CONTRA COSTA CLEAN WATER PROGRAM

MANAGEMENT COMMITTEE MEETING AGENDA
Wednesday, May 18, 2022
1:30 PM to 3:30 PM
Join Zoom meeting:

https://zoom.us/j/95398909729?pwd=blhxUkthU1pjYkFjREhncXJtV2NTQT09

Meeting ID: 953 9890 9729 Passcode: 632133 Dial: 1 669 900 6833
One tap mobile: +16699006833,,95398909729#,,,,*632133# US (San Jose)

If you require an accommodation to participate in this meeting, please contact Michael Burger at 925-313-2360 or at michael.burger@pw.cccounty.us, or by fax at 925-313-2301. Providing at least 72 hours notice (three business days) prior to the meeting will help to ensure availability.

VOTING MEMBERS (authorized members on file)	
City of Antioch	Phil Hoffmeister **(Chair)**
City of Brentwood	Meghan Oliveira **(Vice-Chair)**/ Allen Baquilar
City of Clayton	Laura Hoffmeister/ Reina Schwartz
City of Concord	Bruce Davis/ Kevin Marstall
Contra Costa County	Michele Mancuso/ Tim Jensen/ Allison Knapp
CCC Flood Control & Water Conservation District	Tim Jensen/ Michele Mancuso/ Allison Knapp
Town of Danville	Bob Russell/ Steve Jones/ Mark Rusch
City of El Cerrito	Stephen Prée/ Will Provost/ Yvetteh Ortiz/ Christina Leard
City of Hercules	Mike Roberts/Jeff Brown/Jose Pacheco/Nai Saelee/F. Kennedy
City of Lafayette	Matt Luttropp/ Tim Clark
City of Martinez	Khalil Yowakim
Town of Moraga	Frank Kennedy/ Shawn Knapp
City of Oakley	Billilee Saengcalern/ Frank Kennedy/ Andrew Kennedy
City of Orinda	Scott Christie/ Kevin McCourt
City of Pinole	Misha Kaur
City of Pittsburg	Jolan Longway/ Richard Abono
City of Pleasant Hill	Philip Ho/Ananthan Kanagasundaram/Frank Kennedy
City of Richmond	Joe Leach/ Mary Phelps
City of San Pablo	Amanda Booth/ Karineh Samkian/ Sarah Kolarik/ Jill Mercurio
City of San Ramon	Kerry Parker/ Robin Bartlett/ Maria Fierner
City of Walnut Creek	Lucile Paquette/ Neil Mock/ Steve Waymire

PROGRAM STAFF AND CONSULTANTS	
Courtney Riddle, Program Manager	Andrea Bullock, Administrative Analyst
Karin Graves, Sr. Watershed Planning Specialist	Alina Constantinescu, Consultant
Dan Cloak, Consultant	Mitch Avalon, Consultant
Liz Yin, Consultant	Michael Burger, Clerk
Lisa Austin, Consultant	Lisa Welsh, Consultant
Yvana Hrovat, Consultant	

NEXT MANAGEMENT COMMITTEE MEETING

Wednesday, June 15, 2022, 1:30 PM
Contra Costa Clean Water Program
MANAGEMENT COMMITTEE MEETING AGENDA
Wednesday, May 18, 2022

AGENDA

Open the Meeting/Introductions/Announcements/Changes to the Agenda: **1:30**
Introduction of Yvana Hrovat with Haley Aldrich

Public Comments: Any member of the general public may address the Management Committee on a subject within their jurisdiction and not listed on the agenda. Remarks should not exceed three (3) minutes.

Regional Water Quality Control Board Staff Comments/Reports:

Consent Calendar: **1:35**
All matters listed under the CONSENT CALENDAR are considered to be routine and can be acted on by one motion. There will be no separate discussion of these items unless requested by a member of the Management Committee or a member of the public prior to the time the Management Committee votes on the motion to adopt.

A. APPROVE Management Committee meeting summary (Chair)
1) April 20, 2022 Management Committee Meeting Summary

B. ACCEPT the following subcommittee meeting summaries into the Management Committee record: (Chair)
1) Administrative Committee
   - April 5, 2022
2) PIP Committee
   - April 5, 2022
3) Monitoring Committee
   - March 14, 2022
4) Municipal Operations Committee
   - February 15, 2022
5) Development Committee
   - March 23, 2022

Presentations: **1:40**

A. Processing Conditionally Approved Budget Items (K. Graves)
   a. See staff report for background information

B. Status of Alternative Compliance System project (A. Booth)
   a. See staff report for background information

C. Update on Committee Membership, Rosters, and Voting Members (K. Graves)
   a. See staff report for background information

D. Monsanto Settlement Agreement Cost Estimates (L. Welsh)
    a. See staff report for background information

E. AGOL Needs Assessment Report (E. Yin)
    a. See staff report for background information

Actions: **3:00**

A. ACCEPT nomination(s) for Chair of the Management Committee, CONDUCT a vote of the nominee(s), and APPROVE the election of the Chair for Fiscal Year 2022/23.
B. ACCEPT nomination(s) for Vice-Chair of the Management Committee, CONDUCT a vote of the nominee(s), and APPROVE the election of the Vice-Chair for Fiscal Year 2022/23.
C. APPROVE assignments to Management Committee subcommittees and BAMSC subcommittees as shown in Exhibit A.

Reports: 3**:05**

A. Status of MRP 3.0 Final Order (K. Graves)
B. Annual Report changes from prior year (L. Yin)

Updates: **3:25**

A. Personnel Update (K. Graves)
B. BAMSC Steering Committee meeting (K. Graves)
C. Status of AGOL Assessment project (L. Yin/K. Graves)

Information: **3:20**

A. Committee and subcommittee meeting calendar for FY 22/23
B. AGOL entry request: Watershed Mgmt Areas Control Measures Loads Reduction Annual Report

Old/New Business: **3:25**

Adjournment: Approximately 3:30 p.m.

Attachments

Consent Items

1. *Management Committee Meeting Summary April 20, 2022*
2. *Administrative Committee Meeting Summary April 5, 2022*
3. *PIP Committee Meeting Summary April 5, 2022*
4. *Monitoring Committee Meeting Summary March 14, 2022*
5. *Municipal Operations Committee Meeting Summary February 15, 2022*
6. *Development Committee Meeting Summary March 23, 2022*

Presentation Items

7. *Staff Report on Processing Conditionally Approved budget items*
8. *Staff Report on Alternative Compliance System project*
9. *Regional Alternative Compliance Summary Report*

10. *Staff Report on Committee Membership*
11. *Administrative Committee meeting membership chart*
12. *Exhibit A: Committee Membership (to be handed out at the meeting)*
13. *Staff Report on Monsanto Settlement Agreement*
14. *Monsanto Cost Memo*
15. *Staff Report on AGOL Needs Assessment Report*
16. *AGOL Needs Assessment Report*

Information
17. *Meeting calendar for FY 22/23*

UPCOMING CCCWP MEETINGS All meetings **will not** be held at 255 Glacier Drive, Martinez, CA 94553, but will be held virtually	
June 7, 2022 **1st Tuesday**	Administrative and PIP Committee Meeting **9:30 a.m. – 12:00 noon**
June 13, 2022 **2nd Monday**	Monitoring Committee Meeting, **10am – 12 noon**
June 14, 2022 **3rd Tuesday**	Municipal Operations Committee Meeting, **10am-12 noon**
May 25, 2022 **4th Wednesday**	Development Committee Meeting, **1:30 p.m.-3:30 p.m.**
June 15, 2022 **3rd Wednesday**	Management Committee Meeting, **1:30 p.m.-3:30 p.m.**
BAMSC (BASMAA) SUBCOMMITTEE/ MRP 3.0 MEETINGS Times for the BAMSC (BASMAA) Subcommittee meetings are subject to change.	
July 1, 2022	Effective date of MRP 3.0
1st Thursday	Development Committee, 1:30 – 4:00 p.m. (even months)
1st Wednesday	Monitoring/POCs Committee, 9:30 a.m. – 3:00 p.m. (odd months)
4th Wednesday	Public Information/Participation Committee, 1:30 – 4:00 p.m. (1st month each quarter)
4th Tuesday	Trash Subcommittee, 9:30 a.m.-12 noon (even month)

CONTRA COSTA CLEAN WATER PROGRAM

MANAGEMENT COMMITTEE MEETING MINUTES

04-20-2022

Attendance:

MUNICIPALITY	ATTENDED	ABSENT
City of Antioch	Phil Hoffmeister (Chair)	
City of Brentwood	Meghan Oliveira	
City of Clayton		Laura Hoffmeister
City of Concord	Bruce Davis	
Town of Danville	Bob Russell	
City of El Cerrito	Stephen Prée, Christina Leard	
City of Hercules	Nai Saelee	
City of Lafayette	Matt Luttropp	
City of Martinez	Khalil Yowakim	
Town of Moraga	Frank Kennedy	
City of Oakley	Frank Kennedy	
City of Orinda	Scott Christie	
City of Pinole	Misha Kaur	
City of Pittsburg	Jolan Longway	
City of Pleasant Hill	Philip Ho, Frank Kennedy	
City of Richmond		Joe Leach
City of San Pablo	Amanda Booth, Karineh Samkian	
City of San Ramon	Kerry Parker	
City of Walnut Creek	Lucile Paquette	
Contra Costa County	Michele Mancuso, Allison Knapp	
CCC Flood Control and Water Conservation District	Tim Jensen	

Program Staff: Karin Graves, Andrea Bullock, Michael Burger

Program Consultants: Mitch Avalon, Liz Yin, Dan Cloak, Lisa Welsh, Yvana Hrovat, Alina Constantinescu, Sandy Matthews, Nancy Gardiner

Members of the Public/Others/Guests:

Introductions/Announcements/Changes to Agenda: Due to the Covid-19 pandemic, the meeting was conducted by video-conference call.

Public Comments: No members of the public called in.

Regional Water Quality Control Board Staff Comments/Reports: Regional Board staff did not call in.

CONTRA COSTA CLEAN WATER PROGRAM

1. **Roll call was taken and the meeting was convened by the Chair at 1:30 p.m.**

2. **Announcements:** There were no changes to the agenda. Michele Mancuso (Contra Costa County) noted that members on the BASMAA Trash Subcommittee mailing list will be receiving an email with an agenda for a meeting to discuss trash and homelessness for the Revised Tentative Order hearing.

3. **Consent Calendar:** Bruce Davis (Concord) motioned to approve with no changes, Scott Christie (Orinda) seconded. The Chair called for a vote. There were no objections or abstentions. The motion passed unanimously and the consent calendar was approved.

4. **Presentations:**

    a. **Reports on Grant Opportunities (K. Graves):** Karin Graves displayed the memo that was included in the packet. This was shared with the Administrative Committee at the beginning of the month. She proceeded to review the grant opportunities and noted at the end of the meeting there would be an action to appropriate funds for creating a grant application.

    The Public Works Department was directed by the Board of Supervisors to investigate the Bipartisan Infrastructure Law. Staff had looked into the contents of the law and began researching qualifying projects.

    The EPA will provide $1.2B nationally through the Brownfields Remediation Program. Eligible activities include inventories of potential brownfield sites, research on prior site use, soil sampling, and planning and community involvement. This could assist with funding planned PCB source property monitoring.

    The San Francisco Bay Water Quality Improvement Fund (SFBWQIF), issued by the United States Environmental Protection Agency (EPA), requires a 50% match, and the Request for Applications is tentatively scheduled for April or May. The application term opens up every 2 years, so an application would need to be created soon to qualify this Fiscal Year. These grants could be used to help offset the costs of trash monitoring and trash reduction projects as required by the MRP. Region 9 EPA staff have urged countywide programs to apply for these grants to help pay for new trash requirements. Collaboration with other regions to design and implement monitoring could potentially occur. A collaborative application through SFEI was discussed. PCBs reduction projects may also qualify for these grants.

    Rebuilding American Infrastructure Sustainably and Equitably (RAISE) grants are available through a competitive program that provides funding ($7.5B nationally over 4 years). These grants are generally for road and rail projects through the Department of Transportation, but some capital projects could qualify if they meet standards for

reducing climate change or revitalizing habitats. Regionally, the Program is required to treat 57.5 acres using Green Infrastructure and these projects could potentially qualify for these grants if they satisfy all the criteria.

CWSRLF is receiving $1.28M in clean water funding over 4 years. 49% will be in the form of forgivable loans for qualifying applicants. Historically, these have gone to waste water and drinking water agencies, but the state is looking to expand qualifying projects to allow for stormwater projects. These funds could be used on projects to satisfy the amount of acres greened required under the MRP.

IRWMP was investigated, but it was determined the projects that qualify for these grants were not a good fit for Stormwater programs. Stormwater programs have been unsuccessful in the past applying for these grants, so would be an inefficient use of staff time and resources.

Staff is looking to gauge permittee interest in pursuing identification of projects and applying for grants to fund permit requirement activities. The current recommendation from staff is to continue to coordinate with other Bay Area stormwater programs to apply for regional grants. In addition, staff recommends further investigation into the Brownfields Assessment grants and CWSRLF forgivable loans for future years.

There will be about $30k in unspent funds in the LWA line item and $30k in the BAMSC line item in this Fiscal Year's budget which could potentially pay for 2 different grant applications: it was recommended that one grant application be a regional application and one be a Program level application. The annual cost estimate for managing grants would be about $25k per year.

Michele Mancuso (Contra Costa County) asked if there was a sense of BAMSC interest in any of the grant programs. Karin Graves noted that there was interest from BAMSC to work with SFEI to apply for SFBWQI grants to help fund trash monitoring projects on a regional scale. Dan Cloak asked if there had been any follow-up from the Water Board's Supplemental Environmental Projects program. This program was used to fund projects from fines paid by permittees that were in noncompliance. Karin Graves noted that this was something that could be investigated. Lucile Paquette (Walnut Creek) noted that this sounded like the RMP SEP funds. She further asked what kind of process would be used to determine which opportunities to follow up on. Program subcommittees have been offering input, but it was suggested that additional input from Permittees was desired. Any grant proposal would be brought to the Management Committee before moving forward with an application. Lucile Paquette (Walnut Creek) asked if the alternative compliance pilot project could match some of the grant funding opportunities. The Committee discussed the potential of funding this project with grants.

b. **Status of MRP 3.0 Final Order (M. Avalon):** The Regional Board would be accepting a list of corrections to the Revised Tentative Order. Mitch Avalon noted that this was not to

propose changes to the Permit's content or language, but rather for typographical mistakes or incorrect page number references. List of corrections and errata would need to be sent to the Regional Board by April 25 (Permittees can send to Karin Graves or Mitch Avalon). The list of speakers for the hearing would need to be sent to the Regional Board by May 6. Power Point presentations would need to be sent to the Regional Board by May 9.

There will be no written comments allowed, only oral testimony. There may be an opportunity to submit suggested language changes, but the availability of this option was unclear. The testimony will occur over 1 day, starting at 9:00 a.m. on May 11. Regional Board staff will begin by giving a presentation on what they have changed in the Revised Tentative Order as a response to comments. A permittee presentation would follow and is limited to 30 minutes to cover all issues. There will be a specific time allotted for elected officials, similar to the Draft Tentative Order Workshop. The hearing will not be ordered by provision, but the presentation should be organized in logical sequence. BAMSC will give the overall presentation and Permittees will need to use the 2-3 minute public comment period to bring up other issues. This will be a hybrid meeting format, but may be voice only.

Going forward, staff will review top issues with the Revised Tentative Order. BAMSC key points will also be reviewed. Staff would then coordinate finalizing public comments, identifying speakers, and coordinating with speakers.

The top issues are much the same as the Draft Tentative Order. Road maintenance requirements will effectively reduce the quality of the road pavement conditions index. This will increase cost of investment on old roads and adversely impact disadvantaged communities. Utility trenching is a new requirement and new responsibility and while this is unlikely to be a big issue, it is another item that must be monitored by Permittees.

Monitoring costs have increased in the Revised Tentative Order. The number of water quality samples required by the permit increased from 30 to 50, with guidelines on the number of samples changing from per storm to per storm event. Receiving water limitations monitoring is a new program and new cost.

The scheduled target dates for 90% and 100% trash reduction were unchanged (2023 and 2025 respectively). Without trash credits/offsets, additional "other actions" will be needed. Private land draining to a public drainage system must have full trash capture devices or equivalent.

Homelessness requirements remain unchanged, but primarily comprise of data gathering and reporting.

Minimum GI acres treated was reduced by 20% (69 acres to 57 acres). PCBs requirements was also reduced by 20% (from 1119 acres to 664 acres).

Firefighting foam reporting remains the same as MRP 2.0.

Lucile Paquette (Walnut Creek) asked for clarification: did the minimum GI acres reduction apply to C.12 requirements or the C.3.j requirements. Mitch Avalon confirmed that this reduction applied to the C.3.j requirements.

BAMSC created draft key points. Road maintenance comments will focus on the feasibility of installing GI within existing road right of way. Most roads have no room to accommodate installing GI projects. They will be requesting that utility trenching be exempt on this requirement. They will be asking to maintain reduced maximum cap of acres treated but also reduce the ratio of GI acres to population for an equitable distribution of acres among permittees. They will request an extension on the time to complete sampling beyond the permit term. Their request on trash is to extend the deadline for each trash load reduction threshold by 1 year. There is still a question of what they will focus on for PCBs.

The Select Committee discussed the key issues and made some recommendations. For road maintenance, the required treatment area should be a percentage of the amount calculated. Also, in recognition that cold in-place recycling is an environmentally superior method, this type of road reconstruction should be exempt or given a reduction in stormwater treatment requirements. In addition, if the State trash requirements do not preclude the use of trash credits, then MRP 3.0 should allow the use of credits up until the time the State disallows them. There is a question on how to best address trash credits, but focusing too much on this topic could jeopardize the availability of such credits. Mitch Avalon gave examples of potential use and efficacy of trash credits.

Under their comments on PCBs, the Select Committee recommends that MRP 3.0 should focus on reducing PCBs loads in places with the highest yield. The permit should be amended to include, as an option, a program to accelerate or assist processing referral properties for remediation that would produce a load reduction equivalent to the current requirement. Monitoring under MRP 2.0 was difficult to accomplish, with additional requirements in MRP 3.0 it is unlikely to be feasible to complete all the monitoring. They also recommended testimony regarding trash that originates outside of Permittee jurisdiction (such as CalTrans property).

The PMA Subcommittee noted that Permittees don't have authority over utilities and utilizes should be monitored and regulated by the Public Utilities Commission. Permittees have limited authority to regulate trash on private property; the only time Permittees can require an owner of developed or undeveloped land to install full trash

capture is when the owner requests an entitlement. Implementation of this requirement is dictated solely on the timing of entitlement requests for private property in very high, high and moderate trash generating areas. The Committee discussed the current members of the PMA Subcommittee. The Committee discussed the ongoing relationship between the Program and the Water Board.

Other options to consider for the key issues is to provide an exemption or reduce requirements for road work within designated disadvantaged communities. In addition, since BAMSC is requesting to extend the deadline for trash reduction targets by one year, this extension should include the credits and direct discharge control plan as well.

Next steps are to finalize the public comment items at the next Management Committee meeting, identify speakers, and coordinate with them.

The next CCEAC meeting will be held on April 21, the next PMA meeting will also be April 21. The BAMSC Steering Committee meeting will be held April 28 and will likely be the final coordination meeting. The Chair asked if the BAMSC talking points would be presented to CCEAC and PMA. Mitch Avalon noted that he would present them at the CCEAC meeting and the PMA Subcommittee would present them at the PMA meeting. Scott Christie (Orinda) asked if there is a way to prioritize the key items that would inform the Water Board which are the most important. He also asked if there was a consensus on which items were of the highest concern. Mitch Avalon reminded the Committee that a survey of Permittees had been done with the Tentative Order, resulting in trash monitoring, GI requirements, and cleanup credits being the highest concern. Of the 5 key topics currently under consideration, the majority were in line with topics of significant concern to Permittees. The Committee discussed narrowing down the key topics further by consolidating speaker topics, given the short time allotted to public comments.

Mitch Avalon asked if there were any other topics that should be added to the list. Lucile Paquette (Walnut Creek) suggested a speaker request trash generation credits/offsets for cleaning up homeless encampments. The Chair asked if this should be included in a general comment regarding requirements surrounding homelessness, but Mitch Avalon suggested that a speaker with specific experience in this area would be more impactful.

The Committee supported the lists of key topics provided by the Select Committee and the PMA Subcommittee, adding the topics of homelessness and Water Board assistance with PCBs property remediation.

c. **Report on Monsanto Settlement Agreement (M. Avalon):** The court gave preliminary approval to the settlement agreement on March 14. Notices of the settlement should be received by the City manager or attorney soon. The deadline for opting out is June 17

(roughly 60 days from the date of receipt). Doing nothing would count as accepting the agreement and terms, including absolving Monsanto of future claims. Class members that wish to file a separate claim must opt out of the agreement. The total Contra Costa County payout is about $9M, with all Permittees other than Clayton and Danville receiving some funds. Mitch Avalon displayed a spreadsheet that listed the payouts for each Permittee; Permittees that receive a large payout from the TMDL fund would receive a smaller payout from the Monitoring fund. Program Staff should have information regarding the cost to remediate PCBs in the future before the next Management Committee meeting so that Permittees can determine if the payout is reasonable. The County Administrator and will be discussing the County's decision to opt out or not at the PMA meeting on April 21. The County may have the opportunity to file a claim on behalf of all Permittees.

d. **Status of Alternative Compliance System Project (M. Avalon/A. Booth):** This topic was postponed.

5. **Actions:**

   a. **APPROVE appropriation of $30,000 to prepare a grant application to fund a MRP 3.0 compliance project:** Lucile Paquette (Walnut Creek) motioned to APPROVE the action item, Bob Russell (Danville) seconded. The chair called for a vote. There were no objections or abstentions. The motion passed unanimously and the appropriation of funds to prepare a grant application was approved.

6. **Reports:**

   a. **Administrative Committee membership (M. Avalon):** The Committee assignment spreadsheet was displayed. Mitch Avalon noted that there had been a change in 2020 due to a retirement that had affected Permittee membership on the Administrative Committee. The Administrative Committee has historically been balanced geographically to ensure broad representation of Permittees. It must have at least 1 Designated Large Municipality (DLM). Brentwood was anticipated to act as Chair and represent East County. Martinez would represent Central/North County. Richmond will represent West County. Lafayette and Moraga will represent South County. Contra Costa County and the Flood Control District are permanent members. The Chair asked if this would come back before the Committee later. Mitch Avalon noted that this would return in May when a Chair and Vice Chair would be nominated and approved.

7. **Updates:**

   a. **Personnel Update (K. Graves):** Karin Graves announced that department interviews for the Watershed Management Planning Specialists would occur next Tuesday. There are 7 confirmed interviews and candidates have completed first round interviews with the

County Human Resources Department. All department interviews would happen on a single day and job offers were anticipated to follow soon after.

Scott Christie (Orinda) asked if there was an update on the Program Manager. Karin Graves confirmed that there were no new updates and that any long term leave issues are handled by the County's Risk Management Department not the Public Works Department.

Amanda Booth (San Pablo) asked if an item to discuss strategic planning for staffing the CCCWP could be added to the Management Committee agenda after May. Mitch and Karin agreed to add this item, likely at the June meeting.

b. **BAMSC Steering Committee meeting (K. Graves):** This topic was partially discussed during other presentations. At the last meeting, the Annual Report template was submitted to the Water Board and BAMSC was notified that it was received.

c. **Status of AGOL Assessment project (L. Yin/K. Graves):** Liz Yin informed the Committee that the report was currently in draft form and staff was working on a final report. A presentation on findings and next steps should be ready for the next Management Committee meeting.

8. **Information:**

   a. **Need duly authorized representative letter and committee membership form by May meeting:** This topic was partially discussed under a previous agenda item. Sheets for sub-committee membership sign-ups will be distributed in the next 2 weeks.

9. **Old/New Business:** Scott Christie (Orinda) asked if Dan Cloak could attend a Planning Directors meeting on behalf of the Program. Karin Graves noted that the Program had been in touch with the Planning Directors regarding staff giving a presentation at an upcoming meeting. The Program also awarded a contract to new technical consultants and will be transitioning for related work by July 1, 2022. Lucile Paquette (Walnut Creek) noted that the C.3 training could be a good place for the city planners to receive additional information regarding the new permit requirements.

10. **Adjournment:** The Chair adjourned the meeting at 3:20 p.m.

CONTRA COSTA CLEAN WATER PROGRAM

ADMINISTRATIVE COMMITTEE SUMMARY
Meeting Minutes
Tuesday, April 5, 2022
10:30 – 12:00

VOTING MEMBERS	ATTENDED	ABSENT
City of Antioch	Phil Hoffmeister (Chair) (late)	
City of Brentwood	Meghan Oliveira (Vice-Chair)	
Town of Danville	Bob Russell	
Contra Costa County	Michele Mancuso	
CCC Flood Control and Water Conservation District	Tim Jensen	
City of Hercules	Jeff Brown	
City of Pleasant Hill	Frank Kennedy	
NON-VOTING MEMBERS		
City of Walnut Creek	Lucile Paquette	

Program Staff: Karin Graves, Andrea Bullock, Michael Burger
Consultants: Mitch Avalon
Guests: Amanda Booth (City of San Pablo), Laura Hoffmeister (City of Clayton)

1. **Convene meeting and roll call (Chair):** The Vice-Chair convened the meeting at 10:34 a.m.

2. **Announcements or Changes to the Agenda (Committee):** There were no changes to the agenda. Andrea Bullock announced that the CASQA quarterly webcast was scheduled for April 7 and an invitation link would be emailed on April 6. It was announced that the SUA resolutions were due on April 1, but there were a number of Permittees that had failed to send in their resolutions. Mitch Avalon noted that Flood Control had been in contact with some of the Permittees who had not entered their resolutions already.

3. **Approval of March 1, 2022 Meeting Minutes (Chair):** The Vice-Chair motioned to approve the minutes with no changes, Michele Mancuso (Contra Costa County) seconded. The Vice-Chair called for a vote. There were no objections or abstentions. The motion passed unanimously and the meeting minutes were approved.

4. **Report on Grant Opportunities (K. Graves):** Karin Graves noted there was a memo in the agenda packet outlining the information on grant opportunities in increased detail. The Program had been

informally tracking grants and identified the Bi-Partisan Infrastructure Law (BIL) and San Francisco Bay Water Quality improvement Fund (WQIF) grant opportunities. The County Board of Supervisors instructed each department to review the BIL for potential projects.

The first grant opportunity noted was the Brownfields Remediation Program. Offering $1.2B nationally, the grant was to provide funding and technical assistance to assess and clean-up contaminated properties. Part of the new MRP 3.0 permit requirements is to evaluate areas for continued PCB contamination. This grant program could be used to offset costs to undertake this monitoring.

WQIF grants could be used to assist in the funding of Trash Monitoring and Reduction Projects throughout the county. These grants would require a funding match by applicants. Permittees were required to verify whether trash control actions to date have effectively prevented trash from their jurisdictions from entering receiving water. There was a projected $25M available for Bay Area municipalities and Region 9 EPA staff have urged countywide programs to apply for the grants to help fund new trash monitoring requirements for MRP 3.0. Municipalities that pair trash monitoring projects with trash reduction projects would be given increased consideration for grant funds. These funds could also be used on projects to reduce PCB loads to the Bay as required by MRP 3.0. Contra Costa Permittees will be required to collectively reduce their PCB loads by up to 203 grams/year. These grants are issued every 2 years.

The Rebuilding American Infrastructure Sustainably and Equitably grants are transportation grants that are for road, rail, and other surface transportation projects and make $7.5B available nationally over 4 years. Eligible projects could include managing stormwater runoff for the purposes of improving habitats and addressing climate change. The application window for these grants is expected to be the first quarter of every year.

Clean Water State Revolving Loan Fund is funding from the Federal Government and is distributed to State water utilities and municipal entities. Additional information on applicant and project qualifications specifics was needed. Typically this funding has gone to wastewater and drinking water agencies, but it was indicated that a survey to collect information on unfunded stormwater projects to justify funding more stormwater projects moving forward is being conducted by the California State Water Board. The BIL originally included grant funding for stormwater planning and development but these grant areas were not funded with the last federal appropriation.

The Integrated Regional Water Management Grant Programs were also investigated, but the recommendation was that the projects and timelines for these grants were not a good fit for stormwater programs.

Program Staff was looking for Permittee interest in applying to any of these grants, specifically the WQIF grants (WQIF grants are the only grants anticipated to accept applications this year). The cost for application on these grants could be drawn from unspent funds identified in the Fiscal Year 21/22 budget. The roughly $30,000 in consultant and staff time could potentially allow the Program to apply for 2 grants. With direction from the Committee, more information on requirements and eligibility could be investigated. Mitch Avalon noted that there was an action item on the proposed Management Committee agenda for April 20.

Lucile Paquette (Walnut Creek) asked if there was a strategy for applying for the trash grant as a county or region wide effort. Karin Graves noted that two applications would likely be filed: one for Bay Area wide trash monitoring and one for a Program specific trash reduction project. Lucile Paquette (Walnut Creek) noted that the implementation of these projects would likely fall on already challenged areas/Permittees and further suggested that other ways to assist these areas would be desirable.

The Committee recommended to the Management Committee that the Program continue in the direction of investigating the WQIF grant application this Fiscal Year.

5. **Report on Monsanto Settlement Agreement (M. Avalon):** The Monsanto settlement agreement received preliminary approval by the court on March 14, 2022. As part of this preliminary approval, the court identified that there was a legitimate class action lawsuit and found that the settlement was reasonable in its calculations for awards. All Contra Costa County Permittees (other than Orinda and Clayton) were members of the class. Any class member that receives funds agrees to release Monsanto from any future legal action regarding PCB contamination. Notices will be mailed within 14 days of approval, or as directed by the court. The court set a deadline of April 4 to submit a schedule to implement the settlement agreement. Notices would be mailed to the city attorneys or managing executives of each class member. Any requests to "opt out" must be submitted within 60 days of receipt of the notice. It was suggested that a "blow up" provision may be present in the agreement: if 51% of the class members opt out, the settlement could be dissolved.

   Lucile Paquette (Walnut Creek) asked if Mitch Avalon was bringing the topic to the PMA or if it was just expected to be discussed. Mitch Avalon noted that there may be a number of Permittees that are interested in opting out and would likely bring the topic to the PMA; any city manager could place a discussion item on the agenda. It was further suggested that if the County planned to opt out, it would likely bring the topic to the PMA as it would have implications to all Permittees. The Committee discussed the potential avenues for bringing this topic to the PMA.

   Frank Kennedy (Pleasant Hill) asked if the displayed payout spreadsheet had been sent out before. Mitch Avalon confirmed that it had been sent out as an attachment to the agendas on several occasions as well as the agendas of other committees.

   Michele Mancuso (Contra Costa County) noted that County Counsel was working on the evaluation of the settlement and were very aware of the timeline and had asked for all correspondence from the Program's attorney.

6. **Status of MRP 3.0 Final Order (M. Avalon):** The PMA subcommittee met April 4. The final permit release and hearing notice will be April 11, 2022. The Final permit adoption hearing will be May 11 and 12, 2022. The effective date of the permit will be July 1, 2022.

   No written comments would be allowed, and the hearing would be for oral testimony only. However, any proposed language changes during the hearing would probably be allowed to be submitted in writing to the Water Board. The hearing would otherwise follow the format of previous

hearings. Day one would be for testimony and day two would be for Board deliberation. A list of speakers would need to be submitted to the Regional Board one week in advance of the hearing date. PowerPoint presentations would need to be submitted to the Regional Board two days in advance. The hearing would likely be a hybrid of in-person and remote access. The schedule for May 11 would begin with regional board presentations first, permittee presentations second, and other testimony third.

To develop testimony, three coordination meetings were scheduled with BAMSC, Regional Board staff, and BAMSCSC. Clean Water Program staff would evaluated the changes on April 11. The Select Committee would look at these changes and discuss a strategy on April 18. Staff would then assemble background information on these changes to be used in testimony and talking points. Speakers would need to be provided by the Management Committee, CCEAC, and PMA. Staff from those speakers' organizations would develop testimony based on local issues. The testimony schedule would be determined by the Regional Board.

General beneficial changes expected: some reduced or simplified reporting requirements, reduced frequency of some reporting requirements, clarified permit language for some requirements, and delayed implementation of some requirements.

Significant beneficial changes expected: reduced maximum GI per large population permittees from 10 acres to 5 acres (still a minimum 0.2 acres per jurisdiction), reduced C.12.c metric from 1,119 acres to 664 acres, changed firefighting foam reporting to the same as MRP 2.0, modified special projects category C consistent with State Density Bonus law, and reduced number of trash monitoring sites.

Beneficial delays in schedule expected: delayed implementation changes to C.3.b for one year after effective date, delayed cost reporting framework submission date to June 30, 2023 (from December 31, 2022), delayed trash outfall monitoring plan by 1 year and monitoring by 2 years, delayed receiving water monitoring by 3 years, delayed PCBs control measure plan from Sept 2022 to March 2023. However, climate change adaptation report moved up from 2027 to 2026. Laura asked if the climate change adaptation report was something that would be done at the Program level or if it would be handled by each Permittee. Mitch noted that the Program could aggregate the report at the Program level, but actions needed to be taken at the Permittee level.

Significant additional requirements expected: added utility trenching to road reconstruction requirements, increased the number of samples for LID monitoring, and added new receiving water POC monitoring and report to assess compliance with receiving water limits. Laura asked if water districts had their own permits and wouldn't the utilities be responsible under that permit. Mitch noted that the water districts had permits for their waste water plants. This could be an argument against this provision (utility trenching).

No significant changes expected: road maintenance/reconstruction requirements, trash load reduction requirements, trash source control, creek cleanup, and direct discharge credits/offsets, and homeless requirements.

MRP 3.0 implications to CCCWP budget: the budget threshold is set at $3.5M with a consistent return to source of SUA funding; any expenditures over $3.5M were taken from the reserve. The approved Fiscal Year 22/23 budget was about $750k over the $3.5M threshold with advance work for MRP 3.0 in Fiscal Year 21/22 at $175k. The total MRP 3.0 cost was about $4.4M ($925M over threshold). The reserve fund is currently about $3M. Depletion of reserve fund was expected before the end of MRP 3.0 if the current burn rate continued.

Laura Hoffmeister (Clayton) asked for clarification of the total MRP 3.0 cost. Mitch Avalon clarified that the $925k over the $3.5M threshold was the Program costs and it was suggested that Permittees may have additional costs of their own in addition to these.

Lucile Paquette (Walnut Creek) asked if the advance work tasks were still going to be done now that certain dates were expected to be pushed back. Mitch Avalon confirmed that these would still be done but noted that they may be pushed back as well.

Laura Hoffmeister (Clayton) asked if the slideshow that was presented was the same as the one in the packet. Mitch Avalon noted that it had been updated for the PMA meeting yesterday. This slideshow would be sent out to Permittees to give to their city managers. Laura Hoffmeister (Clayton) asked if the increased LID monitoring was pre-construction. Mitch Avalon indicated it was to assess the effectiveness of LID features and was in addition to any maintenance programs. These reports could potentially be submitted by the Program, but it was unclear. The Committee discussed the metrics for LID and it was stated that it was in the Permit language. A technical advisory group was developing LID monitoring plans at a county level.

7. **Approve April 20, 2022 Management Committee Agenda (Committee):** Mitch Avalon gave a brief overview of the agenda, noting each of the presentations, action items, and reports. There were no comments or changes to the agenda, but the Committee discussed the potential to remove Presentation Item D.

   Jeff Brown (Hercules) motioned to approve the agenda, Michele Mancuso (Contra Costa County) seconded. The Vice-Chair called for a vote. There were no objections or abstentions. The motion passed unanimously and the agenda was approved with Presentation Item D to be removed if necessary.

8. **Old/New Business (Committee):** There was no old or new business.

9. **Adjournment:** The Vice-Chair adjourned the meeting at 12:04 p.m.

CONTRA COSTA CLEAN WATER PROGRAM

PUBLIC INFORMATION/PARTICIPATION COMMITTEE
MEETING MINUTES
Tuesday April 5, 2022 9:30 am – 10:30 am

Zoom Meeting

Voting Members	**Attended**	**Absent**
City of Antioch	Julie Haas-Wajdowicz	
CCC Flood Control and Water Conservation District	Melinda Harris (Chair)	
City of Orinda	Kevin McCourt	
City of San Ramon	Kerry Parker	

Administrative committee Members acting as PIP Members	**Attended**	**Absent**
City of Brentwood	Meghan Oliveira	
Town of Danville	Bob Russell	
Contra Costa County	Michele Mancuso	
City of Hercules		Jeff Brown
City of Pleasant Hill	Frank Kennedy	

Program Staff: Andrea Bullock, Michael Burger, Karin Graves

Consultants: Mitch Avalon, Hilary Pierce

Guests: Anna Minard (Sagent), Finnesha Eastman (Sagent), Matt Bolender (Mr. Funnelhead), Amanda Booth (City of San Pablo), Lucile Paquette (City of Walnut Creek)

1. **Introductions, Announcements, and Changes to Agenda (Chair):** There were no announcements or changes to the Agenda. The Chair requested the committee introduce themselves.

2. **Consent Items Approval (Chair):** Kerry Parker (San Ramon) moved to approve the consent calendar items, Frank Kennedy (Pleasant Hill) seconded. The Chair called for a vote. There were no objections or abstentions. The motion passed unanimously and the consent calendar items were approved.

3. **Funding for Mr. Funnelhead Youth Outreach (M. Bolender):** Matt Bolender began by introducing himself and displaying a slide show. For the past 26 years, Matt Bolender has been running the Mr. Funnelhead program with a focus on schools (grades 1-5) and commercials. There are 3 shows that are rotated. In October 2020, the shows were conducted through Zoom due to the Covid-19 pandemic. With schools reopening and restrictions easing, the plan is to return to in-person shows next fall. The funding from the OPP has seen a decline since the beginning of the program in 1995. This year's budget is ~$47k. With this level of funding, it is uncertain what the future of the Mr. Funnelhead program looks like.

Matt Bolender discussed the challenges faced by the outreach program during the pandemic. There is a high demand for public events, but the decrease in budget is causing a shortfall in product availability. The budget breakdown for the Mr. Funnelhead program was displayed and the places where the program may have to reduce services to accommodate shortfalls was discussed. The current projected funding was $57k with a projected budget of $56.5k. Matt Bolender discussed reducing the number of or taking a break from school shows for the next year in order to build up funding. He noted that in two months, with the close of the school year, a final break down of budget numbers would be available.

Michele Mancuso (Contra Costa County) asked if there was a way that the Permittees or the Program could help with small funding opportunities. Matt Bolender noted that the OPP funding was the primary funding source for Mr. Funnelhead, but he would need a clearer picture of the year end budget totals before a plan could be created for the next school year.

The Chair asked if it would be possible for Matt Bolender to provide a two year budget rather than a one year budget. Matt Bolender noted that he was working with the Program on a three year contract which would inform that budget needs past the initial year, but believed that the OPP funding with remain the same or be reduced.

Julie Haas-Wadjowicz (Antioch) suggested that it was the opportune time for Permittees that don't currently support the Mr. Funnelhead Program to consider bringing the topic up in the next Fiscal Year.

4. **Video Update (Sagent):** Anna Minard gave an update on the videos currently in production. Sagent and County and Program staff are working on Fish Risk and Proper Disposal videos and first drafts have been received from the videographer. The video drafts should be available in May for preview by the Committee.

5. **Caltrans Outreach Campaign Partnership media Options (Sagent):** Sagent is in the initial stages of planning the media campaign. Today, Sagent was looking for input on specific media tactics. Included in the agenda packet was a Google document with media tactic options for the Permittees to review. Anna Minard gave a quick refresher of the tactics.

   The goal is to run media campaigns during the end of July and into August depending on the availability of media items. There is a budget of ~$50k, so Sagent offered a list of tactics for selection, but she noted that not all options would be able to be done based on the budget. The types of tactics, the recommended budget, and estimated monthly impressions were displayed. Outdoor options include transit shelters, billboards (both normal and digital), outdoor posters, and bus ads.

   The Chair asked what type of locations outdoor posters would be located near. Anna Minard noted they are often on the corners of busy streets and convenience stores or similar areas. She displayed a map of billboards and poster locations throughout the county. Michele Mancuso (Contra Costa County) noted that billboards didn't seem to be an efficient use of funds based on

the relatively small number of locations available throughout the county. The Committee discussed the current visibility of ads. Julie Haas-Wadjowicz (Antioch) noted that there were no bus shelters in East County and suggested a combination of bus ads and shelters be considered. Frank Kennedy (Pleasant Hill) asked what impressions mean and noted that the cost effectiveness of bus shelters, relaying his own experience in seeing advertisements in these locations. Anna Minard explained that impressions were the number of people who saw it and generally don't indicate engagement with the advertisement (such as click-through for digital media). She further noted that the cost of bus ads included the cost to print and install the ads on buses, which lends to the higher cost.

Julie Haas-Wadjowicz (Antioch) asked the Permittees if any of the Permittees had digital billboards in their cities and suggested that a reduced rate could be negotiated for these locations. There seemed to be limited numbers of these.

Karin Graves asked if the numbers for the other outdoor options included installation and printing. Anna Minard confirmed that this was the case.

Anna Minard noted that she would reach out to their media team with the feedback and would return to the committee with more specific media plans and costs in May. The Chair asked how the mobile ad messenger was incorporated into the media plans. It was explained that it was a cost effective tactic and was generally used in conjunction with social display and video options. Their vendors generally include mobile messenger ads in these programs. The chair asked if this type of advertisement would be on NextDoor or where it would be seen. Anna Minard noted that it was usually embedded in a web browser on a user's phone, but would reach out to their media department for more specific answers.

6. **CCCWP Brochures (H. Pierce/K. Graves):** Hilary Pierce explained that a spreadsheet had been included in the agenda; it was a summary of the Program's brochure archive assembled by the Municipal Operations Committee. One tab was filled out by the Municipal Operations Committee and was provided as an example. There was a request that the committee take a look at the form so that a discussion could be had at a future meeting to determine what brochures were needed by the Program. Karin Graves noted that this was to survey the needs of the Permittees regarding current needs and prospective needs related to new permit requirements. Staff would evaluate the responses on the spreadsheet and put together a proposal of cost estimates.

   Kerry Parker (San Ramon) suggested that the spreadsheet be put on a Google Sheet that the committee could add comments to during a presentation of the brochures in real time. Lucile Paquette (Walnut Creek) noted that the Municipal Operations Committee had it as a Google Sheet for others to comment on. She further asked if there were any handouts for kids. Hilary Pierce was unsure if there were. Julie Haas-Wadjowicz (Antioch) offered that there were coloring books for Mr. Funnelhead and, formerly, a Kid's Guide to Backyard Bugs.

   More time would be allotted at the May meeting for this topic.

CONTRA COSTA CLEAN WATER PROGRAM

7. **Contra Costa Green Business Program Update (H. Pierce):** Hilary Pierce noted that she and Melinda Harris (Flood Control) had attended a meeting to learn more about the Green Business Program (GBP). There were potential opportunities to partner with the GBP, but it was suggested that these opportunities were probably more appropriate for the Permittees on a municipal basis. The GBP is looking to involve more community-based organizations and Permittees were encouraged to refer such organizations to the GBP. It was noted that a representative from the GBP was happy to come to a PIP meeting and give a presentation. It was proposed to have the GBP come in May or June.

8. **Adjournment:** The Chair adjourned the meeting at 10:33 a.m.

Monitoring Committee
Meeting Minutes
March 14, 2022

VOTING MEMBERS		
MUNICIPALITY	**ATTENDED**	**ABSENT**
City of Pittsburg	Joe Camaddo (Chair)	
CCC Flood Control District	Beth Baldwin (Vice-Chair) Michelle Giolli	
City of Antioch		Phil Hoffmeister
City of Pinole	Misha Kaur	
City of Richmond	Terri Mason	
City of Walnut Creek	Lucile Paquette	
Program Staff and Consultants		
Augmented Staff	Lisa Welsh / Lisa Austin	
Program Staff	Karin Graves	
Program Consultant		Mitch Avalon

- **Introductory Remarks, Announcements, and Changes to the Agenda.** Joe Camaddo opened the meeting with a quorum.

- **February 2022 Meeting Summary.** CCC Flood Control District (B. Baldwin) moved to approve the February 2022 meeting summary and the City of Pittsburg seconded (J. Camaddo).

- **March 2nd BAMSC MPC Meeting Summary.** Lisa W. reviewed key outcomes from the March 2nd MPC meeting (Attachment 1), notably:
    - RWB Staff stated that they planned to release the final draft order by April 11 and hold the hearing on May 11. The hearing will not be extended beyond May 11. RWB staff are decoupling in-stream trashing monitoring from outfall trash monitoring in MRP 3. Outfall monitoring will start in Fall 2023 and receiving water monitoring will start in Fall 2024. Receiving water monitoring locations do not have to be paired with outfall monitoring locations. It is anticipated that only one trash monitoring plan will be required.
    - Many of the C.12 implementation and reporting requirements were pushed back by a few months to one year (see Attachment 1a for more details).
    - Source Control Load Reduction Accounting Update is going to Tom Mumley for EO approval.

- **WQIF Grant Applications.** Monitoring Committee members discussed the possibility of pursuing a WQIF grant application. It is anticipated that the request for applications would be released in late March/early April and there would be a 1–2-month window to apply. Every two years there is a $5M allotment.

- A regional WQIF application is being considered for trash receiving water monitoring. SFEI could take the lead on the application and conduct the monitoring. However, this has not yet been discussed with SFEI. RMP does not currently do trash monitoring, and this would be separate from RMP.
- Contra Costa could also pursue its own grant application and for a separate but related project. Timing is difficult, but it would be a missed opportunity if permittees could get financial support for devices. If there are jurisdictions with identified FTC projects but don't have the funds, that would be a good application. Geosyntec has advanced budget for the desktop analysis to identify potential outfall monitoring locations. Geosyntec will move forward with this in April/May/June and coordinate with KEI to verify locations in July/Aug. A draft scope to be discussed at the next Mon Com meeting.
- The Committee also discussed the value of pairing a trash removal project that addresses homelessness and is also, ideally, in a DAC, and integrates outreach. It could be a good idea to build off of projects recently funded through the Clean California grant program (https://cleancalifornia.dot.ca.gov/local-grants). The Committee recognized that there is a lot of need for the grant funds, that there is also grant burnout, and that grant management is challenging.

- **C.12.c Old Industrial Area PCBs Control Measure Plan.** Lisa A. led a discussion on the PCBs control measure plan. The following was discussed:
  - The due date for the plan is still unknown, but likely in Spring 2023. There are several other plans due at this same time.
  - The Plan could describe a process or include a specific list of projects. Could build off the projects in the GI Plans that are in Old Industrial areas. Also consider a regional project or a programmatic project (e.g., storm drain flushing).
  - Consider C.12.c projects that also meet C.3.j.
- **FY22/23 Monitoring Committee Final Budget.** Lisa W. reviewed revisions to the budget since the last meeting. FY22/23 costs associated with access and permitting, methods development and equipment research, and database development would likely be equal to the previous estimate of $195,000 (even though trash monitoring would not begin until FY23/24). No change to the budget was made. Additional revisions to the FY22/23 budget included adding the elements for the C.11/C.12 fish risk reduction program: Draft Fish Risk Flyers ($5,305); Distribute Flyers ($10,609) and Status Report ($5,000).
- **WY2021 Final UCMR and Attachments.** Lisa W. described comments received on the UCMR: maintain consistency and accuracy with respect to describing BASMAA versus BAMSC roles and potential future SSID studies (i.e., SSID is an MRP 2.0 not MRP 3.0 requirement). With the revisions, City of Walnut Creek (L. Paquette) and CCC Flood Control District (B. Baldwin) recommended that Management Committee approve the WY2021 UCMR.

- **SFEI Information Request for Potential CECs Sampling Locations.** Lisa W. described how SFEI was requesting potential monitoring locations for CECs. KEI proposed several additional sites. The committee was okay to send the list to SFEI and requested that SFEI notify the appropriate permittees of when they will be conducting sampling.
- **CCCWP Brochures.** Lisa W. reviewed the compiled list of CCCWP brochures and described that committees are reviewing and prioritizing the list of brochures over the next few months. Beth B. suggested that the Program have a brochure about microplastics.
- **New/Old Business.** Geosyntec requested PCBs in building demo data for Applicable Structures for the first half of FY21/22. Request to provide data or a statement that there were no applicable structures by March 23. East County Permittees will meet at the end of March to discuss the next steps to address RWB comments on the Marsh Creek SSID study and preliminary results for the East County Methylmercury RAA.
- **Next Steps / Action Items**
    - Review Clean California grant awardees to build a WQIF grant application.
    - Bring a draft scope for catchment delineation and outfall selection for trash monitoring to the next Monitoring Committee meeting.
    - Finalize meeting date with East County permittees to discuss next steps for Marsh Creek SSID and methylmercury RAA preliminary results.
- **Adjournment.** The meeting was adjourned at 12:00 pm.

Next Scheduled Monitoring Committee Meeting: Monday, April 11, 2022, 10:00 AM- 12:00 noon, Zoom meeting.

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Municipal Operations Committee (MOC)
Meeting Minutes
February 15, 2022

MUNICIPALITY	ATTENDED [via Web/Phone]
VOTING	
City of Antioch	*Phil Hoffmeister, Jeff Cook*
City of Brentwood	*Melissa Barcelona*
City of Concord	
Contra Costa County	*Beth Baldwin, Michele Mancuso*
Town of Danville	
City of El Cerrito	*Stephen Prée*
City of Martinez	
City of Pittsburg	*Joseph Camaddo (Chair)*
City of Richmond	
City of San Pablo	*Amanda Booth*
City of Walnut Creek	*Lucile Paquette*
NON-VOTING	
PROGRAM STAFF and CONSULTANTS	
Staff Augmentation	*Elizabeth Yin*
Staff Augmentation	*Lisa Welsh*
Staff Augmentation	*Lisa Austin*
Program Staff	*Karin Graves*
Program Staff	*Mitch Avalon*
GUESTS	

1. **Introductions/Announcements:** Joe Camaddo (City of Pittsburg) welcomed the group to the Zoom call and asked for announcements. No announcements were made.

2. **Approval of Minutes:** Contra Costa County made a motion to approve the January 18, 2022 Meeting Summary. Pittsburg seconded the motion. No objections were raised. The Committee voted to approve the January 18, 2022 Meeting Summary.

3. **Review Second Draft FY 22/23 MOC Budget and Workplan.** Elizabeth Yin (Program Staff, consultant) and Mitch Avalon (Program Staff) provided an overview of the second draft of the MOC Budget and workplan for FY 22/23. Key discussion items include the following:
    - An overview of the budget included an explanation of increases, including the decision to include all provisions and costs associated with those provisions as a part of MOC Workplan, as opposed to overall Program Budget.
    - C.2 Training costs were included in the second draft budget, which assumed to be under the purview of the Committee. Program staff discussed how this training item may be carried

out under the Program, including development of consistency across materials and messaging. San Pablo raised the issue that this training might not be necessary, as often the trainings are conducted in house. Concerns were raised that the budget for this Committee already seemed high. A discussion was held on what Permittees would want to conduct internally for training, versus having the Program lead the effort.

- Additional discussion was held on the new provision, C.17 – Discharges associate with Unsheltered Homeless Populations. Committee members were concerned that the costs associated with the MRP 3.0 requirements were high, and that the intent of the MRP 3.0 reporting might actually require significantly less effort than budgeted for.
- Mitch discussed the possibility for granting specific provisions and budget items conditional approvals. This mechanism for approval would allow the Committee to finalize the budget, but reserve the right to review the items work effort once the budgets were approved. The Committee agreed to conditionally approve the workplan for items under C.2 and C.17.
- No other comments were raised for the remaining provisions under MOC purview.

4. **Trash/AGOL Presentation:** Lisa Welsh (Program Staff, consultant) provided the Committee with a presentation on updates to the AGOL Trash Reporting and Analysis applications. The goals of this presentation were to understand the changes that were made to the trash load reduction accounting in AGOL, to understand how the reports were delivering information to improve management actions, and to discuss opportunities or strategies for updating assessment points and documenting equivalent actions. A copy of the presentation is attached to these minutes, and key points are summarized below:
    - **Changes made to the trash load reduction:** 3 changes were made to the trash load reduction accounting in AGOL that may impact the results for any reports generated after August 2021. 1) Average of assessments was reduced from 5 year rolling average to a 2 year rolling average. 2) Curb miles not addressed by full capture systems was updated. 3) Correction to a true/false statement of looking at secondary curb feet when calculating assessment lengths.
    - **Demonstrating trash reduction:** A discussion was held by Committee members on when areas can be considered "greened", and when they might be able to update baseline trash generation area maps. Program staff identified that this may be a policy question, where a regional group or TAC would need to start deciding how or when to "green" areas. While policy decisions may need to determine the approach moving forward, Committee members agreed that the idea of a "current condition map" is desirable and informative for evaluating current management actions.

5. **Brochure Review:** Elizabeth presented a summary of comments received on existing Program brochures. Overall, the key needs for updates include, ADA compatibility, Spanish language translation, and an update of Program contact information/website information. Brochures for updating were prioritized by the Committee, with 5 brochures being critical, frequently used, and in need to updating. Brochures will be referred to PIP committee for updating.

6. **Program Update:**
    - Tentative Order
        i. No new updates were provided on the status of the Tentative Order.
    - AGOL Training

i. Elizabeth asked the group to identify a date in February to hold the first training. Thursday February 24th was identified as a possible date.

7. **Old/New Business**:
   - No additional topics were discussed.

8. **Adjournment:** Chair Joe Camaddo adjourned at 12:00 PM.

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CONTRA COSTA CLEAN WATER PROGRAM

Meeting Summary
Development Committee
March 23, 2022
1:30 – 3:30

Voting Members:

Municipality	Attending	Absent
City of Antioch	Phil Hoffmeister	
City of Brentwood	Aman Grewal	
City of Clayton		Laura Hoffmeister
City of Concord		Mitra Abkenari
Contra Costa County	John Steere, Michele Mancuso	
Town of Danville	Bob Russell	
City of Lafayette	Matt Luttropp	
Town of Moraga	Frank Kennedy	
City of Pittsburg	Joe Camaddo (Chair)	
City of Pleasant Hill	Frank Kennedy	
City of San Ramon	Rod Wui	
City of Walnut Creek	Joel Camacho, Lucile Paquette	
Program Staff/Consultants		
Mitch Avalon	Consultant	
Dan Cloak	Consultant	
Alina Constantinescu	Consultant	
Yvana Hrovat	Consultant	
Guests		
Amanda Booth	City of San Pablo	

Introductions, Announcements, and Changes to Agenda

The meeting was held via Zoom. There were no announcements and no changes to the agenda.

Approve Previous Meeting Summaries

On a motion by John Steere (Contra Costa County), seconded by Bob Russell (Danville), the summary of the February 23, 2022, meeting was accepted.

Recent Regional Water Board Inspections of C.3 Facilities

Regional Water Board staff came out to Concord for inspections of a bioretention installation on a private project (duplex). After this site, Concord staff also recommended that they visit a site under construction. RWB staff did not express any concerns per se; they mentioned that more than anything they were interested in learning and observing C.3 facilities. They will follow-up with an inspection report in the next few weeks.

Municipal Regional Permit 3.0

The group was debriefed on updates from a recent C.3 Workgroup meeting where RWB staff Keith Leichten participated. Keith and staff are in the process of developing the response to comments and revising the Tentative Order. The Adoption Hearing is scheduled for May 11 and the revised TO is expected around April 12. The preliminary revisions noted at the C.3 workgroup include:

- Clarification on inclusion of gravel roads as pervious
- Requirement that piecemeal projects (e.g., curb cuts) must be contiguous to be collectively under or exceeding regulatory thresholds
- Will allow for a one year delay/phasing of new C.3 threshold of 5000 sqft for single family homes. However, if the approval of the LUP is prior to MRP 3.0 implementation, it is okay to retain the 10,000 square-foot threshold for such projects
- C.3.J/GI maximum requirement is now 5 acres for large population permittees rather than 10 acres for numeric retrofit requirements
- Special projects will be retained to be consistent with bonus law's crediting system
- Reduce GI/C.3J programmatic reporting, (i.e., GI plan), to two times per permit term, for FY 2024 and 2026
- C.3.B utility trenching: clarify utility trenching as part of road reconstruction, and the applicable threshold is 1 acre.

Discussions will continue at various regional meetings through BAMSC. Once the revised TO is issued, CCCWP will review and discuss at Committee meetings.

AGOL Workgroup

The Program has initiated an AGOL Workgroup to address updates to the AGOL platform. The workgroup is scheduling regular meetings through the end of June and several Development Committee members are participating. The group is working on a report for the Management Committee (draft expected beginning of April) based on responses received to a user survey that asked for input on AGOL functionality, uses, and desired modifications (the responses were distributed to the Development Committee with the agenda packet). Updates on the Workgroup's activity will be a recurring item on future Committee agendas.

Planning and Scheduling Annual C.3 Training

The Committee discussed potential dates and topics for the Annual C.3 Workshop. June 14 or 16 were identified as potential dates. To start the discussion of topics, Dan shared on-screen the agenda for the previous workshop (webinar) that was held on May 11, 2021. Discussion included the following points:

- Consider that the changes in MRP 3.0 may require substantial time for presentation and discussion.
- Include a panel discussion.
- Consider expanding the time for the presentation and discussion of Green Infrastructure Planning and Design. If necessary, consider extending the workshop to 12:30.
- Include a discussion of the submittal and plan review process (perhaps in the "Basics of C.3 and Low Impact Development" presentation).

Tentative dates are May 24 or May 26 in the morning (9 to 12 or 12:30), to be held in person at a Walnut Creek Public Works facility.

Stormwater C.3 Guidebook, 8th Edition

Stormwater C.3 Guidebook, 8th Edition

Dan directed the participants' attention to the "Working List of Objectives and Tasks for Guidebook Revisions," updated on February 17, briefly noting the status of each item. Participants also reviewed the accompanying brief summary of the interactive process for revision, showing what was discussed and decided at each Development Committee meeting beginning in August 2021.

Next, the participants turned to Dan's March 10, 2022, memo. The memo describes how the information in Appendix B, "Soils, Planting, and Irrigation," in the 7th Edition would be moved into *Guidebook* chapters in the 8th Edition. The participants reviewed the draft text, and discussion included the following points:

- Yes to the "Add Notes to IMP Details" section.
- Emphasize that submittals must show transitions between the bioretention facility and the surrounding landscape, and cross-sections should be provided as needed.
- Emphasize that the civil drawings must be coordinated with the landscape drawings.
- Address the consistency of plant spacing.
- In the "Bioretention Soil Submittals" section, yes, the delivery of the soil is typically accompanied by a tag stating it is the "brand name" mix consistent with the submittal.
- The procedure proposed in the draft text is a reasonable attempt to be sure the delivered material meets the permit and *Guidebook* requirements, and it makes sense to do it this way.
- It should be noted that the use of recycled organic product, such as the recommended aged mulch, can help municipalities meet SB 1383 jurisdiction procurement targets.

- Yes to incorporating the proposed table, "Summary of Design Criteria Adopted to Ensure Facility Longevity and Reduce Required Maintenance" to Chapter 5.
- Consider also noting in the table the requirement to: "Put bioretention facilities in high-visibility, well-trafficked areas…" as this also helps ensure facility longevity.

Open Discussion of C.3 and C.6 Implementation Issues

There was a question on whether anyone in the group was using *Green Halo*, an electronic tracking/sporting system for construction and demotion with the potential to track PCBs. There was some interest in this, but no agency is using it at this time.

Next Meeting Date

Wednesday, April 27th , 2022 (1:30p-3:30p)

Action Items

Dan/Alina: Send out powerpoint of 2021 C.3 training.

Adjournment

The meeting was adjourned at 3:28 PM.

NEXT DEVELOPMENT COMMITTEE MEETING:

Wednesday, April 27th, 2022

1:30 PM – 3:30 PM

Via videoconference

CONTRA COSTA CLEAN WATER PROGRAM

Date: May 18, 2022

To: Management Committee

From: Mitch Avalon, Program Consultant

Subject: Approving conditionally approved budget items

Recommendation:
Consider staff report, and provide any comments and direction to staff.

Background:
On March 16, 2022 the Management Committee approved the Program's budget for FY 22/23, including several items that were conditionally approved. The Committee approved a portion of the overall budget as conditionally approved because the overall budget was so high. The amount over the designated $3.5 million threshold was about $750,000, and if the advance work from FY 21/22 was added, the total amount over the threshold to meet MRP 3.0 requirements was about $925,000. The budget items that were conditionally approved had the following common features:

- Uncertain scope of work for the program/project
- Uncertain total cost estimate to implement the program/project
- Uncertain schedule to start and complete the program/project

Unless otherwise noted, approval of a budget item authorizes staff to proceed to implement the work represented by that budget item up to the budget amount. The policy question before the Committee is how to process conditionally approved budget items. Staff proposes that these items be brought back to the Committee for subsequent approval. There are 16 conditionally approved budget items, so staff wants to develop a process that provides the information needed by the Management Committee but is not overly complicated and time-consuming. Any request by staff to approve a conditionally approved budget item would include the following information:

Scope. A detailed scope of work describing the program/project represented by the budget item, the steps necessary to develop and implement it, and who would

do the work. The scope would also identify the specific permit provision requiring the work.
Cost. An estimated cost to develop and implement the project/program.
Schedule. A schedule of when the work would start, how long it would take to develop and implement the project/program, and when it would be completed.

When a conditionally approved budget item needs to be addressed, staff would prepare a staff report, including the three items above, and present the item before the Management Committee for consideration and approval. If timing is critical, then the Administrative Committee would have the authority to consider and approve the budget item, with a report out at the next Management Committee meeting to confirm approval.

The Administrative Committee reviewed the process outlined above and generally agreed with it, recommending that staff develop a list of all conditionally approved items for easy review and report out to the Administrative and Management Committees at regular intervals, and to review the scope, cost, and schedule with the appropriate subcommittee prior to finalizing the staff report for Management Committee approval.

Fiscal Impact:
None.

Attachments:
None.

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CONTRA COSTA CLEAN WATER PROGRAM

Date: May 18, 2022

To: Management Committee

From: Amanda Booth, City of San Pablo

Subject: Contra Costa County Regional Alternative Compliance Program

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Recommendation:
Receive presentation on components of the Contra Costa County Regional Alternative Compliance Program (Project) and discuss potential next steps.

Background:

The Cities of San Pablo, Walnut Creek, and Richmond, and Contra Costa County received a United States Environmental Protection Agency (EPA) Region 9 Water Quality Improvement Fund (WQIF) grant to develop a regional alternative compliance system (Project).

The purpose of this Project is to develop and pilot a regional alterative compliance system (referred to as the Contra Costa County System) to achieve the water quality objectives of the San Francisco Bay Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP; Order No. R2-2015-0049 and future orders). The MRP incorporates performance standards for new development and redevelopment, as well as requiring control measures to implement the San Francisco Bay Total Maximum Daily Loads (TMDLs) for polychlorinated biphenyls (PCBs) and mercury. The Contra Costa County System is intended to provide a flexible, cost-effective, and scientifically defensible compliance option for addressing the green stormwater infrastructure (GSI) and mercury/PCBs control requirements outlined in the MRP (Provisions C.3, C.11, and C.12, respectively). The proposed Contra Costa County System will combine elements from in-lieu fee with the potential for pay-for-performance or Community-Based Public Private Partnership (CBP3) programs.

The Contra Costa County System creates an alternative pathway for C.3 compliance for Regulated Projects. Instead of constructing LID/GSI facilities on-

site, the Regulated Project would pay an in-lieu fee that would cover capital costs for C.3 compliance and pay ongoing annual O&M payments levied on their parcel. Though the Contra Costa County System has been designed to achieve alternative compliance for Regulated Projects, Permittees seeking compliance with Provision C.3.j could also participate as System "buyers". The collected in-lieu fees (i.e., for capital costs) would be pooled to fund an in-lieu fee program of projects, which would include Off-Site GSI Facilities that are certified and maintained through the Contra Costa County System.

A Draft System Summary Report has been developed to describe the system, identify key administrative decisions, studies, and legal/regulatory steps needed to develop the Contra Costa County System further. This draft report has received a legal review from Contra Costa County permittees, the Contra Costa County Clean Water Program (CCCWP), the San Francisco Bay Regional Water Quality Control Board (Water Board), and EPA. Today's presentation will provide a high level review of the Contra Costa County System components and discuss next steps for the Contra Costa Clean Water Program involvement.

Attachments:
Draft Alternative Compliance System Summary Report

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REGIONAL ALTERNATIVE COMPLIANCE SYSTEM SUMMARY REPORT

REGIONAL COMPLIANCE FOR A SUSTAINABLE BAY

Prepared for:

City of San Pablo
1000 Gateway Ave.
San Pablo, CA 94806

Prepared by:

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with assistance from:

Project Number: LA0594

September 27, 2021

REVISED DRAFT FOR LEGAL REVIEW

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ACKNOWLEDGEMENTS

This Summary Report was developed as part of the Regional Compliance for a Sustainable Bay project (Project), funded by a United States Environmental Protection Agency (EPA) Region 9 Water Quality Improvement Fund Grant, led by the City of San Pablo.

This Summary Report was developed by the Project Consultant Team in coordination with the Project Steering Committee, listed below:

Steering Committee Members

Amanda Booth and Sarah Kolarik, City of San Pablo; Joanne Le, City of Richmond; Michele Mancuso, Contra Costa County; and Lucile Paquette and Steve Waymire, City of Walnut Creek.

Project Consultant Team

Kelly Havens, Lisa Austin, and Ken Susilo, Geosyntec Consultants; Mark Kieser and David Chen, Kieser & Associates, LLC; Jill Bicknell and Lisa Sabin, EOA, Inc.; Susanne Heim, Panorama Environmental; George Kelly, Bespoke Mitigation Partners; with consultation from Legal Advisor Brooks Smith of Troutman Pepper.

Acknowledgments also to members of the Project Technical Advisory Committee and the Project Advisory Committee, who provided input for this Summary Report:

Technical Advisory Committee

Luisa Valiela and Jacques Landy, EPA Region 9; Keith Lichten, Derek Beauduy, Zach Rokeach, San Francisco Bay Regional Water Quality Control Board; Cathleen Terentieff, City of Walnut Creek; Tony Hale and Gemma Shusterman, San Francisco Estuary Institute; and Greg Cannito, Corvias.

Advisory Committee

Shannan Young, City of Dublin; Kristin Hathaway, City of Oakland; Karin Graves, Contra Costa Clean Water Program; Frank Kennedy, Kennedy & Associates; Matt Fabry, San Mateo Countywide Water Pollution Program; James O'Connell, City of Redwood City; Rinta Perkins, City of Santa Clara; Pam Boyle Rodriguez, City of Palo Alto; Kevin Cullen, Fairfield-Suisun Sewer District; Rob Carson, Marin County Stormwater Pollution Prevention Program; Jamison Crosby, Napa County Stormwater Management Program; Sarah Minick, San Francisco Public Utilities Commission; Oriana Hart, County of Sonoma; Angela Clapp, Port of Oakland; and Hardeep Takhar and Wilfung Martono, Caltrans.

Assistance provided by Mitch Avalon, Contra Costa County Public Works, was also greatly appreciated.

ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AC	Advisory Committee
Bay	San Francisco Bay
CBP3	Community-Based Public Private Partnership
CCCWP	Contra Costa Clean Water Program
CE	Categorical Exemption
CEQA	California Environmental Quality Act
County	Contra Costa County
CWSRF	Clean Water State Revolving Fund
DBF	Design-Build-Finance
DBFOM-AP	Design-Build-Operate-Maintain-Availability Payment
East County Permittees	Antioch, Brentwood, Oakley, and the eastern portions of unincorporated Contra Costa County and the Contra Costa County Flood Control & Water Conservation District
EPA	United States Environmental Protection Agency
Geosyntec	Geosyntec Consultants, Inc.
GI	Green Infrastructure
GSI	Green Stormwater Infrastructure
HRU	Hydrologic Response Unit
IGP	Industrial General Permit
LID	Low Impact Development
MOU	Memoranda Of Understanding
MRP	Municipal Regional Stormwater NPDES Permit
MTC	Metropolitan Transportation Commission
NPDES	National Pollutant Discharge Elimination System
O&M	Operations and Maintenance
PBCs	Performance-Based Contracts
PCBS	Polychlorinated Biphenyls
POTWs	Publicly Operated Treatment Works
Project	Regional Compliance For A Sustainable Bay Project
RAA	Reasonable Assurance Analysis

RFPs	Request For Proposals
SC	Steering Committee
SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
SFEI	San Francisco Estuary Institute
SFPUC	San Francisco Public Utilities Commission
SWRP	Stormwater Resource Plan
System Summary Report	Regional Alternative Compliance System Summary Report
TAC	Technical Advisory Committee
TMDLs	Total Maximum Daily Loads
ULL	Urban Limit Line
WDRs	Waste Discharge Requirements
WIFIA	Water Infrastructure Finance And Innovation Act
WQIF	Water Quality Improvement Fund

EXECUTIVE SUMMARY

E.1 Introduction

This Regional Alternative Compliance System Summary Report (System Summary Report) describes the efforts and outcomes of the EPA Water Quality Improvement Fund (WQIF) grant-funded Regional Compliance for a Sustainable Bay project (Project). The purpose of this Project is to develop and pilot a regional alterative compliance system (referred to as the Contra Costa County System) to achieve the water quality objectives of the San Francisco Bay Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP; Order No. R2-2015-0049 and future orders). The MRP incorporates performance standards for new development and redevelopment, as well as requiring control measures to implement the San Francisco Bay Total Maximum Daily Loads (TMDLs) for polychlorinated biphenyls (PCBs) and mercury. The Contra Costa County System is intended to provide a flexible, cost-effective, and scientifically defensible compliance option for addressing the green stormwater infrastructure (GSI) and mercury/PCBs control requirements outlined in the MRP (Provisions C.3, C.11, and C.12, respectively). The Contra Costa County System framework is intended to be easily adaptable by the other San Francisco Bay Area (Bay Area) countywide programs.

E.2 Background Information and System Drivers

The key regulatory driver for regional alternative compliance in Contra Costa County (the County) is the MRP. County Permittees covered under the 2009 MRP and 2015 reissuance include the cities of Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek, the towns of Danville and Moraga, unincorporated Contra Costa County, and the Contra Costa County Flood Control and Water Conservation District. The MRP was revised again in 2019 to add the cities of Antioch, Brentwood, Oakley, and the eastern portions of unincorporated Contra Costa County and the Contra Costa County Flood Control & Water Conservation District (referred to as the East County Permittees). The East County Permittees are not subject to the San Francisco Bay TMDLs for PCBs and mercury.

The 2015 MRP is currently being revised; the Tentative Order for the 2022 reissuance was released on September 10, 2021 (referred to herein as the MRP 3 Tentative Order).

The MRP 3 Tentative Order Attachment A, Fact Sheet, allows for:

> *"…the Permittees [to] submit new information for an alternative compliance program for exchanges of impervious surface treatment credits at the regional, county, and/or municipal level…"*

This System Summary Report will be submitted to the SFBRWQCB for approval of the Contra Costa County Regional Alternative Compliance System (Contra Costa County System).

The following key objectives for the Contra Costa County System were developed with input from the Project Steering Committee (comprised of municipal representatives guiding development of the Contra Costa County System) and Advisory Committee (composed of advisory stakeholders that have an interest in future alternative compliance projects):

1. Flexible compliance with the MRP, particularly Provision C.3.b (Regulated Projects), but potentially also Provision C.3.j (Green Infrastructure Planning and Implementation);
2. Cost efficiencies through implementation of larger stormwater capture projects that provide treatment at a lower cost per acre as well as lower maintenance and inspection costs;
3. Targeted implementation of facilities that can provide higher load reduction benefits toward compliance with the San Francisco Bay PCBs and mercury TMDLs;
4. Implementation of stormwater capture and water quality improvement projects that provide multiple benefits, including benefits ancillary to those relating to MRP Provisions C.3, C.11, and C.12; and
5. Flexibility to adapt the system to meet future water quality needs.

Implementation of the Contra Costa County System will require adoption of implementing procedures, such as an ordinance, which is a discretionary action that meets the definition of a project under the California Environmental Quality Act (CEQA). Because the Contra Costa County System will provide an increased water quality benefit for development projects, adoption of an ordinance to implement the System could meet the criteria for a CEQA Categorical Exemption. To address project-specific requirements for CEQA mitigation, the Contra Costa County System includes a certification system that would provide substantial evidence that the mitigation is not deferred, is enforceable, and is proportional to the impact being addressed. Projects that are implemented to generate metrics would be subject to CEQA review, which would need to be completed prior to metric construction and certification.

E.3 Contra Costa County System Overview

The proposed Contra Costa County System will combine elements from in-lieu payment and (preliminarily) pay-for-performance or Community-Based Public Private Partnership (CBP3) programs. The Contra Costa County System would provide Permittees and Regulated Project developers an optional alternative pathway for compliance with MRP Provision C.3, and benefits relating to Provisions C.11 (Mercury controls), C.12 (PCBs Controls), and, as opportunities arise, C.10 (Trash Load Reduction). The proposed Contra Costa County System is intended to be primarily established under the MRP 3 Tentative Order Fact Sheet for Provision C.3.e, which allows Permittees to submit an alternative compliance program proposal to be considered and, if approved by the SFBRWQCB, formally recognized under MRP 3 Provision C.3.e. This System approach was selected through input from the Steering Committee, the Technical Advisory Committee, the Advisory Committee, and preliminary legal review.

The Contra Costa County System creates an alternative pathway for C.3 compliance for Regulated Projects. Instead of constructing Low Impact Development (LID)/GSI facilities on-site, the Regulated Project would make a compliance purchase that would cover capital costs for C.3 compliance and pay annual ongoing Operations and Maintenance (O&M) assessments levied on their parcel. Though the Contra Costa County System has been designed to achieve alternative compliance for Regulated Projects, Permittees seeking purchase of GSI retrofits could also participate as System "buyers". The collected compliance purchase payments (i.e., for capital costs) would be pooled to fund "Off-Site GSI Projects" that are certified and maintained

through the Contra Costa County System. Implementation of the Contra Costa County System is expected to produce TMDL pollutant load reduction benefits through these Off-Site GSI Projects, which are anticipated to be primarily located in older urban and industrial areas demonstrated to have higher levels of PCBs (SFEI, 2018; CCCWP, 2020). The proposed Contra Costa County System is expected to provide:

- Flexible compliance for Permittees and Regulated Project owners;
- Cost savings through economies of scale, realized through implementation of larger regional Off-Site GSI Projects as well as potential cost savings through pay-for-performance or CBP3 contracting mechanisms rather than traditional procurement; and
- Additional water quality and environmental benefits, and related TMDL compliance benefits, through retrofit of untreated older urban and industrial areas with higher pollutant loading, in addition to the application of equivalent or increased water quality benefit requirements for Regulated Projects. Due to past development patterns in Contra Costa County, state-identified "Disadvantaged Communities" (DACs) generally overlap with older urban and industrial areas; therefore, retrofits in these areas would be expected to provide additional environmental justice benefits.

The Contra Costa County System would be implemented in multiple phases:

1. Phase 1, Initial Pilot Exchanges, will occur as part of this Project. This phase will entail a piloting the Contra Costa County System on a small number (1-2) of projects and will result in the reporting any issues and/or adjustments that need to be made to streamline the System.
2. Phase 2 is anticipated to be a five-year initial roll-out of the System. The Phase 2 objective would be the wider acceptance and implementation of the System across Contra Costa County. This phase may include additional studies, agreements and mechanisms for contracting within the County.
3. Phase 3 and beyond begins after Phase 2 lessons learned have been addressed through System Amendments. In this phase, the System would be established and fully operating with adaptive management in place.

The Contra Costa County System would be primarily administered by the Contra Costa Clean Water Program (CCCWP), with additional aspects managed by County Permittees and the Contra Costa County Flood Control & Water Conservation District (Flood Control District). The CCCWP administrators are expected to include at least two specific entities:

1. The Regional Alternative Compliance Subcommittee, which is expected to be made up of volunteer Permittee stormwater program representatives that will make decisions regarding the Contra Costa County System.
2. The System Administrator, who will be responsible for management, financial administration, and reporting requirements for the Contra Costa County System.

Other Contra Costa County System administrators include:

3. The Flood Control District, which would manage the ongoing O&M Assessment and Flood Control Zone 100 (envisioned to be the mechanism for the assessment, pending Flood Control District approval).

4. Municipal Permittees, which will manage Regulated Project applicants and compliance metric providers that construct Off-Site GSI Projects within their jurisdictional boundaries. County Permittees will also need to facilitate exchanges, as appropriate, and complete Off-Site GSI inspections, O&M, and verification.

E.4 Contra Costa County System Compliance Metric

For the purposes of this report, the Contra Costa County System metric is referred to as a "compliance unit". This is a unit of exchange that can be purchased by buyers seeking alternative compliance with the MRP.

With the use of the compliance purchase approach modeled on the MRP in-lieu payment option, the Contra Costa County System compliance unit can be defined using language in MRP Provision C.3.e.(2) (see Section 2.1) as requiring three elements:

1. Hydraulically-sized treatment, in accordance with Provision C.3.d, with LID/GSI treatment measures of an equivalent quantity of stormwater runoff and pollutant loading, which is referred to as **"Equivalent Acres Greened"**;

2. An Equivalent or Increased Water Quality Benefit; and

3. A proportional share of the O&M costs of the (off-site) Regional Project, which is referred to as an **"ongoing O&M assessment".**

Equivalent Acres Greened compliance units generated by Off-Site GSI Projects are calculated based on the Runoff Generating Acres captured and treated by (i.e., tributary to) the Off-Site GSI Projects. Runoff Generating Acres are defined as directly connected impervious areas and 10% of directly connected pervious areas. Assuming that 100% of impervious acres and 10% of pervious surfaces will generate runoff is consistent with the "Treatment Only" (i.e., GSI) runoff factors for pervious surfaces in the Contra Costa C.3 Technical Manual Table 3-2 (CCCWP, 2017). Each Equivalent Acre Greened compliance unit generated will have a rainfall zone and land use (or land use mix) associated with it (i.e., as compliance unit attributes) based on the drainage area(s) of the Off-Site GSI Project that generates the compliance units.

For Regulated Projects requiring demonstration of equivalent volume and pollutant loading capture by the Off-Site GSI Project generating the compliance units, the required Equivalent Acres Greened to be purchased are calculated as the Runoff Generating Area for which the owner is seeking alternative compliance, multiplied by a Rainfall Ratio and a Pollutant Ratio. For non-Regulated project buyers (e.g., Permittees seeking Equivalent Acres Greened to meet GSI retrofit needs and other non-Regulated project buyers), the equivalency demonstration is not required and the Equivalent Acres Greened compliance units for purchase are equal to the Runoff Generating Acres the buyer wishes to purchase.

MRP Provision C.3.e requires an Equivalent or Increased Water Quality Benefit to be achieved when Regulated Projects choose to use the Contra Costa County System alternative compliance approach. To ensure an Equivalent or Increased Water Quality Benefit, a "WQB Ratio" is applied to the compliance purchase for Regulated Projects. The capital compliance purchase is calculated as follows:

$$Purchase_{Compliance} = (Equivalent\ Acres\ Greened \times WQB\ Ratio) \times Cost_{EAG} + Payment_{Administrative}$$

Where:

Equivalent Acres Greened	=	Required compliance units for equivalency (for Regulated Projects) or desired for purchase (for non-Regulated project buyers)
WQB Ratio	=	1.1 for Regulated Projects and 1.0 for other non-Regulated Project purchases.
$Cost_{EAG}$	=	Equivalent Acre Greened unit cost
$Payment_{Administrative}$	=	Administrative payment

Discounts may be applied to the WQB Ratio for certain exchanges that provide an Increased Water Quality Benefit through location or project features.

E.5 System Requirements

Contra Costa County System "buyers" are primarily expected to include Regulated Project owners/developers seeking compliance with MRP Provisions C.3.c (LID). Contra Costa County System buyers could also include Permittees seeking a means to purchase GSI retrofit acres. Other NPDES-regulated entities could be included as Contra Costa County System buyer participants if opportunities arise as part of Phase 2, or during Phase 3 of the System.

Off-Site GSI Projects will be constructed to generate Equivalent Acres Greened compliance units for sale to the buyers. The design, implementation, and quantification of benefits[1] of all Off-Site GSI Projects must be certified upon project completion by the jurisdiction in which the Off-Site GSI Project is located. The Off-Site GSI Project certification process is proposed to follow current County processes, which are consistent with MRP requirements. Once the compliance units generated by an Off-Site GSI Project are certified, they will be available within the Contra Costa County System for exchange, and a buyer can purchase them.

Ongoing O&M of constructed Off-Site GSI Projects is expected to be managed and performed either by the jurisdiction in which the Off-Site GSI Project is located and/or by a contracted compliance unit provider as part of a pay-for-performance or CBP3 contracting process. Ongoing O&M verification of the Off-Site GSI Project's performance, including required site inspections, will also be conducted by the jurisdiction in which the Off-Site GSI Project is

[1] It is expected that preliminary quantification of benefits (including Equivalent Acres Greened compliance metrics generated) would occur as part of preliminary review processes and would be confirmed through certification.

located. The Off-Site GSI Project verification process is consistent with current County processes, which follows current MRP requirements.

Tracking of Off-Site GSI Projects, including certification, Equivalent Acres Greened compliance Units generated, compliance metrics exchanged, and ongoing verification of Off-Site GSI Projects will be tracked by the Contra Costa County System Tracking Tool, a tool developed specifically to track exchanges in the System. Regulated Project participants will also be tracked in the County's current ArcGIS Online (AGOL) stormwater tracking tool.

Any public or private entity that is able to operate within the constraints of the Contra Costa County System and take actions that result in a demonstrable generation of Equivalent Acres Greened may participate in the implementation of Off-Site GSI Projects as compliance unit providers. It is envisioned there would be an application process to allow for approval and guarantee of purchase of compliance metrics, which metric providers may complete for this assurance prior to conducting design and construction of Off-Site GSI Projects. Unit providers who do not complete the pre-screening application process would still be eligible to put compliance metrics that meet System requirements up for exchange through the System, however, they may not have guarantee of purchase.

E.6 In-Lieu Fee Cost Basis

Due to CEQA considerations, the Contra Costa County System is envisioned to be different than other in-lieu payment type programs in that the Off-Site GSI Projects must be built and certified before the resulting Equivalent Acres Greened compliance units can be used. Therefore, funding or financing would be needed upfront to build the Off-Site GSI Projects before the compliance purchase payments are collected. In addition, Off-Site GSI Projects would need to be built before it is known how many Regulated Projects may need or want to purchase compliance units.

Once sufficient compliance unit demand is established, there may be more interest from entities to build Off-Site GSI Projects, as there would be a lower financial risk to participating in the program. One way to provide demand certainty is to establish the Contra Costa County System with a minimum program purchase guarantee, or "Programmatic Demand". This initial "Programmatic Demand" is recommended to be purchased by Permittees to allow for sufficient exchange activity during Phase 2 of the Contra Costa County System. This guaranteed exchange activity would better enable the Contra Costa County System to achieve economies of scale, demonstrate proof of concept, garner interest, and grow the System. If Regulated Project owners or other entities can provide guarantees of compliance unit purchase at the initiation of Phase 2, they may also be included in the initial Programmatic Demand.

Given the Programmatic Demand approach, the Equivalent Acre Greened unit cost ($Cost_{EAG}$), which sets the compliance purchase amount, needs to be set at the level that:

1. The Permittees would be willing to pay for compliance units to meet their own Regulated Project needs;
2. Is less than or equal to the Permittees' cost of constructing GSI facilities, with adequate data to demonstrate this cost to provide transparency to cost-setting; and

3. Off-Site GSI Projects could be constructed by compliance unit-generating entities and be economically feasible.

Meeting these three requirements could enable Permittees to commit to purchase the Programmatic Demand that drives the development of the initial Off-Site GSI Projects projects. An analysis to demonstrate the typical Permittees' LID/GSI construction costs should be conducted to assist cost-setting. Finally, there would need to be interest from compliance unit-generating entities to construct Off-Site GSI Projects at the established cost.

It is assumed that the Equivalent Acre Greened unit cost ($Cost_{EAG}$) would be the same for all System buyers and would represent the average cost to generate an Equivalent Acre Greened compliance unit through Off-Site GSI Projects implemented through the Contra Costa County System.

In addition to the compliance unit-based portion of the compliance purchase, there would also be an administrative payment. Administrative payments would be developed through fee studies when fee schedules are updated by Permittees and the CCCWP and would cover all staff and/or consultant hours needed to perform the administrative functions. The payment amounts are anticipated to be informed by findings of Phase 1 of the Contra Costa County System.

Participating buyers would pay an annual ongoing O&M assessment per Equivalent Acres Greened compliance metric at a fixed rate with escalation for inflation. The ongoing O&M assessment would cover O&M tasks along with the Flood Control District's administrative costs for maintaining the O&M needs of the Contra Costa County System through the mechanism of Flood Control Zone 100. The annual O&M assessment would be captured through the property tax associated with the Regulated Project parcel.

E.7 Risk and Uncertainty Management

Identified sources of uncertainty for the Contra Costa County System are related to the variability of precipitation, pollutant concentration, control measure effectiveness and performance, and costs of constructing and maintaining Off-Site GSI Projects. Additionally, market demand for purchasing Equivalent Acres Greened compliance units is uncertain.

The Contra Costa County System utilizes several mechanisms to manage identified risk and uncertainty that may affect Permittees, compliance unit providers, and environmental outcomes. The Contra Costa County System would require a rainfall equivalency factor (i.e., Rainfall Ratio) to be applied to the Regulated Project Runoff Generating Acres for exchanges of Equivalent Acres Greened compliance metrics generated in other rainfall zones across the County. To account for pollutant loading differences between land use types, a comparison of average concentrations of PCBs and Total Suspended Solids (TSS) (as a surrogate for urban pollutants of concern) was conducted as part of Contra Costa County System development and is incorporated into compliance unit calculations. While treatment through control measures could be expected to be variable, any variability in the outcomes of the treatment control measures used for Off-Site GSI Projects is expected to occur at the same rate as those used for on-site Regulated Project treatment.

Traditional contracting mechanisms obligate payment based on the completion of an action that provides the intended outcomes. However, this approach still burdens buyers with the risk of

underperformance of the intended outcomes. The mechanism used to contract the compliance metric providers, whether a pay-for-performance or CBP3 approach, would be intended to reduce the occurrence of underperformance (e.g., project failure, inadequate LID/GSI implementation) by shifting the financial burden of underperformance from buyer to the provider of the service (i.e., the compliance unit provider).

E.8 Adaptive Management

Although Phase 2 of the Contra Costa County System has a defined scope for its participants, compliance metrics, and jurisdiction, the System is envisioned to provide a framework for entities across the San Francisco Bay Area to meet water quality goals while generating economic opportunities. Key considerations for scaling up the Contra Costa County System would be identified during regular System evaluation.

It is anticipated that the CCCWP Regional Alternative Compliance Subcommittee and System Administrator would regularly review, approve, and revise the System program of projects and the technical aspects of the Contra Costa County System. A defined process for amending the Contra Costa County System framework is expected to be developed during Phase 2 and implemented on a regular basis during Phase 3 and beyond.

Implementation of Off-Site GSI Projects during Phase 2 and beyond may be conducted through a pay-for-performance or CBP3 contracting model with compliance unit providers, or financed upfront through public or private financing opportunities. Adaptive management of the implementation of the Off-Site GSI Projects would be required at the project level and programmatically. At the programmatic level, the Contra Costa County System Fund may be evaluated regularly by the CCCWP System Administrator to address issues including, but not limited to, Contra Costa County System costs exceeding compliance purchase revenue. The Contra Costa County System must include a process to regularly evaluate the sufficiency of the compliance purchase amount — particularly the Equivalent Acre Greened unit cost and the administrative payment — and to adjust the compliance purchase amounts as needed.

E.9 Overview of Contra Costa County System Tracking Tool

A System Tracking Tool is being developed for the Contra Costa County System by SFEI. The System Tracking Tool will include a comprehensive database to track components of the System and relate System components to existing tracking tools. The components tracked will include:

- Information about Off-Site GSI Projects, including certification, verification, and compliance unit tracking.
- Regulated Project information, linked from the County's existing ArcGIS Online (AGOL) tool.
- Exchange Information, including compliance units exchanged and compliance purchase amounts.
- O&M assessment tracking, potentially linked to Flood Control District tracking systems.

The System Tracking Tool will include an accounting system that provides tracking of generated compliance units, compliance purchase amounts, and whether and when payments were made.

Reporting will be completed by the System Administrator in accordance with the requirements of the SFBRWQCB and MRP 3. Information regarding implemented Off-Site GSI Projects, certification, verification, exchanges, and ongoing O&M will be readily available in the System Tracking Tool. It is anticipated that this data would be extracted for annual reports using a defined process based on the established reporting requirements.

E.10 Contra Costa County System Template Documents

The Contra Costa County System templates and forms were designed to build on existing processes, forms, and tracking systems where possible. The CCCWP has developed a number of standard templates and forms for Regulated Project design review, construction inspection, and O&M verification that have been incorporated into the documents required for System certification, verification, and tracking.

The Contra Costa County System templates/forms document all aspects of the System, including:

- The Regulated Project's use of the alternative (off-site) compliance option;
- The Off-Site GSI Project, including:
  - Facility attributes;
  - Design review, construction inspection, and certification;
  - Ongoing O&M and O&M verification;
- Exchange units and equivalency; and
- Necessary agreements and/or resolutions among participants in the System.

E.11 Contra Costa County System Next Steps

This System Summary Report primarily describes the proposed Contra Costa County System structure that is envisioned to be implemented during Phase 2 (i.e., initial System roll-out). following completion of this System Summary Report and prior to initiating Phase 2, one to two Phase 1 pilot exchanges will be conducted to test key components of the proposed Contra Costa County System structure. Any lessons learned during the Phase 1 pilot exchanges will be applied to this System Summary Report to create the Final Program Documents used to guide Phase 2, anticipated to begin in late 2022 or 2023. It is envisioned that Phase 2 will include required studies, approvals, and agreements and will result in System exchanges by 2026. After the Phase 2 establishment period and implementation of required System adjustments and amendments, the System will shift into Phase 3, during which the System will be fully operational. Based on the anticipated schedule, the Contra Costa County System will in Phase 3, fully established and operational, by 2029 to 2030.

1. INTRODUCTION

This Regional Alternative Compliance System Summary Report (System Summary Report) describes the efforts and outcomes of the EPA Water Quality Improvement Fund (WQIF) grant-funded Regional Compliance for a Sustainable Bay project (Project). The purpose of this Project is to develop and pilot a regional alterative compliance system (referred to as the Contra Costa County System) to achieve the water quality objectives of the San Francisco Bay Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP; Order No. R2-2015-0049 and future orders). The MRP incorporates performance standards for new development and redevelopment, as well as requiring control measures to implement the San Francisco Bay Total Maximum Daily Loads (TMDLs) for polychlorinated biphenyls (PCBs) and mercury. The Contra Costa County System is intended to provide a flexible, cost-effective, and scientifically defensible compliance option for addressing the green stormwater infrastructure (GSI) and mercury/PCBs control requirements outlined in the MRP (Provisions C.3, C.11, and C.12, respectively). The Contra Costa County System framework is intended to be easily adaptable by the other San Francisco Bay Area (Bay Area) countywide programs.

This System Summary Report has been developed through technical and legal analyses and discussions with technical, regulatory, legal, and stakeholder advisors and a Permittee steering committee. Project advisory committees engaged in the development of this Summary Report include:

- **Steering Committee** – The Steering Committee is comprised of representatives from the Cities of San Pablo, Walnut Creek and Richmond and Contra Costa County who are guiding development of the Contra Costa County System. The Steering Committee and the Consultant Team comprise the Project Team.

- **Advisory Committee** – The Advisory Committee is comprised of advisory stakeholders that have an interest in future alternative compliance projects. The Advisory Committee includes representatives from Alameda County, San Mateo County, Santa Clara County, Solano/Fairfield-Suisun, Marin County, Sonoma County, and Napa County stormwater programs, along with Caltrans, Port of Oakland, and San Francisco Public Utilities Commission (SFPUC) stormwater staff.

- **Technical Advisory Committee (TAC)** – The TAC is comprised of technical, regulatory, and legal experts that advise on specific issues or questions that arise as part of the Project.

This System Summary Report describes the key Contra Costa County System drivers and objectives, the proposed System approach and rationale, and key definitions and considerations for System components. This Summary Report includes the following sections:

- Section 2 describes Contra Costa County System drivers and regulatory background.

- Section 3 provides an overview of the proposed Contra Costa County System, including the rationale for the alternative compliance approach, System components, and administrative roles.
- Section 4 includes a description of the Contra Costa County System metric and allowable control measures.
- Section 5 provides details regarding Contra Costa County System requirements, including eligibility rules and certification and verification processes.
- Section 6 describes the proposed compliance purchase cost setting approach.
- Section 7 discusses Contra Costa County System risk and uncertainty considerations and management.
- Section 8 introduces Contra Costa County System adaptive management.
- Section 9 provides an overview of the Contra Costa County System Tracking Tool.
- Section 10 describes key Contra Costa County System templates.

2. BACKGROUND INFORMATION

2.1 System Drivers

The key regulatory driver for regional alternative compliance in Contra Costa County (the County) is the MRP. The MRP and other Contra Costa County System drivers are described in the following sections.

2.1.1 Municipal Regional Permit

NPDES permit requirements associated with Phase I municipal stormwater programs and Permittees in the Bay Area are included in the MRP, which was issued by the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) to 76 cities, counties, and flood control districts in 2009 and revised in 2015. Contra Costa County Permittees covered under the 2009 MRP and 2015 reissuance include the cities of Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek, the towns of Danville and Moraga, unincorporated Contra Costa County, and the Contra Costa County Flood Control & Water Conservation District (Flood Control District). The MRP was revised again in 2019 to add the cities of Antioch, Brentwood, Oakley, and the eastern portions of unincorporated Contra Costa County and the Contra Costa County Flood Control & Water Conservation District (in total referred to as "the East County Permittees"). The East County Permittees are located within the jurisdiction of the Central Valley Regional Water Quality Control Board (Region 5) and were previously covered under a separate Joint Municipal NPDES Permit titled "East Contra Costa County Municipal NPDES Permit." See Figure 1 for the County, permittee, and Regional Board jurisdictional boundaries. The 2015 MRP is currently being revised; the Tentative Order for the 2022 reissuance was released on September 10, 2021

(referred to herein as the MRP 3 Tentative Order). The revised permit is expected to be adopted in early 2022 and become effective on July 1, 2022.

MRP Provision C.3 is the focus for the alternative compliance pathway provided by the proposed Contra Costa County System. Provision C.3 is primarily focused on low impact development (LID) source control, site design, stormwater treatment (Provisions C.3.c-d), and hydromodification management measures (Provision C.3.g) for new development and redevelopment projects and their certification and operation and maintenance (O&M) (Provision C.3.f and C.3.h). Provision C.3 identifies categories of development projects that are regulated (i.e., "Regulated Projects") that must implement LID stormwater treatment measures (also known as Green Infrastructure (GI) or Green Stormwater Infrastructure[2] (GSI)). LID treatment measures are stormwater treatment facilities that capture stormwater for harvesting and use, infiltration, evapotranspiration, and/or biotreatment. LID/GSI treatment measures for new development and redevelopment projects must be sized per numeric sizing criteria specified in the MRP.

MRP 3 Tentative Order Provision C.3.e specifically allows alternative compliance for Regulated Projects as quoted below:

> *"The Permittees may allow a Regulated Project to provide alternative compliance with Provision C.3.b in accordance with one of the two options listed below:*
>
> ***(1) Option 1: LID Treatment at an Offsite Location***
>
> *Treat a portion (this portion may be zero, but to the MEP, Permittees should treat as much onsite as possible) of the amount of runoff identified in Provision C.3.d for the Regulated Project's drainage area with LID treatment measures onsite or with LID treatment measures at a joint stormwater treatment facility and treat the remaining portion of the Provision C.3.d runoff with LID treatment measures at an Offsite Project[3] in the same watershed. The offsite LID treatment measures must provide hydraulically-sized treatment (in accordance with Provisions C.3.d and C.3.g, as appropriate) of an equivalent quantity of both stormwater runoff and pollutant loading and achieve a net environmental benefit.*
>
> ***(2) Option 2: Payment of In-Lieu Fees***
>
> *Treat a portion (this portion may be zero, but to the MEP, Permittees should treat as much onsite as possible) of the amount of runoff identified in Provision C.3.d for the*

[2] Green Stormwater Infrastructure (GSI) is infrastructure that uses vegetation, soils, and natural processes to manage water and create healthier urban environments. At the scale of a city or county, GSI refers to the patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, GSI refers to stormwater management systems that mimic nature by capturing and storing water. When used for Regulated Project compliance under MRP Provision C.3, GSI must be engineered and sized to meet permit specifications.

[3] The MRP 3 Tentative Order includes the following definition: "***Offsite Project*** *– A stormwater treatment facility that discharges into the same watershed as the Regulated Project and is located at a different public or private parcel or property (e.g., right-of-way) from the Regulated Project.*"

Regulated Project's drainage area with LID treatment measures onsite or with LID treatment measures at a joint stormwater treatment facility and pay equivalent in-lieu fees[4] *to treat the remaining portion of the Provision C.3.d runoff (and comply with Provision C.3.g, as appropriate) with LID treatment measures at a Regional Project*[5] *or Offsite Project. The Regional Project must achieve a net environmental benefit, through a net increase in imperious surface treated, and/or a net reduction in flow and/or pollutant load.*"

The MRP 3 Tentative Order Attachment A, Fact Sheet, also allows for:

"…the Permittees [to] submit new information for an alternative compliance program for exchanges of impervious surface treatment credits at the regional, county, and/or municipal level, resulting in offsite treatment of payment for equivalent offsite compliance for 100 percent of the required Provision C.3.c-d stormwater runoff (and Provision C.3.g, as appropriate).

Any such program should include at least the following: a clear organizational framework; demonstration of equivalent or increased water quality benefit (e.g., through the equivalent or net increase in impervious surface treated, and the equivalent or net reduction in flow and/or pollutant load, but not necessarily in the same watershed); an accounting and reporting system; a process for collection and timely use of funds; compliance with Provisions C.3.c-d and C.3.f-h; program oversight by an entity or entities; and expectations for timing and location. If or when such a program proposal is submitted, the Water Board will consider the new information and may consider amending the Permit to include a third option in Provision C.3.e.i that formally recognizes and allows the program specified in the proposal. This is in part a response to the City of San Pablo-led U.S. EPA Water Quality Improvement Fund (WQIF)-funded Regional Compliance for a Sustainable Bay project, which is investigating such a program that would facilitate alternative compliance exchanges between Permittees within Contra Costa County, but may be of interest in other counties and regionally."

This System Summary Report will be submitted to the SFBRWQCB for approval of the Contra Costa County System. The program components that fulfill the required elements listed in the MRP 3 Tentative Order Fact Sheet are highlighted throughout this System Summary Report and are summarized in Table 1.

[4] The MRP 3 Tentative Order includes the following definition: "***In-lieu fees*** *– Monetary amount necessary to provide both hydraulically-sized treatment (in accordance with Provision C.3.d) with LID treatment measures of an equivalent quantity of stormwater runoff and pollutant loading, and a proportional share of the operation and maintenance costs of the Offsite Project or Regional Project.*"

[5] The MRP 3 Tentative Order includes the following definition: "***Regional Project*** *– A regional or municipal stormwater treatment facility that captures runoff from a drainage area larger than the parcel on which it is located and discharges into the same watershed as the Regulated Project.*"

Table 1: Summary of Proposed Program Submittal Requirements

MRP 3 Tentative Order Fact Sheet Requirement for Proposed Program Submittal	Location(s) in System Summary Report
A clear organizational framework	• Section 3.1 and 3.3
Demonstration of equivalent or increased water quality benefit (e.g., through the equivalent or net increase in impervious surface treated, and the equivalent or net reduction in flow and/or pollutant load, but not necessarily in the same watershed)	• Section 4
An accounting and reporting system	• Section 5.6 • Section 5.7 • Section 9
A process for collection and timely use of funds	• Section 5.4 • Section 6.3 • Section 6.5
Compliance with Provisions C.3.c-d and C.3.f-h	• Section 3.2.4 • Section 4.2 • Section 5.6 • Section 5.7
Program oversight by an entity or entities	• Section 3.4 • Section 8.2 • Section 8.3
Expectations for timing and location	• Section 3.3 • Section 11

In addition to LID/GSI requirements for Regulated Projects, Provision C.3.j required the Permittees to develop a Green (Stormwater) Infrastructure Plan for inclusion in their 2019 Annual Reports. The GSI Plans include a mechanism to prioritize and map areas for potential and planned GSI projects, both public and private, on a drainage-area-specific basis, for implementation by 2020, 2030, and 2040. Subprovision C.3.j also included an early implementation component that required Permittees to review capital projects for opportunities to include LID/GSI.

The MRP 3 Tentative Order expands on the GSI Plan requirements, including specific numeric goals for acres to be retrofit with GSI. The MRP 3 Tentative Order includes GSI retrofit area requirements for each permittee. Permitees may meet their total individual retrofit requirements on a countywide basis, although each permittee must implement a GSI project treating no less than 0.2 acres of impervious surface. The countywide GSI retrofit requirement is 68.4 acres. Non-Regulated projects and green infrastructure beyond the minimum required by Provision C.3.d for a Regulated Project may be counted towards the numeric GSI retrofit requirements. If non-Regulated Project or Regulated Project (beyond the minimum required by Provision C.3.d) GSI/LID is later used as part of an Alternative Compliance exchange to offset the treatment required by a Regulated Project, then it may no longer be counted towards the Provision C.3.j.GSI retrofit requirements.

MRP Provisions C.11 and C.12 require implementation of control programs for mercury and PCBs, respectively, consistent with the San Francisco Bay mercury and PCBs TMDLs. The

required control programs include load reduction assessments, implementation of GSI to specifically reduce loads of mercury and PCBs, implementation of other control measures, load reduction accounting, development of a TMDL Implementation Plan and Reasonable Assurance Analysis (RAA), and other reporting. Challenges with cost-efficient compliance with Provisions C.11 and C.12 on an individual permittee basis is another driver for the Contra Costa County System, as further described in Section 2.1.2.

The MRP 3 Tentative Order Provisions C.11.c and C.12.c require the permittees to implement treatment control measures, diversion to wastewater treatment facilities, GSI, or other control measures to achieve mercury and PCBs load reductions. Contra Costa County permittees may comply with this provision through implementation of control measures on 1,119 of old industrial land use area (countywide), based on implementation of 70 percent efficient treatment control measures, or a larger area using less effective control measures.

The East County Permittees are not subject to the PCBs and mercury TMDLs, although they have been implementing PCBs and mercury control measures in collaboration with the Contra Costa County Permittees located within the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) jurisdiction (Region 2). The amended MRP incorporates requirements for the East County Permittees related to the Sacramento-San Joaquin Delta Estuary Methylmercury TMDL; a Methylmercury Control Study was completed in 2020 that describes a plan and schedule for reducing East County Permittee methylmercury loads (CCCWP, 2020).

In addition to Provisions C.3, C.11, and C.12 discussed above, the Contra Costa County System could provide localized benefits relating to Provision C.10, Trash Load Reduction requirements, though these benefits would not be exchanged through the System.

2.1.2 Additional System Drivers

Additional Contra Costa County System drivers include the limited resources available to manage stormwater across the County and the high cost to achieve compliance with general municipal separate storm sewer (MS4) permit requirements. The estimated cost to treat the public GSI project area identified in the Contra Costa TMDL Control Measure Plan ranges from $915 million to $1.884 billion (CCCWP, 2020). The Permittees are faced with these compliance costs even while municipal stormwater program funding is typically inadequate to cover existing storm drain infrastructure maintenance. A system that could provide compliance cost savings and additional benefits would be helpful for Countywide stormwater water quality and infrastructure management.

In addition to limited financial resources, the PCBs TMDL presents unique challenges when considering compliance at an individual Permittee level. Although the Permittees are allocated a PCBs wasteload by the TMDL on a population basis, according to monitoring and regional modeling conducted by San Francisco Estuary Institute (SFEI) and modeling conducted for the County RAA, the PCBs load is not distributed evenly across the County (Geosyntec Consultants, Inc. [Geosyntec], 2019; CCCWP, 2020). As a result, targeted management of PCBs is a more efficient and effective means of meeting compliance requirements, rather than investing in control measures based on jurisdictional population. Targeted management would entail countywide investment of PCBs control measures in specific locations that achieve the highest load reductions. A regional alternative compliance approach (e.g., the proposed Contra Costa

County System) that can provide economies of scale while supporting targeted treatment in areas of higher PCBs loading would enable a more regionally efficient means of addressing the TMDL compliance targets.

2.2 Contra Costa County System Objectives

The following key objectives for the Contra Costa County System were developed with input from the Project Steering Committee and Advisory Committee:

1. Flexible compliance with the MRP, particularly Provision C.3.b-d (Regulated Projects requirements), but potentially also Provision C.3.j (Green Infrastructure Planning and Implementation);
2. Cost efficiencies through implementation of larger stormwater capture projects that provide treatment at a lower cost per acre as well as lower maintenance and inspection costs;
3. Targeted implementation of facilities that can provide higher load reduction benefits toward compliance with the San Francisco Bay PCBs and mercury TMDLs;
4. Implementation of stormwater capture and water quality improvement projects that provide multiple benefits, including benefits ancillary to those relating to MRP Provisions C.3, C.11, and C.12; and
5. Flexibility to adapt the system to meet future water quality needs.

2.3 Environmental Review Approach

The California Environmental Quality Act (CEQA) requires state and local government agencies to inform decision makers and the public about potential environmental impacts of proposed projects, and to mitigate any significant environmental effects to the extent feasible. CEQA defines a "project" as an activity that: (1) is a discretionary action by a governmental agency, and (2) will either have a direct or reasonably foreseeable indirect impact on the environment (Pub. Res. Code, § 21065). This section discusses the approach to CEQA compliance for each of the following stages of the Contra Costa County System:

1. Adoption of local ordinances or other regulatory mechanism that allows implementation of the Contra Costa County System.
2. Using the Contra Costa County System as CEQA mitigation for development projects.
3. Approval of projects that will generate metrics under the Contra Costa County System.

2.3.1 CEQA Considerations for Adoption of Local Ordinance

Regulated development projects must comply with MRP Provision C.3 by implementing on-site mitigation (i.e., LID/GSI stormwater control measures) or approved off-site mitigation on a case-by-case basis. Implementation of the Contra Costa County System would require adoption of implementing procedures by the MRP permittees (i.e., the towns and cities within Contra Costa County, County Costa County, and the Flood Control District), such as an ordinance, that would allow use of the Contra Costa County System for MRP compliance. The adoption of an

ordinance or other regulatory mechanism to implement the Contra Costa County System is a discretionary action that meets the definition of a project under CEQA because the activity is capable of causing a direct or reasonably foreseeable indirect physical change in the environment[6]. MRP Provision C.3.e specifically requires that alternative compliance for regulated projects "achieve a net environmental benefit". The MRP 3 Tentative Order Fact Sheet requires that an alternative compliance program proposal include a "demonstration of equivalent or increased water quality benefit". The Contra Costa County System has been designed to provide an increased water quality benefit for development projects, as discussed further in Sections 3.3 and 4.3 of this report. Because the Contra Costa County System by design would provide an increased water quality benefit for development projects, adoption of an ordinance to implement the System could meet the criteria for a CEQA Categorical Exemption (CE). The following categorical exemptions may apply: Class 7 CE Actions Taken by Regulatory Agencies for Protection of Natural Resources or Class 8 CE Actions Taken by Regulatory Agencies for the Protection of the Environment.

2.3.2 CEQA Considerations for Mitigation

The Contra Costa County System would allow for development of projects that would require mitigation in one jurisdiction, such as a municipality and projects that would generate credits and serve as mitigation in other jurisdictions. Where the Contra Costa County System is applied as mitigation to address project impacts, the mitigation must meet the requirements of CEQA Guidelines 15126.4, which requires mitigation to be enforceable[7], not deferred[8], roughly proportional to the impact, and have a clear nexus to the impact. To address these requirements for CEQA mitigation, the Contra Costa System, as defined herein, includes a certification system that would provide substantial evidence that the mitigation is not deferred, is enforceable, and is proportional to the impact being addressed. The Contra Costa County System certification process incorporates these requirements by ensuring that the metric-generating projects exist in order to avoid deferral of mitigation and provide equivalent (proportional) pollution reduction to offset the impact. The Contra Costa County System design also includes adequate enforcement mechanisms to meet the requirements of CEQA and avoid the need for separate pollution reduction mitigation where the Contra Costa County System is used.

[6] Union of Medical Marijuana Patients, Inc. v. City of San Diego, S238563, p. 32

[7] Mitigation measures must be fully enforceable through permit conditions, agreements, or other legally-binding instruments. In the case of the adoption of a plan, policy, regulation, or other public project, mitigation measures can be incorporated into the plan, policy, regulation, or project design.

[8] The specific details of a mitigation measure, however, may be developed after project approval when it is impractical or infeasible to include those details during the project's environmental review, provided that the agency (1) commits itself to the mitigation, (2) adopts specific performance standards the mitigation will achieve, and (3) identifies the type(s) of potential action(s) that can feasibly achieve that performance standard and that will be considered, analyzed, and potentially incorporated in the mitigation measure. Compliance with a regulatory permit or other similar process may be identified as mitigation if compliance would result in implementation of measures that would be reasonably expected, based on substantial evidence in the record, to reduce the significant impact to the specified performance standards.

2.3.3 CEQA Considerations for Off-site Mitigation Projects that Generate Metrics

Projects that are implemented to generate metrics would be subject to CEQA review because the projects would have a physical environmental effect. The lead agency for review of the metric-generating project would be the agency with jurisdiction over the project, based on its location or funding, and is typically the same agency responsible for approving the project. Where multiple agencies would be required to issue approvals for a project, the agency with the greatest responsibility for supervising or approving the project as a whole should be the lead agency (CEQA Guidelines Section 15051[b]). The lead agency is usually the agency with general governmental powers, such as a city or county, rather than a single-purpose agency, such as a water district. The CEQA review for metric-generating projects would need to be completed prior to metric construction and certification.

3. PROPOSED CONTRA COSTA COUNTY SYSTEM OVERVIEW

The **clear organizational framework** for the proposed Contra Costa County System (as required for proposed program submittal per MRP 3 Tentative Order Fact Sheet) is described in Section 3.1 – 3.3. Section 3.4 describes **program oversight by administrative entities**. Section 3.2.4. describes how the System may provide **compliance with Provision C.3.g.**

3.1 Proposed Contra Costa County System

The proposed Contra Costa County System combines elements from in-lieu payment and (preliminarily) pay-for-performance/Community-Based Public Private Partnership (CBP3) programs. The Contra Costa County System would provide Permittees and Regulated Project developers an optional alternative pathway for compliance with MRP Provision C.3, and benefits relating to Provisions C.11 (Mercury controls), C.12 (PCBs Controls), and, as opportunities arise, C.10 (Trash Load Reduction). The proposed Contra Costa County System is intended to be primarily established under the MRP 3 Tentative Order Fact Sheet for Provision C.3.e, which allows Permittees to submit an alternative compliance program proposal to be considered and, if approved by the SFBRWQCB, formally recognized under MRP 3 Provision C.3.e.. This System approach was selected through input from the Steering Committee, the TAC, the Advisory Committee, and preliminary legal review, as described in Section 3.2. The proposed Contra Costa County System is illustrated in Figure 2.

A Regulated Project typically proceeds with the on-site track ("A" in Figure 2) and includes planning review, construction of on-site LID/GSI facilities, certification of on-site facilities, and ongoing O&M by the Regulated Project owner. The Contra Costa County System creates a second optional pathway for C.3 compliance for Regulated Projects ("B" in Figure 2). Instead of constructing LID/GSI facilities on-site, the Regulated Project owner would make a "compliance purchase", which would cover capital costs for C.3 compliance, in addition to paying annual ongoing O&M assessments levied on their parcel. The collected funds from compliance purchases (i.e., for capital costs) would be pooled by the Contra Costa County System, which would include implementation, certification, and ongoing O&M and verification of Off-Site GSI Projects. The Contra Costa County System is expected to achieve TMDL load reduction benefits through the construction of Off-Site GSI Projects, which are anticipated to be primarily located

in older urban and industrial areas known to have higher levels of PCBs (SFEI, 2018; CCCWP, 2020).

The proposed Contra Costa County System is expected to provide:

- Flexible compliance for Permittees and Regulated Project owners;
- Cost savings through economies of scale realized through implementation of larger regional Off-Site GSI Projects as well as potential cost savings through using pay-for-performance or CBP3 contracting mechanisms rather than traditional procurement; and
- Additional water quality and environmental benefits and related TMDL compliance benefits through retrofit of untreated older urban and industrial areas with higher pollutant loading and application of equivalent or increased water quality benefit requirements for Regulated Projects.

The Contra Costa County System would be implemented in at least three phases:

1. Phase 1, Initial Pilot Exchanges, will occur as part of this Project. This phase entails piloting the System on a small number (1-2) of projects, and will result in reporting any issues and/or adjustments that are needed to streamline the System.
2. Phase 2 is anticipated to be a five-year initial roll-out of the System. The objective of Phase 2 is the wider acceptance and implementation of the System across Contra Costa County. This phase may include additional studies, agreements, and mechanisms for contracting within the County.
3. Phase 3 and beyond would begin after Phase 2 lessons learned have been addressed through System Amendments. In this phase, the System would be established and fully operating, with adaptive management procedures in place.

3.2 Rationale for Selection

3.2.1 Compliance Purchases

The Contra Costa County System is envisioned to meet compliance needs for MRP Permittees and private developers subject to Provision C.3 development and redevelopment requirements. Offset crediting approaches, such as those documented in the Regional Alternative Compliance System Literature Review (City of San Pablo, 2020), were considered early in Contra Costa County System development. It was determined that although offset crediting would be plausible for addressing GSI requirements and is allowed through MRP Provision C.3.e.(1)), a market-based approach would not be appropriate for addressing mercury and PCBs TMDLs due to limited buyer demand for stand-alone load reduction metrics. Early iterations of the Contra Costa County System proposed the use of an offset crediting system for LID/GSI requirements along with a pollution reduction fee to address mercury and PCBs TMDLs to satisfy permit requirements for “net environmental benefit”/ “equivalent or increased water quality benefit”.

Legal review of the initial proposed system (i.e., offset plus pollutant reduction fee) revealed several issues that required the Project Team to re-examine the system approach. Primarily, the

MRP did not provide adequate legal basis for the proposed pollution reduction fee as developers purchasing "off-site credits" that are equivalent to on-site requirements should already be in compliance and not require additional pollution mitigation through a fee. Moreover, the proposed fee would require substantial effort to document the "nexus" between the fee being charged, the benefit of the facilities constructed to mitigate new development impacts, and the proportional cost allocation under the Mitigation Fee Act (i.e., AB 1600).[9] Lastly, the proposed fee would likely require significant public support and a separate initiative, as required by Proposition 218.[10] Given these findings, the proposed stormwater offset crediting program combined with a pollution reduction fee was not further developed as part of the Contra Costa County System.

The Contra Costa County System evolved instead to operate with a "compliance purchase" approach. The compliance purchase approach was developed in the model of an in-lieu payment (i.e., fee) approach, currently allowed per MRP Provision C.3.e.(2) and utilizes language from this option for program definitions. The Contra Costa County System is also subject to the MRP 3 Tentative Order Fact Sheet for Provision C.3.e, which allows permittees to submit an alternative compliance program proposal to be considered and, if approved by the SFBRWQCB, formally recognized in MRP 3 Provision C.3.e. Compliance purchases would be pooled to administer and fund the implementation of Off-Site GSI Projects to provide compliance with the LID/GSI requirements of Provision C.3 and provide an "equivalent or increased water quality benefit" as required through the MRP 3 Tentative Order Fact Sheet. A compliance purchase approach avoids the issues identified with the initial offset plus pollutant reduction fee program approach, while funding Off-Site GSI Projects targeted to reduce PCBs and mercury loads. In the future, non-GSI projects addressing other benefits could be incorporated into the Contra Costa County System as it continues to evolve and additional buyers are identified (see Section 3.3.1). A pay-for-performance or CBP3 contracting approach could be utilized to incentivize cost-effective project implementation.

The recommended compliance purchase approach, modeled from an in-lieu payment approach, was defined consistent with input from the Project technical advisors, Steering Committee, TAC, and the Advisory Committee, who voiced the need for the Contra Costa County System to be simple and to provide a means for flexible compliance, increased multiple benefits, and cost efficiencies. The compliance purchase approach, and the resulting Off-Site GSI Projects, managed through the Contra Costa County System, allows for a simplified process for certification, verification, and tracking.

Notably, the System is envisioned to be different than other in-lieu payment programs, as the Off-Site GSI Projects must be built and certified before the resulting compliance metrics can be used as alternative compliance for Regulated Projects. This is necessary to ensure that the metrics meet all legal and CEQA requirements for mitigation.

3.2.2 Integration into Existing Compliance Programs

The launch and ongoing administration of water quality programs may require substantial resources for program costs and infrastructure. Technical advisors cautioned the Project Team

[9] Mitigation Fee Act, California Government Code Section 66000, et seq.
[10] California Proposition 218

early in Contra Costa County System development that these program costs have undermined the cost-saving objectives of several early water quality programs and that reducing program costs would be essential for the System's success. In response, the Contra Costa County System has been developed in a manner that minimizes these program costs through integration with existing permittee MRP C.3 LID/GSI compliance programs and existing administrative infrastructure and resources. This is expected to not only reduce program costs for the Contra Costa County System, but would also reduce barriers to entry for Permittees familiar with the existing compliance programs and resources. The Contra Costa County System is proposed to utilize existing staff and tools by aligning resource-intensive System processes, such as certification, verification, and tracking, with requirements in the existing MRP. See Section 3.3.2.1, 5.6, and 5.7 for an overview of these processes.

3.2.3 Considerations for System Metric

For the purposes of this report, the Contra Costa County System metric is referred to as a "compliance unit". This is a unit of exchange that can be purchased by buyers seeking alternative compliance with the MRP (or, potentially, other NPDES permits). With the use of the compliance purchase approach modeled on the MRP in-lieu payment option, the Contra Costa County System compliance unit can be defined using language in MRP Provision C.3.e.(2) (see Section 2.1) as requiring three elements:

4. Hydraulically-sized treatment in accordance with Provision C.3.d with LID/GSI treatment measures of an equivalent quantity of stormwater runoff and pollutant loading, which is referred to as **"Equivalent Acres Greened"**;
5. An Equivalent or Increased Water Quality Benefit; and
6. A proportional share of the O&M costs of the (off-site) Regional Project, which is referred to as an **"Ongoing O&M Assessment".**

The MRP 3 Tentative Order Fact Sheet requires "equivalent or increased water quality benefit (e.g., through the equivalent or net increase in impervious surface treated, and the equivalent or net reduction in flow and/or pollutant load, but not necessarily in the same watershed)" be provided through the Off-Site GSI Projects implemented through the Contra Costa County System. In order to demonstrate equivalent or better treatment of runoff and pollutant loading, analyses were conducted to define ratios and System rules that must be applied when "Equivalent Acres Greened" compliance units are purchased via a compliance purchase. The Contra Costa County System ratios and rules are expected to result in implementation of GSI primarily in older urban and industrial areas that, for the most part, currently discharge untreated stormwater to receiving waters, and additionally to result in a net increase in impervious surface treated. Implementation of GSI in higher polluting areas has been demonstrated to result in overall improvements to water quality.

In addition to the stormwater and pollutant loading equivalency demonstration, the Contra Costa County System compliance unit includes the requirement of ongoing O&M assessments. The Contra Costa County System compliance unit is further described in Section 4 of this document.

3.2.4 Hydromodification Management

At this time, it is not expected that Regulated Projects subject to hydromodification management requirements (Provision C.3.g) would participate in the first phase of the Contra Costa County System. See Figure 1 for a map of areas in the County where hydromodification management requirements apply for Regulated Projects that meet the acreage threshold (i.e., one acre impervious surface added or replaced). Provision C.3.g.ii (HM Standard) specifically requires:

> *"Stormwater discharges from HM Projects shall not cause an increase in the erosion potential of the* ***receiving stream*** *over the pre-project (existing) condition. Increases in runoff flow and volume shall be managed so that post- project runoff shall not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force."*

Hydromodification management requirements focus specifically on limiting the impacts to the receiving stream of the Regulated Project. Therefore, any Off-Site GSI Project or other off-site project implemented to address hydromodification would need to be built within a constrained geographic area, such that it addresses impacts to the same downstream channel.

While there could be some unique situations where implementation of off-site hydromodification management measures could serve multiple Regulated Projects in an innovative fashion (e.g., where an in-stream measure could be used for a currently impacted and unstable channel, in partnership with a local non-profit), these situations are highly site specific. If these projects participate in the Contra Costa County System, there may be a need for a project-specific compliance purchase amount (i.e., capital cost) and ongoing O&M assessment. Additionally, if water quality is not incorporated into the off-site project that addresses the hydromodification requirement, the Regulated Project would need to make a separate compliance purchase and pay an ongoing O&M assessment for water quality compliance. The potential future hydromodification "track" is included in the Contra Costa County System schematic diagram in Figure 3 to demonstrate how this track would integrate with the rest of the System.

Alternatively, Regulated Projects subject to hydromodification management requirements that are meeting Provision C.3.g could participate in the Contra Costa County System solely for water quality compliance needs.

3.3 Contra Costa County System Components

The main components of the Contra Costa County System are described in this section. The hydromodification track, introduced in Figure 3 as a potential future addition to the Contra Costa County System, is not included in this section and is anticipated to be developed in System Phase 3 or later.

3.3.1 System "Buyers"

Contra Costa County System "buyers" are primarily expected to include Regulated Project owners/developers seeking compliance with MRP Provisions C.3.c-d, f, and h (LID/GSI) and potentially C.3.g (Hydromodification Management) located within Contra Costa County. Contra Costa County System buyers could also include Permittees seeking Equivalent Acres Greened

compliance units to meet GSI retrofit needs, such as those outlined in GI Plans, as well as other non-Regulated project buyers located within Contra Costa County.

While Off-Site GSI Projects are expected to provide enhanced TMDL load reduction benefits (as compared to on-site stormwater treatment), because there are other control measures for TMDL load reductions that may cost less, there is not expected to be substantial demand for Equivalent Acres Greened compliance units purchased solely for TMDL compliance purposes. Consequently, other entities subject to the TMDLs, such as publicly operated treatment works (POTWs) or industrial facilities, are also not expected to be interested in purchasing the Equivalent Acres Greened compliance units solely to meet their TMDL compliance requirements.

The amount of future development that would ultimately participate in the Contra Costa County System is difficult to predict, not least because the level of participation is dependent on the implementation and roll-out of the System. Because uncertain demand can impede a program's launch and success, the recommended approach to provide Equivalent Acres Greened compliance unit demand in the early implementation phase is to launch the Contra Costa County System with a Programmatic Demand (i.e., a minimum amount of compliance units guaranteed to be purchased, recommended to be purchased by Permittees during the System Phase 2). Additional information regarding this approach, along with development projection information, is provided in Section 6.2. There is potential for the Contra Costa County System to be expanded to other interested buyers in the future. See Section 5.2 for additional details regarding other potential future buyers.

3.3.2 Off-Site GSI Projects

Off-Site GSI Projects would be constructed within Contra Costa County to generate Equivalent Acres Greened compliance units for sale to the System buyers. See Section 4.2.1 for details regarding allowable control measures for Off-Site GSI Projects. Off-Site GSI Projects are expected to be implemented through public and/or private "compliance unit providers". All proposed Off-Site GSI Projects must meet the criteria set out by the Contra Costa County System and be certified by the jurisdiction in which the Off-Site GSI Project is located, before the compliance metrics generated at the Off-Site GSI Project are available for exchange. There is envisioned to be an application process to allow for approval and guarantee of purchase of compliance metrics generated, which metric providers may complete for this assurance prior to conducting design and construction of Off-Site GSI Projects. Compliance unit providers who do not complete the pre-screening application process would still be eligible to put compliance units that meet Contra Costa County System requirements up for exchange through the System, however, they may not have a guarantee of purchase. If Off-Site GSI Projects are to be located on private property, approval from the private property owner also would need to be provided as part of the review step. See additional details in Section 5.2.

Following preliminary review (if pre-screening application process is conducted), Off-Site GSI Projects would undergo typical construction approval processes by the jurisdiction in which the proposed Facility is to be located, including required CEQA review and plan review, and begin construction. Off-Site GSI Projects are expected to be fully funded or financed and built before

compliance metrics generated through the Facilities can be certified and available for exchange through the Contra Costa County System.

3.3.2.1 Off-Site GSI Project Certification, Verification, and Tracking

The design, implementation, and quantification of benefits[11] of all Off-Site GSI Projects must be certified upon project completion by the jurisdiction in which the Off-Site GSI Project is located. The Off-Site GSI Project certification process is proposed to follow current County processes, which are consistent with MRP requirements, and is described in further detail in Section 5.4 and Attachment B. Once an Off-Site GSI Project's compliance metrics are certified, they would be available within the Contra Costa County System for exchange such that a buyer can purchase them to meet their compliance requirements.

Ongoing O&M verification of the Off-Site GSI Project's performance, including required site inspections, would also be conducted by the jurisdiction in which the Off-Site GSI Project is located. The Off-Site GSI Project verification process has also been developed to be consistent with current County processes, which are compliant with MRP requirements, and is described in Section 5.5.

Tracking of Off-Site GSI Projects, including certification, total Equivalent Acres Greened compliance units generated, compliance metrics exchanged, and ongoing verification of Off-Site GSI Projects and their associated compliance metrics, would be tracked by the Contra Costa County System Tracking Tool described in Section 9 and Appendix A. The System Tracking Tool would also be used to track documentation from the certification and verification processes, as well as provide transparency and accountability to the public. Regulated Project participants would also be tracked in the County's current ArcGIS Online (AGOL) tracking tool, as described in Sections 5.5 and 5.6.

3.3.2.2 Ongoing Off-Site GSI Project Operation and Maintenance

Ongoing O&M of constructed Off-Site GSI Projects is expected to be managed and performed either by the jurisdiction in which the Off-Site GSI Project is located and/or by a contracted compliance unit provider as part of a pay-for-performance or CBP3 contracting process (see section 6.3.3). In either case, funds for ongoing O&M are proposed to be collected through the ongoing O&M assessment and pooled in the existing Flood Control Zone 100, pending approval from the Flood Control District (see Sections 4.6 and 6.7). O&M funds would be distributed from the Flood Control Zone 100 with proof of completed O&M, anticipated to be documented through the Contra Costa County System Tracking Tool.

3.3.3 Equivalent or Increased Water Quality Benefit

MRP Provision C.3.e requires an Equivalent or Increased Water Quality Benefit to be provided when Regulated Projects use the alternative compliance approach. Equivalent or Increased Water Quality Benefit has been incorporated into the compliance metrics, as described in Section 4. To ensure an Equivalent or Increased Water Quality Benefit, an "WQB Ratio" is applied when developing the compliance purchase amount (see Sections 3.3.4 and 4.3). Collected funds

[11] It is expected that preliminary quantification of benefits (including Equivalent Acres Greened compliance metrics generated) would occur as part of preliminary review processes and would be confirmed through certification.

associated with the WQB Ratio would, for the initial roll-out of the program (i.e., Phase 2), be directed towards generating additional Equivalent Acres Greened compliance units through Off-Site GSI Projects. The additional Equivalent Acres Greened compliance units associated with the WQB Ratio for each exchange would provide a net increase in impervious surface treated and a net reduction in pollutant load.

Following Phase 2 of the Contra Costa County System, the WQB Ratio may be directed towards an expanded list of projects and programs beyond additional Equivalent Acres Greened compliance units generated through Off-Site GSI Projects to address future water quality objectives.

3.3.4 Compliance Purchases

3.3.4.1 One-Time Compliance Purchase

The one-time compliance purchase (in contrast to the ongoing O&M assessment) is calculated based on the amount of Equivalent Acres Greened compliance units that are exchanged plus an Administrative Payment. The amount of Equivalent Acres Greened compliance units needed for each exchange is calculated based on the Regulated Project area and land use type, as described in Section 4. This amount of Equivalent Acres Greened compliance units is then multiplied by the WQB Ratio, to demonstrate "Equivalent or Increased Water Quality Benefit" as required by the MRP 3 Tentative Order Fact Sheet, before being multiplied by the Equivalent Acre Greened unit cost ($Cost_{EAG}$). The resulting compliance purchase is calculated as:

$$Purchase_{Compliance} = (Equivalent\ Acres\ Greened \times WQB\ Ratio) \times Cost_{EAG} + Payment_{Administrative}$$

The Equivalent Acre Greened unit cost is envisioned to be developed through a cost study led and/or commissioned by the CCCWP Regional Alternative Compliance Subcommittee, and would be consistent for all participants in the Contra Costa County System. While participation in the Contra Costa County System and payment for a corresponding compliance purchase is optional, and therefore not subject to the requirements of AB 1600, the cost study would be developed using similar methods to those required by AB 1600 to allow for transparency in how the Equivalent Acre Greened unit cost is developed.

The administrative payment would include monetary charges for CCCWP System Administrator, along with charges by the jurisdiction in which the Regulated Project is located. Administrative Payment amounts would be developed through studies when fee schedules are updated by Permittees and will cover all staff and/or consultant hours, along with materials and overhead, to perform administrative functions needed for the Contra Costa County System. This process is anticipated to be informed by Phase 1 and is further described in Section 6.4.3.

Compliance purchases would be collected by the jurisdiction in which Regulated Project participant(s) are located. After deducting the administrative payment for the jurisdiction in which the Regulated Project is located, the remaining compliance purchase payment would be transferred to and pooled by the CCCWP System Administrators. See Sections 3.4 and 6.5 for further detail on fund administration and management.

3.3.5 Ongoing O&M Assessment

Participating buyers would pay an annual ongoing O&M Assessment, levied per Equivalent Acres Greened compliance units purchased at a fixed rate with the potential for annual escalation for inflation and other needed cost adjustments. The Annual O&M Assessment is envisioned to be captured through an annual assessment on the Regulated Project parcel, using the Flood Control District Flood Control Zone 100 as the mechanism for assessment, pending approval from the Flood Control District. This approach would entail the ongoing O&M Assessment to be set to include the costs of LID/GSI facility O&M and the administrative costs for the Flood Control District to administer the pooled funds. Ongoing O&M assessment development, charges, collection, compilation, disbursement, and accounting would be consistent with existing Flood Control District methods and policies. The Flood Control District, using Flood Control Zone 100, would disburse pooled O&M funds with proof of completed O&M, as documented through the System Tracking Tool. See Section 4.6 for further detail regarding the ongoing O&M assessment structure.

3.4 Summary of Preliminary Administrative Structure

As the Contra Costa County System encompasses many participants and cities across the County, the administration of the System would involve many public entities and additional coordination with private participants. The Contra Costa County System is envisioned to be primarily administered by the CCCWP, with additional aspects managed by County Permittees and the Flood Control District. All entities involved are expected to engage in agreements or memoranda of understanding relating to their participation in the System. Additionally, Permittees implementing the Contra Costa County System within their jurisdiction would be expected to be required to update their stormwater ordinances to include the System.

The CCCWP administrators are expected to include at least two specific entities:

1. The Regional Alternative Compliance Subcommittee, which is expected to be made up of volunteer Permittee stormwater program representatives that would make decisions regarding the Contra Costa County System.
2. The System Administrator, who would perform management, financial administration of the Contra Costa County System, System Tracking Tool management, and complete reporting.

Other Contra Costa County System administrators include:

3. The Flood Control District, which would manage the ongoing O&M Assessment and Flood Control Zone 100.
4. County Permittees, which would manage Regulated Project applicants and compliance metric providers that construct Off-Site GSI Projects within their jurisdictional boundaries, facilitate exchanges, and facilitate and/or perform Off-Site GSI Project implementation, certification, O&M, and verification.

Table 2: Summary of System Administrative Entities, Roles, and Responsibilities

System Entity	System Role	System Responsibility

Clean Water Program	Regional Alternative Compliance Subcommittee	• Create and update Off-Site GSI Project selection criteria for System program of projects.
		• Review and approve Off-Site GSI Project applications from compliance metric providers.
		• Review and approve contractors hired to implement projects and/or serve as a pay-for-performance or CBP3 contractor.
		• Determine administrating agency for contractors.
		• Solicit and/or review applicable cost studies for the System.
		• System adaptive management including (see Section 8):
		  ○ System Priorities and Technical Recommendations,
		  ○ System Strategy Meetings,
		  ○ Regular cost updates, and
		  ○ As-needed list of system amendments.

Clean Water Program	System Administrator	• Pool compliance purchase payments and disburse to compliance metric provider(s) for project implementation.
		• Manage and complete reporting for the System.
		• Manage System Tracking Tool (e.g., managing Tracking Tool operator, QAQC).
		• Enter data into System Tracking Tool regarding non-Regulated project buyers and exchanges.
		• Conduct recommended adaptive management including:
		  ○ Amend System Framework and preapproved list of control measures, and/or
		  ○ Enact other identified System revisions.

Flood Control District	Flood Control Zone 100	• Levy and collect the ongoing O&M assessment. • Pool the assessments through Flood Control Zone 100. • Disburse the collected O&M assessment funds. • Evaluate (in coordination with CCCWP System Administrator). and update the assessment on a regular basis. • Perform associated reporting.

Permittees	Exchange Facilitator; Certifying Entity; Verifying Entity	• For Regulated Projects:
		  ○ Application review and approval of Regulated Project owners interested in participating in the Contra Costa County System.
		  ○ Calculation and/or confirmation of compliance purchase amounts.
		  ○ Collection of compliance purchase payments and transfer of compliance purchase payments (deducting jurisdiction-specific administrative payments) to the CCCWP.
		  ○ Enter Regulated Project participant data into System Tracking Tool.
		• For Off-Site GSI Projects:
		  ○ Approve applications.
		  ○ Perform plan checks.
		  ○ Conduct certification and verification processes.

System Entity	System Role	System Responsibility
		○ Perform ongoing O&M. ○ Enter Off-Site GSI Projects in System Tracking Tool. • Notify participants and public of amendments to the System Framework or preapproved list of control measures.

These administrative roles are also shown visually in Figure 5. Additional information about certification and verification processes are provided in Sections 5.4 and 5.5.

3.5 System Next Steps

Next steps for the Contra Costa County System will include successful completion of Phase 1, initial pilot exchanges, and lessons learned applied to the launch of System Phase 2 and beyond. Details of Contra Costa County System next steps are provided in Section 11.

4. CONTRA COSTA COUNTY SYSTEM COMPLIANCE UNIT AND CONTROL MEASURES

The **demonstration of equivalent or increased water quality benefit** for the proposed Contra Costa County System (as required for proposed program submittal per MRP 3 Tentative Order Fact Sheet), provided by clear definitions of the Contra Costa County System metric (i.e., compliance unit) and allowable control measures, is described in this section. Additionally, descriptions of how the compliance unit is defined to provide **compliance with MRP Provisions C.3.c-d** are also included in this section.

4.1 Compliance Unit Definition

Using MRP Provision C.3.e language, the Contra Costa County System compliance unit includes three parts:

1. Equivalent Acres Greened;
2. An Equivalent or Increased Water Quality Benefit; and
3. An ongoing O&M Assessment.

This section describes how the three parts of the compliance unit are defined for the Contra Costa County System.

4.2 Equivalent Acres Greened

Equivalent Acres Greened is the portion of the Contra Costa County System compliance unit that would be generated through Off-Site GSI Projects. For Regulated Projects, Equivalent Acres Greened compliance units purchased must meet the Provision C.3.erequirement of "hydraulically sized treatment in accordance with Provision C.3.d with LID treatment measures of an equivalent quantity of stormwater runoff and pollutant loading." The Provision C.3.d sizing and LID/GSI treatment measure requirements would also apply to compliance units purchased by non-Regulated projects through the Contra Costa System. See Section 4.2.1 for the facility-specific System compliance metric requirements.

Regulated Project owners participating in the Contra Costa County System must purchase compliance metrics that meet the Provision C.3.e requirement of providing "equivalent quantity of both stormwater runoff and pollutant loading" to an on-site facility (see Section 4.2.3). However, non-Regulated project buyers that choose to participate in the Contra Costa County System do not need to purchase compliance metrics that meet equivalent volume and equivalent pollutant loading requirements and would instead purchase compliance metrics on the basis of runoff-generating area (see Section 4.2.2). The Equivalent Acres Greened calculation for all buyers, along with a summary of the Equivalent Acres Greened calculation, is described in section 4.2.4.

4.2.1 Treatment ("Greened") Requirements and Allowable Control Measures

4.2.1.1 Off-Site GSI Project Sizing Requirements

Equivalent Acres Greened are generated through treatment by Off-Site GSI Projects sized to capture the MRP-defined volume hydraulic design basis or the MRP-defined flow hydraulic design basis. MRP Provision C.3.d. Numeric Sizing Criteria for Stormwater Treatment Systems includes:

> *(1) Volume Hydraulic Design Basis – Treatment systems whose primary mode of action depends on volume capacity shall be designed to treat stormwater runoff equal to:*
>
> *(a) The maximized stormwater capture volume for the area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients set forth in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998), pages 175–178 (e.g., approximately the 85th percentile 24-hour storm runoff event); or*
>
> *(b) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Section 5 of CASQA's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data.*
>
> *(2) Flow Hydraulic Design Basis – Treatment systems whose primary mode of action depends on flow capacity shall be sized to treat:*
>
> *(a) 10 percent of the 50-year peak flow rate;*
>
> *(b) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or*
>
> *(c) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.*
>
> *(3) Combination Flow and Volume Design Basis – Treatment systems that use a combination of flow and volume capacity shall be sized to treat at least 80 percent of the total runoff over the life of the project, using local rainfall data.*

In order for the generated Equivalent Acres Greened to be to be certified and available for exchange, the certification process must include verification that the Off-Site GSI Projects are sized in accordance with the C.3.d requirements.

4.2.1.2 Allowable Control Measures for Off-Site GSI Projects

Properly-sized control measure types allowable for Off-Site GSI Projects generating Equivalent Acres Greened are those included in the Contra Costa County Stormwater C.3 Guidebook 7th Edition (CCCWP, 2017). Allowable treatment facilities include:

- ***Bioretention facilities*** – Bioretention captures runoff in a shallow vegetated reservoir on a mulched biotreatment soil media surface, then filters the runoff through plant roots and biologically active soil mix (which removes pollutants), into a gravel layer. From the gravel layer, runoff ultimately infiltrates to the subsurface or is conveyed through an underdrain to the storm drain system.

- ***Flow-through planters*** – Flow through planters include vegetation and soil media similar to bioretention but are contained within a concrete box and are designed to discharge all treated runoff.

- ***Dry wells and infiltration basins*** – Infiltration-based facilities take advantage of rapidly-draining soils to capture and infiltrate large amounts of stormwater runoff to the subsurface. Infiltration facilities are only feasible where soils with sufficiently high infiltration rates are present and where there are no subsurface hazards that could be impacted by infiltration (i.e., adequate depth to groundwater, and no geotechnical hazards or subsurface contamination).

In addition to those control measures listed above, the C.3 Guidebook also includes a "Cistern + Bioretention Facility" and "Bioretention + Vault Facility"; these facility combinations are intended to manage both hydromodification and water quality (CCCWP, 2017). While allowable, it is expected that these types of facilities would not be used in Phase 2 of the Contra Costa County System because of the additional cost required for sizing to hydromodification standards. Self-treating and self-retaining control measures may be eligible to generate Equivalent Acres Greened compliance metrics with justification from compliance unit providers.

Control measures other than those listed could be used to generate Equivalent Acres Greened compliance units if compliance unit generators can demonstrate that the facilities are designed consistent with the C.3 Guidebook requirements (CCCWP, 2017) and provide equivalent volume capture and pollutant load reduction performance as the listed control measures. It is expected that Phase 2 of the Contra Costa County System would limit allowable control measures to LID/GSI facilities only. Non-LID/GSI facility types could be considered in the future through Contra Costa County System adaptive management protocol to address future water quality objectives (see Section 8).

4.2.2 Runoff Generating Area

Runoff generating area (or acres) forms the base unit of the Equivalent Acres Greened calculation. Runoff is assumed to be generated from 100% of directly-connected impervious

surfaces and 10% of pervious surfaces within a given drainage area. Assuming that 100% of impervious acres and 10% of pervious surfaces generate runoff is consistent with the "Treatment Only" (i.e., GSI) runoff factors for pervious surfaces in the Contra Costa C.3 Technical Manual Table 3-2 (CCCWP, 2017). The runoff coefficient of 10% of pervious surfaces is also validated through the hydrology model developed for the County's Reasonable Assurance Analysis (RAA) for mercury and PCBs, developed in compliance with MRP Provisions C.11 and C.12 (CCCWP, 2020). Details regarding the RAA validation of the 10% runoff coefficient for pervious surfaces is provided in Appendix B.

For Regulated Projects (i.e., to calculate Equivalent Acres Greened required to be purchased), this calculation would be conducted for the untreated development footprint. For Off-Site GSI Projects (i.e., to calculate the amount of Equivalent Acres Greened generated), this calculation would be performed for the portion(s) of the delineated Drainage Area(s) tributary to the Off-Site GSI Project that is not treated by upstream facilities. The total Runoff Generating Acres are calculated as:

$$Runoff\ Generating\ Acres\ = Acres_{Impervious}\ + (0.1 \times Acres_{Pervious}) \qquad \text{Eq. 4-1}$$

For Off-Site GSI Projects, Equivalent Acres Greened compliance units generated are calculated as included in Equation 2.

$$Equivalent\ Acres\ Greened_{Generated}\ =\ Runoff\ Generating\ Acres_{Off-Site\ GSI\ Facility} \qquad \text{Eq. 4-2}$$

Each generated Equivalent Acre Greened compliance unit would have a rainfall zone and land use (or land use mix) associated with it (i.e., as compliance unit attributes) based on the geospatial location of the Drainage Area generating the compliance units. An Off-Site GSI Project may have multiple different Drainage Areas that are tributary to different control measures or facilities that make up the overall Off-Site GSI Project. As a result, different compliance units generated by that Off-Site GSI Project may have different attributes associated with them. These attributes would be associated with each generated Equivalent Acre Greened compliance unit tracked in the System Tracking Tool.

For Regulated Projects, the Equivalent Acres Greened compliance units required to be purchased is calculated based on the Regulated Project's Runoff Generating Acres along with a Rainfall Ratio and Pollutant Ratio, described in Section 4.2.3. For non-Regulated Project buyers, Equivalent Acres Greened compliance metrics do not require a Rainfall Ratio and Pollutant Ratio and may be purchased on the basis of desired number of Runoff Generating Acres to be treated.

4.2.3 Equivalent Volume and Pollutant Loading

The Equivalent Acres Greened compliance units purchased by Regulated Projects must meet the equivalent volume and pollutant loading requirements when comparing the Regulated Project drainage area to the (previously untreated) Drainage Area(s) of the compliance unit-generating Off-Site GSI Project(s). These particular elements are defined as follows:

1. Equivalent Volume – Achieved when equivalent **runoff generating area** is exchanged and there is **equivalent or higher rainfall** associated with the Equivalent Acres Greened compliance units as compared to rainfall at the Regulated Project. If equivalent or higher

rainfall is not associated with the Equivalent Acres Greened compliance units as compared to the Regulated Project purchasing compliance units, a Rainfall Ratio is applied to demonstrate equivalent volume (see Section 4.2.3.1).

2. Equivalent Pollutant Loading – Achieved when **equivalent volume** is demonstrated and there are **equivalent or higher pollutant concentrations** (based on land use) associated with the Equivalent Acres Greened, as compared to land uses within the Regulated Project drainage area. If equivalent or higher pollutant loading is not associated with the Equivalent Acres Greened compliance units as compared to the Regulated Project, a Pollutant Ratio is applied to demonstrate equivalent pollutant loading (see Section 4.2.3.2).

Equivalent volume and equivalent pollutant loading are summarized in Figure 6. The calculations to determine equivalent volume and equivalent pollutant loading are described in further detail in the following sections.

4.2.3.1 Equivalent Rainfall

Rainfall varies widely throughout the County. Providing that equivalent Runoff Generating Acres are purchased by the Regulated Project, there must be equivalent rainfall associated with the Runoff Generating Acres (i.e., Equivalent Acres Greened compliance units) purchased to meet the equivalent volume demonstration. Using PRISM 30-year annual normal precipitation values, average annual rainfall zones have been identified across the County (see Figure 7) (PRISM Climate Group, 2020).

If the rainfall zone associated with the Equivalent Acre Greened compliance units generated within a Drainage Area tributary to an Off-Site GSI Project is different than the rainfall zone associated with the Regulated Project purchasing the compliance units, a rainfall ratio (i.e., exchange ratio[12] that includes rainfall considerations) must be applied to the Runoff Generating Acres of the Regulated Project as part of the compliance unit calculation to achieve the equivalent volume demonstration for the exchange.

The Rainfall Ratio is calculated based on the proportional difference in rainfall between the Regulated Project and the location of the Off-Site GSI Project generating the Equivalent Acre(s) Greened, rounded to the nearest 10%. The Rainfall Ratio is used to demonstrate equivalent volume is captured at the Off-Site GSI Project as would have been captured by an on-site GSI facility at the Regulated Project. The minimum Rainfall Ratio allowable by the Contra Costa County System is 1.0[13]. The Rainfall Ratio is calculated as:

[12] Exchange ratios are numeric values that adjust generated compliance units from an Off-Site GSI Project to account for environmental and programmatic needs to reduce compliance liability for participants in the System. These are adapted from market-based programs where ratios are used to address calculation uncertainty, exchange equivalence, and net water quality benefit.

[13] The 1.0 minimum Rainfall Ratio allows more Equivalent Acres Greened compliance units to be available for purchase at the minimum cost and limits the potential for bias towards purchasing Equivalent Acres Greened compliance units generated in higher rainfall zones.

$$Rainfall\ Ratio\ =\ Rainfall_{Regulated\ Project}/Rainfall_{Equivalent\ Acre\ Greened\ Unit}$$ Eq. 4-3

A matrix of Rainfall Ratios for all combinations of compliance metric exchanges in Contra Costa County is provided in Table 3.

Once identified, the Rainfall Ratio is applied to Regulated Project Runoff Generating Acres to calculate Equivalent Volume Acres required for purchase, as follows:

$$Equivalent\ Volume\ Acres\ =\ Runoff\ Generating\ Acres_{Regulated\ Project} \times Rainfall\ Ratio$$ Eq. 4-4

Table 3: Rainfall Ratio Matrix for Rainfall Zones Across the County

Exchange Ratio Matrix		Equivalent Acres Greened Annual Average Rainfall Zone[1] (inches)																				
		≤13	≤14	≤15	≤16	≤17	≤18	≤19	≤20	≤21	≤22	≤23	≤24	≤25	≤26	≤27	≤28	≤29	≤30	≤31	≤32	≤33
Regulated Project Annual Average Rainfall Zone (inches)	≤13	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤14	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤15	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤16	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤17	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤18	1.4	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤19	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤20	1.5	1.4	1.3	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤21	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤22	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤23	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤24	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤25	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤26	2.0	1.9	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤27	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤28	2.2	2.0	1.9	1.8	1.6	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	≤29	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
	≤30	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0
	≤31	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0
	≤32	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0
	≤33	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0

[1] Determined based on location of compliance unit-generating Off-site GSI Project drainage area.

4.2.3.2 Equivalent Pollutant Loading

In addition to the equivalent volume requirement for Regulated Project participants, as covered in Section 4.2.3.1, the Off-Site GSI Project (i.e., generating Equivalent Acres Greened compliance units) must also provide capture and treatment of equivalent pollutant load for compliance with MRP C.3.e. Pollutant load reduction achieved through a GSI facility can be calculated as the difference between the influent load and the effluent load.

It is anticipated that the control measures implemented as Off-Site GSI Projects would primarily include bioretention facilities, other facilities that use filtration media such as planter boxes, and, where feasible, infiltration-based facilities. Infiltration-based facilities remove stormwater runoff and any entrained pollutants and therefore consistently do not produce treated effluent for the design storm. Filtration-based facilities have been demonstrated to exhibit a relatively consistent effluent concentration regardless of influent concentration, especially for sediment-bound pollutants. For example, media filters tend to produce relatively consistent effluent concentrations that are independent of influent concentration because sediment is typically removed within the first few inches of media (Barrett, 2005). These effluent outcomes have also been observed from analyzing International Stormwater BMP Database data; as a result, Leisenring et al. (2013) recommended using a constant effluent concentration when modeling the removal of TSS and particulate-bound pollutants for sand filters and bioretention cells.

Given that the anticipated control measures are likely to achieve similar effluent concentrations regardless of influent concentration, similar influent load must be treated by the Off-Site GSI Project to achieve equivalent or increased reduction in pollutant load as compared to what would have been achieved by an on-site GSI facility located at the Regulated Project. For the Contra Costa County System, equivalent influent pollutant loading between the Regulated Project and the Drainage Area(s) of the Off-Site GSI Project generating the compliance units exchanged is demonstrated based on PCBs and total suspended solids (TSS) land use-based loading[14]. Mercury is not included as one of the pollutants to demonstrate equivalency as one of the main sources of mercury is atmospheric deposition and is therefore more distributed across different land use types. This was demonstrated in SFEI's calibration of the Regional Watershed Spreadsheet Model (RWSM), where a relatively even distribution of mercury concentrations over different land uses was found, consistent with the "conceptual understanding of the diffuse nature of [mercury] sources in the landscape and the influence of atmospheric deposition" (Wu et al, 2016). Additionally, mercury, which is typically sediment-bound, is assumed to be reduced when TSS has been reduced in stormwater control measures.

If the PCBs loading and the TSS loading associated with the compliance units to be purchased are greater than or equal to that of the Regulated Project, equivalent pollutant loading is demonstrated. The PCBs loading and TSS loading associated with the compliance units purchased is proposed to be estimated on the basis of the land uses within the unit generating Off-Site GSI Project drainage area(s). The Regulated Project loading would be based on the land uses within the development boundary.

[14] TSS is used to represent pollutant loading strength of typical urban pollutants of concern, many of which are sediment-bound.

PCBs Loading

PCBs land use-based loading is obtained from the RWSM Toolbox v1.0 Pollutant Model, "Pollutant Spreadsheet Model Calculations – Region" results (from SFEI, 2018 as summarized in Geosyntec, 2019).

Table 4: PCBs Land Use-Based Concentrations

Land Use Category	Total PCBs (ng/L)
Old Industrial and Source Areas	204
Old Commercial and Old Transportation	40
Old Residential	4
New Urban	0.2

TSS Loading

TSS land use-based Event Mean Concentrations (EMC) were developed using data from the National Stormwater Quality Database (NSQD; Pitt, 2015). The NSQD was queried to obtain all TSS stormwater runoff samples collected within EPA Rain Zone 6 in California, in Spring, Fall, or Winter seasons. This query returned 656 stormwater runoff sample results from 647 rain events at 40 sites for "Residential", "Commercial", "Institutional", "Freeway", "Industrial", and "Open Space" land uses.

Data associated with Commercial and Institutional land use categories in the NSQD were combined for the TSS loading analysis. This is consistent with how "Commercial" land uses were defined by SFEI when developing the RWSM[15], which is used for PCBs loading characterization for the Contra Costa County System. This is also supported by statistical analyses of the NSQD TSS data populations for Commercial and Institutional land uses, which demonstrated that the data arise from the same data population (see Appendix B for additional details).

The data for each land use category were analyzed for outliers prior to developing EMCs. Following removal of outliers, the data were examined for normality. Open Space land use data was concluded to not come from a normally distributed population. Given this finding, and that Open Space land use is not expected to make up a large part of GSI drainage areas, Open Space data were not examined further for EMC development.

Land uses were compared to each other to understand if significant differences in the distribution of TSS concentrations exist. The distributions for each land use are shown in Figure 8. Box plot results demonstrate that confidence intervals of the median TSS concentration for Industrial land use do not overlap with those of the other three land uses, which are more similar to each other throughout their distributions. To investigate this further, a series of Wilcoxon-Mann-Whitney tests were conducted to compare each land use pair. For all potential land use comparisons, only Industrial was found to be derived from a different data population than Residential,

[15] Many institutional land uses, as defined by ABAG, were classified as "Old Commercial" for the RWSM analysis, as summarized in the "LandUse.csv" file included at SFEI's RWSM Toolbox v1.0 Pollutant Model website (SFEI, 2018). https://www.sfei.org/projects/regional-watershed-spreadsheet-model

Commercial/Institutional, and Freeway land uses. Based on the tests performed, the central tendencies of the data associated with the latter three land uses do not appear to be statistically different (see Appendix B).

TSS EMCs were developed for the four land use categories by taking the arithmetic mean of the natural log-transformed distributions, using the natural logs of the mean and the standard deviation as shown in the equation below (from Geosyntec and Wright Water Engineers, 2009)

Table 5: TSS EMCs by Land Use

Land Use	μ_{ln}	σ_{ln}	TSS EMC (mg/L)	Notes
Residential	4.07	1.16	115	Concentration data are not statistically different between these land use classes
Commercial / Institutional	4.06	0.87	84	
Freeway	4.20	0.90	100	
Industrial	4.79	0.79	165	Concentration data are statistically different from the other land use classes

The mean of the natural log-transformed distribution for Residential and Commercial/Institutional are almost identical, as seen in Table 5. This, along with the results of the Wilcoxon-Mann-Whitney test and the overlap of the interquartile range, lends to the finding that the concentration data are not statistically different for Residential, Commercial/Institutional, and Freeway land use categories.

Combined Pollutant Loading

The PCBs and TSS concentrations are summarized in Table 6 for eight distinct land use categories. All "new" land uses are assumed to have the same PCBs concentration, consistent with the RWSM findings. "Old" and "New" land use-based TSS concentrations were assumed to be the same for the same land use categories.

Table 6: Resulting Average Concentration and Proposed Pollutant Ratios

Land Use Category	PCBs Average Concentration (ng/L)	TSS Event Mean Concentration (mg/L)	Relative Loading
New Residential	0.2	115	**Low PCBs, Low TSS Loading** PCBs and TSS loading are not statistically different between these land use categories
New Commercial	0.2	84	
New Transportation	0.2	100	
New Industrial	0.2	165	**Low PCBs, High TSS Loading** TSS loading is statistically higher than other "New" land use categories
Old Residential	4	115	**Moderate PCBs, Low TSS Loading** TSS loading is not statistically different between these land use categories
Old Commercial	40	84	
Old Transportation	40	100	
Old Industrial and Source Areas	204	165	**High PCBs, High TSS Loading** PCBs and TSS loading are higher than all other land use categories

It is not expected that Regulated Projects would have "Old" designated land uses within their on-site drainage area required to be treated for C.3 compliance, since redeveloped areas triggering C.3 would be considered "New" land uses following redevelopment (e.g., which includes resurfacing, material replacement). For any instances where "Old" land uses are part of the Regulated Project that the owner is seeking alternative compliance for, the "Old" portion of the area would need to be treated on-site or, if that is infeasible, be subject to limitations on the compliance metrics eligible for purchase on the basis of the land use associated with the compliance metric. See Table 7 for a matrix of Pollutant Ratios that would be applied for different Regulated Project land use to compliance metric land use exchanges.

Table 7: Pollutant Ratio Matrix for Identified Land Uses

Exchange Ratio Matrix		Off-Site Project Land Use Category							
		New Residential	New Commercial	New Transportation	New Industrial	Old Residential	Old Commercial[1]	Old Transportation	Old Industrial and Source Areas
Regulated Project Land Use Category	**New Residential**	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	New Commercial	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	New Transportation	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
	New Industrial	*Calculated on a case-by-case basis*[1]			1.0	*Calculated on a case-by-case basis*[1]			1.0
	Old Residential	*Not eligible*[2]				1.0	1.0	1.0	1.0
	Old Commercial	*Not eligible*[2]					1.0	1.0	1.0
	Old Transportation	*Not eligible*[2]					1.0	1.0	1.0
	Old Industrial and Source Areas	*Not eligible*[3]							

[1] Any Regulated Projects categorized as New Industrial land uses that are eligible for the program (i.e., not covered under the IGP or an individual NPDES permit) would require a case-by-case Pollutant Ratio to be developed based on the land uses associated with the Equivalent Acres Greened compliance metrics purchased as "New Industrial" is estimated to generate higher TSS (and sediment-bound pollutant) loads as compared to all other land use categories other than "Old Industrial".

[2] Due to the orders-of-magnitude difference in PCBs loading between "Old" land uses and "New" land uses, as well as between different types of "Old" land uses, which would require very high Pollutant Ratios, "Old" land use areas within Regulated Project drainage areas that are seeking exchange would only be eligible to purchase compliance metrics associated with certain land use types of equal or greater loading for PCBs and TSS. Eligible land uses for exchange are indicated by a "1.0" ratio.

4.2.4 Equivalent Acres Greened Summary

Equivalent Acres Greened compliance units generated at Off-Site GSI Project are equivalent to the (currently untreated) Runoff Generating Acres captured and treated by the Off-Site GSI Projects. Each Equivalent Acre Greened compliance unit generated would have a rainfall zone and land use (or land use mix) associated with it (i.e., as compliance unit attributes) based on the compliance unit-generating Off-Site GSI Project drainage area(s).

For Regulated Projects, the required Equivalent Acres Greened is calculated as summarized in Equation 5.

$$Equivalent\ Acres\ Greened_{RP} = Runoff\ Generating\ Acres_{RP} \times Ratio_{Rainfall} \times Ratio_{Pollutant} \quad \text{Eq. 4-5}$$

Where:

Runoff Generating $Acres_{RP}$ = The runoff generating acres for which the Regulated Project owner is seeking alternative compliance.

$Ratio_{Rainfall}$ = Calculated using Table 3 and Figure 7 (minimum value of 1.0).

$Ratio_{Pollutant}$ = Determined as described in Table 7.

For non-Regulated project buyers (e.g., Permittees purchasing Equivalent Acres Greened for retrofit GSI needs), the equivalency demonstration is not required; Equivalent Acres Greened compliance metrics for purchase are calculated as:

$$Equivalent\ Acres\ Greened = Runoff\ Generating\ Acres_{non-Regulated\ Project\ purchase} \quad \text{Eq. 4-6}$$

4.3 Equivalent or Increased Water Quality Benefit

MRP 3 Tentative Order Fact Sheet requires that an alternative compliance program submittal include a demonstration of Equivalent or Increased Water Quality Benefit provided when Regulated Projects use the alternative compliance approach. To ensure an Equivalent or Increased Water Quality Benefit for the Contra Costa County System, a "WQB Ratio" is applied to Equivalent Acres Greened units when calculating participant compliance purchase amounts. The baseline WQB Ratio is proposed at 1.1 for Regulated Projects participating in the Contra Costa County System, such that the additional 0.1 Equivalent Acre Greened for each acre of impact will provide a net increase in impervious surface treated and resulting net reduction in flow and/or pollutant load. For buyers not subject to MRP Provision C.3.e alternative compliance requirements (e.g., Permittees seeking Equivalent Acres Greened to meet GSI retrofit needs and other non-Regulated projects), the WQB Ratio is 1.0, providing equivalent impervious surface treatment, and equivalent reduction in flow and/or pollutant load.

Equivalent Acres Greened units generated by Off-Site GSI Projects that treat "Old Industrial" land uses are proposed to be exchanged to Regulated Projects associated with "New Residential", "New Commercial", or "New Transportation" at a discounted WQB Ratio of 1.0 to encourage their exchange. Only Equivalent Acres Greened metrics associated with "Old Industrial" will be allowed to be sold at the discount, since these Equivalent Acres Greened compliance metrics will achieve a net reduction in pollutant load through the Off-Site GSI

Facility treatment of additional pollutant load beyond that required to meet the equivalent pollutant loading requirement due to the widely documented increased pollutant loading from "Old Industrial" land uses. For these exchanges, equivalent impervious surface treated and equivalent reduction in flow will also be provided through the 1.0 WQB ratio.

4.4 Required Baseline(s)

Off-Site GSI Projects used to generate Equivalent Acres Greened metrics must meet the baselines described below:

1. **Off-Site GSI Projects must treat drainage area(s) that are currently untreated by GSI facilities** – If a portion of a drainage area tributary to a proposed Off-Site GSI Project is already treated with GSI, that portion of the drainage area cannot be exchanged as Equivalent Acres Greened metrics.
2. **Any acres required to be treated for compliance with an NPDES permit are not eligible to be certified as Equivalent Acres Greened metrics** – Runoff Generating Acres captured and treated by Off-Site GSI Projects are not eligible if they are required to be treated to meet compliance with the MRP; the Phase II General Permit; the Industrial General Permit (Order No. 2014-0057-DWQ, IGP); an individual NPDES Permit; or any other NPDES permit. If an Off-Site GSI Project is constructed such that only a portion of its drainage area(s) require(s) NPDES compliant treatment, the non-Regulated portion of the drainage area(s) only may be eligible to generate Equivalent Acres Greened.

Additional information regarding eligibility is provided in Section 5.

4.5 Compliance Purchase Calculation Methods

The Equivalent Acres Greened compliance units required to be purchased by a buyer and the Equivalent or Increased Water Quality Benefit are incorporated into the capital compliance purchase and calculated as follows:

$$Purchase_{Compliance} = (Equivalent\ Acres\ Greened \times WQB\ Ratio) \times Cost_{EAG} + Payment_{Administrative} \quad \text{Eq. 4-7}$$

Where:

Equivalent Acres Greened	=	Required compliance units for equivalency; calculated as described in Section 4.2.4.
WQB Ratio	=	1.1 for Regulated Projects and 1.0 for other non-Regulated Project purchases. A discount ratio of 1.0 is applied for Equivalent Acres Greened units associated with Old Industrial land use.
$Cost_{EAG}$	=	Equivalent Acre Greened unit cost, developed as described in Section 6.
$Payment_{Administrative}$	=	Administrative payment, developed as described in Section 6.

For each exchange, the number of Equivalent Acres Greened units exchanged are tracked and marked as "sold" in the Contra Costa County System Tracking Tool. For Regulated Project exchanges, the number of Equivalent Acres Greened exchanged is calculated as $(Equivalent\ Acres\ Greened \times WQB\ Ratio)$; this is the value included in the exchange ledger in the System Tracking Tool.

4.6 Ongoing O&M Assessment

As indicated by MRP Provision C.3.e.(2), used as part of the basis to define compliance units, Regulated Projects participating in the Contra Costa County System must provide a proportional share of the O&M costs for the Off-Site GSI Project. This will be paid through an annual assessment levied on the Regulated Project parcel by the Flood Control District on a cost per "Equivalent Acre Greened" basis.

4.6.1 Flood Control Zone 100

The Flood Control District currently acts as the Countywide fiduciary agent for Flood Control Zones and Drainage Areas, which provide flood protection planning and management for major drainage infrastructure in the County (Contra Costa County, 2021). The mechanism for O&M assessments levied on parcels participating in the Contra Costa County System is proposed to be "Flood Control Zone 100", which is a Countywide flood protection zone that the Contra Costa County Board of Supervisors approved in 2011. The Zone has not been used since it was created and is available and compatible for the purposes of the System. Under the Contra Costa County Flood Control and Water Conservation District Act, any proposed fees (or assessments) levied under the Zone may be used only for "the acquisition, construction, engineering reconstruction, maintenance and operation of the flood control, storm drainage, water or sewerage facilities of a zone" (Contra Costa County, 2011). Pending confirmation by counsel for the Flood Control District, O&M assessments fall within this definition of allowable expenditures.

4.6.1.1 Benefit Assessments

Providing that the O&M assessment is used for "drainage" or "flood control" services, the Benefit Assessment Act of 1982 authorizes the Flood Control District to levy the O&M assessments. Off-Site GSI Projects may need to be evaluated as part of certification processes on a case-by-case basis to confirm that each project would qualify under the Benefit Assessment Act of 1982. Alternatively, Sections 12 and 12.1 of the Flood Control District Act provide authority for the Flood Control District to levy assessments and fees or charges for certain purposes in Flood Control Zone 100.

4.6.2 O&M Assessment Mechanism

Participants who have opted to participate in the Contra Costa County System would be charged annual, recurring O&M assessments to receive the special benefit of ongoing compliance via two pathways:

1. Parcel-based participants (i.e., private or public Regulated Project participants) would ballot into Flood Control Zone 100 as part of their System participation and be charged annually per an established rate schedule. An assessment will continue to be assessed on the parcel as long as the parcel owner participates in the Contra Costa County System.

2. Non-parcel-based participants, including cities or other agencies purchasing compliance units for GSI retrofit needs and other purposes, would enter into a long-term agreement (duration to be determined) with the Flood Control District, allowing them to be invoiced annually per an established rate schedule.

For both pathways, long-term participation in the Contra Costa County System and subsequent recurring payment of O&M assessment for long-term compliance with the MRP would be dependent on the System continuing to be a compliance option under the MRP.

4.6.3 Levying of O&M Assessment

The Flood Control District would charge parcels that have been balloted into Flood Control Zone 100 and other participants who have signed an agreement to pay the annual O&M assessment. The O&M assessment rate would be based on the participant's number of compliance units. See Section 6.6 for more information about ongoing O&M assessment development.

5. CONTRA COSTA COUNTY SYSTEM REQUIREMENTS

The Contra Costa County System is structured to support Regulated Project owners within Contra Costa County with achieving alternative compliance as defined by MRP Provision C.3.e. The primary objective of the Contra Costa County System is to enable Equivalent Acres Greened units generated from Off-Site GSI Projects treating nonpoint source urban stormwater runoff to be exchanged with nonpoint source Regulated Projects and other non-Regulated project buyers. Eligibility and restrictions for the Contra Costa County System were developed to support alternative compliance as defined by the MRP. Requirements described in this Section will pertain to Phase 2 of the Contra Costa County System and are subject to amendment in the future as the System expands.

The process for collection of funds is described in Section 5.4. **Compliance with Provision C.3.d/C.3.f** (i.e., certification) and **C.3.h** (verification) for the proposed Contra Costa County System are described in Section 5.6 and 5.7, respectively. Sections 5.6 and 5.7 also provide details about the **accounting and reporting system** (i.e., System Tracking Tool). These elements are required for proposed program submittal per MRP 3 Tentative Order Fact Sheet.

5.1 Eligible Participants

Eligible participants may include entities within West Contra Costa County or East County interested in exchanging Equivalent Acres Greened compliance units. These may include developers with Regulated Projects within the jurisdictions of Contra Costa County and Permittees with Regulated Projects fitting the category descriptions listed in MRP Provision C.3.b.ii. This may also include other non-Regulated entities. Any public or private entity that is able to operate within the constraints of the Contra Costa County System and able to take actions that result in a demonstrable generation of Equivalent Acres Greened may implement Off-Site GSI Projects as potential compliance unit providers. This may also include third-party aggregators.

5.2 Eligible Regulated Projects and Other "Buyers"

For Regulated Project owners participating as buyers, the jurisdiction in which the Regulated Project is located may decide whether the Regulated Project is eligible to participate in the Contra Costa County System. The decision by the jurisdiction may be based on the Regulated Project's location, density, land use type, or other factors. It is expected that high-density Regulated Projects that are not subject to hydromodification management requirements would be eligible to participate. Non-regulated project buyers are expected to be limited to MRP permittees within the County as part of Phase 2 of the Contra Costa County System.

There is potential for the Contra Costa County System to be expanded more broadly to other interested non-Regulated project buyers if opportunities arise as part of Phase 2, or during Phase 3. These additional entities may include those subject to the NPDES General Permit For Waste Discharge Requirements (WDRs) for Storm Water Discharges From Small MS4s[16] (Phase II General Permit) issued in 2013 and revised in 2015, 2016, and 2018 (California State Water Resources Control Board, 2013), Caltrans, or potentially other entities with TMDL compliance requirements), particularly if there are TMDL requirements for other pollutants of concern in the future. Projects that are under the jurisdiction of the Industrial General Permit (IGP; Order No. 2014-0057-DWQ as amended by Order No. 2015-0122-DWQ) or an individual NPDES permit, if interested in participating, are likely be considered on a case-by-case basis during Phase 2 of the Contra Costa County System and beyond.

The Contra Costa County System may additionally promote partnership opportunities for implementation of other water quality management practices in Phase 2 or beyond as part of future water quality goals. Other buyers would participate in the Contra Costa County System as shown in Figure 4.

5.3 Eligible Off-Site GSI Projects

Off-Site GSI Projects, on public or private land in urban areas within Contra Costa County, that meet the baseline eligibility requirements outlined in Section 4.4 may be eligible to generate compliance units. All proposed Off-Site GSI Projects must meet the criteria set out by the CCCWP Regional Alternative Compliance Subcommittee and be certified by the jurisdiction in which the Off-Site GSI Project is located before the compliance units generated at the Off-Site GSI Project are available for exchange.

There is envisioned to be an application process to allow for approval and purchase guarantee of compliance units, which unit providers may complete for this assurance prior to conducting design and construction of Off-Site GSI Projects. Unit providers who do not complete the pre-screening application process would still be eligible to put compliance units that meet Contra Costa County System requirements up for exchange through the System, however, they may not have a guarantee of purchase. The pre-screening application review may include a review of the Off-Site GSI Project location and design concept, and comparison of the potential benefits

[16] Water Quality (WQ) Order 2013-0001-DWQ NPDES No. Cas000004 as amended by Order WQ 2015-0133-Exec, Order WQ 2016-0069-Exec, WQ Order 2017-XXXX-DWQ, Order WQ 2018-0001-Exec, And Order WQ 2018-0007-Exec.

(including Equivalent Acres Greened compliance units) provided by the Off-Site GSI Project to key project selection criteria. If there are a substantial number of Off-Site GSI Projects that submit pre-screening applications and/or more potential Off-Site GSI Projects than anticipated compliance unit demand, a prioritization and selection process may be conducted by the CCCWP Regional Alternative Compliance Subcommittee to identify the Off-Site GSI Projects that are estimated to optimally provide benefits. For example, Off-Site GSI Projects that could provide Equivalent Acres Greened, PCBs and mercury load reductions, and Equivalent or Increased Water Quality Benefit for the most efficient cost could be prioritized over higher cost or lower benefit Off-Site GSI Projects for guaranteed exchange of compliance units. The local jurisdiction or CCCWP Regional Alternative Compliance Subcommittee may also consider outcomes of Permittee GSI Plans and/or the Contra Costa Watershed Stormwater Resource Plan (SWRP) (CCCWP, 2019) when prioritizing potential Off-Site GSI Projects. If the System Off-Site GSI Projects are implemented through a pay-for-performance or CBP3 contracting process, an optimized suite of Off-Site GSI Projects located on both public and private land may be sought through a request for proposals. More information about what a pay-for-performance or CBP3 process would entail is provided in Section 6.6.

Interested compliance unit providers must demonstrate control of the property where the Off-Site GSI Project would be or has been implemented through an option, fee title, lease, easement, or equivalent mechanism. Off-Site GSI Projects are expected to utilize the pre-approved control measures (see Section 4.2.1.2) and must be maintained and operated in perpetuity. These Off-Site GSI Projects would be managed following an O&M plan and/or agreement that is consistent with any relevant land use restrictions, such as easements or deed restrictions; the O&M plan would be required to be recorded to the parcel record(s) to ensure the property is managed consistent with that plan. Any entity seeking to construct non-preapproved control measures, with the intent of generating compliance units, must meet all guidelines established through the processes described in Section 8.2.

Pre-constructed facilities may be eligible for inclusion in the Contra Costa County System as Off-Site GSI Projects. At this time, it is envisioned that pre-constructed facilities built in year 2020 or later may be eligible providing they meet the required baselines. All Off-Site GSI Projects shall be fully constructed and certified (see Section 5.6) before units are available for exchange through the Contra Costa County System Tracking Tool and are subject to ongoing verification processes (see Section 5.7).

5.4 Exchanges

Generated compliance units from approved fully constructed and certified Off-Site GSI Projects would be entered into the Contra Costa County System Tracking Tool by the certifying entity (see Section 5.6). Each compliance unit would have attributes indicating the associated rainfall zone and land use. Once entered into the System Tracking Tool, these compliance units could be exchanged with participating buyers.

It is envisioned that exchanges would be facilitated by permittees during Phase 2 of the Contra Costa County System. Permittees would first calculate the required Equivalent Acres Greened compliance metrics that participating Regulated Project(s) would be required to purchase based on the rainfall zones and land uses associated with the Regulated Project and compliance units,

respectively (it is anticipated the System Tracking Tool could perform this calculation). The calculation would also include the appropriate WQB Ratio. Equivalent Acres Greened compliance units that are associated with Old Industrial land uses treated through a compliance metric-generating Off-Site GSI Project will be exchanged at a discounted WQB Ratio of 1.0 to Regulated Projects as they inherently provide an Increased Water Quality Benefit through treatment of additional pollutant load.

Following calculation of needed compliance units, the permittees would identify available compliance units in the System Tracking Tool and initiate the exchange. The exchange would be completed and the purchased compliance units would be identified as "sold" in the System Tracking Tool following payment for the required compliance purchase to the Permittee. Non-Regulated project buyer exchanges are envisioned to be facilitated by the CCCWP System Administrator. In this case, all of the actions listed would be performed by the System Administrator to facilitate the exchange.

In Phase 2 of the System, it is anticipated that West County entities would only purchase compliance units generated in West County; similarly, East County entities would only purchase compliance units generated in East County. It is not expected that exchanges between West County and East County entities would occur during Phase 2.

5.5 System Restrictions

5.5.1 Land Use Restrictions

The Contra Costa County System does not prohibit the participation of either Regulated Projects or Off-Site GSI Projects based on their land use type. However, any New Industrial development not covered under other NPDES permits would be required to negotiate an exchange-specific Pollutant Ratio, as described in Sections 4.2 and 4.5. Any land use that would require coverage under the IGP or an individual NPDES Permit would not be expected to participate in the Phase 2 of the System. Jurisdictions may choose to disallow certain Regulated Projects from participating with reasonable cause, such as projects that have adequate space within their development footprint to implement on-site treatment.

5.5.2 Watershed and Jurisdictional Restrictions

The Contra Costa County System would require all Regulated Projects and Off-Site GSI Projects be located within Contra Costa County. During Phase 2 of Contra Costa County System implementation, Regulated Projects subject to Provision C.3.g. are not expected to seek participation in the Contra Costa County System to cover hydromodification management requirements off-site through the System. However, Regulated Projects subject to Provision C.3.g. may still utilize the System to meet their Provision C.3.e requirements (i.e., LID/GSI requirements) off-site.

During Phase 2 of System implementation, it is not anticipated that exchanges would occur between West Contra Costa County (i.e., within the SFBRWQCB Region 2 boundary) and East Contra Costa County. Although both County areas are covered under the MRP, each Region has different TMDLs and there would be greater water quality compliance benefits if compliance metrics generated from Off-Site GSI Projects within the same region are exchanged. Exchanges between entities within the same County region would be expected and allowed.

It is possible that future expansion of the System would allow for inter-county exchanges with other areas that that drain to the San Francisco Bay.

5.6 Certification Requirements

The design, quantification of compliance units, and implementation of an Off-Site GSI Project must be certified upon completion by the Permittee for which jurisdiction the Off-Site GSI Project is located. Certification of the Off-Site GSI Project verifies that the Equivalent Acres Greened compliance units are generated by that project and are available for exchange.

In most cases, it is expected that the Off-Site GSI Project would be an LID/GSI treatment facility with tributary drainage area(s) that is not associated with or include a Regulated Project. There may be situations where an LID/GSI treatment facility is built as part of a Regulated Project but is designed to treat a drainage area not associated with that of the Regulated Project (e.g., when a private Regulated Project elects to construct LID/GSI in the public right-of-way along the project frontage); in this case, the private Regulated Project developer may also be eligible to exchange generated Equivalent Acres Greened compliance units. In this case, the Certifying Entity (i.e., local Permittee) would be responsible for determining the total compliance units generated by the project, the quantity of compliance units needed by the Regulated Project for C.3 compliance, and the excess quantity of compliance units available for exchange.

The certification process for the Off-Site GSI Project and associated compliance units takes place during the design and construction of the Off-Site GSI Project and is completed after this Facility is fully constructed and the O&M responsibility has been assigned. The certification process consists of the following steps:

1. Design Review by the Certifying Entity: The Certifying Entity would review the design documents for the Off-Site GSI Project, including calculations, plans, details, and specifications, and would determine whether the LID/GSI treatment facility meets the design requirements established in MRP Provision C.3 and is consistent with standard design practice described in the CCCWP's Stormwater C.3 Guidebook (CCCWP, 2017). The design review would follow the Certifying Entity's typical development application or capital project review process, leading to issuance of a building permit (for a private project) or commencement of a bid procurement and award (for a public project). If an alternative delivery approach (e.g., design-build or progressive design-build) is used for public projects, the certification could occur concurrently with design and construction. The Certifying Entity will complete Section 1 (Design Review) of the Off-Site GSI Project Post-Construction Certification Form (Appendix C-3) to certify that the design review was completed and that the design meets the C.3 requirements and standard practices.

2. Construction Inspection by the Certifying Entity: The Certifying Entity would conduct inspections of the Off-Site GSI Project, at appropriate stages during and at completion of construction, to ensure that the Off-Site GSI Project is constructed in accordance with approved plans. The Certifying Entity would complete the CCCWP Stormwater Treatment Facilities Construction Inspection Checklist (see Appendix C-1) for each inspection.

3. Operation and Maintenance Assurance: The Certifying Entity would ensure that an O&M Plan is prepared for the Off-Site GSI Project and would review the Plan for consistency with the CCCWP Stormwater C.3 Guidebook and Stormwater Facilities O&M Plan Template (Appendix C-2). The Certifying Entity would also ensure that an O&M Agreement, with the entity responsible for maintenance of the Off-Site GSI Project, is prepared, signed, and recorded to the parcel, if appropriate. The O&M Agreement should be prepared consistent with the CCCWP Stormwater Management Facilities O&M Agreement Template (Appendix C-3) and include the O&M Plan.

4. Post-Construction Certification: The Certifying Entity will complete Sections 2 and 3 of the Off-Site GSI Project Post-Construction Certification Form (Appendix C-3) to certify that construction inspections were conducted, and the facility was constructed consistent with the final plans (i.e., completion of Step 2), and that the O&M Plan and Agreement for the Off-Site GSI Project were prepared and signed (i.e., completion of Step 3).

5. Entry of the Completed Off-Site GSI Project into the System Tracking Tool: Upon completion of Off-Site GSI Project construction and certification processes, the Certifying Entity will provide Off-Site GSI Project attribute information on the Off-Site GSI Project Data Form (Appendix C-2), which will be uploaded to the System Tracking Tool (in a manner to be determined). Attributes include: facility ID number; facility type and location; drainage area size(s), location(s), and land use(s); total impervious and pervious surface area within the drainage area(s); total Equivalent Acres Greened; facility owner; project cost; and associated multiple benefits. Other documents related to the certification process (e.g., the construction inspection checklists, O&M Plan and Agreement, and Post-Construction Certification Form, described in Steps 2-4 above) will also be uploaded to the System Tracking Tool. Once all of the data and documentation for the certified Off-Site GSI Project have been uploaded, the Off-Site GSI Project compliance units become available for exchange(s) with Regulated Project(s).

6. Entry of the Completed Off-Site GSI Project into AGOL Tool: Following the upload of Off-Site GSI Project data to the System Tracking Tool, the Certifying Entity would also upload data to CCCWP's current "C3 Project Tracking and Load Reduction ArcGIS Online Application" (AGOL) to track installed stormwater treatment facilities and estimate pollutant loads reduced. The data in AGOL would be used to generate reports required by the MRP, including to demonstrate compliance of any Regulated Project(s) that purchase metrics from the Contra Costa County System, per Provision C.3 requirements.[17]

More information about the specific forms and templates used to document the certification process is provided in Section 10.

[17] There are currently no regulatory requirements to report data on Off-Site GSI Projects, compliance metrics, and exchanges from the System Tracking Tool. However, this is subject to change with the upcoming MRP reissuance.

5.7 Verification Requirements

Ongoing verification of the Off-Site GSI Project's performance is important for ensuring that the project is regularly maintained and continues to adequately treat the Equivalent Acres Greened associated with the Regulated Project(s). Verification will be performed via the municipal O&M verification inspection programs currently required by the MRP for all installed treatment facilities. In most cases, the O&M verification inspections of the Off-Site GSI Project will be conducted by the jurisdiction in which the Off-Site GSI Project is located (i.e., the "Verifying Entity" is the same as the Certifying Entity). However, there may be situations in which the Certifying Entity delegates the responsibility for O&M verification inspections to another entity. This is acceptable as long as the Verifying Entity is not the same entity designated in the O&M Agreement as responsible for routine maintenance of the project, if the project is privately-owned.

The verification process for the Off-Site GSI Project and associated compliance metrics takes place following completion of construction and throughout the life of the Off-Site GSI Project. The verification process consists of the following steps:

1. O&M Verification Inspection by the Verifying Entity: The Verifying Entity would conduct inspections of the Off-Site GSI Project at appropriate intervals to ensure that the LID/GSI treatment facility is adequately maintained for optimal performance. The Verifying Entity would complete the CCCWP Stormwater Facility O&M Inspection Report form (see Appendix C-6) for each inspection. If any deficiencies are found, they should be documented on the form and discussed with the responsible party. Follow-up inspections should be conducted until the deficiencies are corrected and documented on the inspection form. Information from these inspection forms should be stored in the Verifying Entity's local database for O&M verification inspection data, as required by the MRP.
2. Summary of Off-Site GSI Project Verification: On an annual basis, the Verifying Entity would complete the Off-Site GSI Project O&M Verification Form (see Appendix C-7) that summarizes verification actions, including documenting that O&M was performed, the project was inspected (by whom and when), and any deficiencies were corrected. The Verifying Entity would upload this completed document to the System Tracking Tool to demonstrate ongoing verification of the project.

More information about the specific forms used to document the verification process is provided in Section 10.

6. COMPLIANCE PURCHASE AND O&M ASSESSMENT COST BASES

Section 6 covers financial aspects of the Contra Costa County System, and Sections 6.3 and 6.5 describe aspects of **the processes for collection and timely use of funds,** required for proposed program submittal per MRP 3 Tentative Order Fact Sheet.

6.1 Cost Basis Considerations

In-lieu payment programs are typically receipt-based; thus, financial solvency is essential to the ability of the program to operate. Under-collection of payments is a threat to the sustainability of an in-lieu payment program. The typical portfolio includes the program's net assets (e.g., credits, cash), based on payment collection, and liabilities (e.g., existing and future contracts, administrative costs necessary to complete program requirements). Accordingly, it is essential that the payments are sufficient to cover the actual program project and administrative costs and risk factors. Given key regulatory and facility cost factors that apply to the Contra Costa County System, there are some challenges to predicting program project and administrative costs, and additional considerations are needed for the System's compliance purchase cost basis.

Notably, due to CEQA considerations, the Contra Costa County System is envisioned to be different than other in-lieu payment type programs in that the Off-Site GSI Projects must be built and certified before the resulting "Equivalent Acres Greened" compliance units can be used as alternative compliance for Regulated Projects. Therefore, funding or financing would be needed upfront to build the Off-Site GSI Projects, which generate Equivalent Acres Greened units, before payments for compliance purchases are collected. Additionally, these Off-Site GSI Projects would need to be built before it is known how many buyers may need or want to purchase compliance units.

Because of these timing requirements, the projected demand of Equivalent Acres Greened compliance units must be estimated in advance, and funding and financing secured to build the estimated supply. This creates risk as the demand is an estimate and could vary greatly depending on extenuating circumstances. If the projected demand does not materialize, there is the risk that the Off-Site GSI Project supply, that was constructed in anticipation of the demand, would not be sold. Given this potential, there may be the tendency to build fewer Off-Site GSI Projects to avoid the issue of over-supply.

Additionally, the use of standard municipal procurement processes to build these projects could cause the generated Equivalent Acres Greened compliance units to be prohibitively expensive, based on existing GSI design and construction cost data compiled from Contra Costa County Permittees.

Regulated Project owners may choose to construct an Off-Site GSI Project in a location other than their Regulated Project(s) to generate compliance units to apply toward future Regulated Projects. Other private entities could be used to construct Off-Site GSI Projects at a lower cost than standard public procurement processes, through a pay-for-performance or CBP3 approach. However, these entities often achieve cost savings through large volumes of Off-Site GSI Project implementation (and resulting compliance unit generation) and may not be interested in participating in a program with low or unknown demand, due to the potential risk of not selling compliance units associated with Off-Site GSI Projects they build.

In addition to the upfront construction requirements, demand uncertainties, and high potential cost for traditional procurement, there is also a desire for transparency in setting the compliance purchase price. All of these challenges require an innovative approach to cost setting and

program implementation. The proposed approach to address these uncertainties is discussed below.

6.2 Compliance Unit Demand Considerations

6.2.1 Permittee Programmatic Demand

With sufficient compliance unit demand, there is more certainty that compliance units would be sold; thus, there would be more interest from entities to build Off-Site GSI Projects as a result of the lower financial risk to participating in the program. One way to provide demand certainty is to establish a minimum program purchase guarantee ("Programmatic Demand"). This initial "Programmatic Demand" is recommended to be purchased by Permittees to allow for sufficient exchange activity during Phase 2 of the Contra Costa County System. This guaranteed exchange activity will better enable the Contra Costa County System to achieve economies of scale, demonstrate proof of concept, garner interest, and grow the System. If Regulated Project owners or other entities can provide guarantees of compliance metric purchase at the initiation of Phase 2, they may also be included in the initial Programmatic Demand.

The Contra Costa Permittees may want to purchase Equivalent Acres Greened compliance units as part of the Programmatic Demand to fulfill their water quality compliance or planning needs, including:

- Requirements to construct LID/GSI facilities for Regulated Projects, including public parcel and new roadway projects;
- GSI public retrofit projects; and
- TMDL compliance.

Based on LID/GSI cost data collected from Contra Costa County Permittees, the cost to construct LID/GSI projects to meet these project needs using traditional procurement processes are very high. For example, the approximate cost to build the public GSI projects identified in the Permittees' Green Infrastructure Plans by 2040 to address the PCBs and mercury TMDLs in Contra Costa County is estimated to exceed $1 billion (CCCWP, 2020).

Permittees interested in participating in the Programmatic Demand purchases would identify the Equivalent Acres Greened compliance units they may purchase over Phase 2 of System operation to meet their C.3 (and potentially, C.11/C.12) compliance requirements. In addition to providing economies of scale for the Contra Costa County System launch, it is expected that this approach would allow for a lower compliance cost for Permittees. Furthermore, financing (or funding) and constructing Off-Site GSI Projects to meet this initial upfront Programmatic Demand (see Section 6.3) would align with the Contra Costa County System requirements of completing CEQA and generating compliance metrics prior to exchange.

In the Programmatic Demand scenario, Permittees could identify the cost to construct LID/GSI facilities to meet their compliance requirements through traditional procurement and consider what (lower) price they would be willing to pay instead through the Contra Costa County System. Permittees could then identify the quantity of compliance units they would want to

purchase, if Equivalent Acres Greened compliance units were available at their suggested price. This combined quantity of Equivalent Acres Greened compliance units identified by County Permittees would serve as the assured "Programmatic Demand" for Equivalent Acres Greened compliance units. Permittees could anticipate cost savings in meeting their GSI permit requirements through this approach.

With the knowledge that the Contra Costa County System has a guaranteed baseline demand for compliance units, private compliance unit providers would have increased interest in participating in the Contra Costa County System.

6.2.2 Regulated Project Demand

Currently, the compliance unit demand from Regulated Projects is difficult to determine. Challenges to estimating the amount of Regulated Project demand include fluctuations in the development market, difficulty in identifying potential developers over the next five to twenty-plus years, and the potential for developers to be reticent to provide their suggested demand without knowing more about the Contra Costa County System. A number of developers have applied for MRP Provision C.3.e.ii, "Special Project"[18] status within the County, and likely more could be interested in making a compliance purchase to not have to construct stormwater treatment facilities on-site, especially for higher value or higher density redevelopment projects.

Development projections can be used to inform estimates of potential Regulated Project demand. As part of the RAA prepared for Contra Costa County (CCCWP, 2020), private development that occurred between 2003 and 2019 was compiled geospatially, and future private development was projected for 2020, 2030, and 2040. To forecast future private development area, CCCWP used the output of UrbanSim, a model developed by the Urban Analytics Lab at the University of California under contract to the Bay Area Metropolitan Transportation Commission (MTC) (MTC, 2021; Waddell, 2013). The UrbanSim modeling system was developed to support the need for analyzing the potential effects of land use policies and infrastructure investments on the development and character of cities and regions. The Bay Area's application of UrbanSim was developed specifically to support the development of Plan Bay Area, the Bay Area's Regional Transportation Plan/Sustainable Communities Strategy-equivalent planning effort (CCCWP, 2020).

MTC forecasts growth in households and jobs and uses the UrbanSim model to identify new development and redevelopment sites to satisfy future demand. Model inputs include parcel-specific zoning and real estate data; model outputs show increases in households or jobs attributable to specific parcels. The methods and results of the Bay Area UrbanSim model have been approved by both MTC and Association of Bay Area Governments' Committees for use in transportation projections and the regional Plan Bay Area development process.

[18] Per MRP 3 Tentative Order: "Certain land development projects characterized as smart growth, high density, or transit-oriented development can either reduce existing impervious surfaces or create less "accessory" impervious areas and automobile-related pollutant impacts. Incentive LID Treatment Reduction Credits approved by the Water Board may be applied to these Special Projects, which are Regulated Projects that meet the specific criteria listed … in Provision C.3.e.ii.(2)."

The CCCWP RAA process used outputs from the Bay Area UrbanSim model to map parcels predicted to undergo new development or redevelopment in each Contra Costa jurisdiction at the time increments specified in the MRP (i.e., 2020, 2030, and 2040). The resulting maps were reviewed by Permittee staff for consistency with local knowledge and local planning and economic development initiatives and were revised as needed. Notably, the specific parcels identified by UrbanSim may or may not be realistically developed; however, the quantity of acres developed and approximate locations of, and zoning associated with, the parcels is considered representative of potential development in the County.

A summary of UrbanSim projections for 2021 – 2030 and 2031 – 2040 for the County are provided in Table 7. Development estimates for the County are separated out by San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) region and estimated hydromodification management (HMP) requirements. Development projected as high density, with an assumed imperviousness of 85%, has been further separated out since these types of Regulated Projects may be most likely to seek alternative compliance for stormwater.

Table 8: Summary of UrbanSim Development Projections

Region	HMP Status	2020 – 2030 Equivalent Acres[1] by Development Density		2030 – 2040 Equivalent Acres[1] by Development Density		2020 - 2040 Equivalent Acres[1] by Development Density		
		Low/Med	High	Low/Med	High	Low/Med	High	All
Region 2	HMP Applicable	145	172	207	129	352	301	653
	HMP Exempt	59	**249**	77	**271**	136	**520**	656
	HMP Undetermined	7	9	75	1	82	10	92
	Region 2 Total	*211*	*430*	*359*	*401*	*570*	*831*	*1,401*
Region 5	HMP Applicable	279	21	562	50	841	71	912
	HMP Exempt	1,248	15	158	43	1,406	58	1,464
	HMP Undetermined	0	0	0	0	0	0	0
	Region 5 Total	*1,527*	*36*	*720*	*93*	*2,247*	*129*	*2,376*
Countywide Total		***1,737***	***466***	***1,081***	***493***	***2,818***	***959***	***3,777***

[1] Defined as 100% of directly connected impervious areas and 10% of directly connected pervious areas.

The UrbanSim development projections estimate approximately 520 acres of high-density, HMP exempt development in Region 2 that is expected to be constructed over the next 20 years (i.e., 249 acres from 2020 – 2030 and 271 acres from 2030 – 2040, see bolded values in Table 8). However, the amount of this development that may ultimately take place in the Contra Costa County System is unknown.

6.3 Off-Site GSI Project Implementation Considerations

A source of funding or financing would be needed to construct Off-Site GSI Projects prior to collection of compliance purchase payments, due to the CEQA limitations described in Section 2.4. The mechanisms used to deliver Off-Site GSI Projects under the Contra Costa County System would determine the ability to leverage private financing and the overall administrative structure of the program.

6.3.1 Upfront Financing of System Program of Projects

One option is to finance a program of Off-Site GSI Projects to satisfy the initial Programmatic Demand (plus any other projected demand, as applicable). Financing could be obtained through public programs, such as the Clean Water State Revolving Fund (CWSRF) or Water Infrastructure Finance and Innovation Act (WIFIA) loans. In such a scenario, a public entity (e.g., a Permittee or other public agency, "the Borrower Agency") would apply for a loan to set up a fund to finance the construction of the initial Off-Site GSI Projects (e.g., financing the generation of 5-10 years of Programmatic Demand for compliance units).

Compliance unit providers would get paid by the Borrower Agency when: (1) compliance units are certified, in which case the Borrower Agency would then also act as the "bank" selling compliance metrics, or (2) when compliance units are sold, in which case the Borrower Agency serves as more of a payment pass-through entity plus loan manager. Permittees would have the option to pay for compliance units when they need them, for example, in a lump sum during the first 5 to 10 years or pay down the loan for their portion of "Programmatic Demand" over a longer payment period, consistent with the loan period. The Borrower Agency may need to manage different payment schemes with different participating Permittees (i.e., through MOUs or other contractual agreements) and would pay down the full loan over time. The initial Off-Site GSI Projects financed through the loan would establish the Contra Costa County System, with the goal of generating additional compliance metric supply and demand beyond the upfront Programmatic Demand sales.

There is the potential that permittee loans for compliance units purchased specifically for TMDL compliance that are not ultimately purchased by private developers could be forgiven through a public finance pathway. If the compliance unit generating Off-Site GSI Projects are financed through CWSRF or WIFIA, the TMDL compliance unit portion could potentially be part of the loan that is ultimately "forgiven" because LID/GIS facilities in older urban or industrial areas provide water quality improvements that meet the intent of the CWSRF and WIFIA programs. Other potential components of Programmatic Demand (e.g., GSI retrofit requirements) are current or expected permit compliance requirements and are consequently less likely to be forgiven under this financing structure.

6.3.2 Alternative Delivery Approaches

There are three principal approaches for delivery of Off-Site GSI Projects to generate Equivalent Acres Greened compliance units: 1) traditional design-bid-build procured by the program administrator using the loan funds (or after compliance purchase payments are collected); 2) performance-based contracting for turn-key and fixed-price solutions; and 3) public-private

partnership (P3), where a private enterprise engages with the program administrator and plays a larger role in administering the program and delivering the off-site projects.

6.3.2.1 Traditional Design-Bid-Build

Traditional public project funding involves a funder that pays a private entity (engineer/contractor) for a pre-defined scope of work. The payment schedule is typically linked to direct cost reimbursement and may include mark-up for overhead costs and an acceptable profit. If profit is allowed, it is linked to the project cost, providing an incentive for the private entity to increase costs in both the proposal phase and through change orders. Since the private entity is paid for work completed, and payments are not linked to outcomes, the funder bears all project risks. The funder may need to issue multiple Requests for Proposals (RFPs) for a given project for project design, construction management, and construction.

6.3.2.2 Performance-Based Contracts

Performance-based contracts (or simply performance contracts) (PBCs) condition payments based on defined performance outcomes that reflect the quality of the project delivered. This strategy typically requires private capital to finance project implementation. Funders pay implementers an agreed-upon price per credit after pollutant load or volumetric reductions are verified and all requirements are met for certified credits. Since the Contra Costa County System compliance purchases would not include O&M costs, those costs would be levied separately on the property on an annual basis (see Section 6.4.4).

6.3.2.3 Public-Private Partnerships (P3s)

P3s are a relatively common way for the public and private sector to collaboratively deliver and maintain GSI projects. A CBP3 (i.e., Community Based P3) is a form of alternative delivery in which a government agency and private partner seek to improve both water quality and quality of life for a community through LID/GSI projects that meet multiple environmental and social metrics (e.g., metrics tied to workforce and equity benefits).

As noted above, there are less administrative burdens under the performance-based or P3 delivery models. Traditional procurement requires significant management and oversight of every facet of a project, while PBCs and P3s require more limited oversight and fewer RFPs.

6.3.3 Pay-for-Performance or CBP3 Model for Compliance Metric Providers

Depending on the entity responsible for control measure O&M, the Contra Costa County System could utilize one of two models for a pay-for-performance or CBP3 contract with compliance unit providers. A Design-Build-Finance (DBF) model could be utilized if Permittees and/or the Countywide Maintenance District perform ongoing maintenance, and a Design-Build-Operate-Maintain-Availability Payment (DBFOM-AP) model could be used if the compliance unit provider is required to perform ongoing maintenance.

A DBF model only obligates the compliance unit provider to finance and deliver an Off-Site GSI Project that generates the Equivalent Acres Greened. Payment for capital expenditure would be released by the CCCWP System Administrator upon successful certification of the Off-Site GSI Project and generated compliance metrics.

A DMFOM-AP model requires the compliance unit providers to be responsible for financing, while the Contra Costa County System maintains control over payments and revenue collection and makes pre-established payments to the private entity for project delivery and performance commitments. This model would completely shift the financial risk for performance to the private sector. The contract would require provisions that allocate pooled Countywide Maintenance District O&M assessments to the compliance unit providers, contingent on successful verification of O&M, delivery on additional performance standards, and timely responses to maintenance requests.

6.3.4 Private Financing

Private capital's primary role in the project financing process is to assume risk, accelerate implementation, and achieve project implementation in the most efficient and cost-effective manner possible. There is a limited role for private capital unless there are elements of risk, outcome-based approaches, and payment schedules that may require upfront private capital. In the context of the envisioned Contra Costa County System project delivery, the opportunity to leverage private capital participation would primarily be through the performance-based contracting and P3 delivery models, not under traditional public project funding.

6.4 Cost Setting

On the basis of the recommended Programmatic Demand approach, the Equivalent Acre Greened unit cost ($Cost_{EAG}$) needs to be set at the level that:

3. The Permittees would be willing to pay for compliance units to meet their own Regulated Project needs;
4. Is less than or equal to the Permittees' cost of constructing GSI facilities, with adequate data to demonstrate this cost to provide transparency to cost-setting; and
5. Off-Site GSI Projects could be constructed by compliance unit-generating entities and be economically feasible.

Meeting these three requirements could allow Permittees to commit to purchase the Programmatic Demand that drives the implementation of initial Off-Site GSI Projects through the Contra Costa County System. An analysis to demonstrate the typical Permittees' LID/GSI construction costs should be conducted to assist cost-setting. Finally, there would need to be interest from compliance unit-generating entities to construct Off-Site GSI Projects at the established cost.

It is assumed that the Equivalent Acre Greened unit cost ($Cost_{EAG}$) would be the same for all System buyers and would represent the average cost to generate an Equivalent Acre Greened compliance unit from Off-Site GSI Projects implemented through the Contra Costa County System. As described in Section 8.4.2, the Equivalent Acre Greened unit cost would need to be revisited and potentially adjusted on a regular basis.

6.4.1 AB 1600 Considerations

The Mitigation Fee Act, California Government Code Section 66000, et seq., or AB 1600, is not assumed to apply to the Contra Costa County System as the System provides an optional (not

required) pathway to alternatively comply with MRP Provision C.3. To provide transparency, some of the requirements of AB 1600 will be followed in the development of the compliance purchase and O&M assessment related costs. For example, the cost study conducted to develop the Equivalent Acre Greened unit cost ($Cost_{EAG}$) is anticipated to be designed to follow the AB 1600 requirements of a fee study where possible. Under AB 1600, a fee study must meet the requirements set forth in Gov. Code § 66001(a), including the following elements:

1. Identify the purpose of the fee.
2. Identify the use to which the fee is to be put. If the use is financing public facilities, the facilities shall be identified. That identification may, but need not, be made by reference to a capital improvement program, may be made in applicable general or specific plan requirements, or may be made in other public documents that identify the public facilities for which the fee is charged.
3. Determine how there is a reasonable relationship between the fee's use and the type of development project on which the fee is imposed.
4. Determine how there is a reasonable relationship between the need for the public facility and the type of development project on which the fee is imposed.

Fee studies, also referred to as "fee nexus studies," have met the requirements to demonstrate "reasonable relationships" using a broad range of methodologies, as there are no regulations or guidance to inform the "reasonable relationship" determinations.

It is not expected that the Contra Costa County System would be subject to the reporting requirements of AB 1600, which includes a number of reporting requirements for fees set under the Act.

6.4.2 Other Compliance Purchase Considerations

The costs used to establish the compliance purchase cost basis should be based on full cost accounting, including expenses such as project planning, design, permitting, and construction costs, as well as administration of the Contra Costa County System. Accordingly, the overall compliance purchase amounts should be determined by project costs, administrative costs, overhead inventory, and risk. Since O&M costs would be covered separately through payments to a separate fund, these costs would not be included.

Once the amounts of the compliance purchase cost components are established, it is crucial that the Contra Costa County System has a process in place to regularly evaluate the sufficiency of the compliance purchase amounts and to adjust the amounts as needed. See Section 8.4 for additional considerations for compliance purchase component adjustments.

The compliance purchase approach offers developers the option to navigate the C.3 payment obligations in a limited time frame and avoid the highly technical, complex, and evolving regulations that govern the implementation of these GSI projects. These two benefits save considerable time and money, and lowers the risk to the developer, which may make it more likely that the developer participates. Conversely, if the developer already has to undertake many

on-site commitments and the marginal costs of LID/GSI compliance is nominal, then it could lessen the benefits of using the Contra Costa County System.

6.4.3 Administrative Payment

An administrative payment is proposed to be incorporated into the compliance purchase amount. The administrative payment would include costs for CCCWP System Administrator, along with costs charged by the jurisdiction in which the Regulated Project is located. Administrative payment amounts would be developed through cost studies when fee schedules are updated by Permittees and will cover all staff and/or consultant hours, along with materials and overhead, to perform administrative functions needed for the Contra Costa County System. CCCWP cost amounts will similarly be developed through fee schedule updates. This process is anticipated to be informed by Phase 1 of the System. Administrative functions that may be incorporated into the payment are anticipated to include, but may not be limited to:

- Review preliminary applications to the Contra Costa County System;
- Conduct Regulated Project review, as needed;
- Identify compliance metrics for sale for interested buyers;
- Perform or confirm exchange calculations;
- Conduct plan review and oversight processes for Off-Site GSI Projects;
- Enter data into the System Tracking Tool;
- Conduct certification and verification processes; and/or
- Other System administrative tasks.

The administrative payment may include costs from multiple entities that are involved in any given exchange and could vary depending on the jurisdictions involved in the exchange. For example, for a given exchange, the payment could include administrative costs associated with (but not limited to):

1. Cost for processing the Regulated Project buyer, identifying compliance units for exchange, and tracking, by the jurisdiction in which the Regulated Project is located;
2. Cost for design and construction phase review and certification of the Off-Site GSI Project associated with compliance units purchased, by the jurisdiction in which the Off-Site GSI Project is located; and
3. System administrator costs for overall System administration.

Many programs collect an administrative fee between 5% and 20% on top of other program costs. The method of procurement delivery determines the scope and costs of administration. If the Contra Costa County System adopts a traditional design/bid/build delivery method for

procuring the Off-Site GSI Projects, it would require more staff to oversee the program than a performance-based contracting or CBP3 approach.

6.4.4 Ongoing O&M Assessments

To meet the requirements of MRP Provision C.3.e, a proportional share of the O&M cost for the Off-Site GSI Project shall be obtained from the buyer through an ongoing O&M Assessments. Participating buyers would pay an annual ongoing O&M Assessment per Equivalent Acres Greened compliance unit at a fixed rate with escalation for inflation and other costs.

The rate schedule would reflect the cost of conducting O&M activities for all of the Off-site GSI Projects in the System. It is anticipated that the rate schedule may be initially established through detailed O&M cost estimates for Off-site GSI Projects expected to generate compliance units for the System, along with an estimated O&M reserve (for Off-Site GSI Projects that have compliance units still un-sold), and administrative costs. Though individual participants may be purchasing compliance units associated with specific Off-site GSI Projects, the assessment rate schedule would consider O&M costs for all of the Off-Site GSI Projects included in the System, consistent with the watershed approach in the MRP. This approach would allow for equity and consistency across the program. The O&M assessment would be adjusted as needed over time as O&M cost data are collected for Off-Site GSI Projects implemented for the Contra Costa County System to cover the actual cost of O&M adequately. The cost of O&M activities will be developed through a fee nexus study commissioned or conducted by the CCCWP Regional Alternative Compliance Subcommittee.

The O&M reserve fund will be managed by Flood Control Zone and will be used to fund other activities to ensure that long-term environmental benefits associated with LID/GSI and pollutant reduction control measures are realized, with consideration that some control measures are expected be offline and unavailable for periods of time due to maintenance or repair and/or do not have dedicated sources of ongoing O&M funds if there is a lag between Off-Site GSI Project construction and full exchange of generated compliance units.

The ongoing O&M Assessment will also cover the Flood Control District's administrative costs for administering the O&M funding for the Contra Costa County System. This portion of the Assessment will cover activities including, but not limited to: pooling and collecting O&M assessments, validating successful O&M verification, distributing O&M funds to entities performing O&M, managing the O&M reserve as applicable, and completing System reporting, as needed.

The O&M assessment financial procedures will be established under the Flood Control District's Expenditure Policy. In addition, Operational Procedures will be developed that describe how the O&M assessments are levied, managed, and distributed. An Operational Plan will be created, including details regarding O&M assessment adjustments, annual reporting requirements, risk management procedures, requirements for operating entities, amendment processes, public information sharing, and details about individual regional Off-Site GSI Projects implemented through the System

6.5 System Fund Management

6.5.1 Contra Costa County System Fund

Funds collected through the compliance purchase payments will be managed in a fund that is administered by the CCCWP System Administrator and/or the Borrower Agency. Fund management may entail, but is not be limited to:

1. Mechanisms for transferring payments between the System Administrator and Permittees;
2. Tracking payments collected and confirming appropriate payment amounts;
3. Pooling collected compliance purchase payments into combined fund;
4. Paying back public financing loans;
5. Managing loans with Permittees;
6. Payments to compliance metric providers and/or pay-for-performance or CBP3 contractor(s);
7. Investments into additional compliance metric generating Off-Site GSI Projects;
8. Tracking and managing administrative program costs; and/or
9. Reporting for AB 1600 requirements, internal agency requirements, auditing needs, and/or other financial reporting.

6.5.2 Ongoing O&M Fund

The Flood Control District will be responsible for pooling ongoing O&M assessment funds and disbursing funds as appropriate to the O&M effort spent by Permittees and/or private contractors performing O&M work in accordance with their updated Financial Policy. If O&M is conducted by a pay-for-performance or CBP3 contract, O&M efforts will be described in the contracting documents. The O&M Fund will also be required to conduct adequate tracking and perform financial reporting.

The ongoing O&M Assessment is expected to be pooled in Flood Control Zone 100. Ongoing O&M assessment development, charges, collection, compilation, disbursement, and accounting will be consistent with existing Flood Control District methods and policies. The Countywide Maintenance District will distribute pooled O&M funds with proof of completed O&M, as documented through the System Tracking Tool.

6.5.3 Harmonized and Pooled Funding

The Contra Costa County System should provide authority to the CCCWP System Administrator to pool funding resources. This pooling would include the Equivalent Acres Greened portion of the compliance purchases, multiplied by the WQB ratio as applicable, and could include pooled funds from other sources into the System Fund. Pooling funds would enable the Contra Costa County System to implement larger-scale projects and solutions. The costs of implementing small LID/GSI facilities (from any provider type) can be very high as they do not offer any

economies of scale. Costs for design, mobilization, construction, monitoring, and maintenance all become less expensive per unit on larger projects.

In addition, pooling of funds would facilitate leveraging low cost financing sources, such as SRF funds; the capacity to link water quality financing with economic development and diversification funding sources; and the ability to work in partnership with private investors in the delivery of cost-effective GSI projects more quickly and with less risk to System member agencies.

7. RISK AND UNCERTAINTY MANAGEMENT

Phase 2 of the Contra Costa County System is anticipated to manage a variety of buyers, Off-Site GSI Projects, and participants across Contra Costa County's diverse landscape. With a multitude of elements to manage, there will be risks and uncertainty that would need to be addressed to ensure that Permittees participating in the Contra Costa County System would not face compliance liability. This section describes sources of uncertainty, followed by recommended management actions.

7.1 Sources of Uncertainty

Identified sources of uncertainty for the Contra Costa County System are related to the variability of precipitation, pollutant concentration, control measure effectiveness and performance, and costs of constructing and maintaining Off-Site GSI Projects. Additionally, market demand for purchasing Equivalent Acres Greened compliance units is uncertain.

7.1.1 Capture of Equivalent Quantity of Stormwater Runoff and Pollutant Loading

The Equivalent Acres Greened compliance unit intends to provide off-site equivalent quantity of stormwater runoff and pollutant loading in accordance with Provision C.3.e requirements for Regulated Projects. Precipitation and land use are the primary, non-management related factors that would influence the quantity of stormwater runoff and pollutant loading captured by Off-Site GSI Projects, respectively. As Contra Costa County contains a wide range of precipitation rates and historic land use, equating stormwater runoff and pollutant loading from a Regulated Project to an Off-Site GSI Project in different locations can be challenging. In addition, site-specific conditions may affect pollutant concentrations and control measure effectiveness and introduce a degree of uncertainty in environmental outcomes.

7.1.2 Risk of Noncompliance due to Project Failure

The failure in the implementation, operation, or maintenance of Off-Site GSI Projects can result in noncompliance for the Contra Costa County System or System participants. Ongoing O&M is of particular concern for the System, as many of the anticipated compliance unit-generating projects are required to be operated and maintained in perpetuity.

7.2 Managing Uncertainty

The Contra Costa County System utilizes several mechanisms to manage identified risk and uncertainty that may affect Permittees, compliance unit providers, and environmental outcomes.

7.2.1 Runoff Equivalency – Rainfall Ratio

The Contra Costa County System would require a rainfall equivalency factor (i.e., Rainfall Ratio) to be applied to the Regulated Project Runoff Generating Acres for exchanges of Equivalent Acres Greened compliance units generated in other Rainfall bands across the County (see Section 4.2.3.1). The Rainfall Ratio would account for variability in precipitation across Contra Costa County and provide the demonstration of "equivalent volume" required under Provision C.3.e.(2).

7.2.2 Pollutant Load Equivalency – Pollutant Ratio

A portion of the uncertainty surrounding the equivalency of pollutant loading between a Regulated Project and an Off-Site GSI Project is anticipated to be addressed through the System's Rainfall Ratio, which accounts for runoff volume generation differences. To account for pollutant loading differences between land use types, a comparison of average concentrations of PCBs and TSS (as surrogate for urban pollutants of concern) was conducted as described in Section 4.2.3.2. As PCBs are a legacy pollutant, new and re-development projects are anticipated to always produce lower concentrations than older urban areas. Based on the TSS analysis, there was not a statistically significant difference in loading between commercial, residential, and transportation land use classifications; however, industrial land uses would be expected to produce higher levels of TSS and potentially other adsorbed pollutants. Therefore, any new or re-development projects that are proposed to have industrial land use types would require a case-by-case Pollutant Ratio to apply to the Equivalent Acres Greened compliance units exchanged to provide the pollutant load capture equivalency demonstration required by MRP Provision C.3.e.(2).

While treatment through control measures could be expected to be variable, any variability in the outcomes of the treatment control measures used for Off-Site GSI Projects is expected to occur at the same rate as those used for on-site Regulated projects. There is the potential for Off-Site GSI Project performance to exceed Regulated Project performance that would be implemented on-site, given the O&M dedicated funding, administrative infrastructure, and tracking and reporting procedures of the Contra Costa County System.

7.2.3 Contractual Mechanisms

Traditional contracting mechanisms obligate payment based on the completion of a scope of work that is intended to provide desired outcomes. However, this approach still burdens buyers with the risk of underperformance of the desired outcomes. The mechanism used to contract the compliance metric providers, whether a pay-for-performance or CBP3 approach, is intended to reduce the occurrence of underperformance (e.g., project failure, inadequate LID/GSI implementation) by shifting the financial burden of underperformance from buyer to the provider of the service (in this case, the compliance metric provider).

7.2.3.1 Project Failure

Participants in the Contra Costa County System would be required to agree to contractual provisions intended to provide assurances for performance of control measures, account for unseen conditions, and provide remedies for deficiencies. This may include financial assurances, such as performance bonds. The contracts for compliance metric providers participating in the

System can be structured on pay-for-performance or CBP3 principles for larger-scale implementation. These contracts would require financial compensation to be tied to performance outcomes, such as the design, implementation, and O&M (if conducted by a private entity) of Off-Site GSI Projects. A pay-for-performance or CBP3 approach for the Contra Costa County System may mitigate Off-Site GSI Project performance risk, while providing an incentive for compliance unit providers to provide cost-effective compliance units. Payments from CCCWP would be tied to milestones, including the successful certification of a properly-designed and implemented project. In addition, contracts would be expected to obligate compliance metric providers with the financial responsibility of addressing project failures. Compliance metric providers would be responsible for addressing failures revealed during certification and ongoing verification of O&M within a specified grace period.

If private entities are identified as responsible for ongoing O&M and/or verification under a pay-for-performance or CBP3 approach, they would be similarly required to demonstrate proof of O&M conducted and adequate performance of Off-Site GSI Projects prior to receiving payment through the Countywide Maintenance District. Jurisdictions who conduct O&M for Off-Site GSI Projects would similarly need to demonstrate proof of O&M prior to receiving funds from the Countywide Maintenance District.

7.2.3.2 Unaddressed Catastrophic Project Failure

In the rare instance that a project failure is not addressed by a compliance unit provider within the specified grace period, contract provisions are expected to require financial compensation from the compliance metric provider for the Contra Costa County System to provide MRP Permittees compliance metrics from another source. During Phases 1 and 2, the CCCWP Regional Alternative Compliance Subcommittee and/or Administrator would be responsible for locating and attaining Equivalent Acres Greened compliance units to replace defaulted compliance metrics. In future iterations of the System, the supply of reserve compliance metrics may be obtained through a reserve pool of compliance units set aside and pooled from MRP Permittees.

7.2.3.3 Assurances for Compliance Metric Providers

Contractual provisions are also expected to provide assurances to compliance unit providers that certified Off-Site GSI Projects would not be subject to modifications to the Contra Costa County System that occur after the establishment of the contract. This would pertain directly to changes to exchange ratios and/or calculation methods for compliance metrics and certification requirements. These types of contractual provisions are intended to reduce uncertainty and risk for compliance metric providers during their financial planning and decision-making process for Off-Site GSI Projects.

8. ADAPTIVE MANAGEMENT

Section 8 describes adaptive management procedures for the Contra Costa County System, and Sections 8.2 and 8.3 describe the responsibilities for adaptive management for timing and **oversight by entities,** required for proposed program submittal per MRP 3 Tentative Order Fact Sheet.

8.1 Scaling the Contra Costa County System

Although Phase 2 of the Contra Costa County System has a defined scope for its participants, compliance units, and jurisdiction, the System was envisioned to provide a framework that would allow entities across the Bay Area to meet water quality goals while generating economic opportunities. Scaling the Contra Costa County System to encompass more objectives and participation, or to allow for exchanges with other countywide regional alternative compliance systems, could create opportunities for economies of scales and incentivize nonregulatory-based interests, such as environmental justice. This section provides considerations for scaling the Contra Costa County System beyond Phase 2.

8.1.1 Scaling for Additional Compliance Metrics and Control Measures

It is anticipated that, after Phase 2 of the Contra Costa County System, more control measures and associated compliance units could be integrated to address MRP provisions and other community needs.

8.1.1.1 Provision C.3.g. Hydromodification Management

Permittees with Regulated Projects subject to MRP Provision C.3.g. hydromodification management requirements may participate in the Contra Costa County System to address Provision C.3.b. (LID/GSI requirements) for their Regulated Project off-site provided that their hydromodification control requirements are met on-site. As it is typically more cost-effective to add water quality treatment to a hydromodification control facility that is constructed on-site, it is not expected that many Regulated Projects would use this option. The Contra Costa County System could be updated in the future to incorporate a separate Permittee hydromodification management track for a new hydromodification management compliance unit, if there is substantial interest.

The Permittee hydromodification management track would include a separate suite of hydromodification management facilities developed to ensure that impacts to soft-bottomed receiving waters directly downstream of Regulated Projects are adequately mitigated. These projects could potentially include regional hydromodification controls and/or in-stream measures as defined in MRP Provision C.3.g.iv. The impact to the direct receiving waters of Regulated Projects would necessitate a compliance unit that takes into account flow control mitigation that is based on the amount of impervious surface mitigated and geographically-specific to address the direct receiving waters. This hydromodification compliance unit would have to consider the relative location of Regulated Projects and Off-Site GSI Projects and would involve specific boundary restrictions on exchanges based on sub-watersheds.

Participating Regulated Projects seeking C.3.g hydromodification management compliance would participate in the Contra Costa County System through payment of an exchange-specific hydromodification management compliance payment that would be added to the overall compliance purchase, along with a parcel-specific hydromodification management ongoing O&M assessment, which would be added to the ongoing O&M assessment.

8.1.1.2 Equivalent or Increased Water Quality Benefit

As described, during Phases 1 and 2, the funds collected for the WQB Ratio would be directed towards additional Equivalent Acres Greened compliance units. The additional Equivalent Acres

Greened compliance units associated with the WQB Ratio for each exchange would provide a net increase in impervious surface treated and/or a net reduction in pollutant load.

Following the Phase 2 of the Contra Costa County System, the WQB Ratio could be directed towards an expanded list of water quality projects and programs beyond additional Equivalent Acres Greened, in response to changing water quality objectives. These would be considered as part of the Contra Costa County System adaptive management procedures described in Section 8.3.

8.1.2 Tracking and Incentivizing Ancillary Benefits

The LID/GSI and pollutant control measures implemented through the Contra Costa County System may generate valuable co-benefits for Contra Costa County communities that are unrelated to provisions of the MRP, such as climate resiliency, flood reduction, and environmental justice for disadvantaged communities. The objectives of the Contra Costa County System could be expanded in the future beyond alternative compliance and include the incentivization of these types of ecosystem services and social benefits for Contra Costa County communities.

Incentivization of co-benefits could be accomplished by creating compliance units for each ancillary benefit and/or identifying disadvantaged communities and incorporating discounting factors into the CCCWP Regional Alternative Compliance Subcommittee's selection criteria for Off-Site GSI Projects. Compliance unit providers could be incentivized to generate ancillary benefits through discount factors applied to Equivalent Acres Greened compliance unit-generating projects (e.g., through the WQB Ratio) that meet a minimum threshold for ancillary benefits and/or are located in designated disadvantaged communities. There may also be opportunities to maximize ancillary benefits through use of a CBP3 approach, see Section 6.6.

8.1.3 Scaling for Additional Participation

Although the Contra Costa County System is envisioned to provide alternative compliance for Regulated Projects, there are several public and private entities in the Bay Area with overlapping interests and water quality goals that would benefit from participation in the System.

8.1.3.1 Additional Sources of Funding

During Phase 2, the primary source of funds for the Contra Costa County System program of projects would be the compliance purchase payments collected from Permittees and private developers of Regulated Projects participating in the System. The System could incorporate ancillary funding from sources invested in water quality improvements in the Bay Area, including Phase II MS4 permitted entities, IGP or individual NPDES Permittees, POTWs interested in TMDL reductions, or conservation groups interested in "retiring" (i.e., purchasing for non-compliance related water quality benefit) compliance units.

After or during Phase 2, it is recommended that the CCCWP Regional Alternative Compliance Subcommittee conduct a preliminary investigation into the interest and demand from other NDPES-regulated entities. If demand exists from other entities to participate in the Contra Costa County System, the CCCWP Regional Alternative Compliance Subcommittee could identify amendments to the Contra Costa County System framework and Off-Site GSI Project selection

criteria that could widen the scope of potential buyers of compliance units generated from Off-Site GSI Projects.

For example, if demand exists from IGP Permittees, the CCCWP Regional Alternative Compliance Subcommittee could identify revisions to the certification process such that compliance units generated in the system could be used by both developers and IGP Permittees. An expansion of System buyers to other NPDES-permitted entities may require review and approval by the SFRWQCB, the State Water Resources Control Board, EPA, and/or other regulators.

The Subcommittee could also consider creating a simple cost structure for other entities, as streamlining the funding process has been a heavily echoed sentiment from current MRP Permittees and a likely request from other entities.

8.1.3.2 Additional Sources of Off-Site GSI Projects

The anticipated compliance unit providers during the Phase 2 of the Contra Costa County System are municipalities and private entrepreneurial entities with experience developing LID/GSI in the urban landscape. As the Contra Costa County System expands, it is anticipated that other public entities or NGOs with similar water quality objectives could participate in generating cost-effective compliance units through economies of scale with large mitigation projects. In the Bay Area, this could potentially include Caltrans Trash/POC mitigation projects, source control programs, stream restoration projects led by NGOs, or other similar water quality improvement projects or programs.

8.1.4 Scaling for a Regional Inter-County Program

One of the priorities envisioned for the Contra Costa County System following Phase 2 is exploring how to expand the System to include additional Permittees, outside of Contra Costa County, subject to the MRP requirements and the PCBs and mercury TMDLs, across the Bay Area. Scaling the Contra Costa County System to a larger regional inter-county program may require:

- Coordination and agreement between counties to ensure uniform adoption of the Contra Costa County System framework;
- Approval from regulators;
- Clear roles for collecting and dispersing compliance purchase payments and ongoing O&M assessments; certification, verification, and tracking of compliance units; and, if possible, identification of centralized entities that may be able provide these services across jurisdictions;
- Inclusion of inter-county stakeholders in Contra Costa County System Regional Alternative Compliance Subcommittee;
- Consensus on how Permittees may claim pollutant load reductions generated by Off-Site GSI Projects in other jurisdictions for Regulated Projects within their jurisdiction and vice versa;

- Refinement or expansion of Rainfall Ratio to account for precipitation rainfall across the Bay Area;
- Considerations for pollutants of concern hot spots in an inter-county context; and/or
- Updates to the tracking system to incorporate new counties and avoidance of issues such as double-counting.

8.1.5 Scaling for Other Considerations

As participation grows, the Contra Costa County System may consider leveraging a larger number of Off-Site GSI Projects across the System to mitigate the risk of catastrophic project failure. This could be accomplished in future iterations with a reserve pool of compliance units, which is often implemented through a reserve ratio applied to the buyer. For example, a reserve ratio of 1.1:1 would require 10% of purchased Equivalent Acres Greened to be set aside for a reserve pool that would be used to mitigate any catastrophic project failures in the System.

8.2 Ongoing System Decision Points

Regular review, approval, and revision of the Contra Costa System Off-Site GSI Projects and the technical aspects of the Contra Costa County System is anticipated. These ongoing decision points would be the responsibility of the CCCWP Regional Alternative Compliance Subcommittee and System Administrator.

8.2.1 Selection Criteria for Off-Site GSI Projects

The Programmatic Demand approach would require a specific amount of Equivalent Acres Greened compliance units to be available at or soon after Phase 2 System launch (anticipated 2025 – 2026, see section 11). Off-Site GSI Projects generating the compliance units to meet the Programmatic Demand could be constructed as part of the same contract through a pay-for-performance or CBP3 contracting model. If a larger regional contract to implement Off-Site GSI Projects is pursued, one primary function of the CCCWP Regional Alternative Compliance Subcommittee would include developing criteria for Off-Site GSI Project selection, reviewing applications, and approving Off-Site GSI Project for compliance metric generation for the contract. Criteria for selection may include but not be limited to: confirmation the Off-Site GSI Project meets baseline requirements, TMDL load reduction potential, multi-benefits provided, geographic location, and/or costs.

8.2.2 Technical Review

The CCCWP Regional Alternative Compliance Subcommittee and/or their appointed technical reviewers would be responsible for providing regular review on the technical aspects of the Contra Costa County System and proposing updates to the System framework, as necessary. This may include, but not be limited to, regular review, approval, and revision of:

- Approved control measures and quantification methodologies for associated generated compliance units;
- Precipitation and land use classification data;

- System Ratios, including the Rainfall Ratio, Pollutant Ratio, WQB Ratio, or other ratios that may be incorporated;
- Equivalent Acres Greened compliance unit calculation; and/or
- Key System Tracking Tool capabilities.

Other control measures not listed could be used to generate Equivalent Acres Greened compliance units, if compliance unit providers wishing to use them can demonstrate that the facilities are designed consistent with the C.3 Guidebook requirements (CCCWP, 2017) and provide equivalent volume capture and pollutant load reduction performance as the facility types listed. It is envisioned that Phase 2 of the Contra Costa County System would limit allowable control measures to LID/GSI facilities only. Non-LID/GSI facility types could potentially be considered in the future, through the Contra Costa County System adaptive management protocol outlined in Section 8.3.2.

8.3 Procedures for System Amendments

As the Contra Costa County System evolves and expands, there could be interest in incorporating new pollutants of concern, benefits, participants, and jurisdictions into the System framework. Critical amendments related to the System framework should involve the CCCWP Regional Alternative Compliance Subcommittee, identified technical advisors, the Flood Control District, contracted entities, and/or others involved in System administration, and incorporate stakeholder recommendations. It is expected that significant amendments to the Contra Costa County System would require approval by the SFBRWQCB, but minor adaptations to the System could occur over time without formal approval. System amendments would be expected to be reported through the required System reporting processes.

8.3.1 Process for System Framework Amendments

While the Contra Costa County System framework is expected to be reviewed regularly, amendments would be completed on an as-needed basis and would involve the following process:

- **Draft System Priorities Memo** - The CCCWP Regional Alternative Compliance Subcommittee would be responsible for drafting a memo identifying areas for amendment in the Contra Costa County System framework. This memo should summarize the status of the System and identify any relevant connections or potential impacts on this program by the proposed amendments.
- **Stakeholder Feedback Form and Contra Costa County System Program Summary and Recommendations** – The CCCWP Regional Alternative Compliance Subcommittee would be responsible for sharing the Draft System Priorities Memo, along with a Stakeholder Feedback Form, with any identified technical advisors as well as the public to collect feedback.

- **Technical Recommendations** - Technical aspects of the Contra Costa County System framework would be reviewed on an as-needed basis by the CCCWP Regional Alternative Compliance Subcommittee and/or technical advisors and recommendations for amendment would be developed prior to the regularly scheduled System Strategy Meeting. Technical recommendations would only be applied to future exchanges; they would not affect exchanges already completed or in progress. Technical aspects that may be reviewed include:
    - Precipitation and equivalent stormwater runoff across locations
    - Land use classification and equivalent pollutant loading across locations
    - Ratios pertaining to equivalency, uncertainty, and (potentially) reserve ratios
    - Compliance purchase compliance unit calculation
    - Allowable control measures
    - Integrating a market-based approach to determine cost per Equivalent Acres Greened
- **System Strategy Meeting** – The CCCWP Regional Alternative Compliance Subcommittee and technical advisors would convene on a regular basis to share stakeholder feedback and recommendations pertaining to the in-lieu program, technical aspects of the System framework, and draft system priorities prior to System Amendment.
- **System Amendments and Public Notification** - The CCCWP System Administrator would amend the System Framework with the approved list of recommended System amendments. The System Administrator will publish notices of amendments made to the System to participants and the general public.

8.3.2 Amendments to Preapproved List of Control Measures

Potential compliance unit providers interested in generating Equivalent Acres Greened compliance units would be encouraged to design projects using control measures from the preapproved list of control measures (see Section 4.2.1.2). Compliance unit providers interested in generating compliance units utilizing control measures that are not already approved must seek approval for the control measure type before applying to generate compliance units. Compliance unit providers would be required to submit documentation on control measure performance and proposed quantification procedures to the CCCWP Regional Alternative Compliance Subcommittee and/or technical advisors. The CCCWP Regional Alternative Compliance Subcommittee and/or technical advisors would be responsible for reviewing the proposed control measures as part of the Technical Review process. The CCCWP System Administrator would then amend the preapproved list of control measures to include the additional control measure types.

8.4 Funding and Financing Considerations

8.4.1 Financing of Off-Site GSI Projects

Adaptive management of the implementation of the Off-Site GSI Projects would be required at the project level and programmatically. For each Off-Site GSI Project, the project design and implementation plan would be required to address elements of risk, uncertainty, and the dynamic nature of these GSI projects to optimize performance. This also may include financial assurances (e.g., performance bonds) and adaptive management criteria. Adaptive management is likely to be particularly important for Off-Site GSI Projects implemented through a pay-for-performance or CBP3 contracting model with compliance metric providers, financed upfront through public or private financing opportunities.

8.4.2 Compliance Purchase Amount Review and Adjustment

At the programmatic level, the System Fund may be evaluated regularly by the CCCWP System Administrator to address the annual inflation rate, market conditions, changes in the regulatory environment, new procurement strategies, and construction and project stewardship costs. If the implementation costs for the Contra Costa County System exceed compliance purchase revenue, then the CCCWP System Administrator may adjust the compliance purchase components upward to address the documented deficiencies. Following Phase 2 of the Contra Costa County System, the funding and financing for the System would be expected to change as the System evolves. This could include an assessment of whether the Contra Costa County System can become self-reliant on Regulated Project developers and/or other entity funding, or if the Programmatic Demand needs to continue.

The Contra Costa County System should include a process to regularly evaluate the sufficiency of the compliance purchase amounts, particularly the Equivalent Acre Greened unit cost and the administrative payment, and to adjust the compliance purchase components as needed. The CCCWP System Administrator should regularly evaluate how Off-Site GSI Project implementation costs align with the Equivalent Acre Greened unit cost ($Cost_{EAG}$) and could make associated needed adjustments. This could be based on the System regular reporting process.

Adaptive management procedures for the ongoing O&M assessments would be defined in updates to the Flood Control District Expenditure Policy, the O&M assessment Operational Procedures; and the O&M assessment Operational Plan, developed as part of the establishment and approval of the ongoing O&M assessment.

Some programs note that cumbersome processes discourage them from adjusting prices as frequently as may be desirable. Others have reported that they have standard practices in place for regular – often annual – evaluation of whether the payments collected are enough to cover project and administrative costs. Programs that have flexibility to update their required payment amounts without lengthy approval or amendment processes may be better equipped to update the payment amounts as needed.

9. OVERVIEW OF TRACKING TOOL

Section 9 describes **the accounting and reporting system,** required for proposed program submittal per MRP 3 Tentative Order Fact Sheet.

9.1 Contra Costa County System Components Tracked

A System Tracking Tool is being developed for the Contra Costa County System by SFEI. The System Tracking Tool will include a comprehensive database to track components of the System and relate System components to existing tracking tools. The components tracked will include:

- Off-Site GSI Project identification; location (i.e., geospatial information); drainage area and imperviousness; rainfall zone; tributary land uses; control measure type; and calculated compliance units.
    - Off-Site GSI Project certification, including confirmation of appropriate control measure type and sizing; and links to relevant forms completed by certifying entities.
    - On-going GSI Project verification, including the results of regular inspections and links to relevant forms completed by certifying entities.
    - Compliance units, including: Off-Site GSI Project generating units; rainfall zone; and tributary land use.
    - Off-Site GSI Project ledger, tracking the number of compliance units sold and associated exchange identification numbers (see below); and the remaining compliance units available for purchase.
- Regulated Project information, linked from the County's existing ArcGIS Online (AGOL) tool.
- Exchange Information, including: an exchange identification number; the number of compliance units required for purchase by a Regulated Project, calculated using Equation 4-7 in Section 4 of this document; or the number of compliance units desired for purchase by another buyer; the identified compliance units for purchase with associated attributes; the compliance purchase payment amount, including applicable administrative payments associated with the jurisdictions in which the Off-Site Project and/or buyer are located in, along with the System administrator; the ongoing O&M assessment identification; links to relevant agreements signed by the Regulated Project and/or other buyer, and confirmation that the compliance purchase has been paid.
- O&M assessment tracking, potentially linked to the Flood Control District's tax tracking system.

Other Contra Costa County System information that will be tracked at the administrative level include signed agreements from participants, contracts with CBP3 developers or others implementing Off-Site GSI Projects, System rules and requirements, and summaries of regular meetings and resulting amendments/addendums to System rules and requirements.

Section 10 and Appendix C include additional information on templates that will be completed for the Contra Costa County System and include details of the data collected and tracked in the System Tracking Tool.

9.2 Accounting System

The System Tracking Tool will include an accounting system that provides tracking of generated compliance units, compliance purchase amounts, and whether and when payments were made. Generated compliance units will be populated in the System Tracking Tool associated with the Off-Site GSI Projects, and a linked ledger will track "sold" compliance units and available compliance units. It is expected that financial tracking will be conducted by individual jurisdictions collecting and/or transferring compliance purchase payments, but the System Tracking Tool will include tracking of whether and when the payment was made. It is expected that O&M assessment financial tracking will be managed by the Flood Control District.

9.3 Reporting System

Template documents will be used to document Off-Site GSI Project certification, verification, and individual exchanges. This information will be available as completed forms linked within the System Tracking Tool, as well as in the System Tracking Tool database, as described in Section 9.1. Reporting will be completed by the System Administrator in accordance with the requirements of the SFBRWQCB and MRP 3. Information regarding implemented Off-Site GSI Projects, certification, verification, exchanges, and ongoing O&M will be readily available in the System Tracking Tool. It is anticipated that this data would be extracted for annual reports using a defined process based on the established reporting requirements.

10. CONTRA COSTA COUNTY SYSTEM TEMPLATE DOCUMENTS

10.1 Approach to Development of System Templates

The System templates and forms were designed to build on existing processes, forms, and tracking systems where possible. The CCCWP has developed a number of standard templates and forms for Regulated Project design review, construction inspection, and O&M verification that were incorporated into the documents for System certification, verification, and tracking.

System templates/forms need to document all aspects of the System, including:

- The Regulated Project's use of the alternative (off-site) compliance option;
- The Off-Site GSI Project, including:
  - Facility attributes;
  - Design review, construction inspection, and certification;
  - Ongoing O&M (including O&M Plan and Agreement) and O&M verification;
- Exchange units and equivalency; and
- Necessary agreements and/or resolutions among participants in the System.

The System templates/forms need to interface with the System Tracking Tool, described in Section 9. Some of the forms will be used to input data directly into the Tracking Tool, and some of the templates/forms will be uploaded as documents for storage in the Tracking Tool. Development of the System templates/forms requires close coordination with the design and development of the Tracking Tool to ensure an integrated approach.

The following sections describe the existing and newly developed forms to be used to document the various aspects of the System.

10.2 Regulated Project Documentation

10.2.1 Stormwater Control Plan

CCCWP Permittees currently require that a Regulated Project applicant submit a Stormwater Control Plan describing the project and site characteristics, the selection and sizing of required site design, source control, stormwater treatment measures, and operation and maintenance of treatment measures. For this purpose, Permittees have used or adapted the existing CCCWP Stormwater Control Plan template.[19]

As part of development of System templates, the existing Stormwater Control Plan template has been modified to include sections to document the applicant's choice of alternative compliance (in lieu of some or all onsite treatment) and to require submittal of the Off-Site GSI Project Data Form (see Section 10.3.1) and the Alternative Compliance Exchange Documentation Form (see Section 10.4). These two forms, available from the System Tracking Tool, will document an authorized exchange and payment of compliance purchases and will allow the reviewing agency to confirm compliance with MRP Provision C.3. The modified Stormwater Control Plan is provided in Appendix C-1.

For Regulated Projects selecting alternative compliance, applicants would use the revised Stormwater Control Plan to provide project data, identify required source controls, and incorporate site design measures where feasible.

10.2.2 Regulated Project Tracking in AGOL

Contra Costa Permittees currently use the ArcGIS Online (AGOL) Application, "C3 Project Tracking and Load Reduction Tool" to track completed Regulated Projects and associated stormwater treatment measures in order to calculate estimated PCBs and mercury load reductions resulting from these projects. For Regulated Projects selecting alternative compliance, project attributes would continue to be entered into AGOL per the current procedure. The use of the System would be entered under the "Alternative Compliance Measures" field in AGOL, which would link to information about the Off-Site GSI Project, which would have also been entered into AGOL when completed and certified via the Off-Site GSI Project ID.

[19] Existing CCCWP templates and forms can be found on the CCCWP website: https://www.cccleanwater.org/development-infrastructure/development

10.3 Off-Site GSI Project Forms

This section reviews the forms required to describe, certify, and verify the Off-Site GSI Project/s and provide documentation in the System Tracking Tool. These forms include a number of existing forms currently used by Contra Costa Permittees as well as three new forms specific to implementing the System.

10.3.1 Off-Site GSI Project Data Form

The Off-Site GSI Project Data Form (Appendix C-2) is a new form containing the attributes of the Off-Site LID/GSI facility that will be entered into the Tracking Tool. This form will be completed after certification of the Off-Site GSI Project. Attributes to be entered into the form (and subsequently the Tracking Tool) include: facility ID number; facility type and location; Drainage Area size(s), location(s), and land use(s); total impervious and pervious surface within the Drainage Area(s); total greened acres; facility owner; and optionally, project cost; and associated multiple benefits.

10.3.2 Off-Site GSI Project Post-Construction Certification Form

The Off-Site GSI Project Post-Construction Certification Form (Appendix C-3) is a new form that will be used to summarize the design and construction review and approval processes completed by the Certifying Entity. It includes sign-offs by Certifying Entity staff on design review and construction inspections, as well as verification of a complete and acceptable O&M Plan and, as appropriate, an O&M Agreement. It also helps organize the multiple documents that are currently used by Contra Costa Permittees to 1) conduct inspections of stormwater treatment facilities during and at completion of construction, and 2) fulfill MRP requirements for ensuring facilities will be properly maintained for the life of the project by a responsible party. These existing documents include:

- Stormwater Treatment Facilities Construction Inspection Checklist (Appendix C-4)
- Stormwater Facilities O&M Plan Template (Appendix C-5)
- Stormwater Management Facilities O&M Agreement Template (Appendix C-6)

These three documents also need to be prepared for the Off-Site GSI Project and uploaded to the Tracking Tool to complete the certification process. There will likely be multiple Construction Inspection Checklists, since inspections are conducted during different phases of construction of the Off-Site GSI Project, as well as at completion of construction.

10.3.3 Off-Site GSI Project O&M Verification Form

The Off-Site GSI Project O&M Verification Form (Appendix C-7) is another new summary form that documents that: 1) O&M of the Off-Site GSI Project was performed; 2) O&M verification inspections were conducted (by whom and when); and 3) any maintenance deficiencies found were corrected. It relies on the use of the existing Stormwater Facility O&M Inspection Report (Appendix C-8) for documentation of the O&M verification inspections. The O&M Verification Form is intended to be completed once the O&M verification inspection(s) have been completed by the Verifying Entity. If deficiencies in maintenance are found, there

may need to be one or more additional inspections performed to ensure that deficiencies have been corrected before the O&M Verification Form can be completed and uploaded into the Tracking Tool.

Note that the O&M Verification Form is required to be uploaded to the Tracking Tool as proof of ongoing Off-Site GSI Project verification. However, the Stormwater Facility O&M Inspection Report forms are to be retained by the Verifying Entity and the inspection data from the forms entered into the Verifying Entity's local O&M inspection database.

10.4 Exchange Documentation

An "Alternative Compliance Exchange Documentation Form" (Appendix C-9) was developed to document each individual exchange transaction that takes place in the Contra Costa County System and confirm that: (1) the required compliance purchases were paid; and (2) the exchange was reported to the County Maintenance District so that the required annual O&M assessments can be added to the regulated parcel's property tax assessments. An individual exchange transaction is defined as the payment of compliance purchases and annual O&M assessments by the owner of the Regulated Project (i.e., the buyer) in exchange for a specified quantity of Equivalent Acres Greened produced by one Off-Site GSI Project (i.e., the seller). Each individual exchange transaction is assigned a unique Exchange ID.

The Alternative Compliance Exchange Documentation Form provides the details of the exchange, including calculation of the quantity of Equivalent Acres Greened that a Regulated Project needs to purchase for compliance purposes, the amount of Equivalent Acres Greened that the Regulated Project is purchasing from a specific Off-Site GSI Project with this exchange, and calculation of the compliance purchase amounts and annual O&M assessments associated with the amount of Equivalent Acres Greened purchased via this exchange. The Form also provides confirmation that the compliance purchase was paid in full and that the information on annual O&M assessments was provided to the Flood Control District to allow for ongoing property tax assessments of the Regulated Project's parcel. If a Regulated Project is purchasing Equivalent Acres Greened from more than one Off-Site GSI Project, a separate Form is completed for each exchange. Each Form is uploaded to the Tracking Tool and linked to the appropriate Off-Site GSI Project via the Facility ID. The Regulated Project associated with each Exchange ID is identified with the same Regulated Project ID that is used in the County's AGOL system.

11. CONTRA COSTA COUNTY SYSTEM NEXT STEPS

Section 11 describes Contra Costa County System **expectations for timing**, required for proposed program submittal per MRP 3 Tentative Order Fact Sheet.

This System Summary Report primarily describes the proposed Contra Costa County System structure that is envisioned to be implemented during Phase 2 (i.e., initial System roll-out). Prior to initiating Phase 2 and following completion of this System Summary Report, one to two Phase 1 pilot exchanges will be conducted to test key components of the proposed Contra Costa County System structure. Any lessons learned during the Phase 1 pilot exchanges will be applied to this System Summary Report to create the Final Program Documents used to guide Phase 2 of the Contra Costa County System. During the Contra Costa County System launch and initial

implementation as part of Phase 2, the CCCWP Regional Alternative Compliance Subcommittee and System Administrator will use the adaptive management procedures described in Section 8 to amend the Final Program Documents to address lessons learned. After this Contra Costa County System establishment period and implementation of required System adjustments and amendments, the System will shift into Phase 3, during which the System will be fully operational. At this phase, it is expected that adaptive management adjustments will be minimal and based primarily on forces external to the System, such as market and regulatory changes.

A proposed schedule for Contra Costa County System implementation and launch following completion of this System Summary Report is provided in Table 9. Key administrative entities responsible for the next steps listed are identified.

Table 9: Contra Costa County System Implementation Phases Schedule

Stage	Who	Steps	Anticipated Time Period
Phase 1 (Pilot Exchanges)	Project Steering Committee and Project Consultant Team	1. Identify Equivalent Acres Greened compliance units 2. Identify buyer(s) 3. Calculate compliance units and compliance purchase amount for pilot exchange 4. Develop MOUs 5. Perform Certification and Tracking 6. Pilot Template Documents 7. Report Lessons Learned	Fall 2021 – Fall 2023
Phase 2 (Initial System Roll-Out)	CCCWP System Administrator	1. Perform CEQA Evaluation 2. Receive approval from SFBRWQCB Executive Officer to implement Contra Costa County System 3. Establish CCCWP Administrator 4. Conduct cost study to set the Equivalent Acre Greened unit cost portion of the Phase 2 compliance purchase. 5. Coordinate with agency leading the effort to obtain upfront financing for Off-Site GSI Projects (as applicable). 6. Identify metric generator contractor(s)	2022-2026
	Flood Control District	1. Establish O&M Assessment Fund through Flood Control Zone 100 under Flood Control District Expenditure Policy. 2. Develop and implement Operational Procedures that describe how the O&M assessments are levied, managed, and distributed. 3. Develop and implement Operational Plan for O&M assessments. 4. Set Phase 2 ongoing O&M assessment amount.	2023-2026
	Permittees	1. Perform CEQA evaluation 2. Update Stormwater Ordinance 3. Develop administrative payment and payment transfer processes and other financial processes 4. Sign agreement with CCCWP Administrator 5. Receive training and/or instructions for System implementation	2022-2025
	All entities	1. Launch System	2025-2026
Phase 3 and beyond (Established and Fully Operational System)	CCCWP Regional Alternative Compliance Subcommittee	1. Evaluate Phase 2 of System (see Section 8). 2. Adjust Equivalent Acre Greened unit cost portion of the compliance purchase as needed. 3. Identify needed amendments based on results of evaluation. 4. Consider outreach or other expansion needs. 5. Conduct ongoing adaptive management processes.	2028-2029
	CCCWP Administrator	1. Amend System as needed (see Section 8). 2. Conduct outreach relating to System expansion needs. 3. Implement ongoing adaptive management needs.	2029-2030

The time frames included in the table above are subject to change depending on lessons learned during Phase 1 or Phase 2. Based on this anticipated schedule, the Contra Costa County System will be fully established and operational (i.e., in Phase 3 of development) by 2029 to 2030.

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GLOSSARY

Alternative Compliance Systems: Flexible compliance programs that allow regulated dischargers with costly or infeasible pollution control requirements to meet equivalent discharge reductions by investing in the implementation of cost-effective and feasible controls at other source locations, thereby achieving an overall environmental benefit at a reduced overall cost.

Buyer: The regulated entity that purchases or provides funding for surplus compliance units generated by another entity to meet their own water quality compliance requirements.

Certification: Process that involves the formal inspection, documentation and tracking of implemented actions necessary to ensure the benefits being exchanged as credits are being achieved throughout time. Certification is a demonstration to all stakeholders that the project that is generating pollution reduction credits will meet expectations. Certification often involves third-party project reviews and physical inspections of implemented practices to ensure actions are appropriately designed, implemented and maintained to achieve intended outcomes as defined by the alternative compliance system framework, guidelines and/or requirements.

Compliance and Enforcement: Entity that ensures that criteria for participants in an alternative compliance system are being met. In the event of non-compliance, the entity can either report to, or is, a delegated authority able to enforce water quality non-compliance provisions as necessary.

Control Measure: Structural or non-structural practices, management changes, or activities that can be implemented to generate measurable or estimated compliance units in an alternative compliance system.

Compliance Unit: A common measurement unit of equivalent pollutant discharge reduction that reflects both the regulatory pollution control requirement and the measurable or estimated outcome at the alternative source of control. This metric is often expressed as mass pollutant load reduction per time (e.g., pounds/year) or as a scientifically-defensible measure of equivalency between the regulatory requirement and the benefits metric from the alternative control (e.g., “acres greened”, “acres treated”, or “volume managed/treated”). The compliance unit in an alternative compliance system is the unit of water quality benefit, such as a pollution reduction credit or offset, that can be generated and utilized in the alternative compliance system.

Current Conditions: An exchange baseline defined as the onsite performance, based on the selected metric(s), of an area prior to the implementation of a control measure or project. This type of exchange baseline allows for all units of water quality benefit generated from a control measure or project to be exchanged as surplus.

Design-Build-Finance (DBF): An approach that combines innovation of design-build with some amount of private sector capital (such as debt or equity). This model often combines private sector funds with existing public sources and allows private capital to fill any gaps in funding.

Design-Build-Finance-Maintain (DBFM): Similar to the DBF approach, DBFM also includes short to medium term financial and maintenance responsibility for the private partner and requires the public partner to retain the responsibility for operation.

Design-Build-Finance-Operate-Maintain-Availability Payment (DBFOM-AP): Similar to DBOM, DBFOM-AP requires the private partner to be responsible for financing while the public partner maintains control over fees and revenue collection (if applicable) and makes pre-established payments to the private entity for project delivery and performance commitments.

Design-Build-Operate-Maintain (DBOM): Similar to the DBF approach, DBOM also includes a short to medium-term operational and maintenance responsibility for the private partner.

Eligible Entities: The types of entities that are allowed to participate as either a buyer or seller in an alternative compliance system.

Eligible Exchanges: The types of purchases, trades, and/or sales of compliance units that are allowable in the system based on whether an entity is a point source (PS) or nonpoint source (NPS) discharger.

Environmental/Public Bonds: Type of debt security that municipalities use to finance environmental public works and improvements.

Exchange: In authorized alternative compliance systems, "exchange" refers to compliance units that can be transacted between entities to mutually achieve required pollutant reductions. Surplus cost-effective pollutant reductions (credits or offsets) achieved for one pollutant source can be exchanged with another regulated entity for their alternative compliance.

Exchange Baseline: Requirements that must be achieved by a source before generating a unit of metric. This may include meeting specific load reduction requirements before surplus load reductions may be exchanged or other requirements in the alternative compliance system.

Exchange Ratio: A numerical value used to convert an estimated load reduction into a tradable compliance unit. An exchange (or trade) ratio may include considerations for: 1) lack of information and risk associated with control measures, implementation and performance (uncertainty); 2) trading of different pollutants or different forms of the same pollutant (equivalency); 3) the distance and unique watershed features that will affect pollutant fate and transport between exchanging entities (delivery); and, 4) compliance risk reduction mechanisms (reserve and retirement).

General Obligation Funding: Debt instrument issued by state and local governments to raise money for public works projects backed in full faith by the issuing municipality.

Grants and Reserve Accounts: A fund set aside by an entity to meet future costs of green infrastructure upkeep and any unexpected future costs.

Green Stormwater Infrastructure: Infrastructure that uses vegetation, soils, and natural processes to manage water and create healthier urban environments. At the scale of a city or county, green stormwater infrastructure refers to the patchwork of natural areas that provides habitat, flood protection, cleaner air, and cleaner water. At the scale of a neighborhood or site, green stormwater infrastructure refers to stormwater management systems that mimic nature by capturing and storing water.

Growth: In the context of alternative compliance demand drivers, growth refers to stormwater regulatory requirements developed to regulate impairments related to redevelopment, new development, or population growth.

Guidance: In the context of a legal basis for alternative compliance systems, guidance refers to standards or frameworks provided or approved by a Clean Water Act-delegated agency to provide advice on how best to comply with specific rules.

In-Lieu Fee: An approach to compensatory mitigation for losses of aquatic resources that allows Permittees to provide funds in the form of an in-lieu fee to an administering government or non-profit conservation organization. Such fees are then pooled to build and maintain off-site mitigation sites.

Legal Basis for Alternative Compliance: Mechanism necessary for implementing an alternative compliance system. This may include, but is not limited to rules, guidance, or plans.

Nonpoint Source (NPS): Source of water impairment that does not come from any discernable, confined, and discrete conveyance including, but not limited to, land runoff, precipitation, atmospheric deposition, drainage, seepage, or hydrologic modification.

Offset Program: Similar to water quality trading, an offset program is a market-based alternative compliance approach in which a source can purchase pollutant reduction credits from another source to achieve a pollutant discharge requirement. Unlike water quality trading, an offset program is often utilized in contexts where regulated dischargers are interested in meeting a water quality pollutant reduction requirement, such as new development or urban growth, but may not have to meet a collective cap on water pollutant discharges.

Performance-based Contracting: Unlike traditional contracting where payment is based on control measure implementation, performance-based contracting (or "Pay-for-Performance") is an approach to alternative compliance where payment is contingent on the delivery of an outcome. Performance-based contracting can be utilized in several combinations to tie payment to different outcomes.

Plan: In the context of a legal basis for alternative compliance systems, a plan refers to a Clean Water Act-delegated agency approved course of action, such as a TMDL implementation plan, designed to meet water quality standards.

Point Source (PS): Sources of water impairment that come from any discernable, confined, and discrete conveyance.

Practice-Basis: An exchange baseline that is set to a particular control measure. This means that a particular control measure must first be implemented onsite before compliance units can be generated. Compliance units generated from the required control measure are part of the baseline and cannot be considered surplus.

Practice-To-Practice Basis: In the context of compliance unit quantification, practice-to-practice basis refers to the process of using different quantification methods for control measure performance based on the control measure type. In the context of how control measures are

approved for use in a system, this process is "ad hoc" and new control measures are individually reviewed and approved on a periodic basis.

Regulatory Requirements/TMDL Allocations: An exchange baseline based on regulatory requirements in the region, such as a TMDL allocation. Compliance unit generators must meet these regulatory requirements first, before generating surplus compliance units. Any additional compliance units generated beyond the regulatory requirement by the control measure or project is considered surplus and can be exchanged.

Reserve Pool: A pool of credits obtained by the administrator of the alternative compliance system to insure against unforeseen credit losses due to project failure. These credits may be set aside from an applied trade ratio.

Rule: In the context of a legal basis for alternative compliance systems, a rule is formal legislation approved by a state's legislative body.

Seller: Entity that generates surplus compliance unit by implementing an approved control measure in order to exchange the generated compliance unit(s) with a buyer in an alternative compliance system. Sellers are also referred to as generators.

System Restrictions/Restricted Waters: Potential limitations placed on the generation or utilization of a compliance unit.

Verification: The part of the certification process that involves the physical inspection of control measures for proper implementation, operation, and maintenance to ensure adherence to the requirements of the alternative compliance system. Verification may be performed by the entity responsible for the certification process or by a verification entity approved by the entity responsible for certification.

Water Quality Monitoring and Evaluation: Protocols within an alternative compliance system implemented to measure and/or track program success and shortcomings. This may include site-specific monitoring of control measures and practices, ambient monitoring of the watershed, or a periodic program evaluation to identify deficiencies in the system design and ensure environmental benefits are being delivered.

FIGURES

DRAFT

Hercules
Pinole
San Pablo
Richmond
El Cerrito
Martinez
Pleasant Hill
Concord
Pittsburg
Clayton
Walnut Creek
Lafayette
Orinda
Moraga
Danville
San Ramon
Unincorporated
Antioch
Oakley
Brentwood

Legend

- Contra Costa County
- Jurisdiction
- State Water Resources Control Board Region Boundary
- Within Urban Limit Line or Census Designated Places
- Hydromodification Management Plan (HMP) Applicable
- HMP Applicable AND Within Urban Limit Line or Census Designated Places
- HMP Status Undetermined

N

0 3 6 Miles

Contra Costa County
Urban Limit Line and
Hydromodification Plan Applicable Areas
Regional Compliance for a Sustainable Bay

Geosyntec consultants

CITY of SAN PABLO City of New Directions

Figure 1

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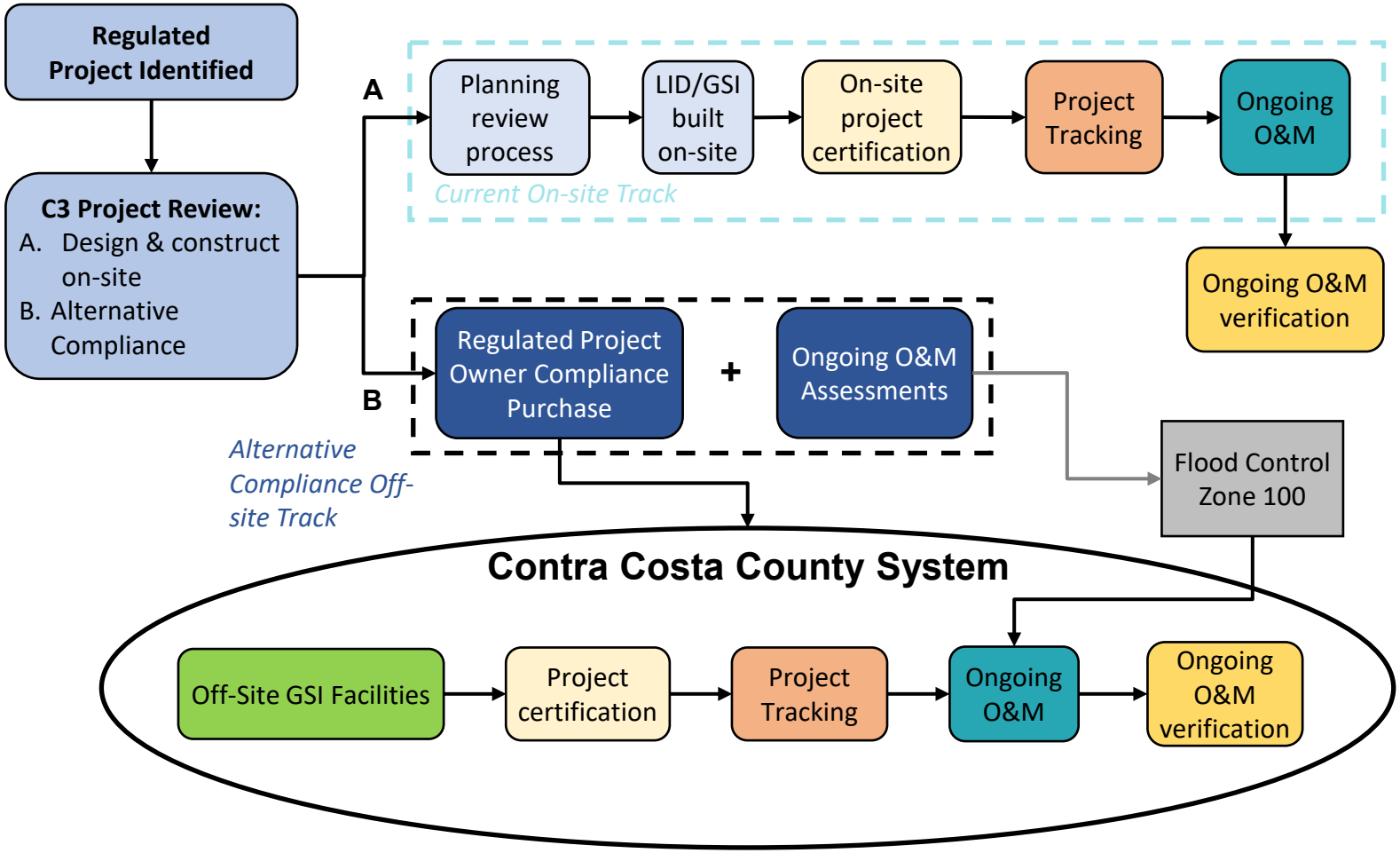

REVISED DRAFT

Proposed Contra Costa County System

Regional Compliance for a Sustainable Bay System Summary Report

Geosyntec consultants

CITY of SAN PABLO City of New Directions

LA0594	September 2021	**Figure 2**

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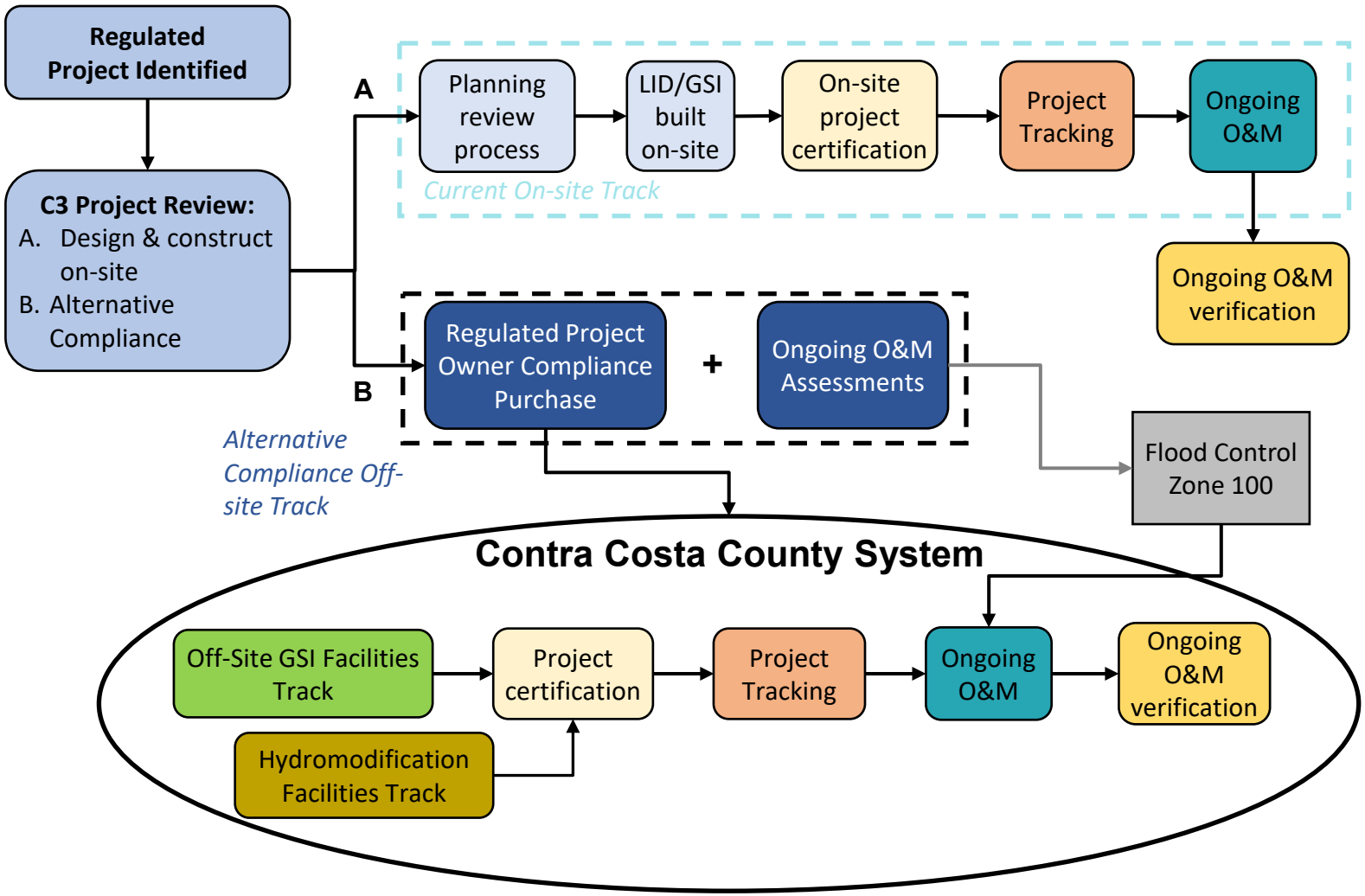

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Proposed Contra Costa County System

Regional Compliance for a Sustainable Bay System Summary Report

Geosyntec consultants

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LA0594	September 2021	**Figure 3**

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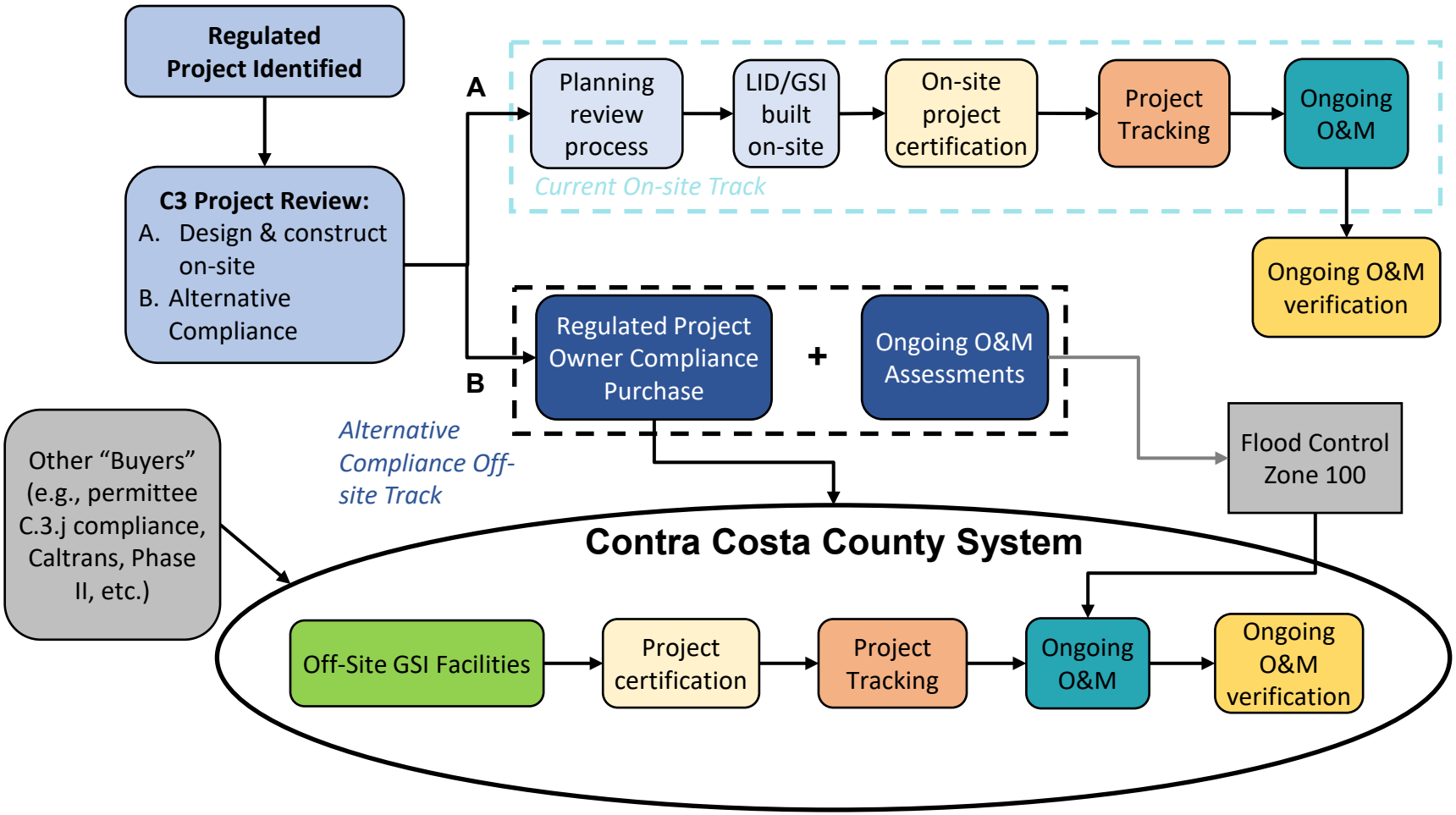

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Proposed Contra Costa County System

Regional Compliance for a Sustainable Bay System Summary Report

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LA0594	September 2021	**Figure 4**

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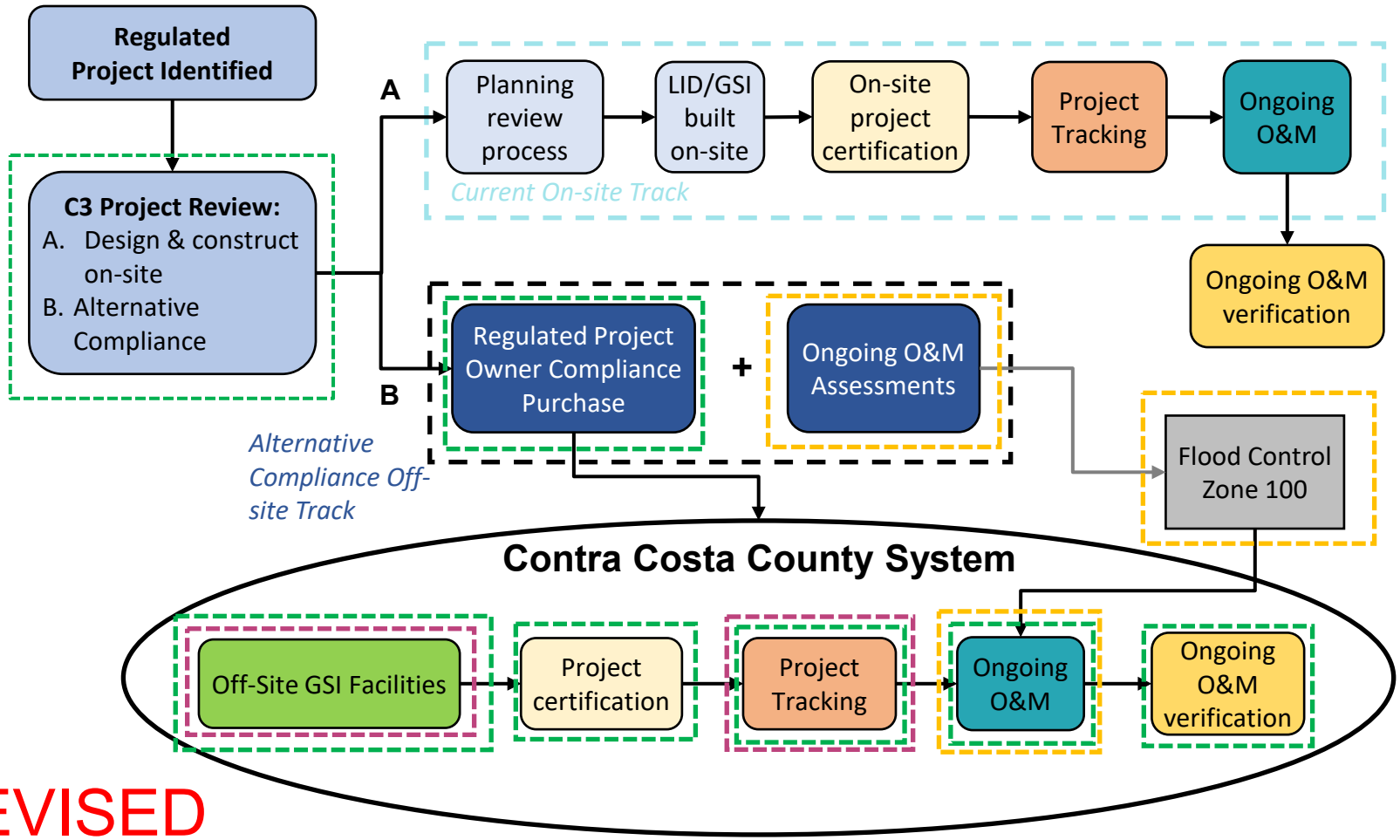

REVISED DRAFT

Permittee Administrative responsibilities are shown in Green Hatched Boxes

Flood Control District Administrative responsibilities are shown in Green Hatched Boxes

The CCCWP Administrator and the CCCWP In-Lieu Fee Subcommittee responbilities are shown in Pink Hatched Boxes

Contra Costa County System Administrating Entities
Regional Compliance for a Sustainable Bay System Summary Report

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Figure 6

LA0594 | September 2021

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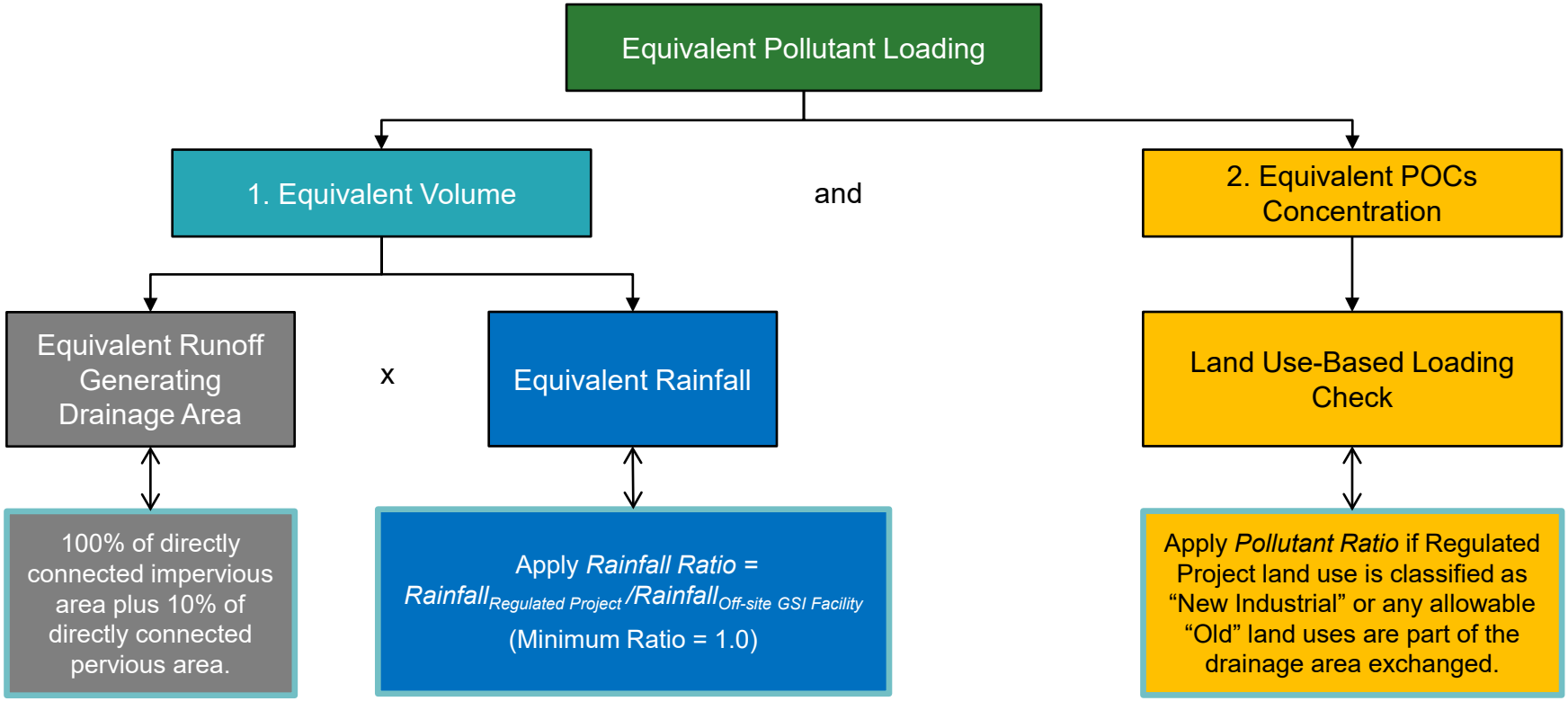

Equivalent Acres Greened generated from Off-Site GSI Facilities are calculated based on Runoff Generated Area only.

- To calculate the Equivalent Acres Greened metrics required for purchase by Regulated Projects, buyers use the formula:

  Equivalent Acres Greened = Runoff Generated Acres $_{Regulated\ Project}$ ***x Ratio*** $_{Rainfall}$ ***x Ratio*** $_{Pollutant}$

- To calculate the Equivalent Acres Greened metric for purchase by nonregulated projects, buyers use the formula:

  Equivalent Acres Greened = Runoff Generated Acres $_{non\text{-}Regulated\ Project\ purchase}$

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Contra Costa County System Equivalent Acres Greened Equivalency Demonstration
Regional Compliance for a Sustainable Bay System Summary Report

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LA0594	September 2021	**Figure 6**

Annual Average Precipitation (PRISM, inches)

- ≤13
- ≤14
- ≤15
- ≤16
- ≤17
- ≤18
- ≤19
- ≤20
- ≤21
- ≤22
- ≤23
- ≤24
- ≤25
- ≤26
- ≤27
- ≤28
- ≤29
- ≤30
- ≤31
- ≤32
- ≤33

Rodeo
Hercules
Pinole
Sobrante
San Pablo
Richmond
Martinez
Shore Acres
Bay Point
Pittsburg
Antioch
Concord
Pleasant Hill
Cowell
Clayton
Oakley
Neroly
Sand Hill
Brentwood
CONTRA COSTA
Walnut Creek
Lafayette
Canyon
Danville
Blackhawk
San Ramon
Mt Diablo State Park
Discovery Bay
Byron

DRAFT

Legend

- Contra Costa County
- State Water Resources Control Board Region Boundary
- Within Urban Limit Line or Census Designated Places

Notes:

Precipitation values based on Oregon State University PRISM Climate Group 30-year (1981-2010) normal annual precipitation values, grouped into one-inch intervals, for areas either within the Urban Development Boundary or within Census Designated Places in Contra Costa County.

Precipitation values shown within the Contra Costa County Urban Limit Line and within Census Designated Places.

N

0 3 6 Miles

Contra Costa County
Annual Average Precipitation
Regional Compliance for a Sustainable Bay

Geosyntec consultants

CITY OF SAN PABLO City of New Directions

LA0594	April 2021	Figure 7

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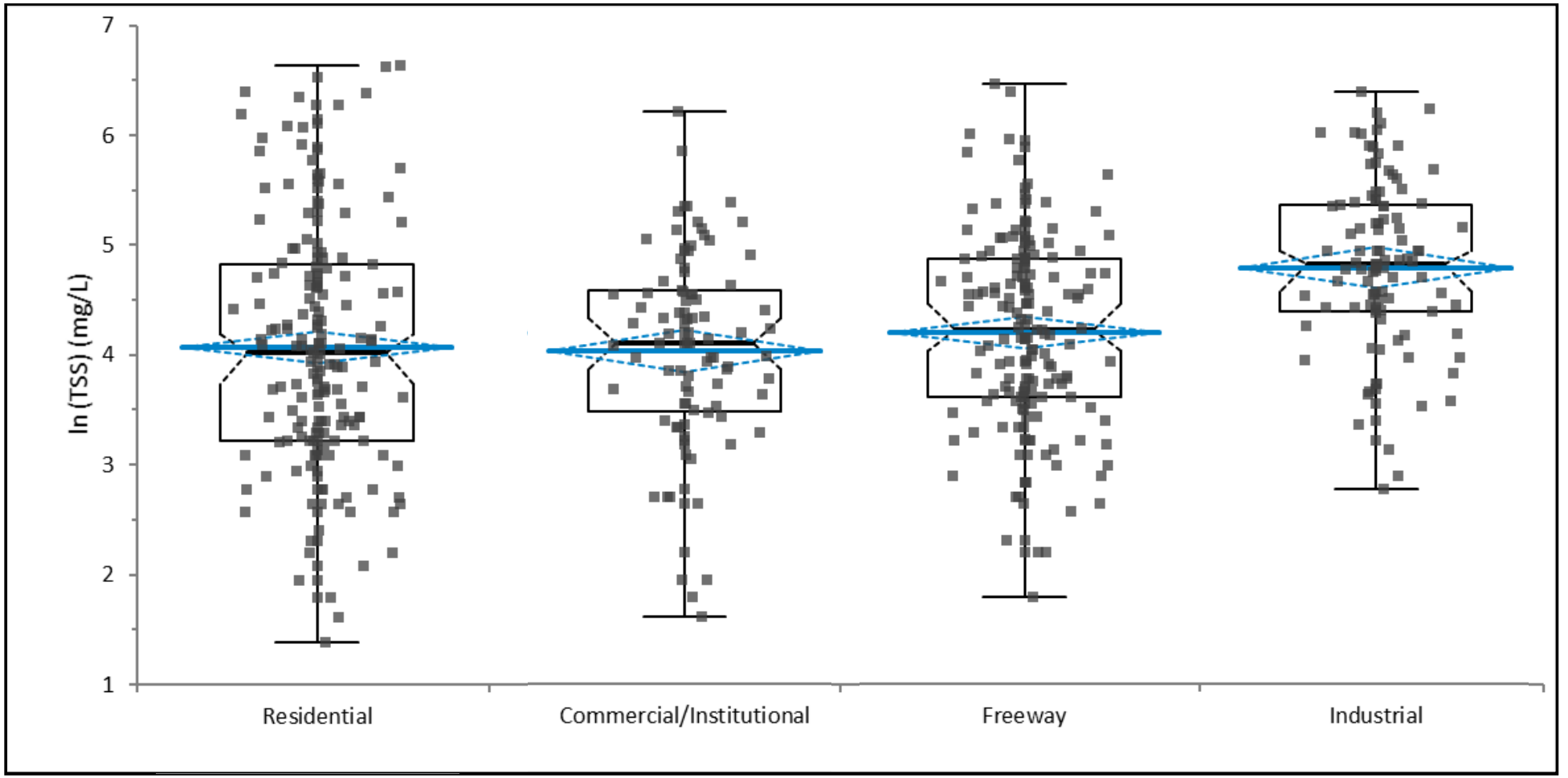


REVISED
DRAFT

Natural Log Distribution of NSQD TSS Data by Land Use
Regional Compliance for a Sustainable Bay System Summary Report

Geosyntec consultants

CITY OF SAN PABLO
City of New Directions

LA0594	September 2021	**Figure 8**

APPENDIX A

Contra Costa County System Tracking Tool Overview and Instructions

[To Be Provided by SFEI]

APPENDIX B
Contra Costa County System Technical Analyses Details

Appendix B. CONTRA COSTA COUNTY SYSTEM TECHNICAL ANALYSES DETAILS

Details relating to calculations and analyses conducted for the Contra Costa County System are provided in this Technical Appendix.

B.1 Runoff Generating Area

Runoff is assumed to be generated from 100% of directly connected impervious surfaces and 10% of pervious surfaces within the area of interest. Assuming 100% of impervious acres and 10% of pervious surfaces will generate runoff is consistent with the "Treatment Only" (i.e., GSI) runoff factors for pervious surfaces in Contra Costa C.3 Technical Manual Table 3-2 (CCCWP, 2017). The runoff coefficient of 10% of pervious surfaces is also validated through the hydrology model developed for the County's Reasonable Assurance Analysis (RAA) for mercury and PCBs, developed in compliance with MRP Provisions C.11 and C.12 (CCCWP, 2020).

The Contra Costa County RAA baseline hydrology model produces average annual runoff values for the WY 2000 – 2009 baseline period of record using a hydrologic response unit (HRU) approach (CCCWP, 2018; CCCWP, 2020). The HRU approach involves modeling various components of land surface features. A total of 586 unique pervious HRU models, which are defined by the combinations of rainfall zone, evapotranspiration zone, hydrologic soil group, slope, and development condition, were modeled across the County. The RAA model was applied to all areas within the Contra Costa County Urban Limit Line (ULL) (i.e., the "65/35" land preservation ordinance that limits urban development in the county to no more than thirty-five percent of the land in the County, see Figure 1). Total precipitation and total estimated runoff for the period of record were aggregated using a geospatial approach for all pervious areas within the County ULL. The aggregated outputs were used to develop an average runoff coefficient for all pervious areas within the County ULL. The resulting pervious runoff coefficient within the County ULL is 9.6%. The runoff coefficient does vary within the County, as soils in the eastern portion of the county are typically sandier than those near the San Francisco Bay margin. When looking at pervious areas within the Region 2 area of the County within the ULL, the resulting pervious runoff coefficient is 10.9%. These values support the use of 10% of pervious surfaces to calculate runoff generating area.

B.2 TSS EMC Development

Event Mean Concentration (EMC) is an analytical parameter that refers to a flow-weighted average concentration of a pollutant during a rainfall-runoff event. An EMC is defined as the total event mass load divided by the total event runoff volume. As such, estimates of EMCs can be combined with runoff volume estimates to estimate pollutant loading. EMCs for Total Suspended Solids (TSS) were developed for several land use classifications, using data from the National Stormwater Quality Database (NSQD), a database developed by the University of Alabama and the Center for Watershed Protection under support from the U.S. Environmental Protection Agency (Pitt, 2015).

B.1.1 Data

The NSQD was queried to obtain all TSS stormwater runoff samples collected within EPA Rain Zone 6 in California, in Spring, Fall, or Winter seasons. This query returned 656 stormwater runoff sample results from 647 rain events at 40 sites. Results were separated by predominant land use assigned in the NSQD, as shown in Table 1 below.

Table 1: Selected NSQD TSS Results by Land Use

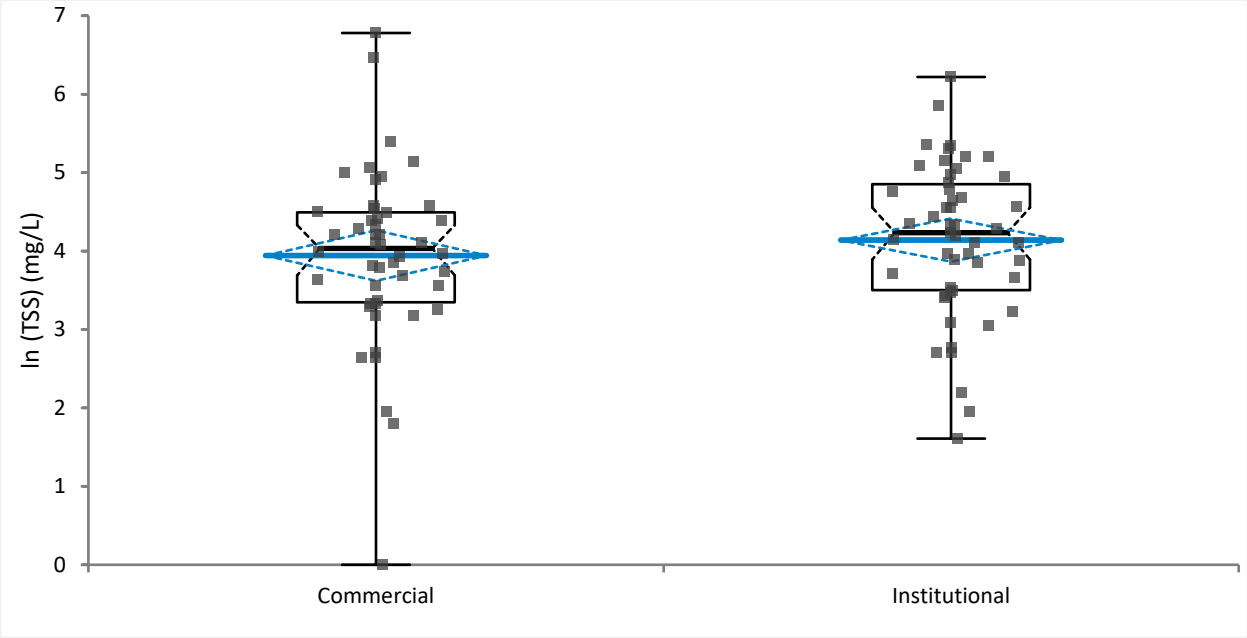
Land Use	Count of Selected NSQD TSS Results
Residential	192
Commercial	48
Institutional	51
Freeway	183
Industrial	111
Open Space	71
Grand Total	**656**

B.1.2 Statistical Analysis

Data were first transformed by taking the natural logarithm of each data point, with the hypothesis that environmental data is lognormally distributed. Data associated with Commercial and Institutional land use categories in the NSQD were combined for the TSS EMC analysis. This is consistent with how "Commercial" land uses were defined by SFEI when developing the Regional Watershed Spreadsheet Model (RWSM)[1], used for PCBs loading characterization for the Contra Costa County System. This is also supported by the Commercial and Institutional NSQD data. A Wilcoxon-Mann-Whitney test at an alpha value of 0.05 indicates that the data arise from the same population ($p = 0.24$). The distributions for Commercial and Institutional data (without outliers removed) are shown in Figure 1; notably the means, medians, and interquartile ranges are highly similar and/or overlapping.

[1] Many institutional land uses, as defined by ABAG, were classified as "Old Commercial" for the RWSM analysis, as summarized in the "LandUse.csv" file included at SFEI's RWSM Toolbox v1.0 Pollutant Model website (SFEI, 2018). https://www.sfei.org/projects/regional-watershed-spreadsheet-model

Figure B-1: Distribution of Commercial and Institutional TSS Results



Throughout this document, medians are shown as bold lines (with a 95% confidence interval shown as a notch on the box) means as blue lines (with 95% confidence interval shown as a dashed diamond), the 1st and 3rd quartiles as the edges of the boxes, and minimums/maximums as end caps.

Combining the Commercial and Institutional data into a single Commercial/Institutional land use (correlating to the SFEI "Commercial" classification) also provides a more similar "n" value for this land use as compared to the other NSQD land use specific data analyzed for TSS.

The data for each land use category were analyzed for outliers prior to developing EMCs. Outliers were defined as any data more than 1.5 interquartile ranges (IQRs) below the first quartile or above the third quartile. Outliers were excluded from future steps in the analysis. The number of outliers removed by land use is shown in Table 2.

Table B-2: Outliers Removed by Land Use

Land Use	Outliers Removed
Residential	3
Commercial/Institutional	4
Freeway	5
Industrial	6
Open Space	0
Grand Total	**18**

The log-transformed data were assessed for normality using the Shapiro-Wilk test, the results of which are shown in Table 3. A p-value below the alpha value of 0.05 indicates there is evidence the sample did not come from a normally distributed population. Open Space land use data was concluded to not come from a normally distributed population. Given this finding and that Open Space land use is not expected to make up a large part of GSI drainage areas, Open Space data was not examined further for EMC development.

Table B-3: Shapiro-Wilk Test Results by Land Use

Land Use	W	p	Conclusion
Residential	0.99	0.069	Normal
Commercial / Institutional	0.90	0.450	Normal
Freeway	0.99	0.693	Normal
Industrial	0.99	0.366	Normal
Open Space	0.95	0.007	Not normal

Land uses were compared to each other to understand if significant differences in the distribution of TSS concentrations exist. The distributions for each land use are shown in Figure 2, and their cumulative distribution functions (with 95% confidence interval bands) are shown in Figure 3.

Figure B-2: Distribution of TSS Results by Land Use

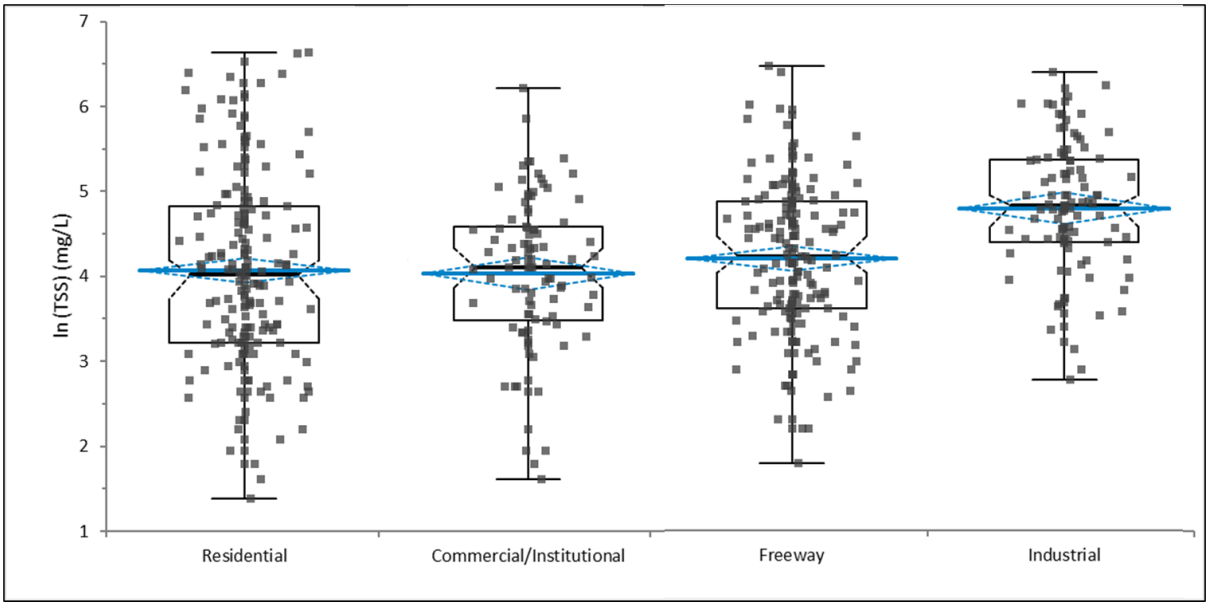
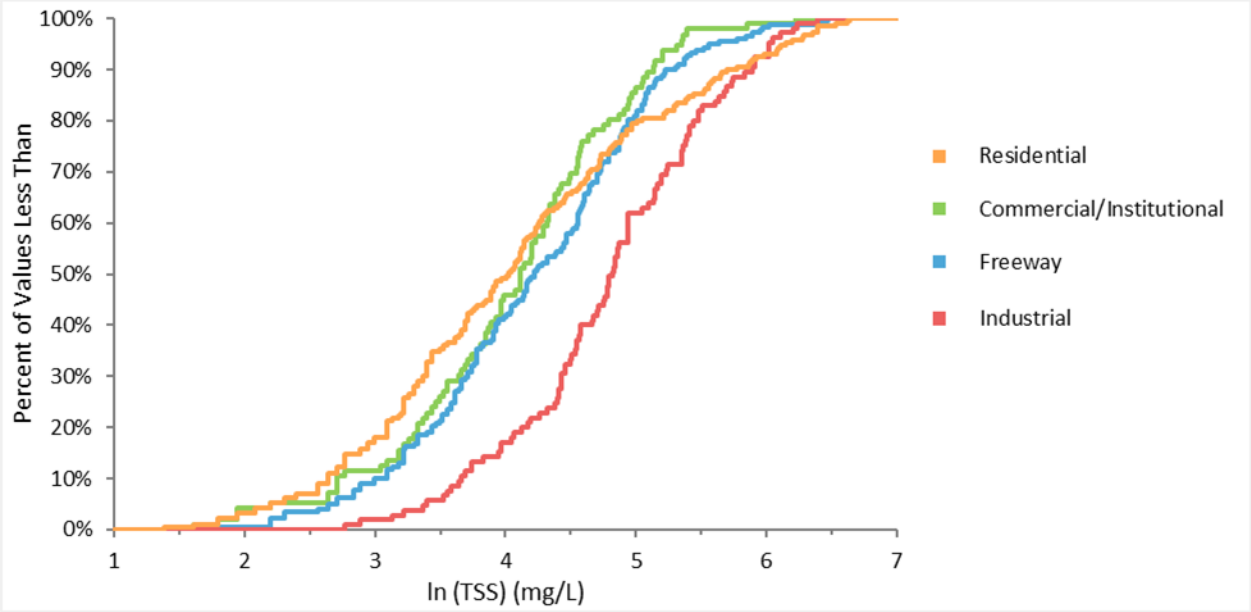


Figure B-3: Cumulative Distribution Functions of TSS Results by Land Use



Box plot results demonstrate that confidence intervals of the median TSS concentration for Industrial land use do not overlap with those of the other three land uses, which are more similar to each other throughout their distributions. To investigate this, a series of Wilcoxon-Mann-Whitney tests were conducted to compare each land use pair. The results of the tests are shown in Table 4. A p-value below the alpha value of 0.05 indicates the TSS values of the compared land uses are likely not derived from the same population.

Table B-4: Wilcoxon-Mann-Whitney Tests by Land Use

Land Use Comparisons	Wilcoxon-Mann-Whitney Test p-Values
Residential *and* Commercial/Institutional	0.792
Residential *and* Freeway	0.118
Commercial/Institutional *and* Freeway	0.202
Industrial *and* Commercial/Institutional	<0.0001
Industrial *and* Freeway	<0.0001
Industrial *and* Residential	<0.0001

The results shown in Table 4 indicate that the Residential, Commercial/Institutional, Freeway, and Residential data sets are likely derived from the same population (i.e., TSS concentrations are not statistically different between these land uses based on data analyzed). In contrast, Industrial land use is likely derived from a different population than the three other land uses.

B.1.3 Conclusions

TSS EMCs were developed for the four land use categories by taking the arithmetic mean of the natural log-transformed distributions, using the natural logs of the mean and the standard deviation as shown in the equation below (from Geosyntec and Wright Water Engineers, 2009):

$$Sample\ Mean = \exp\left(\mu_{ln} + 0.5\sigma_{ln}^2\right)$$

Where:

exp = e to the power of

μ_{ln} = the mean of the natural log-transformed distribution

σ_{ln}= the standard deviation of the natural log-transformed distribution

The back-transformed results are shown in Table 5.

Table B-5: TSS EMCs by Land Use

Land Use	μ_{ln}	σ_{ln}	TSS EMC (mg/L)	Notes
Residential	4.07	1.16	115	Concentration data are not statistically different between these land use classes
Commercial / Institutional	4.06	0.87	84	
Freeway	4.20	0.90	100	
Industrial	4.79	0.79	165	Concentration data are statistically different from the other land use classes

The mean of the natural log-transformed distribution for Residential and Commercial/Institutional are almost identical, as seen in Table 5. This, along with the results of the Mann-Whitney test and the overlap of the interquartile range lends to the finding that the concentration data are not statistically different. However, because of the high standard deviation for the Residential data set, the calculated arithmetic mean for Residential is higher than Commercial/Institutional and Freeway.

B.3 References

Geosyntec Consultants and Wright Water Engineers, Inc., 2009. Urban Stormwater BMP Performance Monitoring. October.

Pitt, R., 2015. National Stormwater Quality Database (NSQD) v 4.02. Downloaded January 28, 2021. bmpdatabase.org/nsqdstat.html

San Francisco Estuary Institute (SFEI), 2018. Regional Watershed Spreadsheet Model (RWSM) Toolbox v1.0 User Manual and Pollutant Model.

APPENDIX C
Contra Costa County System Template Documents

Appendix C-1	Modified Stormwater Control Plan Template
Appendix C-2	Stormwater Treatment Facilities Construction Inspection Checklist
Appendix C-3	Stormwater Facilities O&M Plan Template
Appendix C-4	Stormwater Management Facilities O&M Agreement Template
Appendix C-5	Off-Site GSI Project Post-Construction Certification Form
Appendix C-6	Off-Site GSI Project Data Form
Appendix C-7	Alternative Compliance Exchange Documentation Form
Appendix C-8	Stormwater Facility O&M Inspection Report Form
Appendix C-9	Off-Site GSI Project O&M Verification Form

Appendix C-1
Modified Stormwater Control Plan
for the Contra Costa County Alternative Compliance System
[additions in red text]

STORMWATER CONTROL PLAN
for
[NAME OF PROJECT]

[date]

[This template is to be used in conjunction with the instructions, criteria, and minimum requirements in the Contra Costa Clean Water Program *Stormwater C.3 Guidebook, 7th Edition.*

The contents and level of detail required for a Stormwater Control Plan varies with project characteristics. Check with local staff regarding requirements for your project.

Check the Contra Costa Clean Water Program website at http://www.cccleanwater.org/new-development-c-3/ **for new information and updates to the Guidebook and this template.]**

[Name of Owner]
[Owner's Representative and Contact Information]

prepared by:

[Preparer's Name]
[Preparer's Contact Information]

TABLE OF CONTENTS

Tables

Figures

Attachments

Stormwater Control Plan Exhibit

IMP Sizing Calculator Output

Appendix

HM Compliance [if applicable]

This Stormwater Control Plan was prepared using the template dated February 2018.

I. PROJECT DATA [Complete the following table and include in Stormwater Control Plan.]

Table 1. Project Data

Project Name/Number	
Application Submittal Date	[to be verified by municipal staff per 14 CCR §15060]
Project Location	[Provide both APN and street address if available]
Name of Developer	
Project Phase No.	[If project is being constructed in phases, indicate the phase number. If not, enter "NA"]
Project Type and Description	[Example entries: "5-story office building," "Residential with 160 single-family homes with five 4-story buildings to contain 200 condominiums," "100-unit, 2-story shopping mall," "mixed use retail and residential development (apartments)", "Industrial warehouse."]
Project Watershed	[Request from municipal staff]
Total Project Site Area (acres)	
Total Area of Land Disturbed (acres)	
Total New Impervious Surface Area (sq. ft.)	
Total Replaced Impervious Surface Area	[See instructions on p. 14 of the *Guidebook* 7th Edition.]
Total Pre-Project Impervious Surface Area	
Total Post-Project Impervious Surface Area	
50% Rule[*]	[Applies or Doesn't Apply]
Project Density	[State DU/Acre and/or Floor Area Ratio. See definitions on p. 46 of the *Guidebook* 7th Edition.]
Applicable Special Project Categories [Complete even if all treatment is LID]	[State A, B, C, or none. If "C", state basis for location credits, density, and parking credits.]
Percent LID and non-LID treatment on-site and percent LID treatment off-site if applicable	[State totals for project and provide details under "Documentation of Drainage Design."]
HM Compliance [†]	[State "applies," or state "exempt" and explain reason for exemption. See page 9 of the *Guidebook* 7th Edition.]

[*50% rule applies if:
Total Replaced Impervious Surface Area > 0.5 x Pre-Project Impervious Surface Area]

[†HM required (unless project meets one of the exemptions on *Guidebook* p. 9) if:
(Total New Impervious Surface Area + Total Replaced Impervious Surface Area) ≥ 1 acre]

II. SETTING

[See instructions on pp. 14-15 of the *Guidebook*.]

II.A. Project Location and Description

[Include site location, division of parcels, planned land uses, zoning, setback and open space requirements, project phasing, number of residential units or square footage of office or retail, parking requirements, neighborhood character, project design objectives (for example LEED certification), other notable project characteristics. Include a vicinity map.]

II.B. Existing Site Features and Conditions

[Include site size, shape, and topography. Hydrologic features, including any contiguous natural areas, wetlands, watercourses, seeps, or springs. Existing land uses. Soil types and hydrologic soil groups, depth to groundwater, vegetative cover, and impervious areas, if any. Existing drainage for site and nearby areas, including location of municipal storm drains.]

II.C. Opportunities and Constraints for Stormwater Control

[Examples of constraints: impermeable soils, high groundwater, groundwater pollution or contaminated soils, steep slopes, geotechnical instability, density/high-intensity land use, heavy pedestrian or vehicular traffic, utility locations, safety concerns.]

[Examples of opportunities: Existing natural areas, low areas, oddly configured or otherwise unbuildable areas, easements and required landscape amenities including open space and buffers that might be used for bioretention facilities, and differences in elevation, which can provide needed hydraulic head.]

III. LOW IMPACT DEVELOPMENT DESIGN STRATEGIES

[See *Guidebook* pp. 16 and 24-29. Review each of the strategies and describe here how each has been incorporated into your project. Not every strategy applies to every project; if a strategy doesn't apply, state the reason.]

III.A. Optimization of Site Layout

[In a narrative, address the points in each of the subheadings to the level of detail appropriate for your project. Subheadings may be used or omitted.]

III.A.1. Limitation of development envelope

III.A.2. Preservation of natural drainage features

III.A.3. Setbacks from creeks, wetlands, and riparian habitats

III.A.4. Minimization of imperviousness

III.A.5. Use of drainage as a design element

III.B. Use of Permeable Pavements

III.C. Dispersal of Runoff to Pervious Areas

III.D. Bioretention or other Integrated Management Practices

[See the guidance, *Guidebook* pp. 27-29, for siting and designing bioretention facilities. Describe how the facilities in your project have been designed to be consistent with this guidance. In addition, ensure your stormwater control design is fully coordinated with the site plan, grading plan, and landscaping plan being proposed for the site. See *Guidebook* p. 43.]

[If applicable, indicate whether the project will utilize the alternative compliance option to construct LID treatment off-site, or will utilize the Contra Costa County Alternative Compliance System in-lieu fee option, in lieu of some or all on-site treatment.]

IV. DOCUMENTATION OF DRAINAGE DESIGN

[If utilizing the Contra Costa County Alternative Compliance System in-lieu fee option, skip to Section IV.D.]

IV.A. Descriptions of each Drainage Management Area

IV.A.1. Table of Drainage Management Areas

Table x. Drainage Management Areas

DMA Name	*Area (SF)*	*Surface Type/Description*	*DMA Type/Drains to*

IV.A.2. Drainage Management Area Descriptions

DMA [name], totaling x,xxx square feet, drains [description of area]. DMA [name] drains to [Self-Retaining DMA name or IMP name]. [Describe notable or exceptional characteristics or conditions.]

DMA [name], totaling x,xxx square feet, drains [description of area]. DMA [name] drains to [Self-Retaining DMA name or IMP name]. [Describe notable or exceptional characteristics or conditions.]

DMA [name], totaling x,xxx square feet, drains [description of area]. DMA [name] drains to [Self-Retaining DMA name or IMP name]. [Describe notable or exceptional characteristics or conditions.]

DMA [name], totaling x,xxx square feet, drains [description of area]. DMA [name] drains to [Self-Retaining DMA name or IMP name]. [Describe notable or exceptional characteristics or conditions.]

[For DMAs draining to non-LID treatment systems, include a description of the uses of all impervious paved areas, and for landscaped areas, a description of the technical constraints preventing their use as LID IMPs. Also include a narrative discussion of the infeasibility of offsite treatment.]

IV.B. Integrated Management Practice Descriptions

[Include a description of the facilities, including design criteria. See the design sheets in *Guidebook* Chapter 4. Describe any special or notable features or design characteristics. Include a sketch showing key elevations if necessary to demonstrate sufficient hydraulic head.]

IV.B.1. *Areas Draining to Non-LID Treatment* ["Special Projects" only—See Table 3-8, p. 46]

Table x. Areas Draining to Non-LID Treatment

DMA Name	*Area (square feet)*	*Non-LID Treatment System*	*Minimum Design Criteria Referenced*

IV.C. Tabulation and Sizing Calculations

[Attach and reference output from the IMP Sizing Calculator.]

IV.D. Description of Off-Site GSI Project (if Applicable)

[If the Contra Costa County Alternative Compliance System in-lieu fee option will be used to provide treatment at an Off-Site GSI Project, the following additional forms must be provided[1]:

- *Off-Site GSI Project Data Form* for the project being used for alternative compliance;
- *Alternative Compliance Exchange Documentation Form* authorizing the exchange and the payment of in-lieu fees and annual O&M payments.

V. SOURCE CONTROL MEASURES

V.A. Site activities and potential sources of pollutants

V.B. Source Control Table

Table x. Source Controls

[1] Forms describing the Off-Site GSI Project and documenting the exchange authorized by the Contra Costa County Alternative Compliance System are available from the Contra Costa County System Tracking Tool at [provide link].

[See the instructions on page 16 of the Guidebook and the checklist in Appendix D.]

Potential source of runoff pollutants	*Permanent source control BMPs*	*Operational source control BMPs*

V.C. Features, Materials, and Methods of Construction of Source Control BMPs

VI. STORMWATER FACILITY MAINTENANCE

VI.A. Ownership and Responsibility for Maintenance in Perpetuity

[Include (1) a commitment to execute any necessary agreements and/or annex into a fee mechanism, per local requirements, and (2) a statement accepting responsibility for operation and maintenance of facilities until that responsibility is formally transferred.]

VI.B. Summary of Maintenance Requirements for Each Stormwater Facility

[For guidance on what to include in this section, see the Operation and Maintenance Fact Sheet at http://www.cccleanwater.org/stormwater-c-3-guidebook/]

VII. CONSTRUCTION PLAN C.3 CHECKLIST

[See the instructions on page 18 of the Guidebook. Number and list each measure or BMP you have specified in your Stormwater Control Plan in Columns 1 and 2 of the table. Leave Column 3 blank. When you submit grading and improvement plans for engineering review, duplicate this table on those plans, with Column 3 also completed. Also, before completing your Plan and accompanying exhibit, perform another check to ensure your stormwater control design is fully coordinated with the site plan, grading plan, and landscaping plan being proposed for the site. Identify any conflicts with codes and requirements, or other obstacles to implementing the Plan as submitted. See p. 43 of the *Guidebook*.]

Table x. Construction Plan C.3 Checklist

Stormwater Control Plan Page #	*BMP Description*	*See Plan Sheet #s*

VIII. CERTIFICATIONS

The selection, sizing, and preliminary design of stormwater treatment and other control measures in this plan meet the requirements of Regional Water Quality Control Board Order R2-2015-0049.

[Check with local staff regarding other certification requirements.]

_____

By

_____

Print Name

MODEL STORMWATER TREATMENT FACILITIES CONSTRUCTION INSPECTION CHECKLIST

YOUR LOGO HERE

PROJECT INFORMATION

Location: _____

_____

Inspector: _____ Phone: _____

Engineer: _____ Phone: _____

PERMIT No: _____

IMPs ON-SITE: Total # of IMPs _____

☐ Bioretention Facilities ☐ Flow-through Planters

☐ Dry Wells ☐ Cisterns _____

☐ Other _____

ENGINEERING INSPECTION REQUEST LINE

[Edit instructions per local procedures] Call and leave message for assigned inspector prior to midnight on the day before the requested inspection date. Provide City Permit number, address of project, and type of inspection requested. Failure to provide this information may result in the inspection not being made. To obtain an approximate time for the inspection, call the assigned inspector between 8:00 and 8:30 am on the morning of your requested inspection.

IMP GROUP 1 includes IMP#

Layout	Excavation	Overflow Inlet/Surface Connection to SD	Underground connection to SD/outlet orifice	Drain rock/sub-drain
Soil media mix	Soil media installation	Irrigation	Planting	Engineering Final

Comments:

IMP GROUP 2 includes IMP#

Layout	Excavation	Overflow Inlet/Surface Connection to SD	Underground connection to SD/outlet orifice	Drain rock/sub-drain
Soil media mix	Soil media installation	Irrigation	Planting	Engineering Final

Comments:

IMP GROUP 3 includes IMP#

Layout	Excavation	Overflow Inlet/Surface Connection to SD	Underground connection to SD/outlet orifice	Drain rock/sub-drain
Soil media mix	Soil media installation	Irrigation	Planting	Engineering Final

Comments:

IMP GROUP 4 includes IMP#

Layout	Excavation	Overflow Inlet/Surface Connection to SD	Underground connection to SD/outlet orifice	Drain rock/sub-drain
Soil media mix	Soil media installation	Irrigation	Planting	Engineering Final

Comments:

IMP GROUP 5 includes IMP#

Layout	Excavation	Overflow Inlet/Surface Connection to SD	Underground connection to SD/outlet orifice	Drain rock/sub-drain
Soil media mix	Soil media installation	Irrigation	Planting	Engineering Final

Comments:

IMP GROUP 6 includes IMP#

Layout	Excavation	Overflow Inlet/Surface Connection to SD	Underground connection to SD/outlet orifice	Drain rock/sub-drain
Soil media mix	Soil media installation	Irrigation	Planting	Engineering Final

Comments:

IMP GROUP 7 includes IMP#

Layout	Excavation	Overflow Inlet/Surface Connection to SD	Underground connection to SD/outlet orifice	Drain rock/sub-drain
Soil media mix	Soil media installation	Irrigation	Planting	Engineering Final

Comments:

INSPECTION SEQUENCE REQUIREMENTS

LAYOUT inspection is required prior to beginning the excavation.

EXCAVATION inspection is required prior to backfilling any materials or pipe installation.

OVERFLOW INLET or SURFACE CONNECTION TO STORM DRAIN inspection is required prior to backfill of any materials.

CONNECTION TO STORM DRAIN or OUTLET ORIFICE inspection is required prior to backfilling IMP with any materials.

DRAIN ROCK/SUB-DRAIN inspection is required prior to soil media mix (test) and installation.

SOIL MEDIA MIX inspection (test) is required prior to soil media installation.

SOIL MEDIA INSTALLATION inspection is required prior to irrigation installation.

IRRIGATION inspection is required prior to plant materials installation.

PLANTING inspection is required prior to FINAL INSPECTION.

Items to be Inspected

Layout (Certification may be required)

☑ Square footage of the facility meets or exceeds minimum shown in Stormwater Control Plan.

☑ Site grading and grade breaks are consistent with the boundaries of the tributary Drainage Management Area(s) shown in the Stormwater Control Plan.

☑ Preliminary inlet elevation of the facility is low enough to receive drainage from the entire tributary Drainage Management Area(s).

☑ Locations and elevations of overland flow or piping, including roof leaders, from impervious areas to the facility have been laid out and any conflicts resolved.

☑ Rim elevation of the facility is laid out to be level all the way around, or elevations are consistent with a detailed cross-section showing location and height of interior dams.

☑ Locations for vaults, utility boxes, and light standards have been planned so that they will not conflict with the facility.

☑ Facility protected as needed from construction-phase runoff and sediment.

Excavation (Certification may be required)

☑ Excavation conducted with materials and techniques to minimize compaction of soils within the facility area.

☑ Excavation is to proper area and depth.

☑ Slopes or side walls protect from sloughing of native soils into the facility.

☑ Moisture barrier, if needed, added to protect adjacent pavement or structures.

☑ Native soils at bottom of excavation are ripped or loosened to promote infiltration.

Overflow Inlet/Surface Connection to Storm Drainage

- ☑ Overflow inlet is at specified elevation (typically no lower than two inches below facility rim).
- ☑ No knockouts or side inlets are in overflow riser.
- ☑ Inlet location selected to minimize surface flow velocity (near and offset from inlet recommended).
- ☑ Grating selected to exclude mulch and litter (beehive or atrium-style grates with ¼" openings recommended).
- ☑ Inlet is connected to storm drain via appropriately sized piping.
- ☑ Facility emergency overflow path designed to avoid flood damage.

Underground Connection to Storm Drain/Outlet Orifice

- ☑ Perforated pipe underdrain (PVC SDR 35 or approved equivalent) is installed with holes facing down.
- ☑ No filter fabric is installed around the underdrain.
- ☑ Perforated pipe is connected to storm drain (treatment-only) or orifice (treatment-plus-flow-control) per plans.
- ☑ Underdrain pipe is at elevation shown in plans. In facilities allowing infiltration, preferred elevation is above native soil (but low enough to be covered at least 2 inches by Class 2 perm); in sealed planter boxes or bioretention facilities with liners, preferred elevation is as near bottom as possible.
- ☑ Cleanouts are in accessible location(s) and connected via sweeps.
- ☑ Structures (arches or large diameter pipes) for additional subsurface storage are installed as shown in plans and specifications and have the specified volume.

Drain Rock/Subdrain

- ☑ Rock is installed as specified. Class 2 permeable, Caltrans specification 68-1.025 recommended, or 4"-6" pea gravel is installed at the top of the crushed rock layer.
- ☑ Rock is smoothed to a consistent top elevation. Depth and top elevation are as shown in plans, accounting for depth of soil mix and mulch to follow and required top reservoir depth.
- ☑ No filter fabric is placed between the subdrain and soil mix layers.

Soil Media Mix (Certification may be required)

- ☑ Soil media mix is as specified. Quality of mix is confirmed by delivery ticket or on-site testing as appropriate to the size and complexity of the job.
- ☑ Mix is installed in lifts not exceeding 12".
- ☑ Mix is not compacted during installation but may be wetted thoroughly to encourage consolidation.
- ☑ Mix is smoothed to a consistent top elevation. Depth of mix (18" minimum) and top elevation are as shown in plans, accounting for depth of mulch to follow and required top reservoir depth.

Irrigation

- ☑ Irrigation system is installed so it can be controlled separately from other landscaped areas. Smart irrigation controllers and drip emitters are recommended.
- ☑ Spray heads, if any, are positioned to avoid direct spray into outlet structures.

Planting

- ☑ Plants are installed consistent with the approved planting plan.
- ☑ Any trees and large shrubs are staked securely.
- ☑ No fertilizer is added. Compost tea may be used.
- ☑ No native soil or clayey material are imported into the facility with plantings.
- ☑ 1" to 2" mulch may be applied following planting. Mulch selected to avoid floating.
- ☑ Maintain final design elevation of soil mix following planting.
- ☑ Curb openings are free of obstructions.

Final Engineering Inspection

- ☑ Drainage Management Area(s) are free of construction sediment; landscaped areas are stabilized.
- ☑ Inlets are installed to provide smooth entry of runoff from adjoining pavement, have sufficient reveal (drop) from the adjoining pavement to the top of the mulch or soil mix, and are not blocked.
- ☑ Inflows from roof leaders and pipes are connected and operable.
- ☑ Temporary flow diversions are removed.
- ☑ Rock or other energy dissipation at piped or surface inlets is adequate.
- ☑ Overflow outlets are configured to allow the facility to flood and fill to near rim before overflow.
- ☑ Plantings are healthy and becoming established.
- ☑ Irrigation is operable.
- ☑ Facility drains rapidly; no surface ponding is evident.
- ☑ Any accumulated construction debris, trash, or sediment is removed from facility.

Instructions to preparer:

This template provides instructions, format, organization, and some recommended content for your O&M Plan.

Instructions and notes in yellow highlight should be deleted prior to submittal.

Replace all information in [brackets] with your project-specific information.

Some of the recommended content is for bioretention facilities. For other facility types, this content should be replaced with content appropriate to your project facilities.

Your O&M Plan and attachments should be submitted in .pdf format. Check with staff for submittal instructions.

Write the Plan in the present tense as if it is already constructed and all agreements are executed and the owner is reading the document.

[TEMPLATE FOR]
STORMWATER FACILITIES OPERATION AND MAINTENANCE PLAN
for
[PROJECT NAME]
[PROJECT NUMBER (subdivision number, or consult with staff)]

[date]
[revision date]

[Name of Owner]
[Owner's Representative and Contact Information]

prepared by:

[Preparer's Name]
[Preparer's Contact Information]

TABLE OF CONTENTS

Tables

Figures

Attachments

Acronyms and Abbreviations

C.3	Provision C.3 in the Municipal Regional Stormwater Permit issued by the California Regional Water Quality Control Board for the San Francisco Bay Region
IMP	Integrated Management Practice
O&M Plan	Operations and Maintenance Plan

This Stormwater Facilities Operation and Maintenance Plan was prepared using the template dated February 2018.

I. INSPECTION AND MAINTENANCE LOG

Facility Name	
Address	
Begin Date	End Date

Date	BMP ID#	BMP Description	Inspected by:	Cause for Inspection	Exceptions Noted	Comments and Actions Taken

Instructions: Record all inspections and maintenance for all treatment BMPs on this form. Use additional log sheets and/or attach extended comments or documentation as necessary.

- BMP ID# — Always use ID# from the Operation and Maintenance Manual.
- Inspected by — Note all inspections and maintenance on this form.
- Cause for inspection — Note if the inspection is routine, pre-rainy-season, post-storm, annual, or in response to a noted problem or complaint.

- Exceptions noted — Note any condition that requires correction or indicates a need for maintenance.
- Comments and actions taken — Describe any maintenance done and need for follow-up.

II. UPDATE TO DESIGNATION OF RESPONSIBLE INDIVIDUALS

** **Use this form to update the plan when responsible individuals change**. **	
Date Completed	
Facility Name	
Facility Address	
Designated Contact for Operation and Maintenance	
Name:	Title or Position:
Telephone:	Alternate Telephone:
Email:	
Off-Hours or Emergency Contact	
Name:	Title or Position:
Telephone:	Alternate Telephone:
Email:	
Corporate Officer (authorized to execute contracts with the City, Town, or County)	
Name:	Title or Position:
Address:	
Telephone:	Alternate Telephone:
Email:	

III. UPDATES, REVISIONS, AND ERRATA

Date	Num.	Updates, Revisions, or Errata Title	Description/Purpose	By (full name):

I. INTRODUCTION

This plan addresses operation and maintenance of facilities constructed as part of the following development project:

[project name].

The final, approved Stormwater Control Plan for this project is in Appendix A.

I.A. Background

Suggested language to include: This Stormwater Facilities Operation and Maintenance Plan (O&M Plan) is for facilities (and pervious pavement systems) constructed as part of the development project referenced above. Construction of these facilities was required by Provision C.3 in the Municipal Regional Stormwater Permit issued by the California Regional Water Quality Control Board for the San Francisco Bay Region. Provision C.3. also requires the [Agency] to verify ongoing operation and maintenance of stormwater treatment and hydromodification management facilities, and certain pervious pavement installations.

I.B. Associated Agreements

Suggested language to include: This O&M Plan is referenced in an O&M Agreement between the property owner and the [Agency]. The agreement, [reference], grants the [Agency] access to the property to conduct inspections and, if needed, to perform maintenance on the facilities at the owner's expense. The agreement also grants access for inspections to the Contra Costa Mosquito and Vector Control District (CCMVCD).

As provided in the O&M Agreement, this O&M Plan may be modified, but only with the review and consent of the [Agency] [Public Works Director/City Engineer]. The official O&M Plan is the version which is on file at the [Agency] Public Works Department. Any modifications made to the O&M Plan with the consent of the [Public Works Director/City Engineer] must be filed at the Public Works Department.

I.C. Funding for and Organization of Facility Operation and Maintenance

Describe how facility operation and maintenance is funded on an ongoing basis in the present tense as if it is already constructed and all agreements are executed. Include descriptions and references for agreements or associations among homeowners or other property owners, budget line items, sources and expenditures of operating funds and reserve funds, administration, and oversight. Describe the personnel positions or contracts used to conduct maintenance, and oversight of these personnel or contracts. Include or attach an organization chart.

I.D. Site Description

Describe site location in the present tense as if it is already constructed. Include the size, topography, abutting streets and properties, structures, paved areas, underlying soils, and grading. Describe the number and type of stormwater facilities and the routing of treated runoff and untreated overflow to the public drainage system.

II. DESIGNATION AND TRAINING OF RESPONSIBLE INDIVIDUALS

II.A. Designated Contact for Operation and Maintenance

[name, title or position]
[address]
[telephone and email]

II.B. Off-Hours or Emergency Contact

[name, title or position]
[address]
[telephone and email]

II.C. Corporate Officer (authorized to execute agreements with the County)

[name, title or position]
[address]
[telephone and email]

II.D. Initial Training of Responsible Individuals

Suggested language to include: Following completion of construction, the bioretention facilities will be maintained by the contractor for two years, except for routine policing for trash, which will be done by the owner's and lessee's personnel. During this 2-year period, the owner's landscape maintenance crew will coordinate to meet with the contractor's personnel on-site during maintenance. At these times, the contractor's personnel will demonstrate proper maintenance procedures.

II.E. Ongoing Training of Responsible Individuals

Describe a plan for ongoing oversight and training for maintenance personnel.

III. FACILITIES TO BE MAINTAINED

III.A. Facility Descriptions

State the number and type(s) of facilities. Describe their common elements. For bioretention facilities, include in the description structural elements, media layers and depth of each, underdrain material, overflow structure, depth of surface reservoir, plantings (including species), irrigation system, and signage (if any). Include an explanatory sketch or schematic such as the one below. Then, include specific descriptions of each facility in the subsections below.

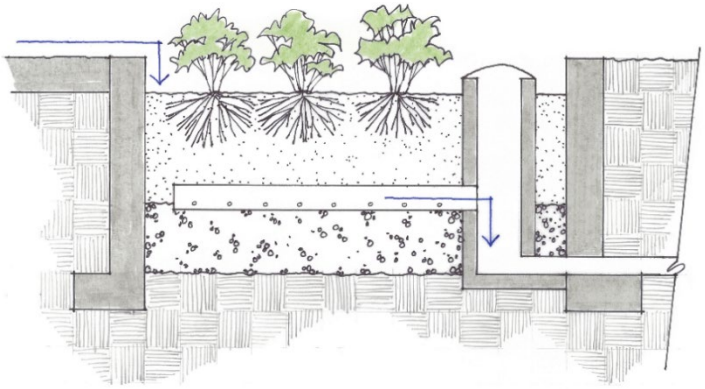


Figure [x]. Bioretention Cross-Section (schematic)

III.A.1. [Bioretention Facility #1]

Reference the Stormwater Control Plan Exhibit. Reference and describe the Drainage Management Areas (DMAs) from which the facility receives drainage, including the square footage, surface type, and features of each DMA. Describe how flow is routed from the DMA to the facility (piped, sheet flow, or curb inlet). Describe the connections of the underdrain and overflow structure. Describe any specific or special features of the facility.

III.A.2. [Bioretention Facility #2]

III.A.3. [Bioretention Facility #3]

IV. MAINTENANCE ACTIVITIES

IV.A. General Maintenance Rules

Suggested language to include for bioretention facilities: At no time will synthetic pesticides or fertilizers be applied, nor will any soil amendments, other than aged compost mulch or sand/compost mix, be introduced. The top of soil surface will be maintained at or near the design elevation throughout. Irrigation systems will be maintained to conserve water while maintaining plant health.

Although it is unlikely to be needed, if plants are not thriving compost tea may be applied at a recommended rate of 5 gallons mixed with 15 gallons of water per acre, up to once per year between March and June. Compost tea will not be applied when temperatures are below 50°F or above 90°F or when rain is forecast within the next 48 hours.

The following may be applied for pest control if needed:

- Beneficial nematodes
- Safer® products

- Neem oil

Plants may need to be replaced with the following mix as specified by the landscape architect [list species] or with similar plantings appropriate for the unique conditions.

IV.B. Maintenance Schedule

Suggested language to include for bioretention facilities:

The [state number] [bioretention] facilities will be maintained on the following schedule at a minimum:

IV.B.1. Routine Activities

Suggested language to include for bioretention facilities: The facilities will be examined [daily for commercial; weekly for residential] for visible trash, and trash will be removed. Any graffiti, vandalism, or other damage will be noted and addressed within 48 hours.

The planted areas will be weeded by hand approximately monthly. At this time, plants will be inspected for health and the irrigation system will be turned on manually and checked for any leaks or broken lines, misdirected spray patterns etc. Any dead plants will be replaced.

IV.B.2. Following Significant Rain Events

Suggested language to include for bioretention facilities: A significant rain event will be considered to be one that produces approximately a half-inch or more rainfall in a 24-hour period. Within 24 hours after each such event, the following will be conducted:

- The surface of the facility will be observed to confirm there is no ponding.
- Inlets will be inspected, and any accumulations of trash or debris will be removed. Any erosion at inlets should be restored to grade.
- The surface of the mulch layer will be inspected for movement of material. Mulch will be replaced and raked smooth if needed.
- Outlet structure will be inspected for any obstructions to assure that mulch is not washed out.

IV.B.3. Prior to the Start of the Rainy Season

Suggested language to include for bioretention facilities: In September of each year, facility inlets and outlets [including flow-control orifices, if any] will be inspected to confirm there is no accumulation of debris that would block flow. Stormwater should drain freely into the bioretention facilities. If not previously addressed during monthly maintenance, any growth and spread of plantings that blocks inlets or the movement of runoff across the surface of the facility will be cut back or removed.

IV.B.4. Annually During Winter

Suggested language to include for bioretention facilities: Once, in December – February of each year, vegetation will be cut back as needed, debris removed, and plants and mulch replaced as needed. The concrete work will be inspected for damage. The elevation of the top of soil and mulch layer will be confirmed to be consistent with the 6-inch reservoir depth.

An Agreement for the Owner of a Single Parcel to Operate and Maintain a Stormwater Management Facility
Instruction Sheet for this Agreement

This agreement is designed to be used when development is occurring on a single parcel of property, and stormwater management facilities are required to be constructed on that property. (This agreement can also be used for a subdivision where the stormwater management facility is located on one of the resident's privately owned lots and the stormwater management facility will be maintained by the owner of that lot.)

1. Fill in the name of your jurisdiction in the appropriate blanks on the cover page, in the opening paragraph of the agreement, in the definition of NPDES Permit, in Section 1, and on the signature page. Fill in the appropriate citation to your jurisdictions stormwater ordinance in the definition of Ordinance.

2. Fill in the name of the property owner in the blank on the cover page, in the opening paragraph of the Agreement, in the definition of Property Owner (twice) and on the signature page. Get the name from a title report. If the owner is a corporation, two signatures of corporate officers are required. An incorrect name may result in the agreement not being indexed properly by the County Recorder. Also insert the name of the project and the assessor's parcel number on the cover page.

3. Insert the street address of the project in the definition of Property. (If the stormwater management facility is located on a newly created lot that does not have a street address, give the lot and subdivision number, e.g. "Lot _ of Subdivision ____.")

4. Insert the name of the preparer and the date of approval of the Stormwater Operations and Maintenance Plan in the definition of Plan.

5. Insert the name of the adjoining public street in Recital B and Section 6. This is very important because for this Agreement to be binding on successors to the present owner, the law requires that the property "benefited" by the Agreement be specified in the Agreement.

6. Insert the month of the year you want the annual inspection to occur in Section 2.

7. Add the legal description of the property to Exhibit A. Again this is very important. For the Agreement to be binding on successors they must have the constructive notice of the Agreement that is provided by proper recording of the Agreement. Take the legal description from the title report and proof-read it. It is this legal description that gives notice to successors, not the assessor's parcel number you inserted on the cover page.

11/7/2007
Recording Requested By:
CITY OF _____

Return to: **CITY OF _____**
City Clerk
P.O. Box
_____, CA 945

Document Title

CITY OF _____

COVENANT RUNNING WITH THE LAND,
STORMWATER MANAGEMENT FACILITY OPERATIONS
AND MAINTENANCE AGREEMENT, AND RIGHT OF ENTRY
(Single Parcel)

PROJECT: _____

OWNERS NAMES: _____

ASSESSOR'S PARCEL NUMBER: _____

COVENANT RUNNING WITH THE LAND, STORMWATER MANAGEMENT FACILITIES OPERATION AND MAINTENANCE AGREEMENT, AND RIGHT OF ENTRY

This Covenant Running with the Land, Stormwater Management Facilities Operation and Maintenance Agreement and Right of Entry ("Agreement") is made and entered into this _____ day of _____, 20___, by and between _____, (hereinafter referred to as "Property Owner") and The City of _____, a municipal corporation ("City").

The following terms used in this Agreement shall have the meanings specified below:

DEFINITIONS

Maintain: The term "**Maintain**" or "**Maintained**" shall mean taking all actions reasonably necessary to keep the Stormwater Facility in first class operation, condition and repair, which actions include but are not limited to regular inspections, painting, cleaning, maintenance, refinishing, repairing, replacing and reconstructing the Stormwater Facility, and in the case of landscaping, plant replacement, mulch replacement, irrigating, trimming, mowing, and fertilizing the landscaping. The term shall also include the routine maintenance, and the annual inspection and reporting described in the Stormwater Control Operation and Maintenance Plan, and the payment of any applicable City fees.

NPDES Permit: The term "**NPDES Permit**" shall mean the San Francisco Bay Regional Water Quality Control Board's National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0029912 (issued to the City of _____) as amended, and as may be superseded by subsequent NPDES permits that are reissued from time to time.

Ordinance: The term "**Ordinance**" shall mean Chapter __ of Title _ of the _____ Municipal Code (Stormwater Management and Discharge Control), as may be amended from time to time.

Property Owner: The term "**Property Owner**" and "**Property Owners**" shall mean _____ and all heirs, successors, executors, administrators and assigns of _____ in the Property, it being the intent of the parties hereto that the obligations undertaken in this Agreement, as provided in Civil Code section 1468, run with the Property described in Exhibit A and constitute a lien against the Property.

Property: The term "**Property**" shall mean that certain real property located at __[insert street address]__, and more particularly described in Exhibit A which is attached hereto and hereby incorporated herein by reference.

Plan: The term "**Plan**" or "**Operation and Maintenance Plan**" means the City-approved Stormwater Control Operation and Maintenance Plan prepared by _____ and approved by the City Engineer in writing, which may be subsequently modified from time to time with City Engineer's written approval.

Stormwater Facility: The term "**Stormwater Facility**" means the permanent stormwater management facilities located and constructed on the Property.

RECITALS

This Agreement is made and entered into with reference to the following facts:

A. The Property Owner is the owner of the real property more particularly described on the attached Exhibit A.

B. The City is the owner of _____ Street and its storm drains that are adjacent to the Property, and the City is required to ensure that stormwater run-off from the Property into its storm drains meets the requirements of its NPDES Permit.

C. To meet its obligations under its NPDES Permit the City has required the Property Owner to construct the Stormwater Facility on the Property.

D. To meet its obligations under its NPDES Permit the City has approved the Property Owner's Operation and Maintenance Plan for the Stormwater Facility.

E. To meet its obligations under its NPDES Permit the City's Ordinance requires proper operation and maintenance in perpetuity of the Stormwater Facility constructed on the Property.

F. The Plan includes an annual inspection and reporting requirement for the Stormwater Facility constructed on the Property.

G. This Agreement memorializes the Property Owner's maintenance, operations, and inspection obligations under the City's Ordinance, the City's NPDES Permit and the Plan.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing premises, the mutual covenants contained herein, and the following terms and conditions, the parties hereto agree as follows:

SECTION 1

Responsibility for Operation and Maintenance: No portion of the Stormwater Facility may be altered, in any way, by the Property Owner without the prior written consent of the City Engineer of the City of _____. The Property Owner shall Maintain the Stormwater Facility in first class operating condition, and in compliance with all applicable state, county and city laws and regulations. Applicable regulations include, but are not limited to, the City-approved Stormwater Control Operation and Maintenance Plan, and the provisions of the Ordinance, as they may be amended from time to time.

The Property Owner shall engage a landscape contractor or other licensed contractor to Maintain the Stormwater Facility. The City Engineer, in her or his sole absolute discretion, may approve an alternate

method for the maintenance of the Stormwater Facility. The City Engineer, also in her or his sole absolute discretion, may revoke the approval of a previously approved alternate method for the maintenance of the Stormwater Facility.

SECTION 2

Inspection by Property Owner: The Property Owner shall cause its contractor to conduct annual inspections during the month of_____ of each year. The annual inspection report shall include completion of the checklist described in the approved Operation and Maintenance Plan. The Property Owner or its contractor must submit the inspection report to the City Engineer within 30 days after the annual inspection. A Management and/or Inspection fee established in the City's standard fee schedule shall accompany the annual inspection report.

SECTION 3

Right of Entry and Stormwater Facility Inspection by the City: The Property Owner hereby grants permission to the City, its authorized agents and employees, and the Central Contra Costa Sanitary District, the Contra Costa County Fire Protection District, County Environmental Health Department, the Contra Costa Mosquito and Vector Control District, and the Regional Water Quality Control Board to enter the portion of the Property where the Stormwater Facility is located, and to inspect the Stormwater Facility whenever any of the forgoing entities deems necessary to enforce provisions of the City's Ordinance. These entities may enter the premises at any reasonable time to inspect the Stormwater Facility's maintenance and operation, to inspect and copy records related to compliance with stormwater regulations, and to collect samples and take measurements. Whenever possible, these entities will provide notice prior to entry.

SECTION 4

Failure to Perform Required Stormwater Facility Repairs or Maintenance by the Property Owner: If the Property Owner or its successors fails to Maintain the Stormwater Facility in good working order and in accordance with the approved Plan and the City's Ordinance, the City, with prior notice, may enter the Property to return the Stormwater Facility to good working order. The City is under no obligation to Maintain or repair the Stormwater Facility, and this Agreement may not be construed to impose any such obligation on the City. If the City, under this section takes any action to return the Stormwater Facility to good working order, the Property Owner shall reimburse the City for all the costs incurred by the City, including administrative costs. The City will provide the Property Owner with an itemized invoice of the City's costs and the Property Owner will have 30 days to pay the invoice. If the Property Owner fails to pay the invoice within 30 days, the City may secure a lien against the real property of the Property Owner in the amount of such costs. In addition the City may make the cost of abatement of the nuisance caused by the failure to maintain the Stormwater Facility a special assessment against the Property that may be collected at the same time and in the same manner as ordinary municipal taxes are collected as provided in Government Code section 38773.5. This Section 4 does not prohibit the City from pursuing other legal recourse against the Property Owner.

SECTION 5

Indemnity: The Property Owner agrees to defend, indemnify and holds harmless the City, its officials, employees and its authorized agents from any and all damages, accidents, casualties, occurrences, claims, penalties or fines which might arise or be asserted against the City and which are in any way connected with the construction, operation, presence, existence or maintenance of the Stormwater Facility by the Property Owner, or from any personal injury or property damage that may result from the City or other public entities entering the Property under Section 3 or 4.

SECTION 6

Successors and Assigns: The covenants of the Property Owner set forth in numbered Sections 1 through 5 above shall run with the land, and the burdens thereof shall be binding upon each and every part of the Property and upon the Property Owner, its successors and assigns in ownership (or any interest therein), for the benefit of _____ Street and its storm drains and each and every part thereof and said covenants shall inure to the benefit of and be enforceable by the City, its successors and assigns in ownership of each and every part of the Street and storm drains.

SECTION 7

Severability: Invalidation of any one of the provisions of this Agreement shall in no way effect any other provisions and all other provisions shall remain in full force and effect.

Recommended for approval: City of _____:

_____ _____
City Engineer Mayor

Reviewed by: Attest:

_____ _____
City Attorney City Clerk

Property Owners:

_____
Owner's Name

_____

Owner's Name

Attachments: Acknowledgements
Exhibit A

ALL PURPOSE ACKNOWLEDGMENT

State of California)
) s.s.
County of _____)

On _____, before me,
_____, personally appeared
_____,
_____ personally known to me;
_____ or proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s) or the entity upon behalf of which the person(s) acted, executed the instrument.

WITNESS my hand and official seal. (SEAL)

_____
Signature of Notary Public

CAPACITY CLAIMED BY SIGNER:

Though statute does not require the notary to fill in the data below, doing so may prove invaluable to persons relying on the document.

_____ Individual(s)
_____ Corporate Officer(s) Titles _____ and _____
_____ Partner(s) _____ Limited _____ General
_____ Attorney-in-Fact
_____ Trustee(s)
_____ Guardian/Conservator
_____ Other : _____

Signer is representing: _____

ATTENTION NOTARY: Although the information requested below is optional, it could prevent fraudulent attachment of this certificate to unauthorized document.

Title or type of document _____
Number of pages: _____ Date of document: _____
Signer(s) other than named above: _____

THIS CERTIFICATE MUST BE ATTACHED TO THE DOCUMENT DESCRIBED ABOVE

EXHIBIT A
Legal description

Your Logo Here

Off-Site GSI Project Post-Construction Certification Form

This form is used to document all appropriate post-construction certification requirements have been met. This form and related attachments will be uploaded as documents to the System Tracking Tool.

Section 1: Design Review

Project ID: Project Name:

Name of the Certifying Agency:

Reviewer Name:

Phone Number: Email:

☐ The Certifying Agency's design review process for compliance with C.3 regulations and standard design practice was completed and the design was approved.

☐ The Certifying Agency confirms the drainage area to the off-site project that is available for exchange is not associated with a regulated project.

Design Review Sign-Off

Approval Signature:

Date: *(month/day/year)*

Section 2: Construction Review

Name of the Certifying Agency:

Reviewer Name:

Phone Number: Email:

☐ The "Stormwater Treatment Facilities Construction Inspection Checklist" form(s) was/were completed and uploaded to the Tracking Tool.

☐ The Certifying Agency's review process was completed for all stages of construction, and the construction was approved.

Construction Review Sign-Off

Approval Signature:

Date: *(month/day/year)*

Section 3: Operation and Maintenance (O&M) Plan and Agreement

Name of Party Responsible for Ongoing O&M:

Maintenance Contact: Name:

Phone Number: Email:

☐ An approved O&M Plan was completed and uploaded to the Tracking Tool.

☐ An approved O&M agreement was completed and uploaded to the Tracking Tool.

☐ The project was added to the County Maintenance District.

Your Logo Here

Off-Site GSI Project Data Form

This form provides Off-Site GSI Project data that are needed to identify the project and the relevant attributes that will be stored in the System Tracking Tool.
Data from this form will be entered into the Tracking Tool.

Project Information

Project ID: Final Construction Date:

Project Name:

Jurisdiction(s) where project is located:
1st jurisdiction *2nd jurisdiction, if applicable*

Project Location (street address/intersection/segment, or other location descriptors):

Project Owner Contact Information

Project Owner:		Project Owner's Representative (if applicable):	
Name:		Name:	
Phone #:		Phone #:	
Address:		Address:	
Email:		Email:	

Project Data

Total Project Drainage Area: *(acres)* Average Annual Rainfall: *(inches)*

Total Impervious Area in Drainage Area: *(acres)*

Total Pervious Area in Drainage Area: *(acres)* Total Area Greened: 0 *(acres)*

☐ As-built designs for the project have been uploaded to the Tracking Tool.

☐ Geospatial data providing the project location and drainage area have been uploaded to the Tracking Tool.

☐ The project has been entered into the County AGOL System. AGOL Project ID:

Cost Information (Optional)

Project Capital Cost:

What is included in the capital cost?

☐ Administrative/Project Management ☐ Construction
☐ Design ☐ Other:

Multiple Benefit Information

Multiple Benefits:

☐ Habitat
☐ Climate Resilience
☐ Reduced Local Flooding
☐ Reduced Heat Island Effect
☐ Urban Forestry
☐ Trash Reduction
☐ Recreational Space
☐ Brownfield Cleanup
☐ Other:

Off-Site GSI Project Data Form, continued

Drainage Management Areas (DMAs)

Total Number of Project DMAs: 0

DMA #	Acres of Land Use Classifications in each DMA								Total Acres
	Source Property	Old Industrial	Old Commercial/ Transportation	Old Residential	New Industrial	New Commercial/ Transportation	New Residential	Ag/ Open Space	
Total	0	0	0	0	0	0	0	0	0

Integrated Management Practices (IMPs)

Total Number of Project IMPs: 0

DMA #	IMP Type in each DMA (enter "1" under appropriate type in each DMA)							
	Bioretention	Dry Well	Flow-through Planter	Pervious Pavement	Bioretention + Vault	Cisterns + Bioretention	Self-treating/ Self-retaining	Other
Total	0	0	0	0	0	0	0	0

Project Description (provide additional details about project attributes):

Your Logo Here

Alternative Compliance Exchange Documentation Form

This form documents a Regulated Project's use of the alternative (off-site) compliance option provided by the Contra Costa County Regional Alternative Compliance System, and summarizes the details of the Regulated Project's exchange of in-lieu fees for the Off-Site GSI Project's Equivalent Acres Greened with Net Environmental Benefit. This form will be submitted to the Agency reviewing the Regulated Project for C.3 compliance as part of the Regulated Project's Stormwater Control Plan, and uploaded as a document to the Tracking Tool.

Regulated Project Information

Regulated Project ID: Jurisdiction:

Regulated Project Address:

Project Owner:

Phone #: Email:

Annual Average Rainfall: *(inches)* Non-Industrial Land Use: *(acres)*

New Industrial Land Use: *(acres)*

Total Impervious Area in Drainage Area (IMP_{RP}): *(acres)*

Total Pervious Area in Drainage Area (PER_{RP}): *(acres)*

Runoff Generating Area for which the Regulated Project owner is seeking alternative compliance (RGA_{RP}) = IMP_{RP} + (0.10 * PER_{RP}): 0 *(acres)*

Off-Site GSI Project Information

Project ID: Project Name:

Project Location:

Annual Average Rainfall: *(inches)*

Net Environmental Benefit (NEB) Ratio: 1.1 *NEB = 1.1 unless purchasing compliance metrics that are treating old industrial land use; if the off-site GSI project is treating old industrial land use, NEB Ratio = 1.0.

☐ Off-site GSI project is associated with higher pollutant loading than the regulated project. (check this box if NEB = 1.0).

Equivalent Acres Greened Available for Exchange: *(acres)*

Date Available for Exchange: *(month/day/year)*

Equivalent Acres Greened Unit Cost: *($/acre)*

Jurisdiction's Administrative Fees: *($)*

Clean Water Program System Administrative Fees: *($)*

Annual O&M Fee Unit Cost: *($/acre/year)*

Alternative Compliance Exchange Form, continued

Exchange Information

Exchange ID: Exchange Date: (month/day/year)

Regulated Project Rainfall Ratio ($Ratio_{Rainfall}$): 1.0 *See attached Rainfall Ratio Matrix to determine this value.

Regulated Project Pollutant Ratio ($Ratio_{Pollutant}$): 1.0 *Value = 1.0 unless the Regulated Project has New Industrial land uses, then provide pollutant ratio calculation on a separate sheet.

Required Equivalent Acres Greened for Off-Site Compliance = (RGA_{RP} x $Ratio_{Rainfall}$ x $Ratio_{Pollutant}$): 0 *(acres)*

Quantity of Equivalent Acres Greened (EAG) Purchased: *(acres)*

Total In-lieu Fee = (EAG x NEB Ratio x EAG Unit Cost) + Admin Fees: 0 *($)*

Annual O&M Fee (to be paid annually by the Regulated Project Owner): 0 *($/year)*

☐ A copy of this Exchange Form to be provided to the County Maintenance District to allow for ongoing O&M fee assessments.

Confirmation of Completion of the Exchange

Confirming Agency (Jurisdiction of Regulated Project):

Confirming Agency Representative:

Phone Number and Email:

☐ In-lieu fee was paid in full. Date Paid: *(month/day/year)*

☐ This exchange completes all requirements for the Regulated Project's off-site compliance as part of the Contra Costa County Regional Alternative Compliance System.

☐ Additional exchange(s) are required for the Regulated Project to achieve off-site compliance.
All additional Exchange ID(s) are listed here:

Exchange Completion Sign-Off

Approval Signature:

Date: *(month/day/year)*

Alternative Compliance Exchange Form, continued

Rainfall Ratio Matrix for Rainfall Zones Across the County

Exchange Ratio Matrix	Equivalent Acres Greened Annual Average Rainfall Zone[1] (inches)																				
Regulated Project Annual Average Rainfall Zone (inches)	≤13	≤14	≤15	≤16	≤17	≤18	≤19	≤20	≤21	≤22	≤23	≤24	≤25	≤26	≤27	≤28	≤29	≤30	≤31	≤32	≤33
≤13	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤14	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤15	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤16	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤17	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤18	1.4	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤19	1.5	1.4	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤20	1.5	1.4	1.3	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤21	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤22	1.7	1.6	1.5	1.4	1.3	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤23	1.8	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤24	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤25	1.9	1.8	1.7	1.6	1.5	1.4	1.3	1.3	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤26	2.0	1.9	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤27	2.1	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤28	2.2	2.0	1.9	1.8	1.6	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0
≤29	2.2	2.1	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0	1.0
≤30	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.0	1.0	1.0	1.0	1.0
≤31	2.4	2.2	2.1	1.9	1.8	1.7	1.6	1.6	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0	1.0
≤32	2.5	2.3	2.1	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0	1.0
≤33	2.5	2.4	2.2	2.1	1.9	1.8	1.7	1.7	1.6	1.5	1.4	1.4	1.3	1.3	1.2	1.2	1.1	1.1	1.1	1.0	1.0

Stormwater Facility Operation and Maintenance Inspection Report

General	
SITE NAME	ADDRESS
DATE AND TIME OF VISIT	REASON FOR INSPECTION (e.g. routine/annual, follow-up, or response to complaint)
Review of Stormwater Control Operation and Maintenance Plan	
Was the on-site copy of the Plan available on request? ❑ YES ❑ NO	SECTIONS OUT OF DATE AND UPDATES NEEDED: ❑ Owner contact Information ❑ Information on changes to facilities
Date of last update to Plan: ____/_____/_____	❑ Records of previous inspections ❑ Other:
MAINTENANCE LOGS: ❑ Consistent with maintenance schedule in Plan. ❑ Not consistent with maintenance schedule (note exceptions):	
Results of Site Inspection	
Overall condition of site and any exceptional circumstances:	
LIST STORMWATER FACILITIES INSPECTED (Use designations/IMP #s from Plan) _____ _____ _____ _____ _____ _____ _____ _____ _____	ITEMS INSPECTED AND EXCEPTIONS NOTED:
Compliance Summary and Recommended Follow-up	
SITE STATUS: ❑ In compliance—no corrective actions required. ❑ In compliance—Implement corrective actions. ❑ Not in compliance—Correct and reinspect.	FOLLOW-UP PLAN AND SCHEDULE: INSPECTOR: DATE:

Your Logo Here

Off-Site GSI Project O&M Verification Form

This form provides summary information to document the completion of regularly scheduled O&M verification inspections.This form will be uploaded as a document to the Tracking Tool.

Project ID:

Project Location:

O&M Verifying Agency:

O&M Verification Inspection Frequency: *(e.g., annual, biannual, etc.)*

Inspection Completed by *(Name of Inspector, Agency):*

Inspection Date: *(month/day/year)*

☐ O&M Inspection Report form(s) was/were completed.

☐ O&M inspection documentation and photos are complete and available upon request.

Location of O&M Inspection Report data:

Select the option(s) that apply:

☐ All project IMPs were inspected and O&M is acceptable; no deficiencies identified.

OR

☐ All project IMPs were inspected and O&M deficiencies were identified.

☐ All deficiencies identified were corrected.

Date all correction(s) completed: *(month,year)*

CONTRA COSTA CLEAN WATER PROGRAM

Date: May 18, 2022

To: Management Committee

From: Mitch Avalon, Consultant

Subject: Subcommittee Assignments

Recommendation:

Approve subcommittee assignments for FY 22/23.

Background:

The Program Agreement requires the Management Committee, at its May meeting, approve membership in all subcommittees for the following fiscal year. This is also a time to evaluate changes to or affirm the duly authorized representatives for each Permittee. If a Permittee chooses to change their duly authorized representative, they must send the Acting Program Manager a letter indicating who the duly authorized representatives will be. There is a specific letter template for this purpose. Please note that Permittees can include the names of substitutes in this letter, so a separate written notice later in the year would not be necessary if the substitute shows up at a Management Committee meeting. If the Program does not receive a letter from a Permittee, then their duly authorized representatives from the current year will carry over to next year.

Attached is a chart showing membership in the Administrative Committee over the last several years, this year, and next year (FY 22/23), in accordance with the rules established in the Program Agreement. A chart, noted as Exhibit A, showing the membership in all Program Subcommittees and regional (BAMSC) Work Group/Subcommittees will be handed out at the meeting.

Fiscal Impact:

None

Attachments:

Administrative Committee Chart

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Administrative Committee Membership by Fiscal Year (Revised FY 21/22)

Permittee	FY 10/11	FY 11/12	FY 12/13	FY 13/14	FY 14/15	FY 15/16	FY 16/17	FY 17/18	FY 18/19	FY 19/20	FY 20/21	FY 21/22	FY 22/23
Countywide													
Contra Costa County	x	x	x	x	x	x	x	x	x	x	Chair	x	x
Flood Control District	x	x	x	x	x	x	x	x	x	x	x	x	x
Central/North County													
Concord (DLM)			x					x			x		
Walnut Creek (L)	x					x				x			
Martinez		x			x			x					x
Pleasant Hill				x					x			x	
Clayton		x					x				x		
Lamorinda/South County													
San Ramon (L)	x					x				x			
Danville			x					x				x	
Lafayette				x					x				x
Orinda					x					x	x		
Moraga		x		x			x		x				x
East County													
Antioch (DLM)		x			x		x			x		Chair	
Pittsburg (L)	x					x					x		
Brentwood (L)				x					x			x	Chair
Oakley			x		x			x					
West County													
Richmond (DLM)	x			x		x			x				x
San Pablo			x					x		Chair			
Hercules		x			x		x					x	
El Cerrito			x					x			x		
Pinole	x					x				x			

Notes:

A "Large Municipality" (L) is a municipality with a population of 50,000 or more.

One of the three municipalities with the largest population, a "Designated Large Municipality" (DLM), must be a member each year

Danville was scheduled for AC membership in FY 20/21, but due to Chris McCann retirement, Orinda agreed to trade with Danville.

CONTRA COSTA CLEAN WATER PROGRAM

Date: May 18, 2022

To: Management Committee

From: Karin Graves, Program Consultant

Subject: Status of Monsanto Settlement Agreement

Recommendation:
Receive report from staff on the status of the Monsanto settlement agreement. Provide any comments and direction to staff, and accept the report and cost estimates.

Background:
In 2016, the City of Long Beach filed a lawsuit against Monsanto for damages created by polychlorinated biphenyls (PCBs). There were a handful of other cities and ports around the nation that were also filing lawsuits against Monsanto for the same purpose. In July 2020 the lawsuits were combined into a class action complaint, which led to a settlement agreement that would pay members of the class the cost of testing and monitoring water quality, removing PCBs from sediment areas, reducing PCB levels in stormwater, and complying with other applicable regulation. The settlement agreement included a methodology to identify class members, an estimate of damages, and four funds to distribute a $550 million agreed to payout from Monsanto. The combined payout to the Contra Costa permittees through the settlement funds is approximately $9.3 million dollars.

On March 14, 2022 the Central District Court of California approved the Motion of Preliminary Approval of the Class Action Settlement (see attached). The court found the legal requirements of class certification were met, as there were numerous members of the class with common issues, similar legal claims and defense, competent counsel, and a common set of facts and legal remedies. The court also found the settlement was the product of a fair and reasonable process after years of litigation, including mediation with a judge, and honest negotiation from both sides. The court further found that the amount offered in the settlement was a fair and reasonable outcome for class members and the release of claims was a reasonable outcome for Monsanto.

The court concluded by granting preliminary approval of the settlement agreement, certifying the class, appointing class representatives, appointing lead-

class and co-class counsel, and appointing a settlement administrator. The court approved the requirements for notice to class members and set April 4, 2022 as the deadline for plaintiffs to submit a schedule to implement the settlement agreement. The schedule, subsequently submitted to the court, stipulates that plaintiffs must send notices to class members by first class mail by April 18, 2022. The notice will include a deadline of June 17, 2022 to decide whether to accept the settlement agreement terms or opt out. If a class member chooses to file a separate claim against Monsanto, then they would have to opt out. Agreeing to the terms of the settlement agreement prevents the class member from filing future lawsuits against Monsanto, except under very limited situations. unincorporated Contra Costa and other bay area jurisdictions are in the process of considering whether to opt out or not. In April 2022 San Mateo County and nine cities opted out and filed a separate suit with Monsanto.

The big question for each permittee is whether to accept the terms of the settlement agreement or opt out and file a separate action. To assist permittees in their decision on whether to accept or opt-out of the settlement agreement, staff worked with Geosyntec Consultants to calculate the total estimated cost incurred by the Permittees to achieve the PCBs total maximum daily load (TMDL) by 2050. A memo describing these estimated costs is included as an attachment to this staff report. Also attached are previously shared documents which include a copy of the settlement agreement, a chart showing the payout for each permittee, a map of relevant watersheds, and a staff report from the July 21, 2021 Management Committee meeting. The July 2021 staff report includes several questions and answers that are still relevant today.

It should be noted that this class-action lawsuit is not under the purview of the Program, the Program is not providing legal advice to permittees, staff are not attorneys but are providing information as accurately as possible, and permittees are advised to consult their municipal attorney on this issue. The cost estimate included in the attached memorandum is approximate, based on readily available data, and is not intended to support future legal claims. Staff recommend that a more specific and robust analysis would be needed to support any separate legal action.

Estimated Cost to Achieve the PCBs TMDL by 2050:

Cost estimates are based on the PCBs loads reduced and the costs presented in the Contra Costa PCBs and Mercury Control Measure Plan and Reasonable Assurance Analysis (RAA)[1]. Results from the RAA indicated that the PCBs TMDL could be achieved no earlier than 2050 through a combination of control measures and implementation actions by public and private agencies. The cost estimates

[1] Contra Costa PCBs and Mercury TMDL Control Measure Plan and Reasonable Assurance Analysis, 2020. Prepared by Geosyntec Consultants on behalf of the Contra Costa Clean Water Program. September.

provided herein are those incurred by the permittees only. Example permittee costs include implementation of public green stormwater infrastructure (GSI) projects included in the permittees' Green Infrastructure Plans and administrative costs for implementing the PCBs in Building Demolition program. The private sector costs, such as remediation of contaminated soils and groundwater or GSI required through private redevelopment, were not included in this analysis.

The countywide estimated cost to achieve the TMDL in 2050 (in 2022 dollars) ranges from $450 million to $1 billion (see attached). The estimated range reflects low, medium, and high total project cost estimates for GSI implementation, which is also the costliest control measure for the Permittees. Cost estimates by permittee are based on the cost to implement planned public GSI projects (2020-2040) with the remaining cost apportioned by population and old industrial area (see attached). Additional details of the cost estimate, assumptions, and unit costs are included in the attached memo prepared by Geosyntec Consultants.

Fiscal Impact:
Accepting the terms of the settlement agreement guarantees most, but not all, permittees of some funds to address PCBs load reduction requirements. It is unknown whether opting out will result in a more substantial payout than what has been offered in the settlement agreement. Some payouts that have resulted from separate lawsuits against Monsanto are: $95 million to Washington State, $25 million to New Hampshire, $80 million to Ohio, and $247 in damages from exposures in Washington Schools.

Attachments:
Settlement Agreement dated June 17, 2021
Management Committee staff report dated July 21, 2021
Payout Chart from Settlement Agreement dated June 17, 2021
Preliminary Approval of the Class Action Claim, March 14, 2022
Map of HUC Watersheds
Monsanto Cost Memo dated May 10, 2022

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Geosyntec consultants

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Oakland, California 94607
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Memorandum

Date:	May 10, 2022
To:	Mitch Avalon, Karin Graves, Contra Costa Clean Water Program
From:	Lisa Austin, Senior Principal, Lisa Welsh, Project Scientist, and Grace Yao, Staff Engineer
Subject:	Monsanto Cost Estimate – Estimated Cost to Achieve the TMDL in 2050 Geosyntec Project Number: CWR0676A/02/01

1. INTRODUCTION

In 2016, the City of Long Beach filed a lawsuit against Monsanto, who manufactured 99% of the PCBs used or sold in the U.S. between 1929 and 1977[1], for dealing with contamination of waterways by PCBs. This led to a class action lawsuit and settlement agreement that would pay the class members for costs associated with removing PCBs from the environment. On March 14, 2022, the Central District Court of California approved the Motion of Preliminary Approval of the Class Action Settlement. Class members now have 60 days from April 18, 2022 (or until June 17, 2022) to decide whether to accept the terms of the settlement agreement or to opt-out. Agreeing to the terms of the settlement agreement prevents the class member from filing future lawsuits against Monsanto, except under very limited situations.

The combined payout to the Contra Costa permittees through the settlement funds is approximately $9.3 million dollars. The Contra Costa Clean Water Program (CCCWP), while not providing legal advice to permittees, is providing information to assist permittees in their decision on whether to accept the terms of the settlement agreement. CCCWP asked Geosyntec Consultants to develop an estimate of costs incurred by the permittees to achieve the PCBs TMDL. This memorandum describes the approach and final costs estimated to achieve the TMDL by 2050 at a countywide level and by permittee. The cost estimate provided in this memorandum is approximate and is not intended to support future legal claims.

2. COUNTYWIDE COST ESTIMATE

The Contra Costa PCBs and Mercury Control Measure Plan and Reasonable Assurance Analysis[2] identifies seven control measures and estimated resulting load reductions over time

[1] https://www.latimes.com/california/story/2022-03-07/los-angeles-sues-monsanto-over-toxic-pcbs-waterways
[2] Contra Costa PCBs and Mercury TMDL Control Measure Plan and Reasonable Assurance Analysis, 2020. Prepared by Geosyntec Consultants on behalf of the Contra Costa Clean Water Program. September.

that would result from the proposed control measures. These control measures and estimated load reductions were used as the basis to estimate costs to achieve the PCBs TMDL countywide. Table 1 provides the predicted PCBs loads reduced between 2020 and 2050, the earliest estimated year that Contra Costa could achieve the TMDL.

Table 1. Predicted PCBs Load Reduction 2020-2050 by Control Measure

Control Measure	Predicted PCBs Load Reduction 2020-2050 (g/yr)[1]	% Total Load Reduced[2]
1. PCBs in Building Materials Management	0	0%
2. Source Property Identification and Abatement	370	49%
3. PCBs in Electrical Utilities Management	140	21%
4. PCBs in Infrastructure	20	3%
5. Green Stormwater Infrastructure	180	27%
6. Full Trash Capture Treatment Control Measures	0	0%
7. Enhanced Operations and Maintenance	0	0%
Total Load Reduced (g/yr)	**670**	**100%**

Notes:

[1]Difference in the PCBs load reduction by 2050 and 2020 (from Table ES-1 in the Contra Costa Control Measure Plan, 2020).

[2]PCBs load reduced by control measure divided by the total of 670 g/yr.

Cost estimates were developed to achieve the load reduced by 2050 for the four control measures listed in Table 2 below. Costs to the permittee for the three remaining control measures - PCBs in electrical utilities, PCBs in infrastructure, and enhanced operations and maintenance – were assumed to be minor costs associated with tracking and reporting only. CCCWP may also incur some ongoing costs, but they were also assumed to be negligible.

Table 2. Estimated Implementation Cost by Control Measure

Control Measure	Estimated Implementation Cost (2022 dollars)[1]
1. PCBs in Building Materials Management	$10,000[2]
2. Source Property Identification and Abatement	$1,500,000[3]
5. Green Stormwater Infrastructure	see Table 3

Control Measure	Estimated Implementation Cost (2022 dollars)[1]
6. Full Trash Capture Treatment Control Measures	$59,000,000[4]
Large devices (e.g., hydrodynamic separators or baffle boxes)	$16,000,000[5]
Inlet-based devices (e.g., outlet screen or catch basin inserts)	$43,000,000[6]

Notes:

[1]Cost estimates rounded to two significant figures. All estimated unit costs from Table 5-3 in the Contra Costa Control Measure Plan, 2020, escalated to 2022 dollars.

[2]Assumes the current rate of two applicable buildings per year for twenty years (2020 through 2039) at a rate of $460 (in 2022 dollars) per application ($460 per application * 20 applications).

[3]Assumes conservative estimate of $780 (in 2022 dollars) per acre of investigation ($634 per acre (in 2013 dollars)), which includes planning, records review, facility inspections, field sampling, and reporting, and 25 acres identified or abated between 2020 and 2040 (from Table 5-4 in the Contra Costa Control Measure Plan, 2020). Post referral costs and property abatement is assumed to be $150,000 per year, based on the CCCWP monitoring budget, for 10 years. Estimated implementation cost = ($780/acre * 25 acres) + ($150,000/year * 10 years).

[4]Sum of implementation of large ($23 million) and inlet-based ($63 million) FTC devices.

[5]Assumes no new devices are installed between 2020-2050 (see Table 5-4 in the Contra Costa Control Measure Plan, 2020). Ongoing costs for 129 devices implemented are $6,000 per year per device. A 30-year design life and a 3% inflation rate were used to calculate the total value of the annualized O&M costs.

[6]Assumes 3,347 acres treated and 1,595 units installed between 2020-2050 (see Table 5-4 in the Contra Costa Control Measure Plan, 2020). Initial costs are $1,000 per acre and ongoing costs are $400 per year per device. A 30-year design life and a 3% inflation rate were used to calculate the total value of the annualized O&M costs.

Costs associated with GSI implementation identified in the permittees' Green Infrastructure Plans are the most significant cost incurred. Project costs incorporated the project type - green street, distributed, or regional - and a low (25th percentile), medium (median), and high (75th percentile) unit capital cost estimate from Table 5-1 in the Contra Costa Control Measure Plan (Geosyntec, 2020). The total project cost includes the capital cost and the annual O&M cost over the design life of the project. A 20-year design life and a 3% inflation rate were used to calculate the total value of the annualized O&M costs. Costs were escalated to 2022 dollars. A summary of the area treated by GSI, estimated PCBs loads reduced, and total project cost by 2040 and 2050 is presented in Table 3. Area treated and loads reduced by 2050 were estimated using the average rates from 2020 to 2040.

Table 3. Countywide Cost Summary for GSI Implementation by 2040 and 2050

Metric	2020-2040	2020-2050
Total Area Treated by GSI (acres)	1,723	2,584
PCBs Loads Reduced (g/yr)	19.5	29.2

Metric		2020-2040	2020-2050
Total Project Cost[1]	Low	$260,000,000	$390,000,000
	Medium	$390,000,000	$590,000,000
	High	$640,000,000	$960,000,000

Notes:
[1]Estimated costs (in 2022 dollars) rounded to two significant digits.

Using the cost range for GSI implementation by planned public projects, the total countywide estimate to achieve the TMDL by 2050 is shown in Table 4.

Table 4. Countywide Cost Summary to achieve the TMDL by 2050

Metric	Low[1]	Medium[1]	High[1]
GSI (2020-2040)[2]	$260,000,000	$390,000,000	$640,000,000
GSI (2020-2050)[2]	$390,000,000	$590,000,000	$960,000,000
Other Control Measures (2020-2050)[3]	$59,000,000		
Total Cost to Achieve the TMDL (2020-2050)[4]	$450,000,000	$650,000,000	$1,000,000,000

Notes:
[1]Estimated costs (in 2022 dollars) rounded to two significant digits.
[2]From Table 3.
[3]From Table 2.
[3]Sum of GSI (2020-2050) and Other Control Measures (2020-2050).

The countywide summary for the cost to implement the TMDL by control measure by 2050 is included in Attachment A.

3. COST ESTIMATE BY PERMITTEE

The Monsanto payout is allocated to each Contra Costa permittee through two funds, Monitoring and TMDL, for a total of ~$9.3 million countywide. The method for the distribution of the Monsanto payout is detailed in the settlement agreement. For comparison between the Monsanto payout and the cost to comply with the TMDL at the permittee level, Geosyntec used a simple approach to approximate the cost to comply with the TMDL by permittee.

The approach incorporates the total 2020-2040 GSI project cost by public retrofit (i.e., the identified projects in the GSI Plans) and then distributes the remaining costs to achieve the TMDL in two ways: by population and old industrial area. Table 5 shows the remaining

estimated cost to achieve the TMDL once the 2020-2040 GSI is subtracted. The distribution by population and old industrial area is shown in Table 6.

Table 5. Countywide remaining cost to achieve the TMDL by 2050

Metric	Low[1]	Medium[1]	High[1]
Remaining Cost to Achieve the TMDL[2]	$190,000,000	$260,000,000	$360,000,000

Notes:

[1]Estimated costs (in 2022 dollars) rounded to two significant digits.

[2]Difference in the Total Cost to Achieve the TMDL (2020-2050) (Table 4) and the 2020-2040 GSI Total Project Cost.

Table 6. Population and Old Industrial Area Distribution by Permittee.

Permittee	Population (January 1, 2022)[1]	Percent of Total Population (%)	Old Industrial Land Use Area (Acre)[2]	Percent of Total Old Industrial Area (%)
Antioch	112,848	9.8%	701	4.5%
Brentwood	66,097	5.7%	170	1.1%
Clayton	11,268	1.0%	0	0%
Concord	129,273	11.2%	2,584	16.6%
Danville	43,906	3.8%	8	0.05%
El Cerrito	24,846	2.2%	13	0.1%
Hercules	25,864	2.2%	216	1.4%
Lafayette	25,358	2.2%	1	0.005%
Martinez	36,827	3.2%	582	3.7%
Moraga	16,820	1.5%	0	0%
Oakley	42,895	3.7%	343	2.2%
Orinda	19,078	1.7%	0	0%
Pinole	19,369	1.7%	71	0.5%
Pittsburg	74,498	6.5%	1,635	10.5%
Pleasant Hill	34,133	3.0%	24	0.2%
Richmond	110,130	9.5%	4,321	27.8%
San Pablo	31,041	2.7%	53	0.3%
San Ramon	83,863	7.3%	14	0.1%
Walnut Creek	71,317	6.2%	85	0.5%
Unincorporated County	174,423	15.1%	4,737	30.4%

Permittee	Population (January 1, 2022)[1]	Percent of Total Population (%)	Old Industrial Land Use Area (Acre)[2]	Percent of Total Old Industrial Area (%)
Total	1,153,854	100.0%	15,558	100.0%

Notes:
[1]Population estimate based on State of California Department of Finance (E-1) City/County projections- January 1, 2022.
[2]Total Old Industrial Area (Parcels and ROW).

The total estimated cost to achieve the TMDL by permittee is estimated from the sum of the 2020-2040 GSI total project cost and the remaining cost to achieve the TMDL apportioned by population or old industrial area. These estimates are compared side-by-side with the Monsanto payout in Attachment B.

Using the data presented in Table 3, Geosyntec estimated a unit cost per gram of PCBs reduced based on the countywide total cost and grams reduced. Unit costs range from $13 million to $33 million per gram of PCBs per year. Applying the medium unit cost of $20 million per gram per year, the estimated PCBs load reduced using the Monsanto payout by permittee is shown in Table 7 along with the total estimated cost to achieve the TMDL. A detailed spreadsheet of the cost estimates by permittee is provided in Attachment C.

Table 7. Estimated PCBs Load Reduced and Cost Summary by Permittee

Permittee	Total Monsanto Payout ($)[1]	Estimated (Medium) PCBs Load Reduced Using Monsanto Payout (g/yr)[2]	Total Cost to Achieve the TMDL (Medium)[3]	
			2020-2040 GSI + Remaining Cost by Population	2020-2040 GSI + Remaining Cost by Old Industrial Area
Antioch	$2,137,719	0.11	$29,000,000	$15,000,000
Brentwood	$26,036	0.00	$27,000,000	$15,000,000
Clayton	$0	0.00	$5,000,000	$2,000,000
Concord	$32,024	0.00	$179,000,000	$190,000,000
Danville	$0	0.00	$18,000,000	$8,000,000
El Cerrito	$310,316	0.02	$28,000,000	$22,000,000
Hercules	$312,976	0.02	$7,000,000	$4,000,000
Lafayette	$22,024	0.00	$30,000,000	$24,000,000
Martinez	$411,291	0.02	$12,000,000	$13,000,000
Moraga	$22,024	0.00	$4,000,000	$220,000
Oakley	$64,465	0.00	$36,000,000	$32,000,000

Permittee	Total Monsanto Payout ($)[1]	Estimated (Medium) PCBs Load Reduced Using Monsanto Payout (g/yr)[2]	Total Cost to Achieve the TMDL (Medium)[3]	
			2020-2040 GSI + Remaining Cost by Population	2020-2040 GSI + Remaining Cost by Old Industrial Area
Orinda	$189,967	0.01	$28,000,000	$24,000,000
Pinole	$286,305	0.01	$14,000,000	$11,000,000
Pittsburg	$115,492	0.01	$53,000,000	$63,000,000
Pleasant Hill	$22,278	0.00	$31,000,000	$23,000,000
Richmond	$3,007,116	0.15	$42,000,000	$89,000,000
San Pablo	$285,636	0.01	$19,000,000	$13,000,000
San Ramon	$22,024	0.00	$19,000,000	$730,000
Walnut Creek	$22,024	0.00	$18,000,000	$3,000,000
Unincorporated County	$2,037,149	0.10	$54,000,000	$94,000,000
Total	$9,326,870	0.47	$650,000,000	$650,000,000

Notes:

[1]Sum of the Monitoring Fund and the TMDL Fund in the Monsanto Payout.

[2]Assumes $20 million per gram PCBs reduced.

[3]Assumes medium cost for 2020-2040 GSI Implementation and remaining costs apportioned by population and Old Industrial area in Table 6.

* * * * *

ATTACHMENT A

Control Measure	Predicted PCBs Load Reduction 2020-2050 (g/yr)	Percent Load Reduction (%)	Estimated Implementation Cost (2022 dollars)	Assumptions and Notes
PCBs in Building Materials Management	0	0%	$ 10,000	Assumes $460 per application and 2 buildings per year for the 2020-2030 decade, based on current rate of applicable structures.
Source Property Identification and Abatement	330	49%	$ 1,500,000	Assumes $780 per acre of investigation, which includes planning, records review, facility inspections, field sampling, and reporting. Post referral costs and property abatement is assumed to be $150,000 per year.
PCBs in Electrical Utilities Management	140	21%	--	Minor municipal cost - just tracking and reporting. Some ongoing Program costs but also small.
PCBs in Infrastructure	20	3%	--	Minor municipal cost - just tracking and reporting. Some ongoing Program costs but also small.
Green Stormwater Infrastructure	180	27%		The total PCBs load reduction include both public and private. The estimated costs only refers to the public GSI; Calculated based on the permittees' GI Plan and extrapolated to the 2050 costs on County level.
Low			$ 390,000,000	Low Cost for GSI
Medium			$ 590,000,000	Medium Cost for GSI
High			$ 960,000,000	High Cost for GSI
Full Trash Capture Treatment Control Measures	0	0%	$ 59,000,000	Total costs of large device and inlet based device.
Large Device	0	0%	$ 16,000,000	Assumes installation of HDS or NSBB/DSBB systems. Initial costs ($4,500 / acre) include planning, design, purchase, and construction. Ongoing costs ($6,000 per year per device) based on two four-hour maintenance events per year by four staff. 30-year of ongoing costs is included.
Inlet based Device	0	0%	$ 43,000,000	Assumes installation of outlet screen type of catch basin inserts. Initial costs ($1,000/acre) include planning, purchase/fabrication, and installation. Ongoing costs ($400 per year per device) based on four 0.5-hour maintenance events per year by two staff. 30-year of ongoing costs is included.
Enhanced Operations and Maintenance	0	0%	$ -	Minor municipal cost - just tracking and reporting. Some ongoing Program costs but also small.
Grand Total	**670**	**100%**		670 g/yr is the load reduction goal starting from 2020 to achieve TMDL.
Low			$ 450,000,000	Assumes Low Cost for GSI
Medium			$ 650,000,000	Assumes Medium Cost for GSI
High			$ 1,000,000,000	Assumes High Cost for GSI

ATTACHMENT B

Settlement Funds Apportioned to Permittees (Revised)

Monsanto PCBs Settlement Agreement Dated June 17, 2021

Permittee (Class Member)	Population	Monitoring Fund	TMDL Fund	Note	Total Monsanto Payout (Monitoring + TMDL Fund)	Total Estimated Cost to Achieve TMDL in 2022 Dollars (2020-2040 GSI + Remaining Cost Apportioned by Population)		
						Low	Medium	High
ANTIOCH	112,520	$0.00	$2,137,719	1	$2,137,719	$20,000,000	$29,000,000	$42,000,000
BRENTWOOD	65,118	$22,024.47	$4,012	1	$26,036	$18,000,000	$27,000,000	$40,000,000
CLAYTON (not on Exhibit A or D list)	11,337	$0.00	$0	2, 5	$0	$3,000,000	$5,000,000	$8,000,000
CONCORD	130,143	$32,024.47	$0	2	$32,024	$131,000,000	$179,000,000	$260,000,000
DANVILLE (not on Exhibit A or D list)	43,876	$0.00	$0	2, 5	$0	$13,000,000	$18,000,000	$26,000,000
EL CERRITO	24,953	$0.00	$310,316	3	$310,316	$20,000,000	$28,000,000	$40,000,000
HERCULES	25,530	$0.00	$312,976	3	$312,976	$5,000,000	$7,000,000	$9,000,000
LAFAYETTE (not on Exhibit D list)	25,604	$22,024.47	$0	4, 5	$22,024	$19,000,000	$30,000,000	$51,000,000
MARTINEZ	37,106	$0.00	$411,291	3	$411,291	$8,000,000	$12,000,000	$18,000,000
MORAGA (not on Exhibit D list)	16,946	$22,024.47	$0	2, 5	$22,024	$3,000,000	$4,000,000	$6,000,000
OAKLEY	42,461	$22,024.47	$42,441	1	$64,465	$21,000,000	$36,000,000	$62,000,000
ORINDA	19,009	$0.00	$189,967	3	$189,967	$15,000,000	$28,000,000	$53,000,000
PINOLE	19,505	$0.00	$286,305	3	$286,305	$9,000,000	$14,000,000	$26,000,000
PITTSBURG	74,321	$0.00	$115,492	3	$115,492	$33,000,000	$53,000,000	$86,000,000
PLEASANT HILL	34,267	$22,024.47	$254	3	$22,278	$23,000,000	$31,000,000	$45,000,000
RICHMOND	111,217	$0.00	$3,007,116	3	$3,007,116	$28,000,000	$42,000,000	$66,000,000
SAN PABLO	31,413	$0.00	$285,636	3	$285,636	$14,000,000	$19,000,000	$29,000,000
SAN RAMON (not on Exhibit D list)	83,118	$22,024.47	$0	2, 5	$22,024	$14,000,000	$19,000,000	$27,000,000
WALNUT CREEK (not on Exhibit D list)	70,860	$22,024.47	$0	2, 5	$22,024	$12,000,000	$18,000,000	$26,000,000
UNINCORPORATED COUNTY	174,257	$0.00	$2,037,149	3	$2,037,149	$37,000,000	$54,000,000	$81,000,000
Total County	1,153,561	$186,196	$9,140,674		$9,326,870	$450,000,000	$650,000,000	$1,000,000,000

Notes:

1. HUC-12 drains to Delta Waterways (Western Portion), not listed in Settlement Agreement Exhibit B, but is 303(d) listed for PCBs.

2. HUC-12 does not drain directly to the Bay.

3. HUC 12 contains and/or is immediately adjoining a 303(d) water body impaired by PCBs.

4. HUC-12 does not drain directly to the Bay, but contains a listed waterbody (Lafayette Reservoir).

5. Exhibit A is a list of class members receiving payout from the Monitoring Fund and Exhibit D is a list of class members receiving payout from the TMDL Fund.

Settlement Funds Apportioned to Permittees (Revised)

Monsanto PCBs Settlement Agreement Dated June 17, 2021

Permittee (Class Member)	Population	Monitoring Fund	TMDL Fund	Note	Total Monsanto Payout (Monitoring + TMDL Fund)	Total Estimated Cost to Achieve TMDL in 2022 Dollars (2020-2040 GSI + Remaining Cost Apportioned by Old Industrial Area)		
						Low	Medium	High
ANTIOCH	112,520	$0.00	$2,137,719	1	$2,137,719	$10,000,000	$15,000,000	$23,000,000
BRENTWOOD	65,118	$22,024.47	$4,012	1	$26,036	$10,000,000	$15,000,000	$23,000,000
CLAYTON (not on Exhibit A or D list)	11,337	$0.00	$0	2, 5	$0	$1,000,000	$2,000,000	$5,000,000
CONCORD	130,143	$32,024.47	$0	2	$32,024	$140,000,000	$190,000,000	$280,000,000
DANVILLE (not on Exhibit A or D list)	43,876	$0.00	$0	2, 5	$0	$6,000,000	$8,000,000	$12,000,000
EL CERRITO	24,953	$0.00	$310,316	3	$310,316	$16,000,000	$22,000,000	$32,000,000
HERCULES	25,530	$0.00	$312,976	3	$312,976	$3,000,000	$4,000,000	$6,000,000
LAFAYETTE (not on Exhibit D list)	25,604	$22,024.47	$0	4, 5	$22,024	$15,000,000	$24,000,000	$43,000,000
MARTINEZ	37,106	$0.00	$411,291	3	$411,291	$9,000,000	$13,000,000	$19,000,000
MORAGA (not on Exhibit D list)	16,946	$22,024.47	$0	2, 5	$22,024	$110,000	$220,000	$420,000
OAKLEY	42,461	$22,024.47	$42,441	1	$64,465	$18,000,000	$32,000,000	$57,000,000
ORINDA	19,009	$0.00	$189,967	3	$189,967	$12,000,000	$24,000,000	$47,000,000
PINOLE	19,505	$0.00	$286,305	3	$286,305	$6,000,000	$11,000,000	$22,000,000
PITTSBURG	74,321	$0.00	$115,492	3	$115,492	$41,000,000	$63,000,000	$101,000,000
PLEASANT HILL	34,267	$22,024.47	$254	3	$22,278	$17,000,000	$23,000,000	$35,000,000
RICHMOND	111,217	$0.00	$3,007,116	3	$3,007,116	$62,000,000	$89,000,000	$132,000,000
SAN PABLO	31,413	$0.00	$285,636	3	$285,636	$9,000,000	$13,000,000	$20,000,000
SAN RAMON (not on Exhibit D list)	83,118	$22,024.47	$0	2, 5	$22,024	$470,000	$730,000	$1,300,000
WALNUT CREEK (not on Exhibit D list)	70,860	$22,024.47	$0	2, 5	$22,024	$2,000,000	$3,000,000	$6,000,000
UNINCORPORATED COUNTY	174,257	$0.00	$2,037,149	3	$2,037,149	$66,000,000	$94,000,000	$137,000,000
Total County	1,153,561	$186,196	$9,140,674		$9,326,870	$450,000,000	$650,000,000	$1,000,000,000

Notes:

1. HUC-12 drains to Delta Waterways (Western Portion), not listed in Settlement Agreement Exhibit B, but is 303(d) listed for PCBs.

2. HUC-12 does not drain directly to the Bay.

3. HUC 12 contains and/or is immediately adjoining a 303(d) water body impaired by PCBs.

4. HUC-12 does not drain directly to the Bay, but contains a listed waterbody (Lafayette Reservoir).

5. Exhibit A is a list of class members receiving payout from the Monitoring Fund and Exhibit D is a list of class members receiving payout from the TMDL Fund.

ATTACHMENT C

Attachment C

Jurisdiction	2020-2040 GSI Planned Public Retrofit Projects[1]					Total Monsanto Payout (Monitoring Fund + TMDL Fund)	Estimated PCBs Load Reduced Using Total Monsanto Payout via Treatment by GSI (g/yr)[6]			Population (Jan. 1st, 2022)[7]	Percent of Total Population (%)	Old Industrial Land Use Area (Acre)[8]	Percent Old Industrial	Remaining Cost to Achieve the TMDL ($190M) Assuming Low GSI cost of $260M		Remaining Cost to Achieve the TMDL ($260M) Assuming Med GSI cost of $390M		Remaining Cost to Achieve the TMDL ($360M) Assuming High GSI cost of $640M		Total Estimated Cost to Achieve the TMDL (2020-2040 GSI + Remaining Cost Apportioned by Population)			Total Estimated Cost to Achieve the TMDL (2020-2040 GSI + Remaining Cost Apportioned by Old Industrial Area)		
	Total Area Treated (Acres)	PCBs Load Reduced (g/yr)	Total Project Cost (2022 dollars)[2]				Low Cost of $13M/g PCB/yr	Medium Cost of $20M/g PCB/yr	High Cost of $33M/g PCB/yr					by Population	by Old Industrial Area	by Population	by Old Industrial Area	by Population	by Old Industrial Area	Low	Medium	High	Low	Medium	High
			Low[3]	Medium[4]	High[5]																					
Antioch	14.0	0.0	$ 1,800,000	$ 3,500,000	$ 6,900,000	$ 2,137,719	0.16	0.11	0.06	112,848	9.8%	701	4.5%	$ 18,600,000	$ 8,600,000	$ 25,400,000	$ 11,700,000	$ 35,200,000	$ 16,000,000	$ 20,000,000	$ 29,000,000	$ 42,000,000	$ 10,000,000	$ 15,000,000	$ 23,000,000
Brentwood	49.9	0.0	$ 7,500,000	$ 12,000,000	$ 19,000,000	$ 26,036	0.00	0.00	0.00	66,097	5.7%	170	1.1%	$ 10,900,000	$ 2,100,000	$ 14,900,000	$ 2,800,000	$ 20,600,000	$ 3,900,000	$ 18,000,000	$ 27,000,000	$ 40,000,000	$ 10,000,000	$ 15,000,000	$ 23,000,000
Clayton	9.1	0.0	$ 1,200,000	$ 2,300,000	$ 4,500,000	$ -	0.00	0.00	0.00	11,268	1.0%	0	0%	$ 1,900,000	$ -	$ 2,500,000	$ -	$ 3,500,000	$ -	$ 3,000,000	$ 5,000,000	$ 8,000,000	$ 1,000,000	$ 2,000,000	$ 5,000,000
Concord	672.6	0.7	$ 110,000,000	$ 150,000,000	$ 220,000,000	$ 32,024	0.00	0.00	0.00	129,273	11.2%	2,584	16.6%	$ 21,300,000	$ 31,600,000	$ 29,100,000	$ 43,200,000	$ 40,300,000	$ 60,000,000	$ 131,000,000	$ 179,000,000	$ 260,000,000	$ 140,000,000	$ 190,000,000	$ 280,000,000
Danville	36.7	0.3	$ 6,100,000	$ 8,200,000	$ 12,000,000	$ -	0.00	0.00	0.00	43,906	3.8%	8	0.05%	$ 7,200,000	$ 100,000	$ 9,900,000	$ 100,000	$ 13,700,000	$ 200,000	$ 13,000,000	$ 18,000,000	$ 26,000,000	$ 6,000,000	$ 8,000,000	$ 12,000,000
El Cerrito	98.4	1.5	$ 16,000,000	$ 22,000,000	$ 32,000,000	$ 310,316	0.02	0.02	0.01	24,846	2.2%	13	0.1%	$ 4,100,000	$ 200,000	$ 5,600,000	$ 200,000	$ 7,800,000	$ 300,000	$ 20,000,000	$ 28,000,000	$ 40,000,000	$ 16,000,000	$ 22,000,000	$ 32,000,000
Hercules	3.9	0.1	$ 640,000	$ 860,000	$ 1,200,000	$ 312,976	0.02	0.02	0.01	25,864	2.2%	216	1.4%	$ 4,300,000	$ 2,600,000	$ 5,800,000	$ 3,600,000	$ 8,100,000	$ 5,000,000	$ 5,000,000	$ 7,000,000	$ 9,000,000	$ 3,000,000	$ 4,000,000	$ 6,000,000
Lafayette	101.6	1.4	$ 15,000,000	$ 24,000,000	$ 43,000,000	$ 22,024	0.00	0.00	0.00	25,358	2.2%	1	0.005%	$ 4,200,000	$ 9,000	$ 5,700,000	$ 13,000	$ 7,900,000	$ 18,000	$ 19,000,000	$ 30,000,000	$ 51,000,000	$ 15,000,000	$ 24,000,000	$ 43,000,000
Martinez	13.0	0.1	$ 1,700,000	$ 3,300,000	$ 6,400,000	$ 411,291	0.03	0.02	0.01	36,827	3.2%	582	3.7%	$ 6,100,000	$ 7,100,000	$ 8,300,000	$ 9,700,000	$ 11,500,000	$ 13,000,000	$ 8,000,000	$ 12,000,000	$ 18,000,000	$ 9,000,000	$ 13,000,000	$ 19,000,000
Moraga	0.9	0.0	$ 110,000	$ 220,000	$ 420,000	$ 22,024	0.00	0.00	0.00	16,820	1.5%	0	0%	$ 2,800,000	$ -	$ 3,800,000	$ -	$ 5,200,000	$ -	$ 3,000,000	$ 4,000,000	$ 6,000,000	$ 110,000	$ 220,000	$ 420,000
Oakley	104.2	0.3	$ 14,000,000	$ 26,000,000	$ 49,000,000	$ 64,465	0.00	0.00	0.00	42,895	3.7%	343	2.2%	$ 7,100,000	$ 4,200,000	$ 9,700,000	$ 5,700,000	$ 13,400,000	$ 7,900,000	$ 21,000,000	$ 36,000,000	$ 62,000,000	$ 18,000,000	$ 32,000,000	$ 57,000,000
Orinda	95.8	0.3	$ 12,000,000	$ 24,000,000	$ 47,000,000	$ 189,967	0.01	0.01	0.01	19,078	1.7%	0	0%	$ 3,100,000	$ -	$ 4,300,000	$ -	$ 6,000,000	$ -	$ 15,000,000	$ 28,000,000	$ 53,000,000	$ 12,000,000	$ 24,000,000	$ 47,000,000
Pinole	40.8	0.5	$ 5,300,000	$ 10,000,000	$ 20,000,000	$ 286,305	0.02	0.01	0.01	19,369	1.7%	71	0.5%	$ 3,200,000	$ 900,000	$ 4,400,000	$ 1,200,000	$ 6,000,000	$ 1,600,000	$ 9,000,000	$ 14,000,000	$ 26,000,000	$ 6,000,000	$ 11,000,000	$ 22,000,000
Pittsburg	174.2	2.3	$ 21,000,000	$ 36,000,000	$ 63,000,000	$ 115,492	0.01	0.01	0.00	74,498	6.5%	1,635	10.5%	$ 12,300,000	$ 20,000,000	$ 16,800,000	$ 27,300,000	$ 23,200,000	$ 38,000,000	$ 33,000,000	$ 53,000,000	$ 86,000,000	$ 41,000,000	$ 63,000,000	$ 101,000,000
Pleasant Hill	104.5	1.3	$ 17,000,000	$ 23,000,000	$ 34,000,000	$ 22,278	0.00	0.00	0.00	34,133	3.0%	24	0.2%	$ 5,600,000	$ 300,000	$ 7,700,000	$ 400,000	$ 10,600,000	$ 600,000	$ 23,000,000	$ 31,000,000	$ 45,000,000	$ 17,000,000	$ 23,000,000	$ 35,000,000
Richmond	70.4	4.8	$ 9,500,000	$ 17,000,000	$ 32,000,000	$ 3,007,116	0.23	0.15	0.09	110,130	9.5%	4,321	27.8%	$ 18,100,000	$ 52,800,000	$ 24,800,000	$ 72,200,000	$ 34,400,000	$ 100,000,000	$ 28,000,000	$ 42,000,000	$ 66,000,000	$ 62,000,000	$ 89,000,000	$ 132,000,000
San Pablo	53.1	0.9	$ 8,500,000	$ 12,000,000	$ 19,000,000	$ 285,636	0.02	0.01	0.01	31,041	2.7%	53	0.3%	$ 5,100,000	$ 600,000	$ 7,000,000	$ 900,000	$ 9,700,000	$ 1,200,000	$ 14,000,000	$ 19,000,000	$ 29,000,000	$ 9,000,000	$ 13,000,000	$ 20,000,000
San Ramon	2.1	0.0	$ 270,000	$ 530,000	$ 1,000,000	$ 22,024	0.00	0.00	0.00	83,863	7.3%	14	0.1%	$ 13,800,000	$ 200,000	$ 18,900,000	$ 200,000	$ 26,200,000	$ 300,000	$ 14,000,000	$ 19,000,000	$ 27,000,000	$ 470,000	$ 730,000	$ 1,300,000
Walnut Creek	16.6	0.5	$ 770,000	$ 1,900,000	$ 3,900,000	$ 22,024	0.00	0.00	0.00	71,317	6.2%	85	0.5%	$ 11,700,000	$ 1,000,000	$ 16,100,000	$ 1,400,000	$ 22,300,000	$ 2,000,000	$ 12,000,000	$ 18,000,000	$ 26,000,000	$ 2,000,000	$ 3,000,000	$ 6,000,000
Unincorporated County	61.1	4.4	$ 8,520,000	$ 15,100,000	$ 26,700,000	$ 2,037,149	0.16	0.10	0.06	174,423	15.1%	4,737	30.4%	$ 28,700,000	$ 57,900,000	$ 39,300,000	$ 79,200,000	$ 54,400,000	$ 110,000,000	$ 37,000,000	$ 54,000,000	$ 81,000,000	$ 66,000,000	$ 94,000,000	$ 137,000,000
Total	*1,723*	*19.5*	$ 260,000,000	$ 390,000,000	$ 640,000,000	$ 9,326,870	0.72	0.47	0.28	1,153,854	100.0%	15,558	100.0%	$ 190,000,000	$ 190,000,000	$ 260,000,000	$ 260,000,000	$ 360,000,000	$ 360,000,000	$ 450,000,000	$ 650,000,000	$ 1,000,000,000	$ 450,000,000	$ 650,000,000	$ 1,000,000,000

Notes:

[1]GSI Projects from the Permittees' respective GSI Plans

[2]Total Project Cost includes the capital costs and annual O&M costs over the design life of the project. A 20-year design life and a 3% inflation rate were used to calculate the total present value of the annualized O&M costs. Unit project capital costs based on the GSI Project Category: Green Street, Distributed (Parcel), or Regional Project

[3]Low unit project costs are: $70k, $90k, and $25k per acre treated for Green Street, Distributed, and Regional projects, respectively (2018 dollars escalated to 2022 dollars)

[4]Medium unit project costs are: $137k, $121k, and $61k per acre treated for Green Street, Distributed, and Regional projects, respectively (2018 dollars escalated to 2022 dollars)

[5]High unit project costs are: $267k, $176k, and $127k per acre treated for Green Street, Distributed, and Regional projects, respectively (2018 dollars escalated to 2022 dollars)

[6]Unit cost per g/yr calculated from the countywide total project cost via public retrofit divided by the total countywide PCBs load reduced, 2020-2040. 670 g/yr is the load reduction goal starting from 2020 to achieve TMDL.

[7]Population estimate based on State of California Department of Finance (E-1) City/County projections- January 1, 2022.

[8]Total Old Industrial Area (Parcels and ROW)

CONTRA COSTA CLEAN WATER PROGRAM

Date: May 18, 2022

To: Management Committee

From: Karin Graves, Acting Program Manager

Subject: AGOL Needs Assessment Report and Next Steps

Recommendation:
Consider the AGOL Needs Assessment Report, provide any comments and direction to staff, and approve and/or amend the recommended next steps described in this staff report.

Background:
In October 2021, Contra Costa Clean Water Program (Program) staff received approval from the Management Committee to begin an assessment of the ArcGIS Online System (AGOL) currently used by the Program and its participating agencies. The purpose of this assessment was to determine future needs and modifications to meet requirements of the new municipal regional stormwater permit and to facilitate an improved user experience. Elizabeth Yin of Larry Walker and Associates was chosen to lead the assessment. Between the months of December 2021 and May 2022, an AGOL Workgroup was formed and the group developed a survey, a list of recommendations, and drafted the attached report that assessed the Program's AGOL needs.

Report Recommendations and Next Steps:
The AGOL workgroup and its report provided the following four recommendations:

1. Continue to maintain the AGOL Workgroup to provide testing, input and direction on technical issues, provide recommendations for policy-related decisions, and to help improve the AGOL system and user experience for all Permittees.

2. Retain LWA staff, Elizabeth Yin, as the Program staff liaison to lead the AGOL Workgroup, direct the implementation of AGOL, keep track of technical needs, ensure that the AGOL contractor is conducting technical fixes within schedule and budget, and report out to Program committees.

3. Prioritize and address the list of technical issues identified in the attached *May 2022 AGOL Needs Assessment Report.*

4. Conduct a review of available alternative GIS systems and web applications in order to inform the development of RFPs for the eventual contract completion of the current AGOL contractor.

Program staff worked with Elizabeth and the AGOL Workgroup to identify the following next steps that would occur after completion of the AGOL Needs Assessment Report:

- **Finalize Costs and Approve Funding:** Program Staff will review the draft budget presented in the Fiscal Impact Section and make a recommendation to the Management Committee to approve an additional $35,000 in budget identified as needed for FY 2022-2023.
- **Continuing the AGOL Workgroup:** The AGOL Workgroup Staff lead will schedule additional AGOL Workgroup meetings, expected to meet once per month until December 2022. Following December 2022, AGOL Workgroup meetings will be held on a quarterly basis. The meeting schedule will be incorporated into Groupsite, such that reminders and access are available to all Permittees.
- **RFQ/RFP Development**: The AGOL Workgroup will also assist the Program in developing the RFQ/RFP to solicit AGOL services. With the scheduled expiration of the Psomas contract on June 30, 2023, the timeline for generating RFP for a new contract will begin in August 2022. Language and specifications for the RFP will be developed by the Work Group and reviewed by the Management Committee. Members of the Workgroup may be asked to participate in the selection process.
- **Addressing Technical Issues and Future Needs:** The AGOL Workgroup will continue to address high priority technical issues and work with Psomas to address these issues in the near-term. Following the approval of the recommendations and the associated fiscal implications, the AGOL Workgroup will continue to work on addressing key priorities identified through the AGOL Needs Assessment Process, including the development of a decision-making framework for evaluating future needs associated with MRP 3.0 and developing the corresponding web applications.

Fiscal Impact:

For the remainder of Fiscal Year 2021-2022, there are no additional fiscal impacts expected. This report recommends the unspent funds from the AGOL Needs Assessment (approx. $20,000) to be expended in completing and tracking some of the higher-level tasks in the list of needs/technical issues, as well as facilitating the Workgroup for the remaining calendar year. If Management Committee approves the current recommendations, staff estimates adding $35,000 to the budget for FY 2022-2023. Staff will work with the Management Committee to determine when the budget adjustment will be made as it may be combined with

other budget adjustments. This amount assumes staff time required for augmented staff to 1) lead and facilitate the Work Group, 2) coordinate GIS needs with MOC/Monitoring/Development Committees, 3) coordinate needs and adjustments with Psomas, 4) review MRP 3.0 and develop a list of Program needs, 5) participate in the development of the RFQ/RFP for AGOL services, including developing language for the RFQ and reviewing any potential bids received.

Attachments:
May 2022 AGOL Needs Assessment Report

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CONTRA COSTA CLEAN WATER PROGRAM

Karin Graves
Acting Program Manager

AGOL Needs Assessment Report

For the
Contra Costa Clean Water Program

By
Karin Graves, Acting Program Manager

May 2022

Executive Summary

Summary. In October 2021, Contra Costa Clean Water Program (Program) staff received approval from the Management Committee to begin an assessment of the ArcGIS Online System (AGOL) currently used by the Program and its participating agencies. The purpose of this assessment was to determine future needs and modifications to meet requirements of the new municipal regional stormwater permit and to facilitate an improved user experience. Between the months of December 2021 and May 2022, an AGOL Workgroup was formed and the group developed a survey, a list of recommendations, and drafted this report that assessed the Program's AGOL needs.

The AGOL Workgroup was formed by soliciting volunteers from Program members who have user accounts in AGOL. The AGOL Workgroup developed a survey that focused questions on the satisfaction with the AGOL applications and desires. The responses to the survey provided important feedback to help the AGOL Workgroup identify critical needs and to establish both near-term and long-term recommendations. The overall themes identified in the survey responses are detailed in this report, while specific technical issues are identified in **Attachment 3.**

Report Recommendations. This report represents the AGOL Needs Assessment that was completed by Program staff. Overall, the AGOL Workgroup and Program staff have identified the following recommendations:

1. Continue to maintain the AGOL Workgroup to provide testing, input and direction on technical issues, provide recommendations for policy-related decisions, and to help improve the AGOL system and user experience for all Permittees.

2. Retain LWA staff, Elizabeth Yin, as the Program staff liaison to lead the AGOL Workgroup, direct the implementation of AGOL, keep track of technical needs, ensure that the AGOL contractor is conducting technical fixes within schedule and budget, and report out to Program committees.

3. Prioritize and address the list of technical issues identified in **Attachment 3**.

4. Conduct a review of available alternative GIS systems and web applications in order to inform the development of RFPs for the eventual contract completion of the current AGOL contractor.

Overview

Background. In 2015, the Program began working with an outside consultant, Psomas, to develop a stormwater geospatial information system (GIS) pilot system using the ESRI Arc GIS Online (AGOL) application to meet the requirements of the municipal regional permit (MRP) 2.0. AGOL was set up at the same time and in a similar manner to the Alameda County Clean Water Program's (ACCWP) AGOL system. While the Program continues to use AGOL to meet some permit mapping and reporting requirements and has made some minor modifications to the system, there have been larger modification needs noted over the last few years. Additionally, AGOL has changed and been updated by ESRI since the creation of the CCCWP platform. In anticipation of new mapping and reporting requirements in MRP 3.0, the Program decided to hold off on doing an assessment of AGOL issues and needs until the requirements of MRP 3.0 were solidified. With that in mind, the fiscal year (FY) 2021-22 budget includes a line item to fund an assessment of the Program's AGOL system. Following the issuance of the MRP 3.0 Tentative Order, staff received approval from the Management Committee to begin the assessment of AGOL.

Current System. Permittees currently rely on AGOL to track Hg/PCBs load reductions through GI projects and Source Property referrals to help demonstrate compliance with Provision C.3 and Provisions C.11/C.12. Permittees also use AGOL to track trash load reduction and demonstrate compliance with Provision C.10.

The system has been used for developing maps for the Stormwater Resources Control Plans, Hydromodification and Private Lands Drainage Area, all of which required submittals in MRP 2.0, but are not used currently, other than reference.

There are currently 6 ArcGIS Online applications that Permittees use in order to track and report on compliance with MRP 2.0.

***C.3 Project Tracking Application*:** Desktop application that Permittees use to enter the location and other identifying information of their C.3 regulated projects, green street projects, and their associated facilities. Once the data is entered in AGOL, it has to be downloaded by another consultant who compiles the information to calculate and report on Hg/PCBs from green stormwater infrastructure and full trash capture devices. Maps for this app are generally not visually useful at a City/Town/County-wide scale.

Trash Reporting and Analysis Application (Trash App): Desktop application that Permittees use to monitor and calculate trash load percent reductions based on installations of full trash capture devices and drainage areas and results of on-land visual trash assessments (OVTAs). Trash data has to be downloaded from this Trash Application also, separately, to claim credits for Hg/PCBs loads reduced. Permittees use the application to enter data on installed trash capture devices, delineate trash capture device drainage areas, and activate assessment points for OVTAs. Until July 2016, Permittees had also used the

app to correct baseline trash generation rates of individual parcels. Once the data is entered in AGOL, users can export data in the form of a spreadsheet that calculates the estimated percentages of trash load reduction achieved relative to the 2009 baseline trash generation map. The map produced from this app is a 2009 baseline map and does not show a real-time trash reduction for an agency.

Field Maps **(previously Collector)** Tablet-enabled application that accompanied the *Trash App*, primarily developed for use in the following *in situ* field tasks.

> *Trash Capture Device Inspection*: to record the inspections of trash capture devices. Permittee may export the data to an Excel spreadsheet to help report on number/percent of trash capture devices found to be plugged, more than 50% full, etc.
>
> *Trash Assessment*: to record On-Land Visual Trash Assessments. The results of the trash assessments are used to calculate percent reduction from implementing control measures other than full trash capture.

Private Lands Drainage Area (PLDA) Editor: Desktop application that identified potential PLDAs (i.e. lands greater than 10,000 square feet with a moderate or higher trash generation rate and not under full trash capture). Permittees performed a desktop analysis on these potential PLDAs and either excluded them based on a number of criteria or created preliminary PLDAs that warranted investigation in the field. PLDA maps were submitted with Permittees FY 2018 Annual Reports but otherwise, this application has not been used with any regularity.

Field Maps **(previously Collector)** Tablet-enabled application that accompanied the PLDA Editor, primarily developed for use in *in situ* field conditions.

> *PLDA Visual Assessments and Storm Drain Inlets*: Used to record areal-based OVTAs (separate and distinct from the linear-based OVTAs and at this time not associated with any percent reduction) and map location of private storm drain inlets.
>
> *PLDA Events*: To track progress of PLDAs towards becoming low trash generating areas. Includes fields on property owner, contact information, control measures to be implemented, schedule of implementation, etc.

PCBs Reporting and Analysis Application: This desktop application was the pilot project for the CCCWP GIS platform, used to create Watershed Management Areas (WMA) for addressing PCBs at the beginning of MRP 2.0. Maps of WMAs were submitted to Water Board with FY 2016 Annual Report. Since then, pollutant load reduction data is collected

through the C.3 and C.10 applications. Currently, this app is not used and is not included as a tab on the StoryMaps (login) page.

To calculate loads for Hg/PCBs loads reduced, data from both the C.3 Tracking Tool and the Trash applications need to be downloaded by another consultant into their system to produce maps and before being calculated and maps being produced for reporting purposes.

Staff and Participants. Elizabeth Yin of Larry Walker and Associates was chosen to lead the project. She has an extensive GIS background and was chosen for the Municipal Operations Committee staff augmentation role with her GIS background in mind. Beth Baldwin of Contra Costa County Watershed Program also volunteered to provide input for the AGOL assessment. Beth previously oversaw AGOL development for both the CCCWP and the ACCWP. Additional representatives from the Program's participating agencies were solicited through the identification of active users currently registered to AGOL. Participants and their associations are identified in the table below:

Workgroup Members	
Contra Costa County Watershed Program	Beth Baldwin (Co-Lead)
Contra Costa County Watershed Program	John Steere
Contra Costa County Public Works IT	Chris Hallford
City of Pittsburg	Joe Camaddo
City of San Ramon	Shane Hsieh
City of Walnut Creek	Mojgan Rahimi
City of Walnut Creek	Lucile Paquette
Contra Costa Clean Water Program	Karin Graves
Dan Cloak Environmental Consulting, Program Consultant	Dan Cloak
Larry Walker Associates, Program Consultant	Alina Constantinescu
Larry Walker Associates, Program Consultant	Liz Yin (Lead)
Geosyntec Consultants, Program Consultant	Lisa Austin
Geosyntec Consultants, Program Consultant	Lisa Welsh
Kennedy & Associates	Andrew Kennedy

Timeline. Staff began to work on the assessment in December 2021, starting with invitations to join the ad hoc GIS workgroup. In January 2022, the ad hoc AGOL Workgroup had a kickoff meeting to identify the goals of the project and establish a schedule for completion of the work. Survey questions were drafted by Program staff and reviewed and edited by members of the AGOL Workgroup during the month of February 2022. Surveys were distributed to Management Committee as well as all active members of AGOL for a period of two weeks. Following the survey period, the AGOL Workgroup convened to review the results and develop recommendations. Key and notable dates are identified below:

Date	Purpose
January 13, 2022	AGOL Workgroup Meeting
February 10, 2022	AGOL Workgroup Meeting
February 14, 2022	Survey Distributed
February 28, 2022	Survey Closed
March 10, 2022	AGOL Workgroup Meeting
April 5, 2022	Draft Report Developed
April 14, 2022	AGOL Workgroup Meeting
May 18, 2022	Management Committee Meeting

AGOL Needs Assessment Survey Development

Survey Objectives. The AGOL Needs Assessment effort began by defining the problem and identifying objectives, both from the perspective of Permittees and Program staff. These objectives were established by Program staff for Management Committee approval, and were expanded upon at the initial AGOL Workgroup meeting, held on January 13th, 2022. This step ensured that the eventual work product would meet Management Committee expectations, and established a narrow focus of achievable goals for assessing AGOL needs. The goals of this assessment are identified in the next section.

Goals. The goals of the AGOL Needs Assessment were to identify the following:

- What works and what doesn't work for users;
- Modifications and customizations that would improve the AGOL system, as well as its products and product aesthetics;
- System needs based on MRP 3.0 requirements; and
- What staff support is needed to have an improved AGOL experience and product, including how and what type of support Permittees will need and to estimate a budget for improvements, if possible.

Process. The assessment process was structured as follows:

- Staff will form small ad hoc GIS Workgroup with GIS knowledgeable or interested Permittees – all active AGOL users will be invited to participate. Invite County Department of Information Technology representatives and County Public Works Department GIS staff to join and provide input once the work has been established.
- CCCWP Staff will draft a user survey with questions related to the AGOL assessment's goals.

- CCCWP Staff will work with the GIS Workgroup to receive input on the process and review the survey questions.
- Conduct a survey of all active AGOL users.
- GIS Workgroup will review survey results and MRP 3.0 needs then identify and prioritize solutions and modifications to AGOL that are desired.
- CCCWP Staff will draft a summary report for ad hoc GIS Workgroup review.
- Provide final report and recommendations to the CCCWP Management Committee.

AGOL Needs Assessment Survey. With feedback and direction from the AGOL Workgroup, Program staff developed an initial list of survey questions structured for an audience of Permittee representatives that captured several themes, including the current level of satisfaction of AGOL applications, specific feedback on AGOL applications associated with each permit provision, a review of current staff and technical support services, and assessment of future needs. The initial list of survey questions was provided as an editable document to the workgroup members, and a period of 2 weeks was allowed for review and editing of the survey questions. Once the review period passed, Program staff took the questions and developed a survey format through Microsoft Forms. At the next AGOL Workgroup meeting, the workgroup members reviewed the draft survey format and provided feedback. Corrections were made to the Form, and Program staff distributed the AGOL Needs Assessment survey on February 14th, 2022 to active users of the AGOL system, as well as all representatives associated with Management Committee. The survey was distributed and open for submittals until the end of February 2022. A copy of the final list of questions distributed via Forms is included as **Attachment 1.**

Assumptions and Limitations. It should be noted that the survey was developed for the Permittees in general, as an audience. The Workgroup acknowledged early on that the participants may have different technical expectations for the AGOL system from those who aren't using this or other mapping tools regularly, and that considerations for permit requirements, shared programmatic resources, and implementation of technical tools may likely differ. As such, the survey was developed along a line of questioning that reflected more the purpose, function, and Permittee satisfaction with the current AGOL system, and de-emphasized specific technical fixes or debugging of existing interfaces. Given the composition of the AGOL Workgroup, it was assumed that the technical fixes would be developed either through a survey of the AGOL Workgroup only, or through input from the AGOL Workgroup throughout the AGOL Needs Assessment process.

CONTRA COSTA CLEAN WATER PROGRAM

AGOL Needs Assessment Survey Results

Summary. Overall, a total of 11 respondents provided feedback to the AGOL Needs Assessment survey. The responses provided important detail and feedback to help the AGOL Workgroup identify critical needs and develop a pathway forward for delivering recommendations to Management Committee. Several critical themes emerged from the responses including consistency, functionality, technical issues, future needs, staff support, which are described and addressed in the sections below. Complete, summarized, and anonymized responses to the survey are included as **Attachment 2.**

Consistency. The respondents of the survey highlighted a strong need to improve consistency across the applications available in AGOL. For example, the user interface between the C.3 and C.10 web applications are different, with the same tools or access features located in different places in the user interface. This creates confusion, particularly for the user types who use the applications infrequently, making it difficult and/or cumbersome to have to relearn the application and its tools during every use. In addition, the web application for each provision has different base layers, even in instances where there is shared data. As an example of this issue with consistency, the respondents highlighted the Drainage Area layer. Drainage Areas are delineated by Permittees for installed devices under Provision C.3, and are also delineated by Permittees for installed devices under Provision C.10. However, the same underlying layer for Drainage Area is not shared between the two web applications. This requires Permittees to delineate drainage areas twice, leading to the potential for increased mistakes, difficulty performing QA/QC, and duplicative work and effort required to update the web applications. These examples underscore the need for there to be greater consistency between the web applications that go beyond just the layout of the user interface, but also consider the underlying architecture and purpose of the AGOL web applications.

Functionality. One of the key themes of the survey responses was the idea of functionality. Several respondents highlighted a critical need for the AGOL web applications to provide greater functionality than currently available. Some functions that are not currently available to Permittees include: the ability to import/export spatial data to include local information, integration of Permittee-developed applications and/or spatial data, the ability to manipulate symbology and re-order feature layer attributes/characteristics while displayed, the ability to reduce the number of non-useable layers. In addition, while the C.3 and C.10 applications were initially designed to generate specific outputs to be included with Permittee annual reports, the usefulness of the existing applications have been outpaced and/or mismatched by the evolving needs of the Permittees This sentiment is reflected in the respondents' desire to manipulate, edit, alter, and transform their own data. Since the existing applications will need to be updated in response to MRP 3.0 and Permittee comfort with AGOL has increased, any revisions or updates to the applications will need to

address the functions, purpose, and architecture of AGOL web applications as currently designed while continuing to produce the required reports.

Technical Issues. Both respondents to the survey and members of the AGOL Workgroup identified a number of technical issues that require modification or adjustment. Detailed records of the requested technical fixes, including specific modifications to each AGOL web application, **are included as Attachment 3**. Generally, the technical issues can be categorized as follows:

- Symbology – Adjust the representation of spatial data layers within each web application in order to more clearly identify information, create contrast, and reduce overlap in the visual representation of data. Modifications include adjusting color ramps, symbols, and labels.
- Field/Attribute Data – Reduce or modify the number and type of attributes required for entering data, both in the field app and web applications, in order to display pertinent data and simplify user effort.
- Web Application User Interface – Modify or streamline elements of the web application to enhance user experience. Examples include: adjusting the view of on-screen widgets, modifying layers on display to reduce visual noise and increase useful information, incorporate on-screen tutorials when entering specific data, scale and relevancy of spatial layers on display.
- Add/Remove Spatial Data – Add Permittee specific or countywide spatial data layers to increase functionality of existing web applications. Some spatial data types include: storm drain system, PCB/Hg sampling data, CALTRANS right of ways, private land drainage areas.

Future Needs. Portions of the survey were developed to investigate Permittee needs either to directly address future MRP 3.0 permit obligations, or to enhance continuing obligations. Features identified as having the potential to be beneficial are described below:

- **Dashboards / Viewing Data –** While the current web applications were developed to allow data input required for developing annual reporting information, survey respondents are overwhelmingly interested in accessing their data in real-time and using spatial information to make more informed management decisions. Dashboards, such as a report of the current number of trash capture devices inspected, are an example of an available feature that could be leveraged in the AGOL application to improve the user experience of the AGOL platform. Survey respondents also expressed a more general desire to be able to view and manipulate data more easily. While dashboards represent one method for obtaining real-time data, expanding access to data through the use of a web map, as opposed to an application, could allow users to manipulate and visualize their current data in a more flexible, accessible and efficient interface.
- **Inspections Data –** Respondents expressed interest in leveraging the existing web applications to enhance their inspections programs in accordance with both C.3 and

C.10 provisions. Existing inspections data for installed devices can be used to develop new methods of displaying the current status of annual or permit-term maintenance through AGOL symbology, such as a color representing inspection or maintenance needed or not.

- **Trash Full Capture Infeasibility –** Survey respondents were in favor of developing an additional spatial data input layer in response to MRP 3.0 requirements to identify areas that are impracticable for installing full trash capture devices (MRP 3.0 Provision C.10.e.). Similar to inputting data on drainage areas, this input data layer would ideally be editable by Permittees and displayed on the Trash application.
- **Trash Assessment Progress Report –** Survey respondents and participants in the AGOL Workgroup have discussed the need to obtain more and better useable information from the Trash Load Reduction reporting application. Although the application as designed provides output information corresponding to annual report tables and graphics, respondents identified a critical need for real-time and visual information to assess current progress. While Permittees can currently run tabular reports for their trash load reduction programs at any point in time, the principal need is visual. The desire is for the AGOL application to produce a visual geographic representation, such as displaying a map of current trash levels/scores in a DMA. Features like this could provide the desired ability to pinpoint locations for enhanced trash load reduction programs or other management actions.

Staff Support. The survey included questions regarding the current level of satisfaction with program staff support and technical support. While the majority of respondents expressed satisfaction with program staff support, including program consultants, there were notable comments regarding the satisfaction with the AGOL contractor, Psomas. Survey respondents noted that, while Psomas developed the web applications and holds on to the data generated by Permittees, they also serve a technical role in the data management. What Psomas is not able to do is interpret the needs of the Permittees as it relates to the MRP, and has not been able to anticipate or provide for increased needs. In addition, several respondents noted that Psomas' responsiveness to simple technical problems is highly variable, and that they require very specific direction in order to fix any issues. Finally, quality control processes have not been developed or performed by Psomas, which has led to errors in Annual Reporting tables and calculations, as well as inefficient and frustrating user experiences at times.

Recommendation to the Management Committee

1. Continue to maintain the ad hoc AGOL Workgroup. Given the number of issues currently experienced with the AGOL System, Permittee input on technical fixes, policy-related decisions, and desire to improve the system, this assessment highlights a continuing need for Permittee participation in on-going assessment of

AGOL needs. While the AGOL Workgroup may not need to meet as frequently as the schedule used to develop this Report, quarterly touchpoints for providing feedback and updates regarding technical needs would provide value to both Permittees and the Program. Continuing the AGOL Workgroup would also allow for the development of future needs in response to MRP 3.0.

2. Retain LWA staff, Elizabeth Yin, as the Program staff liaison to lead the AGOL Workgroup, direct the implementation of AGOL, keep track of technical needs, ensure that the AGOL contractor is conducting technical fixes within schedule and budget, and report out to Program committees. This recommendation from the AGOL Workgroup partially supports the unmet needs identified by the Staffing Plan Report (April 2018), which identified the need for a "GIS" staff position. While a permanent staff position would be ideal, retaining Elizabeth Yin in this position would allow for continuity of the Workgroup as well as continuity in working with the current GIS contractor to address ongoing issues.

3. Use the time remaining in FY 2021/22 to work through as many of the technical issues as possible, and for any remaining technical issues to be resolved through the use of Psomas' contract into FY 2022/23. Both the survey respondents and the AGOL Workgroup have identified a number of necessary technical fixes for existing problems. The current list of technical issues and requests for solutions can be found in **Attachment 3**.

4. Continue to evaluate the functionality of AGOL, and to determine if it continues to be the correct tool for the needs of Permittees implementing MRP 3.0. As part of this recommendation, the AGOL Workgroup may need to consider research into additional consultants who may provide technical expertise or services related to maintaining AGOL systems, and/or determine if the AGOL system is the best system for the needs of Permittees. In addition, the continued evaluation of AGOL can work to inform any future GIS system planning or development efforts, particularly when developing RFPs for the eventual current contract completion.

Conclusion. Overall, the responses received from the survey confirmed the need for ongoing GIS support and indicated a strong need to spend concerted effort in addressing known technical challenges to the AGOL System.

Limitations of Reports and Analysis

The limitations of the AGOL Needs Assessment revolve primarily around limited survey participation.

Survey Participation. As noted in the previous section, the survey received only 11 responses from active AGOL users and members of Management Committee. While the AGOL workgroup was representative of multiple Permittees in Contra Costa County, and the distribution of the survey was broad, the level of participation in the survey was limited. It's possible that the timing of the survey, the two-week window for completion, and the complexity of the topics described in the survey, provided barriers to wider participation in the survey. Despite these potential limitations, the similarity in the type of feedback received as well as the overall themes indicate that the responses received were strongly reflective of Permittee satisfaction with the AGOL System. Moving forward, input and feedback can be directed through participation in the AGOL Workgroup and/or by contacting Program staff. Updates and recommendations to Management Committee will be provided when major policy decisions, including budgets and contracting, are involved.

Next Steps and Costs

The AGOL Workgroup has identified a series of next steps that would occur following the approval of this report's recommendations by the Management Committee:

- **Finalize Costs and Approve Funding:** Program Staff will review the draft budget presented in the Fiscal Impact Section and make a recommendation to the Management Committee to approve the additional budget identified for FY 2022-2023.
- **Continuing the AGOL Workgroup:** The AGOL Workgroup Staff lead will schedule additional AGOL Workgroup meetings, expected to meet once per month until December 2022. Following December 2022, AGOL Workgroup meetings will be held on a quarterly basis. The meeting schedule will be incorporated into Groupsite, such that reminders and access are available to all Permittees.
- **RFQ/RFP Development**: The AGOL Workgroup will also assist the Program in developing the RFQ/RFP to solicit AGOL services. With the scheduled expiration of the Psomas contract on June 30, 2023, the timeline for generating RFP for a new contract will begin in August 2022. Language and specifications for the RFP will be developed by the Work Group and reviewed by the Management Committee. Members of the Workgroup may be asked to participate in the selection process.
- **Addressing Technical Issues and Future Needs:** The AGOL Workgroup will continue to address high priority technical issues and work with Psomas to address these issues in the near-term. Following the approval of the recommendations and the associated fiscal implications, the AGOL Workgroup will continue to work on addressing key priorities identified through the AGOL Needs Assessment Process, including the development of a decision-making framework for evaluating future needs associated with MRP 3.0 and developing the corresponding web applications.

Fiscal Impact

For the remainder of Fiscal Year 2021-2022, there are expected to be no additional fiscal impacts. This report recommends for the unspent funds from the AGOL Needs Assessment (approx. $20,000) to be expended in completing and tracking some of the higher-level tasks in the list of needs/technical issues, as well as facilitating the Workgroup for the remaining calendar year. If Management Committee approves the current recommendations, staff estimates adding $35,000 to the budget for FY 2022-2023. Staff will work with the Management Committee to determine when the budget adjustment will be made as it may be combined with other budget adjustments. This amount assumes staff time required for augmented staff to 1) lead and facilitate the Work Group, 2) coordinate GIS needs with MOC/Monitoring/Development Committees, 3) coordinate needs and adjustments with Psomas, 4) review MRP 3.0 and develop a list of Program needs, 5) participate in the development of the RFQ/RFP for AGOL services, including developing language for the RFQ and reviewing any potential bids received.

Attachments:

1. Final AGOL Survey Questions (2022-03-21)
2. AGOL Survey Consolidated Results (2022-03-03)
3. Technical Issues

File Location: G:\NPDES\GIS\AGOL Assessment 2021-2022\Trash Committee\Documents\Final Draft Documents\Final Draft AGOL Needs Assessment (20220510)_clean.docx

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Attachment 1:
Final AGOL Survey Questions

AGOL Survey and Needs Assessment

The AGOL Workgroup at the Contra Costa Clean Water Program (CCCWP) needs your help to assess current ArcGIS online capabilities, identify needs, and develop recommendations. Your feedback is incredibly valuable to addressing existing challenges and developing new features and improvements.

Please complete this survey to the best of your ability.

Estimated time to completion is 15 minutes.

The AGOL Survey and Needs Assessment covers 7 different categories:
- Overall Satisfaction
- C.3 GI Project Tracking Application
- C.11/12 PCBs Reporting and Analysis
- C.10 Trash Reporting Applications
- Field Maps Application
- Staff/Technical Support
- Future Needs

If you have any questions, please contact Elizabeth Yin (Elizabeth.Yin@pw.cccounty.us (mailto:Elizabeth.Yin@pw.cccounty.us))

* Required

1. Name: *

2. Organization: *

3. Email address: *

Overall Satisfaction with AGOL

Please use the questions in this section to evaluate your current level of satisfaction with the existing AGOL applications, including those used for C.3. GI Project Tracking, C.11/C.12 PCBs Reporting and Analysis, C.10 Trash Reporting, and Collection/Field Maps applications. Specific questions on each application will be asked in other sections of this survey.

4. Organization of AGOL Applications

Please rate the organization of application features using the options below. Please select one for each option.

	Difficult	Moderately Difficult	Neutral	Easy	Very Easy
Locating the App/Map	○	○	○	○	○
Inputing/editing data	○	○	○	○	○
Developing a Report	○	○	○	○	○
Finding Information	○	○	○	○	○
Exporting Data	○	○	○	○	○

5. Do you find it easy to use the apps?

E.g. Is there enough consistency between apps, the tools, editing, visual ease/clarity, default settings

- ☐ Yes
- ☐ No
- ☐ Maybe
- ☐ Other

6. Is the formatting and consistency between apps satisfactory?

E.g. Is there enough consistency between apps, the tools, editing, visual ease/clarity, default settings

- [ ] Yes
- [ ] No
- [ ] Maybe
- [ ] Other

7. Are there additional layers or features you would like to see in the applications?

Describe layers/features that you'd like to see or access in AGOL.

8. Do the apps provide what you'd want in a tracking tool?

If not, what would you like to see?

9. Do you need training on the use of any specific apps or functions of the apps?

   If so, please describe the desired training below.

10. Please use the space below to include other comments on your overall satisfaction with AGOL.

C.3. GI Project Tracking Tool

Please use the questions in this section to evaluate your current level of satisfaction with the C.3 GI Project Tracking Tool.

11. What level of frequency do you use the C.3 GI Project Tracking Tool?

- ○ Daily
- ○ 1-2x per week
- ○ 1-2x per month
- ○ During Annual Reporting Only
- ○ Not at all

12. Are you counting GI facilities for Full Trash Capture (and know how to make sure you get this credit?)

- ○ Yes
- ○ No
- ○ Maybe
- ○ Other

13. Do you envision using the AGOL or collector app for documenting O&M inspections? (See Collector/Field Maps section)

- ○ Yes
- ○ No
- ○ Maybe

14. Are you using the C.3 GI Project Tracking Application to meet annual reporting requirements for Regulated and non-regulated projects?

- ○ Yes
- ○ No
- ○ Maybe
- ○ Other

15. Would you implement a Detailed Project option where each stormwater treatment facility is associated with its tributary Drainage Management Area(s)? Would you do this if your applicants submitted electronic output files from the IMP Sizing Calculator that could be directly incorporated into AGOL?

- ☐ Yes
- ☐ No
- ☐ Maybe
- ☐ Other

16. What are your high-priority technical issues/concerns?

17. Please use the space below to include other comments on the C.3 GI Project Tracking Application.

C.11/12 PCBs Reporting and Analysis

Please use the questions in this section to evaluate your current level of satisfaction with the C.11/12 PCBs Reporting and Analysis Application.

18. What level of frequency do you use the C.11/12 PCBs Reporting and Analysis Application?

- ○ Daily
- ○ 1-2x per week
- ○ 1-2x per month
- ○ During Annual Reporting Only
- ○ Not at all

19. Please use the space below to include other comments on the C.11/12 PCBs reporting and Analysis Application.

C.10 Trash Reporting

Please use the questions in this section to evaluate your current level of satisfaction with the C.10 Trash Reporting

20. What level of frequency do you use the C.10 Trash Reporting Application?

- ○ Daily
- ○ 1-2x per week
- ○ 1-2x per month
- ○ During Annual Reporting Only
- ○ Not at all

21. Please provide any edits or needs for existing fields in the Trash Capture Device Layer:

e.g. add new, delete, revise text/symbology.

22. Please provide any edits or needs for existing fields in the Trash Capture Drainage Area Layer:

    e.g. add new, delete, revise text/symbology.

23. What are your high-priority technical issues/concerns?

24. Please use the space below to include other comments on the C.10 Track Reporting Application.

Collector/Field Maps Application

25. What level of frequency do you use Field Maps applications?

- ○ Daily
- ○ 1-2x per week
- ○ 1-2x per month
- ○ During Annual Reporting Only
- ○ Not at all

26. As a Permittee, would you be interested in having your field inspection staff use a Field Maps app for recording inspections of C.3 O&M Inspections and creation of an inspection report?

- ○ Yes
- ○ No
- ○ Maybe
- ○ Other

27. Would you be interested in the ability to enter/define areas that are infeasible for full capture devices due to various reasons?

- ○ Yes
- ○ No
- ○ Maybe
- ○ Other

28. Please provide any edits or needs for existing fields in the Field Maps for Inspection of Trash Capture Devices:

    e.g. add new, delete, revise text/symbology.

29. Please provide any edits or needs for existing fields in the Field Maps for Recording OVTAs:

    e.g. add new, delete, revise text/symbology.

30. Please provide any edits or needs for existing fields in the Trash Field Maps for Private Land Drainage Areas:

    e.g. add new, delete, revise text/symbology.

31. Please provide any edits or needs for existing fields in the Field Maps for Private Land Drainage Areas - Trash Assessment and Stormdrain inlets on Private Properties:

    e.g. add new, delete, revise text/symbology.

32. Please use the space below to include other comments on the Field Maps applications.

Staff/Technical Support

33. What is your current level of satisfaction with Program Staff support you have received with AGOL?

Not very satisfied ☆ ☆ ☆ ☆ ☆ Very satisfied

34. Please use the space below to include other comments on your overall satisfaction with Program Staff support.

35. What is your current level of satisfaction with the technical support you have received with AGOL from the contractor (Psomas?).

Not very satisfied ☆ ☆ ☆ ☆ ☆ Very satisfied

36. Please use the space below to include other comments on your overall satisfaction with the technical support you have received with AGOL from the contractor (Psomas).

Future Needs Assessment

37. What program/software or system are you currently using for asset management?

38. What types of features or MRP 3.0 requirements would you be interested in using AGOL for?

    e.g. Are there upcoming/specific Permit requirements that could benefit from an AGOL application?

39. What other layers should be incorporated into AGOL?

    MS4 layer? Current OVTA score (L, M, H, vs. Baseline) Sediment and water sampling results for select parameters?

40. Would you use or employ a dashboard summary output for the permit requirement?

- ○ Yes
- ○ No

41. If yes, for which of the permit requirements would a dashboard be most useful?

- ○ C.3
- ○ C.11/12
- ○ C.10
- ○ Other

42. Are you having to enter information in your respective municipality's software and then re-enter much of the same information in AGOL?

- ○ Yes
- ○ No
- ○ Maybe
- ○ Other

43. If you are reentering data into AGOL, would you benefit from increasing AGOL features/functionality?

- ○ Yes
- ○ No
- ○ Other

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Attachment 2:
AGOL Survey Consolidated Results

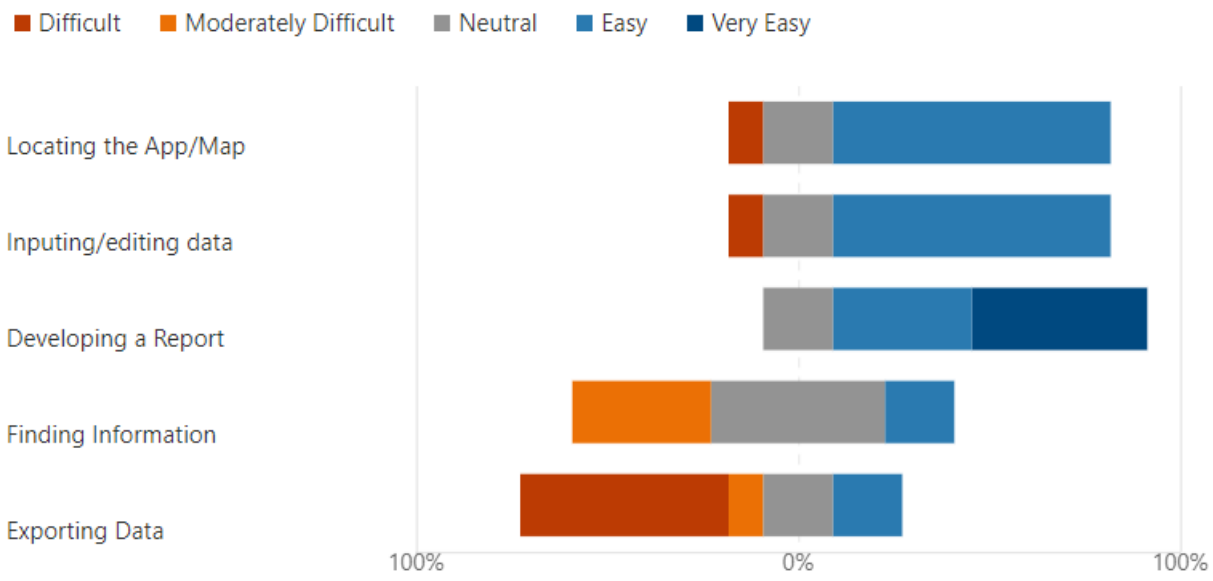
AGOL Survey and Needs Assessment - RESULTS

(11 Responses)

Overall Satisfaction with AGOL

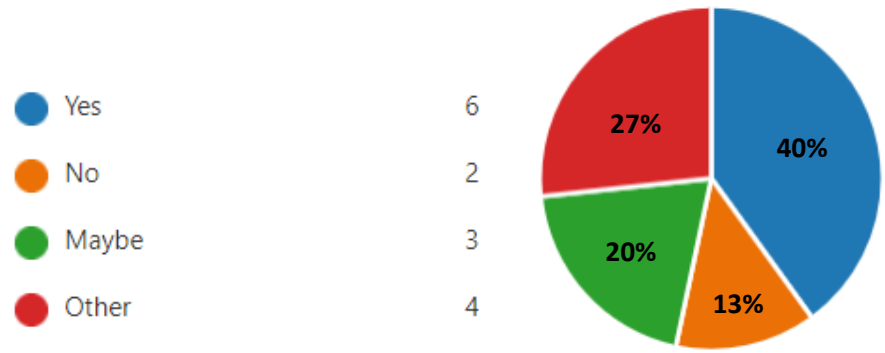
1. Organization of AGOL Applications.

   Please rate the organization of the AGOL application features using the options below (Difficult – Very Easy). Select one for each option.



2. Do you find it easy to use the apps?

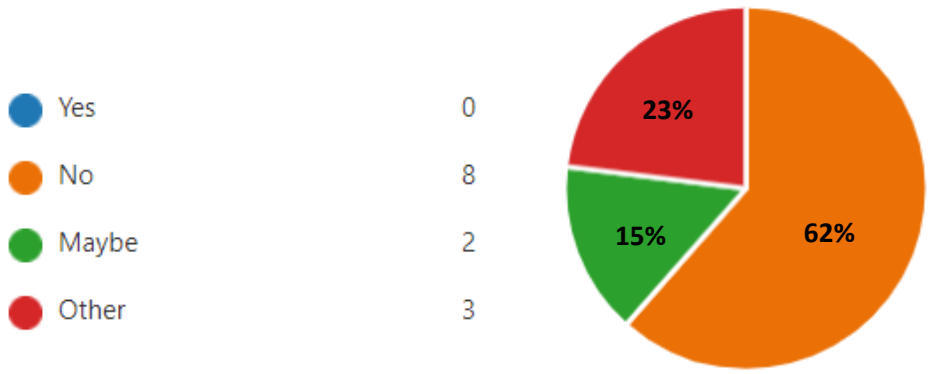
   E.g., Is there enough consistency between apps, the tools, editing, visual ease/clarity, default settings?



Responses categorized as "Other" include:

- "Maybe", "I only use the trash app"
- "Yes", "Maybe", "We should change the default map settings in trash"
- "No", "The edit buttons are in different areas, the way you delete polygons in Trash and C3 are different, the look is different, etc."
- "It is not very user friendly. Some things are easier to figure out than others, Looking at C.3 facilities just look like the parks/green spaces. Would it be possible to vary the colors/make them stand out with a pattern or other way?"

3. Is the formatting and consistency between apps satisfactory?
   E.g. Is there enough consistency between apps, the tools, editing, visual ease/clarity, default settings



Responses categorized as "Other" include:

- "Maybe", "I only use the trash app"
- "No", "In the C3 App and Trash App, the ruler tool is top right; in the PLDA app, it is bottom middle, the bookmark icon in the C3 App is used a bookmark but in the Trash App it is to generate the trash report, the C3 App also has the ability to temporarily add layers but not in the Trash App"
- "It has been tricky knowing which applies in C.10 and C.3, I use it less than I used to so I'm not sure if more recent changes are working better. The baseline layers make it very difficult to see, so I always turn them off but it seems like the default should be that they are off."

4. Are there additional layers or features you would like to see in the applications?
   Describe layers/features that you'd like to see or access in AGOL.
   (8 Responses)

   - Yes, we should have the MS4 stormdrain layer (outfalls, catch basins, pipe, etc. - whatever the Permittee has), we should also have the layers for PCB/Hg sampling, with the results color coded based on range of concentration so if below a certain number, we don't care, if a above a certain value (2 ppm?) one color and in between another color. We have several auto wreckers here in the County and I have no idea if we have sampled sediment for PCBs near those properties. It might also be useful to have the creek status monitoring but I don't know enough about that to know if that would be worthwhile or not. Also for the Clean Water Program, they should have something that is Countywide

   - It would be nice to be able to more easily obtain a report of the trash capture inspections completed.

   - the Trash and C.3 in the same map/app would be preferable, entering data into two maps presents quite a few potential issues. -Grey out outside the City jurisdiction to differentiate at any scale -Add Caltrans layer -Add PLDA layer to trash map (all/one maps), -Conflicting parcel layers on different layers/levels, some active some pop ups -Draw if checked, Draw Only, etc - clarify or hide, have a cheat sheet -pop up boxes over AOI, can move to see - inefficient, annoying -zoom- variable scales for ease of use -Need annual or real-time load reduction map - improved symbology -symbology, layers - reevaluate all layers and colors for usefulness (county/city boundary, "potential PDA" layer symbology is largely useless or confounding, unclear what the content conveys, esp at useful zoom levels) -Device drainage area device type exception is the same yellow as moderate trash -ability to import City data or export and use data on desktop GIS - assets, DMAs, LID, Remove non jurisdictional areas (the color ramp is not useful, esp at the scale) from City compliance areas comprehensively and consistently (EBMUD, canal Trail, CalTrans, schools, Flood Control channels, "Government-owned, with or without bldgs (Fed,State, City, BART)") - this is inconsistent and for WC, all over the place due to lots of trails

   - Integration of the layers between Apps would help significantly

   - Integration of the layers between Apps would help significantly

   - Integration of the layers between Apps would help significantly

   - Ability to export the layers or input our own layers to overlay other information such as stormdrain and watershed information. Features to track changes in generation rates for the Trash App. Features or reports to assess trends in trash generation based on OVTAs (i.e. want to know if my assessments on a particular transect is improving, the way to do it now is to click the dots and go to each inspection manually). One integrated map that has land use, PCB areas, trash generation, C3 just to be able to visually see the relationships (would be useful in some cases where treatment systems can also qualify for trash credits).

- Connectivity of layers between the Apps

5. Do the apps provide what you'd want in a tracking tool?
   If not, what would you like to see?
   (10 Responses)

   - Trash app (this is all I use) -- Not bad, but the ability to view/sort entries based on input date (or other specific criteria) so I could easily find the most current entry would be helpful.

   - Not really. The tracking of percent reduction for trash is ok. See my comment on that in the C.10 Trash App section. But this is where having Dashboards would be super helpful. For the C3 App, you could have total number of projects, the total number of treatment facilities, the percent of facilities inspection during fiscal year, acres greened (or whatever the metric will be in MRP 3.0)

   - They are generally helpful but for County it is hard to see very much of the county. It would be nice if we could print maps but for unincorporated County that is challenging because our jurisdiction is so spread out.

   - not as designed. symbologically not helpful. show loads reduced what-if tool Abilty to QA QC data easily and systematically

   - Yes, best if they were connected though. Not stand alone Apps.

   - Integration of the layers between Apps would help significantly.

   - Yes, best if they were connected though, not stand alone Apps.

   - Yes, best if they were connected though, not stand alone Apps.

   - It provides tracking in the sense that it is a place to store assessments and polygons of C3 facilities. What we do with the data is very limited other than using it for the annual reports. The C3 app is limited as a project tracking tool. Firstly, the polygons are confusing, there is a polygon for treatment area, a polygon for the project area, and a polygon for drainage areas. Zoomed out to the whole city, these polygons hardly provide any useful information. I think if it is needed for tracking, inputting the polygons can remain the same. In my opinion a more useful map would be a drainage treated area and a point feature for the facility. This could be an addition to what we already have but this would be a more appealing way to have a quick glance at the city-wide green infrastructure. The type of facility could have a different symbology (swales, flow-thru planters, pavers, bioretention) and have all the relevant information like facility area, ownership, installation date, etc. And the associated drainage area would be useful for planning other treatment projects. This can be especially useful when combined with other layers like trash and PCB. These point features could also store C3 inspections similarly to how the assessment points in the trash app work. Right now

we use smartsheets to input our C3 inspections. Adding a "planned C3" layer or point feature would also be useful. I often wish I can export these layers into our own city GIS and overlay some of our more useful layers onto it like parks and planned development projects. I use the trash app quite a lot, but I wish it was more useful in deciding where to take action around the city. I would rather just have the generation rates as my own layer and overlay it to our own GIS, that way I can have drainage information on there. I would like the trash app to actually provide visual information on the assessments instead of just storing them as files in the attachments. A "change in generation" layer would be great. Finally, I have not used the PCB app very much at all, and I can't really open it right now for some reason. I feel with input from monitoring committee it could prove to be more useful for permittees.

- Same as above

6. Do you need training on the use of any specific apps or functions of the apps?
(9 Responses)

- General training: Attribute table. Specific issue: I need to revise the Trash Assessment Reference Lines (and "nudge" the assessment points if they're supposed to be centered on the line). Need to know if making such changes mid-fiscal year could cause the system to have problems running reports.

- I would like to better understand the report that is generated in the C3 App. I don't understand it and it seems to me, it could be made a bit easier to read.

- I generally figure out what I need or refer to old e-mails giving me direction of which layers need to be turned on to access one bit of information or another. The trainings were initially useful but many were not very well organized or at the right level. The training information in Clean Water Groupsite file folders is appreciated.

- + Add and troubleshoot device/proiject entry, how to QA C.3 and trash easily, systematically
+ how to attach DMAs to devices in trash app

- Not at this time.

- Not at this time.

- Not at this time.

- Not at this time.

- Not at this time.

7. Please use the space below to include other comments on your overall satisfaction with AGOL.
(4 Responses)

- Inputting the C3 facility locations is cumbersome and not helpful. How do we check the overlap of FTC and LID facilities? Why is it default PBC yield in the trash map? There are too many data points to enter in C.3... does anyone use all of these? With the new MRP... we might want a way to map "other measures" that are not FTC but something similar if we only impliment somethig for businesses

- I think AGOL has a lot of potential but we need better consultants and we need more thorough QA/QC. There should be built in instructions in the apps on how to use. There should also be dashboards to help with tracking assets (device, stormwater projects, etc.)

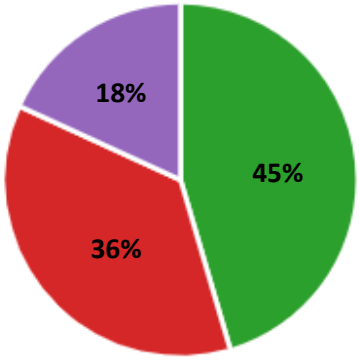
- It has been challenging to use AGOL over the years. The reports have very useful and the trash capture drainage areas are very useful. The data tab of the report is very useful, particularly for County because we can find information on the sub-TMAs and such.

- can't open both apps at once to compare DMAs and devies not necessarily connected to each other, how to connect info permannetly and to gather data/search. Would be good to see load reduction with a device entered (as a attribute)

C.3. GI Project Tracking Tool

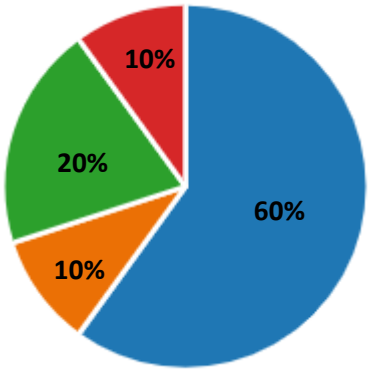
8. What level of frequency do you use the C.3 GI Project Tracking Tool?

1-2x per month	5
During Annual Reporting Only	4
Not at all	2



9. Are you counting GI facilities for Full Trash Capture (and know how to make sure you get this credit?)

Yes	6
No	1
Maybe	2
Other	1

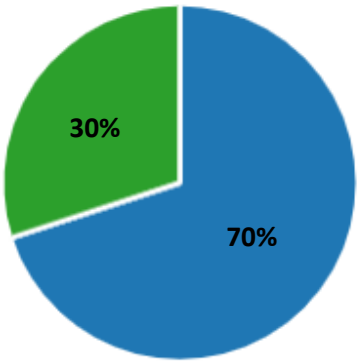


Responses categorized as "Other" include:

- not yet, but hope to soon

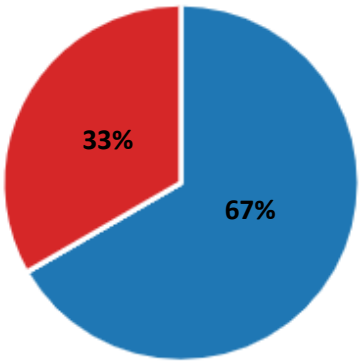
10. Do you envision using the AGOL or collector app for documenting O&M inspections? (See Collector/Field Maps section)

Yes	7
No	0
Maybe	3



11. Are you using the C.3 GI Project Tracking Application to meet annual reporting requirements for Regulated and non-regulated projects?

Yes	6
No	0
Maybe	0
Other	3

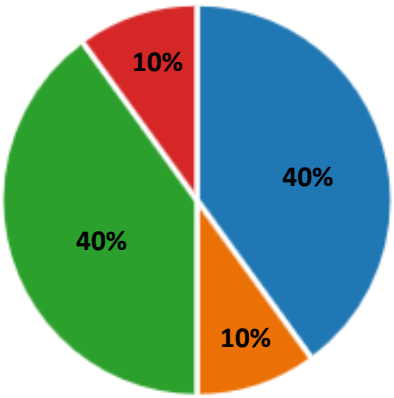


<u>Responses categorized as "Other" include:</u>

- We use some of the information but we do not use any reporting function
- You really cannot at this time, but I think we should develop that capability
- not really, we have a better system internally, this is too cumbersome and unreliable

12. Would you implement a Detailed Project option where each stormwater treatment facility is associated with its tributary Drainage Management Area(s)? Would you do this if your applicants submitted electronic output files from the IMP Sizing Calculator that could be directly incorporated into AGOL?

Yes	4
No	1
Maybe	4
Other	1



Responses categorized as "Other" include:

- I really don't know enough about the IMP Calc. and DMA to answer

13. What are your high-priority technical issues/concerns?
(7 Responses)

- There are too many fields for each layer in the C3 App. We should be able to hide (not remove) fields not used or not needed at this time. We should only have the fields that are necessarily to complete the tables in Section C3 of the annual report and I think that means only like 20 fields told not the 100 that we have now. There should also be some built in QA/QC function so if mandatory fields are not entered, the Permittee is alerted. There should also be some way to highlight discrepancies between GIS calculated acres and manually entered acres when the difference is over a certain threshold - like GIS say 5 acres but manual entry says 13 acres.

- +Ease of use, entering information once, easy QA/QC checks, +useful map/reports (C.3/11/12 load reduction report), I don't see any C.3 map/report widget or in the report tab, print button is largely useless. +useful symbology, cartography + have same password for SWRP map

- Connectivity in the Apps where polygons or facilities only need to be plotted once.

- Connectivity in the Apps where polygons or facilities on need to be plotted once.

- Connectivity where polygons or facilities only need to be plotted once.

- Connectivity in the Apps where polygons or facilities only need to be plotted once.

- Accounting accuracy for trash and credits accounted for C3

14. Please use the space below to include other comments on the C.3 GI Project Tracking Application.
(3 Responses)

- Do we want to track O&M with the app? (just a question)

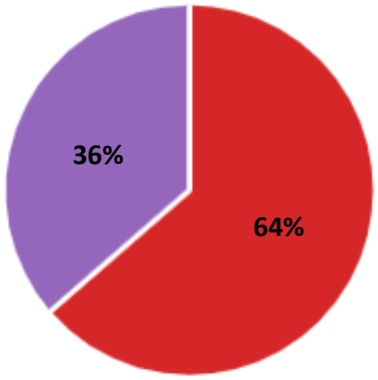
- In addition to being able to replicate the annual report tables, there should also be a dashboard that shows the number of projects, inspections, etc. during the fiscal year and also total projects (not limited to fiscal year), and acres greened (or what ever metric we have in MRP 3.0)

- Color ramps are too close - open space same color as a facility, and treatment projects etc. "Other Source Load reductions" is the same as moderate LUY layer. Greens matches/blends with various basemaps too, even with other layers off. - pink is a poor color for GI treatment area, looks like OI land use - it overrides (overlays) the Project type (greens) + Could a Facility type be symbolized? How could this be better visualized? - Conflicting parcel layers at varying scales, confusing to pick layers to show, unecessary layers, or very low use layers (data reports) should be out of the way, naming conventioins are confusing -LUY layer has all sorts of inconsistencies, BART, Flood Control, green spaces over parcels, etc. etc - Outside City limits is indistinguishable from City at all scales (PLEASE grey out) County has pockets all over the place - add TCD on C.3 app (for PCB loads) - better if it were the same app + add trash generation areas to map, PLDAs, + SWRP layers etc. + Add HM map layer to this map - WC would/could use it more (for queries not just reporting) if it were simple and reliable. The reliabilty in saving has been very inconsistent and lots of wasted time has gone onto entering data over the years

C.11/12 PCBs Reporting and Analysis

15. What level of frequency do you use the C.11/12 PCBs Reporting and Analysis Application?

Daily	0
1-2x per week	0
1-2x per month	0
During Annual Reporting Only	7
Not at all	4



16. Please use the space below to include other comments on the C.11/12 PCBs reporting and Analysis Application.
(3 Responses)

- This app should be completely revamped. The layers should be Trash Capture Device Layer, Trash Capture Drainage Area Layer, Baseline Landuse Layer, Watershed Management Area Layer, C.3 Stormwater Project Layer, Source Property Layer and then when these layers are turn ON, a Permittee can see what is contributing to their Load Reduction and Also be able to generate a report on load reductions. I know the Enhanced O&M can be tricky to show and/or include in the calculations but there should be some way to do it since Geosyntec is able to produce a report for us

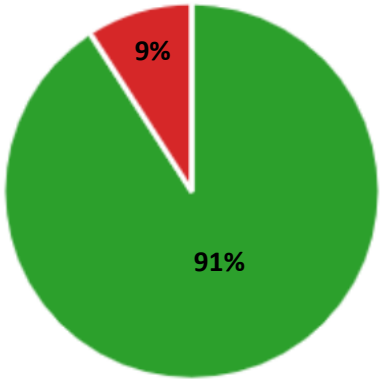
- I don't see this as an option when looking at the tabs. I don't have access to the SWRP Project Viewer.

- Can we use this app? It is not accessible on the storybook page that we were told is the one to use, more up to date. https://cccwp.maps.arcgis.com/apps/MapSeries/index.html?appid=ac118e4f4fc945b7a971dd130d0ff8e6 I used this when I was Program staff and it was kept up to date - when I was focused on High Oppp PCB areas. PCB Parcel Screening Walnut Creek - has no LUY map and has screening polys that dont' relate to LUY map - is this useful?

C.10 Trash Reporting

17. What level of frequency do you use the C.10 Trash Reporting Application?

Daily	0
1-2x per week	0
1-2x per month	10
During Annual Reporting Only	1
Not at all	0



18. Please provide any edits or needs for existing fields in the Trash Capture Device Layer:
e.g. add new, delete, revise text/symbology.
(5 Responses)

- We need to delete Pond and add Debris Separating Baffle Box (or DSBB) as one device type.
- It may be useful to have a few notes as to the fields needed for the information to be complete (e.g. operational, date installed, ...)
- Devices are not necessarily connected (through an identifier, or spacially) to a DMA. This includes the LID devices too. Would prefer to be combined with C.3/LID and have all the functions/rules consistent. when two devices are near two DMAs, it's hard to tell what's what without some previoius knowledge. - Popups cover AOI at the scale that is useful or layersare active - a PRIORITY problem to fix - "Trash Capture Device w inspections" - shouldnt all have inspections? these are different, would be good for me to understand why.
- Connection with the C.3 App
- There needs to be a distinction between planned full trash capture devices and drainage areas as right now it uses the same symbology.

19. Please provide any edits or needs for existing fields in the Trash Capture Drainage Area Layer:

e.g. add new, delete, revise text/symbology.

(4 Responses)

- For this layer, we need to move the Install Date near the top and make it a mandatory field. Also, because I am new, I don't know what Device Type Exception means or the C.3b categorization and C.10-Trash fields. If we are going to allow manual entry of acres, we need someway to flag those entries whose drainage area manual entered differs from the GIS calculated area. We would need to agree to a threshold like greater than 10% or something.

- It can be clunky to use to try to put in the drainage area. For municipalities with GIS, it would be helpful if we could upload things like drainage areas at times. This has been challenging to do/it seems like there has been resistance to do this but I don't think that it should be very challenging to do once in awhile.

- See above comment. symbology could be inproved to show improved load reductions/controls

- Suggest making the drainage area a solid green to hide the underlying trash generation areas layer (or having the option to).

20. What are your high-priority technical issues/concerns?

(9 Responses)

- It is difficult to tell and check to make sure things are correct.

- I think the LID option should be removed. I think only actual devices should be add to the trash app and only C3 facilities, GI, added to the C3 App, and only source properties added to the PCB/Mercury App. The layers should be available in all apps to turn on and off, and the accounting by python script and Excel should be able to account for all and what counts would be a field or two in each app. For example, if I add a HDS unit and drainage area to Trash App, there should be a field that says count this towards PCB/Mercury Load Reduction -Yes or No; Count this towards GI metric (whatever that metric is), etc.

- 1. Making sure that we are able to look at data for sub-TMAs for County so that we can figure out problems and solutions as needed. 2. Understanding the calculations so we can complete similar inspections and calculations for the inspection program of mostly private businesses/multi-unit housing complexes. 3. Working with our Maintenance staff to have a better full trash capture inspection program and have them be able to see/use the app and download data/have a dashboard to help them track their inspections 4. Using the report for the Annual Report, being able to come up with a way to 'show' our annual reduction on a map (we working on options -County and regionally).

- - popups covering AOIs - Devices not connected to DMAs - Report is only 2009 basemap, lack of visual improvement when controls are implemented - would be nice to have a proper map with any of the chosen layers the user wants to show (e.g. devices, NJ land generation rates, etc) = MRP states: "Attach or provide website link to most recent version of your Baseline Trash Generation map". (contradiction in terms)

- Same as the comment in the C.3 Section.

- Same as the comment in the C.3 Section

- Same comment in the C.3 Section.

- Same as the comment in Section C.3

- Trash accounting accuracy and usefulness as a decision making tool. The Generation areas layer needs to be able to be zoomed out further. And parcel info should be allowed to be turned off since the gray lines make the tool slower and confusing when printing.

21. Please use the space below to include other comments on the C.10 Track Reporting Application.
(5 Responses)

- Please change default settings (remove PBC yield as default).

- We should make this app consistent with the layout of the C.3 App with same tools, same placement of tools on the screen, etc. While it might be nice to have a What if option, although a bit cumbersome, you can add a drainage area, generate a new report and then see what the % reduction is and then you need to remember to delete drainage area. It would be helpful to have a dashboard that shows % reduction, number of assessments, number of devices, and types.

- (Note: on the first question of every page of this survey relating to the different 'tabs' or applications, the options of usage range from 1 to 2x/month to Annual Reporting to not at all. It depends on what I'm doing but there are times when I use once in awhile or quarterly or 'other' randomly depending on my priority projects and ability to see the details I need to see).

- (Note: on the first question of every page of this survey relating to the different 'tabs' or applications, the options of usage range from 1 to 2x/month to Annual Reporting to not at all. It depends on what I'm doing but there are times when I use once in awhile or quarterly or 'other' randomly depending on my priority projects and ability to see the details I need to see).

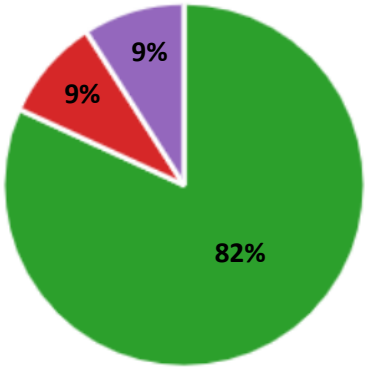
- Do you mean Reporting and Analysis map? As long as this calculator works properly to show reduced load, I don't any issues currently. If MRP 3 asks for more info, I'd just hope it would be updated.

- There are too many non-usable layers and it is confusing to navigate the useful ones. The TMA areas being a hollow black with numbers makes it hard to visualize. The TMA layer provides little function as there is no way to target a specific TMA to try to increase OVTA scores. The more useful layers are the Trash generation areas, the assessment points, and the trash capture devices. If trash generation information can somehow be integrated into the TMA layer it would become a useful tool. For example if the TMA layer showed a count of high assessments in the TMA and changed colors accordingly, we could target those areas for additional street sweeping or trash capture devices. Or another method could be to include a "high assessment" layer as a new generated point feature to track the change of assessments over time and provide a visual on where the high assessments are coming from.

Collector/Field Maps Application

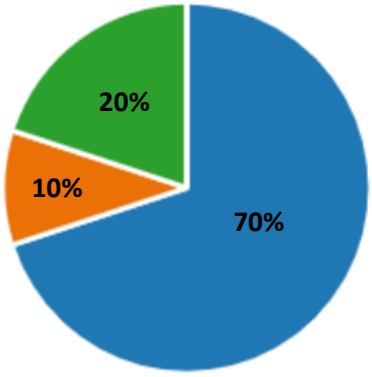
22. What level of frequency do you use Field Maps applications?

Daily	0
1-2x per week	0
1-2x per month	0
During Annual Reporting Only	7
Not at all	4

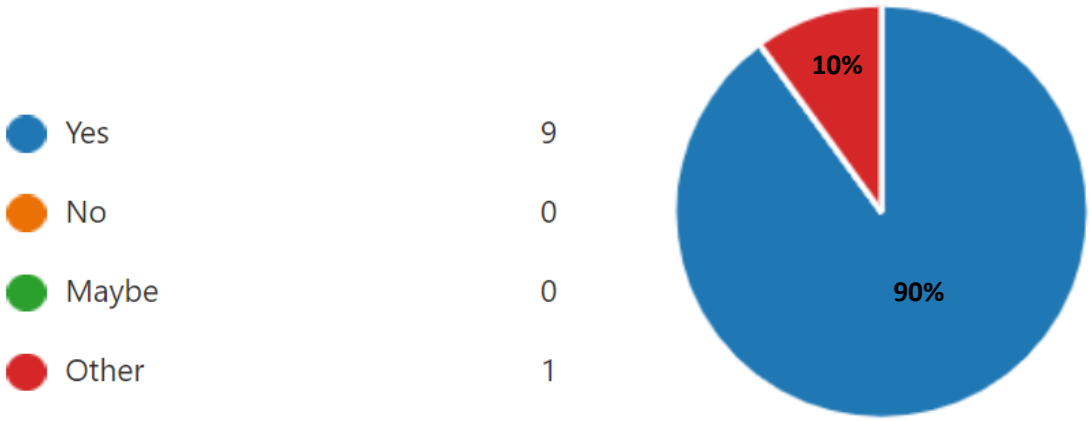


23. As a Permittee, would you be interested in having your field inspection staff use a Field Maps app for recording inspections of C.3 O&M Inspections and creation of an inspection report?

Yes	7
No	1
Maybe	2
Other	0



24. Would you be interested in the ability to enter/define areas that are infeasible for full capture devices due to various reasons?



Responses categorized as "Other" include:

- that could be useful for the impracticability report although for County it may be rather challenging to enter the data for this

25. Please provide any edits or needs for existing fields in the Field Maps for Inspection of Trash Capture Devices:
e.g. add new, delete, revise text/symbology.
(3 Responses)

- I would rename some of the fields in the Fields Maps for Trash Capture Inspection. For Device Maintenance Required, I would break that up into one where you could pick multiple entries. Was the Device Inspected (Y/N), Was the Device Cleaned (Y/N), Did the Device Need Repair (Y/N). Was the Device Clogged (Y/N), Was the Device Damaged (Y/N), Was the Device Missing (Y/N). I would remove the question on Device Status and Shows Signs of Bypass Overflow. For the Device Blockage, I would change to Type of Material Captured. And if you could combine the 3 ARS questions into one question and mark Y/N that would be great. And maybe have one final question like Need to Return to Device/Catch Basin Prior to Next Inspection Y/N - that way the maintenance supervisor can easily export the inspection records and sort on that column and for any Y response, he can see if device is broken, decal needs replaced, any other issues that might be captured in the Notes. Also, there should be a way now to create an inspection report from the inspection records.

- All the apps have been recently updated so that it is no longer feasible to log-in through two devices on the same AGOL field account. This will make it tricky for us to operate without more accounts. We have previously been using two devices to verify that the data/attachments are correctly uploaded and can be seen on the second device before

leaving the site location, which is no longer feasible as it automatically checks certifications and kicks the second device off.

- We have our own application, that relates to cartegraph. so we don't use CCCWP AGOL for this.

26. Please provide any edits or needs for existing fields in the Field Maps for Recording OVTAs:

e.g. add new, delete, revise text/symbology.

(4 Responses)

- I haven't really looked at that in a number of years.

- -All the apps have been recently updated so that it is no longer feasible to log-in through two devices on the same AGOL field account. This will make it tricky for us to operate without more accounts. -We have previously been using two devices to verify that the data/attachments are correctly uploaded and can be seen on the second device before leaving the site location, which is no longer feasible as it automatically checks certifications and kicks the second device off. • A minor annoyance is that in the app(s) certain layers such as “chosen assessment points” do not appear at higher map scales and require you to zoom in really close for the layer/points to appear for selection. Since we cannot see the points at higher scales we currently log-in through website version of AGOL, take screenshots of the larger map/points, and print out the maps so we can navigate to the locations and ensure we visit all points in a TMA. • It may useful to have a dropdown selection for some of the reoccurring entries of concern such as “illegal dumping – yes/no” or “transient encampment – yes/no”.

- would be nice to sort what has been assessed in a given period, sortable by location...

- There needs to be pre-filled information for each newly generation assessment. There are too many things to click out on the field and it gets tiring especially when there are many assessment points in the transect.

27. Please provide any edits or needs for existing fields in the Trash Field Maps for Private Land Drainage Areas:

e.g. add new, delete, revise text/symbology.

(2 Responses)

- Possibly more training on the PLDA Events Field Maps App might help. But I think most Permittees have their own approach for follow up on the private lands in their jurisdiction. So not sure it is worthwhile.
- dont know add layer to trash app?

28. Please provide any edits or needs for existing fields in the Field Maps for Private Land Drainage Areas - Trash Assessment and Stormdrain inlets on Private Properties:
e.g. add new, delete, revise text/symbology.
(3 Responses)

- We do not currently use this, so I am not sure if we have any requested changes.

- I think many of the Permittees are not aware of the PLDA Visual Assessment and Stormdrain Inlets on Private Properties on Field Maps App. This app would be helpful to document that certain Private Lands though modeled as Moderate might in reality be Low Trash Generating. If a Permittee went out to the PLDA a few times over the course of a year and used the app to document that, I think that would be enough of a justification to correct the baseline and satisfy Water Board staff.

- dont know - maybe that CT drains into a City drain ...not sure how CT interaction works in this regard and mapping. I believe it's incomplete - both CT and City imperfect still.

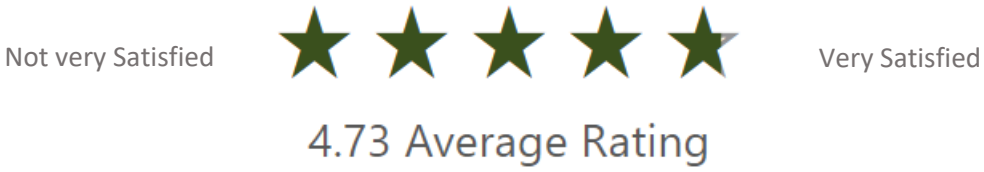
29. Please use the space below to include other comments on the Field Maps applications.
(2 Response)

- I think we should develop a Field Maps app for O&M inspections of C.3 facilities and I think at least for the trash capture device inspection and this inspection, it would be great if an inspection report could be generated.

- Field map use Q doesn't apply, I use the field maps when I need to do assessments, 3x yr usually.

Staff/Technical Support

30. What is your current level of satisfaction with Program Staff support you have received with AGOL?
(11 Responses)



31. Please use the space below to include other comments on your overall satisfaction with Program Staff support.
(5 Responses)

- Staff is always helpful. When I ask a question, someone always responds promptly. If they don't know the answer, they ask someone more knowledgeable to help me.
- I think Staff support is great.
- Thank you for answering questions and following up on issues that occur.
- Clean Water program staff past and present, and Geosyntec all very helpful , thank you
- Program staff generally very accommodating in working with what we have and providing assistance with the tools. Support from Geosyntec has also been very helpful in communicating technical details with the group and making backend corrections when needed.

32. What is your current level of satisfaction with the technical support you have received with AGOL from the contractor (Psomas?).

(11 responses)

Not very Satisfied  Very Satisfied

3.73 Average Rating

33. Please use the space below to include other comments on your overall satisfaction with the technical support you have received with AGOL from the contractor (Psomas).
(3 Responses)

- From a technical perspective, Psomas can meet our needs but what they cannot do is understand from a user's perspective on how apps should be designed for ease of use. They also do not have a decent QA/QC system in place. When work is completed, there is still often problems we have to ask them to fix. They also do not seem interested in understanding our stormwater permit and what reporting we need to do and how best to facilitate it. If you ask for a specific fix they can usually do that (albeit, you might have to ask 2 or 3 times) but they seldom offer any good solutions. It would have been nice from the start if Psomas would have asked us about layers, what fields should be mandatory, what order should they be in, what type of tools/widgets would be useful. There was so little guidance from the start that we are wrestling with some problems now that could have been avoided if more thought had been given to the pilot project.

- - I have been using this since its inception. Over time it has been mixed. It doesn't seem like they do a very good job of understanding our issues and problems and finding a user-friendly way to make AGOL work for us. Our GIS staff have pointed out various issues and have helped us with some mapping and sorting of data that has been particularly challenging as a jurisdiction that is very spread out. It would have been much more difficult for us to navigate without that expertise. - When we have a specific problem, sometimes they are quite responsive. - When they have led trainings, it has several times been frustrating as a permittee because they aren't particularly well-organized so they sometimes spend time sorting out logistical issues during the training. Also, I don't know that the level of training they provide is always very balanced. It seems like they sometimes spend a lot of time on the very simple issues and less time on what permittees need the training for. Granted, it is hard to gauge due to the various levels of experience that the permittees have. Maybe there is a way for them to work with staff to more closely prepare for trainings.

- not responsive to repeated request, simple stuff like having our name and acrony correct. FIxing and/or providing appropiate and useful cartography, symbology. Quality control has been severly lacking, causing staff consultants and permittees to trouble shoot and suggest fixes. This all makes a tool that we only use when we absolutely have to, and very inefficient and frustrating user experience.

Future Needs Assessment

34. What program/software or system are you currently using for asset management?
(5 Responses)

- None, we have a new asset management tracking software (Cartegraph)
- Mainstar
- We have Mainstar for some items, AGOL for C.3, Trash.
- Mainly cartegraph, GIS (ESRI)
- WebGIS

35. What types of features or MRP 3.0 requirements would you be interested in using AGOL for?
e.g. Are there upcoming/specific Permit requirements that could benefit from an AGOL application?
(5 Responses)

- Better ways to track trash infeasibility or other ways to map trash programs. Maybe supplement encampment mapping with our own knowledge?
- Possibly marking locations of encampments with estimated numbers, asset management possibly, real PCB load accounting not the half way point we have now where another consultant downloads the data and then creates maps and loads reduced reports that the AGOL should be able to make, etc.
- Asset Management
- C.3 inspections, improved current apps as suggested in survey. Maybe ability to mark applicable building demolition for PCBs, bridges?
- Homeless Provisions, C12c

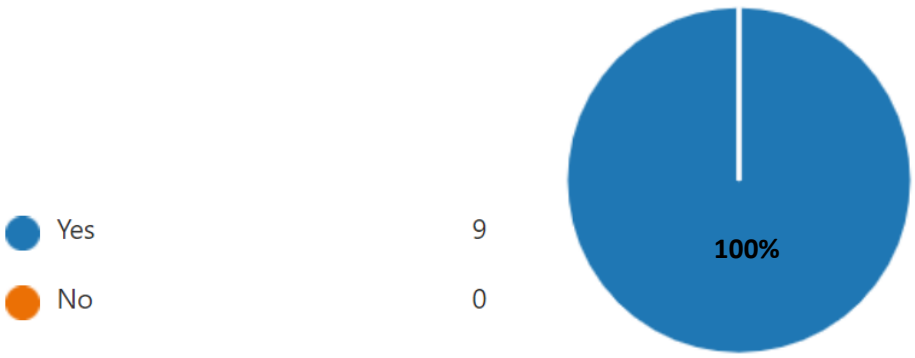
36. What other layers should be incorporated into AGOL?

MS4 layer? Current OVTA score (L, M, H, vs. Baseline) Sediment and water sampling results for select parameters?

(7 Responses)

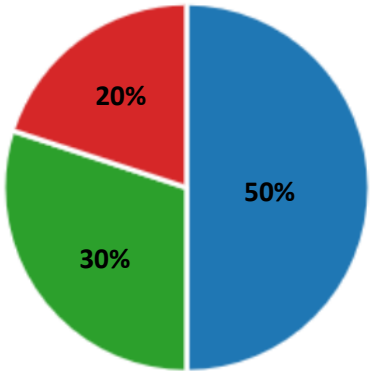
- MS4, sediment and water sampling sites with results for PCBs and Hg color coded (less than a certain amount, no issue; over a certain level, need to investigate; between the low and high, just know in case future management actions are need. Also spills and location of PCB containing equipment might be worthwhile
- There was a discussion regarding the 'baseline trash' and then an annual status update. I could see how it could be powerful to have a layer with the current trash levels based on OVTAs. This may only be valid for a few years.
- see earlier lists
- Current OVLA VS Baseline
- Current OVLA VS Baseline
- Current OVLA VS Baseline
- All of the above. Data specifically from permittees should be able to be incorporated for better decision making. Changes in

37. Would you use or employ a dashboard summary output for the permit requirement?



38. If yes, for which of the permit requirements would a dashboard be most useful?

C.3	5
C.11/12	0
C.10	3
Other	2

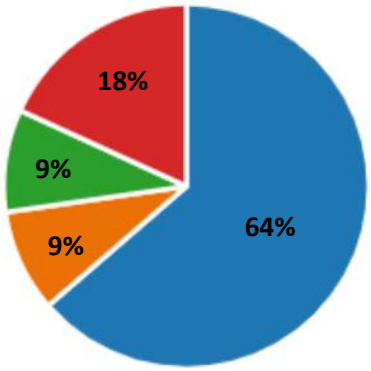


Responses categorized as "Other" include:

- All of the above and I think I described what types of information would be useful
- C.3(11/12 loads) and C.10, not sure how it would be used for a permit requirement, but may be a quick glance or interested in hearing ideas

39. Are you having to enter information in your respective municipality's software and then re-enter much of the same information in AGOL?

Yes	7
No	1
Maybe	1
Other	2

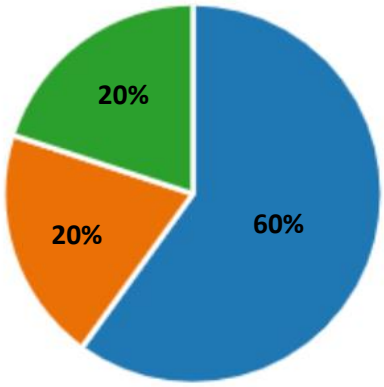


Responses categorized as "Other" include:

- I think for C3 we maintain a spreadsheet and that information is also entered into the C3 App
- We use AGOL and download but it would be nice if it was more straightforward to download the info., particularly for c.10.
- Maybe

40. If you are reentering data into AGOL, would you benefit from increasing AGOL features/functionality?

Yes	6
No	2
Other	2



Responses categorized as "Other" include:

- not sure
- maybe. we've been promised a lot that never panned out, cost $$$

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PROGRAM

Attachment 3:
Technical Issues

Category	Category/ Layer	RequestID	Description of the Request	Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	General	**1**	Agree to what layers should automatically be displayed when first opening up the app		x			
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	General	**2**	Create a Countywide View and Reporting Option			x		
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	General	**3**	Reorder labels in the display so that Stormwater Project IDs and Facility IDs can be read - see part of screenshot to right on how they appear. The Facility ID is almost unreadable. Project ID is not much better.		x			
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	General	**4**	Have labels viewable at a smaller scale (zoomed out more), right now they don't appear until 100 ft. scale		x			
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	General	**5**	Once all changes are made, revise C.3 Instruction Manual - mostly completed already			x		
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	General	**6**	Create dashboard to identify number of projects, inspections, total projects, and acres greened.			x		
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Stormwater Project Layer	**1**	Hide all fields below the Applicant Name - because there are 65 of them, I only have the ones that should be shown		x			
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Stormwater Project Layer	**2**	Can there be a field that asks - Reveal all Fields? And if the person answer yes, all the other fields open up?			x		
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Stormwater Project Layer	**3**	Somewhere it needs to read that All Projects Must Be Simple; If Detailed Projects Need to be Entered, Contact ACCWP			x		
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Stormwater Project Layer	**4**	Make sure data that is exported lines up with correct column. Right now it appears a couple of columns off.			x		

Category	Category/ Layer	RequestID	Description of the Request	Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Stormwater Project Layer	**5**	Have Fields as Shown Below:			x		
			Project ID					
			Jurisdiction					
			Project Name/Number					
			Location Description					
			Type of Project					
			Is Full Trash Equivalent	- For some reason when the data is exported the field name becomes **C10-Trash (explicit criteria) -** can you revise to be the same as field name - **Is Full Trash Equivalent**				
			Construction Final Date					
			Hydromodification Requirements Applies					
			Public or Private					
			Owner ID					
			Site Area (Ac)					
			GIS Calculated Area (Ac)					
			Reported On 2014 IMR					
			Applicant Name					
			Delete Project?					
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Facility	**1**	Relocate the 3 required fields (treatment, hydraulic sizing criterion and sizing criteria %) to closer to the top as shown in the order below, indicate as mandatory		x			
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Facility	**2**	I cannot review the entire database of entries unless I go city by city, can you export the Faciity Layer Database? We can review the list and hiding the unused fields. Fields in blue most likely to be hidden		x			
			Once we review the fields that should be hidden, present in the order below			x		

Category	Category/ Layer	RequestID	Description of the Request	Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Facility	**3**	Facility ID					
			Project ID					
			Facility Type					
			Treatment					
			Hydraulic Sizing Criterion					
			Hydraulic Sizing Criteria %					
			Percent Area - Simple (%)					
			Count Simple					
			Facility Area Complex (Ac)					
			GIS Calculate Area (Ac)					
			Comment					
			Facility Details Link					
			Bioretention Underdrain					
			Bioretention Infiltrate Soil					
			Bioretention Irrigated					
			Irrigated					
			Mosquito Harborage Potential					
			Construction Completion Date					
			Owner ID					
			Downstream Facility ID					
			O & M Agreement ID					
			C.3.b categorization - C3 - Development					
			C11/C12 - Hg/PCB					
			Object ID					
			C10-Trash					
			Delete Facility?					
Field Maps Application	Labeling	**1**	Make sure the facility types are spelled out and presented as in the instruction manual instead of the weird abbreviations they are now			x		
Field Maps Application	Symbology	**1**	Have project type and facility type layers little more transparent so you can more easily see the basemap imagery		x			
Field Maps Application	Data entry	**1**	Only facility types should be able to be added in the field, NOT stormwater projects		x			
Field Maps Application	General	**1**	Create inspection form			x		

Category	Category/ Layer	RequestID	Description of the Request	Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Symbology	**1**	Modify color ramps for facility and treatment projects - avoid duplicating any colors that are the same as basemaps e.g. Open space layers are also green.		x			
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Symbology	**2**	Change color of GI Treatment area from pink to some other color and/or modify symbology layers such that they display better and in contrast to basemap symbology		x			
C.3 PCBs Project Tracking and Load Reduction Accounting Tool	Symbology	**3**	Clearly identify non-jurisdictional area layers (erase) so that City limits are clear. Highlighting reliefs at scale is better than shading in jurisdictional boundary.		x			

Category	Category/ Layer	RequestID	Description of the Request		Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
C.10 Trash Load Reduction	General	**1**	Agree to the default layers that should be automatically displayed when first				x		
C.10 Trash Load Reduction	General	**2**	Create a Countywide View and Reporting Option				x		
C.10 Trash Load Reduction	Full Trash Capture Drainage Area	**1**	Relocate the Install Date from Bottom to 4th from top AND mark as mandatory			x			
C.10 Trash Load Reduction	Full Trash Capture Drainage Area	**2**	Create Field for Deleting Drainage Area Instead of Incorporated within the Device Status				x		
C.10 Trash Load Reduction	Full Trash Capture Drainage Area	**3**	Arrange fields as shown in the below:				x		
			Attribute	**Domain Type**					
			Facility Identifier	Numeric – automatically assigned?					
			Device Type (*)	Dropdown					
			Device Status (*)	Dropdown - remove Delete Option					
			Install Date (*)	Date					
			New Field - Drainage Area Owner	Dropdown Public or Private	There may be contiguous drainage areas comprised of both; the default should be public. If the Permittees is intent on distinguishing public from private, they will have to draw the drainage areas separately.				
			Common Name	Text					

Category	Category/ Layer	RequestID	Description of the Request		Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
			Location	Text					
			Comment	Text					
			City	Dropdown – assigned if not selected?					
			Area Acres	Assuming it is automatically calculated					
			New Field - Delete Drainage Area						
C.10 Trash Load Reduction	Full Trash Capture Drainage Area	**4**	Modify symbology of drainage areas to differenciate between devices and drainage areas.			x			
C.10 Trash Load Reduction	Full Trash Capture Device	**1**	For device type, delete Pond but retain Water Quality Pond			x			
C.10 Trash Load Reduction	Full Trash Capture Device	**2**	For device type, delete Basket and reclassify all devices that are Baskets as			x			
C.10 Trash Load Reduction	Full Trash Capture Device	**3**	For device type, add Debris Separating Baffle Box (DSBB) as a device type			x			
C.10 Trash Load Reduction	Full Trash Capture Device	**4**	Please delete Condition, To Date, and From Date (unless the date fields are				x		
C.10 Trash Load Reduction	Full Trash Capture Device	**5**	Add two new Fields – Removed Date and Model Number (for model number,				x		
C.10 Trash Load Reduction	Full Trash Capture Device	**6**	Mark the Install Date as Mandatory, move to the top of options.			x			
C.10 Trash Load Reduction	Full Trash Capture Device	**7**	Reorganize the order of fields as shown below:				x		
			Create Field for Deleting Device Instead				x		
			Attribute	**Domain Type**					
			FCD_ID (*)	Text					
			Device Type (*)	Dropdown					
			Device Status (*)	Dropdown - remove Delete Option					

Category	Category/ Layer	RequestID	Description of the Request		Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
C.10 Trash Load Reduction	Full Trash Capture Device	8	Install Date (*)	Date					
			New Field - Remove Date	Date					
			Owned By	Dropdown includes Private as Option					
			Maintained By	Dropdown includes Private as Option					
			Common Name	Text					
			Location	Text					
			Address	Text					
			Vendor	Dropdown					
			New Field - Model Number	Text (numbers, letters, characters)					
			Comment	Text					
			Device Also Has ARS	Yes, No					
			SFEP Device ID	Dropdown					
			City	Dropdown – assigned if not selected?					
			Facility Identifier	Numeric – assigned in no entry?					
			~~Condition~~	~~Dropdown~~					
			~~From Date~~	~~Date~~					
			~~To Date~~	~~Date~~					
			New Field - Delete Device						
C.10 Trash Load Reduction	Field Maps for Trash Applications	1	Create separate layer for Inlets from Trash Capture Devices as was done in the Trash App (ACCWP Issue)				x		

Category	Category/ Layer	RequestID	Description of the Request	Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
C.10 Trash Load Reduction	General	**1**	Be able to add local data, such as drainage areas, delineated by City GIS			x		
C.10 Trash Load Reduction	Field Maps for Trash Applications	**2**	Rename fields/attributes in Trash Capture Inspection			x		
C.10 Trash Load Reduction	Field Maps for Trash Applications	**3**	Replace "Device maintenance required"			x		
			Was the Device Inspected?					
			Was the Device Cleaned?					
			Did the Device need Repair?					
			Was the Device Clogged?					
			Was the Device Damaged?					
			Was the Device missing?					
C.10 Trash Load Reduction	Field Maps for Trash Applications	**4**	Remove "Device Status" and "Shows Signs of Bypass Overflow" from attributes		x			
C.10 Trash Load Reduction	Field Maps for Trash Applications	**5**	Rename "Device Blockage" to "Type of Material Captured"		x			
C.10 Trash Load Reduction	Field Maps for Trash Applications	**6**	Add question "Reinspection Required" Y/N	Goal is to identify devices that might need reinspection in advance of next scheduled inspection.	x			

Category	Category/ Layer	RequestID	Description of the Request		Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
C.10 Trash Load Red	Non Jurisdictional Layer - the Operational Layer	**1**	Correct the display of that layer. It should be shown as polks dots and not a solid color. It is correctly shown in the Draw if Checked and Countywide Layers			x			

Category	Category/ Layer	RequestID	Description of the Request	Comments	FY 21-22	FY 22-23	Estimated Cost	Date Complete
PLDA Application	General	**1**	Agree to what layers should automatically be displayed when first opening up the app			x		
PLDA Application	User interface	**1**	Can you recreate the PLDA Editor so it looks like the C.3 Project Tool?			x		
PLDA Application	User interface	**2**	Move icons for legend, layers, and basemap to top right and use the same light grey icon as in the C.3 App			x		
PLDA Application	User interface	**3**	Relocate the Reporting Dashboard Icon to Top Left and Change Icon to Something Not Used and Not the Bookmark Icon			x		
PLDA Application	User interface	**4**	Relocate the Edit and Print Map Icons to the top left as in the C.3 App			x		

CONTRA COSTA CLEAN WATER PROGRAM

Schedule of Committee and Subcommittee Meetings – FY 2022-23

	Conf. Room	Frequency and Time	July 2022	Aug.	Sept.	Oct.	Nov.	Dec.	Jan. 2023	Feb.	Mar.	Apr.	May	June
Management Committee (MC)	255 Glacier Dr. Rm. A	3rd Wednesday 1:30 - 4:30 pm	20	17	21	19	16	21*	18	15	15	19	17	21
Subcommittees														
Administrative Committee (AC)	255 Glacier Dr. Rm. A	1st Tuesday 10:30 am-12 noon	5	2	6	4	1	6	3*	7	7	4	2	6
Public Information/ Participation Committee (PIP)	255 Glacier Dr. Rm. A	1st Tuesday 9:30 am - 10:30 am (combined with AC)	5	2	6	4	1	6	3*	7	7	4	2	6
Monitoring Committee (MONC)	255 Glacier Dr. Rm. G	2nd Monday 10:00 am - 12 noon	11	8	14	10	14	12	9	13	13	10	8	12
Municipal Operations Committee (MOC)	255 Glacier Dr. Rm. G	3rd Tuesday** 10:00 am - 12 noon	18	16	20	18	15	19	17	21	21	18	16	20
Development Committee (DC)	255 Glacier Dr. Rm. A	4th Wednesday 1:30 - 3:30 pm	27	24	28	26	23*	28*	25	22	22	26	24	28

All meetings held at 255 Glacier Drive, Conference Room A, Martinez, except for Monitoring Committee which is held at 255 Glacier Drive, Conference Room G. Any change in a meeting's location will be posted on Groupsite.

*Meeting falls on/near a holiday, etc., and may be rescheduled.

**Occasional Trash Meetings are held on the 3rd Wednesday