</i>	Diana Lin - confirmed Kara Nelson/Sasha Harris-Lovitt - confirmed
12:00 pm - 12:45 pm	Lunch	Breakout rooms
12:45 pm - 12:55 pm	BACWA Leadership Recognition	
12:55 pm - 1:25 pm	BACWA Hot Topics AIR Issues <i>climate change vulnerability planning/regional collaborations</i>	Sarah Deslauriers -confirmed
1:25 pm - 1:35 pm	Nutrients - Overview Overview of 2nd WS Permit/Governance Update	Lorien Fono
1:35 pm - 2:20 pm	Nutrients - Regulatory Update 2021 Group Annual Report Nature Based Solutions Study Regional Recycled Water Report Q & A	Mike Falk - confirmed Ian Wren - confirmed Mike Falk - confirmed
2:20 pm - 2:55 pm	Nutrients - Technical Update Update on the Science Plan and Findings	Dave Senn - invited
2:55 pm - 3:00 pm	Annual Meeting Wrap-Up	

Committee Request for Board Action: none

33 attendees (via teleconference only) representing 20 member agencies

Regional PFAS Study

Diana Lin (SFEI) presented a conceptual draft sampling plan for the 13 Bay Area agencies that will be participating in the regional PFAS study. The proposed sampling plan is to collect influent and effluent grabs at all 13 facilities, plus composite samples at 3 agencies (FSSD, SFO, and CCCSD). Agencies will receive shipments of sample bottles and PFAS-free water, and agencies will be responsible for return shipment of samples back to Axys. The sampling plan will identify procedures for protecting samples from cross-contamination, emphasizing the use of direct sampling into sample containers to the extent feasible. The final sampling plan will be developed over the next few weeks so that it can be distributed to agencies prior to the November sample event.

COVID Updates

Committee was briefed by the BACWA ED on COVID surveillance monitoring efforts at two local universities:

- A project involving Stanford faculty is focusing on sampling influent solids, which have higher viral load than aqueous samples. In their study, wastewater sampling showed peaks ahead of community caseloads. Results are under peer review.
<https://www.medrxiv.org/content/10.1101/2020.09.14.20194472v1>
- The [Covid-WEB](#) project at UC Berkeley will be conducting surveillance in October at no cost to local wastewater agencies; about 30 agencies have signed up to participate.

Several members reported that their agencies are ending staggered shifts and restoring normal work schedules.

Announcements

- ELAP regulations have been submitted to the Office of Administrative Law (OAL) and will come into effect January 1, 2021.
- The CWEA Annual Conference sessions of interest for laboratory committee members were discussed; most will occur on Thursday, October 22nd. The fees for attending the conference vary depending on how long afterwards you want access to the conference. CEUs are available for watching live or for the recorded sessions. The next annual conference is scheduled for April 2020 and it will either be virtual or in San Diego.

Next meeting: December 8, 2020

Committee Request for Board Action:

- Approve graphics showing BACWA member and staff participation in various committees related to the Nutrient Management Strategy.
- Provide input on level of involvement by BACWA in responding to climate change survey from Regional Water Board (see 10/16/2020 Board Meeting, Agenda Item #10)

31 attendees by teleconference, representing 17 member agencies. Action items shown in red.

RWQCB (RWQCB) Report

- Bill Johnson reported on RWQCB operations. One NPDES case manager has been re-assigned to contact tracing, and staff have been asked to take off 2 days/month. RWQCB will be starting in-person inspections soon, with new safety protocols in place. Virtual and desktop inspections will also continue. Pretreatment program inspections will be limited due to limited external support (EPA support is phasing out, and State Water Board support has not yet ramped up). RWQCB staff are trying to write pretreatment program reports more concisely.

RWQCB Calendar

October: USD Old Alameda Creek and Yountville, plus a presentation on biosolids management.
November: Chlorine Basin Plan Amendment

Statewide Toxicity Provisions

- On October 30th, a revised draft version of the [statewide toxicity provisions](#) will be released for State Water Board consideration at their December 1st meeting.
- Surveillance monitoring is a concept not in the draft toxicity provisions that has been floated by Region 2 staff as a way of monitoring toxicity in higher-concentration effluent samples (10:1) with a lower risk of incurring a TST “Fail.” Details to be worked out are whether the surveillance monitoring is optional or mandatory, and whether it would use a point estimate of toxicity (i.e., using a dilution series) or the TST.
- RWQCB staff will be invited to the December Permits Committee meeting to discuss Region 2 implementation.

Climate Change Surveys Planned by State Water Board and Regional Water Board

- The State Water Board’s draft survey involves check-boxes rather than narrative answers. It will be distributed to POTWs and collection system agencies. Timing is uncertain.
- The RWQCB’s draft survey is open-ended and more in-depth. It will be distributed to POTWs only, not collection system agencies (they will be covered by the revised SSO-WDR at a later date). **BACWA may be involved to ensure written responses provide comparable levels of detail, pending input from the BACWA Board.**
- The committee discussed possibly having two agencies (one large, one small) “test drive” the survey to provide an example regarding the amount of detail. **BACWA staff will help identify volunteers for this test drive.**
- The RWQCB is particularly interested in regional cooperative efforts, so one idea put forth was separate the regional solutions part of the survey from the individual vulnerability assessments. **BACWA may be involved in preparing this information, pending input from the BACWA Board.**

Chlorine Basin Plan Amendment

- RWQCB staff were open to [BACWA’s comments](#) regarding monitoring and reporting; less so for comments related to the Minimum Level (ML). Per Bill, MLs are typically found in regulatory documents other than Attach. G.
- Member agencies strongly advocated rollout via a blanket permit amendment. The amendment would need to identify appropriate dilution credits for each applicable agency.

Nutrients

- Subembayment delineation was the focus of the 9/11 Nutrient Management Strategy Steering Comm. meeting.
- BACWA will be convening a new group to review and provide input on scientific work products, and BACWA will also be hiring a consultant to assist with this task.
- **Committee members requested a chart illustrating the various nutrient-related committees in which BACWA is participating. This chart should be circulated with the invitation to participate.**
- **Committee members requested a summary of the Pardee nutrient discussion be circulated to the Permits committee.**

Alternate Monitoring Program (Order No. [R2-2016-0008](#))

- The Alternate Monitoring Program will require adjustments upon implementation of the new statewide toxicity provisions because the screening requirements will be mandated at the state level.
- The RWQCB proposes to roll over other, non-toxicity-related sections of the Alternate Monitoring Program into a new blanket permit amendment. Additional edits to monitoring requirements could be included as a way of freeing

up more funding for CECs monitoring.

- BACWA will solicit member ideas regarding NPDES permit requirements to include in the proposed amendment for discussion at the December Permits Committee meeting.

Announcements

- BACWA is preparing an updated Strategic Plan; a draft will be shared with members soon.
- Reconvening of [CEC Ecosystems Panel](#): Oct 12-15 (will be recorded)

Next BACWA Permits Committee Meeting: December 8, 2020. [Look for a survey regarding the holiday social.](#)



Executive Director's Report to the Board October 2020

NUTRIENTS:

Completed a variety of tasks and activities associated with BACWA's interests on nutrients and collaborating with the Water Board including:

- Attended and drafted summary of 10/7 NMS Planning Subcommittee meeting
- Discussed NMS issues with Science Manager
- Discussed NMS and nutrient permitting issues with individual Executive Board members
- Updated and posted draft RFP for NMS technical review
- Discussed RFP with potential proposers
- Participated in 10/30 NBS meeting

EXECUTIVE BOARD MEETING AND SUPPORT

- Edited minutes and action items from 9/17-9/18 "Online Pardee" meeting
- Worked with BACWA staff to plan and manage 10/16 Executive Board meeting
- Worked with BACWA staff to plan and manage 10/26 Special Executive Board meeting to approve two contracts
- Conducted the Executive Board meeting agenda review with the BACWA Chair
- Researched and implemented digital tools for strategic planning
- Continued to track all action items to completion
- Developed draft Strategic Plan based on input from Strategic Plan meeting Part 1
- Planned and led 10/9 Strategic Planning Meeting Part 2
- Discussed Power Supply Reliability Infoshare meeting with Executive Board member

COVID-19:

- Participated in 10/14 COVID-WEB Steering Committee meeting

COMMITTEES:

- Participated in 10/13 Lab Committee meeting
- Reviewed agenda and participated in 10/13 Permits Committee meeting
- Sent out doodle to plan next Managers Roundtable meeting
- Participated in pesticide letter submission SOP call

REGULATORY:

- Discussed budgeting and PFAS sample plan with SFEI, and contract for analysis with SFEI and SGS AXYS, attended SFEI SAP webinar with participating agencies
- Participated in CASA calls on State Toxicity Provisions
- Participated in Summit Partners calls on potential PFAS interlaboratory comparability study and meeting with State Water Board staff
- Discussed sea level rise planning information request with Regional Water Board staff
- Discussed about RMP funding for CECs with RMP manager
- Attended CEC presentations from SWB/OPC CECs in Aquatic Ecosystems panel

FINANCE:

- Reviewed the monthly BACWA financial reports, summary, and budget to actual tracking sheet for August 2020
- Reviewed and approved invoices
- Reviewed FY20 Financial Statement from auditor
- Developed Contract and authorization for SGS AXYS Analytical support of PFAS Study

COLLABORATIONS:

- Discussed and provided letter of support support for Hazen proposal to WRF: Linking Nutrient Reductions to Receiving Water Response
- Participated in One Water Reuse workshop
- Planned, developed slides and presented on codigestion impact on nutrient loading at ReNUWIt IAB meeting on 10/14
- Discussed support for potential WRF proposal by LBNL
- Participated in 10/6 RMP Annual Meeting
- Prepared for and moderated session in Summit Partners PFAS Workshop Part 2 on 10/28
- Participated in CASA RWG meeting 10/15
- Participated in CASA Microplastic call 10/22

ASC

- Reviewed materials sent via email by ASC ED

BABC:

- Discussed and reviewed BABC presentation to Regional Water Board with BABC Program Manager
- Developed contract for UCD to perform PFAS plant uptake study

BACC:

- Participated in kickoff meeting with DSRSD staff
- Reviewed materials and email to BACC members

ADMINISTRATION:

- Planned for and conducted the monthly BACWA staff meeting to prepare for the Board Meeting and to coordinate and prioritize activities.
- Signed off on invoices, reviewed correspondence, prepared for upcoming Board meetings, responded to inquiries on BACWA efforts, oversaw updating of web page and provided general direction to BACWA staff.
- Worked with the RPM in the preparation of the monthly BACWA Bulletin.
- Developed and responded to numerous emails and phone calls as part of the conduct of BACWA business on a day-to-day basis.
- Discuss website updates with web consultant
- Continued onboarding of new RPM

MISCELLANEOUS MEETINGS/CALLS:

- Worked with BACWA Chair and Committee Chairs on items that arose during the month
- Other miscellaneous calls and inquiries regarding BACWA activities
- Responded to Board members requests for information



Board Calendar

December 2020 – February 2021 Meetings

DATE	AGENDA ITEMS
November 30, 2020 Online meeting	BACWA Executive Board & Regional Water Board Meeting 10-12pm
December 18, 2020 Online Meeting	Policy / Strategic Discussion: <ul style="list-style-type: none">• Paul Stacy Presentation• David Senn SFEI Presentation Operational: <ul style="list-style-type: none">• Annual Meeting Agenda• FY22 Budget Schedule & Key Issues
January 15, 2021 Online Meeting	Policy / Strategic Discussion: Operational: <ul style="list-style-type: none">• Annual Meeting Final Agenda• FY22 Budget Schedule & Key Issues
February 19, 2021 <i>Annual Members Meeting 9-3pm</i> Online Meeting	<ul style="list-style-type: none">• Policy / Strategic Discussion:• Operational:



BACWA ACTION ITEMS

Number	Subject	Task	Responsibiity	Deadline	Status
Action Items from October 16, 2020 BACWA Executive Board Meeting			resp.	deadline	status
2021.10.11	Doodle poll	BACWA ED to determine when next NST meeting will be	ED	10/30/2020	complete
2021.11.12	Nutrients group	BACWA ED to move forward with creating new group	ED	11/13/2020	complete
2021.11.13	Interface between nutrient science and nutrient science regulation	BACWA ED to share meeting with board	ED	11/20/2020	complete
2021.11.14	Vulnerability Assessment for climate change	BACWA staff to work with Regional Water Board on tempate to gather information	ED/RPM	10/30/2020	complete
Action Items Remaining from Previous BACWA Executive Board Meetings					
2019.12.46	Risk reduction	Reach out to cities with public health clinics to work with CIEA	RPM	2/29/2020	Completed
2019.8.12	BAAQMD Permit Backlog	Set up separate meeting to discuss with Air District management	RPM/ED	11/30/2019	completed
2019.7.05	Sewer Rate Survey	Post as Google Sheet, and publicize update	RPM	8/31/2019	pending
2018.4-93	Website Policy	Add reference to regulatory requirements for Agency websites	ED	10/30/2020	Complete
FY21:	14 of 14 Action items completed				
FY20:	67 of 70 Action Items completed				
FY19:	109 of 110 action Items completed				
FY18:	66 of 66 Action Items completed				
FY17:	90 of 90 Action Items completed				



Regulatory Program Manager's Report to the Board

October 2020

NUTRIENTS: Coordinated with BACWA ED and AED regarding RFP for assistance with Nutrient Technical Review.

BACWA BULLETIN: Circulated October Bulletin and investigated MailChimp authentication requirements.

CHLORINE RESIDUAL: Finalized and coordinated with AED for submittal of comment letter on Chlorine Basin Plan Amendment.

CECs: Coordinated with SFEI and BACWA members regarding PFAS sampling plan; reviewed sampling plan and provided comments. Attended webinars regarding PFAS, CECs and microplastics.

BIOSOLIDS REPORTS: Began preparation of 2020 Solano County Biosolids Report and 2018 Biosolids Survey Report.

STRATEGIC PLAN: Attended Strategic Planning workshop #2.

COMMITTEE SUPPORT:

AIR – Prepared Board report from September committee meeting.

BABC – Assisted with review of draft presentation for Regional Water Board's October 14th meeting.

BAPPG – Attended meeting, prepared meeting summary and Board report, and scheduled next virtual meeting.

Laboratory – Attended meeting, prepared Board report, and scheduled next virtual meeting.

Permits – Attended meeting, prepared Board report, and scheduled next virtual meeting. Responded to member question regarding chronic toxicity screening. Began compiling monitoring requirements to develop survey and proposal for replacement to current Alternative Monitoring Reporting Program (Order No. R2-2016-0008). Circulated draft survey to Permits committee, Lab committee, and Pretreatment committee leadership, and circulated final survey to members.

Recycled Water – Reviewed draft template for Nutrient Removal Study; compiled comments and transmitted to HDR.

Executive Board – Attended Executive Board meeting and reported on Chlorine Basin Plan Amendment comment letter and PFAS study.

ADMINISTRATION/STAFF MEETING – Participated in monthly staff meeting.

BACWA MEETINGS ATTENDED:

BAPPG (10/7)
Strategic Planning Workshop (10/9)
Lab Committee (10/13)
Permits Committee (10/13)
Executive Board (10/16)

EXTERNAL EVENTS ATTENDED:

Bay Area One Water Network (10/1)
Regional Monitoring Program Annual Meeting (10/6)
CASA Toxicity Subgroup (10/7)
CEC Expert Panel (10/12, 10/13)
Regional Water Board Meeting (10/14)
CASA Regulatory Work Group (10/15)
Microplastics Expert Panel (10/19, 10/26)
CWEA Covid Webinar (10/27)
Summit Partners PFAS Webinar (10/28)

Lorien Fono

From: Collectionwg <collectionwg-bounces@lists.casaweb.org> on behalf of Jared Voskuhl via Collectionwg <collectionwg@lists.casaweb.org>
Sent: Tuesday, November 3, 2020 1:27 PM
Subject: [Collectionwg] [Regulatory] CASA November 2020 Regulatory Update
Attachments: ATT00001.txt



Good Morning,

Please find below regulatory water updates from October and for November. Our next workgroup meetings will be through Zoom on November 19. Please pass along any items you would like agendized, and let us know if you are unable to access the hyperlinked materials.

Thank you,
The RWG Team

WATER QUALITY

SWB Releases Final Draft Toxicity Provisions – Response to Comments Forthcoming

On October 30, the State Water Resources Control Board (State Water Board/SWB) released the final drafts of the toxicity provisions and staff report. A pdf of the final provisions is available [here](#), and a redlined version, [here](#). The staff report pdf is [here](#), and the redlined version of it is [here](#).

The Response to Comments has not been published yet, but it will be soon. ([CASA's comment letter](#) was submitted in August.) With regard to the *cerio* study, the SWB also released a [quality assurance recommendations document](#), which includes a schedule of tasks and deliverables on the final page. The provisions are scheduled for adoption on December 1.

Data for 2024 Integrated Reports – SWB Outreach for Supplemental Information

On October 16, [data submissions for the 2024 integrated reports](#) were due to the State Water Board. If your agency submitted data, please reach out to [Jared Voskuhl](#). State Water Board staff are seeking to collaborate with CASA to identify members in Regions 2, 4, and 8 who would like their CIWQS data assessed for the 2024 Integrated Report and also to identify agencies who submitted their data to CEDEN, in order to avoid duplicating data on the assessment side. Again, please reach out to [Jared Voskuhl](#) if you submitted data earlier this month so that the State Water Board may obtain the supplemental information.

Summit Partners' PFAS Workshops Available Online

On October 28, the Clean Water Summit Partners ([BACWA](#), [CASA](#), [CVCWA](#), [CWEA](#), and [SCAP](#)) hosted their second workshop on the SWB's investigative order of PFAS at public owned

treatment works. Presentation slide decks and videos are available [here](#), where you will also find materials from the first workshop on September 16.

R9 Basin Plan Amendments with Biological Objectives Scheduled for Adoption on 11/19

On November 19, the San Diego Regional Water Quality Control Board [is scheduled to adopt its Basin Plan Amendments](#) to incorporate a water quality objective for biological condition. The final draft resolution is [here](#), and the Response to Comments [here](#). CVCWA and CASA submitted [a comment letter](#) in September on the proposal. Additional written comments for the meeting are unallowed, but oral testimony will be entered. The public documents are all available [here](#). Please reach out to [Jared Voskuhl](#) if you have questions.

San Diego Coastkeepers File Notice of Intent to Sue the County of San Diego

San Diego Coastkeeper and Coastal Environmental Right Foundation recently filed [a notice of intent to sue the County of San Diego](#) over violations of the Clean Water Act. The notice is based on [a San Diego river contamination study by San Diego State University](#) to increase preparedness in the watershed for potential contamination. CASA's Collection Systems Workgroup will discuss this item at their meeting on November 10. Reach out to [Jared Voskuhl](#) with comments.

SCCWRP Hosts CECs and Microplastics Management Symposiums for SWB and OPC

The week of October 12, the Southern California Coastal Water Research Project (SCCWRP), a joint-powers authority in Orange County, hosted [the reconvened scientific advisory panel for contaminants of emerging concern in aquatic ecosystems](#). Virtual opening remarks from state regulators, including Jonathan Bishop from the State Water Board (@ 8:40) and Mark Gold of the Ocean Protection Council (@17:45), are available [here](#). Of most interest may be Claire Waggoner's presentation on the SWB's new CEC's program, which begin [at 1:24:00](#), and in which she describes how new contaminants may be processed for identification, monitoring, and regulation at the SWB.

Additionally, on October 19, [SCCWRP commenced a 5-wk microplastics' health effects series](#) of Monday morning panels. Mark Gold's opening remarks for this series are available [here @ 41:05](#). Over the coming weeks, an international group of experts will convene to discuss several emerging issues with microplastics, especially as it pertains to management strategies. Please connect with [Jared Voskuhl](#) to get involved with CASA's microplastics subgroup.

SWB Hears Informational Item on PFAS and Releases PFAS Sampling Guidelines

On October 7, the State Water Board received an informational update from staff and comments from the public on their statewide investigation of PFAS. The meeting is archived [here](#), and Steve Jepsen's remarks were carried in [Bloomberg Law](#): "We can't treat our way out of this problem."

As a reminder, in September, the SWB released [PFAS sampling guidelines for non-drinking water](#) matrices to assist POTWs' collection of samples, as well as this [FAQ \(9/2/20 version\)](#). A sector-wide SLAP template will become available in the coming weeks, so please keep an eye out for it.

Finally, on August 27, after the first year of sampling by public water systems under Phase 1 of the investigation, the SWB released a [General Order](#) to [over 900 recipients](#) for continued monitoring.

OEHHA Announces 2-Day Climate Change Symposium for December

On December 2 and 3, CalEPA's Office of Environmental Health Hazard Assessment (OEHHA) will host a climate change symposium exploring the latest scientific evidence for the interconnectedness of climate change and its impacts. The agenda is [here](#), and you may

register [here](#). Please reach out to [Sarah Deslauriers](#), CASA's Climate Change Program Manager, for further information.

CASA Submits Letter on US EPA's Proposed 2020 Financial Capability Assessment

On October 19, [CASA submitted a letter](#) supporting [NACWA's comments](#) on the EPA's proposed 2020 financial capability for water services in disadvantaged communities. In September, the EPA had [released](#) a [federal register notice](#) with an [updated draft guidance document](#) on financial capability assessments (FCA) in order to move past the 1997 FCA Guidance and the 2014 FCA Framework. A 2019 report by NACWA, AWWA, and WEF that was submitted to US EPA, new metrics were outlined that are partially included in the new proposal. Please reach out to [Adam Link](#) if you have questions.

US EPA Releases COVID-19 Financial Impact Tool and Water Workforce Initiative

On October 6, US EPA announced two new efforts. The first is [a tool for water utilities to assess the financial impact of COVID-19](#), and the second is a [water workforce initiative](#).

The financial impact resource leads water utilities through questions that can determine how their revenues, expenses, and cashflow have been affected by the COVID-19 pandemic, automatically calculating the changes for a utility's revenues and expenses by looking at current 2020 monthly financials versus the average monthly financials of the utility's 2019 audited financial statement.

The water workforce initiative lays out a number of actions EPA and other federal agencies will be taking in the coming years. It has been a two-year effort involving many partners across the water sector and signals a call to action for these stakeholders to come together and collaboratively address the major challenges facing the water workforce sector.

SWB Meeting Agendas & Executive Director's Reports

Here are recent State Water Board agendas for their meetings on [October 6 & 7](#) (PFAS, Perchlorate DLR), [October 20](#) (303(d) listing), and [November 4](#) (SAFR). The State Water Board's agenda for their November 17 meeting has not been released. The Executive Director report is available for [October](#) (reconvened CEC's panel, volumetric annual reporting of wastewater and recycled water).

-

Dates

Nov. 4 SWB Meeting

Nov. 5 SCCWRP CTAG

Nov. 9 SCCWRP Microplastics Series (Week 4 of 5)

Nov. 10	CASA Collection Systems Workgroup
---------	-----------------------------------

Nov. 12	CASA Air Quality, Climate Change, and Energy Workgroup
---------	--------------------------------------------------------

Nov. 16	SCCWRP Microplastics Series (Week 5 of 5)
---------	-------------------------------------------

Nov. 17	SWB Meeting
---------	-------------

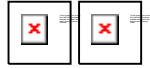
Nov. 19	CASA Regulatory Workgroup
---------	---------------------------

Dec. 1	SWB Meeting (Toxicity Adoption)
--------	---------------------------------

Dec. 2 & 3	OEHHA Climate Change Symposium
------------	--------------------------------

Dec. 3	CA Water Quality Monitoring Council Meeting
--------	---------------------------------------------

Dec. 4	SCCWRP Commission Meeting
--------	---------------------------



[Visit our website](#)

CASA | 1225 8th Street, Suite 595, Sacramento, CA 95814

To unsubscribe, e-mail: jvoskuhl@casaweb.org