San Francisco Bay Regional Water Enhancement Program

Attachment 9

Program Preferences

Association of Bay Area Governments

Proposition 84

Integrated Regional Water Management

Round 2, Implementation Grant Application

1. Introduction

The San Francisco Bay Regional Water Enhancement Program Proposition 84, Round 2 Implementation Proposal (Proposal) and its nineteen high-priority projects comprise a geographically diverse and well-integrated implementation program with multiple water supply, water quality, habitat restoration, and socio-economic benefits. This attachment demonstrates that this Proposal contains significant, dedicated, and well-defined projects that meet multiple Program Preferences of the California Department of Water Resources (DWR) Proposition 84 (Prop 84) IRWM Guidelines. Each of the 19 projects of the Proposal meets multiple Program Preferences. This attachment describes the specific Program Preferences met by each of the projects, certainty that the Proposal projects will meet the Program Preferences, and the breadth and magnitude to which the Program Preferences will be met. **Table 9-1** lists the projects by identification number and identifies which Program Preferences are met by the project.

Table 9-1: IRWM Plan Program Preferences by Project

ID #	A	B	C	D	E	F	G
	Regional Projects or Programs	Integrative Project within a Hydrologic Region	Resolves Regional Water Conflicts	Supports CALFED Bay-Delta Program Objectives	Addresses Critical Water Supply/Water Quality Needs of a DAC	Integrates Water Management with Land Use Planning	Addresses Statewide Priorities
1	♦	♦	♦	♦		♦	♦
2	♦	♦	♦	♦		♦	♦
3	♦	♦				♦	♦
4	♦		♦			♦	♦
5						♦	♦
6	♦	♦	♦			♦	♦
7		♦				♦	♦
8					♦		♦
9	♦	♦	♦	♦		♦	♦
10	♦	♦	♦			♦	♦
11	♦	♦	♦			♦	♦
12		♦		♦		♦	♦
13				♦			♦
14	♦	♦	♦			♦	♦
15			♦	♦		♦	♦
16	♦	♦		♦		♦	♦
17	♦	♦				♦	♦
18						♦	♦
19	♦			♦		♦	♦

2. Inclusion of Regional Projects or Programs

The Bay Area has a strong regional identity, bound by connections to San Francisco Bay (Bay), interdependent economies, shared natural resources, and common cultural experiences. The region includes three major metropolitan cities — San Francisco, San José, and Oakland — and a total of approximately 100 smaller cities and towns connected via built infrastructure. The Bay estuary and its supporting local watersheds host a distinct natural environment and ecology that include many important habitats for significant species. Water resource management agency groups throughout the Bay Area have a long history of cooperation, collaboration, and planning to develop solutions to water resource issues throughout the region. Such groups include the Bay Area

Water Agencies Coalition (BAWAC), Bay Area Clean Water Agencies (BACWA), and Bay Area Stormwater Management Agencies Association (BASMAA). The Association of Bay Area Governments (ABAG), Metropolitan Transportation Commission, and Bay Area Rapid Transit (BART) also have planning programs. The San Francisco Bay Regional Water Quality Control Board (RWQCB) and San Francisco Bay Conservation and Development Commission have regulatory purview over most of the region. The Bay Area IRWM planning efforts are crucial to preserving the unique characteristics of the Bay Area. Twelve of the 19 proposed projects included in the Proposal operate in an integrated fashion to address regional impacts on watershed and ecosystem function, water supply, water quality, and climate change (**Table 9-2**).

Table 9-2: Projects that Include Regional Projects or Programs

Project	Includes Regional Projects or Programs
1. Bay Area Regional Conservation and Education Program	This program brings together 13 Bay Area agencies and organizations to promote high-efficiency technologies and best water conservation practices that improve indoor and outdoor water-use efficiency throughout the region.
2. East Bayshore Recycled Water Project Phase 1A (Emeryville)	This part of a multi-phase project will ultimately provide up to 2.5 million gallons per day of recycled water to customers within the cities of Alameda, Albany, Berkeley, Emeryville, and Oakland.
3. Lagunitas Creek Watershed Sediment Reduction and Management Project	The sediment reduction project will reduce the loading of fine sediment, and thus increase channel capacity, in Lagunitas Creek and its tributary streams. These small tributaries have the potential to provide winter habitat for salmonids, where slow waters form during high-flow storm events by backing up into the lowest section of tributaries as high-flow refuge. Habitat for adult and juvenile salmonids will be improved and additional overwinter habitat will become available, contributing to restoration of endangered salmonid species.
4. Marin/Sonoma Conserving Our Watersheds (COWs): Agricultural BMP Projects	With agriculture a mainstay of the regional economy, farming has maintained vast open spaces. This project focuses on North Bay agricultural lands to improve water quality, conserve water, and enhance wildlife ecosystems by expanding the Tomales Bay COW Program, which successfully implemented 40 BMPs in the last five years.
6. North Bay Water Reuse Program – Sonoma Valley CSD 5th Street East/McGill Road Recycled Water Project	This project provides high-quality recycled water for agricultural, urban, and environmental uses and expands the recycled water system throughout the greater North San Pablo Bay Area. The project is part of a memorandum of understanding between seven local agencies.
9. Petaluma Flood Reduction, Water & Habitat Quality, and Recreation Project for Capri Creek	This project supports the long-term goal of restoring and improving water quality in the Petaluma River. Restoration work within each sub-basin has been designed and implemented as individual stand-alone projects. This allows a specific project, such as this reach of Capri Creek, to be undertaken to address specific needs.
10. Redwood City Bayfront Canal and Atherton Channel Flood Improvement and Habitat Restoration Project	This is part of the South Bay Salt Pond Restoration Project, the largest tidal wetland restoration project on the West Coast. This particular project will redirect runoff from the Bayfront Canal and Atherton Channel drainage areas to enhance wetland habitat in the ponds.
11. Regional Groundwater Storage and Recovery Project Phase 1A – South Westside Basin, Northern San Mateo County	This project is a regional conjunctive use project to store groundwater for use during drought conditions.
14. SF Bay Climate Change Pilot Projects Combining Ecosystem Adaptation, Flood Risk Management and Wastewater Effluent Polishing	This is the first Bay Area project to replicate an engineered equivalent of moist grassland/bayland ecotone of broad, flat alluvial fans that were historically graded into the tidal marshes of South San Francisco Bay. A demonstration project, it also will inform the regional strategy to assist publicly owned treatment works and residents in recognizing benefits of climate change adaptation strategies.
16. San José Green Streets & Alleys Demonstration Projects	Adding to a regional collection of demonstration projects, this will show how an LID retrofit project can improve water quality and enhance neighborhood livability.

Table 9-2: Projects that Include Regional Projects or Programs

Project	Includes Regional Projects or Programs
17. San Pablo Rheem Creek Wetlands Restoration Project	The project improves the quality of stormwater that ultimately flows to San Pablo Bay, by creating seasonal wetlands.
19. STRAW – North and East Bay Watersheds	Students and Teachers Restoring a Watershed implements a minimum of 20 habitat restoration projects in watersheds, with participants from seven Bay Area counties.

Certainty

The proposed projects are supported by well-established planning and implementation infrastructures. The Bay Area IRWM Plan project review process — including rigorous technical review and a broad stakeholder base — ensures worthwhile regional projects are included. Bay Area agencies and organizations have implemented conservation programs for many decades, and program development investments have occurred for many of these projects that will support and strengthen ongoing regional implementation efforts.

Breadth and Magnitude

Although some of the proposed projects listed above include specific localized elements, each one ultimately has regional breadth and will have increasing magnitude over the years. The specific projects in this proposal contribute to long-term water supply reliability, recycled water availability, the development of models for LID retrofits, innovative approaches for restoration of seepage ecotone slopes, and salmonid habitat restoration. This suite of projects spans the entire Bay Area and will have lasting, positive effects on the environment.

3. Effective Integration within a Hydrologic Region

For the purposes of the Bay Area IRWM Plan, the Bay Area region is defined by the jurisdiction of the RWQCB (Region 2). This region, defined by the State as one of California's nine major hydrologic regions, includes all or major portions of the nine counties surrounding the Bay. The Bay is an important component of the largest estuary on the west coast, the Sacramento–San Joaquin Delta (Delta). The Bay Area IRWM Plan boundary represents the drainage basin for San Francisco Bay-draining surface flows and runoff, downstream of Suisun Bay. In addition, the boundary encompasses coastal regions that drain to the Pacific Ocean. Using a physically based watershed boundary, including lands that drain to common receiving waters (the Bay and ocean), is advantageous for the development of a plan to manage integrated water resources. Additionally, the Bay estuary and its supporting local watersheds host a distinct Bay Area natural environment and ecology that includes many important habitats for species of regional, as well as international, significance. Twelve of the proposed projects in this Proposal meet this Program Preference of Integration within a Hydrologic Region approved by the State Water Resources Control Board and DWR (**Table 9-3**).

Table 9.3: Projects that Integrate with the Hydrologic Region

Project	Integrates within a Hydrologic Region
1. Bay Area Regional Conservation and Education Program	This project will expand and strengthen the existing water conservation education and consumer incentive program and build on regional water conservation initiatives; a coordinated effort by 13 participating agencies to improve water supply during dry years.
2. East Bayshore Recycled Water Project Phase 1A (Emeryville)	This project will diversify East Bay Municipal Utility District's (EBMUD's) water supply portfolio and improve water supply reliability through the creation of a drought-proof recycled water supply.
3. Lagunitas Creek Watershed Sediment Reduction and Management Project	This project will reduce the loading of fine sediment into Lagunitas Creek and its tributary streams and contributes to water supply reliability in the area by securing a major water transmission pipeline.
5. Napa Milliken Creek Flood Damage Reduction and Fish Passage Barrier Removal Project	This project will expand Napa River watershed access for fish spawning and rearing by 2.56 miles (13,541 linear ft), contributing to restoration of endangered salmonid species. Additionally, 45 houses will be protected from a 100-year storm flooding.

Table 9.3: Projects that Integrate with the Hydrologic Region

Project	Integrates within a Hydrologic Region
6. North Bay Water Reuse Program – Sonoma Valley CSD 5th Street East/McGill Road Recycled Water Project	This project will improve water supply reliability through the creation of a drought-proof supply that can offset use of potable water supplies for non-potable demands. The project will benefit the watershed by reducing potable water demand from groundwater, local surface waters, and imported Russian River water.
7. Oakland Sausal Creek Restoration Project	This project addresses issues of erosion, water quality, flood capacity, and habitat restoration by stabilizing channel configuration, reducing stream velocities, improving flood capacity, and improving native rainbow trout habitat.
9. Petaluma Flood Reduction, Water & Habitat Quality, and Recreation Project for Capri Creek	This project addresses several important flood management and water resource objectives in the watershed. This project will improve water quality, flow conditions, and floodplain connectivity, and address future Total Maximum Daily Load requirements. Also, it will provide trails and opportunities for educating the public about watershed health.
10. Redwood City Bayfront Canal and Atherton Channel Flood Improvement and Habitat Restoration Project	This project will route flood flows from the Bayfront Canal and Atherton Channel into managed ponds of the Ravenswood Pond Complex and the South Bay Salt Ponds Restoration Project. Stormwater flows will enable development of seasonal freshwater wetlands habitat in Ponds S5 and R5 and support the restoration goals of the South Bay Salt Ponds project.
11. Regional Groundwater Storage and Recovery Project Phase 1A – South Westside Basin, Northern San Mateo County	This project will reduce pumping during normal and wet years and increases the volume of groundwater in storage that can be pumped out in dry years. During most years, groundwater levels would rise in elevation. The elevated water table would help prevent salt-water intrusion.
12. Richmond Breuner Marsh Restoration Project	This project will restore approximately 68 acres of wetlands and 96 acres of coastal prairie upland habitat. Wetlands restoration will aid in reducing polluted runoff from surrounding urban industrial areas by providing a natural filtering system of marshland vegetation.
14. SF Bay Climate Change Pilot Projects Combining Ecosystem Adaptation, Flood Risk Management and Wastewater Effluent Polishing	This project will restore a historical seepage ecotone slope that will treat reclaimed wastewater from equalization facilities and increase resilience to sea level rise. Lessons learned from the project will generate design guidance and implementation recommendations that will be disseminated to the Bay Area's many wastewater treatment facilities.
16. San José Green Streets & Alleys Demonstration Projects	This project will retrofit existing urban streets and alleys with LID stormwater management features. The project will reduce the overall volume of runoff and provide treatment to previously untreated flows that enter the Bay.
17. San Pablo Rheem Creek Wetlands Restoration Project	This project will ensure that the site will not be developed by the existing property owner, who has obtained all permits to implement a commercial development project. If the site is developed, it will no longer be possible to restore it as wetlands.

Certainty

There are multiple reasons this Proposal is certain to achieve effective integration. Bay Area water supply agencies work together on water resource management issues through BAWAC. Regional efforts enable Bay Area water agencies to capitalize on collective resources, expertise, and knowledge to achieve water quality and supply reliability goals. Additionally, there are numerous wastewater management agencies in the Bay Area, including cities, counties, sanitation districts, community services districts, water agencies, and others. Like water supply agencies, wastewater agencies cooperate and collaborate to advance shared interests and resolve common issues. While not every wastewater agency actively participates in the IRWM effort, their service areas lie within the region. Many wastewater agencies are also represented by BACWA, which has long provided a forum for coordination on wastewater management issues. Likewise, Bay Area flood protection agencies have a history of working together on water resource management issues, largely through BAFPAA, which also provides a forum for regional coordination and collaboration with State and Federal regulatory and resource agencies. Ten Bay Area agencies that are signatories to BAFPAA include the Alameda, Contra Costa, Marin, Napa, and San Mateo Counties Flood Control and Water Conservation Districts, the City and County of San Francisco Department of Public Works, Santa Clara Valley Water District (SCVWD), Solano County Water Agency (CWA), Sonoma CWA, and Zone 7. Moreover, an abundance of scientific data and technically sound planning and implementation also create certainty that these projects will address their goals.

Breadth and Magnitude

The implementation of these projects will have regionwide and long-lasting beneficial effects for the Bay Area. This proposal includes projects that will increase water supply reliability during dry years, decrease demand on limited water resources, reduce stormwater runoff pollution to the Bay, and improve salmonid habitat. San Francisco Bay is part of the largest estuary on the west coast, home to diverse wildlife and over seven million people. The Bay Area's quality of life and economy depend on a healthy and vibrant Bay watershed.

4. Effectively Resolve Significant Water-Related Conflicts Within or Between Regions

Conflicts over water rights have long been a part of California history, resulting from scarcity of supply and unequal distribution of water resources. Competing demands for beneficial uses, occurrences of drought, and population growth can exacerbate these issues and create additional conflicts. Such conflicts can lead to inefficient distribution of this scarce resource, thus affecting all water users. To ensure long-term sustainability of water resource management, it is important to resolve and minimize these conflicts. Nine of the proposed projects meet this Program Preference by increasing the availability of recycled water, improving groundwater storage, raising awareness of water conservation, and replacing aging infrastructure (**Table 9-4**).

Table 9-4: Projects that Resolve Water-Related Conflicts Within or Between Regions

Project	Resolves Water-Related Conflicts
1. Bay Area Regional Conservation and Education Program	This project will reduce regional dependence on imported water supplies by reducing water supply demand will also increase regional supply reliability by reducing the risk of severe rationing during prolonged droughts.
2. East Bayshore Recycled Water Project (EBRWP) Phase 1A (Emeryville)	This project will reduce water demand by using recycled water in place of potable water for beneficial non-potable uses. If this phase is not implemented, EBRWP will not operate at full design capacity and not have enough potable water for its service area.
4. Marin/Sonoma Conserving Our Watersheds: Agricultural BMP Projects	Water infrastructure (water tank, trough, pipeline) will be constructed to provide cattle with an alternate water source. This project will reduce nutrient and pathogen loading of streams draining into shellfish harvesting areas, another important industry.
6. North Bay Water Reuse Program – Sonoma Valley CSD 5th Street East/McGill Road Recycled Water Project	North San Pablo Bay faces water supply shortages that affect municipal and industrial customers, the agricultural industry, and environmental restoration efforts. The project will reduce reliance on local surface water and groundwater supplies and reduce the amount of treated effluent releases to North San Pablo Bay and its tributaries.
9. Petaluma Flood Reduction, Water & Habitat Quality, and Recreation Project for Capri Creek	Water supply benefits will be achieved through passive groundwater recharge owing to channel recontouring, construction of flood terraces, recontouring of a detention pond to improve function during peak storm flows, and creation of a drainage swale along a heavily impacted reach of river corridor.
10. Redwood City Bayfront Canal and Atherton Channel Flood Improvement and Habitat Restoration Project	This project will decrease chronic, widespread flooding in Redwood City, Menlo Park, and unincorporated San Mateo County. It will provide a source of fresh water to salt ponds that will support the wetland restoration effort, as well as reduce contaminants from urban runoff by detaining stormwater in the ponds before discharge to the Bay.
6. Regional Groundwater Storage and Recovery Project Phase 1A – South Westside Basin, Northern San Mateo County	The project will reduce demand on Hetch Hetchy Regional Water Supply system during droughts. Additionally, the creation of an operating committee for the project will provide more oversight of groundwater management in the South Westside Basin.
14. SF Bay Climate Change Pilot Projects Combining Ecosystem Adaptation, Flood Risk Management and Wastewater Effluent Polishing	The primary function of this project is to demonstrate a low-cost and environmentally friendly response to sea level rise. The secondary function, nutrient reduction, will help to alleviate concerns regarding the role of nutrient loading in the Bay and Delta regions if implemented on a regional scale.
15. SF International Airport Reclaimed Water Facility	This project will reduce water demand on the Hetch Hetchy system by using 100% of treated effluent at the airport terminals for non-potable reuse.

Certainty

As a natural resource, San Francisco Bay adds to the region's unique identity. This enables a common purpose for Bay Area agencies and organizations, working together despite potentially competing stakeholder interests. The 2006 Bay Area IRWM Plan identifies the following common interests for Bay Area Water Resources Management: protecting the Bay-Delta Watershed; managing impacts from an increasing population; addressing aging infrastructure needs; maintaining a vital economy; protecting health, safety, and property; and increasing efficiencies and value added through coordination and collaboration. In addition, integration and stakeholder input, which are integral elements of the IRWM Plan's planning process, promote coordination between various water management strategies so that conflicts and duplication of efforts are minimized. On a more local scale, many of the projects in this Proposal significantly improve water supply reliability in order to sustain water supplies in drought periods and other emergency outages.

Breadth and Magnitude

This suite of projects addresses a breadth of significant water-related conflicts, not only in terms of balancing water supply needs with other beneficial uses (e.g., environmental, in-stream uses); it also will help reduce the pressure on imported supplies during emergencies. Additionally, the potable water demand reductions generated by recycled water can help avoid future capital projects, which could create conflicts owing to the high cost and physical impacts of those projects. The reductions in potable water demand will not only reduce water-related conflicts in the Bay Area region, but also statewide from the reduced need for Delta diversions.

5. Contribute to Attainment of One or More of the Objectives of the CALFED Bay-Delta Program

Over 30% of the Bay Area water supply comes from the Delta. The Alameda County Water District, Bay Area Water Supply and Conservation Agency members, Contra Costa Water District, Marin Municipal Water District, City of Napa, SCVWD, Solano CWA, and Zone 7 all rely on Delta supplies as part of their water supply portfolio. Thus, the agencies are committed to protecting and improving Delta water quality. Also, the Bay Area consists of the nine counties immediately surrounding the Bay, further increasing the region's awareness of the need to protect this resource. Eight of the proposed projects meet this Program Preference (**Table 9-5**).

Table 9-5: Projects that Contribute to Attainment of Objectives of the CALFED Bay-Delta Program

Project	Contributes to Attainment of CALFED Bay-Delta Program Objectives
1. Bay Area Regional Conservation and Education Program	This project will optimize use of existing supplies by reducing demand through conservation, reduce the need for development of new supplies, and reduce existing demands on the Delta.
2. East Bayshore Recycled Water Project Phase 1A (Emeryville)	The project reduces wastewater discharges to the Bay by reusing wastewater that otherwise would be discharged to the Bay.
9. Petaluma Flood Reduction, Water & Habitat Quality, and Recreation Project for Capri Creek	This project will improve water quality by reduction of sediment delivery. This project also will address future Total Maximum Daily Load requirements. It will improve riparian habitat, upland habitat, and migratory pathways.
12. Richmond Breuner Marsh Restoration Project	The project will create, restore, or enhance approximately 68 acres of wetlands and 96 acres of coastal prairie upland habitat.
13. Roseview Heights Infrastructure Upgrades for Water Supply and Quality Improvement, Santa Clara County	This project will reduce potable water supply demand from the Delta in the amount of 10 acre-feet per year. This project will provide cleaner, safer, and more reliable drinking water.
15. SF International Airport Reclaimed Water Facility	This project will improve the quality of effluent that is being discharged to the Bay. This project will ultimately decrease water quantity that is being discharged to the Bay.
16. San José Green Streets & Alleys Demonstration Projects	This project will benefit water quality in the Bay by providing bioretention treatment and allowing infiltration of untreated street runoff to remove sediment and other pollutants.
19. STRAW Project – North and East Bay Watersheds	This project protects and restores Bay Area riparian and wetland ecosystems and improves Bay water quality by restoring a minimum of 15,000 linear feet of wetland/riparian habitat.

Certainty

A number of the goals and objectives identified in the Bay Area IRWM Plan were originally developed among agencies collaborating on the CALFED Bay Area Water Quality and Supply Reliability Project to identify regional solutions to water supply and water quality issues. Strategies contributing to improved water supply reliability, a goal shared by the CALFED Bay-Delta Program and the IRWM Plan, are of important consideration given such challenges as threats to baseline supplies, increasing demand, hydrologic vulnerability, infrastructure vulnerability, and system security. Bay Area agencies continually evaluate new and innovative ways of ensuring safe, reliable supplies today and in the future. An existing commitment to these goals contributes to a high certainty of the attainment of the objectives of the CALFED Bay-Delta Program.

Breadth and Magnitude

This suite of proposed projects meets three of the four CALFED Bay-Delta objectives: water quality, water supply reliability, and habitat restoration. The projects will be implemented by public water agencies throughout the Bay Area and will significantly offset potable water usage. The water savings will help reduce diversions from the Bay-Delta and upstream of the Bay-Delta. The technologies promoted in this program are scientifically based in terms of water use efficiency. The reduction in overall potable demand as a result of the program will reduce wastewater generation and urban runoff, which will lead to a reduction of pollutant loading to the Bay-Delta. Additionally, restoring tidal marsh habitat will provide sustainable habitat for endangered, threatened, and special-status species. These projects will contribute toward the objectives of continuous improvement of Delta water quality, supply, and ecosystem for all uses.

6. Address Critical Water Supply or Water Quality Needs of Disadvantaged Communities within the Region

The Bay Area IRWM Plan team made substantial efforts to assist organizations and agencies with limited technical and time capacities to submit projects accurately and on time, particularly for projects serving disadvantaged communities (DACs). The Plan staff and sub-regional leads provided outreach and assistance to DAC project proponents in a variety of ways, including developing a series of maps identifying DACs and their relation to water resources, clarifying DWR's DAC project eligibility, and targeted assistance to potential DAC project proponents. One of the proposed projects specifically addresses safe drinking water and water quality issues in a DAC. Several other proposed projects are within or adjacent to DACs and would provide a variety of beneficial impacts to the communities.

The Pescadero Water Supply and Sustainability Project addresses the critical water supply and water quality needs of a remote rural farming community. This project will ensure a reliable supply of water to the community by drilling a deeper well at a lower elevation to allow water to be extracted more reliably and efficiently, without increasing the amount of groundwater extracted. A new municipal water well would extend the life of the community's water supply to at least 50 years. An additional storage tank would also increase the capacity of the water system to provide adequate supply in the event of an emergency. More details about this project are in "Attachment 10, Disadvantaged Community Assistance."

Several other projects in this Proposal will have beneficial impacts on water supplies for DACs. While these projects do not directly address immediate critical needs of a DAC, they serve to improve the long-term availability of water supplies. For instance, several of the agencies comprising the Bay Area Regional Conservation and Education Program serve DACs. DACs and the greater area will benefit from this program's complimentary hardware- and behavior-oriented elements, ensuring long-term water savings for residents. Likewise, the East Bayshore Recycled Water Project Phase 1A (Emeryville) will be beneficial to West Oakland (considered a DAC) by ensuring the availability of potable water particularly during times of drought.

Other projects in this Proposal focus on water quality through restoration of habitats, reduction in sedimentation, improved stormwater runoff, and educational outreach. Additionally, a number of these projects will provide flood management, jobs, and recreational opportunities for DACs. These projects include:

- Oakland Sausal Creek Restoration Project
- Richmond Breuner Marsh Restoration Project
- San Francisco Bay Climate Change Pilot Projects Combining Ecosystem Adaptation, Flood Risk Management and Wastewater Effluent Polishing

- San José Green Streets & Alleys Demonstration Projects
- San Pablo Rheem Creek Wetlands Restoration Project
- Students and Teachers Restoring a Watershed (STRAW) Project – North and East Bay Watersheds

Certainty

The Bay Area IRWM Plan includes provisions for focusing on the neediest communities through targeted outreach to environmental justice advocacy groups and identifies DACs in relation to the higher cost of living in the Bay Area. Outreach efforts include a website to disseminate large amounts of information to a diverse and dispersed regional population, technical and engineering support to project proponents from DACs, and one-on-one assistance with applications. All stakeholders are invited to attend meetings and included as collaborators, and additional resources are provided to enable them to access funding and technical expertise.

Breadth and Magnitude

While only one of the projects in this Proposal specifically addresses critical water quality and supply needs of a DAC, other projects will improve flood management and long-term water supply reliability for many neighborhoods, including disadvantaged ones. Critical water quality issues in Bay Area DACs are flooding and stormwater pollution resulting from under-designed stormwater systems that put residences, businesses, and brown fields in inundation zones. In addition, several of these projects will provide educational and recreational opportunities in low-income urban neighborhoods.

7. Effectively Integrate Water Management with Land Use Planning

The hydrologic function of Bay Area watersheds has been greatly affected through surface land cover and land practice alterations, as well as channelization and alteration of waterways. Land use and channel modifications alter the fundamental hydrologic cycle by affecting infiltration rates and capacity. Land development that uses impermeable surfaces reduces infiltration, resulting in increased surface runoff. A broad band of urbanization surrounds the Bay, covering much of the gently sloping bay plain terrain. In recent decades, urbanization has extended beyond the immediate Bay plain to the interior valleys and foothills of the North Bay, East Bay, and South Bay. Given the connection between the land and the water, the integration of water management with land use planning is critical. As discussed previously in "Attachment 1, Eligibility," the 2006 Bay Area IRWM Plan was developed with the input of local governments through a series of meetings in each county within the Bay Area, and local land use plans served as the basis for the development of each of the Function Areas in the Plan. All projects in this Proposal implement local and regional land-use planning priorities. Seventeen of the 19 proposed projects directly address this Program Preference. **Table 9-6** identifies different types of land use planning that are integrated with water management in this suite of projects.

Table 9-6. Projects Integrating Water Management with Land Use Planning

Type of Land Use Planning	Projects Integrating Water Management with Land Use Planning
Urban Planning: These projects are consistent with local planning guidance documents in that they protect existing land uses from flooding.	▪ Petaluma Flood Reduction, Water & Habitat Quality, and Recreation Project for Capri Creek ▪ Redwood City Bayfront Canal and Atherton Channel Flood Improvement and Habitat Restoration Project ▪ San José Green Streets & Alleys Demonstration Projects
Water Management: These projects address the sustainability of water resources by improving water use within the context of existing land use planning.	▪ Bay Area Regional Conservation and Education Program ▪ East Bayshore Recycled Water Project Phase 1A (Emeryville) ▪ North Bay Water Reuse Program – Sonoma Valley CSD 5th Street East/McGill Road Recycled Water Project ▪ Regional Groundwater Storage and Recovery Project Phase 1A – South Westside Basin, Northern San Mateo County ▪ San Francisco Bay Climate Change Pilot Projects Combining Ecosystem Adaptation, Flood Risk Management and Wastewater Effluent Polishing ▪ San Francisco International Airport Reclaimed Water Facility

Table 9-6. Projects Integrating Water Management with Land Use Planning

Type of Land Use Planning	Projects Integrating Water Management with Land Use Planning
Restoration: These projects are targeted at reducing impacts on water quality from land use practices. They include the restoration of wetlands and other habitats, conservation easements, and reduction of pollutants in streams and other waterways.	▪ Lagunitas Creek Watershed Sediment Reduction and Management Project ▪ Marin/Sonoma Conserving Our Watersheds: Agricultural BMP Projects ▪ Napa Milliken Creek Flood Damage Reduction and Fish Passage Barrier Removal ▪ Oakland Sausal Creek Restoration Project ▪ Richmond Breuner Marsh Restoration Project ▪ San Pablo Rheem Creek Wetlands Restoration Project ▪ St. Helena Upper York Creek Dam Removal and Ecosystem Restoration Project ▪ Students and Teachers Restoring a Watershed (STRAW) Project – North and East Bay Watersheds

Certainty

Projects in this Proposal present many opportunities to achieve some of the long-term regional goals for the Bay shoreline. ABAG, the lead agency for this Proposal, strives to enhance cooperation and coordination between local governments to reach regional planning goals. ABAG's continuing leadership will make certain that the projects in the Proposal will effectively integrate water management with land use planning.

Breadth and Magnitude

With the integration of water management projects that address irrigation practices, wetlands restoration, stormwater management, and flood protection with land use planning, there is a high likelihood that this approach will have broad applicability and impact throughout the region and beyond.

8. Statewide Priorities

All of the proposed projects address multiple statewide priorities; all but one category of Statewide Priorities is met by numerous projects within this Proposal (**Table 9-7**). Several address drought preparedness through the promotion of water conservation, reuse, and recycling, better agricultural irrigation efficiencies, and long-term water use reductions. Efficient use and reuse of water are supported by urban and agricultural water-use efficiency measures, stormwater runoff improvements, LID features, and improved reliability of supply of the Delta. Climate change response actions are achieved by more efficient use and reuse of water; water management system modification to address climate change impacts, including sea level rise; establishment of migration corridors; and reintroduction of anadromous fish. These projects encourage environmental stewardship resulting in watershed, floodplain, instream function, and ecosystem improvements. Several practice integrated flood management by improving flood protection, increasing the sustainability of flood and water management systems, enhancing floodplain ecosystems, and implementing LID techniques to filter runoff and protect groundwater. Many protect surface water and groundwater quality through restoration, sediment reduction, slope stabilization, and reduction of polluted runoff. This Proposal ensures the equitable distribution of benefits by balancing funding across the four sub-regions, encouraging participation of DACs and environmental justice advocates, and including multi-objective projects that will benefit disadvantaged and vulnerable communities. None of the projects in this Proposal address tribal water or natural resources.

Certainty

The suite of projects in this Proposal is very strongly aligned with the Statewide Priorities. These projects are highly certain to meet the Statewide Priorities identified in Table 9-7 due to the existing collaborative relationships and ongoing regional, sub-regional, and local efforts.

Magnitude and Breadth

These projects' effects will be felt throughout the Bay Area and beyond. The IRWM Plan's commitment to collaboration on regional and local levels and inclusion of stakeholders will ensure these projects address multiple objectives and serve as models for future water management projects in the region and elsewhere.

Table 9-7: Consistency of Projects with Statewide Priorities

	Statewide Priorities																																				
	Drought Preparedness					Use and Reuse Water More Efficiently				Climate Change Response Actions										Environmental Stewardship					Practice Integrated Flood Management					Protect Surface Water and Groundwater Quality		Improve Tribal Water and Natural Resources	Ensure Equitable Distribution of Benefits				
										Adaptation				GHG		Reduction of Energy Consumption																					
Project ID #	Promote water conservation, conjunctive use, reuse, and recycling	Improve landscape and agricultural irrigation efficiencies	Achieve long-term reduction of water use	Efficient groundwater basin management	Establish system interties	Increase urban and agricultural water use efficiency measures such as conservation and recycling	Capture, store, treat, and use urban stormwater runoff	Incorporate and implement low impact development (LID) design features, techniques, and practices to reduce or eliminate stormwater runoff	Improve the water supply reliability of the Sacramento-San Joaquin Delta	Advance and expand conjunctive management	Use and reuse water more efficiently	Water management system modifications to address anticipated climate change impacts	Establish migration corridors, re-establish river- floodplain hydrologic continuity, reintroduce anadromous fish, and enhance and protect upper watershed forests and meadows	Reduce energy consumption	Use cleaner energy sources to move and treat water	Water use efficiency	Water recycling	Water system energy efficiency	Reuse runoff	Watershed improvement	Floodplain improvement	Instream function improvement	Sustaining water and flood management ecosystems	Protect, restore, and enhance Delta ecosystem	Better emergency preparedness and response	Improved flood protection	More sustainable flood and water management systems	Enhanced floodplain ecosystems	LID techniques that store and infiltrate runoff while protecting groundwater	Protect and restore surface and groundwater quality to safeguard public and environmental health and secure water supplies for beneficial uses	Salt/nutrient management planning as a component of an IRWM Plan	Development of Tribal Consultation, collaboration, and access to funding for water programs and projects	Increase the participation of small and DACs in the IRWM process	Develop multi-benefit projects considering affected disadvantaged communities (DACs) and vulnerable populations	Projects that address safe drinking water and wastewater treatment needs of DACS	Address critical water supply or quality needs of California Native American Tribes	Help meet State policies intended to provide access to safe, clean, and affordable water
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