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OF SAN MATEO COUNTY

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July 7, 2023

The Honorable Pete Buttigieg
Secretary of the United States Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Re: Support for the Pescadero Creek Road Rural Safety Improvements Project

Dear Secretary Buttigieg:

I am writing on behalf of the City/County Association of Governments of San Mateo County (C/CAG), to express our support for the San Mateo County (County) Pescadero Creek Road Rural Safety Improvements Project (Project) grant application for the United States Department of Transportation (USDOT) Safe Streets and Roads for All (SS4A) competitive grant program.

C/CAG is the County Transportation Agency (CTA) and also the designated Congestion Management Agency (CMA) for San Mateo County. C/CAG represents all of San Mateo County's 764,442 residents through its 21-member Board of Directors that includes a seat for every jurisdiction in San Mateo County. C/CAG works to improve mobility, the environment, and equity throughout San Mateo County. This Project advances all of C/CAG's goals.

Pescadero Creek Road is a two-lane roadway connecting State Route 1 to State Route 84. It is a vital east-west major collector that provides mobility options to rural and low-income residents in the farming communities along the Pacific Coast. This low volume corridor has experienced nearly 60 collisions between 2014 and 2021. The County worked with staff from the Federal Highway Administration (FHWA) to prepare the 2022 Roadway Safety Audit (RSA). The County adopted the Unincorporated San Mateo County Active Transportation Plan (ATP) in 2021, which is a comprehensive framework to guide the development of active transportation projects and includes several recommendations on Pescadero Creek Road that align with the RSA. The County identified multiple segments of the roadway as part of the High Injury Network in the 2022 Local Roadway Safety Plan.

The County is requesting SS4A funding for Project implementation. The Project will install various low-cost improvements that were identified in the RSA and ATP, including evidence-based safety countermeasures such as pedestrian crossings, bicycle facilities, horizontal curve advanced warning and advisory signs, marking and striping modifications, guardrails, and bridge barrier end treatments. The speed limit will be lowered, and new limit signage will be installed. These safety countermeasures directly address the crash types experienced on the route and will promote multimodal travel and low carbon transportation solutions. The Project implements FWHA's Safe Systems Approach to create safe road users, safe roads, and safe speeds.

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Thank you for your consideration of this Project and your support for providing significant safety and multimodal accessibility benefits for the County's rural residents. If you have any questions about our support for this critical project, feel free to contact me.

Sincerely,

Sean Charpentier
Executive Director
City/County Association of Governments of Sam Mateo County
(415) 370-2174
scharpentier@smcgov.org

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July 26, 2023

The Honorable Scott Wiener
California State Senate
1021 O Street, Suite 8620
Sacramento, CA 95814

RE: SB 532 (Wiener) Bridge Toll Increase for Transit Operations

Dear Senator Wiener:

On behalf of the City/County Association of Governments of San Mateo County (C/CAG), I write to thank you for all your efforts to help our region's transit agencies address their funding challenges. We appreciate your continued efforts to explore local solutions to supporting our operators and for seeking input on SB 532.

The C/CAG Board of Directors has not taken a position on SB 532 at this time. On July 13th, the Legislative Committee and the C/CAG Board of Directors discussed SB 532. We have the following comments and recommendations that would clarify our understanding of how the bill would support transit in San Mateo County and support greater equity outcomes.

C/CAG is concerned that bridge tolls are already increasing under RM 3. Adding another $1.50 to the bridge tolls will negatively impact commuters traveling in and out of San Mateo County. Many of the employees who work in San Mateo County commute across the bridges and could be negatively impacted by the proposed toll increases. There should be a nexus, in terms of benefit, to those who will be paying these increased tolls. The legislation should include relief for low-income commuters.

The bill would also benefit from greater specificity of how the revenue would be distributed. Many San Mateo County residents and employees who work in San Mateo County would be paying the increased tolls. However, it is not clear how the revenues will be allocated among the transit operators that operate in San Mateo County. A clarification of the regional distribution of the potential revenues is essential. It is important that the bill support improvements in transit and the commuting experience in San Mateo County as well as the entire region.

There should be consideration given for a significant increase in the proposed 10% for ridership recovery and service restoration as these efforts are critical to maintaining and

expanding transit options. In addition, the bill should include accountability measures for the use of funds, including specific measures that lead to an improved rider experience, and efforts that will help riders efficiently transition among transit operators.

Finally, we believe this legislation should be consistent with the measures adopted by the state as part of the FY 2023-24 Budget Act, as well as the efforts of the Bay Area Transit Recovery Task Force.

Thank you for your support for transit during these challenging times and for the opportunity to comment on SB 532. If you have any questions, please contact me at (415) 370-2174 or scharpentier@smcgov.org.

Sincerely,

Sean Charpentier
Executive Director
City/County Association of Governments of San Mateo County

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August 8, 2023

The Honorable Pete Buttigieg
United States Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

RE: 2023 Multimodal Discretionary Grant Program Request for United States 101/State Route 84 (Woodside Road) Interchange and Port Access Project

Dear Secretary Buttigieg:

On behalf of the City/County Association of Governments of San Mateo County (C/CAG), I write in support of the Caltrans/City of Redwood City (City) application for 2023-24 Multimodal Discretionary Grant Program (MPDG) funding for the United States 101/State Route 84 (Woodside Road) Interchange and Port Access Project (Project). The requested funds will enable completion of the Project's Construction phase.

C/CAG is the County Transportation Agency (CTA) and also the designated Congestion Management Agency (CMA) for San Mateo County. C/CAG represents all of San Mateo County's 764,442 residents through its 21-member Board of Directors that includes a seat for every jurisdiction in San Mateo County. C/CAG works to improve mobility, the environment, and equity, as well as prioritizing safety throughout San Mateo County. This project advances all those goals.

The existing interchange was constructed in 1959 and is well past its useful life. Single lane off ramps and traffic conflicts creates extensive daytime congestion. Additionally, the interchange and State Route 84 (Woodside Road) act as multimodal mobility barriers as they lack comfortable bicycle and pedestrian accommodations. This impacts goods movement access to and from the Port of Redwood City (Port), limits multimodal travel to Downtown and the San Francisco Bay for underserved communities, increases travel times, and results in high numbers of collisions.

The Project will improve interchange ramp intersections to increase safety and reduce congestion for passenger vehicles and trucks. The solutions have been developed with input from the community, including disadvantaged community residents. This will enhance commercial vehicle and intermodal freight to and from the Port and US 101 by improving traffic operations and reducing exposures to collisions caused by backups onto the freeway. The Project will provide sidewalks, separated bikeways,

and multiuse paths traveling along State Route 84 (Woodside Road) and across US 101 where no active transportation facilities currently exist.

C/CAG applauds the Caltrans and the City to advance the Project to be construction ready. We would like to thank USDOT for considering this Project. It will transform the City and region and support multimodal access and economic development. If you have any questions, please contact me at (415) 370-2174 or scharpentier@smcgov.org.

Sincerely,

Sean Charpentier
Executive Director
City/County Association of Governments of San Mateo County

SAN MATEO COUNTYWIDE
Water Pollution Prevention Program
Clean Water. Healthy Community.

555 County Center
Redwood City, CA 94063

650.599.1406
flowstobay.org

August 21, 2023

Submitted via email to RB2-MRP@waterboards.ca.gov

Ms. Eileen White
Executive Officer
San Francisco Bay Region Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Subject: **Comments from the San Mateo Countywide Water Pollution Prevention Program on the Municipal Regional Permit (MRP 3.0) Amendment Tentative Order**

Dear Ms. White:

Thank you for the opportunity to submit comments on the Tentative Order of the proposed amendment to Provision C.3 of the Regional Water Board's Municipal Regional Permit (MRP 3.0) (herein referred to as the Amendment TO) dated July 21, 2023. These comments are submitted by the San Mateo Countywide Water Pollution Prevention Program (SMCWPPP or Countywide Program) on behalf of its 22 local government member agencies (San Mateo County MRP Permittees). The Countywide Program's key concerns and detailed comments are provided below.

Our principal requests, which are elaborated on later in this letter, are as follows:

1. Special Projects Category C/Affordable Housing - The proposed methodology for calculating affordable housing low impact development (LID) treatment reduction credits represents an improvement over the current approach and better reflects the diverse mixes of income-based dwelling units in affordable housing projects. However, the proposed methodology does not address our concerns about its application to emergency/temporary housing and facilities for unsheltered homeless populations. We request that these projects be exempted from C.3 treatment requirements until they are redeveloped into permanent housing projects.

2. Alternative Treatment Systems - The proposed alternative treatment system option, which is limited to certain geographic areas and based on a burdensome LID infeasibility analysis subject to Executive Officer approval, is not implementable in its current form and does not provide realistic options for the treatment measure flexibility. We request that the language be revised to allow demonstration of the equivalency of an alternative treatment system to an LID system, as proposed by Permittees last February, and to remove the geographic restrictions and need for infeasibility analyses.

3. Road Reconstruction in Disadvantaged Communities – We are disappointed that the MRP 3.0 Amendment Tentative Order does not address our and Water Board member concerns about the impacts and unintended consequences of overly burdening DACs with MRP 3.0 road reconstruction requirements. Without cheaper alternatives to high-cost green stormwater infrastructure components in grant-funded road reconstruction projects designed to lower traffic fatalities in DACs, such projects will be scaled back to less effective designs or will not be built at

all. We request that Water Board members and staff continue to work with us to identify ways to advance our shared goals – clean water, sustainable transportation, reducing pollution and climate change, and trees and landscaping that mitigate urban heat islands – without making road reconstruction projects financially infeasible.

Background

During the May 11, 2022 adoption hearing for MRP 3.0, Water Board members expressed concerns about three issues related to the requirements in Provision C.3, New Development and Redevelopment Controls:

1. Allow for more "innovative" treatment options to be used for regulated projects;
2. Provide more flexibility for affordable housing projects that may qualify for Special Projects Category C low impact development (LID) treatment reduction credits; and
3. Consider the impacts of the new road reconstruction requirements (regulated at a threshold of one acre or more of impervious surface replaced) on disadvantaged communities (DACs).

Although MRP 3.0 was adopted without changes to address these concerns, Water Board members directed Water Board staff to form work groups to discuss the issues with a broad group of stakeholders and report back to the Board by August 2023. It was envisioned that the outcomes of the work group discussions might lead to amendments to Provision C.3.

Three work groups – the Alternative Treatment Systems Work Group, the Special Projects Category C / Affordable Housing Work Group, and the Road Reconstruction in DACs Work Group – were formed and began meeting in August/September 2022. SMCWPPP staff actively participated in all three work groups and organized and worked with Water Board staff to provide leadership to the Alternative Treatment Systems Work Group. Work group meetings continued through April 2023.

Key Concerns and Requested Revisions

The Amendment TO contains changes to the following C.3 subprovisions:

- C.3.c.i.(2)(c)(iii) Alternative Treatment Systems; and
- C.3.e.ii.(5) Special Projects Category C – Affordable Housing;

There were no specific changes proposed in the Amendment TO language related to the issue of road reconstruction in DACs.

Our comments on and requested revisions to each of the two subprovisions above, in addition to comments on the lack of changes related to road reconstruction in DACs, are presented below.

C.3.c.i.(2)(c)(iii) Alternative Treatment Systems

The proposed changes describe conditions allowing the use of alternative (non-LID) treatment systems (i.e., high flow rate media filters), in combination with flow control systems, to treat runoff from a regulated project for compliance with the C.3.c. treatment requirements. Conditions include:

- Use is limited to sites located in areas that drain to channels hardened continuously to the Bay, tidally influenced sections of channels, or directly to the Bay (as defined in countywide hydromodification management (HM) applicability maps);

- Non-LID systems must have obtained General Use Level Designation certification for Enhanced Treatment from the Washington State Department of Ecology Technology Assessment Protocol-Ecology (TAPE) Program; and
- Demonstration of Technical Infeasibility and Commensurate Benefits submitted by the Permittee to the Water Board that is acceptable to the Executive Officer (EO).
    - Technical infeasibility requirements include:
        - It must be technically infeasible to treat 100% of the C.3.d volume/flow onsite and/or offsite using LID, and the project must maximize the amount of LID treatment onsite (including in all "potential or actual landscaping opportunities").
        - Evaluation of offsite LID infeasibility must show that "there are no opportunities to implement an equivalent amount of LID in the adjacent or nearby public right-of-way (ROW) for the Regulated Project; in the adjacent or nearby public ROW as part of a district-scale project that treats runoff from both the Regulated Project and from other nearby projects and/or portions of the public ROW; elsewhere in the Permittee's jurisdiction (including opportunities identified in the Permittee's GI Plan); elsewhere in the county (including opportunities identified in the GI Plans of other Permittees in the county); or elsewhere in another county subject to the MRP (including opportunities identified in the GI Plans of other Permittees in all five MRP Counties)."
        - Technical criteria are not specifically defined but include "technical constraints (spatial, utility, or other)." Examples of acceptable and nonacceptable infeasibility statements are provided in the Fact Sheet.
    - Commensurate benefit requirement – the Permittee must demonstrate that the alternative treatment system provides equivalent water quality and flow control benefits to those provided by LID treatment.
- Permittees may only implement this subprovision subsequent to EO approval of a Regional Guidance Document submitted collectively by Permittees to the Water Board that would provide guidance on how to comply with the Demonstration of Infeasibility and Demonstration of Commensurate Benefit requirements.

This proposed approach was presented by Water Board staff in an Alternative Treatment Systems Work Group meeting on February 22, 2023, and further developed for the Tentative Order. Work Group participants expressed significant concerns during the meeting, but those concerns were not addressed in the proposed language, and an adequate response was not provided to the Work Group.

Key Concerns/Comments

The alternative treatment system option proposed in this subprovision is not implementable in its current form and does not provide realistic options for the treatment measure flexibility requested by Water Board members on May 11, 2022. The level of effort required to demonstrate technical infeasibility, onsite and offsite (including locations in other jurisdictions and other counties), and commensurate benefits, followed by the need to submit the analyses for every project to Water Board staff for review and EO approval, is untenable and would likely not be considered for any development project. In addition, limiting the use of alternative treatment systems to HM-exempt areas prevents the use of this option in many Permittees' jurisdictions. As currently worded, SMCWPPP Permittees do not see sufficient

value in committing time and resources to development of a Regional Guidance Document to facilitate this flawed and overburdening approach.

Other sections of this proposed provision also have significant overreach in terms of demonstrating technical infeasibility: the "potential or actual landscaping opportunities" evaluation and the demonstration of offsite infeasibility. Project proponents often try meet multiple development conditions, such as requirements for "active" landscaped areas (e.g., small parks and play areas) and ADA accessibility requirements. Requiring every potential landscaping opportunity to be available for LID will likely conflict with these other requirements, and LID may be infeasible in those areas. Regarding offsite infeasibility, it is unreasonable to expect a project proponent or Permittee to demonstrate that there are no offsite opportunities in another jurisdiction or county (basically, prove a negative) unless the Permittee is already participating in a regional compliance program of some type that is already up and running and has available compliance credits to sell.

One type of project that might justify the level of analysis and review required for an alternative treatment system is a regional stormwater capture project; however, the current language limits the option in this subprovision to Regulated Projects. Regional projects that provide multiple benefits, such as climate resilience, flood controls, capture and use, and significant pollutant load reduction (e.g., mercury, PCBs, and trash), should be eligible for the alternative treatment option where there are constraints that limit the treatment of captured stormwater using LID measures.

We understand that LID treatment measures provide not only improvement in water quality, but additional benefits of flow control and urban greening, and we support the current emphasis on LID treatment in Provision C.3.c. In the February 22 Work Group meeting, however, SMCWPPP presented a proposed methodology by which a suite of control measures, including high flow rate media filtration with additional storage for flow control and an urban greening component, could demonstrate equivalence with LID treatment.[1] As part of that methodology, a guidance document would be developed to show how LID equivalence would be demonstrated, submitted to the Water Board for EO approval, and then implemented as projects are implemented. If such alternative treatment systems were deemed to be equivalent to LID treatment per the methodology and criteria in the guidance document, there would be no reason to: a) restrict the use of the systems to certain geographic areas and project types (i.e., regional or retrofit); b) require a technical infeasibility analysis for LID; and c) require EO approval on a project-by-project basis. SMCWPPP supports this more practical approach and requests that Water Board staff make the necessary changes to the subprovision to allow it.

Requested Revisions

To address our concerns, we request the following revisions to the proposed approach in the Amendment TO Subprovision C.3.c.i.(2)(c)(iii):

- Allow Permittees to develop a Regional Alternative Treatment Systems Guidance Document that provides clear quantitative methods and tools to demonstrate the equivalency of an alternative treatment system to MRP Provision C.3.c compliant facilities (not demonstrate technical infeasibility), for approval by the Water Board EO.

[1] Memorandum to Reid Bogert, C/CAG, from Geosyntec Consultants, February 20, 2023. "MRP 3.0 Provision C.3 Alternative Treatment Systems Workgroup Comments – Considerations for LID/GSI Equivalency Approach".

- Eliminate the requirement for EO approval of projects in which LID-equivalent alternative treatment systems are proposed for use, consistent with an EO-accepted Regional Alternative Treatment Systems Guidance Document.

- Remove other restrictions where equivalency is demonstrated, including:
  - Geographic limitations for where the equivalency approach may be applied;
  - Demonstration of technical infeasibility of LID, on-site and off-site; and
  - Limitation to Regulated Projects only (e.g., allow applicability to regional projects.

- If demonstration of onsite technical infeasibility is not removed, make the following edits to Provision C.3.c.i.(2)(c)(iii)(c)(1) [paragraph 2], i.e., the "landscape opportunities" paragraph, and footnote:

  > *For onsite technical infeasibility, a demonstration that the Regulated Project* ***evaluated all onsite landscaping opportunities[d] for their potential for LID implementation and is implementing LID where suitable, feasible, and not in conflict with other municipal requirements****.* ~~*will implement LID in or on all potential or actual onsite landscaping opportunities and that there are no potential or actual onsite landscaping opportunities in or on which LID will not be implemented*~~*.*
  >
  > *[d]* ***Onsite*** *Landscaping opportunities include, but are not limited to: roofs, terraces, patios, courtyards, plazas, quadrangles, athletics areas, outdoor pool areas, playgrounds, parks, and bike-separation strips* ***within the Regulated Project****.* ~~*, and adjacent public sidewalks, roads, and rights of way (ROWs).*~~

- If demonstration of offsite technical infeasibility is not removed, modify Provision C.3.c.i.(2)(c)(iii)(c)(1) [paragraph 3] (i.e., the "offsite infeasibility" paragraph) to remove the requirement to demonstrate that there are no LID offsite opportunities anywhere in the county or Region, and to allow consideration of other factors for offsite infeasibility:

  > *For offsite* ~~*technical*~~ *infeasibility, demonstration that there are no opportunities to implement an equivalent amount of LID in the adjacent or nearby public right of way (ROW) for the Regulated Project; in the adjacent or nearby public ROW as part of a district-scale project that treats runoff from both the Regulated Project and from other nearby projects and/or portions of the public ROW;* ***or*** *elsewhere in the Permittee's jurisdiction (including opportunities identified in the Permittee's GI Plan).* ~~*; elsewhere in the county (including opportunities identified in the GI Plans of other Permittees in the county); or elsewhere in another county subject to the MRP (including opportunities identified in the GI Plans of other Permittees in all five MRP Counties).*~~ ***Offsite infeasibility may consider other factors such as legal and economic factors and municipal plans for ROW retrofits****.*

- The "Examples of Technical Infeasibility" on pages A-9 and A-10 of the TO Fact Sheet should be removed from the TO. These broad statements represent Water Board staff's opinion of various hypothetical scenarios, are not based on project-specific technical data, and do not belong in a "Fact" Sheet. Furthermore, the statements represent a lack of understanding of the challenges that Permittees face as they try to balance implementation of the new C.3 requirements with other municipal needs.

- Finally, a minor edit is requested to Provision C.3.c.i.(2)(c)(iii)(c)(1) [paragraph 1], which provides a list of potential types and configurations of LID. The list includes "suspended pavement systems with structural soils (e.g., Silva cells)". SMCWPPP supports the use of suspended pavement systems with vegetation (typically trees) and biotreatment soil media as a type of biotreatment system. To be consistent with Provision C.3.c., the words "structural soil" should be changed to "biotreatment soil".

C.3.e.ii.(5) Special Projects Category C – Affordable Housing

The proposed changes describe revised Affordable Housing criteria for LID treatment reduction credit under Special Projects Category C. The basic applicability criteria – HUD definition of affordable housing, application to a "primarily residential project," and minimum density 40 dwelling units per acre – did not change, but a different methodology for crediting based on the percentage of dwelling units in different income categories is proposed. A "primarily residential project" was defined to be a project for which two-thirds of the square footage is designated for residential use.

Key Concerns/Comments

The proposed new methodology represents an improvement over the current approach. The methodology for calculating affordable housing credits better reflects the diverse mixes of income-based dwelling units in affordable housing projects and will allow more projects to qualify for the LID treatment reduction credit where needed. However, the proposed methodology does not completely address concerns expressed by Permittees in the Special Projects Category C Work Group about emergency/temporary housing and facilities for unsheltered homeless populations.

An exemption for emergency housing from the deed restrictions for affordable housing was provided as a footnote in the Administration Draft Amendment but was removed from the Tentative Order. The footnote was helpful and should be included; however, it does not address other challenges with emergency housing. Emergency housing projects are often built on vacant lands that cannot be used for typical development projects and have tight timelines and budgets. These projects should be exempted from C.3 treatment requirements until they are redeveloped into permanent housing projects. Implementing C.3 treatment requires space, funding, and maintenance that could be used towards building housing units and/or funding critical onsite services, secured storage needs, and operations. Most of these projects are also temporary; C.3 treatment built on emergency/temporary housing projects may need to be removed/redesigned to meet necessary C.3 requirements for a future regulated project. These types of facilities are crucial for getting unsheltered homeless persons out of encampments and away from creeks, thus reducing trash and other negative impacts near waterways. They have also been found to be a successful approach to addressing the issue of homelessness within Permittee jurisdictions, with a large percentage of residents transitioning to permanent housing.

Requested Revisions

To address our concerns, we request the following revisions to the proposed approach in the Amendment TO Subprovision C.3.e.ii.(5):

- Include emergency/temporary housing and facilities for unsheltered homeless persons, including those authorized under the State Shelter Crises Act, California Government Code Section 8698, et seq., and other temporary or emergency housing and facilities funded by State or Federal Funds and reserved for the homeless, such as State Homekey projects, into the C.3.i Small Development and Redevelopment Projects definition (i.e., require site design measures but exempt them from C.3 treatment requirements).

- If the above request cannot be met, restore the following footnote to Subprovision C.3.e.ii.(5)(a), after the phrase "with deed restrictions running at least 55 years":

  All qualifying affordable housing DUs in public emergency housing projects may be exempt from this deed restriction requirement, as long as they are maintained at the rent/mortgage rates (including utilities) which the project is relying on for its Affordable Housing Credits, for as long as the project is utilizing those Affordable Housing Credits. If there is a new Regulated Project and/or Special Project at that site, its compliance with Provisions C.3.c and C.3.d must be re-evaluated.

- The Subprovision C.3.e.ii.(5)(a) section of the affordable housing exemption is incorrect with respect to how rents are currently determined under Low-Income Housing Tax Credit and Housing and Community Development regimes and does not reflect any conventional form of recorded restriction. With respect to incomes, the restriction should not be required to exactly match this US Department of Housing and Urban Development definition, but just not to exceed it. Update the language in Subprovision C.3.e.ii.(5)(a) as follows:

  "(a) For the purposes of attributing Affordable Housing Credits, affordable housing is defined as preserved housing with deed restrictions running at least 55 years, at rent/mortgage rates (including utilities) no greater than 30 percent of the ~~total household income~~ maximum percentage of area median income as adjusted for assumed family size as allowed under the applicable statute or rule, and ~~which meets~~ for which the associated income limits do not exceed the maximums for the following income levels specified in the Federal Department of Housing and Urban Development's (HUD's) definition of affordable housing in metropolitan areas:…"

Road Reconstruction in Disadvantaged Communities

During the May 11, 2022 MRP 3.0 Adoption Hearing, multiple Water Board members expressed concerns about the impacts and unintended consequences of overly burdening DACs with MRP 3.0 requirements, especially pertaining to road reconstruction in these communities. The Amendment TO is not responsive to Water Board member concerns. After significant SMCWPPP and Permittee staff resources were spent preparing for and participating in multiple Road Reconstruction in DACs Work Group meetings with Water Board staff on this topic, we are disappointed that the Amendment TO does not contain any language to address this important issue. A request from Water Board staff that Permittees provide detailed information on alternative approaches for pilot projects that could not meet the road reconstruction requirements came too late for Permittees to respond within the allotted timeframe. We are concerned that, without cheaper alternatives to high-cost GSI in grant-funded, high safety impact, road reconstruction projects designed to lower traffic fatalities in DACs, such projects will be scaled back to less effective designs or will not be built at all. We request that Water Board members and staff continue to work with us to identify ways to advance our shared goals – clean water, sustainable transportation, reducing pollution and climate change, and trees and landscaping that mitigate urban heat islands – without making road reconstruction projects financially infeasible. Please direct staff to continue evaluating options to address these concerns.

We look forward to continuing to work with you and your staff to address the many challenges in protecting and improving water quality in San Francisco Bay and Pacific Ocean. In the spirit of such collaboration, Countywide Program and San Mateo County Permittee staff sincerely hope that Water Board staff will consider our recommendations towards an implementable permit amendment that addresses issues raised by Water Board members and Permittees during the adoption of MRP 3.0. If you have any comments or questions, please feel free to contact Jill Bicknell (jcbicknell@eoainc.com) or myself (rbogert@smcgov.org or 650-863-2126).

Sincerely,

Reid Bogert
Stormwater Program Director
City/County Association of Governments of San Mateo County

Enclosure: Memorandum to Reid Bogert, C/CAG, from Geosyntec Consultants, February 20, 2023. "MRP 3.0 Provision C.3 Alternative Treatment Systems Workgroup Comments – Considerations for LID/GSI Equivalency Approach"

cc: SMCWPPP Stormwater Committee
Tom Mumley, Water Board
Keith Lichten, Water Board
Derek Beauduy, Water Board

Geosyntec consultants

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Oakland, California 94607
PH 510.836.3034
www.geosyntec.com

Memorandum

Date:	February 20, 2023
To:	Reid Bogert, C/CAG
Copies to:	Jill Bicknell and Jon Konnan, EOA
From:	Kelly Havens, Senior Engineer; Lisa Austin, Senior Principal; and Aaron Poresky, Principal
Subject:	MRP 3.0 Provision C.3 Alternative Treatment Systems Workgroup Comments – Considerations for LID/GSI Equivalency Approach Geosyntec Project Number: CWR0769

1. PURPOSE

The City/County Association of Governments of San Mateo County (C/CAG) is participating in an Alternative Treatment Systems Workgroup convened following the adoption of the San Francisco Bay Regional Water Quality Control Board (Water Board) Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (MRP or MRP 3.0; Order R2-2022-0018).

Water Board staff and Bay Area Municipal Stormwater Collaborative (BAMSC) members are leading the Alternative Treatment Systems Workgroup and have requested comments from participants regarding an option for a low impact development (LID)/green stormwater infrastructure (GSI) facility equivalency analysis to allow for a broader suite of compliant stormwater treatment facilities.

This memorandum provides considerations for an equivalency approach for MRP-compliant LID/GSI that could be presented to the Water Board as a recommendation from the Alternative Treatment Systems Workgroup for a potential MRP amendment.

2. SUMMARY OF MRP AND ALTERNATIVE TREATMENT WORKGROUP

The MRP requires permittees to require "Regulated Projects," as defined by Provision C.3.b, and impervious surface retrofit projects required by Provision C.3.j to implement LID stormwater treatment measures to treat runoff from the project drainage area. LID treatment measures are defined in MRP Provision C.3.c.i.(2)(c) as follows:

> *"[LID treatment measures]…treat 100 percent of the amount of runoff identified in Provision C.3.d for the Regulated Project's or Provision C.3.j project's drainage area with LID treatment measures onsite or with LID treatment measures at a joint stormwater treatment facility.*
>
> *(i) LID treatment measures are harvesting and use, infiltration, evapotranspiration, and biotreatment.*
>
> *(ii) Biotreatment (or bioretention) systems shall be designed to have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate, infiltrate runoff through biotreatment soil media at a minimum of 5 inches per hour and maximize infiltration to the native soil during the life of the Regulated Project. The soil media for biotreatment (or bioretention) systems shall be designed to sustain healthy, vigorous plant growth and maximize stormwater runoff retention and pollutant removal. Permittees shall ensure that Regulated Projects use biotreatment soil media that meet the minimum specifications set forth in the Revised Model Biotreatment Soil Media Specifications submitted by BASMAA on behalf of the Permittees on February 5, 2016, and approved on April 18, 2016….*
>
> *(iii) Green roofs may be considered biotreatment systems that treat roof runoff only if they meet certain minimum specifications."*

MRP 3.0 Provision C.3.c.i.(2)(c)(iii) allows for the Alternative Treatment Systems Workgroup:

> *"a. The Permittees may convene a workgroup with Water Board staff to discuss and investigate the pollutant removal effectiveness and hydrologic equivalency of – and suggested criteria for – high flow-rate media treatment systems in combination with retention/detention measures, such as silva cells and structural soils, as compared to conventional bioretention. The workgroup should consider issues including: the MEP standard in relation to the use of such systems; the pollutant removal benefits and hydrologic criteria associated with the Permit's LID design approach and which are included in other MS4 permits, such as the Western Washington Phase II Municipal Stormwater Permit (NPDES Permit No. WAR045717) and the Los Angeles Regional MS4 Permit (NPDES Permit No. CAS004004); and additional issues, such as the feasibility of obtaining high flow rate media at construction and, as needed, for the life of a project."*

The Alternative Treatment Systems Workgroup was first convened in September 2022 and has met five times. The Workgroup intends to develop alternative treatment system language that could be included in an MRP 3.0 permit amendment later this year. The Alternative Treatment Systems Workgroup has also established a list of facilities that are considered LID/GSI in accordance with the MRP definition provided above (provided as Attachment A).

During the meeting held on February 2, 2023, Water Board staff presented an option for alternative treatment systems that would include equivalency analysis. This option included the following components:

1. Geographic area restrictions based on hydrologic benefit
2. Applied only to on-site facilities currently considered non-LID per the MRP
3. Technical infeasibility demonstration and/or equivalency analysis
4. Modeling of water quality benefits
5. Equivalency of urban greening benefits
6. Executive Officer (EO) approval

At the end of the meeting, Water Board staff requested comments in response to this option.

This memorandum presents considerations for an LID/GSI equivalency approach that is consistent with the language and the intent of the MRP. As described below, the proposed approach would be expanded upon in a regional guidance document to be developed following approval of the alternative treatment system permit amendment.

3. PROPOSED EQUIVALENCY APPROACH

3.1 LID/GSI Equivalency Approach Overview

The LID/GSI equivalency approach should focus on providing MRP equivalency for three key benefits of LID/GSI:

- Water Quality
- Urban Greening
- Hydrology

These benefits are provided when the definition of LID/GSI in MRP Provision C.3.c.i.(2)(c) is met. Equivalency with these three benefits may require an alternative treatment system to be paired with other stormwater storage or greening components. For the sake of this memorandum, this combination of treatment system(s) and other greening strategies is termed an "alternative treatment system solution".

The following sections discuss equivalency for these three key benefits.

3.1.1 Water Quality Equivalency

Water quality equivalency would be based on the pollutant removal performance of an alternative treatment system solution as compared to an MRP-compliant LID/GSI facility. There

are standardized processes for demonstrating water quality performance that have been developed by other organizations. One such process is the Washington State Department of Ecology Emerging Stormwater Treatment Technologies (TAPE) program, which is currently recommended in countywide program C.3 guidance for selection of non-LID high-flow-rate media systems (where allowed). It is recommended that the treatment component of any alternative treatment system solution demonstrate approval through this program or similar, to provide evidence of water quality equivalency to MRP-compliant LID/GSI.

Note that in the case of some pollutants (especially nutrients, but sometimes metals and TSS), it is common for MRP-compliant LID/GSI to provide lower performance than would be needed to meet the respective TAPE standards. Therefore, using TAPE as a standard for acceptance of the water quality equivalency of an alternative treatment system solution would be conservative.

3.1.2 Urban Greening Equivalency

The urban greening benefits provided by LID/GSI facilities are especially valuable in dense urban environments. As some treatment systems may have limited or no greening included within the facility footprint, often by necessity due to space constraints, urban greening should be provided in addition to the treatment facility as part of the alternative treatment system solution.

It is suggested that the total footprint of urban greening provided by an alternative treatment system solution be equivalent to the LID/GSI facility footprint required by the MRP. The MRP includes a required surface area for biotreatment facilities, defined as "what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate". It is suggested that a total square footage of healthy vegetation or tree canopy equivalent to this surface area be considered equivalent urban greening to MRP-compliant LID/GSI.

3.1.3 Hydrologic Equivalency

As listed in Attachment A, MRP-compliant facility types include infiltration, capture and use, and bioretention (i.e., biotreatment in Provision C.3.c.i.(2)(c)). Infiltration and capture and use facilities provide retention of captured stormwater and provide substantial hydrologic benefits. In the majority of the Bay Area, facilities that comply solely via retention are not typically technically or economically feasible. This section, therefore, focuses on hydrologic equivalency with bioretention facilities compliant with the MRP.

MRP Provision C.3.c.i.(2)(c) requires that bioretention facilities be designed to:

- Treat 100 percent of the amount of runoff identified in Provision C.3.d for the Regulated Project's or Provision C.3.j project's drainage area;
- Have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate;
- Infiltrate runoff through biotreatment soil media at a minimum of 5 inches per hour; and

- Maximize infiltration to the native soil during the life of the Regulated Project.

These requirements govern the hydrologic performance of an MRP-compliant bioretention facility.

As hydrologic benefit is reliant on the amount of retention that could be provided by a facility, it is suggested that a potential equivalency approach be dependent on the underlying soil condition and infiltration feasibility:

- **Option 1: Soils do not allow appreciable infiltration or systems must be lined due to infiltration hazards.** In locations where underlying soils do not allow infiltration, the hydrologic benefits of MRP-compliant bioretention are limited. This is because bioretention soil media permeability is highly variable and typically filters and discharges well above the 5 inches/hour minimum surface loading rate required by the MRP. The minor hydrologic benefits of MRP-compliant lined bioretention can be offset using the site design measures required under MRP Provision C.3.c and other measures to meet the urban greening equivalency approach presented in Section 3.1.2. A separate system of tanks or other storage and flow controls to precisely match flow control performance would have very limited benefit and pose an elevated burden for O&M while increasing the greenhouse gas footprint of a typical site.
- **Option 2: Soils allow some infiltration.** Where some infiltration can occur, increased hydrologic benefit is provided by MRP-compliant unlined bioretention. For these locations, it is suggested that hydrologic equivalency be provided through detention volume included in the alternative treatment system solution that provides equivalent storage, flow control, and/or retention to an MRP-compliant bioretention facility. These potential hydrologic equivalency parameters are described further below:
    - **Equivalent total storage** to a bioretention facility that: (1) treats 100 percent of the amount of runoff identified in Provision C.3.d for the project's drainage area, and (2) has a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate;
    - **Equivalent flow control** by matching the discharge rate of standard unlined bioretention for the volumetric hydraulic design basis, requiring sufficient storage and (potentially) an orifice design to provide this; and
    - **Equivalent retention**, based on the retention that would have been provided through standard unlined bioretention at that location, and could be provided in the alternative treatment system solution through infiltration, evapotranspiration, or capture and use, either on-site or off-site.

As discussed in Section 4, more detailed regional standardized guidance should be developed to describe the suggested hydrologic equivalency demonstration.

3.2 Remove other Restrictions where Equivalency is Demonstrated

If equivalency with the MRP standards is provided by matching the three benefits introduced above, other restrictions or processes should not be required. The restrictions introduced by Water Board staff that should not be required for the equivalency demonstration include:

- **Geographic limitations for where the equivalency approach may be applied**. If flow control equivalency to MRP 3.0 Provision C.3.c.i.(2)(c) is provided, geographic restrictions based on flow control benefits should not be required. In this case, the alternative treatment system solution is discharging stormwater at a rate equivalent to or lower than that expected by MRP-compliant LID/GSI. Note that where hydromodification/flow duration control standards apply, these would still need to be met via a separate demonstration that is beyond the scope of this discussion.
- **Demonstration of technical infeasibility of LID**. A demonstration that it is technically infeasible to treat 100% of the C.3.d design volume/flow onsite and/or offsite (per C.3.e.i) using LID/GSI as defined by MRP 3.0 Provision C.3.c.i.(2)(c) should not be required. If an alternative treatment system solution has functionally equivalent performance to a facility designed per the MRP Provision C.3.c definition of LID/GSI (as demonstrated through the benefits introduced in this memo), it should be allowed to be implemented wherever the MRP allows or requires C.3.c compliant treatment.
- **Limitation to on-site non-LID only**. MRP Provision C.3.j retrofit projects and regional facilities implemented for MRP Provision C.3.e.i or MRP Provision C.3.j should be allowed to demonstrate equivalency to C.3.c and be considered compliant.

4. SUGGESTED PROCESS

A regional Guidance Document should be developed that provides clear quantitative methods and tools to demonstrate the equivalency of an alternative treatment system solution to MRP C.3.c compliant facilities. A simple checklist-type form could be developed to allow for easy confirmation that the methods were appropriately used when demonstrating equivalency. The regional Guidance Document and accompanying checklist process would be approved by the Water Board EO, which would preclude the need for Water Board EO approval of every proposed alternative treatment system solution.

Permittees could choose to allow alternative treatment system solutions that demonstrate MRP LID/GSI equivalency in their jurisdiction or would have the discretion to disallow these approaches or impose additional limitations. Permittees would be tasked with confirming that any applications for equivalent alternative treatment system solutions appropriately follow the Guidance Document and demonstrate that they are equivalent. Records supporting these approvals would be maintained for potential audits, as with any other documents associated with Regulated Projects.

Attachment A: Summary of Stormwater Treatment System Characteristics
Shared by the MRP 3.0 Alternative Treatment Systems Workgroup

Treatment System Name	Description	Components	Treatment Mechanism(s)	LID per MRP3?	Benefits				
					Pollutant Removal	Peak flow reduction	Volume reduction	Water supply/ use offset	Urban greening/ cooling
Infiltration Systems									
Infiltration trench	Long narrow trench filled with permeable material (e.g., gravel), designed to store runoff and infiltrate through the bottom and sides into the subsurface soil.	Gravel-filled trench; raised underdrain (optional).	Infiltration	✓	✓	✓	✓		
Subsurface infiltration system (gallery or vault)	Underground vaults or pipes that store and infiltrate stormwater.	Large-diameter perforated pipes (metal or plastic), or concrete arches, concrete vaults, plastic chambers or crates with open bottoms.	Infiltration	✓	✓	✓	✓	✓	
Infiltration basin	Water impoundment over permeable soils that stores and infiltrates stormwater.	Vegetated depression or basin designed to store runoff on the surface and infiltrate it gradually into the ground; inflow and outflow structures; overflow spillway.	Infiltration	✓	✓	✓	✓	✓	
Pervious pavement	Paving or pavement systems properly designed to store and infiltrate rainfall at a rate equal to immediately surrounding unpaved, landscaped areas, or store and infiltrate a specified runoff volume.	Load-bearing, durable surface constructed over a subbase/base structure typically consisting of compacted, open-graded aggregate, raised underdrain (optional). Top layer may consist of pervious concrete, porous asphalt, concrete pavers with aggregate in openings, permeable pavers, or grid pavements.	Infiltration	✓	✓	✓	✓		
Capture and Use Systems									
Rainwater harvesting (parcel-based)	Rainwater collected from impervious surfaces stored for later use (e.g., irrigation or non-potable indoor use).	Collection system (rain barrels, above-ground or below-ground cisterns, pipes, or proprietary storage systems); debris filters; overflow; distribution system.	Infiltration (irrigation); POTW (toilet flushing)	✓	✓	✓	✓	✓	
Stormwater capture and use (regional; vault-based)	Capturing and storing of stormwater for potable uses, such as aquifer recharge, as well as a wide range of non-potable uses.	Collection system (above-ground or below-ground tanks, open storage reservoirs, or proprietary storage systems); diversion or inlet structure; pretreatment; infiltration and/or other treatment prior to use.	Infiltration (irrigation); POTW (toilet flushing)	✓	✓	✓	✓	✓	
Bioretention Systems with Biotreatment Soil Media (5 in/hr surface loading rate)									
Bioretention (lined) or flow-through planter	System designed to detain stormwater runoff, filter stormwater runoff through biotreatment soil media and plant roots, and release treated stormwater runoff to the storm drain system. May be surrounded with concrete or other structural planter box walls and/or waterproof membranes.	Ponding area, mulch, vegetation, biotreatment soil media (per BASMAA spec), aggregate layer, underdrain, inlets and overflow structure.	Filtration/adsorption/uptake via BSM and plants	✓	✓	✓			
Bioretention (unlined)	System designed to detain stormwater runoff, filter stormwater runoff through biotreatment soil media and plant roots, and either infiltrate stormwater runoff to underlying soils, as allowed by site conditions, or release treated stormwater runoff to the storm drain system, or both.	Ponding area, mulch, vegetation, biotreatment soil media (per BASMAA spec), aggregate layer, raised underdrain (required f(required for installations in slow-draining native soils), inlets and overflow structure.	Filtration/adsorption/uptake via BSM and plants; infiltration	✓	✓	✓	✓		
Tree wells (LID)	System consisting of a tree in a bioretention area typically with a small surface area.	Excavated pit or vault filled with biotreatment soil media; tree(s) and other vegetation; aggregate layer; underdrain (required for installations in slow-draining native soils).	Filtration/adsorption/uptake via BSM and plants; infiltration	✓	✓	✓	✓		

Attachment A: Summary of Stormwater Treatment System Characteristics
Shared by the MRP 3.0 Alternative Treatment Systems Workgroup

Treatment System Name	Description	Components	Treatment Mechanism(s)	LID per MRP3?	Benefits				
					Pollutant Removal	Peak flow reduction	Volume reduction	Water supply/ use offset	Urban greening/ cooling
Suspended pavement systems (e.g., Silva Cells) with trees	Underground system of structural modules that provide rootable soil volume for tree root growth under pavement areas adjacent to the tree planting area.	Structural cells (e.g., Silva Cells), ponding area and/or flow distribution piping, tree(s), biotreatment soil media, aggregate layer, raised underdrain (required for installations in slow-draining native soils), inlet and outlet structures.	Filtration/adsorption/uptake via BSM and plants; infiltration	✓	✓	✓	✓		
High Flow Rate Media Systems									
Media filter	System that captures and directs runoff through a filter bed or cartridges filled with an absorptive media designed to remove pollutants.	Vault filled with high flow rate media such as sand, compost, or proprietary media (layered or in cartridges), underdrain and/or inlet and outlet structures.	Filtration		✓				
Media filter with vegetation (includes tree well filters and high flow rate biofiltration)	System that captures and directs runoff through a filter bed or cartridges filled with an absorptive media designed to remove pollutants, and incorporates vegetation for additional pollutant removal benefits.	Vault filled with high flow rate media such as sand, compost, or proprietary media, mulch, vegetation, and underdrain.	Filtration; some plant uptake		✓				
Other									
Extended detention basin	Constructed basin with drainage outlets that are designed to detain runoff from a water quality design storm for some minimum time (e.g., 48 hours).	Sedimentation forebay, properly designed excavation providing required temporary storage of stormwater runoff, inlet and outlet structures, emergency spillway.	Detention/sedimentation		<✓	✓			
Vegetated swale	Open, shallow, sloped channels with vegetation covering side slopes and bottom that collect and convey runoff to downstream discharge points.	Permeable soil, vegetation, outlet structure, underdrain (if required).	Some filtration, sedimentation, and infiltration		<✓				
Hydrodynamic separator	Mechanical system designed as flow-through structure that uses swirl concentration and continuous deflective separation to screen, separate and trap trash, debris, sediment, and hydrocarbons from stormwater runoff.	Inlet, separation chamber,screening, sump storage, baffle wall, diversion weir, outlet pipe.	Screening, separation/trapping, sedimentation		<✓				
Baffle box	Proprietary system that captures trash and sediment by directing stormwater through screens and over a series of baffles causing sediments to settle in the chambers below.	Splitter screen, turbulence deflectors, sediment chambers, flow control weir, oil skimmer and hydrocarbon boom (optional).	Screening/gravity separation, sedimentation		<✓				
Constructed wetlands	Engineered, shallow-water ecosystems designed to treat stormwater runoff (does not include natural wetlands)	Wet pond with different depth zones, sediment forebay, overflow/emergency spillway, wetland vegetation	Settling, sorption, filtration, microbial degradation, plant uptake if sufficient vegetation		✓	✓			

C/CAG

CITY/COUNTY ASSOCIATION OF GOVERNMENTS
OF SAN MATEO COUNTY

Atherton • Belmont • Brisbane • Burlingame • Colma • Daly City • East Palo Alto • Foster City • Half Moon Bay • Hillsborough • Menlo Park • Millbrae • Pacifica • Portola Valley • Redwood City • San Bruno • San Carlos • San Mateo • San Mateo County •South San Francisco • Woodside

August 23, 2024

Patrick Gilster
Director, Planning and Fund Management
San Mateo County Transportation Authority
1250 San Carlos Avenue
San Carlos, CA 94070

Subject: Letter of Support for 2023 Highway Program Call for Projects

Dear Director Gilster,

On behalf of C/CAG, I am writing in support of The Town of Colma's application to the San Mateo County Transportation Authority (TA) for the FY 2023 Highway Program Call for Projects. C/CAG is the County Transportation Agency (CTA) and also the designated Congestion Management Agency (CMA) for San Mateo County.

The Town of Colma is requesting funding for the El Camino Real Pedestrian and Bicycle Improvement Project. We understand that the fund is requested for the preparation of the Project Approval and Environmental Document (PA&ED) of the El Camino Real (SR-82) Project in Colma from Albert M Teglia Blvd to Arlington Drive. The improvements along the corridor will encourage people walking and biking where most needed, create healthy and safe streets and enhance the use of sustainable transportation options.

The completed Project will connect to other transportation modes such as bus facilities on El Camino Real and access to the Colma BART Station and South San Francisco BART Station. We strongly support this project that enhances safety, mobility, and sustainability for pedestrians and bicyclists.

C/CAG is the County Transportation Agency (CTA) and also the designated Congestion Management Agency (CMA) for San Mateo County. C/CAG represents all of San Mateo County's 764,442 residents through its 21-member Board of Directors that includes a seat for every jurisdiction in San Mateo County. C/CAG works to improve mobility, the environment, and equity, as well as prioritizing safety throughout San Mateo County. This project incorporates all those goals.

We support the Town's Plan in its effort to focus on roadway safety by significantly reducing or eliminating fatalities and serious injuries for all roadway users, including pedestrians, bicyclists, motorists, public transportation and micromobility users. If you have any questions, please reach out to me directly. Thank you in advance for your consideration of this project.

Sincerely,

Sean Charpentier
Executive Director
(415) 370-2174
scharpentier@smcgov.org

NOAA CLIMATE RESILIENCE REGIONAL CHALLENGE

COVER PAGE

To:	NOAA Office for Coastal Management
Purpose:	NOAA Climate Resilience Regional Challenge (2023)
Project Title:	Implementing OneWatershed Climate Resilience Infrastructure in San Mateo County
Funding Track:	Track Two
Lead Applicant/Project Director:	Reid Bogert, Program Director, San Mateo Countywide Water Pollution Prevention Program (a program of the City/County Association of Governments of San Mateo County) rbogert@smcgov.org 555 County Center, Redwood City, CA 94603 Office: 650-599-1433 Cell: 650-863-2126
Federal Funding Request:	*$50,000,000*
Geographic Description:	San Mateo County, including countywide programmatic implementation and capital project implementation in the Cities/Towns of San Bruno, Daly City, Colma, and East Palo Alto
Participating Jurisdictions:	**City/County Association of Governments of San Mateo County (C/CAG)**, San Mateo County Flood and Sea Level Rise Resiliency District (OneShoreline), San Bruno, Daly City, Colma, East Palo Alto
Collaborators:	Climate Resilient Communities, San Mateo County Office of Sustainability, South San Francisco-San Bruno Water Quality Control Plant, other C/CAG member agencies which include all of the cities in San Mateo County, Bay Area Water Supply and Conservation Agency (BAWSCA), Caltrans, San Mateo Resource Conservation District, ReScape California, JobTrain, Save the Bay, and the Thrive Alliance
Period of Performance:	October 2024-October 2029

Resilience Vision: The San Mateo Countywide OneWatershed Climate Resilience Implementation Project (Project) will launch a novel approach to integrated, community-driven climate resilience infrastructure in San Mateo County. "OneWatershed" Climate Resilience Infrastructure addresses the shared-risk of climate change to water infrastructure and resources (sewer, water, stormwater) with an emphasis on building adaptive capacity to climate impacts for the most vulnerable communities. The Project will build on existing partnerships, leverage prior collaborative climate resilience planning among Project partners, align urgent water infrastructure climate resilience needs and investments, and build a new and sustained model for project implementation through co-creation with frontline communities. The Project will link critical infrastructure with programmatic developments to support the launch of a countywide OneWatershed Climate Resilience Program in collaboration with the participating jurisdictions and collaborators. Project goals include:

1) **Design and Construct OneWatershed Climate Resilience Infrastructure.** Significantly increase near-term climate resilience for core water infrastructure in San Mateo County by implementing multiple priority OneWatershed Climate Resilience infrastructure projects (emphasizing green infrastructure and nature-based solutions, with a role for gray infrastructure), through a co-creation engagement process with identified equity focus and communities. Selected OneWatershed Climate Resilience infrastructure projects will leverage prior funding and measurably reduce flood risk, decrease urban heat impacts, improve water quality, and serve as a model with tangible resources for how to effectively create and sustain OneWatershed Climate Resilience Infrastructure for coastal communities throughout the United States.

2) **Integrate and Expand Existing Collaborative Climate Resilience Programs**. Further develop and align programmatic and funding partnerships among regional partners and collaborators in San Mateo County. Expand and pilot the existing countywide Interim Regional Collaborative Program for Green Stormwater Infrastructure, focused on countywide implementation of OneWatershed Climate Resilience infrastructure to support flood risk reduction, water supply reliability, heat reduction, active transportation, water quality and other community co-benefits.

3) **Activate and Scale Adaptive Capacity through Equitable and Inclusive Engagement and Workforce Development**. Rapidly develop, scale, and sustain adaptive capacity for the most vulnerable and impacted frontline communities, with respect to water related climate resilience. Deploy community-based engagement strategies to address near- and long-term community resilience goals and objectives and launch a Workforce Development Pilot Program focusing on a OneWatershed Climate Resilience infrastructure maintenance training program to train and invest in local businesses and workers for needed resilience services. The pilot program will be targeted in the equity focus communities at the center of this Project, including East Palo Alto, Colma, Daly City, San Bruno.

4) **Develop Long-Term Strategies for Sustained Funding for Resilience Infrastructure**. Leverage NOAA grant to implement countywide OneWatershed Climate Resilience pilot projects and develop the process and methods to scale implementation and monetize project benefits for saleable stormwater-based "exchange units." The proceeds of pilot exchanges will be placed in a OneWatershed Climate Resilience Fund for implementation of future OneWatershed Climate Resilience infrastructure managed through the San Mateo County Regional Collaborative Program. Share approaches, tools, and resources with neighboring Bay Area counties (and beyond) to assist other agencies to develop similar sustainable OneWatershed Climate Resilience infrastructure implementation programs.

This project will be led by C/CAG, a regional countywide Joint Powers Authority that includes each of the 20 cities in the county and the County of San Mateo (County). C/CAG's project partners (the City of San Bruno, City of Daly City, City of East Palo Alto, Town of Colma, and OneShoreline) may be sub-awardees leading capital implementation activities for the Project. C/CAG's collaborators (listed above) will provide technical advice on and/or participate in the deployment of programmatic deliverables, including Project Engagement, developing a Workforce Development Pilot, and integrating the San Mateo County

OneWatershed Climate Resilience Framework (OneWatershed Framework), recently awarded funding under the Office of Planning and Research Integrated Climate Adaptation and Resilience Program (ICARP) Adaptation Planning Grant Program, with the county Regional Collaborative Program.

Regional Context: San Mateo County is one of the most at-risk counties in the country with respect to the impending consequences of sea level rise, with the greatest population of any county in California living within projected inundation areas and an estimated $39.1B in assets at risk to flooding in the next 50-100 years[1]. Communities face additional and severe climate risks in the coming decades. The biggest challenges include coastal flooding and erosion (with especially significant erosion on the Pacific coastside of the county[2]), upland flooding from increasing extreme precipitation events[3] (in 2023, a number of communities in San Mateo County experienced unprecedented wet weather events and several parts of the county received more than 4 inches of rain in a single storm, causing major property flooding and road closures among other impacts[4]); wildfire (with an eight-fold increase probability of a large fire occurring in the county by 2070 under climate projections[5]); increased water stress due to drought (with two major droughts in the county spanning nine out of eleven consecutive years with record high heat and low precipitation[6]); and increased urban heat[7] especially in the highly urbanized communities along the bayshore.

As seen in recent years, the pendulum swing between extreme heat and drought followed by torrential atmospheric river events is putting equity focus communities at a disproportionate risk. The most vulnerable communities in San Mateo County experience the greatest impacts when large storms sweep the county, due to being often located in low-lying geographies where aged, undersized, and underfunded storm drain systems are failing during large storms. These impacts are expected to increase with projected future changes in precipitation. Impacted areas include historically underserved communities, including communities in the Cities of East Palo Alto, Daly City, Colma and San Bruno, where proposed OneWatershed Climate Resilience projects will be located. The Project focuses on implementation of multi-benefit stormwater capture projects within the San Bruno Creek Watershed as a pilot subwatershed area with multiple planning efforts underway involving regional collaboration, including a regional-scale stormwater capture project at I-280/380, to amplify existing partnerships and demonstrate a OneWatershed approach (top to bottom of the watershed, emphasizing local and regional benefits of a variety of stormwater capture projects at difference scales and integrating water sectors) that can be replicated throughout San Mateo County and serve as a model for integrated water management at the state and national scale.

To-date, climate resilience planning in San Mateo County has largely been grant-funded as California state law significantly constrains municipalities from establishing or increasing stormwater, flood, or resilience taxes or property related fees. The City of San Bruno, among other agencies in the region, attempted a storm drainage and flood protection fee in 2021, which failed by a three to one margin. The County and cities do not have a funding source for resilience projects, including high priority, significant opportunities that are the focus of this Project.

This Project will enable C/CAG, its 21 member agencies, and other entities in the county (representing approximately 765,000 residents) access to equitable, sustainable, and practical methods and the critically needed financial resources to implement OneWatershed Climate Resilience infrastructure at scale and for the most at-risk communities.

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[1] Sea Level Rise Vulnerability Assessment (San Mateo County OOS, 2018) https://seachangesmc.org/vulnerability-assessment

[2] https://seachangesmc.org/slr-maps-south-coast/

[3] https://ccag.ca.gov/countywide-sustainable-streets-master-plan/

[4] https://www.rwcpulse.com/local-news/weather/flood-watch-extended-to-entire-bay-area-warning-includes-threat-to-lives-6320274

[5] https://www.smcsustainability.org/wp-content/uploads/Climate-Ready-SMC-Hazard-Factsheet-Wildfire-1.pdf

[6] https://data.statesmanjournal.com/drought/california/san-mateo-county/06081/

[7] https://www.smcsustainability.org/wp-content/uploads/Climate-Ready-SMC-Hazard-Factsheet-Extreme-Heat-and-Health-1.pdf

Proposed Activities and Outcomes: C/CAG has identified seven activities to achieve stated Project goals.

Design and Construct Climate Resilience and Adaptation Infrastructure

Activities 1 - 4 will provide immediate benefits to climate vulnerable and equity focus communities, including flood risk reduction; urban greening; aquatic ecosystem/water quality benefits; and opportunities for groundwater recharge. The focus is on leveraging resources to demonstrate the proof of concept for OneWatershed Climate Resilience Infrastructure, focused primarily on a priority subwatershed in the San Bruno Creek area, as well as several other pilot "OneWatershed" projects in development and at different scales within vulnerable communities to support a holistic approach.

1) **Activity 1: Construct Regional Stormwater Capture/Infiltration Project at I-280/380 in San Bruno**
   a) Description: A regional-scale, cross-jurisdictional (4 jurisdictions, including Caltrans) multi-benefit green stormwater infrastructure (GSI) facility located at the I-280/I-380 interchange in San Bruno that will capture, detain, and if possible, infiltrate large volumes of stormwater runoff.
   b) Benefits: The facility will provide hydromodification benefits at a regional scale by slowing the speed and volume at which stormwater runoff is conveyed downstream, helping alleviate flooding currently experienced by thousands of residents in climate-vulnerable areas, including two Census tracts identified as Equity focus Communities (tracts 6081604200 and 6081604101), when constructed with other storm drain upgrades (see Activity 2). The facility resides within the San Mateo Westside groundwater basin, actively used for local water supply, and infiltration would significantly recharge groundwater. The basin would also provide water quality benefits.
   c) Funding: Funding needed for this project is estimated to be $35M. C/CAG and the County have secured $3.5M through the California Natural Resources Agency, the USEPA Water Quality Improvement Fund and a member-directed spending request via Congresswoman Jackie Speier's Office. The requested funding amount is $15M, with the anticipation of requesting matching funds under a future grant or spending request to complete construction.
   d) Current status: Concept design is complete and City is advancing the initial study and design.
   e) Metrics for Success: Permitting, community engagement/support, and construction phase development.
2) **Activity 2: Associated City of San Bruno grey stormwater infrastructure upgrades**
   a) Description: The City of San Bruno has identified required stormwater infrastructure upgrades to alleviate system deficiencies that cause flooding in climate vulnerable communities. Selected activities are related to the I-280/380 project and would benefit downstream vulnerable communities. These include: AD-1: Upgrade the Belle Air Reinforced Concrete Box drains to meet capacity needs; AD-2: Perform evaluation to adjust capacity of the storm drain system and construct option (detention basin, infiltration basin, and/or upsizing the storm system); AD-3: Upgrade El Camino Real pipe at I-380 crossing; CD-1: Bolt manholes and install catch basin backflow preventers.
   b) Benefits: Permanent flood reduction benefits to Bayshore climate vulnerable and equity focus communities in the City of San Bruno.
   c) Funding: The total funding needs for these upgrades are estimated at $14.4M.
   d) Current status: The projects have been modeled and sized in a master planning document.
   e) Metrics for Success: Design, permitting, and construction of upgrades.
3) **Activity 3: District-scale OneWatershed Framework pilot project**
   a) Description: The top-priority project identified through a pilot of the OneWatershed Framework (pilot funded through the secured ICARP grant) would be designed and constructed through this grant. The project would be identified to reduce water-related climate risks in the San Bruno Creek watershed and would serve as a model for OneWatershed Climate Resilience projects.
   b) Benefits: The project is anticipated to have integrated water management and climate resilience benefits for the climate vulnerable communities in the pilot watershed and would be developed through the newly established OneWatershed Framework and community-centered engagement process created during the ICARP grant.

c) Funding: The expected funding needed for pre-design studies, design, and construction is $5M.
d) Current status: Concept design is funded and will be completed prior to the NOAA grant award.
e) Metrics for success: Pre-design studies, design, successful OneWatershed engagement process, permitting, and construction.

4) Activity 4: Implementation of three sustainable streets projects

a) Description: Construction of three sustainable streets projects identified to support residents in communities with overlapping vulnerable community indices[8]. The projects are located, respectively, (1) next to a school in a Metropolitan Transportation Commission (MTC) equity priority community[9] in East Palo Alto, (2) along the heavily traveled El Camino Real (St Hwy 82) in Colma, which is being redesigned with pedestrian and bicycle improvements, and (3) near two schools in Daly City. These communities all have larger populations of lower socioeconomic status residents.
b) Benefits: Projects will help to reestablish natural hydrology and may provide groundwater recharge to the San Mateo Plain, Westside, and Visitacion Valley basins, which are in use or may support future local water supply. The projects will increase street trees, reducing urban heat. Importantly, these integrated active transportation projects will increase bikeability, pedestrian safety, and prioritize non-motorized street users while ameliorating climate change impacts.
c) Funding: The expected total funding needed for pre-design studies, design, and construction is approximately $10M. C/CAG has requested Federal $850K in Federal funding for these projects. The total amount requested through this grant is $9.1M
d) Project status: Concept designs have been completed.
e) Metrics for Success: Completion of project construction.

Activity 5 will meet the goals of expanding the county Regional Collaborative Program and developing long-term strategies for sustained funding for resilience infrastructure.

5) Activity 5: Further Develop and Launch County Regional Collaborative Program

a) Description: Integrate the ICARP funded OneWatershed Climate Resilience Framework with the Regional Collaborative Program to expand and operationalize a countywide approach to multi-benefit, multi-agency, GSI implementation at multiple scales (parcel, street, district, regional). Conduct needed meetings and studies and prepare documents and tools to support program formation and launch. Conduct regional symposium for sharing lessons learned and processes.
b) Benefits: Program development will formalize regionally collaborative partnerships for funding, planning, implementing and maintaining OneWatershed Climate Resilience infrastructure. This work will memorialize the community-centered planning approach established in the OneWatershed Framework with leadership from Climate Resilient Communities.
c) Funding: The expected total need for these actions is $2M.
d) Project status: Development of the Regional Collaborative Program has been initiated through two separate efforts. The OneWatershed Framework and pilot is funded through an ICARP grant.
e) Metrics for Success: Regional Collaborative Report and Operational Document; regional technical and stakeholder meetings; institutional/partnership policy and program guidance; sustained Climate Change Community Teams; operational Regional Collaborative Tracking Tool and data; Program Administration; Regional Symposium for information sharing.

6) Activity 6: Engagement for OneWatershed Projects and Regional Collaborative Program

a) Description: Conduct targeted outreach to community members, residents, businesses, and community-based organizations for activities 1-5, leveraging C/CAG's Stormwater Program and partnerships. Outreach will center on equitable engagement using proven community-centered modes to engage stakeholders, e.g., community pop-up events, webinars, project site walk-throughs, townhalls, design charettes and meetings within community spaces.

[8] https://www.flowstobay.org/data-resources/plans/sustainable-streets-master-plan/ see Appendices.
[9] MTC Equity focus Communities are census tracts with a significant concentration of underserved populations.

b) Benefits: Community involvement in project designs is critically important to consider how projects align with community needs, provide the community with ownership in the project design process, and ensure community acceptance of project installation. A focus of the OneWatershed Framework approach is culturally integrating GSI with community identity and values, such as adding artistic and other elements not typically seen in conventional GSI.

c) Funding: The costs are included in the budgets for activities 1-5. No additional funding requests.

d) Metrics for Success: Documented engagement processes for activities 1-5; fully involved and represented communities in each phase of project development.

7) Activity 7: Develop OneWatershed Workforce Development Pilot Program

a) Description: Develop a three-year pilot program to train 100 local program participants on GSI maintenance with the intent of building local business skillsets, adaptive capacity, and economic resilience as part of the OneWatershed Framework for climate resilience. Training programs could include multiple partners to ensure success, including ReScape California for technical training, JobTrain to support administration, and leveraging the engagement process from Climate Resilient Communities to support outreach and enrollment from the equity priority communities targeted in this Project.

b) This program will train community members (e.g., Climate Change Community Teams) to perform economically valuable and environmentally sustainable GSI and OneWatershed project maintenance activities so newly built facilities remain responsive to climate change impacts.

c) Benefits: This program is intended to assist local businesses to grow their service offerings, train workers, and to support underserved and climate vulnerable communities through a program that provides much-needed maintenance services for multi-benefit stormwater capture projects.

d) Funding: The program is estimated to cost $1M.

e) Metrics for Success: Program establishment and training for 100+ participants over three years.

C/CAG will also conduct Project grant administration and overall management. C/CAG has a proven track record of successfully obtaining and managing over $10M in grant funds from state, federal, and philanthropic sources over the past 6 years on behalf of its member agencies and regional partners.

Intended Outcomes: The overall Project intent is to demonstrate the far-reaching benefits of integrated OneWatershed Climate Resilience infrastructure for local and regional resilience. The project will establish the Regional Collaborative Program to foster implementation partnerships and roll out the OneWatershed Framework to ensure community-oriented adaptive capacity at all scales.

Budget Summary

Budget Categories	Requested Cost
Activity 1: I-280/I-380 Infiltration Facility (Sub-Award to City of San Bruno)	$15,000,000
Activity 2: City of San Bruno storm drain upgrades (Sub-Award to City of San Bruno)	$14,400,000
Activity 3: OneWatershed Pilot Project Implementation	$5,000,000
Activity 4: Sustainable Streets Project 1: East Palo Alto	$1,250,000
Activity 4: Sustainable Streets Project 2: Daly City	$4,250,000
Activity 4: Sustainable Streets Project 3: Colma	$3,600,000
Activity 5: Regional Collaborative Program Development	$2,000,000
Activity 6: Engagement	(Included in Activities 1-5)
Activity 7: Workforce Development	$2,000,000
Grant Administration and PM	$2,500,000
TOTAL	$50,000,000

Anticipated Technical Assistance Needs: C/CAG would like to request limited consultation on (1) proposal funding allocations and (2) identifying measurable outcomes to clearly meet NOAA's goals.