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

2:30 PM, Thursday, August 15, 2019

San Mateo County Transit District Office[1]
1250 San Carlos Avenue, 2nd Floor Auditorium
San Carlos, California

STORMWATER (NPDES) COMMITTEE AGENDA

1.	Public comment on items not on the Agenda (presentations limited to three minutes).	Breault	No materials
2.	Stormwater Issues from C/CAG Board meetings: • May – FLSRRD solicitation for city/town seats on "Board in Waiting" approved • June – Stormwater Program Task Orders and Funding Agreements: Approved: Amend. No. 1 to EOA-08 for completion of Water Year 2019 activities; EOA-09 and EOA-10 for FY1920 program support; LWA-05 for FY1920 program support; SGA-05 for FY1920 outreach support; Amend. No.3 to URD-01 to complete GI Design Guide; Amend. No.2 to the BASMAA funding agreement for FY1920; Amend. No.4 to the BAWSCA funding agreement for FY1920. FSLRRD Appointments: five city/town appointments considered by vote of the C/CAG Board and Reso 19-52 establishing record of the appointments and directing transmittal to the County Board of Supervisors • July – Amend. No.1 to EOA-07 for no-cost time extension to complete FY1819 tasks in the first quarter of FY1920.	Fabry	No materials
3.	ACTION – Review and approve April 18, 2019 Stormwater Committee minutes	Fabry	Pages 1-6
4.	INFORMATION – Announcements on stormwater issues • Funding Opportunities • DAR approval for Pillar Point Harbor SSID and 2019 C/CAG Annual Report • Flood and Sea Level Rise Resiliency District update • PCBs in Demolition Projects Program Implementation • Water Board Audits • CASQA and State of the Estuary Conferences • BASMAA Organization • MRP 3.0 Discussions • Annual Reports and Green Infrastructure Plans • Other	Fabry	Verbal
5.	ACTION – Recommend the C/CAG Board accept $3 million in State grant funds for multi-benefit regional stormwater project designs	Fabry	Page 7-15
6.	INFORMATION – Receive presentation on the current status of the Sustainable Streets Master Plan.	Fabry	Page 16
7.	Regional Board Report	Mumley	No Materials

[1] For public transit access use SamTrans Bus lines 390, 391, 292, KX, PX, RX, or take CalTrain to the San Carlos Station and walk two blocks up San Carlos Avenue. Driving directions: From Route 101 take the Holly Street (west) exit. Two blocks past El Camino Real go left on Walnut. The entrance to the parking lot is at the end of the block on the left, immediately before the ramp that goes under the building. Enter the parking lot by driving between the buildings and making a left into the elevated lot. Follow the signs up to the levels for public parking. Persons with disabilities who require auxiliary aids or services in attending and participating in this meeting should contact Mima Guilles at 650 599-1406, five working days prior to the meeting date.

8.	Executive Director's Report	Wong	No Materials
9.	Member Reports	All	No Materials

PUBLIC NOTICING: All notices of C/CAG regular Board meetings, standing committee meetings, and special meetings will be posted at the San Mateo County Transit District Office, 1250 San Carlos Ave., San Carlos, CA, and on C/CAG's website at: http://www.ccag.ca.gov.

PUBLIC RECORDS: Public records that relate to any item on the open session agenda for a regular Board meeting, standing committee meeting, or special meeting are available for public inspection. Those public records that are distributed less than 72 hours prior to a regular Board meeting are available for public inspection at the same time they are distributed to all members, or a majority of the members, of the Board or standing committee. The Board has designated the City/County Association of Governments of San Mateo County (C/CAG), located at 555 County Center, 5th Floor, Redwood City, CA 94063, for the purpose of making public records available for inspection. Such public records are also available on C/CAG's website at: http://www.ccag.ca.gov.

PUBLIC PARTICIPATION: Public comment is limited to two minutes per speaker. Persons with disabilities who require auxiliary aids or services in attending and participating in this meeting should contact Mima Guilles at (650) 599-1406, five working days prior to the meeting date.

If you have any questions about this agenda, please contact C/CAG staff:

Program Manager: Matthew Fabry (650) 599-1419
Administrative Assistant: Mima Guilles (650) 599-1406

C/CAG AGENDA REPORT

Date: August 15, 2019

To: Stormwater Committee

From: Matthew Fabry, Program Manager

Subject: Review and approve April 18, 2019 Stormwater Committee meeting minutes.

(For further information or questions contact Matthew Fabry at 650 599-1419)

RECOMMENDATION

That the Committee review and approve April 18, 2019 Stormwater Committee meeting minutes, as drafted.

ATTACHMENTS

1. Draft April 18, 2019 Minutes

STORMWATER COMMITTEE
Regular Meeting
Thursday, April 18, 2019
2:30 p.m.

DRAFT Meeting Minutes

The Stormwater Committee met in the SamTrans Offices, 1250 San Carlos Avenue, San Carlos, CA, 2nd floor auditorium. Attendance at the meeting is shown on the attached roster. In addition to the Committee members, also in attendance were Matt Fabry (C/CAG Program Manager), Reid Bogert (C/CAG staff), Sandy Wong (C/CAG Executive Director), Chris Sommers (EOA), Sarah Scheidt (City of San Mateo), Jennifer Lee (City of Burlingame), Kim Springer (County of San Mateo Office of Sustainability), Raymund Donguines (City of Pacifica), Ann Stillman (County of San Mateo), and Drew (public). Chair Breault called the meeting to order at 2:33 p.m.

1. Public comment: None

2. Stormwater Issues from C/CAG Board Meetings: Matt Fabry provided an update on stormwater-related items from the C/CAG Board February, March and April, including the executed funding agreement with the San Mateo County Office of Education for $25,0000 to fund the Clean Water Pathways teacher fellowship program in June, Reso 19-15 adopting the definitions for regional representation on the proposed Flood and Sea Level Rise Resiliency District, approved support letter for AB 825 to create the new Flood and Sea Level Rise Resiliency District, updates on the Fair Oaks Community School Safe Routes to School and GI Pilot Project, support letter for regional stormwater project budget request for Assembly Member Mullin, and time extensions for EOA and LWA task orders to complete Fiscal Year 18/19 tasks.

3. ACTION – The draft minutes from the February 21, 2019 Stormwater Committee meeting were unanimously approved as drafted (motion: Oskoui, second: Tan).

4. INFORMATION – Matt Fabry provided announcements on stormwater issues:

- EPA Water Quality Improvement Funds: EPA funded the County's proposal for additional preliminary designs for regional stormwater projects at Red Morton Park in Redwood City and at a Caltrans property in San Bruno at the interchange of I-280 and I-380. A total of $500,000 was awarded, $100,000 of which will be dedicated to finding additional regional stormwater capture projects.

- Flood and Sea Level Rise Resiliency District (FSLRRD): All agencies have supported the FSLRRD with the exception of Foster City and Woodside, which will consider the proposal for endorsement in May. AB 825 which is the carrying legislation for the new district is being considered by the budget and local government committees in April.

- Assembly Member Mullin Budget Request: C/CAG staff submitted a budget request to Assembly Member Mullin's office for $8 million to advance designs of regional stormwater capture projects in San Mateo County. C/CAG staff requests letters of support from member agencies by the end of April. If awarded, C/CAG will need to determine a process for allocating funds.

- Funding Opportunities: Fabry shared several current/upcoming funding opportunities focused on green infrastructure implementation, including the Coastal Conservancy's Urban Greening funds under Prop 1, the Natural Resources Agency Green Infrastructure Grant Program under Prop 68 (pre-proposals allowed) and the Trails to Greenways Grant, also administered by the Natural Resources Agency. Fabry will send an update via email with further details on these opportunities.

- Duly Authorized Representatives Approvals: Fabry reminded the Committee that there are upcoming submittals to the Regional Water Quality Control Board that will require Duly Authorized Representative approvals. C/CAG staff will plan to receive approvals for these submittals at the next Stormwater Committee meeting scheduled in May, or via email.

- Other: Fabry announced the Bay Area Council, a consortium of regional business leaders, responded to the development of programs throughout the MRP region to manage PCBs during building demolition. The Council has expressed concern that the programs may be requiring more than what state and federal policies currently mandate for hazardous waste management during demolition. The Bay Area Stormwater Management Agencies Association (BASMAA), of which C/CAG is a member, plans to respond to this letter with support from the Regional Water Quality Control Board. BASMAA will continue to work with industry and municipal reps on improving the programs as they are rolled out.

5. INFORMATION - Receive presentation on the current status of Trash Load Reductions achieved by San Mateo Permittees and challenges for the remainder of the MRP term.

Chris Sommers provided an update on the MRP trash reduction requirements, status of San Mateo County co-permittees and outlook for future load reduction requirements within context of Caltrans trash requirements, current municipal programs and controls and the reissuance of the MRP. Permittees must achieve an 80% reduction from 2009 levels by July 2019, via full trash capture devices, on-land visual assessments, source controls and offsets. Currently, 19 of the 21 co-permittees in San Mateo County have already achieved 80%. Two are planning full trash capture devices now to get to 80%. Any agencies that do not achieve the 80% compliance deadline must submit a compliance plan, schedule and funding plan to achieve 80%. The next compliance deadline is "no adverse impact" or essentially 100% trash load reductions by 2022.

Caltrans received a Cease and Desist Order form the Regional Water Board in February 2019 and must achieve full trash equivalency for 8,800 acres by 2026 (this is approximately double of what was originally proposed by the Water Board). Because of the limited area that Caltrans can treat within its right of way, Caltrans is working with Water Board staff and municipalities to identify opportunities for partnering on controls in jurisdictions that intercept priority Caltrans drainage areas. These opportunities may support permittees with achieving future load reductions, and C/CAG has supported the permittees with identifying these opportunities in a report that was submitted to the Regional Water Board. Municipalities and stormwater program staff are also advocating for Caltrans to reimburse cities for existing controls that may be treating Caltrans right of way, to support Caltrans' new load reduction requirements.

Sommers updated the committee on the Receiving Water Trash Monitoring Program and emphasized that the intent of this program is to evaluate the effectiveness of full trash capture devices and characterize trash deposition and pathways, but it is not intended to become a compliance tool for

evaluating trash load reduction requirements. Sommers also mentioned plans for the Litter Workgroup in Fiscal Year 19/20 to host a round table in June to convene transportation agencies on the topic of coordinating with municipalities.

Finally, Sommers provided an update on the MRP 3.0 reissuance priorities, highlighting that the overall framework for load reductions and accounting will continue, but that the timing and schedule for reaching reductions by 2022 and beyond will be considered. Source controls and offsets are also being reconsidered under MRP 3.0, and municipalities are attempting to maintain some level of load reduction credit for both source controls (existing or new) and offsets for additional creek and shoreline cleanups.

6. INFORMATION – Receive update and provide feedback on development of the 2019-20 Countywide Water Pollution Prevention Program budget.

Matt Fabry presented the draft FY 2019/20 annual budget for the Countywide Water Pollution Prevention Program. The program has an estimated $1,730,000 available from the NPDES fund and portion of the $10 vehicle registration fee, including remaining funds from FY 2018/19 and the $500,000 reserve fund earmarked for a future stormwater funding initiative. The current estimated program expenditures for FY 2019/20 are $2,605,000. The proposed technical support budgets total $1,833,928 for consultant support to the program, including only tasks that are required for permittee compliance and not additional/optional tasks.

C/CAG staff has met twice with the Stormwater Ad-hoc Implementation Workgroup to develop recommendations for the FY 2019/20 budget. Ad-hoc Workgroup members recommendations have included reducing the frequency of or otherwise consolidating subcommittees, reducing stormwater/sediment sampling to the mandatory minimum annual number of samples, potentially shifting on-land visual trash assessments to the agencies, reconsidering the Litter Workgroup, cutting all optional tasks and focusing on permit compliance, maintaining the reserve fund of $500,000 and consider charging agencies directly for trainings to reduce consultant costs. C/CAG staff will work with consultants to revise the scopes as needed and will bring the final recommendations to C/CAG Board in May as a draft budget. The C/CAG Board will consider the final program budget for approval at the June 13 meeting.

The Committee agreed that the $500,000 reserve fund should be maintained, but it should be “unrestricted” so as not to limit the use of those funds if other program objectives arise. It was recognized that the CCEA may have supplementary funds to help with training costs. The Committee recommended reducing the amount of money reserved for the test claim petition for MRP 2.0 and unfunded mandate funds from $90,000 to $50,000 to provide additional funds to consultant support.

7. INFORMATION – Receive update on MRP 3.0 negotiations process.

Matt Fabry provided an update of the MRP 3.0 negotiations process and opportunities for participation in future meetings. As in past permit reissuance processes, there is a Steering Committee of Water Board staff, managerial level permittee representatives, and countywide program staff, which is meeting every few months to negotiate on significant topics that arise from the MRP 3.0 Workgroups that meet on a more regular basis to discuss reissuance topics specific to provisions of the permit. There are four MRP 3.0 Workgroups, including Trash, C.11/12/RAA, C.8 (Monitoring) and C.3/Green Infrastructure. The Steering Committee met in March to discuss significant trash related issues, and the committee will meet in June on C.11/12/RAA and C.3/GI issues, followed by a discussion about C.8

monitoring issues in September. There will be an “Other” Steering Committee convening in winter to cover annual reporting and other permit provisions that need to be addressed. Fabry referenced the meeting summaries included in the agenda packet for Committee members to review for detail on discussions in these various groups.

8. Regional Board Report: None.

9. Executive Director’s Report: Fabry reported on behalf of C/CAG Executive Director, Sandy Wong, that Lobby Day is being held on Tuesday, April 23. The District 4 Caltrans Directors meeting is also convening this month to discuss partnerships with local jurisdictions on green infrastructure and how to negotiate payment for maintenance of green infrastructure facilities, which is not typically paid for under such partnerships.

10. Member Reports: None.

Vice Chair Oskoui adjourned the meeting at 3:57 p.m.

DRAFT

2018-19 Stormwater Committee Attendance													
Agency	**Representative**	**Position**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	**Jan**	**Feb**	**Mar**	**Apr**	**May**	**June**
Atherton	Robert Ovadia	Public Works Director				X						X		
Belmont	Afshin Oskoui	Public Works Director				X				X		X		
Brisbane	Randy Breault	Public Works Director/City Engineer				X				O		X		
Burlingame	Syed Murtuza	Public Works Director				X				X		O		
Colma	Brad Donohue	Director of Public Works and Planning	C	C	C	X	C	C	C	X	C	X	C	C
Daly City	Richard Chiu	Public Works Director	A	A	A	O	A	A	A		A	X	A	A
East Palo Alto	Kamal Fallaha	City Engineer	N	N	N		N	N	N	X	N		N	N
Foster City	Jeff Moneda	Public Works Director	C	C	C		C	C	C	X	C		C	C
Half Moon Bay	Maziar Bozorginia	City Engineer	E	E	E		E	E	E	X	E		E	E
Hillsborough	Paul Willis	Public Works Director	L	L	L	X	L	L	L	X	L	X	L	L
Menlo Park	Justin Murphy	Public Works Director	E	E	E	X	E	E	E	O	E	X	E	E
Millbrae	Khee Lim	Public Works Director	D	D	D		D	D	D		D		D	D
Pacifica	Van Ocampo	Public Works Director/City Engineer										O		
Portola Valley	Howard Young	Public Works Director				X								
Redwood City	Saber Sarwary	Supervising Civil Engineer				X				X		X		
San Bruno	Jimmy Tan	City Engineer				X						X		
San Carlos	Steven Machida	Public Works Director								X		X		
San Mateo	Brad Underwood	Public Works Director				O				X		X		
South San Francisco	Eunejune Kim	Public Works Director								X				
Woodside	Sean Rose	Public Works Director												
San Mateo County	Jim Porter	Public Works Director				X						O		
Regional Water Quality Control Board	Tom Mumley	Assistant Executive Officer												

"X" - Committee Member Attended

"O" - Other Jurisdictional Representative Attended

C/CAG AGENDA REPORT

Date: August 15, 2019

To: Stormwater Committee

From: Matthew Fabry, Program Manager

Subject: Recommend the C/CAG Board accept $3 million in State grant funds for multi-benefit regional stormwater project designs.

(For further information or questions contact Matthew Fabry at 650 599-1419)

RECOMMENDATION

That the Committee recommend the C/CAG Board accept $3 million in State grant funds for multi-benefit regional stormwater project designs.

BACKGROUND

Earlier this year, C/CAG staff worked with Assembly Member Mullin and his staff on an $8 million State budget request (attached) to support advancing designs on multi-benefit regional stormwater facilities. Thanks in part to the numerous letters of support from C/CAG's member agencies and other stakeholders, the request was ultimately approved, albeit at a reduced amount of $3 million. The funding, which is State general funds, is included in the 19-20 State budget and provided to C/CAG as a grant administered by the California Natural Resources Agency (CNRA). C/CAG is required to enter into a grant agreement with the CNRA that requires, in part, a resolution from the C/CAG Board accepting the funds. As such, staff recommends the Stormwater Committee recommend the C/CAG Board adopt a resolution at its September 2019 Board meeting.

Staff anticipates coming back to the Stormwater Committee at a subsequent meeting with a recommended approach for utilizing the funds.

ATTACHMENTS

1. March 28, 2019 Budget Request

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0022
(916) 319-2022
FAX (916) 319-2122

DISTRICT OFFICE
1528 S. EL CAMINO REAL, SUITE 302
SAN MATEO, CA 94402
(650) 349-2200
FAX (650) 341-4676

Assembly
California Legislature

KEVIN MULLIN
SPEAKER PRO TEMPORE
ASSEMBLYMEMBER, TWENTY-SECOND DISTRICT

COMMITTEES
BUDGET
BUSINESS AND PROFESSIONS
ELECTIONS AND REDISTRICTING
REVENUE AND TAXATION

SUBCOMMITTEES
BUDGET SUBCOMMITTEE NO. 3 ON RESOURCES AND TRANSPORTATION

SELECT COMMITTEES
CHAIR: BIOTECHNOLOGY

CALIFORNIA WORKFORCE DEVELOPMENT BOARD

March 28, 2019

The Honorable Phil Ting
Chair, Assembly Budget Committee
State Capitol, Room 6026

The Honorable Holly Mitchell
Chair, Senate Budget Committee
State Capitol, Room 5080

The Honorable Richard Bloom
Chair, Budget Subcommittee No. 3
State Capitol, Room 2003

The Honorable Bob Wieckowski
Chair, Budget Subcommittee No. 2
State Capitol, Room 4085

Re: San Mateo County Multi-Benefit Stormwater Capture Program

Dear Chairs Ting, Mitchell, Bloom and Wieckowski:

We write to request funding in the amount of $8 million for the City/County Association of Governments of San Mateo County (C/CAG) to advance designs of multi-benefit stormwater capture projects in San Mateo County to improve water quality, minimize flooding, offset potable water usage, recharge groundwater, and enhance climate change resiliency. Specifically, the $8 million can be used to fund planning, design, and engineering of regional stormwater retention systems in San Mateo County. These are projects that will become the responsibility of the new San Mateo County Flood and Sea Level Rise Resiliency Agency; this funding request will help jump-start that agency, the success of which is critical to San Mateo County.

C/CAG is a joint powers agency whose members include San Mateo County and the 20 cities and towns within the county. C/CAG has proposed, in close coordination with San Mateo County, a countywide approach for integrated water management in the county, focusing on stormwater, flooding, and sea level rise. The proposed San Mateo County Flood and Sea Level Rise Resiliency Agency, which would be created by modifying the existing County Flood Control District, would address sea level rise, flooding, coastal erosion, and large-scale stormwater infrastructure improvements through integrated regional planning, design, permitting, project implementation, and long-term operations and maintenance. Consequently, I am carrying enacting legislation this year (AB 825) to transform this agency for the County.

C/CAG's member agencies are under mandate by the Regional Water Board to transition their storm drainage systems from traditional "gray" infrastructure to more sustainable "green" infrastructure systems that capture, clean, and infiltrate stormwater to improve water quality in local creeks, San Francisco Bay, and the Pacific Ocean. Regional scale stormwater

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capture/retention systems, although typically costing tens of millions of dollars to design and construct, provide cost-effective benefits given the ability to capture and clean significant volumes of runoff, provide greater downstream flood control benefits, infiltrate more water into underlying groundwater basins, provide alternative supplies for landscape irrigation, build resiliency for water supply and flood management under a changing climate, and minimize operation and maintenance burden with a centralized facility.

The State has recognized the need to manage stormwater as a resource, both for enhancing water supplies and achieving improvements in quality of receiving water bodies. SB 985 (2014, Pavley) requires development of Stormwater Resource Plans (SRP) that use metrics-based criteria to prioritize opportunities for stormwater and dry weather capture projects for any agencies seeking voter-approved bond funds to build such projects. The Department of Water Resources, in coordination with the State Water Board and in support of the Water Action Plan, released a February 2019 report identifying targets for stormwater recharge and direct use in urban areas to help diversify water supply portfolios. The Safeguarding California Plan emphasizes diversifying local supplies and using stormwater management for groundwater recharge to build resilience in the face of climate change.

Funding in the amount of $8 million will support planning, environmental review, community engagement, alternatives analysis, and engineering design for several regional stormwater retention projects, such as the attached project concepts in San Bruno and Redwood City. These are perfect examples of multi-benefit stormwater capture projects that can achieve all of the above State priorities – they improve water quality, mitigate downstream flooding, protect downstream disadvantaged communities, recharge groundwater basins, provide alternative water supply, and build resiliency against climate change. Providing funding for project designs will help the cities, County, and new Flood and Sea Level Rise Resiliency Agency compete for upcoming rounds of implementation funding under Propositions 1 and 68.

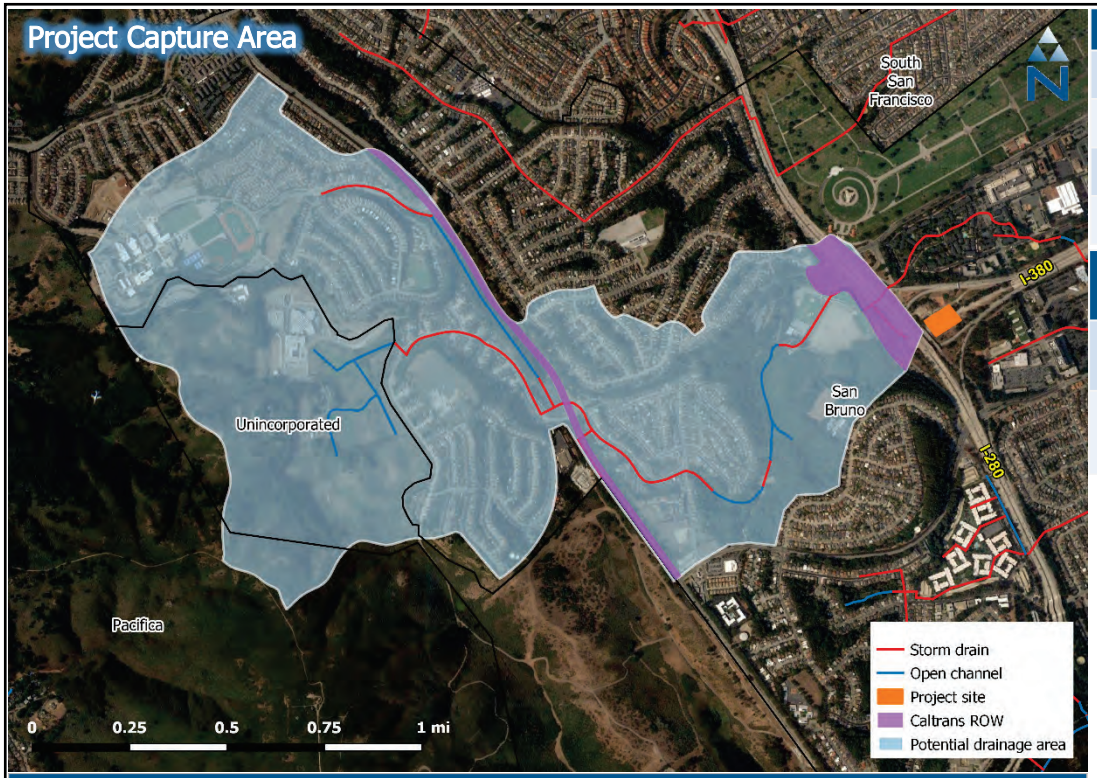
On behalf of the districts and communities that we represent and for the reasons stated above, we urge you to appropriate funding for these necessary projects.

Sincerely,

KEVIN MULLIN
Assembly Member, 22nd District

JERRY HILL
Senator, 13th District

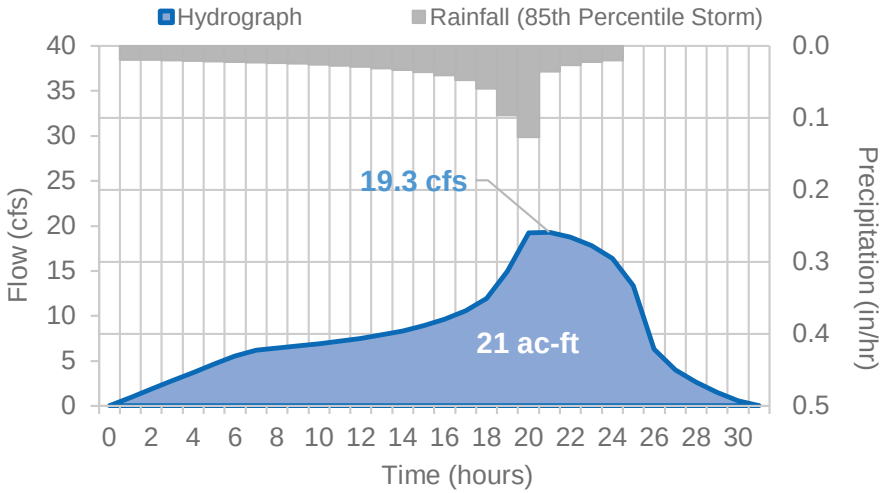
MARC BERMAN
Assembly Member, 24th District



Site Information

Project Lead	San Bruno
Location	Caltrans Right-of-Way @ I-280 and I-380
Land Owner	Caltrans
Receiving Water	San Bruno Creek

Jurisdiction	San Bruno	San Mateo County	Pacifica	Caltrans ROW
Capture Area (acres)	660	220	22	40
Percent of Capture Area	70.0%	23.4%	2.3%	4.3%



Project Overview

This concept describes a regional stormwater capture project for San Bruno. The project is designed to be a subsurface infiltration gallery located at open space in the Caltrans right-of-way between the I-280/I-380 interchange (see map above). This project has the potential to supplement groundwater supplies, alleviate downstream flooding, and improve water quality in San Bruno Creek. The project will treat runoff from a total of 942 acres. Approximately 700 acres is in San Bruno (40 acres in Caltrans right-of-way), 220 acres is in unincorporated county, and 22 acres is in Pacifica. Residential impervious area in western San Bruno is the largest contributor of runoff. The project is sized to capture 21 ac-ft, 100% of the 85th percentile, 24-hour runoff volume that is typically used to meet water quality targets. This volume reduces the detention capacity needed in the Crestmoor Canyon to address flooding from the 25-year storm, according to the 2014 San Bruno Storm Drain Master Plan, by one-third. The project can reduce the PCBs load in the drainage area by 69%. This benefit may offset the amount of green streets that would otherwise need to be implemented to meet permit and TMDL requirements, reducing San Bruno's green street requirement by 84%. Project details and costs are outlined in the subsequent pages.

Wet Weather Drainage Characteristics

Sizing Criteria		85th percentile, 24-hour storm
Total Capture Area		942 acres
Imperviousness		27%
Design Conditions for 85th %-ile storm	***Rainfall Depth:***	0.85 inches
	Total Runoff Volume:	21.0 ac-ft
	Peak Flow Rate:	19.3 cfs

Regional Stormwater Capture Project at I-280 and I-380

Project Overview and Drainage Area Map

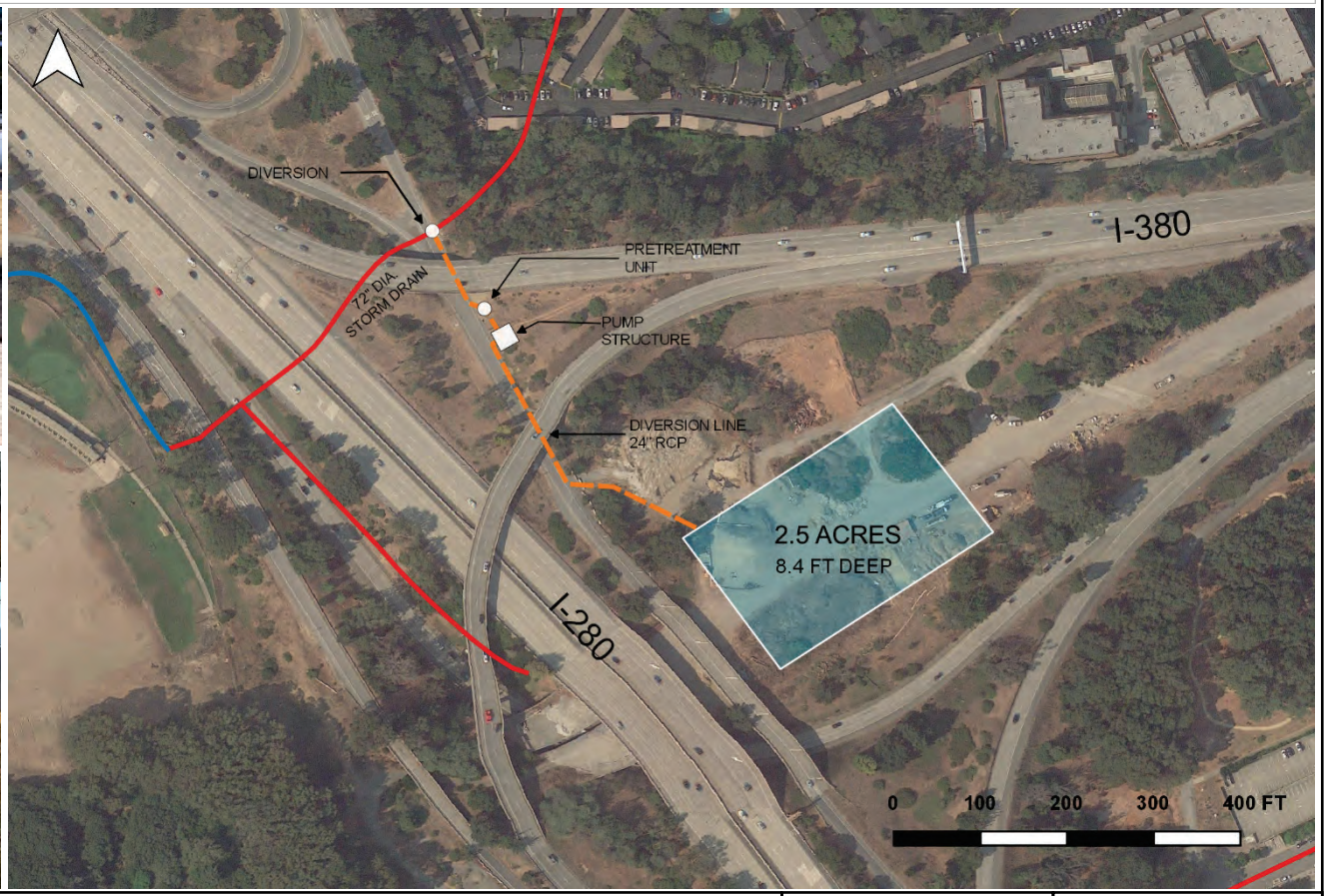
SAN MATEO COUNTYWIDE Water Pollution Prevention Program

PARADIGM ENVIRONMENTAL

Site Plan Description

The project consists of a subsurface concrete gallery that will be located beneath vacant space in the Caltrans right-of-way between the I-280 and I-380 interchange. The project would divert from a storm drain that serves portions of the Rollingwood, Crestmoor, Portola Highlands, and Pacific Heights neighborhoods of San Bruno. The storm drain eventually discharges to San Bruno Creek, which flows to the Bay. The drain runs underneath I-280 and crosses the frontage road along the northbound side of the freeway. The diversion structure will be constructed in the section of the drain that runs beneath the frontage road to minimize disruption to highway traffic while providing accessibility. A 650-foot length of diversion pipe will be required to route runoff to the facility. Captured runoff will be routed through a pretreatment system, such as a hydrodynamic separator, to remove solids and sediment, then routed to the facility. Due to the length of the required diversion line, a pump structure will likely be necessary to move captured runoff to the facility. However, a geotechnical analysis may show that a gravity-flow diversion alternative is feasible. A gravity diversion may increase excavation costs but will eliminate capital and O&M costs associated with operating a pump station. A pump system may also be beneficial for flood control downstream since diversions can be timed to manage the peak of storms. A passive system may potentially fill the facility before the peak occurs, effectively eliminating potential flood control benefits. Cost-benefit analysis should be performed to select a diversion alternative. The subsurface concrete gallery is designed to capture 21 ac-ft and will be 8.4-ft deep with a 2.5-acre footprint. Captured runoff will be removed from the storm drain system and treated through infiltration. Soil testing will need to confirm infiltration rates greater than 1.4 inches per hour in order to drain the facility within 72-hours, in compliance with local design standards. A shallower structure with greater footprint may be needed if a lower infiltration rate is found. All conceptual design details should be explored in greater detail during a feasibility analysis.

Disclaimer: Utilities were evaluated through GIS analysis using best available data. A utilities survey should be performed prior to construction to confirm the location of all utilities on site.



Regional Stormwater Capture Project at I-280 and I-380

Site Plan and Description

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

PARADIGM ENVIRONMENTAL

Budget-level Cost Estimates

DESCRIPTION	UNIT COST	UNIT	QUANTITY	SUBTOTAL
Excavation/Removal	$50	CY	40,000	$2,000,000
Diversion Structure	-	LS	1	$150,000
Pretreatment	$6,000	CFS	20	$120,000
Diversion Pump Structure	$56,000	CFS	20	$1,120,000
Diversion Pipe (24" RCP)	$200	LF	650	$130,000
Subsurface Gallery	$300	CY	34,000	$10,200,000
Restoration	$5	SF	109,000	$545,000
CONSTRUCTION SUBTOTAL				$14,265,000
Mobilization (10% construction)				$1,427,000
Contingency (15% construction)				$2,140,000
Design (10% total)				$1,783,000
TOTAL COST				**$19,615,000**

Subsurface Structure Design Values

Item Description	Value	Units
Footprint	2.5	acres
Design Height	8.4	ft
Depth of Excavation	10	ft
Pumping Requirements	20	cfs
Infiltration Rate	Needs further investigation	
Drawdown Time	Needs further investigation	
Infiltration Rate Needed for 72-hr Drawdown Time*	1.4	in/hr
Capacity	**21**	**ac-ft**
Annual Capture Volume	**226**	**ac-ft**
% Design Storm Managed	**100**	**%**

*Maximum 72-hr drawdown time is recommended in the SMCWPPP C.3 Stormwater Technical Guidance. Using a larger footprint and a smaller design height, while keeping storage capacity constant, will lower the infiltration requirement for 72-hr drawdown.

	FY 21/22				FY 22/23				FY 23/24			
	2021		2022		2022		2023		2023		2024	
Proposed Schedule	JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ	JAS	OND	JFM	AMJ
Design		X	X	X	X	X	X					
Environmental Documentation								X				
Bid & Award								X				
Construction									X	X	X	X

Additional Considerations

This project concept is planning-level and subject to review and revision during project design. A variety of confounding factors, including geotechnical and environmental considerations, will need to be further investigated to inform project design. Factors to be considered include but are not limited to the following:

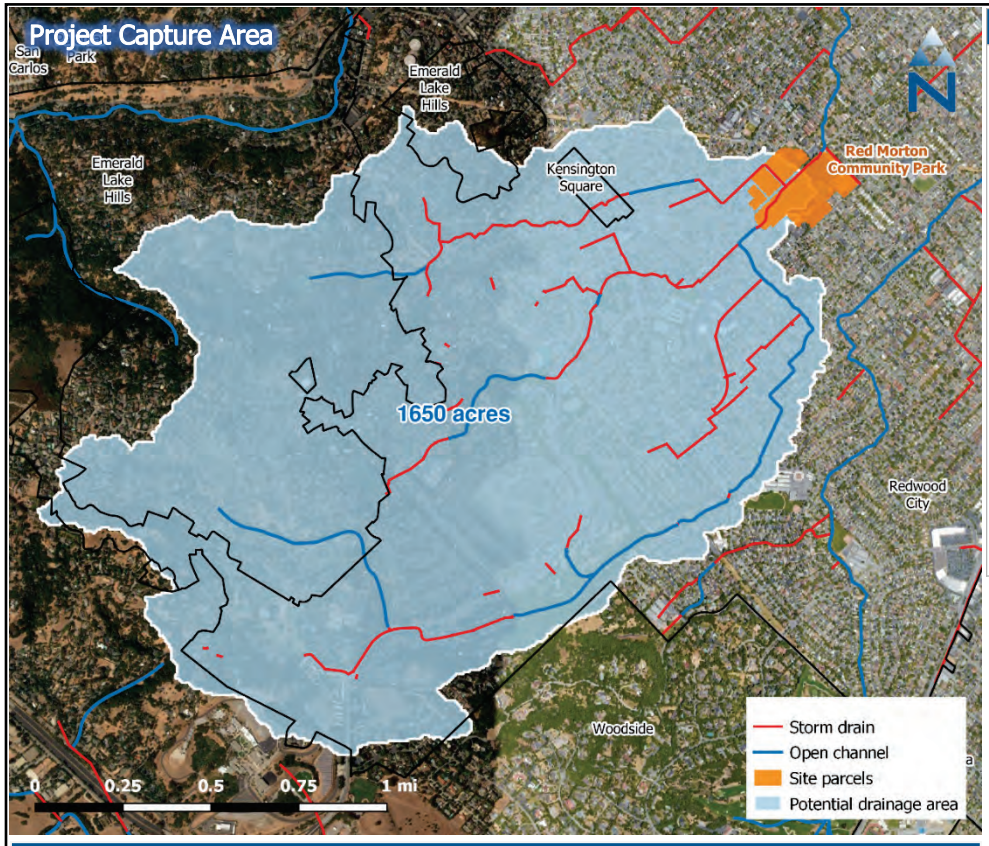
- **Drainage delineation**: the drainage was delineated using best available data in GIS analysis. Field examinations of the upstream storm drain network should be performed to confirm drainage area.
- **Utilities**: a utilities survey along the frontage road should be performed to minimize the disruption of utilities during construction.
- **Groundwater levels**: the distance between the bottom of the infiltrating structure and the seasonal high groundwater level should be at least 10 feet apart to allow for adequate infiltration. This should be confirmed during a feasibility study.
- **Pumping Requirements:** pumping is generally assumed for large-scale regional projects. However, gravity-flow diversion alternatives may be possible, reducing capital and O&M costs associated with pumping. Gravity diversions would require the structure to be placed below the storm drain invert, increasing the required excavation depth. As-builts for the storm drain will need to be examined to determine this depth. A break-even analysis should be performed to determine if a gravity-flow alternative is more cost-effective. All cost estimates are preliminary and will need to be reevaluated during a feasibility analysis when project details are developed further.
- **Infiltration rates**: the NRCS Soil Survey did not contain an infiltration rate estimate for the project area. Infiltration tests should be performed during a feasibility study to ensure the structure is sized appropriately. It is recommended that infiltrating structures drain within 72 hours. The infiltration rate may determine design components, such as structure depth and capacity.
- **Environmental factors**: with the exception of a voluntary cleanup at The Crossings over 0.5 miles away, the California Envirostor database shows no active cleanup sites near the project site. Additional investigation should be performed at the project site to assess the possibility of existing contamination interfering with stormwater infiltration.

Regional Stormwater Capture Project at I-280 and I-380

Design Details and Itemized Cost Estimate

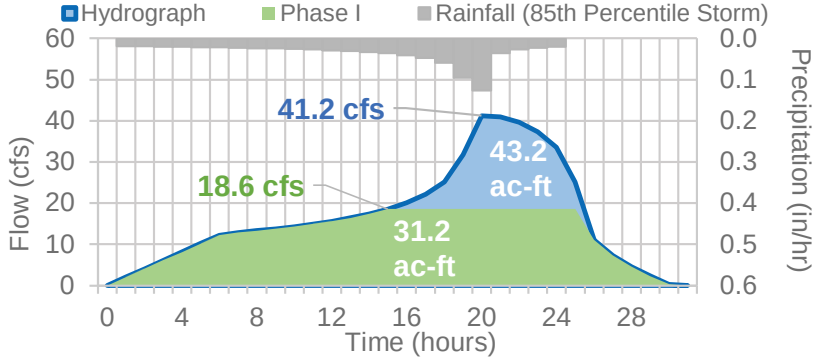
SAN MATEO COUNTYWIDE Water Pollution Prevention Program

PARADIGM ENVIRONMENTAL



Project Overview

This concept describes a regional stormwater capture project for Redwood City. The project, which would serve as the cornerstone for the City's MRP compliance and water resiliency efforts, is envisioned as a subsurface infiltration gallery located at Red Morton Park (see map to left). This project has the potential to supplement groundwater supplies, alleviate flooding, offset water use at the park, and improve downstream water quality in the Arroyo Ojo and downstream Redwood Creek. The project has potential to treat runoff from a total of 1,650 acres, approximately 70% of which is in Redwood City. The remaining 30% of the potential drainage area is from Woodside and the unincorporated communities, Emerald Lake Hills and Kensington Square. This may present an opportunity to explore co-funding options with Woodside and the County. The project is envisioned as a single subsurface gallery with potential for additional phases to be considered in the future. A multi-phase approach will allow for flexibility in procuring funding and coordinating with scheduled park improvements (e.g. resurfacing of turf fields). The first phase of the project has potential to capture and treat approximately 31.2 ac-ft, 72% of the 85th percentile, 24-hour runoff volume (43.2 ac-ft). The project can potentially reduce PCBs load by 16.7%. This benefit may offset the amount of green streets that would otherwise need to be implemented to meet permit and TMDL requirements, reducing Redwood City's green street requirement by 92.6%. Project details and costs are outlined in further detail in the subsequent pages.



Site Information

Project Lead	Redwood City
Location	Red Morton Community Park – McGarvey Field
Land Owner	Redwood City
Receiving Water	Arroyo Ojo (tributary to Redwood Creek)

Jurisdiction	Redwood City	San Mateo County	Woodside
Capture Area (acres)	1,142	467	41
Percent of Capture Area	69.2%	28.3%	2.5%

Wet Weather Drainage Characteristics

Sizing Criteria		85th percentile, 24-hour storm
Total Capture Area		1,650 acres
Imperviousness		34%
Design Conditions for 85th %-ile storm	***Rainfall Depth:***	0.85 inches
	Total Runoff Volume:	43.2 ac-ft
	Peak Flow Rate:	41 cfs

Regional Stormwater Capture Project at Red Morton Community Park

Project Overview and Drainage Area Map

San Mateo Countywide Water Pollution Prevention Program

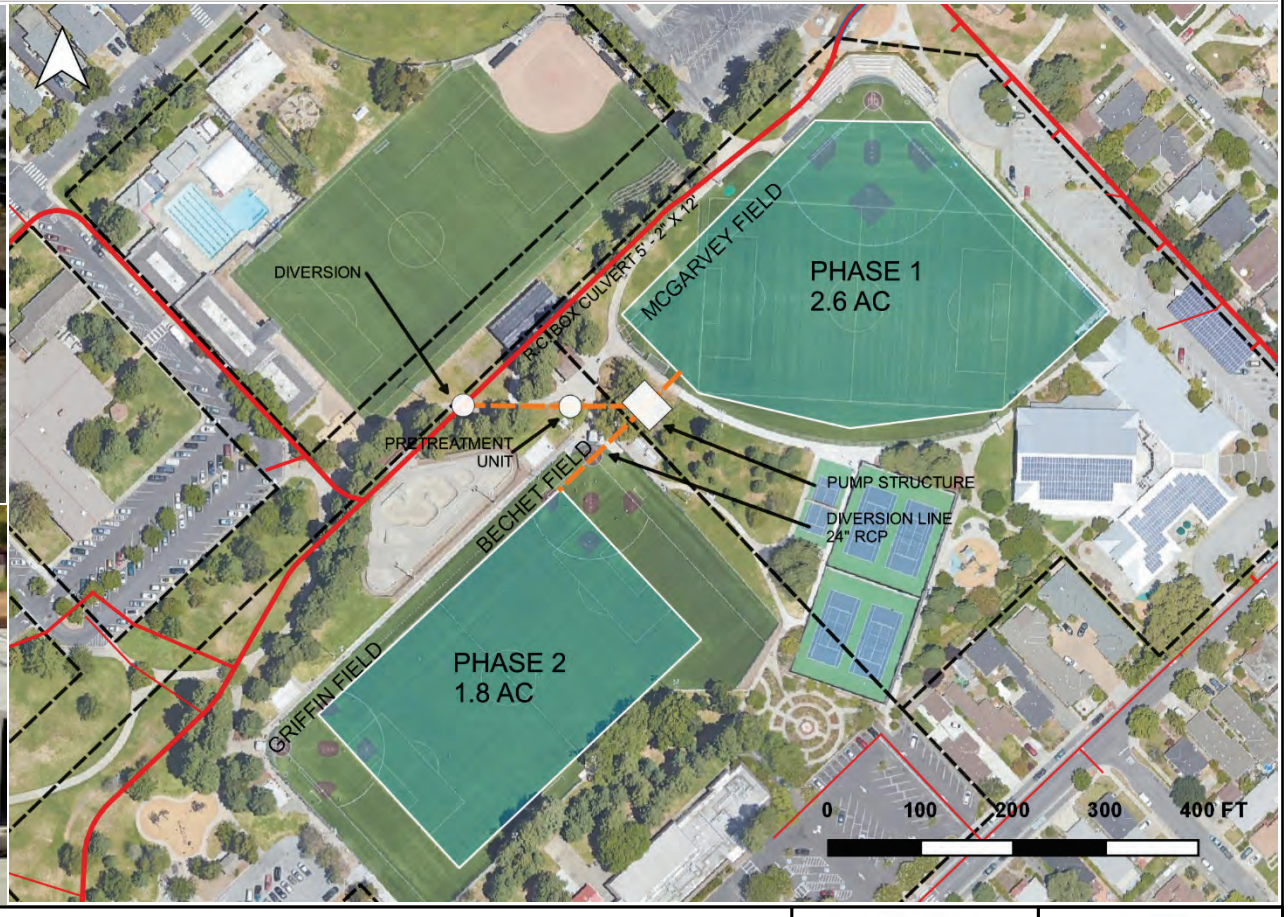
PARADIGM ENVIRONMENTAL

Site Plan Description

The project consists of a subsurface concrete gallery that will be located beneath McGarvey Field at Red Morton Community Park. The structure has potential to capture 31.2 acre-feet of runoff from Arroyo Ojo, a tributary of Redwood Creek that flows to the Bay. Storage capacity is capped at 31.2 acre-feet due to available area at McGarvey Field and a reasonable structure depth of 12 feet. The section of Arroyo Ojo just west of the park is an open channel that is routed underneath the park through a large reinforced concrete drain before daylighting to an open channel east of the park. The project will divert from the 5-ft 2-in by 12-ft drain using a rubber dam system and intake basin. Runoff will be routed through a pretreatment system, such as a hydrodynamic separator, to remove solids and sediment, then pumped to the gallery. The total storage (31.2 ac-ft) will account for approximately 72% of the 85th percentile, 24-hour runoff volume (43.2 ac-ft). Captured runoff will be treated through infiltration. Stormwater reuse elements (irrigation, greywater, etc.) may be incorporated if infiltration rates are deemed too low at the site.

A second phase may be considered to capture the remaining 12 ac-ft of the design volume uncaptured by the McGarvey Field structure (Phase I). Phase II would likely be located on Griffin and Bechet Fields just west of the Phase I structure to minimize disruption of utilities on the northern half of the park. The Phase II facility can be constructed at a later date but may still be able to utilize some of the diversion infrastructure from Phase I. For example, it may be possible for the diversion components to be built in parallel to make use of the same pump housing and intake structure. These design aspects should be explored in greater detail during a feasibility analysis.

Disclaimer: Utilities were evaluated through GIS analysis using best available data. A utilities survey should be performed prior to construction to confirm the location of all utilities on site.



Regional Stormwater Capture Project at Red Morton Community Park

Site Plan and Description

SAN MATEO COUNTYWIDE Water Pollution Prevention Program

PARADIGM ENVIRONMENTAL

Budget-level Cost Estimates			Phase I (McGarvey Field)		Phase II (Griffin-Bechet Fields)	
DESCRIPTION	UNIT COST	UNIT	QUANTITY	SUBTOTAL	QUANTITY	SUBTOTAL
Excavation/Removal	$50	CY	63,000	$3,150,000	29,000	$1,450,000
Rubber Dam System	-	LS	1	$80,000	-	-
Diversion Structure	-	LS	1	$150,000	1	$150,000
Pretreatment	$6,000	CFS	20	$120,000	23	$138,000
Diversion Pump Structure	$56,000	CFS	20	$1,120,000	23	$1,288,000
Diversion Pipe (24" RCP)	$200	LF	100	$20,000	100	$20,000
Subsurface Gallery	$300	CY	50,000	$15,000,000	20,000	$6,000,000
Restoration	$5	SF	113,000	$565,000	78,000	$390,000
CONSTRUCTION SUBTOTAL				$20,475,000		$9,436,000
Mobilization (10% construction)				$2,048,000		$944,000
Contingency (15% construction)				$3,071,000		$1,415,000
Design (10% total)				$2,559,000		$1,180,000
TOTAL COST				**$28,153,000**		**$12,975,000**

Additional Considerations

This project concept is planning-level and subject to review and revision during project design. A variety of confounding factors, including geotechnical and environmental considerations, will need to be further investigated to inform project design. Factors to be considered include but are not limited to the following:

- **Drainage delineation**: the drainage was delineated using best available data in GIS analysis. Field examinations of the upstream storm drain network should be performed to confirm drainage area.
- **Utilities**: a utilities survey at the park should be performed to minimize the disruption of utilities during construction.
- **Groundwater levels**: the distance between the bottom of the infiltrating structure and the seasonal high groundwater level should be at least 10 feet apart to allow for adequate infiltration.
- **Pumping Requirements:** pumping is generally assumed for large-scale regional projects. However, gravity-flow diversion alternatives may be possible, reducing O&M costs associated with pumping. Gravity diversions would require the structure to be placed below the storm drain invert, increasing the required excavation depth. As-builts for the storm drain will need to be obtained from the City to determine this depth. For a 2.6-acre footprint, capital cost may increase $300,000 per foot of additional excavation. In comparison, the O&M associated with a pump diversion may be around $50,000 annually ($1.4 million projected over 20 years with 2.5% inflation). A break-even analysis should be performed to determine if a gravity-flow alternative is more cost-effective. All cost estimates are preliminary and will need to be reevaluated during a feasibility analysis when project details are developed further.
- **Infiltration rates**: the NRCS Soil Survey did not contain an infiltration rate estimate for the Red Morton Community Park area. Infiltration tests should be performed during a feasibility study to ensure the structure is sized appropriately. It is recommended that infiltrating structures drain within 72 hours. The infiltration rate may determine design components, such as structure depth and capacity. Additional uses of captured runoff, such as irrigation or greywater, may contribute to 72-hr drawdown requirement.
- **Environmental factors**: with the exception of an active environmental investigation from renovations/redevelopment at nearby John Gill Elementary School, the California Envirostor database shows no active cleanup sites near the project site. Additional investigation should be performed at the project site to assess the possibility of existing contamination interfering with stormwater infiltration.

Phase I – McGarvey Field design values

Item Description	Value	Units
Footprint	2.6	acres
Design Height	12	ft
Depth of Excavation	15	ft
Pumping Requirements	18.6	cfs
Infiltration Rate	Needs further investigation	
Drawdown Time	Needs further investigation	
Infiltration Rate Needed for 72-hr Drawdown Time*	2	in/hr
Phase I Capacity	**31.2**	**ac-ft**
% Design Storm Managed	**72**	**%**

Phase II – Griffin-Bechet Fields design values

Item Description	Value	Units
Footprint	1.8	acres
Design Height	6.67	ft
Depth of Excavation	10	ft
Pumping Requirements	22.6	cfs
Infiltration Rate	Needs further investigation	
Drawdown Time	Needs further investigation	
Infiltration Rate Needed for 72-hr Drawdown Time*	1.10	in/hr
Phase II Capacity	**12**	**ac-ft**
% Design Storm Managed	**28**	**%**

*Maximum 72-hr drawdown time is recommended in the SMCWPPP C.3 Stormwater Technical Guidance. Using a larger footprint and a smaller design height, while keeping storage capacity constant, will lower the infiltration requirement for 72-hr drawdown.

C/CAG AGENDA REPORT

Date: August 15, 2019

To: Stormwater Committee

From: Matthew Fabry, Program Manager

Subject: Receive presentation on the current status of the Sustainable Streets Master Plan.

(For further information or questions contact Matthew Fabry at 650-599-1419)

RECOMMENDATION

The Committee receive an update on the current status of the Sustainable Streets Master Plan.

BACKGROUND

C/CAG was awarded a $986,300 Adaptation Planning Grant by Caltrans to develop a Countywide Sustainable Streets Master Plan (SSMP) that prioritizes street segments throughout the county for integrating green stormwater infrastructure with other planned investments and community priorities. The grant program requires a local match of at least 11.47%. The project includes the following key tasks:

- Community Engagement
- Climate Adaptation Risk Analysis on Local Transportation Network
- High-Resolution Data Analysis and Fine-Scale Drainage Delineation
- Prioritization of Sustainable Streets Opportunities and Development of Master Plan
- Project Concepts
- Web-based Sustainable Streets Project Implementation Mapping and Tracking Tool

The project is intended to evaluate precipitation-based climate change impacts for managing runoff from the roadway network and prioritize opportunities for integrating green stormwater infrastructure to help adapt the roadway network and downstream infrastructure. The Master Plan will prioritize specific roadway segments for integration of green infrastructure in five-, 10-, and 20-year time horizons and will include up to 10 project concepts. The project uses LiDAR data to develop high-resolution drainage mapping throughout the county and will create a web-based mapping and tracking tool to document progress over time in managing stormwater volumes. The work products will directly support C/CAG member agencies' Green Infrastructure Planning efforts required under the Municipal Regional Permit.

Staff will provide an update on the project, including release of the high-resolution drainage mapping of the countywide storm drain infrastructure for jurisdiction review, progress with community and stakeholder engagement, developments for project prioritization in the SSMP, and status of the web-based mapping and tracking tool.

ATTACHMENTS

None.