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Appendix A - List of Grant Standards & Guidelines

Integrated Regional Water Management Plan (IRWMP) Standards are used to describe what must be in an IRWMP and can be used as criteria in Implementation Grant applications. The IRWMP must include the following:

- Governance
- Region Description
- Objectives
- Resource Management Strategies (RMS)
- Integration
- Project Review Process
- Impact and Benefit
- Plan Performance and Monitoring
- Data Management
- Finance
- Technical Analysis
- Relation to Local Water Planning
- Relation to Local Land Use Planning
- Stakeholder Involvement
- Coordination
- Climate Change

Guidance, including the intent of each standard and additional reference, can be found in Appendix C of the California Department of Water Resources' (DWR) Integrated Regional Water Management (IRWM) Grant Program Guidelines (2012 Guidelines). Following is the list of Grant Standards & Guidelines and what section in the ECCC IRWMP fulfills the DWR requirements.

Table A-1. Location of DWR Grant Standards & Guidelines and Location in ECCC IRWMP

#	Description	Location in ECCC IRWMP (Chapter/Section)
A. Governance		
1.	Description of RWMG responsible for development and implementation of the plan.	Section 2 and 2.2.1
2.	The RWMG and individual project proponents who adopted the plan.	TBD
3.	Description of IRWM governance structure.	Section 2.3
4.	Description of how chosen governance addresses and ensures the following:	
	a. Public outreach and involvement processes.	Sections 3.6, 3.6.1-3.6.6
	b. Effective decision making.	Sections 2.3 & 3.6
	c. Balanced access and opportunity for participation in the IRWM process.	Sections 2.2.2, 5.2
	d. Effective communication both internal and external to the IRWM region.	Sections 3.6, 3.6.1-3.6.6
	e. Long-term implementation of the IRWM Plan.	Sections 3.4, 3.4.6
	f. Coordination with neighboring RWMG efforts and State and federal agencies.	Sections 3.7.7., 3.7
	g. Collaborative process used to establish Plan objectives.	Sections, 2.2.2, 4.5.2
	h. How interim changes and formal changes to the IRWM Plan will be performed.	Section 3.2.3
	i. Process for updating or amending the IRWM Plan.	Section 3.2.3
B. Region Description		
1.	Description of watersheds/water system	Section 2.6
2.	Description of internal boundaries within the region.	Section 2.4
3.	Water supply and demand projections for a minimum 20-year planning horizon.	Section 2.7
4.	Current and future water quality conditions.	Section 2.9
5.	Description of the social and cultural makeup of the regional community and the identification of important cultural or social values.	Section 2.5
6.	Description of economic conditions and important trends within the region.	Section 2.5. 2.5.6
7.	Description of major water-related objectives and conflicts	Section 3.2
8.	Explanation of how the IRWM regional boundary was determined.	Section 2, 2.1, 2.2
9.	Identification of neighboring or overlapping IRWM regions	Section 2.2.1, 2.4, 2.5.7, 3.7.7
10.	Explanation of how plan will help reduce dependence on the Sacramento-San Joaquin Delta for water supply	Section 1.1, 4.3
C. Objectives		
1.	Description of measureable regional planning objectives.	Section 3.2
2.	Description of objective development process.	Section 3.1
3.	Objective prioritization process.	Section 3.4

Table A-1. Location of DWR Grant Standards & Guidelines and Location in ECCC IRWMP (contd.)

#	Description	Location in ECCC IRWMP (Chapter/Section)
D. Resource Management Strategies		
1.	Description of RMS consideration process.	Section 3.3
2.	Consideration of the effects of climate change in the RMS.	Section 2.8
3.	Range of RMS considered to meet the IRWM objectives.	3.3, Appendix G
3.	Description of RMSs incorporated into IRWM Plan	Section 3.3
D. Integration		
1.	Description of stakeholder/institutional integration	Section 3.6, 3.7
2.	Description of resource integration	Section 3.7
3.	Project Implementation integration	Section 3.7, 4
E. Project Review Process		
1.	Procedures for submitting a project to the RMWG.	Section 3.4, 3.4.1
2.	Procedures for review of projects considered for inclusion into the Plan.	Section 3.4, 3.4.1-3.4.6
3.	Procedures for displaying the list of selected projects.	Section 3.6.1
F. Impacts and Benefits		
1.	Discussion of potential impacts and benefits within the region from ECCC IRWMP implementation.	Section 4.3, 4.4
2.	Discussion of benefits and impacts between regions.	Section 4.3, 4.4
3.	Impacts and benefits directly affecting disadvantaged communities.	Section 4.3, 4.4, 2.5.7
4.	Impacts and benefits directly affecting environmental justice concerns.	Section 4.3, 4.4, 2.5.7
5.	Impacts and benefits directly affecting Native American tribal communities.	Section 4.3, 4.4, 3.6.5
G. Plan Performance and Monitoring		
1.	Group(s) responsible for IRWM implementation evaluation.	Section 4.1
2.	Frequency of evaluating project implementation performance	Section 4.6
3.	Tracking via Data Management System	Section 4.7
4.	Description of process for using "lessons learned"	Section 4.8
5.	Responsibility for development of project-specific monitoring plans and activities,	Section 4, 4.2, 4.3.3, 4.6
6.	Stage of project development that a project specific monitoring plan will be prepared	Section 4
7.	Typically required contents of a project-specific monitoring plan.	Section 4.6

Table A-1. Location of DWR Grant Standards & Guidelines and Location in ECCC IRWMP (contd.)

#	Description	Location in ECCC IRWMP (Chapter/Section)
H. Data Management		
1.	Overview of data needs	Section 4.7
2.	Description of typical data collection techniques	Section 4.7
3.	Description of stakeholder data contributions to a DMS	Section 4.7
4.	Entity responsible for maintaining data in the DMS	Section 4.7
5.	Description of the validation or QA/QC measures.	
6.	Explanation of how data collected for project implementation will be transferred or shared between members of the RMWG and other interested parties	Section 4.7
7.	Explanation of how the DMS supports the RMWG's efforts to share collected data	Section 4.7
8.	An outline of how the data saved in the DMS will be distributed and remain compatible with State databases.	
I. Finance		
1.	List of known, as well as, possible funding sources, programs, and grant opportunities for the development and ongoing funding of the IRWM Plan.	Section 4.5
2.	List of funding mechanisms for projects that implement the IRWM Plan.	Section 4.3.3, 4.5
3.	Explanation of the certainty and longevity of known or potential funding for the IRWM Plan and projects	Section 4.5.2
4.	Explanation of how O&M costs for projects that implement the IRWM Plan would be covered and the certainty of O&M funding.	4.5.2
J. Technical Analysis		
1.	Description of the technical information sources and data sets used to develop the water management needs in the IRWM Plan	Section 3.5
2.	Description of studies, models, or other technical methodologies used to analyze the technical information and data sets	Section 3.5.1-3.5.5
K. Relation to Local Water Planning		
1.	List of local water plans used in the IRWM Plan	Section 3.7.9
2.	Discussion of how the IRWM Plan relates to planning documents and programs established by local agencies	Section 3.7, 3.5, 2.2
3.	Description of the dynamics between the IRWM Plan and local planning documents.	Section 3.7.10
L. Relation to Local Land Use Planning		
1.	Description of current relationship between local land use planning, regional water issues, and water management objectives.	Section 3.7.10
2.	Description of future efforts to establish a proactive relationship between land use planning and water management.	Section 3.7, 3.6

Table A-1. Location of DWR Grant Standards & Guidelines and Location in ECCC IRWMP (contd.)

#	Description	Location in ECCC IRWMP (Chapter/Section)
M. Stakeholder Involvement		
1.	Description of the public process that provides outreach and an opportunity to participate in IRWMP Plan development and implementation to the appropriate local agencies and stakeholders.	Section 3.6
2.	The process used to identify, inform, invite, and involve stakeholder groups in the IRWMP process during development and implementation of the IRWMP Plan.	Section 3.6
3.	A discussion on how the RWMG will identify and involve DACs and Native American tribal communities in the IRWMP planning effort	Sections 3.6, 3.6.1-3.6.6
4.	Description of the decision making process, including IRWMP committees, roles, or positions that stakeholders can occupy and how a stakeholder goes about participating in those committees, roles or positions, regardless of their ability to contribute financially to the Plan.	Sections 3.6, 3.7
5.	Discussion regarding how stakeholders are necessary to address the objectives and resource management strategies of the IRWMP Plan	Sections 3.6, 3.7
6.	Discussion of how collaborative processes will engage a balance of interest groups in the IRWMP process regardless of their ability to contribute financially to the IRWMP Plan's development or implementation	Sections 2, 3.6, 3.7
N. Coordination		
1.	Process for coordination of projects and activities with local participants and stakeholders.	Sections 2, 3.6, 3.7
2.	Identification of neighboring IRWMP efforts and description of coordination between efforts.	Section 3.7.7
3.	Discussion of any ongoing water management conflicts with adjacent IRWMP efforts.	Section 3.7.7
4.	Discussion of State, federal, and local agencies important to the development of the IRWMP plan and implementation of projects.	Sections 2.4.2-2.4.4, 3.7
O. Climate Change		
1.	Discussion of the IRWMP region's vulnerabilities to the effects of climate change.	Section 2.8, Appendix E
2.	Discussion of potential adaptation responses.	Section 2.8
3.	Process that considers GHG emissions when choosing between project alternatives	Sections 2.8, 2.8.9, 4
4.	List of prioritized vulnerabilities based on the vulnerability assessment and the IRWMP's decision making process.	Section 3.11.1.2, Appendix A
5.	Description of plan for further data gathering and analysis.	Section 4

Key:

DAC = disadvantaged community

DMS = Data Management System

GHG = greenhouse gas

IRWMP = Integrated Regional Water Management

O&M = Operations and Maintenance

QA/QC = Quality Assurance/Quality Control

RMS = Resource Management Strategy

RWMG = Regional Water Management Group

State = state of California

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Appendix B - Roster of the Governing Board

East County Water Management Association - Governing Board

<u>AGENCY</u>	<u>REPRESENTATIVE</u>	<u>TELEPHONE</u>
City of Antioch	Gary Agopian P.O. Box 5007 Antioch, CA 94531-5007 gagopian@ci.antioch.ca.us	925-978-0938 925-779-7003 F
City of Brentwood	Bob Taylor 150 City Park Way Brentwood, CA 94523-1164 Diane R. Williams, Executive Assistant (contact) dwilliams@brentwoodca.gov	925-516-5440 925-516-5441 F
Byron-Bethany Irrigation District	Russell Kagehiro Timothy Maggiore 7995 Bruns Road Byron, CA 94514 admin@bbid.org	209-835-0375 209-835-2869 F
Contra Costa County	Supervisor Mary Piepho 3361 Walnut Boulevard, Ste. 140 Brentwood, CA 94513 Dist3@BOS.CCCounty.us 4115 Blackhawk Plaza Circle Danville, CA 94506 Supervisor Federal D. Glover (<i>Alternate</i>) 315 E. Leland Road Pittsburg, CA 94565 FGlov@bos.cccounty.us	925-252-4500 925-240-7261 F 925-427-8138
Contra Costa Water District	Bette Boatmun 4004 Salem Street Concord, CA 94521 bboatmun@yahoo.com Karl Wandry (<i>Alternate</i>) 4906 Calle De Oro Oakley, CA 94561	925-689-9255 H 925-676-0346 F 925-978-0875
Town of Discovery Bay Community Services District	Chris Steele, Board President 1800 Willow Lake Road Discovery Bay, CA 94505 sheinl@toddb.ca.gov (Sue Heintl) Mark Simon, Board Vice President	925-513-1353

Delta Diablo Sanitation District	Wade Harper, Antioch Mayor/Board Member 2500 Pittsburg-Antioch Highway Antioch, CA 94509 wharper@ci.antioch.ca.us	925-756-1927 925-756-1965 F
Diablo Water District	Richard R. Head 1277 Fetzer Lane Oakley, CA 94561-3189 RRH635@sbcglobal.net Howard Hobbs (<i>Alternate</i>) 4370 Neroly Road Oakley, CA 94561 (No e-mail)	925-625-3798 925-625-0814 F
East Contra Costa County Habitat Conservancy	Randy Pope, Vice Mayor City of Oakley 3231 Main Street Oakley, CA 94561 randypope@ci.oakley.ca.us Hank Stratford, Vice Mayor (<i>Alternate</i>) City of Clayton 6000 Heritage Trail Clayton, CA 94517 Hank_stratford@yahoo.com (send to Lacy: ljackson@ci.clayton.ca.us)	925-625-7007 925-625-9859 F 925-673-7304
East Contra Costa Irrigation District	Kenneth W. Smith P. O. Box 140 Knightsen, CA 94548 (No email)	925-634-5951
Ironhouse Sanitary District	David Huerta 450 Walnut Meadows Drive Oakley, CA 94561 Walde@isd.us.com	925-625-2279
City of Pittsburg	Nancy Parent, Mayor 1000 Buchanan Road Pittsburg, CA 94565 lawparent@gmail.com Sal Evola, Councilmember (<i>Alternate</i>) 65 Civic Avenue Pittsburg, CA 94565 sevola@ci.pittsburg.ca.us	925-439-5760 925-439-5760 F 925-252-4870 (temporary) 925-252-4851 F
Governing Board Chair:	Bette Boatmun, Contra Costa Water District	
Governing Board Vice-Chair:	Nancy L. Parent, City of Pittsburg	
Governing Board Secretary:	Richard Head, Diablo Water District	
Joint Manager's Committee Chair:	Gary Darling, Delta Diablo Sanitation District	
Joint Manager's Committee Vice-Chair:	Ron Bernal, City of Antioch	

Appendix C - Handbook Summary Information

C.1 Climate Change Handbook for Regional Water Planning

Developed cooperatively by DWR, The U.S. Environmental Protection Agency, Resources Legacy Fund, and The U.S. Army Corps of Engineers, the Climate Change Handbook for Regional Water Planning provides a framework for considering climate change in water management planning. Key decision considerations, resources, tools, and decision options are presented that will guide resource managers and planners as they develop means of adapting their programs to a changing climate.

The handbook uses DWR's IRWM planning framework as a model into which analysis of climate change impacts and planning for adaptation and mitigation can be integrated.

The Handbook includes:

- The science of climate change, tools and links;
- Evaluating the energy-water connection and greenhouse gas emissions;
- Assessing regional vulnerability to climate change;
- Measuring regional impacts;
- Evaluating projects, resource management strategies, and Integrated Regional Water Management Plans with respect to climate change;
- Implementing and quantifying uncertainty; and
- Case studies illustrating a range of climate change adaptation and mitigation issues within and outside of California.

Individual Report Sections

- Front Matter
- Section 1: Overview of IRWM Planning and Climate Change
- Section 2: The Science of Climate Change
- Section 3: Evaluating the EnergyWater Connection and Greenhouse Gas Emissions
- Section 4: Assessing Regional Vulnerability to Climate Change
- Section 5: Measuring Regional Impacts
- Section 6: Evaluating Projects, Resource Management Strategies, and IRWM Plan Benefits with Climate Change
- Section 7: Implementing Under Uncertainty
- Section 8: References
- Appendix A: Climate Change Literature Review
- Appendix A: Climate Change Literature Review
- Appendix B: Vulnerability Assessment Checklist
- Appendix C: Quantifying Uncertainty in Climate Change Analysis
- Appendix D: Climate Change Analysis Tool

C.2 Vulnerability Assessment Checklist (DWR Appendix B)

I. Water Demand

- Are there major industries that require cooling/process water in your planning region?*
 - As average temperatures increase, cooling water needs may also increase.
 - Identify major industrial water users in your region and assess their current and projected needs for cooling and process water.

- Does water use vary by more than 50% seasonally in parts of your region?*
 - Seasonal water use, which is primarily outdoor water use, is expected to increase as average temperatures increase and droughts become more frequent.
 - Where water use records are available, look at total monthly water uses averaged over the last five years (if available). If maximum and minimum monthly water uses vary by more than 25%, then the answer to this question is "yes."
 - Where no water use records exist, is crop irrigation responsible for a significant (say >50%) percentage of water demand in parts of your region?

- Are crops grown in your region climate sensitive? Would shifts in daily heat patterns, such as how long heat lingers before nighttime cooling, be prohibitive for some crops?*
 - Fruit and nut crops are climate sensitive and may require additional water as the climate warms.

- Do groundwater supplies in your region lack resiliency after drought events?*
 - Droughts are expected to become more frequent and more severe in the future. Areas with a more hardened demand may be particularly vulnerable to droughts and may become more dependent on groundwater pumping.

- Are water use curtailment measures effective in your region?*
 - Droughts are expected to become more frequent and more severe in the future. Areas with a more hardened demand may be particularly vulnerable to droughts.

- Are some instream flow requirements in your region either currently insufficient to support aquatic life, or occasionally unmet?*
 - Changes in snowmelt patterns in the future may make it difficult to balance water demands. Vulnerabilities for ecosystems and municipal/agricultural water needs may be exacerbated by instream flow requirements that are:
 1. not quantified,
 2. not accurate for ecosystem needs under multiple environmental conditions including droughts, and
 3. not met by regional water managers.

II. Water Supply

- Does a portion of the water supply in your region come from snowmelt?*
- Snowmelt is expected to decrease as the climate warms. Water systems supplied by snowmelt are therefore potentially vulnerable to climate change.
 - Where watershed planning documents are available, refer to these in identifying parts of your region that rely on surface water for supplies; if your region contains surface water supplies originating in watersheds where snowpack accumulates, the answer to this question is "Yes."
 - Where planning documents are not available, identify major rivers in your region with large users. Identify whether the river's headwaters are fed by snowpack.
- Does part of your region rely on water diverted from the Delta, imported from the Colorado River, or imported from other climatesensitive systems outside your region?*
- Some imported or transferred water supplies are sources from climatesensitive watersheds, such as water imported from the Delta and the Colorado River.
- Does part of your region rely on coastal aquifers? Has salt intrusion been a problem in the past?*
- Coastal aquifers are susceptible to salt intrusion as sea levels rise, and many have already observed salt intrusion due to overextraction, such as the West Coast Basin in southern California.
- Would your region have difficulty in storing carryover supply surpluses from year to year?*
- Droughts are expected to become more severe in the future. Systems that can store more water may be more resilient to droughts.
- Has your region faced a drought in the past during which it failed to meet local water demands?*
- Droughts are expected to become more severe in the future. Systems that have already come close to their supply thresholds may be especially vulnerable to droughts in the future.
- Does your region have invasive species management issues at your facilities, along conveyance structures, or in habitat areas?*
- As invasive species are expected to become more prevalent with climate change, existing invasive species issues may indicate an ecological vulnerability to climate change.

III. Water Quality

- Are increased wildfires a threat in your region? If so, does your region include reservoirs with firesusceptible vegetation nearby which could pose a water quality concern from increased erosion?*
- Some areas are expected to become more vulnerable to wildfires over time. To identify whether this is the case for parts of your region, the California Public Interest Energy

Research (PIER) Program has posted wildfire susceptibility projections as a Google Earth application at: <http://caladapt.org/fire/>. These projections are only the results of a single study and are not intended for analysis, but can aid in qualitatively answering this question. Read the application's disclaimers carefully to be aware of its limitations.

- Does part of your region rely on surface water bodies with current or recurrent water quality issues related to eutrophication, such as low dissolved oxygen or algal blooms? Are there other water quality constituents potentially exacerbated by climate change?*
 - Warming temperatures will result in lower dissolved oxygen levels in water bodies, which are exacerbated by algal blooms and in turn enhance eutrophication. Changes in streamflows may alter pollutant concentrations in water bodies.
- Are seasonal low flows decreasing for some waterbodies in your region? If so, are the reduced low flows limiting the waterbodies' assimilative capacity?*
 - In the future, low flow conditions are expected to be more extreme and last longer. This may result in higher pollutant concentrations where loadings increase or remain constant.
- Are there beneficial uses designated for some water bodies in your region that cannot always be met due to water quality issues?*
 - In the future, low flows are expected decrease, and to last longer. This may result in higher pollutant concentrations where loadings increase or remain constant.
- Does part of your region currently observe water quality shifts during rain events that impact treatment facility operation?*
 - While it is unclear how average precipitation will change with temperature, it is generally agreed that storm severity will probably increase. More intense, severe storms may lead to increased erosion, which will increase turbidity in surface waters. Areas that already observe water quality responses to rainstorm intensity may be especially vulnerable.

IV. Sea Level Rise

- Has coastal erosion already been observed in your region?*
 - Coastal erosion is expected to occur over the next century as sea levels rise.
- Are there coastal structures, such as levees or breakwaters, in your region?*
 - Coastal structures designed for a specific mean sea level may be impacted by sea level rise.
- Is there significant coastal infrastructure, such as residences, recreation, water and wastewater treatment, tourism, and transportation) at less than six feet above mean sea level in your region?*
 - Coastal flooding will become more common, and will impact a greater extent of property, as sea levels rise. Critical infrastructure in the coastal floodplain may be at risk.
 - Digital elevation maps should be compared with locations of coastal infrastructure.
- Are there climate sensitive low-lying coastal habitats in your region?*

- Low-lying coastal habitats that are particularly vulnerable to climate change include estuaries and coastal wetlands that rely on a delicate balance of freshwater and salt water.

Are there areas in your region that currently flood during extreme high tides or storm surges?

- Areas that are already experiencing flooding during storm surges and very high tides, are more likely to experience increased flooding as sea levels rise.

Is there land subsidence in the coastal areas of your region?

- Land subsidence may compound the impacts of sea level rise.

Do tidal gauges along the coastal parts of your region show an increase over the past several decades?

- Local sea level rise may be higher or lower than state, national, or continental projections.
- Planners can find information on local tidal gauges at http://tidesandcurrents.noaa.gov/sltrends/sltrends_states.shtml?region=ca.

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Appendix D – ECCC Handbook Checklist

Table D-1. Climate Change Vulnerability Checklist and Prioritization

Question	Response	Priority	Justification
I. Water Demand			
• Are there major industries that require cooling/process water in your planning region?	Yes	High	Major water-intensive industries include power production.
• Does water use vary by more than 50% seasonally in parts of your region?	Yes	High	Summer months are as much as 50% higher than the average month and winter months are as much as 50% lower than the average month. Warming temperatures and increased extreme events will likely exacerbate summer demand.
• Are there climate-sensitive crops grown in your region? Would shifts in daily heat patterns, such as how long heat lingers before nighttime cooling, be prohibitive for some crops?	Yes	High	A variety of crop types are grown in the region, including row crops, tree crops, and irrigated grains. Agricultural production in Contra Costa County has a value of approximately \$92 million dollars (2011 Annual Crop and Livestock Report for Contra Costa County). Many of these crops are sensitive to climate.
• Do groundwater supplies in your region lack resiliency after drought events?	No	–	Groundwater supplies in the region have proved resilient after drought events.
• Are water use curtailment measures effective in your region?	Yes	Low	Water conservation BMPs are used effectively throughout the region, as detailed in various UWMPs.
• Are some instream flow requirements in your region either currently insufficient to support aquatic life, or occasionally unmet?	No	–	Climate change is expected to place additional stress on low summer flows.
II. Water Supply			
• Does a portion of the water supply in your region come from snowmelt?	Yes	Medium	Runoff from April through July is dominated by snowmelt.
• Does part of your region rely on water diverted from the Delta, imported from the Colorado River, or imported from other climate-sensitive systems outside your region?	Yes	High	The majority of water supplies in the region are from the Delta.
• Does part of your region rely on coastal aquifers? Has salt intrusion been a problem in the past?	No	–	There are coastal aquifers within the region, but these have not shown to have significant problems with salt intrusion in the past.

Table D-1. Climate Change Vulnerability Checklist and Prioritization (contd.)

Question	Response	Priority	Justification
<ul style="list-style-type: none"> • Would your region have difficulty in storing carryover supply surpluses from year to year? 	Yes	Medium	Current operating conditions limit storage opportunities during winter runoff season; increased winter runoff would not necessarily translate into increased storage of water leading into the spring season. Conversely, storage capture of snowmelt runoff has traditionally occurred during the late spring and early summer seasons. Reductions in runoff during this season likely would translate into reductions in storage capture and, likewise, reductions in water supply for warm season delivery (Reclamation 2011)
<ul style="list-style-type: none"> • Has your region faced a drought in the past during which it failed to meet local water demands? 	No	–	The region has not failed to meet local water demands during drought years. However, the potential effects of climate change make this a possibility.
<ul style="list-style-type: none"> • Does your region have invasive species management issues at your facilities, along conveyance structures, or in habitat areas? 	Yes	Medium	Invasive species, including various nonnative fish and plant species, are an ongoing issue within the region.
III. Water Quality			
<ul style="list-style-type: none"> • Are increased wildfires a threat in your region? If so, does your region include reservoirs with fire-susceptible vegetation nearby that could pose a water quality concern from increased erosion? 	No	–	Wildfires are only a moderate hazard in eastern Contra Costa County (Contra Costa County Hazard Mitigation Plan Update (2011)).
<ul style="list-style-type: none"> • Does part of your region rely on surface water bodies with current or recurrent water quality issues related to eutrophication, such as low dissolved oxygen or algal blooms? Are there other water quality constituents that are potentially exacerbated by climate change? 	Yes	High	The majority of water supply in the region is from the Delta, which has several water quality concerns, which would be exacerbated by climate change.
<ul style="list-style-type: none"> • Are seasonal low flows decreasing for some water bodies in your region? If so, are the reduced low flows limiting the water bodies' assimilative capacity? 	No	–	Seasonally low flows are not currently decreasing, but this is a potential impact from climate change.

Table D-1. Climate Change Vulnerability Checklist and Prioritization (contd.)

Question	Response	Priority	Justification
<ul style="list-style-type: none"> • Are there beneficial uses designated for some water bodies in your region that cannot always be met due to water quality issues? 	Yes	Low	Beneficial uses on surface water bodies throughout the region are listed as impaired on the Clean Water Act 303 (d) list for water quality constituents, such as mercury and pesticides.
<ul style="list-style-type: none"> • Does part of your region currently observe water quality shifts during rain events that impact treatment facility operation? 	Yes	Medium	Disinfectant byproduct precursors tend to spike during storm events (DWR 2001).
IV. Sea-Level Rise			
<ul style="list-style-type: none"> • Has coastal erosion already been observed in your region? 	Yes	Medium	A portion of the region is in the Delta, which has experienced erosion.
<ul style="list-style-type: none"> • Are there coastal structures, such as levees or breakwaters, in your region? 	Yes	High	There are tidally influenced levees on the Sacramento River on the western boundary of the region.
<ul style="list-style-type: none"> • Is there significant coastal infrastructure (residences, recreation, water and wastewater treatment, tourism, and transportation) at less than 6 feet above mean sea level in your region? 	Yes	High	There is infrastructure adjacent to the Delta that is at or near 6 feet above mean sea level.
<ul style="list-style-type: none"> • Are there climate-sensitive low-lying coastal habitats in your region? 	Yes	Medium	The northern boundary of the region is adjacent to the Delta.
<ul style="list-style-type: none"> • Are there areas in your region that currently flood during extreme high tides or storm surges? 	No	–	There are areas in and adjacent to the Delta that flood during extreme weather events.
<ul style="list-style-type: none"> • Is there land subsidence in the coastal areas of your region? 	Yes	High	Many Delta islands have subsided 15 feet to 25 feet below sea level (Contra Costa County Hazard Mitigation Plan Update [2011]).
<ul style="list-style-type: none"> • Do tidal gauges along the coastal parts of your region show an increase over the past several decades? 	Yes	Low	In recent decades, the mean sea level trend has been an increase of 2.08mm/year (at the nearest tidal gauge to the region (Port Chicago, located in the San Francisco Bay [NOAA 2012]).
V. Flooding			
<ul style="list-style-type: none"> • Does critical infrastructure in your region lie within the 200-year floodplain? DWR’s best floodplain maps are available at: http://www.water.ca.gov/floodmgmt/lrafmo/fmb/fes/best_available_maps/. 	Yes	High	Major Infrastructure in floodplains includes major interstate highways and water/wastewater infrastructure (DWR 2012).
<ul style="list-style-type: none"> • Does part of your region lie within the Sacramento-San Joaquin Drainage District? 	Yes	High	The eastern portion of the region lies within the Sacramento-San Joaquin Drainage District.

Table D-1. Climate Change Vulnerability Checklist and Prioritization (contd.)

Question	Response	Priority	Justification
<ul style="list-style-type: none"> Does aging critical flood protection infrastructure exist in your region? 	Yes	High	Major metropolitan areas, small communities, and rural areas are protected by aging levees, weirs, bypasses, and other flood management infrastructure. These are detailed in the Flood Control System Status Report (DWR 2012).
<ul style="list-style-type: none"> Have flood control facilities (such as impoundment structures) been insufficient in the past? 	Yes	Medium	Contra Costa County is vulnerable to five flood types: localized flooding, riverine flooding, flash flooding, levee overtopping/failure, and dam failure.
<ul style="list-style-type: none"> Are wildfires a concern in parts of your region? 	No	–	Only a small area on the western boundary of the region has moderate fire danger (Contra Costa County Hazard Mitigation Plan Update 2011).
VI. Ecosystem and Habitat Vulnerability			
<ul style="list-style-type: none"> Does your region include inland or coastal aquatic habitats vulnerable to erosion and sedimentation issues? 	Yes	Medium	Wetland and riverine habitats are vulnerable to erosion and sedimentation issues.
<ul style="list-style-type: none"> Does your region include estuarine habitats that rely on seasonal freshwater flow patterns? 	Yes	Low	The Delta portion of the region relies on seasonal freshwater flow patterns.
<ul style="list-style-type: none"> Do climate-sensitive fauna or flora populations live in your region? 	Yes	High	Climate-sensitive populations include salmonid species, migratory bird species, and wetland species (CEC 2008).
<ul style="list-style-type: none"> Do endangered or threatened species exist in your region? Are changes in species distribution already being observed in parts of your region? 	Yes	High	A number of State-listed and federally listed threatened and endangered species exist in the region.
<ul style="list-style-type: none"> Does the region rely on aquatic or water-dependent habitats for recreation or other economic activities? 	Yes	Low	Boating, hunting, fishing, and bird watching are important recreational and economic activities that rely on aquatic or water-dependent habitats in the region.
<ul style="list-style-type: none"> Are there rivers in your region with quantified environmental flow requirements or known water quality/quantity stressors to aquatic life? 	Yes	Low	Rivers and creeks in the region do not have flow requirements.

Table D-1. Climate Change Vulnerability Checklist and Prioritization (contd.)

Question	Response	Priority	Justification
<ul style="list-style-type: none"> Do estuaries, coastal dunes, wetlands, marshes, or exposed beaches exist in your region? If so, are coastal storms possible/frequent in your region? 	Yes	Low	The Bay-Delta estuary, marshes, and seasonal and emergent wetland habitats exist in the region, particularly in the southwestern portion; however, coastal storms are not frequent in the region.
<ul style="list-style-type: none"> Does your region include one or more of the habitats described in the Endangered Species Coalition’s Top 10 habitats vulnerable to climate change (http://www.itsgettinghotoutthere.org/)? 	Yes	High	The region contains portions of the Bay-Delta, which is on the Endangered Species Coalition’s Top 10 vulnerable habitats.
<ul style="list-style-type: none"> Are there areas of fragmented estuarine, aquatic, or wetland wildlife habitat within your region? Are there movement corridors for species to naturally migrate? Are there infrastructure projects planned that might preclude species movement? 	Yes, sometime, Yes	Medium	The combined effect of various stressors has fragmented and/or eliminated extensive areas of wetland and riparian habitat and impeded movement corridors (DWR 2012).
VII. Hydropower			
<ul style="list-style-type: none"> Is hydropower a source of electricity in your region? 	Yes	Low	Yes, a portion of PG&E’s power supply is from hydropower.
<ul style="list-style-type: none"> Are energy needs in your region expected to increase in the future? If so, are there future plans for hydropower generation facilities or conditions for hydropower generation in your region? 	Yes, No	Low	The population is expected to grow in the future. Future power supply projects would need to be considered, including hydropower sources.

Key:

BMP = best management practice

Delta = Sacramento-San Joaquin Delta

DWR = California Department of Water Resources

PG&E = Pacific Gas and Electric Company

UWMP = Urban Water Management Plan

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Appendix E – List and Descriptions of On-Going and Planned Regional Actions

A list and description of on-going and planned regional actions can be found on the ECCC IRWM Plan web site here:

<http://www.eccc-irwm.org/>

A table of ECCC IRWM Plan regional projects sorted by different project attributes can be found on the following pages. This table was generated from the project database maintained by the ECCC IRWM Plan web site. The table is titled ‘ECCC IRWM Plan Projects Sorted by Different Project Attributes’ and includes the following sorted lists:

- Projects Sorted by Project Type
- Projects Sorted by Primary ECCC IRWM Plan Objective Category
- Projects Sorted by Project Score
- Projects Sorted by Resource Management Strategies (RMS) Diversification
- Projects Sorted by Project Status: Design Date
- Projects Sorted by Total Cost
- Projects Sorted by Percent Funded

A table of detailed project data for each of the ECCC IRWM Plan regional projects can be found on the following pages. This table was generated from the project database maintained by the ECCC IRWM Plan web site. This table is titled ‘ECCC IRWM Plan Projects Detailed Data’ and includes the following information for each regional project:

- Project Name
- Sponsoring Agency/Organization
- Project ID #
- Project Description
- ECCC IRWM Plan Objective(s) (*how the project relates*)
- Program Preferences (*how the project relates*)
- Statewide Priorities (*how the project relates*)
- Resource Management Strategies – Diversification Considerations (*how the project relates*)
- Project Status – Implementation
- Project Costs – Implementation
- Project Funding – Implementation
- Disadvantaged Communities (DACs) (*how the project relates*)
- Environmental Justice (*how the project relates*)
- Climate Change /Greenhouse Gas Emission Reduction (*how the project relates*)

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ECCC IRWM Plan Projects Sorted by Different Project Attributes

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Projects Sorted by Project Type			
Project ID #	Project Name	Sponsoring Agency / Organization	Project Type
11	East Antioch Creek Marsh Restoration (#206)	Contra Costa County Flood Control & Water Conservation District	Environmental (e.g., habitat)
12	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Contra Costa County Flood Control & Water Conservation District	Environmental (e.g., habitat)
25	Los Vaqueros Pond E-7 Embankment Rehabilitation	Contra Costa Water District	Environmental (e.g., habitat)
42	Watershed and Habitat Protection/Restoration	East Contra Costa County Habitat Conservancy	Environmental (e.g., habitat)
52	Marsh Creek Delta Restoration Project	Reclamation District 830	Environmental (e.g., habitat)
2	BIMID Levee and Pump Station Improvement Project	Bethel Island Municipal Improvement District	Infrastructure - Stormwater / Flood Management
3	Drainage Area 55 - West Antioch Creek Channel Improvements	City of Antioch	Infrastructure - Stormwater / Flood Management
7	East Contra Costa County Green Street Retrofit Network	Contra Costa County	Infrastructure - Stormwater / Flood Management
8	Knightsen Biofilter/Wetland Habitat Restoration	Contra Costa County	Infrastructure - Stormwater / Flood Management
9	Upper Sand Creek Basin Surplus Material (#220)	Contra Costa County Flood & Water Conservation Control District	Infrastructure - Stormwater / Flood Management
10	Deer Creek Reservoir Seismic Assessment (#212)	Contra Costa County Flood Control & Water Conservation District	Infrastructure - Stormwater / Flood Management
13	Marsh Creek Reservoir Seismic Assessment (#210)	Contra Costa County Flood Control & Water Conservation District	Infrastructure - Stormwater / Flood Management
14	Marsh Creek Supplemental Capacity and Basin Development (#215)	Contra Costa County Flood Control & Water Conservation District	Infrastructure - Stormwater / Flood Management
15	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Contra Costa County Flood Control & Water Conservation District	Infrastructure - Stormwater / Flood Management
16	Oakley and Trembath Detention Basins (#207)	Contra Costa County Flood Control & Water Conservation District	Infrastructure - Stormwater / Flood Management
17	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Contra Costa County Flood Control & Water Conservation District	Infrastructure - Stormwater / Flood Management
18	Dry Creek Reservoir Seismic Assessment (#211)	Contra Costa County Flood Control and Water Conservation District	Infrastructure - Stormwater / Flood Management
19	Kellogg Creek Sedimentation Basin (#226)	Contra Costa County Flood Control and Water Conservation District	Infrastructure - Stormwater / Flood Management
20	Lower Sand Creek Basin Construction (#222)	Contra Costa County Flood Control and Water Conservation District	Infrastructure - Stormwater / Flood Management
21	Deer Creek Reservoir Expansion (#217 and #218)	Contra Costa County Flood Control District	Infrastructure - Stormwater / Flood Management
26	Stormwater Management at Meadows Siphon	Contra Costa Water District	Infrastructure - Stormwater / Flood Management
49	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Lake Alhambra Property Owners Association	Infrastructure - Stormwater / Flood Management
51	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Reclamation District 830	Infrastructure - Stormwater / Flood Management
1	Recycle Water for AYSC	Antioch Youth Sports Complex	Infrastructure - Wastewater / Recycled Water
28	Advanced Wastewater Treatment	Delta Diablo Sanitation District	Infrastructure - Wastewater / Recycled Water
29	DDSD Advanced Water Treatment	Delta Diablo Sanitation District	Infrastructure - Wastewater / Recycled Water
30	DDSD Recycled Water Distribution System Expansion	Delta Diablo Sanitation District	Infrastructure - Wastewater / Recycled Water
31	Recycled Water Facility Renewable Energy System	Delta Diablo Sanitation District	Infrastructure - Wastewater / Recycled Water
32	Total Dissolved Solids Reduction / Salinity Management	Delta Diablo Sanitation District	Infrastructure - Wastewater / Recycled Water
33	Wastewater Renewable Energy Enhancement	Delta Diablo Sanitation District	Infrastructure - Wastewater / Recycled Water
43	Ironhouse Sanitary District Recycled Water Implementation - Phase B	Ironhouse Sanitary District	Infrastructure - Wastewater / Recycled Water
44	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District	Infrastructure - Wastewater / Recycled Water
45	Ironhouse Sanitary District Recycled Water Implementation -Phase A	Ironhouse Sanitary District	Infrastructure - Wastewater / Recycled Water

Projects Sorted by Project Type			
Project ID #	Project Name	Sponsoring Agency / Organization	Project Type
46	Oakley Sewers	Ironhouse Sanitary District	Infrastructure - Wastewater / Recycled Water
48	Septage Receiving Station	Ironhouse Sanitary District	Infrastructure - Wastewater / Recycled Water
53	Viera Water and Sewer Service, NE Antioch	City of Antioch	Infrastructure - Water / Water Quality
4	City of Pittsburg Water Treatment Plant Improvements Project	City of Pittsburg	Infrastructure - Water / Water Quality
5	Rossmoor Well Replacement Project/Groundwater Monitoring Well System expansion	City of Pittsburg	Infrastructure - Water / Water Quality
23	BBID-CCWD Regional Intertie	Contra Costa Water District	Infrastructure - Water / Water Quality
24	Contra Costa Canal Levee Elimination and Flood Protection Project	Contra Costa Water District	Infrastructure - Water / Water Quality
27	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Contra Costa Water District	Infrastructure - Water / Water Quality
35	Beacon West Arsenic Replacement Well	Diablo Water District	Infrastructure - Water / Water Quality
36	Bethel Island Water Supply Pipeline	Diablo Water District	Infrastructure - Water / Water Quality
38	Leak Detection and Repair	Diablo Water District/Contra Costa Water District	Infrastructure - Water / Water Quality
41	Treatment of Brackish Groundwater	Diablo Water District	Infrastructure - Water / Water Quality
50	Jersey Island Cutoff Levees	Reclamation District 830	Infrastructure - Water / Water Quality
39	Phase 3 Well Utilization Project	Diablo Water District	Infrastructure - Water / Water Quality
40	Tracy Subbasin Safe Yield Analysis	Diablo Water District	Monitoring
22	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	Contra Costa Flood Control and Water Conservation District	Monitoring
34	Advanced Metering and Leak Detection (AML) Project	Diablo Water District	Monitoring
47	Salinity Reduction	Ironhouse Sanitary District	Other
54	DDSD Salinity Reduction - Softener Rebate Program	Delta Diablo Sanitation District	Other
37	High Efficiency Toilets and Landscape Water Conservation	Diablo Water District	Other
6	Mercury Reduction Benefits of Low Impact Development	Contra Costa Clean Water Program	Research

Projects Sorted by Primary ECCC IRWM Plan Objective Category				
Project ID #	Project Name	Sponsoring Agency / Organization	Primary ECCC IRWM Plan Objective Category	Primary ECCC IRWM Plan Objective
23	BBID-CCWD Regional Intertie	Contra Costa Water District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
31	Recycled Water Facility Renewable Energy System	Delta Diablo Sanitation District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
33	Wastewater Renewable Energy Enhancement	Delta Diablo Sanitation District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
34	Advanced Metering and Leak Detection (AMLD) Project	Diablo Water District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
43	Ironhouse Sanitary District Recycled Water Implementation - Phase B	Ironhouse Sanitary District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
44	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
45	Ironhouse Sanitary District Recycled Water Implementation -Phase A	Ironhouse Sanitary District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
48	Septage Receiving Station	Ironhouse Sanitary District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
39	Phase 3 Well Utilization Project	Diablo Water District	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water
8	Knightsen Biofilter/Wetland Habitat Restoration	Contra Costa County	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways
11	East Antioch Creek Marsh Restoration (#206)	Contra Costa County Flood Control & Water Conservation District	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways
12	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Contra Costa County Flood Control & Water Conservation District	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways
42	Watershed and Habitat Protection/Restoration	East Contra Costa County Habitat Conservancy	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways
52	Marsh Creek Delta Restoration Project	Reclamation District 830	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways
25	Los Vaqueros Pond E-7 Embankment Rehabilitation	Contra Costa Water District	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Minimize impacts to the Delta ecosystem and other environmental resources
2	BIMID Levee and Pump Station Improvement Project	Bethel Island Municipal Improvement District	Stormwater and Flood Management	Improve regional flood risk management
9	Upper Sand Creek Basin Surplus Material (#220)	Contra Costa County Flood & Water Conservation Control District	Stormwater and Flood Management	Improve regional flood risk management
10	Deer Creek Reservoir Seismic Assessment (#212)	Contra Costa County Flood Control & Water Conservation District	Stormwater and Flood Management	Improve regional flood risk management
13	Marsh Creek Reservoir Seismic Assessment (#210)	Contra Costa County Flood Control & Water Conservation District	Stormwater and Flood Management	Improve regional flood risk management
14	Marsh Creek Supplemental Capacity and Basin Development (#215)	Contra Costa County Flood Control & Water Conservation District	Stormwater and Flood Management	Improve regional flood risk management
15	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Contra Costa County Flood Control & Water Conservation District	Stormwater and Flood Management	Improve regional flood risk management

Projects Sorted by Primary ECCC IRWM Plan Objective Category				
Project ID #	Project Name	Sponsoring Agency / Organization	Primary ECCC IRWM Plan Objective Category	Primary ECCC IRWM Plan Objective
16	Oakley and Trembath Detention Basins (#207)	Contra Costa County Flood Control & Water Conservation District	Stormwater and Flood Management	Improve regional flood risk management
17	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Contra Costa County Flood Control & Water Conservation District	Stormwater and Flood Management	Improve regional flood risk management
18	Dry Creek Reservoir Seismic Assessment (#211)	Contra Costa County Flood Control and Water Conservation District	Stormwater and Flood Management	Improve regional flood risk management
20	Lower Sand Creek Basin Construction (#222)	Contra Costa County Flood Control and Water Conservation District	Stormwater and Flood Management	Improve regional flood risk management
21	Deer Creek Reservoir Expansion (#217 and #218)	Contra Costa County Flood Control District	Stormwater and Flood Management	Improve regional flood risk management
3	Drainage Area 55 - West Antioch Creek Channel Improvements	City of Antioch	Stormwater and Flood Management	Manage local stormwater within the region
6	Mercury Reduction Benefits of Low Impact Development	Contra Costa Clean Water Program	Stormwater and Flood Management	Manage local stormwater within the region
19	Kellogg Creek Sedimentation Basin (#226)	Contra Costa County Flood Control and Water Conservation District	Stormwater and Flood Management	Manage local stormwater within the region
49	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Lake Alhambra Property Owners Association	Stormwater and Flood Management	Manage local stormwater within the region
40	Tracy Subbasin Safe Yield Analysis	Diablo Water District	Water Quality and Related Regulations	Increase understanding of groundwater quality and potential threats to groundwater quality
7	East Contra Costa County Green Street Retrofit Network	Contra Costa County	Water Quality and Related Regulations	Limit quantity and improve quality of stormwater discharges to the Delta
54	DDSD Salinity Reduction - Softener Rebate Program	Delta Diablo Sanitation District	Water Quality and Related Regulations	Maintain/improve regional recycled water quality
32	Total Dissolved Solids Reduction / Salinity Management	Delta Diablo Sanitation District	Water Quality and Related Regulations	Maintain/improve regional recycled water quality
4	City of Pittsburg Water Treatment Plant Improvements Project	City of Pittsburg	Water Quality and Related Regulations	Maintain/improve regional treated drinking water quality
5	Rossmoor Well Replacement Project/Groundwater Monitoring Well System expansion	City of Pittsburg	Water Quality and Related Regulations	Maintain/improve regional treated drinking water quality
22	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	Contra Costa Flood Control and Water Conservation District	Water Quality and Related Regulations	Meet current and future water quality requirements for discharges to the Delta
28	Advanced Wastewater Treatment	Delta Diablo Sanitation District	Water Quality and Related Regulations	Meet current and future water quality requirements for discharges to the Delta
53	Viera Water and Sewer Service, NE Antioch	City of Antioch	Water Quality and Related Regulations	Protect/improve source water quality
24	Contra Costa Canal Levee Elimination and Flood Protection Project	Contra Costa Water District	Water Quality and Related Regulations	Protect/improve source water quality
35	Beacon West Arsenic Replacement Well	Diablo Water District	Water Quality and Related Regulations	Protect/improve source water quality
36	Bethel Island Water Supply Pipeline	Diablo Water District	Water Quality and Related Regulations	Protect/improve source water quality

Projects Sorted by Primary ECCC IRWM Plan Objective Category				
Project ID #	Project Name	Sponsoring Agency / Organization	Primary ECCC IRWM Plan Objective Category	Primary ECCC IRWM Plan Objective
46	Oakley Sewers	Ironhouse Sanitary District	Water Quality and Related Regulations	Protect/improve source water quality
47	Salinity Reduction	Ironhouse Sanitary District	Water Quality and Related Regulations	Protect/improve source water quality
50	Jersey Island Cutoff Levees	Reclamation District 830	Water Quality and Related Regulations	Protect/improve source water quality
51	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Reclamation District 830	Water Quality and Related Regulations	Protect/improve source water quality
38	Leak Detection and Repair	Diablo Water District/Contra Costa Water District	Water Supply	Increase water conservation and water use efficiency
1	Recycle Water for AYSC	Antioch Youth Sports Complex	Water Supply	Increase water conservation and water use efficiency
26	Stormwater Management at Meadows Siphon	Contra Costa Water District	Water Supply	Increase water conservation and water use efficiency
27	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Contra Costa Water District	Water Supply	Increase water conservation and water use efficiency
37	High Efficiency Toilets and Landscape Water Conservation	Diablo Water District	Water Supply	Increase water conservation and water use efficiency
41	Treatment of Brackish Groundwater	Diablo Water District	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination
29	DDSD Advanced Water Treatment	Delta Diablo Sanitation District	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination
30	DDSD Recycled Water Distribution System Expansion	Delta Diablo Sanitation District	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination

Projects Sorted by Project Score			
Project ID #	Project Name	Sponsoring Agency / Organization	Project Score
4	City of Pittsburg Water Treatment Plant Improvements Project	City of Pittsburg	26.00
5	Rossmoor Well Replacement Project/Groundwater Monitoring Well System expansion	City of Pittsburg	25.00
29	DDSD Advanced Water Treatment	Delta Diablo Sanitation District	24.00
30	DDSD Recycled Water Distribution System Expansion	Delta Diablo Sanitation District	24.00
3	Drainage Area 55 - West Antioch Creek Channel Improvements	City of Antioch	22.00
28	Advanced Wastewater Treatment	Delta Diablo Sanitation District	21.00
7	East Contra Costa County Green Street Retrofit Network	Contra Costa County	19.00
24	Contra Costa Canal Levee Elimination and Flood Protection Project	Contra Costa Water District	19.00
22	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	Contra Costa Flood Control and Water Conservation District	17.00
43	Ironhouse Sanitary District Recycled Water Implementation - Phase B	Ironhouse Sanitary District	17.00
44	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District	17.00
45	Ironhouse Sanitary District Recycled Water Implementation - Phase A	Ironhouse Sanitary District	17.00
47	Salinity Reduction	Ironhouse Sanitary District	17.00
49	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Lake Alhambra Property Owners Association	17.00
50	Jersey Island Cutoff Levees	Reclamation District 830	16.00
40	Tracy Subbasin Safe Yield Analysis	Diablo Water District	16.00
38	Leak Detection and Repair	Diablo Water District/Contra Costa Water District	15.00
2	BIMID Levee and Pump Station Improvement Project	Bethel Island Municipal Improvement District	14.00
54	DDSD Salinity Reduction - Softener Rebate Program	Delta Diablo Sanitation District	14.00
32	Total Dissolved Solids Reduction / Salinity Management	Delta Diablo Sanitation District	14.00
51	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Reclamation District 830	14.00
23	BBID-CCWD Regional Intertie	Contra Costa Water District	13.00
8	Knightsen Biofilter/Wetland Habitat Restoration	Contra Costa County	11.00
26	Stormwater Management at Meadows Siphon	Contra Costa Water District	11.00
31	Recycled Water Facility Renewable Energy System	Delta Diablo Sanitation District	11.00
41	Treatment of Brackish Groundwater	Diablo Water District	10.00
53	Viera Water and Sewer Service, NE Antioch	City of Antioch	10.00
11	East Antioch Creek Marsh Restoration (#206)	Contra Costa County Flood Control & Water Conservation District	10.00
12	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Contra Costa County Flood Control & Water Conservation District	10.00
27	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Contra Costa Water District	10.00
37	High Efficiency Toilets and Landscape Water Conservation	Diablo Water District	10.00
6	Mercury Reduction Benefits of Low Impact Development	Contra Costa Clean Water Program	9.00
16	Oakley and Trembath Detention Basins (#207)	Contra Costa County Flood Control & Water Conservation District	9.00
33	Wastewater Renewable Energy Enhancement	Delta Diablo Sanitation District	9.00

Projects Sorted by Project Score			
Project ID #	Project Name	Sponsoring Agency / Organization	Project Score
36	Bethel Island Water Supply Pipeline	Diablo Water District	9.00
42	Watershed and Habitat Protection/Restoration	East Contra Costa County Habitat Conservancy	9.00
39	Phase 3 Well Utilization Project	Diablo Water District	7.00
9	Upper Sand Creek Basin Surplus Material (#220)	Contra Costa County Flood & Water Conservation Control District	7.00
19	Kellogg Creek Sedimentation Basin (#226)	Contra Costa County Flood Control and Water Conservation District	7.00
20	Lower Sand Creek Basin Construction (#222)	Contra Costa County Flood Control and Water Conservation District	7.00
34	Advanced Metering and Leak Detection (AMLD) Project	Diablo Water District	7.00
14	Marsh Creek Supplemental Capacity and Basin Development (#215)	Contra Costa County Flood Control & Water Conservation District	6.00
52	Marsh Creek Delta Restoration Project	Reclamation District 830	6.00
10	Deer Creek Reservoir Seismic Assessment (#212)	Contra Costa County Flood Control & Water Conservation District	5.00
15	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Contra Costa County Flood Control & Water Conservation District	5.00
17	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Contra Costa County Flood Control & Water Conservation District	5.00
18	Dry Creek Reservoir Seismic Assessment (#211)	Contra Costa County Flood Control and Water Conservation District	5.00
35	Beacon West Arsenic Replacement Well	Diablo Water District	5.00
46	Oakley Sewers	Ironhouse Sanitary District	5.00
1	Recycle Water for AYSC	Antioch Youth Sports Complex	4.00
13	Marsh Creek Reservoir Seismic Assessment (#210)	Contra Costa County Flood Control & Water Conservation District	4.00
21	Deer Creek Reservoir Expansion (#217 and #218)	Contra Costa County Flood Control District	4.00
25	Los Vaqueros Pond E-7 Embankment Rehabilitation	Contra Costa Water District	4.00
48	Septage Receiving Station	Ironhouse Sanitary District	2.00

Projects Sorted by Resource Management Strategies (RMS) Diversification			
Project ID #	Project Name	Sponsoring Agency / Organization	Resource Management Strategies (RMS) Diversification
4	City of Pittsburg Water Treatment Plant Improvements Project	City of Pittsburg	10
29	DDSD Advanced Water Treatment	Delta Diablo Sanitation District	9
12	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Contra Costa County Flood Control & Water Conservation District	7
28	Advanced Wastewater Treatment	Delta Diablo Sanitation District	7
24	Contra Costa Canal Levee Elimination and Flood Protection Project	Contra Costa Water District	6
27	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Contra Costa Water District	6
3	Drainage Area 55 - West Antioch Creek Channel Improvements	City of Antioch	5
7	East Contra Costa County Green Street Retrofit Network	Contra Costa County	5
8	Knightsen Biofilter/Wetland Habitat Restoration	Contra Costa County	5
11	East Antioch Creek Marsh Restoration (#206)	Contra Costa County Flood Control & Water Conservation District	5
15	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Contra Costa County Flood Control & Water Conservation District	5
22	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	Contra Costa Flood Control and Water Conservation District	5
30	DDSD Recycled Water Distribution System Expansion	Delta Diablo Sanitation District	5
41	Treatment of Brackish Groundwater	Diablo Water District	5
5	Rossmoor Well Replacement Project/Groundwater Monitoring Well System expansion	City of Pittsburg	4
9	Upper Sand Creek Basin Surplus Material (#220)	Contra Costa County Flood & Water Conservation Control District	4
13	Marsh Creek Reservoir Seismic Assessment (#210)	Contra Costa County Flood Control & Water Conservation District	4
14	Marsh Creek Supplemental Capacity and Basin Development (#215)	Contra Costa County Flood Control & Water Conservation District	4
16	Oakley and Trembath Detention Basins (#207)	Contra Costa County Flood Control & Water Conservation District	4
19	Kellogg Creek Sedimentation Basin (#226)	Contra Costa County Flood Control and Water Conservation District	4
20	Lower Sand Creek Basin Construction (#222)	Contra Costa County Flood Control and Water Conservation District	4
21	Deer Creek Reservoir Expansion (#217 and #218)	Contra Costa County Flood Control District	4
23	BBID-CCWD Regional Intertie	Contra Costa Water District	4
26	Stormwater Management at Meadows Siphon	Contra Costa Water District	4
54	DDSD Salinity Reduction - Softener Rebate Program	Delta Diablo Sanitation District	4
32	Total Dissolved Solids Reduction / Salinity Management	Delta Diablo Sanitation District	4
49	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Lake Alhambra Property Owners Association	4
2	BIMID Levee and Pump Station Improvement Project	Bethel Island Municipal Improvement District	3
53	Viera Water and Sewer Service, NE Antioch	City of Antioch	3

Projects Sorted by Resource Management Strategies (RMS) Diversification			
Project ID #	Project Name	Sponsoring Agency / Organization	Resource Management Strategies (RMS) Diversification
10	Deer Creek Reservoir Seismic Assessment (#212)	Contra Costa County Flood Control & Water Conservation District	3
17	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Contra Costa County Flood Control & Water Conservation District	3
18	Dry Creek Reservoir Seismic Assessment (#211)	Contra Costa County Flood Control and Water Conservation District	3
36	Bethel Island Water Supply Pipeline	Diablo Water District	3
42	Watershed and Habitat Protection/Restoration	East Contra Costa County Habitat Conservancy	3
50	Jersey Island Cutoff Levees	Reclamation District 830	3
38	Leak Detection and Repair	Diablo Water District/Contra Costa Water District	3
40	Tracy Subbasin Safe Yield Analysis	Diablo Water District	2
1	Recycle Water for AYSC	Antioch Youth Sports Complex	2
6	Mercury Reduction Benefits of Low Impact Development	Contra Costa Clean Water Program	2
31	Recycled Water Facility Renewable Energy System	Delta Diablo Sanitation District	2
35	Beacon West Arsenic Replacement Well	Diablo Water District	2
37	High Efficiency Toilets and Landscape Water Conservation	Diablo Water District	2
39	Phase 3 Well Utilization Project	Diablo Water District	2
43	Ironhouse Sanitary District Recycled Water Implementation - Phase B	Ironhouse Sanitary District	2
44	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District	2
45	Ironhouse Sanitary District Recycled Water Implementation -Phase A	Ironhouse Sanitary District	2
47	Salinity Reduction	Ironhouse Sanitary District	2
51	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Reclamation District 830	2
52	Marsh Creek Delta Restoration Project	Reclamation District 830	2
25	Los Vaqueros Pond E-7 Embankment Rehabilitation	Contra Costa Water District	1
33	Wastewater Renewable Energy Enhancement	Delta Diablo Sanitation District	1
34	Advanced Metering and Leak Detection (AMLD) Project	Diablo Water District	1
46	Oakley Sewers	Ironhouse Sanitary District	1
48	Septage Receiving Station	Ironhouse Sanitary District	1

Projects Sorted by Project Status: Design Date			
Project ID #	Project Name	Sponsoring Agency / Organization	Project Status: Design Date
35	Beacon West Arsenic Replacement Well	Diablo Water District	7/1/2012
9	Upper Sand Creek Basin Surplus Material (#220)	Contra Costa County Flood & Water Conservation Control District	8/1/2012
24	Contra Costa Canal Levee Elimination and Flood Protection Project	Contra Costa Water District	9/1/2012
34	Advanced Metering and Leak Detection (AMLD) Project	Diablo Water District	9/1/2012
43	Ironhouse Sanitary District Recycled Water Implementation - Phase B	Ironhouse Sanitary District	9/1/2012
44	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District	9/1/2012
45	Ironhouse Sanitary District Recycled Water Implementation - Phase A	Ironhouse Sanitary District	9/1/2012
46	Oakley Sewers	Ironhouse Sanitary District	9/1/2012
48	Septage Receiving Station	Ironhouse Sanitary District	9/1/2012
50	Jersey Island Cutoff Levees	Reclamation District 830	9/1/2012
51	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Reclamation District 830	9/1/2012
52	Marsh Creek Delta Restoration Project	Reclamation District 830	9/1/2012
25	Los Vaqueros Pond E-7 Embankment Rehabilitation	Contra Costa Water District	4/1/2013
33	Wastewater Renewable Energy Enhancement	Delta Diablo Sanitation District	4/1/2013
27	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Contra Costa Water District	5/1/2013
31	Recycled Water Facility Renewable Energy System	Delta Diablo Sanitation District	6/1/2013
49	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Lake Alhambra Property Owners Association	6/1/2013
38	Leak Detection and Repair	Diablo Water District/Contra Costa Water District	6/1/2013
40	Tracy Subbasin Safe Yield Analysis	Diablo Water District	9/1/2013
32	Total Dissolved Solids Reduction / Salinity Management	Delta Diablo Sanitation District	10/1/2013
37	High Efficiency Toilets and Landscape Water Conservation	Diablo Water District	12/1/2013
6	Mercury Reduction Benefits of Low Impact Development	Contra Costa Clean Water Program	1/1/2014
3	Drainage Area 55 - West Antioch Creek Channel Improvements	City of Antioch	4/1/2014
5	Rossmoor Well Replacement Project/Groundwater Monitoring Well System expansion	City of Pittsburg	7/1/2014
8	Knightsen Biofilter/Wetland Habitat Restoration	Contra Costa County	7/1/2014
26	Stormwater Management at Meadows Siphon	Contra Costa Water District	7/1/2014
42	Watershed and Habitat Protection/Restoration	East Contra Costa County Habitat Conservancy	7/1/2014
41	Treatment of Brackish Groundwater	Diablo Water District	9/1/2014
23	BBID-CCWD Regional Intertie	Contra Costa Water District	9/1/2014

Projects Sorted by Project Status: Design Date			
29	DDSD Advanced Water Treatment	Delta Diablo Sanitation District	10/1/2014
30	DDSD Recycled Water Distribution System Expansion	Delta Diablo Sanitation District	10/1/2014
16	Oakley and Trembath Detention Basins (#207)	Contra Costa County Flood Control & Water Conservation District	12/1/2014
21	Deer Creek Reservoir Expansion (#217 and #218)	Contra Costa County Flood Control District	1/1/2015
4	City of Pittsburg Water Treatment Plant Improvements Project	City of Pittsburg	6/1/2015
39	Phase 3 Well Utilization Project	Diablo Water District	9/1/2015
7	East Contra Costa County Green Street Retrofit Network	Contra Costa County	9/1/2015
36	Bethel Island Water Supply Pipeline	Diablo Water District	9/1/2015
28	Advanced Wastewater Treatment	Delta Diablo Sanitation District	6/1/2016
12	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Contra Costa County Flood Control & Water Conservation District	9/1/2017
20	Lower Sand Creek Basin Construction (#222)	Contra Costa County Flood Control and Water Conservation District	9/1/2017
11	East Antioch Creek Marsh Restoration (#206)	Contra Costa County Flood Control & Water Conservation District	8/1/2020
17	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Contra Costa County Flood Control & Water Conservation District	8/1/2020
19	Kellogg Creek Sedimentation Basin (#226)	Contra Costa County Flood Control and Water Conservation District	8/1/2020
14	Marsh Creek Supplemental Capacity and Basin Development (#215)	Contra Costa County Flood Control & Water Conservation District	9/1/2020
15	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Contra Costa County Flood Control & Water Conservation District	9/1/2020
1	Recycle Water for AYSC	Antioch Youth Sports Complex	-
2	BIMID Levee and Pump Station Improvement Project	Bethel Island Municipal Improvement District	-
53	Viera Water and Sewer Service, NE Antioch	City of Antioch	-
10	Deer Creek Reservoir Seismic Assessment (#212)	Contra Costa County Flood Control & Water Conservation District	-
13	Marsh Creek Reservoir Seismic Assessment (#210)	Contra Costa County Flood Control & Water Conservation District	-
18	Dry Creek Reservoir Seismic Assessment (#211)	Contra Costa County Flood Control and Water Conservation District	-
22	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	Contra Costa Flood Control and Water Conservation District	-
54	DDSD Salinity Reduction - Softener Rebate Program	Delta Diablo Sanitation District	-
47	Salinity Reduction	Ironhouse Sanitary District	-

Projects Sorted by Total Cost			
Project ID #	Project Name	Sponsoring Agency / Organization	Total Cost
28	Advanced Wastewater Treatment	Delta Diablo Sanitation District	\$ 80,000,000
24	Contra Costa Canal Levee Elimination and Flood Protection Project	Contra Costa Water District	\$ 58,500,000
29	DDSD Advanced Water Treatment	Delta Diablo Sanitation District	\$ 50,000,000
36	Bethel Island Water Supply Pipeline	Diablo Water District	\$ 30,000,000
50	Jersey Island Cutoff Levees	Reclamation District 830	\$ 27,300,000
30	DDSD Recycled Water Distribution System Expansion	Delta Diablo Sanitation District	\$ 25,000,000
41	Treatment of Brackish Groundwater	Diablo Water District	\$ 20,000,000
44	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District	\$ 11,813,000
4	City of Pittsburg Water Treatment Plant Improvements Project	City of Pittsburg	\$ 10,580,000
43	Ironhouse Sanitary District Recycled Water Implementation - Phase B	Ironhouse Sanitary District	\$ 10,243,800
45	Ironhouse Sanitary District Recycled Water Implementation -Phase A	Ironhouse Sanitary District	\$ 10,243,800
16	Oakley and Trembath Detention Basins (#207)	Contra Costa County Flood Control & Water Conservation District	\$ 10,051,000
52	Marsh Creek Delta Restoration Project	Reclamation District 830	\$ 9,751,000
3	Drainage Area 55 - West Antioch Creek Channel Improvements	City of Antioch	\$ 9,263,600
11	East Antioch Creek Marsh Restoration (#206)	Contra Costa County Flood Control & Water Conservation District	\$ 9,220,000
39	Phase 3 Well Utilization Project	Diablo Water District	\$ 8,100,000
8	Knightsen Biofilter/Wetland Habitat Restoration	Contra Costa County	\$ 7,525,000
9	Upper Sand Creek Basin Surplus Material (#220)	Contra Costa County Flood & Water Conservation Control District	\$ 7,080,000
51	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Reclamation District 830	\$ 7,000,000
2	BIMID Levee and Pump Station Improvement Project	Bethel Island Municipal Improvement District	\$ 6,720,000
53	Viera Water and Sewer Service, NE Antioch	City of Antioch	\$ 6,625,000
20	Lower Sand Creek Basin Construction (#222)	Contra Costa County Flood Control and Water Conservation District	\$ 6,215,000
46	Oakley Sewers	Ironhouse Sanitary District	\$ 6,200,000
12	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Contra Costa County Flood Control & Water Conservation District	\$ 5,356,000
17	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Contra Costa County Flood Control & Water Conservation District	\$ 4,906,000
15	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Contra Costa County Flood Control & Water Conservation District	\$ 4,043,000
31	Recycled Water Facility Renewable Energy System	Delta Diablo Sanitation District	\$ 3,800,000
14	Marsh Creek Supplemental Capacity and Basin Development (#215)	Contra Costa County Flood Control & Water Conservation District	\$ 3,664,000
54	DDSD Salinity Reduction - Softener Rebate Program	Delta Diablo Sanitation District	\$ 3,000,000
32	Total Dissolved Solids Reduction / Salinity Management	Delta Diablo Sanitation District	\$ 2,500,000

Projects Sorted by Total Cost			
Project ID #	Project Name	Sponsoring Agency / Organization	Total Cost
47	Salinity Reduction	Ironhouse Sanitary District	\$ 2,500,000
21	Deer Creek Reservoir Expansion (#217 and #218)	Contra Costa County Flood Control District	\$ 2,469,000
49	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Lake Alhambra Property Owners Association	\$ 2,200,000
19	Kellogg Creek Sedimentation Basin (#226)	Contra Costa County Flood Control and Water Conservation District	\$ 2,094,000
34	Advanced Metering and Leak Detection (AMLD) Project	Diablo Water District	\$ 2,010,000
42	Watershed and Habitat Protection/Restoration	East Contra Costa County Habitat Conservancy	\$ 1,670,000
38	Leak Detection and Repair	Diablo Water District/Contra Costa Water District	\$ 1,460,000
5	Rossmoor Well Replacement Project/Groundwater Monitoring Well System expansion	City of Pittsburg	\$ 1,300,000
33	Wastewater Renewable Energy Enhancement	Delta Diablo Sanitation District	\$ 1,200,000
40	Tracy Subbasin Safe Yield Analysis	Diablo Water District	\$ 1,150,000
6	Mercury Reduction Benefits of Low Impact Development	Contra Costa Clean Water Program	\$ 1,000,000
27	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Contra Costa Water District	\$ 638,000
7	East Contra Costa County Green Street Retrofit Network	Contra Costa County	\$ 500,000
22	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	Contra Costa Flood Control and Water Conservation District	\$ 500,000
48	Septage Receiving Station	Ironhouse Sanitary District	\$ 500,000
13	Marsh Creek Reservoir Seismic Assessment (#210)	Contra Costa County Flood Control & Water Conservation District	\$ 471,000
37	High Efficiency Toilets and Landscape Water Conservation	Diablo Water District	\$ 420,000
18	Dry Creek Reservoir Seismic Assessment (#211)	Contra Costa County Flood Control and Water Conservation District	\$ 363,004
26	Stormwater Management at Meadows Siphon	Contra Costa Water District	\$ 337,000
10	Deer Creek Reservoir Seismic Assessment (#212)	Contra Costa County Flood Control & Water Conservation District	\$ 253,002
25	Los Vaqueros Pond E-7 Embankment Rehabilitation	Contra Costa Water District	\$ 209,800
23	BBID-CCWD Regional Intertie	Contra Costa Water District	\$ 200,000
35	Beacon West Arsenic Replacement Well	Diablo Water District	\$ 110,000
1	Recycle Water for AYSC	Antioch Youth Sports Complex	\$ 100,000

Projects Sorted by Percent Funded			
Project ID #	Project Name	Sponsoring Agency / Organization	Percent Funded
3	Drainage Area 55 - West Antioch Creek Channel Improvements	City of Antioch	66%
10	Deer Creek Reservoir Seismic Assessment (#212)	Contra Costa County Flood Control & Water Conservation District	50%
4	City of Pittsburg Water Treatment Plant Improvements Project	City of Pittsburg	50%
5	Rossmoor Well Replacement Project/Groundwater Monitoring Well System expansion	City of Pittsburg	50%
27	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Contra Costa Water District	50%
18	Dry Creek Reservoir Seismic Assessment (#211)	Contra Costa County Flood Control and Water Conservation District	48%
26	Stormwater Management at Meadows Siphon	Contra Costa Water District	47%
42	Watershed and Habitat Protection/Restoration	East Contra Costa County Habitat Conservancy	45%
19	Kellogg Creek Sedimentation Basin (#226)	Contra Costa County Flood Control and Water Conservation District	43%
12	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Contra Costa County Flood Control & Water Conservation District	37%
13	Marsh Creek Reservoir Seismic Assessment (#210)	Contra Costa County Flood Control & Water Conservation District	37%
2	BIMID Levee and Pump Station Improvement Project	Bethel Island Municipal Improvement District	34%
20	Lower Sand Creek Basin Construction (#222)	Contra Costa County Flood Control and Water Conservation District	32%
16	Oakley and Trembath Detention Basins (#207)	Contra Costa County Flood Control & Water Conservation District	30%
23	BBID-CCWD Regional Intertie	Contra Costa Water District	25%
25	Los Vaqueros Pond E-7 Embankment Rehabilitation	Contra Costa Water District	25%
21	Deer Creek Reservoir Expansion (#217 and #218)	Contra Costa County Flood Control District	20%
6	Mercury Reduction Benefits of Low Impact Development	Contra Costa Clean Water Program	20%
22	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	Contra Costa Flood Control and Water Conservation District	15%
40	Tracy Subbasin Safe Yield Analysis	Diablo Water District	13%
34	Advanced Metering and Leak Detection (AML) Project	Diablo Water District	10%
39	Phase 3 Well Utilization Project	Diablo Water District	10%
35	Beacon West Arsenic Replacement Well	Diablo Water District	9%
14	Marsh Creek Supplemental Capacity and Basin Development (#215)	Contra Costa County Flood Control & Water Conservation District	7%
15	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Contra Costa County Flood Control & Water Conservation District	6%
41	Treatment of Brackish Groundwater	Diablo Water District	5%
37	High Efficiency Toilets and Landscape Water Conservation	Diablo Water District	5%
36	Bethel Island Water Supply Pipeline	Diablo Water District	3%
38	Leak Detection and Repair	Diablo Water District/Contra Costa Water District	2%
11	East Antioch Creek Marsh Restoration (#206)	Contra Costa County Flood Control & Water Conservation District	2%

Projects Sorted by Percent Funded			
Project ID #	Project Name	Sponsoring Agency / Organization	Percent Funded
17	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Contra Costa County Flood Control & Water Conservation District	2%
9	Upper Sand Creek Basin Surplus Material (#220)	Contra Costa County Flood & Water Conservation Control District	1%
30	DDSD Recycled Water Distribution System Expansion	Delta Diablo Sanitation District	1%
1	Recycle Water for AYSC	Antioch Youth Sports Complex	0%
53	Viera Water and Sewer Service, NE Antioch	City of Antioch	0%
7	East Contra Costa County Green Street Retrofit Network	Contra Costa County	0%
8	Knightsen Biofilter/Wetland Habitat Restoration	Contra Costa County	0%
24	Contra Costa Canal Levee Elimination and Flood Protection Project	Contra Costa Water District	0%
28	Advanced Wastewater Treatment	Delta Diablo Sanitation District	0%
29	DDSD Advanced Water Treatment	Delta Diablo Sanitation District	0%
54	DDSD Salinity Reduction - Softener Rebate Program	Delta Diablo Sanitation District	0%
31	Recycled Water Facility Renewable Energy System	Delta Diablo Sanitation District	0%
32	Total Dissolved Solids Reduction / Salinity Management	Delta Diablo Sanitation District	0%
33	Wastewater Renewable Energy Enhancement	Delta Diablo Sanitation District	0%
43	Ironhouse Sanitary District Recycled Water Implementation - Phase B	Ironhouse Sanitary District	0%
44	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District	0%
45	Ironhouse Sanitary District Recycled Water Implementation - Phase A	Ironhouse Sanitary District	0%
46	Oakley Sewers	Ironhouse Sanitary District	0%
47	Salinity Reduction	Ironhouse Sanitary District	0%
48	Septage Receiving Station	Ironhouse Sanitary District	0%
49	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Lake Alhambra Property Owners Association	0%
50	Jersey Island Cutoff Levees	Reclamation District 830	0%
51	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Reclamation District 830	0%
52	Marsh Creek Delta Restoration Project	Reclamation District 830	0%

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ECCC IRWM Plan Projects Detailed Data

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Appendix E- List and Descriptions of On-going and Planned Regional Actions

Project Name	Recycle Water for AYSC	BIMID Levee and Pump Station Improvement Project	Drainage Area 55 - West Antioch Creek Channel Improvements	Viera Water and Sewer Service, NE Antioch	City of Pittsburg Water Treatment Plant Improvements Project			
Sponsoring Agency / Organization	Antioch Youth Sports Complex	Bethel Island Municipal Improvement District	City of Antioch	City of Antioch	City of Pittsburg			
Project ID #	1	2	3	53	4			
Project Type	Infrastructure - Wastewater / Recycled Water	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management	Infrastructure - Water / Water Quality	Infrastructure - Water / Water Quality			
Describe the project	Use recycle water to irrigate the 20 acres of youth sports fields. This will reduce the cost of water for AYSC and allow AYSC to keep the fields green during drought years.	To ensure the continued safety of the island residents and maintain property values, the Bethel Island Municipal Improvement District (BIMID) developed a Bethel Island Levee and Drainage Revitalization Plan with the following goals: raising the Bethel Island levee to meet current height standards, place riprap on the entire 11.5 miles of Bethel Island levee, and clean and re-grade 19.1 miles of Bethel Island drainage ditches to improve proper water flow. To meet these goals, the following capital projects are needed: 1) placement of riprap on 11.5 miles of levees, 2) installation of an all-weather surface for the entire levee crown, 3) completing levee raising to Public Law 84-99 Standards, 4) culvert replacement, and 5) elevation of two (2) pump stations with trash capture components (screens). These projects when combined and with special maintenance projects will upgrade the flood protection for Bethel Island to current standards.	The City of Antioch is partnering with the Contra Costa County Flood Control District (CCCFCD) to replace an undersized concrete trapezoidal channel & arch culverts, & desilt 3,000 feet of West Antioch Creek to eliminate flooding to properties adjacent to the channel and within a DAC. In 1993 CCCFCD constructed channel improvements for West Antioch Creek and improved flood capacity to a 25-year level of protection. The project extended from the San Joaquin River to 8th St. in Antioch; as a result a 650 foot gap exists between the 1993 improvements and the earthen canal on the Antioch Fairgrounds property. The project will install 3 14'x7' Caltrans Standard Box Culverts, 620' long to address the chronic flooding at the gap. The project will prevent the chronic problem of flood waters leaving West Antioch Creek, flooding local residential, commercial and industrial areas, and then returning to San Joaquin River basin, and ultimately the Delta, as a contaminated source.	City of Antioch project to install sewer and water infrastructure for the Viera area, a residential area of 120 homes included in proposed Antioch NE Annexation. Area is a DAC.	The City owns & operates a 32 mgd Water Treatment Plant (WTP) that was last expanded/upgraded in 1990 & is in need of improvements to mitigate current operating problems, prepare to reliably treat the flow rates for which it was originally designed, & meet current and future drinking water regulations. CDPH sent a letter to the City in 12/2010 requesting the City seek solutions to mitigate the filter backwash recycled water turbidity problem as it often exceeds 2 NTU, the turbidity limit recommended by the Cryptosporidium Action Plan. The City prepared a WTP Improvements Study (July 2011) identifying 3 phases of high priority improvement to the City's WTP to be implemented as part of the proposed Project. Phase 1: influent blending & chlorine dioxide contact, chlorine dioxide generation and chemical storage and chlorinator modification, ammonia feed relocation, & spent filter backwash treatment. Phase 2: sludge management improvements. Phase 3: add a 0.5 MG backwash basin.			
Project Partners		Contra Costa County	Contra Costa Flood Control & Water Conservation District					
ECCC IRWM Plan Objectives - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	-	-	-	-	Additional: The Project would allow the City to comply with the Filter Backwash Recycling Rule, increasing the quantity of water recycled within the treatment process, more effectively pretreat the well water supply, and reducing reliance on Delta supplies.	
		Implement projects that have region-wide benefits	-	-	-	-	Additional: The Project would provide significant benefits to the region including improving stormwater/flood management, reducing pollution to the Delta, and protecting aquatic habitat in the Delta.	
	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	Additional: Allow AYSC to keep the fields green during drought years	-	-	-	-	Additional: The Project would allow the City to increase the quantity of water recycled within the treatment process, reducing reliance on Delta supplies.
		Increase water conservation and water use efficiency	Primary: Reduce the amount of drinking water that the complex uses.	-	-	-	-	Additional: The Project would allow the City to increase the quantity of water recycled within the treatment process, improving water use efficiency.
		Increase water transfers	-	-	-	-	-	-
		Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	-	-
		Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-	-
	Water Quality and Related Regulations	Protect/improve source water quality	-	Additional: Trash screens that can capture trash down to the size of cigarette butt are proposed for the two pump stations to reduce the trash. The Delta Waters are used by some downstream municipalities as a drinking water source.	Additional: The project will improve stormwater/flood management and reduce pollution to the Delta, improving source water quality for Delta users statewide.	Primary: Providing public water and sewer in place of private wells and septic system in this area will protect/improve surface and groundwater sources in this area.	Additional: The Project would improve stormwater management and reduce pollution to the Bay-Delta, improving source water quality for Delta users statewide.	
		Maintain/improve regional treated drinking water quality	-	-	-	-	Primary: Upgrading the WTP is necessary in order to improve drinking water quality, improve system reliability and meet regulatory requirements.	
		Maintain/improve regional recycled water quality	-	-	-	-	Additional: The project would improve source water quality, improved source water quality will, in turn, result in improved wastewater and recycled water quality for the region.	
		Increase understanding of groundwater quality and potential threats to groundwater quality	-	-	-	-	-	
		Meet current and future water quality requirements for discharges to the Delta	-	Additional: The trash capture component of this project will contribute to Contra Costa County's compliance with the trash load reduction requirements in its MS4 NPDES Permits.	Additional: There will be reduced pollutant loading to the Delta.	-	Additional: There will be reduced pollutant loading to the Delta.	
Limit quantity and improve quality of stormwater discharges to the Delta		-	Additional: The intent is to include measures that will reduce the trash and other pollutants discharging via the pumps to Delta waters.	Additional: There will be reduced pollutant loading resulting from the elimination of flooding.	-	Additional: There will be reduced pollutant loading resulting from the elimination of stormwater overflows of the lagoon.		
Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	-	Additional: Reduction in trash loads improves habitat quality.	Additional: By eliminating flooding, the project will reduce pollutant loading to the Delta, improving Delta water quality and associated aquatic habitat.	-	Additional: The Project would reduce pollution to the Bay-Delta, improving Delta water quality and associated aquatic habitat.		
	Minimize impacts to the Delta ecosystem and other environmental resources	-	Additional: Reduction in trash loads will reduce impacts to the Delta ecosystem and environmental resources.	Additional: The project will eliminate flooding in an urbanized area and subsequent introduction of polluted flood waters into the Delta, resulting in benefits to the Delta ecosystem.	Additional: Providing public water and sewer in place of private wells and septic system will protect Delta ecosystem and environmental resources.	Additional: There will be reduced pollutant loading resulting from the elimination of stormwater overflows to Willow Creek, resulting in benefits to the Bay-Delta ecosystem.		
	Reduce greenhouse gas emissions	-	-	Additional: By reducing flooding impacts, this project will also reduce the major cleanup efforts necessary to repair damages caused by flooding. It will prevent greenhouse gas emissions associated with cleaning up flood damage.	-	Additional: The Project would allow the City to increase the quantity of water recycled within the treatment process. Energy needs and GHGs generated by water recycled onsite are less than those of pumping and treating additional Delta supply.		
	Provide better accessibility to waterways for subsistence fishing and recreation	-	-	-	-	-		
Stormwater and Flood Management	Manage local stormwater	-	Additional: The intent is to include measures that will reduce the trash and other pollutants discharging via the pumps to Delta waters.	Primary: This project will improve the flooding problems along the 620' gap by replacing an inadequate trapezoidal concrete ditch and will be able to pass ~10 times more stormwater than the existing system.	-	Additional: The project will improve stormwater management by constructing a new 0.5 mgd backwash basin designed to eliminate stormwater overflows of the lagoon.		
	Improve regional flood risk management	-	Primary: The levee improvements and pump station upgrades will reduce the flood risks on Bethel Island.	Additional: The project will eliminate flooding in the area and provide flood protection up to the 25-year storm.	-	Additional: The project will reduce flood risks by eliminating stormwater overflows of the lagoon which could exacerbate flooding issues during wet weather.		

Project Name		Recycle Water for AYSC	BIMID Levee and Pump Station Improvement Project	Drainage Area 55 - West Antioch Creek Channel Improvements	Viera Water and Sewer Service, NE Antioch	City of Pittsburg Water Treatment Plant Improvements Project		
Sponsoring Agency / Organization		Antioch Youth Sports Complex	Bethel Island Municipal Improvement District	City of Antioch	City of Antioch	City of Pittsburg		
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	-	Additional: Bethel Island is a DAC per the 2010 Census. BIMID serves the entire island and will provide opportunities for involvement by all members of the community.	Additional: The DAC will see benefits through project implementation & be involved through public outreach efforts during project development/implementation. Without the project, DAC customers would continue to face damages caused by floods on an annual basis.	Additional: This project would provide public water and sewer to a DAC.	Additional: DACs within the City's service area will see benefits through project implementation and be involved with the public outreach efforts during project development.		
	Increase awareness of water resources management issues and projects with the general public	-	-	Additional: The project will involve outreach to stakeholders and DACs, assisting in educating the public about regional water resources management issues and projects.	-	Additional: The project will involve outreach through the IRWMP, City Water System newsletters, City e-mails and Council presentations, and other vehicles. This will assist in educating the public about regional water management issues.		
	Please elaborate on any benefits that your project may provide outside of the stated objectives	-	-	-	-	-	The primary purpose of the project is to upgrade the City's WTP to mitigate current operating and regulatory compliance problems, and also prepare the Plant to handle higher flow rates (for which it was originally designed) reliably while meeting current and anticipated future drinking water regulations, and protecting downstream habitat.	
Program Preferences- Ranking Criteria #2	CALFED Objectives	Resolves Water-Related Conflicts	-	-	-	Yes: By increasing the quantity of water recycled within the plant, the project will reduce dependence on Delta supplies.		
		Improve the state's water quality from source to tap	-	Yes: This will be accomplished by reducing overland flooding that washes pollutants into the drainage system and then is pumped to the Delta. Trash screens will also reduce pollution of the state's water.	Yes: The project will reduce pollutant loading to the Delta, improving the source water quality for Delta users statewide.	Yes: Providing public water and sewer in place of private wells and septic system in this area will protect/improve surface and groundwater sources in this area.	Yes: The WTP Improvements Project will improve water quality and allow the City of Pittsburg to meet necessary regulatory requirements. In addition, it will reduce pollutant loading to the Delta, improving water quality for Delta users statewide.	
		Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion	-	Yes: The levee improvements will guard against levee failure.	-	-	-	-
		Allow for the increase of water supplies and more efficient and flexible use of water resources	-	-	-	-	-	Yes: The Project would allow the City to comply with the Filter Backwash Recycling Rule, increasing the quantity of water recycled within the treatment process, improving process efficiency, and reducing reliance on Delta supplies.
		Improve the ecological health of the Bay-Delta watershed	-	Yes: Overland flooding washes pollutants the pump station. If the pumps upgrade will reduce the frequency of overland flooding. Removal of trash will reduce the degree of trash impairment of receiving waters.	Yes: Reducing pollutant loading to the Delta will improve its ecological health.	Yes: Providing public water and sewer in place of private wells and septic system will protect Delta ecosystem and environmental resources.	Yes: The Project would reduce pollution to the Bay-Delta, improving Delta water quality and protecting aquatic habitat.	
		Effectively Integrate Water Management with Land Use Planning	-	-	Yes: Currently, development within the project area is subject to frequent, severe flooding. This project integrates water management and land use planning by eliminating the annual damages caused by development within an area of flooding.	Yes: Provides City water and sewer infrastructure to residents in urban area	Yes: Improvement to the WTP will help improve water supply reliability and provide necessary treatment capacity to meet the needs of the community as projected based on land use planning.	
Statewide Priorities - Ranking Criteria #3	Drought Preparedness	Yes	-	-	-	-		
	Use and Reuse Water More Efficiently	Yes	-	-	-	-		
	Climate Change Response Actions	-	-	Yes	-	Yes		
	Expand Environmental Stewardship	-	-	Yes	Yes	Yes		
	Practice Integrated Flood Management	-	Yes	Yes	-	-		
	Protect Surface Water and Groundwater Quality	-	Yes	Yes	Yes	-		
	Improve Tribal Water and Natural Resources	-	-	-	-	-		
	Ensure Equitable Distribution of Benefits	-	-	Yes	Yes	-		
Resource Management Strategies - Diversification Considerations	Reduce Water Demand	Agricultural Water Use Efficiency	-	-	-	-		
		Urban Water Use Efficiency	Yes	-	-	-	Yes	
		Conveyance - Delta	-	-	-	-	-	
	Improve Operational Efficiency	Conveyance - Regional / Local	-	-	-	Yes	-	
		System Reoperation	-	-	-	-	Yes	
		Water Transfers	-	-	-	-	-	
	Increase Water Supply	Conjunctive Management & Groundwater Storage	-	-	-	-	-	
		Desalination	-	-	-	-	-	
		Precipitation Enhancement	-	-	-	-	-	
		Recycled Municipal Water	Yes	-	-	-	Yes	
	Improve Water Quality	Surface Storage - CALFED	-	-	-	-	-	
		Surface Storage - Regional / Local	-	-	-	-	-	
		Drinking Water Treatment and Distribution	-	-	-	-	Yes	
		Groundwater Remediation / Aquifer Remediation	-	-	-	-	-	
	Improve Flood Management	Matching Quality to Use	-	-	-	-	Yes	
		Pollution Prevention	-	Yes	Yes	Yes	Yes	
		Salt and Salinity Management	-	-	-	-	-	
		Urban Runoff Management	-	Yes	Yes	-	Yes	
	Practice Resources Stewardship	Flood Risk Management	-	Yes	Yes	-	Yes	
		Agricultural Lands Stewardship	-	-	-	-	-	
		Economic Incentives (Loans, Grants and Water Pricing)	-	-	-	Yes	-	
		Ecosystem Restoration	-	-	Yes	-	Yes	
		Forest Management	-	-	-	-	-	
		Recharge Area Protection	-	-	-	-	-	
Water-Dependent Recreation		-	-	-	-	-		
Watershed Management		-	-	Yes	-	Yes		
Other Strategies	Crop Idling for Water Transfers	-	-	-	-	-		
	Dew Evaporation or Atmospheric Pressure Desalination	-	-	-	-	-		
	Fog Collection	-	-	-	-	-		
	Irrigated Land Retirement	-	-	-	-	-		
	Rainfed Agriculture	-	-	-	-	-		
	Waterbag Transport / Storage Technology	-	-	-	-	-		
Project Status	Planning	Project Status	Not Started	Completed	Completed	Not Applicable	Completed	
		Est. Completion Date	7/1/2013	9/1/2012	1/1/2012	-	1/1/2012	
	Feasibility	Project Status	Not Started	Not Applicable	Completed	Not Applicable	Not Applicable	
		Est. Completion Date	7/1/2013	-	1/1/2012	-	-	
	Environmental Assess.	Project Status	Not Applicable	Not Applicable	Not Started	Not Applicable	Not Started	
		Est. Completion Date	-	-	8/1/2012	-	9/1/2014	
	Pre-Project Monitoring	Project Status	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
		Est. Completion Date	-	-	-	-	-	
	Design	Project Status	Not Applicable	Not Applicable	In Progress	Not Applicable	Not Started	
		Est. Completion Date	-	-	4/1/2014	-	6/1/2015	

Project Name		Recycle Water for AYSC	BIM/D Levee and Pump Station Improvement Project	Drainage Area 55 - West Antioch Creek Channel Improvements	Viera Water and Sewer Service, NE Antioch	City of Pittsburg Water Treatment Plant Improvements Project	
Sponsoring Agency / Organization		Antioch Youth Sports Complex	Bethel Island Municipal Improvement District	City of Antioch	City of Antioch	City of Pittsburg	
Project Status - Implementation	Environmental Permits	Project Status	Not Applicable	Not Applicable	In Progress	Not Applicable	Not Started
		Est. Completion Date	-	-	7/1/2014	-	3/1/2014
	Building/Other Permits	Project Status	Not Applicable	Not Applicable	Not Started	Not Applicable	Not Applicable
		Est. Completion Date	-	-	7/1/2014	-	-
	Construction / Implementation	Project Status	Not Applicable	Not Applicable	Not Started	Not Applicable	Not Started
		Est. Completion Date	-	-	7/1/2015	-	12/1/2016
	Post Project Monitoring	Project Status	Not Applicable	Not Applicable	Not Started	Not Applicable	Not Applicable
		Est. Completion Date	-	-	8/1/2012	-	-
	Environmental Permits	Describe any required	-	Permits related to working in local drainage ditches will likely be required. Research into the permitting requirements has not been started.	Nationwide Permit 31-Clean Water Act, Section 404 from ACOE; Section 7 Consultation with USFWS and NOAA NMFS; NPDES Permit for Stormwater Discharges Associated with Construction Activities from Central Valley RWQCB; Streambed Alteration Agreement and Section 7 Consultation with CDFG.	-	A permit from the California Department of Public Health will be required.
		Status?	-	It is unknown if permits have been applied for yet.	Permitting acquisition has begun for the ACOE 404 permit. The process for obtaining the other permits has not been initiated. An EIR was completed in 1985 for the West Antioch Creek Improvement Project & several were constructed in 1999, but CEQA documentation has not been completed for the 620' gap or desilting portion of the project.	-	The permit has not yet been obtained. Applying for and receiving the necessary permit is expected to be straight forward.
	Other Permits (e.g., Encroachment, Building)	Describe any required	-	Grading, encroachment, and building permits will likely be required for different phases of this project.	Encroachment permit from Burlington Northern Santa Fe Railroad; Tree removal permit from City of Antioch Planning Dept.	-	N/A
		Status?	-	It is unlikely that any of these permits have been applied for yet.	The process for obtaining these permits has been initiated.	-	N/A
Project Schedule Available?	-	-	-	Yes	-	-	
Describe any data gaps or uncertainties	Whether or not the City of Antioch decides to continue paying for water for AYSC. Whether or not the recycle water line is extended past AYSC so that AYSC can tie into it at minimal cost. Whether or not AYSC decides to use groundwater to irrigate its fields.	unknown	-	-	-	There are no significant data gaps that could affect project feasibility; the City prepared a Water Treatment Plant Improvements Study detailing the phases of the project and its feasibility which was finalized in July 2011.	
Project Costs - Implementation	Land Purchase / Easement	Unknown	Unknown	\$ 400,000	Unknown	NA	
	Planning	Unknown	Unknown	\$ 5,000	Unknown	NA	
	Design	Unknown	Unknown	\$ 708,000	Unknown	\$ 1,000,000	
	Environmental Review	Unknown	Unknown	NA	Unknown	\$ 2,000,000	
	Permits	Unknown	Unknown	NA	Unknown	\$ 1,000,000	
	Construction / Implementation	Unknown	Unknown	\$ 6,829,300	Unknown	\$ 9,577,000	
	Environmental Mitigation / Compliance	Unknown	Unknown	\$ 100,000	Unknown	NA	
	Other	Unknown	\$ 6,720,000	\$ 1,221,300	\$ 6,625,000	NA	
	Total Project Cost	\$ 100,000	\$ 6,720,000	\$ 9,263,600	\$ 6,625,000	\$ 10,580,000	
	Cost Estimate Available?	-	Yes	Yes	-	-	
Project Funding - Implementation	Agency funds or in kind contributions	Amount	\$ -	\$ 40,000	\$ 3,083,300	\$ -	\$ 5,290,000
		Regional Assessments	-	-	-	-	-
		Developmental Fees	-	-	-	-	-
		User Rates	-	-	-	-	Yes
		User Fees	-	-	-	-	-
		Bonded Debt Financing	-	-	-	-	-
		Property Tax	-	-	-	-	-
	Contributions	-	-	-	-	-	
	Other	-	Yes	Yes	-	-	
	Existing grants	Amount	\$ -	\$ 2,250,000	\$ 2,997,300	\$ -	\$ -
State Grants		-	-	-	-	-	
State funding for flood control / flood prevention projects		-	Yes	-	-	-	
Local Grants	-	-	-	-	-		
Federal Grants	-	-	-	-	-		
Currently unfunded	\$ 100,000	\$ 4,430,000	\$ 3,183,000	\$ 6,625,000	\$ 5,290,000		
Economic Feasibility Analysis Available?	-	-	Yes	-	-		
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECCC region?	-	Yes: The project will reduce the occurrence of overland flooding and pollution of the storm water.	Yes: Implementing the project will eliminate severe flooding in the DAC which occurs on an annual basis and poses public health implications associated with degraded water quality of flood water in urbanized areas.	Yes: This project would provide public water and sewer to a DAC currently on septic systems and private wells.	Yes: DACs within the City's service area will have improved water supply reliability & increased water quality protection as the WTP will comply with State/federal requirements.	
	What Community(ies)?	-	Bethel Island	City of Antioch	NE Antioch, Viera area	Communities within the City boundaries	
	How were the DACs included in the planning or development of the project?	-	The project outreach has been to the entire population of Bethel Island.	Outreach to DACs will be performed through the East Contra Costa County IRWM planning process and through individual outreach efforts.	Part of annexation planning	Outreach to DACs will be performed through the East County IRWM planning process, the City Water System newsletters, and/or City email distribution lists.	
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	-	-	Yes: By eliminating flooding and improving water quality in the DAC, the project corrects the environmental justice issue for the DAC.	-	Yes: By allowing the WTP to comply with water quality regulations, the project corrects & environmental justice issue for disadvantaged communities in the City of Pittsburg.	
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-	
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	-	-	Yes: Climate change may increase the frequency of severe storms; this project will improve stormwater capacity and help be better prepared for uncertain storm patterns, frequency, and severity. It will also eliminate GHG impacts from flood cleanup.	-	Yes: By improving operational efficiency at the WTP, improving water supply reliability and reducing dependence on the Delta, there will be more flexibility in the future for water supply planning.	
	Does (will) the project reduce greenhouse gas emissions?	-	-	Yes: The project will also eliminate GHG impacts from flood cleanup	-	Yes: The Project would allow the City to increase the quantity of water recycled within the treatment process. Energy needs and GHGs generated by water recycled onsite are less than those of pumping and treating additional Delta supply.	

Project Name	Rossmoor Well Replacement Project/Groundwater Monitoring Well System expansion	Mercury Reduction Benefits of Low Impact Development	East Contra Costa County Green Street Retrofit Network	Knightsen Biofilter/Wetland Habitat Restoration	Upper Sand Creek Basin Surplus Material (#220)		
Sponsoring Agency / Organization	City of Pittsburg	Contra Costa Clean Water Program	Contra Costa County	Contra Costa County	Contra Costa County Flood & Water Conservation Control District		
Project ID #	5	6	7	8	9		
Project Type	Infrastructure - Water / Water Quality	Research	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management		
Describe the project	In order to meet future water demands, the City of Pittsburg will replace the existing Rossmoor Groundwater Well with a larger capacity well (~1,200 gallons per minute [gpm]), and about 1,500 feet of the 8-inch pipeline will be replaced with 10- or 12-inch pipeline to allow for increased use of the Pittsburg Groundwater Basin. The City currently relies mostly on purchased raw surface water from the Delta from Contra Costa Water District, and supplements the remaining water demands with groundwater (GW). These two supplies are treated at the City's water treatment plant prior to delivery to its residents. The City produces GW from two wells, one of which, the Rossmoor Well, has experienced biofouling which has caused a noticeable decline in the GW production. By replacing the existing well, and expanding the GW monitoring system, the City will obtain a more reliable GW supply and will be able to meet customer demands now and in the future, while reducing dependence on the Delta.	The goal of this project is to evaluate the treatment benefits of LID for reducing mercury and methylmercury discharges from stormwater to the Bay. Contra Costa County has established a policy making low-impact development (LID) the preferred method of treatment to meet requirements for stormwater treatment established under NPDES Permits for Urban Stormwater. Although LID-type treatment devices are known to be highly effective at removing sediment from urban stormwater, to date very little information is available on the effectiveness of LID for reducing mercury and methylmercury. Monitoring information would be developed to evaluate the concentrations and forms of mercury in urban stormwater before and after treatment by LID.	This project will implement Low Impact Development (LID) "Green Street" retrofits to treat stormwater runoff from roads in unincorporated Contra Costa County. Streets will be retrofitted with bioretention facilities and/or infiltration measures to remove pollutants from runoff. Monitoring will be conducted to demonstrate the treatment and flow control effectiveness of the projects. Educational signage will be posted to provide a public education component. Green Streets projects will demonstrate several approaches to managing street runoff, such as within medians, "bump-outs" and sidewalk rain gardens. This project will be especially informative since some retrofits will be conducted in areas that lack a piped storm drain infrastructure. Disadvantaged Communities (including Bay Point and Bethel Island) will be prioritized for Green Streets projects. Where appropriate, pedestrian and bicycle improvements (where appropriate) will also be incorporated into Green Street retrofits.	This is a much-needed restoration project with substantial water quality benefits to the town of Knightsen. It would capitalize on the opportunity to integrate: a) long-standing interest in treatment wetlands near Knightsen, b) new information on historical ecological conditions in the area, c) renewed interest in restoring tidal wetlands in the Delta, and d) the opportunity to purchase a 645-acre property ideally situated to achieve all these goals on a large scale. This project will construct a tidal wetland to treat stormwater before being discharged to the Delta. This will reduce flooding in Knightsen, improve local water quality, and improve drinking water quality to residents in Contra Costa County.	This project seeks to reuse surplus material from the Upper Sand Creek Basin construction. Upper Sand Creek Basin is currently in an interim condition and is set to be expanded to contain about 1000 acre-feet of storage under a separate project in summer 2013. The construction of the basin is expected to result in approximately 500,000 cy of surplus material stockpiled onsite for future reuse. This Upper Sand Creek Basin Surplus Material project will find a permanent home for some or all of this surplus material. Likely end users of this material include contractors, developers and other agencies needing high quality fill material. If integrated into another project, this project can be the borrow source for some or all of this material. If this remains a stand alone project, the project consists of loading, hauling, placing and compacting the surplus material at an appropriate, permanent disposal site.		
Project Partners	Agency / Organization Name	Bay Area Stormwater Management Agencies Association United States Environmental Protection Agency		Knightsen Town Advisory Committee Contra Costa County Habitat Conservancy California Department of Fish and Game			
ECCC IRWM Plan Objectives - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	Additional: The project will decrease water supply costs by enhancing the City's ability to utilize local groundwater supplies, a lower-cost alternative to Delta supplies. Increased groundwater capacity will also provide improved operational flexibility.	-	-	-	
		Implement projects that have region-wide benefits	Additional: The project will reduce the City's dependence on Delta supplies. As such, it provides benefits to the Delta; the East County Region, which is located in the Delta and relies heavily on Delta supplies; and statewide Delta water users.	-	-	Additional: excess material from this project can be reused in another project in the region.	
		Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	Primary: This project will reduce the City's dependence on Delta supplies, providing a reliable groundwater supply that is not subject to Delta influences and minimally affected by drought.	-	-	-
			Increase water conservation and water use efficiency	Additional: By increasing the City's ability to use groundwater supplies, the project will provide operational flexibility, enabling more efficient conjunctive use of surface and groundwater supplies.	-	-	-
			Increase water transfers		-	-	-
			Pursue regional exchanges for emergencies, ideally using existing infrastructure		-	-	-
	Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)		Additional: Data collected from the well, additional groundwater monitoring wells and pressure transducers will help better understand and potential for conjunctive use projects in the future.	-	-	-	
	Water Quality and Related Regulations		Protect/improve source water quality	Additional: By reducing the City's reliance on Delta supplies, the project could result in additional supply left in the Delta. This would, in turn, provide water quality benefits for Delta supplies.	-	Additional: This project will remove pollutants from road runoff prior to its discharge to receiving waters, will replenish groundwater (where appropriate), and will reduce erosion/sediment impacts related to road runoff within project watersheds.	-
		Maintain/improve regional treated drinking water quality	Additional: Replacing the existing Rossmoor Well will improve the quality of drinking water provided to City of Pittsburg residents. Leaving more water in the Delta will improve Delta water quality for users statewide.	-	-	Additional: Contaminated storm water from this area drains to Rock Slough and adjacent Delta waterways. Rock slough is the location for the intake to the Contra Costa Canal, a primary source of drinking water for central and eastern Contra Costa County.	
		Maintain/improve regional recycled water quality	Additional: This project will increase water supply reliability while maintaining quality.	-	-	-	
		Increase understanding of groundwater quality and potential threats to groundwater quality	Additional: Data collected from the well, additional monitoring wells, and pressure transducers will increase knowledge regarding Pittsburg Plain groundwater quality.	-	-	-	
		Meet current and future water quality requirements for discharges to the Delta	Additional: This project will increase water supply reliability while maintaining quality, thus maintaining the quality of wastewater conveyed to DDSO and discharged to the Delta.	-	Additional: Municipal Separate Storm Sewer System NPDES permits regulating Contra Costa County require implementation of "Green Street Pilot Projects." This project is expected to reduce loads of some pollutants of concern, and will capture trash.	-	
		Limit quantity and improve quality of stormwater discharges to the Delta		-	Primary: This project will remove pollutants from road runoff prior to its discharge; replenish groundwater (where appropriate); reduce runoff volumes, flow rates and duration; and reduce erosion/sediment impacts related to road runoff.	Additional: Constructed wetlands will improve the quality of stormwater discharges to the Delta from the Knightsen area.	
	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	Additional: By reducing the City's reliance on Delta supplies, the project could result in additional supply left in the Delta. This would, in turn, provide water quality benefits for Delta supplies, resulting in higher quality aquatic habitat in the Delta.	-	Additional: The project will remove of pollutants; reduce road runoff volumes, rates, and durations; and reduce erosion/sedimentation impacts. This will improve habitat value in receiving waters and surrounding environs.	Primary: This project will take advantage of new scholarship about historical ecological conditions in the Delta to restore wetlands which will provide valuable habitat.	
		Minimize impacts to the Delta ecosystem and other environmental resources	Additional: By reducing the City's reliance on Delta supplies, the project minimizes impacts to the Delta ecosystem and environmental resources that could be generated by an increased dependence on Delta supplies.	-	Additional: This project will reduce impacts (related to road runoff) to the Delta ecosystem and other environmental resources. This will be accomplished by removing pollutants from runoff and providing hydrograph modification management to the extent feasible.	-	
		Reduce greenhouse gas emissions	Additional: The energy use and associated GHG emissions needed to pump and treat local groundwater supplies are estimated to be less than the energy use and GHG emissions associated with expanded use of Delta supplies.	-	-	-	
		Provide better accessibility to waterways for subsistence fishing and recreation		Additional: Reducing mercury loads through LID is part of an overall regional strategy to reduce mercury levels in fish.	-	-	
	Stormwater and Flood Management	Manage local stormwater		Primary: This project will develop information needed to guide future design and implementation of LID, and to evaluate the benefits of LID to attain TMDL goals.	Additional: This project will provide and treatment and flow control for street runoff in watersheds where retrofits are implemented.	Additional: This project will create a drainage system for stormwater from Knightsen to a constructed wetland.	
		Improve regional flood risk management			Additional: Although it is not a primary driver of this project, since the project will reduce the volume of flows from impervious surfaces (streets) it will serve to slightly reduce flood risks downstream of projects.	Additional: Knightsen has had historical problems with flooding. This drainage system/constructed wetland will prevent future flooding in the area.	

Project Name		Rossmore Well Replacement Project/ Groundwater Monitoring Well System expansion	Mercury Reduction Benefits of Low Impact Development	East Contra Costa County Green Street Retrofit Network	Knightsen Biofilter/Wetland Habitat Restoration	Upper Sand Creek Basin Surplus Material (#220)	
Sponsoring Agency / Organization		City of Pittsburg	Contra Costa Clean Water Program	Contra Costa County	Contra Costa County	Contra Costa County Flood & Water Conservation Control District	
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	Additional: DACs will be involved in public outreach efforts for the Rossmore Well Replacement? Groundwater Monitoring Well Project, and will see benefits from implementation of the Project.	-	Additional: This project will prioritize projects located within DACs, including Bay Point and Bethel Island. Other DACs may subsequently be identified (other than by census block) and prioritized.	-	-	
	Increase awareness of water resources management issues and projects with the general public	Additional: The project will involve public outreach through the IRWMP, City Water System newsletters, and/or City e-mails and Council presentations. This will assist in educating the public about water management issues in the Delta and the City of Pittsburg.	-	Additional: This project will include signage to educate members of the public about issues related to stormwater runoff, methods of providing treatment and flow control, and other ways the public can help protect water quality.	-	-	
	Please elaborate on any benefits that your project may provide outside of the stated objectives	-	-	This project will introduce landscape features where they currently does not exist, which will improve the communities in which retrofits are conducted (including DACs). Related pedestrian/bicycle improvements will enhance alternative transportation opportunities. Monitoring of runoff from project areas before and after the retrofit projects are implemented will help build the base of knowledge of how effectively LID retrofit projects remove pollutants and (if possible) provide flow control.	-	This project seeks to find a partner that needs up to 500,000 cy of high quality fill material. Can be used for levee construction / raising, building pads (the pad for the Kaiser hospital campus came from this site), or for other purposes. Want to avoid hauling to landfill for use as cover material and instead find a reuse opportunity for this material. Dirt has been tested and is clean.	
Program Preferences- Ranking Criteria #2	CALFED Objectives	Resolves Water-Related Conflicts	Yes: If the Rossmore well is not replaced with a new well, capacity will continue to decline, reducing water supply available to the City. The City would otherwise need to increase the Delta supplies purchased from Contra Costa Water District.	-	-	-	
		Improve the state's water quality from source to tap	Yes: By reducing the City's reliance on Delta supplies, the project could result in additional supply left in the Delta. This would improve the quality of Delta supplies, resulting in improved water quality for Delta users statewide.	-	Yes: This project will remove pollutants from stormwater runoff from roads prior to that runoff entering receiving waters (the Delta). Delta waters serve as a drinking water source.	Yes: Contaminated storm water drains to Rock Slough and adjacent Delta waterways. Rock slough is the location for the intake to the Contra Costa Canal, a primary source of drinking water for central and eastern Contra Costa County.	
		Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion	-	-	-	-	Yes: 500,000 cy of material available for use to strengthen or augment levees. Located in Antioch and can be transported to delta levees starting in late 2013 and beyond. A past project brought material to Jersey Island and was used in levee project.
		Allow for the increase of water supplies and more efficient and flexible use of water resources	Yes: By increasing the City's ability to use groundwater supplies, the project will provide operational flexibility, enabling more efficient conjunctive use of surface and groundwater supplies.	-	-	-	-
		Improve the ecological health of the Bay-Delta watershed	Yes: By reducing the City's reliance on Delta supplies, the project could result in additional supply left in the Delta. This would, in turn, provide water quality benefits for Delta supplies, resulting in higher quality aquatic habitat in the Delta.	Yes: Reducing mercury loads and understanding how management actions affect methylmercury in receiving waters is an identified goal of the Calfed ecosystem Restoration Program.	Yes: This project will remove pollutants from stormwater runoff from roads prior to that runoff entering receiving waters. This will avoid deleterious impacts the pollutants to which the pollutants may have contributed.	Yes: The constructed wetlands will improve the quality of water being discharged directly into the Delta.	-
		Effectively Integrate Water Management with Land Use Planning	Yes: Replacing the well will help improve water supply reliability and provide necessary treatment capacity to meet the needs of the community as projected based on land use planning.	Yes: Guiding LID implementation with sound science related to pollutant loads and impacts is essential to effective land use planning that accounts for long term water quality goals.	Yes: This project will implement stormwater treatment and flow control in already-developed areas, thereby reducing runoff volumes and flow durations, and improving the quality of runoff, while improving streetscapes in existing urbanized areas.	-	Yes: The basin yielding this excess material is part of a master planned drainage system. The surrounding area was planned to accommodate this basin, and the basin was planned to accommodate surrounding land uses.
Statewide Priorities- Ranking Criteria #3	Drought Preparedness	Use and Reuse Water More Efficiently	-	-	-	-	
		Climate Change Response Actions	Yes	-	-	-	
		Expand Environmental Stewardship	Yes	Yes	Yes	Yes	Yes
		Practice Integrated Flood Management	-	Yes	Yes	Yes	Yes
		Protect Surface Water and Groundwater Quality	-	Yes	Yes	Yes	-
		Improve Tribal Water and Natural Resources	-	-	-	Yes	-
		Ensure Equitable Distribution of Benefits	-	Yes	Yes	-	-
		-	-	-	-	-	-
Resource Management Strategies- Diversification Considerations	Reduce Water Demand	Agricultural Water Use Efficiency	-	-	-	-	
		Urban Water Use Efficiency	Yes	-	-	-	
		Conveyance - Delta	-	-	-	-	
		Conveyance - Regional / Local	-	-	-	-	
	Improve Operational Efficiency	System Reoperation	Yes	-	-	-	
		Water Transfers	-	-	-	-	
		Conjunctive Management & Groundwater Storage	Yes	-	-	-	
		Desalination	-	-	-	-	
	Increase Water Supply	Precipitation Enhancement	-	-	-	-	
		Recycled Municipal Water	-	-	-	-	
		Surface Storage - CALFED	-	-	-	-	
		Surface Storage - Regional / Local	-	-	-	-	
	Improve Water Quality	Drinking Water Treatment and Distribution	-	-	-	-	
		Groundwater Remediation / Aquifer Remediation	-	-	-	-	
		Matching Quality to Use	-	-	Yes	-	
		Pollution Prevention	-	-	Yes	-	
	Improve Flood Management	Salt and Salinity Management	-	-	-	-	
		Urban Runoff Management	-	Yes	Yes	Yes	
		Flood Risk Management	-	-	Yes	Yes	
		-	-	-	-	-	
	Practice Resources Stewardship	Agricultural Lands Stewardship	-	-	-	-	
		Economic Incentives (Loans, Grants and Water Pricing)	-	-	-	-	
		Ecosystem Restoration	Yes	Yes	-	Yes	
		Forest Management	-	-	-	-	
Recharge Area Protection		-	-	-	Yes		
Water-Dependent Recreation		-	-	-	-		
Watershed Management		-	-	Yes	Yes		
-		-	-	-	-		
Other Strategies	Crop Idling for Water Transfers	-	-	-	-		
	Deevaporation or Atmospheric Pressure Desalination	-	-	-	-		
	Fog Collection	-	-	-	-		
	Irrigated Land Retirement	-	-	-	-		
	Rained Agriculture	-	-	-	-		
	Waterbag Transport / Storage Technology	-	-	-	-		
Planning	Project Status	Not Started	In Progress	Not Started	In Progress	Completed	
		4/1/2014	6/1/2013	9/1/2014	7/1/2013	6/1/2012	
	Est. Completion Date	-	-	9/1/2014	7/1/2013	1/1/2012	
		-	-	-	-	-	
	Project Status	Not Applicable	Not Applicable	Not Started	In Progress	Completed	
		-	-	9/1/2014	7/1/2013	1/1/2012	
	Est. Completion Date	-	-	9/1/2014	7/1/2013	1/1/2012	
		-	-	-	-	-	
	Project Status	Not Started	Not Applicable	Not Started	Not Started	Completed	
		3/1/2014	-	9/1/2014	7/1/2014	1/1/2012	
	Est. Completion Date	-	-	9/1/2014	7/1/2014	1/1/2012	
		-	-	-	-	-	
Project Status	Not Applicable	Not Started	Not Started	Not Started	In Progress		
	-	9/1/2013	5/1/2015	7/1/2014	9/1/2012		
Est. Completion Date	-	-	-	-	-		
	-	-	-	-	-		
Project Status	Not Started	In Progress	Not Started	Not Started	Completed		
	7/1/2014	1/1/2014	9/1/2015	7/1/2014	8/1/2012		
Est. Completion Date	-	-	-	-	-		
	-	-	-	-	-		

Project Name	Rossmore Well Replacement Project/Groundwater Monitoring Well System expansion	Mercury Reduction Benefits of Low Impact Development	East Contra Costa County Green Street Retrofit Network	Knightsen Biofilter/Wetland Habitat Restoration	Upper Sand Creek Basin Surplus Material (#220)	
Sponsoring Agency / Organization	City of Pittsburg	Contra Costa Clean Water Program	Contra Costa County	Contra Costa County	Contra Costa County Flood & Water Conservation Control District	
Project Status - Implementation	Environmental Permits	Project Status: Not Started Est. Completion Date: 3/1/2014	Project Status: Not Started Est. Completion Date: 6/1/2014	Project Status: Not Started Est. Completion Date: 9/1/2015	Project Status: Not Started Est. Completion Date: 7/1/2014	Project Status: In Progress Est. Completion Date: 2/1/2013
	Building/Other Permits	Project Status: Not Applicable Est. Completion Date: -	Project Status: In Progress Est. Completion Date: 6/1/2014	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Started Est. Completion Date: 7/1/2014	Project Status: Not Applicable Est. Completion Date: -
	Construction / Implementation	Project Status: Not Started Est. Completion Date: 9/1/2015	Project Status: Not Started Est. Completion Date: 9/1/2014	Project Status: Not Started Est. Completion Date: 9/1/2016	Project Status: Not Started Est. Completion Date: 7/1/2016	Project Status: Not Started Est. Completion Date: 4/1/2014
	Post Project Monitoring	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Started Est. Completion Date: 2/1/2015	Project Status: Not Started Est. Completion Date: 5/1/2020	Project Status: Not Started Est. Completion Date: 7/1/2016	Project Status: Not Applicable Est. Completion Date: -
	Environmental Permits	Describe any required: A permit from the California Department of Public Health will be required as well as a Well Construction Permit from the County. Status?: These permits have not yet been obtained. Applying for and receiving the necessary permits is expected to be straight forward.	Describe any required: Depending on project scope for new LID facilities, some CEQA analysis may be needed. Neg Dec or Mitigated Neg Dec anticipated for projects contemplated. Status?: Not started yet.	Describe any required: None anticipated. Status?: N/A	Describe any required: CEQA and NEPA documents will need to be submitted for this project. Status?: Work on these permits has not yet begun.	Describe any required: The 2013 basin construction project will place the surplus material in a designated temporary stockpile site, for later off haul and reuse. Full permits will be secured to build the basin and create this stockpile. Status?: Full permits expected in spring of 2013 before basin construction.
	Other Permits (e.g., Encroachment, Building)	Describe any required: An IS/MND will be prepared for the Project. In parallel, planning & design will be completed. Currently, there is no specific design for the well beyond the size & materials. Well design (intervals & lengths of well screen/casing) will be completed following drilling & will be based on site-specific hydrogeology as observed in the field. Status?: -	Describe any required: File NOI under Construction General Permit. Status?: Not started yet.	Describe any required: None anticipated. Status?: N/A	Describe any required: N/a Status?: N/a	Describe any required: Project is covered under East CC HCP Status?: PSR (project study report) completed, project approved by HCP board for 2013 construction. Partial fees paid. Balance to be paid prior to construction. Stockpile covered by HCP PSR.
	Project's schedule Available?	-	-	-	-	Yes
	Describe any data gaps or uncertainties	There are no data gaps or uncertainties that could impact the technical feasibility. The existing Rossmore Well will be replaced with proven technologies.	-	This project has not yet selected specific locations where Green Street retrofits will be implemented. Although this constitutes an uncertainty, it does also impart the project with a degree of flexibility that increases the probability that a number of retrofit projects will be successfully implemented.	-	-
	Project Costs - Implementation					
	Land Purchase / Easement	NA	NA	NA	\$ 6,000,000	NA
Design	\$ 98,800	\$ 150,000	Unknown	\$ 150,000	\$ 20,000	
Environmental Review	Unknown	\$ 25,000	Unknown	\$ 100,000	\$ 25,000	
Permits	\$ 1,000	\$ 25,000	NA	\$ 75,000	\$ 10,000	
Construction / Implementation	\$ 1,200,000	\$ 750,000	Unknown	\$ 1,000,000	\$ 7,000,000	
Environmental Mitigation / Compliance	NA	NA	NA	\$ 50,000	\$ 10,000	
Other	NA	NA	\$ 500,000	NA	NA	
Total Project Cost	\$ 1,300,000	\$ 1,000,000	\$ 500,000	\$ 7,525,000	\$ 7,080,000	
Cost Estimate Available?	-	-	-	-	-	
Project Funding - Implementation						
Agency funds or in-kind contributions	Amount: \$ 650,000	Amount: \$ 200,000	Amount: \$ -	Amount: \$ -	Amount: \$ 80,000	
Existing grants	Amount: \$ -	Amount: \$ -	Amount: \$ -	Amount: \$ -	Amount: \$ -	
State Grants	-	-	-	-	-	
State funding for flood control / flood prevention projects	-	-	-	-	-	
Local Grants	-	-	-	-	-	
Federal Grants	-	-	-	-	-	
Currently unfunded	\$ 650,000	\$ 800,000	\$ 500,000	\$ 7,525,000	\$ 7,000,000	
Economic Feasibility Analysis Available?	-	-	-	-	Yes	
Disadvantaged Communities (DACs)						
Does (will) the project help to address critical water supply and water quality needs of DACs within the ECCC region?	Yes: The project address a critical water supply need for DACs within the City of Pittsburg service area by ensuring a consistently high quality, reliable water supply at a relatively low cost.	-	Yes: This project will beautify streetscapes and will improve water quality, habitat value, and recreational value in and around DACs.	-	-	
What Community(ies)?	Communities within City boundaries	-	Bethel Island, Bay Point, possibly other communities (not designated as DACs by census block).	-	-	
How were the DACs included in the planning or development of the project?	Outreach to DACs will be conducted during completion of the Pittsburg Plain GWMP, through East County IRWM planning outreach, through City Water System newsletters, and City email distribution lists.	-	The DACs have not yet been engaged in the process; this would be premature until specific locations for Green Street retrofit projects have been selected.	-	-	
Environmental Justice - Ranking Criteria #4						
Does (will) the project help to address any environmental justice concerns?	Yes: By improving drinking water quality delivered to disadvantaged communities within the City's boundaries, the project will assist in correcting an environmental justice issue.	Yes: Mercury in fish for subsistence fishers has been identified as an environmental justice issue.	Yes: This project will improve surface water quality within DACs.	-	-	
Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-	
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4						
Does (will) the project consider and/or address the effects of climate change on the region?	Yes: The project will improve the City's operational flexibility and will allow the City to expand use of climate-resilient groundwater supplies in lieu of vulnerable Delta supplies.	-	Yes: This project will consider the effects of climate change. It is not anticipated to exacerbate climate change in any way, and the (secondary) flood control benefits associated with the project may be magnified by climate change.	-	-	
Does (will) the project reduce greenhouse gas emissions?	Yes: The energy use and associated GHG emissions needed to pump and treat local groundwater supplies are estimated to be less than the energy use and GHG emissions associated with expanded use of Delta supplies.	-	-	-	-	

Project Name	Deer Creek Reservoir Seismic Assessment (#212)	East Antioch Creek Marsh Restoration (#206)	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Marsh Creek Reservoir Seismic Assessment (#210)	Marsh Creek Supplemental Capacity and Basin Development (#215)		
Sponsoring Agency / Organization	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District		
Project ID #	10	11	12	13	14		
Project Type	Infrastructure - Stormwater / Flood Management	Environmental (e.g., habitat)	Environmental (e.g., habitat)	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management		
Describe the project	This project assesses the seismic performance of an existing dam embankment and recommend retrofit improvements, if needed. It includes a two-phase approach: starting with a hazard assessment, and then proceeding to more detailed geotechnical analysis if warranted. The dam was constructed in the 1960s and is unlikely to withstand an earthquake under today's more stringent standards. The actual seismic retrofit of the dam, if warranted, is scoped as a separate project.	Design and construct marsh and floodplain improvements on East Antioch Creek downstream of Cavallo Road. Includes marina outlet channel (or equivalent), hazardous material clean-up on affected portion of Hickmont cannery site, and three new box culverts under Wilbut Avenue.	Marsh Creek Reservoir was constructed in the early 1960s as a dry reservoir, namely that it only fills and stores water during large storm events. 99%+ of the time, the reservoir stands empty except for a few acre feet of water stored below the elevation of the primary spillway. After construction, willows grew up around the main stem of Marsh Creek and around the wet pool. With 50+ years of intensive grazing, the only habitat is provided by the 50-year old willows that are nearing the end of their lifespan. Because of the grazing, there has been no new trees to replace those that are aging. The restoration plan maintains or improves level of flood protection, improves surrounding habitat, is compatible with surrounding state park uses, deals appropriately with accumulated mercury and accommodates mercury that will arrive at the basin in the next 50 years.	The project assesses seismic performance of an existing earthfill dam and recommends retrofit improvements, if needed. It includes a two phase approach: start with hazard assessment, and proceed to more detailed geotechnical analysis if warranted. The dam was constructed to 'modern' seismic standards in 1964 and is unlikely to withstand an earthquake by today's more stringent standards. The actual seismic retrofit of the dam, if warranted, is scoped as a separate project.	A 2010 Flood Control District study identified portions of Marsh Creek that will not have sufficient capacity upon general plan buildout of the watershed. The regional drainage master plan calls for construction of a number of upstream reservoirs and detention basins to store and hold back storm flows. But even when all of these basins are constructed, Marsh Creek will still have portions of its channels that do not have sufficient capacity. This project will selectively raise channel banks and levees, and construct floodwalls at various locations to contain 100-year flood flows and contain 50-year flood flows with freeboard along Marsh Creek. Optional project upgrades (not included in current budget) would increase the level of protection to containment of a 200-year flood event.		
Project Partners	Agency / Organization Name						
ECCC IRWM Plan Objectives - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	-	-	-	-	
		Implement projects that have region-wide benefits	Additional: Ensure the structural stability of the basin that captures the runoff from the upstream watershed to reduce the flow rates downstream to include the City of Brentwood, City of Oakley and Unincorporated Contra Costa County	-	-	-	Additional: Ensure the structural stability of the basin that captures the runoff from the upstream watershed to reduce the flow rates downstream in the City of Brentwood, City of Oakley and unincorporated Contra Costa County
	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	-	-	-	-	-
		Increase water conservation and water use efficiency	-	-	-	-	-
		Increase water transfers	-	-	-	-	-
		Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	-
		Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-
	Water Quality and Related Regulations	Protect/improve source water quality	-	-	-	-	-
		Maintain/improve regional treated drinking water quality	-	-	-	-	-
		Maintain/improve regional recycled water quality	-	-	-	-	-
		Increase understanding of groundwater quality and potential threats to groundwater quality	-	-	-	-	-
		Meet current and future water quality requirements for discharges to the Delta	-	-	-	-	-
		Limit quantity and improve quality of stormwater discharges to the Delta	Additional: Ensure the structural stability of the basin that captures the runoff from the upstream watershed to reduce the turbidity in the creek by acting as a trap for sediment.	Additional: This will improve the quality of stormwater discharge to the Delta by improving the function of a degraded and polluted marsh.	Additional: This project will improve the quality of stormwater discharged to the Delta. Marsh Creek has a mercury TMDL, and significant quantities of mercury are impounded in sediment behind the reservoir.	Additional: Ensure the structural stability of the basin that captures the runoff from the upstream watershed to reduce the turbidity in the creek by acting as a trap for sediment and Mercury from the upstream mine. Marsh Creek has a TMDL for Mercury.	Additional: Keeping water in Marsh Creek keeps the delta cleaner. When floods occur, escaped floodwaters flow east (towards Knightsen) mix with septic overflows and the resulting polluted water is pumped over the Rock Slough levee into the Delta for disposal.
	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	-	Primary: Restore the marsh habitat at the mouth of East Antioch Creek	Primary: This project will prepare and implement a plan to restore various habitats located in the Marsh Creek Reservoir	-	-
Minimize impacts to the Delta ecosystem and other environmental resources		-	Additional: Cleans up a hazardous waste site that has not been remediated to date.	Additional: Restores upland and wetland habitat and examines methods of minimizing mercury methylation and downstream transport.	-	Additional: Keeping water in Marsh Creek keeps the delta cleaner. When floods occur, escaped floodwaters flow east (towards Knightsen) mix with septic overflows and the resulting polluted water is pumped over the Rock Slough levee into the Delta for disposal.	
Reduce greenhouse gas emissions		-	-	-	-	-	
Provide better accessibility to waterways for subsistence fishing and recreation		-	Additional: Local stakeholders have proposed adding a recreation component to the project that includes bird watching platforms and other passive public access.	Additional: long term goal is to reopen the reservoir for recreation. Has been closed to the public since mid 1970s due to elevated mercury levels in fish and concern about fishing and eating these fish.	-	-	
Stormwater and Flood Management	Manage local stormwater	Additional: Basin capture and meters stormwater flows to prevent downstream flooding	Additional: increase the conveyance of flows to the delta	Additional: Project may also improve basin capacity and stormwater detention.	-	Additional: This project will increase creek capacity to handle storm runoff and reduce the potential of flooding of neighboring communities along the creek.	
	Improve regional flood risk management	Primary: Ensure the structural stability of the dam embankment of a vital flood control facility	Additional: increase the conveyance of flows to the delta	Additional: Project may also improve basin capacity and stormwater detention.	Primary: Ensure the structural stability of the dam embankment of a vital flood control facility	Primary: This project to reduce the potential of flooding of neighboring communities along the creek	

Project Name		Deer Creek Reservoir Seismic Assessment (#212)	East Antioch Creek Marsh Restoration (#206)	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Marsh Creek Reservoir Seismic Assessment (#210)	Marsh Creek Supplemental Capacity and Basin Development (#215)
Sponsoring Agency / Organization		Contra Costa County Flood Control & Water Conservation District		Contra Costa County Flood Control & Water Conservation District		Contra Costa County Flood Control & Water Conservation District
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process		Additional: This project is located within the large DAC in Antioch and that DAC is the primary beneficiary of the reduced flood risk and remediation of a hazardous waste site.			
	Increase awareness of water resources management issues and projects with the general public			Additional: Public will be involved in the planning process.		
	Please elaborate on any benefits that your project may provide outside of the stated objectives	The seismic safety of this dam is especially critical because a very large (2,100 student) high school is located immediately downstream of the dam. The emergency spillway actually passes through the sports fields of the high school.				
Program Preferences- Ranking Criteria #2	Resolves Water-Related Conflicts					
	Improve the state's water quality from source to tap					
	Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion					
	Allow for the increase of water supplies and more efficient and flexible use of water resources					
	Improve the ecological health of the Bay-Delta watershed		Yes: Cleans up unremediated hazardous waste site located adjacent to the Delta.	Yes: Restoration of this important portion of the watershed will improve the area's ecological health and will limit the amount mercury available for bioturbation.		
	Effectively Integrate Water Management with Land Use Planning					Yes: Creek hydrology model assumes a infiltration rate based on GIS and the land use.
Statewide Priorities- Ranking Criteria #3	Drought Preparedness					
	Use and Reuse Water More Efficiently					
	Climate Change Response Actions					
	Expand Environmental Stewardship		Yes	Yes		
	Practice Integrated Flood Management	Yes		Yes	Yes	Yes
	Protect Surface Water and Groundwater Quality		Yes			
	Improve Tribal Water and Natural Resources					
	Ensure Equitable Distribution of Benefits					
Resource Management Strategies- Delineation Considerations	Reduce Water Demand	Agricultural Water Use Efficiency				
		Urban Water Use Efficiency				
		Conveyance – Delta				
	Improve Operational Efficiency	Conveyance – Regional / Local				
		System Reoperation				
		Water Transfers				
	Increase Water Supply	Conjunctive Management & Groundwater Storage				
		Desalination				
		Precipitation Enhancement				
		Recycled Municipal Water				
	Improve Water Quality	Surface Storage - CALFED				
		Surface Storage - Regional / Local				
		Drinking Water Treatment and Distribution				
	Improve Flood Management	Groundwater Remediation / Aquifer Remediation				
		Matching Quality to Use				
		Pollution Prevention		Yes	Yes	Yes
		Salt and Salinity Management				
		Urban Runoff Management	Yes	Yes	Yes	Yes
		Flood Risk Management	Yes	Yes	Yes	Yes
	Practice Resources Stewardship	Agricultural Lands Stewardship			Yes	
		Economic Incentives (Loans, Grants and Water Pricing)				
		Ecosystem Restoration		Yes	Yes	
		Forest Management			Yes	
		Recharge Area Protection				
Water-Dependent Recreation						
Watershed Management		Yes	Yes	Yes	Yes	
Other Strategies	Crop Idling for Water Transfers					
	Desalination or Atmospheric Pressure Desalination					
	Fog Collection					
	Irrigated Land Retirement					
	Rainfed Agriculture					
	Waterbag Transport / Storage Technology					
Planning	Project Status	In Progress	Not Started	Not Started	Not Started	In Progress
	Est. Completion Date	7/1/2014	8/1/2020	9/1/2014	6/1/2015	9/1/2016
Feasibility	Project Status	Not Applicable	Not Started	Not Started	Not Applicable	Completed
	Est. Completion Date	-	8/1/2020	9/1/2014	-	1/1/2012
Environmental Assess.	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Started
	Est. Completion Date	7/1/2014	8/1/2020	9/1/2016	-	9/1/2020
Pre-Project Monitoring	Project Status	Not Applicable	Not Started	Not Applicable	Not Applicable	Not Applicable
	Est. Completion Date	-	8/1/2020	-	-	-
Design	Project Status	Not Applicable	Not Started	Not Started	Not Applicable	Not Started
	Est. Completion Date	-	8/1/2020	9/1/2017	-	9/1/2020

Project Name	Deer Creek Reservoir Seismic Assessment (#212)	East Antioch Creek Marsh Restoration (#206)	Marsh Creek Reservoir Capacity and Habitat Restoration (#213)	Marsh Creek Reservoir Seismic Assessment (#210)	Marsh Creek Supplemental Capacity and Basin Development (#215)		
Sponsoring Agency / Organization	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District		
Project Status - Implementation	Environmental Permits	Project Status: Not Applicable	Project Status: Not Started	Project Status: Not Started	Project Status: Not Applicable	Project Status: Not Started	
	Environmental Permits	Est. Completion Date: -	Est. Completion Date: 8/1/2020	Est. Completion Date: 9/1/2017	Est. Completion Date: -	Est. Completion Date: 9/1/2020	
	Building/Other Permits	Project Status: Not Applicable	Project Status: Not Started	Project Status: Not Applicable	Project Status: Not Applicable	Project Status: Not Started	
	Building/Other Permits	Est. Completion Date: -	Est. Completion Date: 8/1/2020	Est. Completion Date: -	Est. Completion Date: -	Est. Completion Date: 9/1/2020	
	Construction / Implementation	Project Status: Not Started	Project Status: Not Started	Project Status: Not Started	Project Status: Not Started	Project Status: Not Started	
	Construction / Implementation	Est. Completion Date: 7/1/2014	Est. Completion Date: 8/1/2020	Est. Completion Date: 9/1/2017	Est. Completion Date: 6/1/2015	Est. Completion Date: 9/1/2020	
	Post Project Monitoring	Project Status: Not Applicable	Project Status: Not Started	Project Status: Not Started	Project Status: Not Applicable	Project Status: Not Applicable	
	Post Project Monitoring	Est. Completion Date: -	Est. Completion Date: 8/1/2020	Est. Completion Date: 9/1/2020	Est. Completion Date: -	Est. Completion Date: -	
	Environmental Permits	Describe any required	USACE 404, RWQCB Water Quality Cert., DFG 1600 ECC HCP coverage (PSR needed)	USACE 404, RWQCB Water Quality Cert., DFG 1600 ECC HCP (PSR needed)	-	USACE 404, RWQCB Water Quality Cert., DFG 1600, ECC HCP coverage (PSR needed)	
	Environmental Permits	Status?	-	Permitting has not begun.	Permitting has not begun, but will occur closer to construction.	-	They have not been started yet.
	Other Permits (e.g., Encroachment, Building)	Describe any required	DSOD will need to be involved in any assessment and will ultimately need to issue a permit for any dam reconstruction or modification	N/A	None	DSOD will need to be involved in any assessment and will ultimately need to issue a permit for any dam reconstruction or modification	N/A
	Other Permits (e.g., Encroachment, Building)	Status?	DSOD is familiar with the dam and inspects it annually. Specific permit application will follow seismic assessment.	-	N/A	DSOD is familiar with the dam and inspects it annually. Specific permit application will follow seismic assessment.	-
Project's schedule Available?	-	-	-	-	-	-	
Describe any data gaps or uncertainties	-	Funding is an issue.	Funding may be an issue.	-	Funding is an issue.		
Project Costs - Implementation	Land Purchase / Easement	NA \$	815,000	NA	NA \$	230,000	
	Planning	\$ 215,000	200,000	\$ 515,000	\$ 425,000	160,000	
	Design	\$ 15,000	576,000	\$ 70,000	NA	130,000	
	Environmental Review	\$ 15,000	576,000	\$ 80,000	15,000	100,000	
	Permits	Unknown	Unknown	NA	Unknown	65,000	
	Construction / Implementation	\$ 1	4,728,000	\$ 3,580,000	NA	2,645,000	
	Environmental Mitigation / Compliance	Unknown	Unknown	\$ 560,000	NA	283,000	
	Other	\$ 23,000	1,700,000	\$ 491,000	31,000	51,000	
	Total Project Cost	\$ 253,000	9,220,000	\$ 5,356,000	471,000	3,664,000	
	Cost Estimate Available?	-	-	-	-	-	
Project Funding - Implementation	Agency funds or in kind contributions	Amount \$ 127,000	200,000	2,000,000	175,000	250,000	
	Agency funds or in kind contributions	Regional Assessments	-	-	Yes	-	
	Agency funds or in kind contributions	Developmental Fees	Yes	Yes	Yes	Yes	
	Agency funds or in kind contributions	User Rates	-	-	-	-	
	Agency funds or in kind contributions	User Fees	-	-	-	-	
	Agency funds or in kind contributions	Bonded Debt Financing	-	-	-	-	
	Agency funds or in kind contributions	Property Tax	Yes	Yes	Yes	Yes	
	Agency funds or in kind contributions	Contributions	-	-	-	-	
	Agency funds or in kind contributions	Other	-	-	-	-	
	Agency funds or in kind contributions	Amount \$ -	-	-	-	-	
Existing grants	State Grants	-	-	-	-		
Existing grants	State funding for flood control / flood prevention projects	-	-	-	-		
Existing grants	Local Grants	-	-	-	-		
Existing grants	Federal Grants	-	-	-	-		
Currently unfunded	\$ 126,000	9,020,000	3,356,000	296,000	3,414,000		
Economic Feasibility Analysis Available?	-	-	-	-	-		
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECC region?	-	-	-	-	-	
	What Community(ies)?	-	-	-	-	-	
	How were the DACs included in the planning or development of the project?	-	-	-	-	-	
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	-	-	-	-	-	
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-	
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	-	-	-	-	-	
	Does (will) the project reduce greenhouse gas emissions?	-	-	-	-	-	

Project Name	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Oakley and Trembath Detention Basins (#207)	West Antioch Creek Improvements: 10th Street to "L" Street (#203)	Dry Creek Reservoir Seismic Assessment (#211)	Kellogg Creek Sedimentation Basin (#226)		
Sponsoring Agency / Organization	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control and Water Conservation District	Contra Costa County Flood Control and Water Conservation District		
Project ID #	15	16	17	18	19		
Project Type	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management		
Describe the project	The master plan for Marsh Creek included a series of detention basins as well as selective widening of the channel. This project is one of the selective widening projects. It extends from the Dainty Road crossing of the creek downstream to the creek's confluence with Sand Creek. The project is needed to contain 100-year flood flows and 50-year flood flows with freeboard in the creek and prevent damaging, polluted overflows into adjacent areas.	Oakley and Trembath Basins are important components of the master planned drainage infrastructure for the East Antioch Creek watershed in Antioch. The main stem of East Antioch Creek features three main detention basins which temporarily store stormwater and release it slowly once the storm has passed. One of these basins (Lindsey) is functionally complete. Of the other two, Oakley Basin is partially constructed and Trembath Basin, located just downstream of Oakley Basin, has yet to be constructed. This project will complete Oakley Basin and construct Trembath Basin. Trembath Basin will consist of a 20-foot high earthen dam and appurtenant structures, and wetland enhancement and mitigation. Oakley Basin work would consist of excavating material to expand the impound volume. The projects are needed to reduce flood risk to communities in Antioch within the East Antioch Creek watershed.	Design and construct channel improvements from the downstream end of "L" Street Crossing to the upstream end of the 10th Street culverts in conjunction with the City of Antioch. Project includes selective channel widening and floodwalls, and additional culverts under the Union Pacific Railroad.	The project assesses seismic performance of existing earthfill dam embankments and recommends retrofit improvements, if needed. It includes a two-phase approach: start with hazard assessment, and proceed to more detailed geotechnical analysis if warranted. The dam was constructed in the 1960s and is unlikely to withstand an earthquake by today's more stringent standards. The actual seismic retrofit of the dam, if warranted, is scoped as a separate project.	This project proposes to construct an approximate 4-acre biofilter to treat flows and removed sediment from Kellogg Creek before entering Discovery Bay. Dredging Discovery Bay near Newport Drive is very expensive and also it has been difficult to secure the needed regulatory permits. This project will remove a minimum of 50 percent of the sediment load and associated pollutants from Kellogg Creek. A majority of the sediment load in Kellogg Creek comes from agricultural tailwater return in the summer irrigation season. As such, the basin will capture most summertime flows and pass most winter storm flows. Sediment will settle out and pollutants will be treated in the biofilter using natural processes.		
Project Partners	Agency / Organization Name	City of Antioch	City of Antioch		Contra Costa County Flood Control and Water Conservation District		
ECCC IRWM Plan Objective(s) - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	-	-	-	-	
		Implement projects that have region-wide benefits	-	Additional: This project has flood risk reduction benefits not only at the project site, but all the way down to the confluence with the San Joaquin River.	-	Additional: Ensure the structural stability of the basin that captures the runoff from the upstream watershed to reduce the flow rates downstream to include the City of Brentwood, City of Oakley and Unincorporated Contra Costa County	Additional: The sedimentation basin will operate to serve 10,900 acres of agricultural farmland and open space downstream of the Los Vaqueros Reservoir. Erosion from the upper watershed would be contained in the basin versus Discovery Bay and the Delta Sloughs.
	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	-	-	-	-	-
		Increase water conservation and water use efficiency	-	-	-	-	-
		Increase water transfers	-	-	-	-	-
		Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	-
		Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-
	Water Quality and Related Regulations	Protect/improve source water quality	-	-	-	-	Additional: Improves the Delta water quality by passively removing the silt from the creek flow.
		Maintain/improve regional treated drinking water quality	-	-	-	-	-
		Maintain/improve regional recycled water quality	-	-	-	-	-
		Increase understanding of groundwater quality and potential threats to groundwater quality	-	-	-	-	-
		Meet current and future water quality requirements for discharges to the Delta	-	-	-	-	-
		Limit quantity and improve quality of stormwater discharges to the Delta	Additional: Keeping water in Marsh Creek keeps the delta cleaner. When floods occur, escaped floodwaters flow east (towards Knightsen) mix with septic overflows and the resulting polluted water is pumped over the Rock Slough levee into the Delta for disposal.	Additional: The detention basins in this project will trap significant amounts of sediment as well as trash, resulting in cleaner stormwater reaching the delta.	-	Additional: Ensure the structural stability of the basin that captures the runoff from the upstream watershed to reduce the turbidity in the creek by acting as a trap for sediment.	Additional: Improves the Delta water quality by passively removing the silt from the creek storm flows.
	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	-	-	-	-	-
		Minimize impacts to the Delta ecosystem and other environmental resources	Additional: Keeping water in Marsh Creek keeps the delta cleaner. When floods occur, escaped floodwaters flow east (towards Knightsen) mix with septic overflows and the resulting polluted water is pumped over the Rock Slough levee into the Delta for disposal.	-	-	-	-
Reduce greenhouse gas emissions		-	-	-	-	-	
Provide better accessibility to waterways for subsistence fishing and recreation		-	-	-	-	-	
Stormwater and Flood Management	Manage local stormwater	Additional: This project will increase creek capacity to handle storm runoff and reduce the potential of flooding for the neighboring communities along the creek.	Additional: The detention basins will retain storm flows and meter storm flows out of the basin at a lower rate.	Additional: Improvement of the existing channel to handle and prevent storm water flows from overbanking the creek and flooding the adjacent properties / DAC.	Additional: Basin capture and meters stormwater flows to prevent downstream flooding	Primary: Manages stormwater within the region by passively removing the silt from the Kellogg Creek storm flows.	
	Improve regional flood risk management	Primary: This project will reduce the potential of flooding for the neighboring communities along the creek.	Primary: The detention basins will retain storm flows and meter storm flows out of the basin at a lower rate.	Primary: Improvement of the existing channel to handle and prevent storm water flows from overbanking the creek and flooding the adjacent properties / DAC.	Primary: Ensure the structural stability of the dam embankments of a vital flood control facility	-	

Project Name		Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Oakley and Trembath Detention Basins (#207)	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Dry Creek Reservoir Seismic Assessment (#211)	Kellogg Creek Sedimentation Basin (#226)	
Sponsoring Agency / Organization		Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control and Water Conservation District	Contra Costa County Flood Control and Water Conservation District	
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process		Additional: This project is located directly upstream of the large DAC in Antioch and that DAC is the primary beneficiary of the reduced flood risk.	Additional: This project will significantly reduce the flooding potential for the adjacent DAC area.			
	Increase awareness of water resources management issues and projects with the general public						
	Please elaborate on any benefits that your project may provide outside of the stated objectives						
Program Preferences- Ranking Criteria #2	CALFED Objectives	Resolves Water-Related Conflicts					
		Improve the state's water quality from source to tap					
		Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion					
		Allow for the increase of water supplies and more efficient and flexible use of water resources					
		Improve the ecological health of the Bay-Delta watershed		Yes: This project includes regional detention basin facilities that provide floodwater storage as well as traps for sediment and trash. Wetland restoration is also a project component; all of this improves the quality of stormwater in the watershed.			Yes: Construction of the basin will reduce the sediment and associated pollutant load to Kellogg Creek before it enters Discovery Bay and the Delta.
		Effectively Integrate Water Management with Land Use Planning					
Statewide Priorities - Ranking Criteria #3	Drought Preparedness						
	Use and Reuse Water More Efficiently						
	Climate Change Response Actions						
	Expand Environmental Stewardship					Yes	
	Practice Integrated Flood Management	Yes	Yes	Yes	Yes		
	Protect Surface Water and Groundwater Quality					Yes	
	Improve Tribal Water and Natural Resources						
	Ensure Equitable Distribution of Benefits		Yes				
Resource Management Strategies - Diversification Considerations	Reduce Water Demand	Agricultural Water Use Efficiency					
		Urban Water Use Efficiency					
		Conveyance - Delta					
	Improve Operational Efficiency	Conveyance - Regional / Local	Yes				
		System Reoperation					
		Water Transfers					
	Increase Water Supply	Conjunctive Management & Groundwater Storage					
		Desalination					
		Precipitation Enhancement					
		Recycled Municipal Water					
		Surface Storage - CALFED					
	Improve Water Quality	Surface Storage - Regional / Local					
		Drinking Water Treatment and Distribution					
	Improve Flood Management	Groundwater Remediation / Aquifer Remediation					
		Matching Quality to Use					
		Pollution Prevention	Yes	Yes	Yes		Yes
		Salt and Salinity Management					
	Practice Resources Stewardship	Urban Runoff Management	Yes	Yes	Yes	Yes	Yes
		Flood Risk Management					
		Agricultural Lands Stewardship					Yes
		Economic Incentives (Loans, Grants and Water Pricing)					
		Ecosystem Restoration		Yes			
		Forest Management					
		Recharge Area Protection					
		Water-Dependent Recreation					
		Watershed Management	Yes			Yes	Yes
Other Strategies	Crop Idling for Water Transfers						
	Dewevaporation or Atmospheric Pressure Desalination						
	Fog Collection						
	Irrigated Land Retirement						
	Rainfed Agriculture						
	Waterbag Transport / Storage Technology						
Planning	Project Status	In Progress	In Progress	In Progress	In Progress	In Progress	
	Est. Completion Date	9/1/2016	8/1/2014	8/1/2017	7/1/2014	8/1/2013	
Feasibility	Project Status	Completed	Completed	Completed	Not Applicable	In Progress	
	Est. Completion Date	1/1/2012	8/1/2012	1/1/2012		8/1/2013	
Environmental Assess.	Project Status	Not Started	In Progress	Not Started	Not Started	In Progress	
	Est. Completion Date	9/1/2020	8/1/2014	8/1/2020	7/1/2014	8/1/2013	
Pre-Project Monitoring	Project Status	Not Applicable	In Progress	Not Started	Not Applicable	Not Applicable	
	Est. Completion Date		9/1/2014	8/1/2020			
Design	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Started	
	Est. Completion Date	9/1/2020	12/1/2014	8/1/2020		8/1/2020	

Project Name	Marsh Creek Widening Between Dainty Avenue and Sand Creek (#216)	Oakley and Trembath Detention Basins (#207)	West Antioch Creek Improvements: 10th Street to 'L' Street (#203)	Dry Creek Reservoir Seismic Assessment (#211)	Kellogg Creek Sedimentation Basin (#226)	
Sponsoring Agency / Organization	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control & Water Conservation District	Contra Costa County Flood Control and Water Conservation District	Contra Costa County Flood Control and Water Conservation District	
Project Status - Implementation	Environmental Permits	Project Status: Not Started Est. Completion Date: 9/1/2020	Project Status: Not Started Est. Completion Date: 4/1/2015	Project Status: Not Started Est. Completion Date: 8/1/2020	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Started Est. Completion Date: 8/1/2020
	Building/Other Permits	Project Status: Not Started Est. Completion Date: 9/1/2020	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Started Est. Completion Date: 8/1/2020	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Applicable Est. Completion Date: -
	Construction / Implementation	Project Status: Not Started Est. Completion Date: 9/1/2020	Project Status: Not Started Est. Completion Date: 4/1/2015	Project Status: Not Started Est. Completion Date: 8/1/2020	Project Status: Not Started Est. Completion Date: 7/1/2015	Project Status: Not Started Est. Completion Date: 8/1/2020
	Post Project Monitoring	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Started Est. Completion Date: 8/1/2016	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Started Est. Completion Date: 8/1/2020
	Environmental Permits	Describe any required: USACE 404, RWQCB Water Quality Cert., DFG 1600, ECC HCP coverage (PSR needed) Status?: They have not been started yet.	Describe any required: USACE 404, RWQCB Water Quality Cert., DFG 1600 ECC HCP coverage (PSR needed) Status?: Many baseline studies have been completed in support of the HCP Project Study Report (PSR). Other applications will be submitted closer to project advertise.	Describe any required: USACE 404, DFG 1600, RWQCB Water Quality Cert. Status?: Permits have not been started. Will commence process when closer to construction and funding has been secured.	Describe any required: - Status?: -	Describe any required: USACE 404, RWQCB Water Quality Cert., DFG 1600, ECC HCP coverage (PSR needed) Status?: Preliminary studies have been started.
	Other Permits (e.g., Encroachment, Building)	Describe any required: N/A Status?: -	Describe any required: Approval of Division of Safety of Dams for dam construction. Status?: Initial meetings with DSOD completed. Design guidance received from DSOD	Describe any required: - Status?: -	Describe any required: DSOD will need to be involved in any assessment and will ultimately need to issue a permit for any dam reconstruction or modification Status?: DSOD is familiar with the dam and inspects it annually. Specific permit application will follow seismic assessment.	Describe any required: N/A Status?: N/A
	Project's schedule Available?	-	-	-	-	-
	Describe any data gaps or uncertainties	Funding is an issue	Funding is an issue. Fiscal ability of maintenance entity (City of Antioch) to assume ownership may become an issue.	Local match is a challenge in this area. Another project located just downstream on West Antioch Creek is under design and will be implemented soon.	-	Funding is an issue. Mitigation requirements by environmental agencies have increased project costs.
	Land Purchase / Easement	\$ 420,000	\$ 1,280,000	\$ 155,000	NA	NA
	Planning	\$ 295,000	\$ 842,000	\$ 345,000	\$ 315,000	\$ 134,000
Design	\$ 90,000	\$ 1,560,000	\$ 180,000	\$ 15	\$ 237,000	
Environmental Review	\$ 545,000	\$ 250,000	\$ 80,000	\$ 15,000	\$ 168,000	
Permits	\$ 65,000	Unknown	\$ 90,000	\$ 15	\$ 30,000	
Construction / Implementation	\$ 2,325,000	\$ 5,009,000	\$ 3,240,000	\$ 15	\$ 325,000	
Environmental Mitigation / Compliance	\$ 283,000	Unknown	\$ 370,000	\$ 15	\$ 1,200,000	
Other	\$ 20,000	Unknown	\$ 446,000	\$ 33,000	NA	
Total Project Cost	\$ 4,043,000	\$ 10,051,000	\$ 4,906,000	\$ 363,000	\$ 2,094,000	
Cost Estimate Available?	-	-	-	-	-	
Project Funding - Implementation	Agency funds or in kind contributions	Amount: \$ 250,000	Amount: \$ 3,000,000	Amount: \$ 100,000	Amount: \$ 175,000	Amount: \$ 894,000
	Regional Assessments	-	-	-	-	-
	Developmental Fees	Yes	Yes	Yes	-	-
	User Rates	-	-	-	Yes	-
	User Fees	-	-	-	-	Yes
	Bonded Debt Financing	-	-	-	-	-
	Property Tax	Yes	-	Yes	-	-
	Contributions	-	-	-	-	-
	Other	-	-	-	-	-
	Existing grants	Amount: \$ -	Amount: \$ -	Amount: \$ -	Amount: \$ -	Amount: \$ -
State Grants	-	-	-	-	-	
State funding for flood control / flood prevention projects	-	-	-	-	-	
Local Grants	-	-	-	-	-	
Federal Grants	-	-	-	-	-	
Currently unfunded	\$ 3,793,000	\$ 7,051,000	\$ 4,806,000	\$ 188,000	\$ 1,200,000	
Economic Feasibility Analysis Available?	-	-	-	-	-	
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECCCR region?	-	Yes: This project will reduce flood risk to the Antioch DAC. If the project were not implemented and the area were to flood, the residents of the DAC would be exposed to toxic stormwater.	Yes: This project will reduce the amount of flooding and the damages associated with the flooding. It further prevents public health risks associated with exposure to bacterial or chemical pollutants that are present in floodwaters.	-	-
	What Community(ies)?	-	City of Antioch	DACs within the City of Antioch	-	-
	How were the DACs included in the planning or development of the project?	-	The project EIR included public notification of project alternatives.	City of Antioch has performed community outreach.	-	-
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	-	-	-	-	-
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	-	-	-	-	-
	Does (will) the project reduce greenhouse gas emissions?	-	-	-	-	-

Appendix E– List and Descriptions of On-going and Planned Regional Actions

Project Name	Lower Sand Creek Basin Construction (#222)	Deer Creek Reservoir Expansion (#217 and #218)	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	BBID-CCWD Regional Intertie	Contra Costa Canal Levee Elimination and Flood Protection Project			
Sponsoring Agency / Organization	Contra Costa County Flood Control and Water Conservation District	Contra Costa County Flood Control District	Contra Costa Flood Control and Water Conservation District	Contra Costa Water District	Contra Costa Water District			
Project ID #	20	21	22	23	24			
Project Type	Infrastructure - Stormwater / Flood Management	Infrastructure - Stormwater / Flood Management	Monitoring	Infrastructure - Water / Water Quality	Infrastructure - Water / Water Quality			
Describe the project	This project will construct a 300 ac-ft regional detention basin on Sand Creek. The existing 40 ac-ft basin will be expanded into an 300 ac-ft off-line basin with the addition of a new intake structure, primary and emergency spillways, a low flow channel, and a riparian mitigation area. This will reduce the flood potential downstream of this facility.	This project will excavate and expand the storage area of the existing Deer Creek Reservoir to increase stormwater holding capacity and reduce flood flows downstream. The Deer Creek Reservoir dam was built in 1960 for a 50-year capacity. The expansion of the facility is needed to provide 100-year capacity to the developing areas of Brentwood downstream, including Heritage High School, which is immediately downstream from the facility. This project will also acquire additional land rights over an area currently encumbered by only a flowage easement, which is insufficient. The project will upgrade the flowage easement to a drainage easement.	Marsh Creek Reservoir is located downstream of the Mt. Diablo Mercury Mine. Remedial actions for the mine are being investigated by the United States Army Corps of Engineers (USACE); however, the scope of the USACE assessment is limited to the mine site, Marsh Creek above the reservoir, and the reservoir. This project will investigate whether low dissolved oxygen conditions exist seasonally within the reservoir and whether the presence of legacy mercury contamination in reservoir sediments and / or low dissolved oxygen conditions in the reservoir promote the production of methylmercury within the reservoir or downstream in Marsh Creek. Low dissolved oxygen in reservoirs has been shown to cause elevated mercury concentrations in other reservoirs. This project would monitor mercury and methylmercury in water and sediments of the reservoir and downstream, as well as DO profiles in the reservoir. The project would also monitor mercury in sentinel species, e.g. crayfish, and small fish.	BBID and CCWD are working together to connect their water systems with an intertie that will improve the ability to sustain adequate water supply for drought-preparedness and after catastrophic events such as earthquakes, while also increasing the ability for these agencies to develop and share water resources more efficiently. Water can be shared between these two ECWMA members as well as delivered from CCWD through BBID and to agencies that have access to water supplies from the South Bay Aqueduct. The immediate project consists of approximately 200 feet of 48" pipeline to interconnect the two agencies and will be designed to allow for the installation of temporary pumps. A pump station may be added in a future phase to increase capacity.	The full, five-phased Contra Costa Canal Levee Elimination and Flood Protection Project (Project) will replace 21,000 feet of the unlined Contra Costa Canal (the Canal) with a pipeline to improve source water quality by preventing intrusion of poor quality groundwater; eliminate up to eight miles of 1930's Canal embankments not designed for flood protection; and improve security and public safety by preventing access to the open water Canal. Phase 1 included 1,900 feet of pipeline, and was completed in 2009. Phase 2 will commence as early as 2013 and will install 7,000 feet of pipeline and a Canal flood isolation structure. The ultimate project includes improvements to the Canal Pumping Plant No. 1 to maintain existing flows to CCWD and its regional partners. The project will also require approximately 225,000 cubic yards of fill material. At this time the expectation is that this borrow material can be obtained from the Sand Creek Detention Basin that is an IRWM Project.			
Project Partners	City of Brentwood	-	BASMAA Regional Monitoring Coalition/Contra Costa Clean Water Program	Byron Bethany Irrigation District	Department of Water Resources/United States Bureau of Reclamation/Army Corps of Engineers/State Water Resources Control Board/California Department of Public Health			
ECCC IRWM Plan Objectives - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	-	-	-	Primary: The project increases water supply reliability while also increasing the opportunities for water agencies in both the East Contra Costa & Bay Area regions to develop and share water resources more efficiently and in an environmentally sensitive way.	Additional: Encasing the unlined Canal improves water quality since this eliminates high TDS shallow groundwater from entering the Contra Costa Canal. All downstream water users benefit from improvements in source water quality including recycled water.	
		Implement projects that have region-wide benefits	Additional: This basin will help to provide flood protection downstream for the Cities of Brentwood and Oakley. This basin is planned to be part of Brentwood's recreational park systems by having soccer fields in the bottom of the basin, next to a public park	Additional: This project will reduce flood risk in Deer Creek and Marsh Creek, the largest stream in the area.	Additional: This study may lead to control measures addressing TMDLs for mercury established by both the Central Valley and the San Francisco Bay Regional Water Quality Control Boards 9 Marsh Creek discharges to the Delta just upstream of the Region 2 boundary.	Additional: The project increases water supply reliability while also increasing the opportunities for water agencies in both the East Contra Costa & Bay Area regions to develop and share water resources.	Additional: Benefits all water users within Central and Eastern Contra Costa County, DWD, City of Brentwood, Antioch, Pittsburg, Baypoint, Concord, Martinez and portions of Walnut Creek and Pleasant Hill.	
	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	-	-	-	-	Additional: The intertie could facilitate the transfer of water between agencies participating in the Bay Area Regional Desalination Project.	-
		Increase water conservation and water use efficiency	-	-	-	-	-	Additional: Placing the unlined Canal within a pipeline saves water by minimizing evaporation and loss of canal water to the ground.
		Increase water transfers	-	-	-	-	Additional: The intertie could facilitate the transfer of water between CCWD and BBID, agencies participating in the Bay Area Regional Desalination Project, and between CCWD and agencies connected to the South Bay Aqueduct.	-
		Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	Additional: The intertie is a short interconnection between two existing pipelines in close proximity to each other.	-
		Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-	-
	Water Quality and Related Regulations	Protect/improve source water quality	-	-	-	-	-	Primary: The full, 5-phased CCWD Canal Levee Elimination and Flood Protection Project will replace 4 miles of the unlined Contra Costa Canal with a pipeline to improve source water quality available to CCWD by preventing intrusion of poor quality groundwater.
		Maintain/improve regional treated drinking water quality	-	-	-	-	-	-
		Maintain/improve regional recycled water quality	-	-	-	-	-	-
		Increase understanding of groundwater quality and potential threats to groundwater quality	-	-	-	-	-	-
		Meet current and future water quality requirements for discharges to the Delta	-	-	-	-	Primary: This study may lead to control measures addressing TMDLs for mercury established by both the Central Valley and the San Francisco Bay Regional Water Quality Control Boards	-
		Limit quantity and improve quality of stormwater discharges to the Delta	Additional: Basin will have an in-line treatment wetlands for low flows and stormwater. Most of the urban watershed and does not have modern stormwater BMPs because it was developed in the 1980s and 1990s. The Basin can serve this role to improve SW quality.	-	-	-	Additional: This is part of an overall mercury control strategy implemented as a requirement of stormwater dischargers in Eastern Contra Costa County.	-
	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	Additional: Can enhance habitat within the basin by having a mitigation/low flow area designated for planting and habitat.	-	-	-	Additional: Reducing mercury sources and addressing processes that contribute to mercury methylation is a stated goal of the CalFed Ecosystem Restoration Program. Mercury accumulation in fish is a known threat to wildlife habitat.	Additional: The Project is identified as Early Action by the Delta Stewardship Council in the Interim Delta Plan. If the Project doesn't move forward, DWR's Dutch Slough Tidal Marsh Restoration Project (mandated, SBX7-1 Section 85085) will be delayed.
		Minimize impacts to the Delta ecosystem and other environmental resources	-	-	-	-	Additional: Reducing mercury sources and addressing processes that contribute to mercury methylation is a stated goal of the CalFed Ecosystem Restoration Program.	Additional: The intertie would support the transfer of water via existing facilities that have state of the art fish screens. This will minimize and avoid impacts on sensitive aquatic species and improve the Delta ecosystem.
		Reduce greenhouse gas emissions	-	-	-	-	-	-
		Provide better accessibility to waterways for subsistence fishing and recreation	-	-	-	-	Additional: Reducing mercury levels in fish will, over time, increase the amount of fish that can be safely consumed by subsistence fishers.	-
	Stormwater and Flood Management	Manage local stormwater	Additional: This off-line detention facility is to reduce the flow rate in Sand Creek by detaining flow within the basin and metering the outflows. This action will provide flood protection downstream of the basin	Additional: This project will increase the available capacity in Deer Creek Reservoir behind the existing dam by selectively excavating the storage area. The expanded reservoir will store runoff and meter flows out of the basin, preventing flooding downstream.	Additional: This is part of an overall mercury control strategy implemented as a requirement of stormwater dischargers in Eastern Contra Costa County.	-	-	-
		Improve regional flood risk management	Primary: This basin will help to provide flood protection downstream for the Cities of Brentwood and Oakley. The basin is an important component of the regional flood master plan for the Marsh Creek watershed.	Primary: This project will increase the available capacity in Deer Creek Reservoir by selectively excavating the storage area. It will reduce the flood risk on Deer Creek and downstream communities along Marsh Creek, including Heritage High School.	-	-	-	Additional: The project will also eliminate up to eight miles of aging canal embankments that were not intended to provide flood protection, yet are currently relied upon for that purpose.

Project Name		Lower Sand Creek Basin Construction (#222)	Deer Creek Reservoir Expansion (#217 and #218)	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	BBID-CCWD Regional Intertie	Contra Costa Canal Levee Elimination and Flood Protection Project	
Sponsoring Agency / Organization		Contra Costa County Flood Control and Water Conservation District	Contra Costa County Flood Control District	Contra Costa Flood Control and Water Conservation District	Contra Costa Water District	Contra Costa Water District	
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	-	-	Additional: DACs surround the fishable receiving waters that would benefit from any methylmercury reduction measures applied to Marsh Creek.	-	Additional: The project improves source water quality to all of CCWD customers many of which are located in DAC areas.	
	Increase awareness of water resources management issues and projects with the general public	-	-	Additional: Conducting this project with regional stakeholders will increase awareness of the impacts due to legacy mercury mines and potential control measures available to downstream reservoir owners.	-	-	
	Please elaborate on any benefits that your project may provide outside of the stated objectives	-	-	Investigating the potential linkages between low dissolved oxygen in a reservoir and methylmercury production could provide valuable lessons learned applicable to lakes and reservoirs throughout the state. This would be important to the Mercury in Lakes policy currently being scoped by the State Water Resources Control Board	-	The project further improves source water quality by eliminating direct access and stormwater intrusion into a water supply. It will improve security and public safety by preventing access to the open water Canal.	
Program Preferences- Ranking Criteria #2	Resolves Water-Related Conflicts	-	-	-	Yes: The intertie would facilitate the transfer of water between the ECOC and Bay Area IRWM regions with minimal environmental effects.	Yes: Replacement of the Contra Costa Canal with a pipeline allows DWR Dutch Slough Tidal Restoration Project to proceed, and provides available upstream supplies to support CVP and SWP.	
	Improve the state's water quality from source to tap	-	-	-	-	Yes: The Project improves source water quality by preventing intrusion of saline groundwater and by eliminating access and stormwater intrusion into the open water Canal.	
	Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion	-	-	-	-	Yes: Without the Project, the risk of flood-related damages under catastrophic failure of the earthen embankments, Delta levee failure, or a significant seismic event will persist, inundating adjacent areas, damaging property, and endangering the public.	
	Allow for the increase of water supplies and more efficient and flexible use of water resources	-	-	-	Yes: The project increases water supply reliability for two IRWM regions, facilitates water transfers, and pre-empts the need for duplicative conveyance facilities.	Yes: The Canal is a compliance point for water quality in the Delta; improved water quality reduces required upstream releases and increases available water supplies. Encasing the Canal eliminates groundwater infiltration and water quality degradation.	
	Improve the ecological health of the Bay-Delta watershed	-	-	Yes: contribute to mercury methylation is a stated goal of the CalFed Ecosystem Restoration Program. Mercury accumulation in fish is a known threat to wildlife habitat.	Yes: Using a state of the art fish screen to export water from the Delta minimizes impacts to sensitive habitat.	Yes: The completion of DWR's Dutch Slough Tidal Marsh Restoration Project is legislatively mandated (SBX 7-1) and is dependent on the construction of 11,000 ft of the pipeline adjacent to the Dutch Slough project site.	
	Effectively Integrate Water Management with Land Use Planning	-	-	-	Yes: Uses existing pipelines to convey water minimizes the need for new pipeline right-of-ways.	Yes: Yes. The project strives to create a more compatible land use with adjacent housing projects.	
Statewide Priorities - Ranking Criteria #3	Drought Preparedness	-	-	-	Yes	-	
	Use and Reuse Water More Efficiently	-	-	-	Yes	-	
	Climate Change Response Actions	-	-	-	-	Yes	
	Expand Environmental Stewardship	-	-	Yes	Yes	Yes	
	Practice Integrated Flood Management	Yes	Yes	Yes	-	Yes	
	Protect Surface Water and Groundwater Quality	Yes	-	Yes	-	Yes	
	Improve Tribal Water and Natural Resources	-	-	Yes	-	-	
	Ensure Equitable Distribution of Benefits	-	-	Yes	-	-	
	Agricultural Water Use Efficiency	-	-	Yes	-	-	
Resource Management Strategies - Diversification Considerations	Reduce Water Demand	Urban Water Use Efficiency	-	-	-	-	
		Conveyance - Delta	-	-	-	Yes	
		Conveyance - Regional / Local	-	-	-	Yes	
		System Reoperation	-	-	-	-	
	Improve Operational Efficiency	Water Transfers	-	-	-	Yes	-
		Conjunctive Management & Groundwater Storage	-	-	-	-	-
		Desalination	-	-	-	Yes	-
		Precipitation Enhancement	-	-	-	-	-
	Increase Water Supply	Recycled Municipal Water	-	-	-	-	-
		Surface Storage - CALFED	-	-	-	-	-
		Surface Storage - Regional / Local	-	-	-	-	Yes
		Drinking Water Treatment and Distribution	-	-	-	-	-
	Improve Water Quality	Groundwater Remediation / Aquifer Remediation	-	-	-	-	-
		Matching Quality to Use	-	-	Yes	-	-
		Pollution Prevention	Yes	Yes	Yes	-	Yes
		Salt and Salinity Management	-	-	-	-	Yes
	Improve Flood Management	Urban Runoff Management	Yes	Yes	-	-	Yes
		Flood Risk Management	-	-	-	-	-
	Practice Resources Stewardship	Agricultural Lands Stewardship	-	-	-	-	-
		Economic Incentives (Loans, Grants and Water Pricing)	-	-	-	-	-
		Ecosystem Restoration	-	-	Yes	-	Yes
		Forest Management	-	-	-	-	-
		Recharge Area Protection	-	-	-	-	-
		Water-Dependent Recreation	-	-	-	-	-
Watershed Management		Yes	Yes	Yes	-	-	
Watershed Management		Yes	Yes	Yes	-	-	
Other Strategies	Crop Idling for Water Transfers	-	-	-	-	-	
	Dew Evaporation or Atmospheric Pressure Desalination	-	-	-	-	-	
	Fog Collection	-	-	-	-	-	
	Irrigated Land Retirement	-	-	-	-	-	
	Rainfed Agriculture	-	-	-	-	-	
	Waterbag Transport / Storage Technology	-	-	-	-	-	
Planning	Project Status	In Progress	In Progress	In Progress	In Progress	Completed	
	Est. Completion Date	9/1/2013	12/1/2013	6/1/2013	1/1/2013	9/1/2012	
Feasibility	Project Status	Completed	Completed	Not Applicable	In Progress	Completed	
	Est. Completion Date	1/1/2012	1/1/2012	-	1/1/2013	9/1/2012	
Environmental Assess.	Project Status	Completed	Not Started	Not Applicable	Not Started	Completed	
	Est. Completion Date	1/1/2012	9/1/2014	-	1/1/2014	9/1/2012	
Pre-Project Monitoring	Project Status	Not Applicable	Not Applicable	Not Started	Not Applicable	Completed	
	Est. Completion Date	-	-	12/1/2016	-	9/1/2012	
Design	Project Status	In Progress	Not Started	Not Applicable	Not Started	Completed	
	Est. Completion Date	9/1/2017	1/1/2015	-	9/1/2014	9/1/2012	

Project Name	Lower Sand Creek Basin Construction (#222)	Deer Creek Reservoir Expansion (#217 and #218)	Marsh Creek Methylmercury and Dissolved Oxygen Assessment	BBID-CCWD Regional Intertie	Contra Costa Canal Levee Elimination and Flood Protection Project	
Sponsoring Agency / Organization	Contra Costa County Flood Control and Water Conservation District	Contra Costa County Flood Control District	Contra Costa Flood Control and Water Conservation District	Contra Costa Water District	Contra Costa Water District	
Project Status - Implementation	Project Status	In Progress	Not Started	Not Applicable	Not Started	Completed
	Est. Completion Date	9/1/2017	3/1/2015	-	9/1/2014	9/1/2012
	Environmental Permits					
	Building/Other Permits	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Completed
	Est. Completion Date	-	-	-	-	9/1/2012
	Construction / Implementation	Not Started	Not Started	Not Applicable	Not Started	Not Applicable
	Est. Completion Date	9/1/2017	7/1/2015	-	9/1/2014	-
	Post Project Monitoring	Not Started	Not Applicable	Not Applicable	Not Started	Not Applicable
	Est. Completion Date	9/1/2020	-	-	9/1/2015	-
	Describe any required	USACE 404, RWQCB Water Quality Cert., DFG 1600, ECC HCP Coverage (PSR In progress)	USACE 404, RWQCB Water Quality Cert., DFG 1600, ECC HCP coverage (PSR needed)	CDFG permits may be required for collection of biological samples and working in streams.	California Environmental Quality Act (CEQA) Notice of Exemption (NOE)	CEQA was satisfied through filing a Notice of Determination in November 2006. NEPA was satisfied through an EA/ FONSI in July 2007. All applicable federal, state and local permit applications were obtained in 2007.
	Status?	Baseline studies for the basin are under way.	These permits have not been initiated yet.	Not yet applied for but can be obtained on relatively short time frames.	CEQA NOE pending receipt of conceptual design and approval to proceed.	For future phases, permits will be updated or amended to reflect changed field conditions. For example implementation of the Rock Slough Fish Screen should allow for more flexible work windows since sensitive aquatic species are no longer able to enter the Canal.
	Describe any required	-	-	Encroachment permits may be needed from Contra Costa Flood Control and Water District. Sampling on private lands would require owner permission.	TBD. Expect that no additional permits are required.	MP 620, Bureau of Reclamation. Obtained in Spring 2007. Update for each segment. WAPA Power Line Relocation Agreement. update for each segment.
	Status?	-	-	Not yet applied for but can be obtained on relatively short time frames.	-	DFG 1600 permit 25 years. File amendments as new segments commence. DFG 2081 GGS Take Permit, needed for each segment. Army Corps 404 Permit. Renew for an additional 10 years on August 1, 2017. CVRWQCB 401 Permit. Good for the life of the project. Provide notification.
	Project's schedule Available?	-	-	-	-	-
	Describe any data gaps or uncertainties	Funding is an issue.	Funding is an issue	-	Unknown	-
Project Costs - Implementation	Land Purchase / Easement	\$ 130,000	\$ 214,000	NA	NA	\$ 430,000
	Planning	\$ 340,000	\$ 180,000	\$ 50,000	NA	\$ 200,000
	Design	\$ 530,000	\$ 100,000	NA	NA	\$ 750,000
	Environmental Review	\$ 50,000	\$ 240,000	NA	NA	\$ 100,000
	Permits	\$ 25,000	\$ 145,000	NA	NA	\$ 20,000
	Construction / Implementation	\$ 3,140,000	\$ 1,340,000	\$ 450,000	NA	\$ 55,000,000
	Environmental Mitigation / Compliance	\$ 1,750,000	\$ 250,000	NA	NA	NA
	Other	\$ 250,000	NA	NA	\$ 200,000	\$ 2,000,000
	Total Project Cost	\$ 6,215,000	\$ 2,469,000	\$ 500,000	\$ 200,000	\$ 58,500,000
	Cost Estimate Available?	-	-	-	-	-
Project Funding - Implementation	Amount	\$ 2,000,000	\$ 500,000	\$ 75,000	\$ 50,000	
	Regional Assessments	-	-	-	-	-
	Developmental Fees	Yes	-	-	-	Yes
	User Rates	-	-	-	-	Yes
	User Fees	-	Yes	Yes	-	-
	Bonded Debt Financing	-	-	-	-	Yes
	Property Tax	Yes	-	-	-	-
	Contributions	-	-	-	-	-
	Other	-	-	-	-	Yes
	Amount	\$ -	\$ -	\$ -	\$ -	\$ -
State Grants	-	-	-	-	-	
State funding for flood control / flood prevention projects	-	-	-	-	-	
Local Grants	-	-	-	-	-	
Federal Grants	-	-	-	-	-	
Currently unfunded	\$ 4,215,000	\$ 1,969,000	\$ 425,000	\$ 150,000	\$ 58,500,000	
Economic Feasibility Analysis Available?	-	-	-	-	-	
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECC region?	-	-	Yes: DACs surround the fishable receiving water that would benefit from any methylmercury reduction measures applied to Marsh Creek.	-	Yes: Supports higher quality water service to DAC areas within Contra Costa County, Antioch, Pittsburg, Baypoint and Concord.
	What Community(ies)?	-	-	Solano County, Sacramento County, Antioch, Pittsburg, Bethel Island / Franks Tracts	-	Portions of Contra Costa County, Bay Point, Pittsburg, Antioch and Concord.
	How were the DACs included in the planning or development of the project?	-	-	This project is still in the planning/development phase.	-	The CCWD service area includes Antioch, Pittsburg, and Bay Point which are largely composed of DACs. CCWD regularly communicates with these communities through the ECWMA and targeted outreach activities via the environmental review process.
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	-	-	Yes: Reducing mercury concentrations in fish will increase available food supplies and reduce potential health risks for subsistence fishers.	-	-
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	-	-	-	-	Yes: The 2013 CEQA Addendum will reflect Global Climate Change.
	Does (will) the project reduce greenhouse gas emissions?	-	-	Yes: Should DO management of Marsh Creek reservoir be identified as a potential control measure, that action may also reduce methane emissions from the reservoir. Methane is a powerful greenhouse gas.	-	Yes: Lowers the amount pumping from CCWD's alternative supply sources.

Project Name	Los Vaqueros Pond E-7 Embankment Rehabilitation	Stormwater Management at Meadows Siphon	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Advanced Wastewater Treatment	DDSD Advanced Water Treatment			
Sponsoring Agency / Organization	Contra Costa Water District	Contra Costa Water District	Contra Costa Water District	Delta Diablo Sanitation District	Delta Diablo Sanitation District			
Project ID #	25	26	27	28	29			
Project Type	Environmental (e.g., habitat)	Infrastructure - Stormwater / Flood Management	Infrastructure - Water / Water Quality	Infrastructure - Wastewater / Recycled Water	Infrastructure - Wastewater / Recycled Water			
Project Description	Describe the project	Los Vaqueros (LV) Pond E-7 is man-made and is used to promote red legged frog and california tiger salamander habitat in the Los Vaqueros Watershed. The Pond's earthen embankment is 150 feet long by 12 feet high. The embankment has failed on CCWD property, which was caused by one or more storm events that could not be passed by the existing undersized and clogged spillway culvert. The failed embankment does not support objectives of the pond and the embankment could further erode during future storms causing damage and further limiting use of the pond.	The Contra Costa Canal meadows siphon is located below a low lying area north of Buchanan Road in the City of Pittsburg. The low lying area functions as an accidental detention basin which accepts storm water from the Highlands Ranch development fed from multiple storm drain pipes as well as run-off from nearby drainage areas. Water collected in this low area flows out through a 48" pipe that feeds an existing detention basin downstream. The terrain of the low lying area does not provide for positive drainage resulting in year round ponding. The growth of trees and vegetation in the year round wet environment of the low area directly over the canal siphon is a major concern. Tree roots can damage the siphon and wetlands prevent routine maintenance. This project may include the corrective option to install a junction box to connect all storm drains. The junction box would allow overflow to utilize the low area for water storage during peak flows.	The 48 mile long Contra Costa Canal transports water from the delta at Rock Slough to industrial, municipal, commercial, residential customers, and water treatment plants in Contra Costa County. The uphill embankment of the Contra Costa Canal near Milepost 23.03 in Bay Point experienced visible movement last winter causing a significant bulge in the liner. Temporary sheet piles were installed for winter slope protection. This project will provide permanent repairs to stabilize the slope and prevent further movement of the Canal liner and replacement of the bulging liner. Bypass pumping or piping will be implemented to facilitate the repair work.	The State has indicated that excess nutrients may be impacting Delta species, and is currently evaluating the role of ammonia in the Bay-Delta ecosystem. DDSD discharges wastewater into the New York Slough, and has an exemplary record of eight consecutive years of 100% compliance with permit requirements. As regulations get more stringent or constituents of emerging concern (CECs) are identified, planning and engineering are needed to design advanced treatment facilities that may be needed to improve effluent quality and ensure that receiving water quality and beneficial uses are maintained. This project involves the planning, design and construction of advanced wastewater treatment facilities in order to address future treatment needs for reduction of nutrients and emerging constituents of concern in wastewater effluent. DDSD is currently studying advanced treatment alternatives to determine suitability for consideration during the project planning phase.	This project involves the planning, design and construction of an advanced water treatment facility at DDSD designed to take wastewater secondary effluent or brackish water and treat it to high-purity water standards. New facilities will include microfiltration and reverse osmosis treatment units, as well as pumps, storage, and piping. This treatment facility will have capability to expand using modular units; the current project is sized for a 5 MGD facility. Advanced treatment of secondary effluent will significantly reduce TDS, ammonia, and other constituents. When this high-purity water is used for cooling water, it will reduce chemical usage and increase the number of cycles at the power plant, thus freeing up recycled water capacity for other users. A drought-tolerant, available high-purity supply can provide water for clean industrial manufacturing and other uses.		
	Project Partners	Agency / Organization Name	East Contra Costa Agricultural Trust (ECCAT) East Bay Regional Park District (EBRPD)	City of Pittsburg		City of Antioch		
ECCC IRWM Plan Objective(s) - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	-	Additional: Damage to the siphon from tree roots would allow for infiltration and increase sediment load in the canal which carries source water to treatment plants. Increase sediment requires greater treatment.	Additional: Prevent debris resulting from earth movement from increasing sediments in the canal which carries source water to the treatment plants. Increase sediment in source water requires greater treatment at the plants.	-	Additional: The project has the potential to increase regional cost efficiencies. A high-quality supply can result in decreased chemical use and cost when used in cooling towers.	
		Implement projects that have region-wide benefits	Additional: Three agencies (Contra Costa Water District, East Contra Costa Agricultural Trust, and East Bay Regional Park District) are beneficiaries to this project.	-	-	Additional: DDSD treatment plant serves Antioch, Pittsburg and Bay Point, providing regional wastewater treatment. Improved water quality will provide region-wide benefits. Improved recycled water quality will expand supply and uses.	Additional: This project will increase water supply for the region, providing a high purity supply for many potential uses.	
	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	-	-	-	-	Additional: Advanced treated effluent that is sent to the recycled water facility will result in improved recycled water quality, expanding supply and use.	Primary: This region relies heavily on water from the Delta. Advanced treatment of secondary effluent and brackish water will provide an increased, drought-tolerant supply for the region that is less subject to Delta influences.
		Increase water conservation and water use efficiency	-	Primary: Eliminating the year round storage of surface run-off at the low lying area at the canal siphon would eliminate trees and other vegetative growth that can cause root damage to the siphon resulting in leaks and water loss.	Primary: Stabilizing the slope will minimize future ground movement in the vicinity of the canal. Repair of the damaged concrete liner will prevent further leaks and water loss.	-	-	Additional: Increasing recycled water supply and availability can offset urban water use and help water suppliers to meet 20% by 2020 potable water conservation targets.
		Increase water transfers	-	-	Additional: Repair of the damaged concrete liner will prevent leaks and water loss allowing more to be distributed within the canal system.	-	-	-
		Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	-	-
		Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-	-
	Water Quality and Related Regulations	Protect/improve source water quality	-	Additional: Damage to the siphon from tree roots would allow for infiltration and increase sediment load in the canal which carries source water to treatment plants.	Additional: Among many industries, the canal delivers raw water to municipal water treatment plants. Slope stabilization will minimize earth and debris to slough into the canal causing higher source water sediment.	Additional: While DDSD meets all discharge standards, advanced wastewater treatment will further reduce nutrients, TDS, and constituents of emerging concern. The discharge to NY Slough is mixed with receiving waters that serve as source water.	Additional: Treating secondary effluent with advanced treatment will reduce mass loadings in discharge water, helping to protect source water quality.	
		Maintain/improve regional treated drinking water quality	-	Additional: Damage to the siphon from tree roots would allow for infiltration and increase sediment load in the canal which carries source water to treatment plants. Increase sediment requires greater treatment.	-	-	-	
		Maintain/improve regional recycled water quality	-	-	-	Additional: Advanced treatment of wastewater effluent will improve the recycled water quality that is produced at DDSD's recycled water facility.	Additional: This project will implement advanced treatment to improve regional recycled water quality.	
		Increase understanding of groundwater quality and potential threats to groundwater quality	-	-	-	-	-	-
		Meet current and future water quality requirements for discharges to the Delta	-	-	-	Primary: The purpose of this project is to plan, design and construct advanced wastewater treatment facilities to meet future water quality requirements for discharges to the Delta.	Additional: Increased use of advanced treated secondary effluent will decrease wastewater discharges and associated mass loading to the Delta.	
		Limit quantity and improve quality of stormwater discharges to the Delta	-	Additional: The project would provide for detention of peak storm flows and settlement of debris and controlled downstream discharge.	-	-	-	-
	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	-	-	-	-	-	
		Minimize impacts to the Delta ecosystem and other environmental resources	Primary: Lessen impact to egg mass and larvae stage of red legged frog and california tiger salamander	-	Additional: The project will provide protection against further earth movement that would disrupt habitats along the hillside.	Additional: Improved wastewater discharge quality to the Bay/Delta would minimize impacts to the ecosystem and other environmental resources.	Additional: Expanded recycled water use may offset delta supplies, which may offset demands and reduce diversions; this may allow greater in stream flows and improve Delta ecosystem health.	
Reduce greenhouse gas emissions		-	-	-	-	-		
Provide better accessibility to waterways for subsistence fishing and recreation		-	-	-	-	-		
Stormwater and Flood Management	Manage local stormwater	-	Additional: By allowing the peak storm run-off to overflow and detained locally, the impact to the downstream detention basin at Los Medanos college downstream is minimized.	-	-	-		
	Improve regional flood risk management	-	Additional: By allowing the peak storm run-off to overflow and detained locally, the impact to the downstream detention basin at Los Medanos college downstream is minimized.	Additional: The project will reduce further damage to the concrete canal liner that may blow out if a landslide occurs and cause flooding to properties downhill.	-	-		

Project Name		Los Vaqueros Pond E-7 Embankment Rehabilitation	Stormwater Management at Meadows Siphon	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Advanced Wastewater Treatment	DDSD Advanced Water Treatment	
Sponsoring Agency / Organization		Contra Costa Water District	Contra Costa Water District	Contra Costa Water District	Delta Diablo Sanitation District	Delta Diablo Sanitation District	
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	-	-	-	Additional: Census tracts with DACs as defined by the State are located across the DDSD service area in Bay Point, Pittsburg and Antioch. The community will have opportunities for involvement in this project and the IRWM process.	Additional: There are DACs within DDSD's service area in Bay Point, Pittsburg, and Antioch, and water supply and treatment planning will involve these DACs.	
	Increase awareness of water resources management issues and projects with the general public	-	-	-	Additional: The public will be informed and have opportunities to be involved in this project as it proceeds toward planning. Information will also be provided to increase awareness of water resource management issues.	Additional: Development and distribution of public information through DDSD's website, print materials, or through the CEQA process will increase awareness of water resource management issues and projects with the general public.	
	Please elaborate on any benefits that your project may provide outside of the stated objectives	-	-	-	-	-	
Program Preferences- Ranking Criteria #2	Resolves Water-Related Conflicts	Yes: This project if grant funded will resolve a conflict within the ECCCR region. The East Contra Costa Agricultural Trust (ECCAT) indicated they have no funding for the LV Pond E-7 Embankment Rehabilitation.	-	-	-	Yes: Water supply, water quality and habitat are issues of concern across the Bay-Delta. This project seeks to further improve effluent quality, reducing loadings to the Deltas and expanding recycled water supply and use opportunities across the region.	Yes: This project can improve water supply, quality, and reliability for the region, helping to address potential water-related conflicts resulting from climate change or increasing Delta constraints.
	Improve the state's water quality from source to tap	-	Yes: Reduce sediment from entering the canal system from cracks caused by trees and heavy vegetation.	Yes: Earth movement causes earth and debris to fall into the canal resulting in high sedimentation of this source water that is delivered to the local water treatment plants.	-	-	Yes: An advanced treatment facility that takes in brackish water from existing intakes can improve water quality from source to tap.
	Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion	-	-	-	-	-	-
	Allow for the increase of water supplies and more efficient and flexible use of water resources	-	Yes: Minimizes damage to the canal system from tree roots that can cause leaks and water loss.	Yes: Replacement of the bulging concrete liner will reduce or eliminate leaks in this section of the canal thus increasing supplies for downstream users.	Yes: Expanded recycled water use increases the region's water supplies. Combined with improved quality, this source also allows more efficient and flexible use of water resources.	Yes: This facility will increase water supplies, and will provide more efficient and flexible use of water resources as it will be capable of treating water of varying quality and producing high purity water for expanded uses.	
	Improve the ecological health of the Bay-Delta watershed	-	-	-	-	Yes: Improved effluent quality, recycled water quality and quantity can contribute to improvement in ecological health of the Bay-Delta watershed.	Yes: Improved water quality may improve ecological health.
	Effectively Integrate Water Management with Land Use Planning	-	-	-	-	Yes: This project will identify water resource availability and quality, fostering communication with land use planners and informing land use plans.	Yes: The planning process will foster increased communication and collaboration of planners and water managers. Information on increased water supply and quality will inform land use plans and provide increased opportunities for use of this water.
Statewide Priorities- Ranking Criteria #3	Drought Preparedness	-	-	-	Yes	Yes	
	Use and Reuse Water More Efficiently	-	Yes	Yes	Yes	Yes	
	Climate Change Response Actions	-	-	-	Yes	Yes	
	Expand Environmental Stewardship	Yes	-	-	Yes	Yes	
	Practice Integrated Flood Management	-	-	-	-	-	
	Protect Surface Water and Groundwater Quality	-	Yes	Yes	Yes	Yes	
	Improve Tribal Water and Natural Resources	-	-	-	-	-	
	Ensure Equitable Distribution of Benefits	-	-	-	Yes	Yes	
Resource Management Strategies- Diversification Considerations	Reduce Water Demand	Agricultural Water Use Efficiency	-	-	-	-	
		Urban Water Use Efficiency	-	-	-	Yes	
		Conveyance – Delta	-	-	Yes	-	
		Conveyance – Regional / Local	Yes	Yes	Yes	Yes	
	Improve Operational Efficiency	System Reoperation	-	-	-	-	-
		Water Transfers	-	-	-	-	-
		Conjunctive Management & Groundwater Storage	-	-	-	-	-
		Desalination	-	-	-	-	Yes
	Increase Water Supply	Precipitation Enhancement	-	-	-	-	-
		Recycled Municipal Water	-	-	-	Yes	Yes
		Surface Storage - CALFED	-	-	-	-	-
		Surface Storage - Regional / Local	-	-	-	-	-
	Improve Water Quality	Drinking Water Treatment and Distribution	-	Yes	Yes	-	Yes
		Groundwater Remediation / Aquifer Remediation	-	-	-	-	-
		Matching Quality to Use	-	-	-	Yes	Yes
		Pollution Prevention	-	-	Yes	Yes	-
	Improve Flood Management	Salt and Salinity Management	-	-	-	Yes	Yes
		Urban Runoff Management	-	Yes	Yes	-	-
		Flood Risk Management	-	Yes	Yes	-	-
		-	-	-	-	-	-
Practice Resources Stewardship	Agricultural Lands Stewardship	-	-	-	-	Yes	
	Economic Incentives (Loans, Grants and Water Pricing)	-	-	-	Yes	Yes	
	Ecosystem Restoration	Yes	-	-	-	-	
	Forest Management	-	-	-	-	-	
	Recharge Area Protection	-	-	-	-	-	
	Water-Dependent Recreation	-	-	-	Yes	-	
	Watershed Management	-	-	-	-	-	
	-	-	-	-	-	-	
Other Strategies	Crop Idling for Water Transfers	-	-	-	-	-	
	Dewvaporator or Atmospheric Pressure Desalination	-	-	-	-	-	
	Fog Collection	-	-	-	-	-	
	Irrigated Land Retirement	-	-	-	-	-	
	Rainfed Agriculture	-	-	-	-	-	
	Waterbag Transport / Storage Technology	-	-	-	-	-	
Planning	Project Status	Not Applicable	In Progress	In Progress	Not Started	In Progress	
	Est. Completion Date	-	7/1/2013	9/1/2012	6/1/2016	12/1/2012	
Feasibility	Project Status	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	Est. Completion Date	-	-	-	-	-	
Environmental Assess.	Project Status	In Progress	Not Started	Not Started	Not Started	In Progress	
	Est. Completion Date	2/1/2013	7/1/2014	4/1/2013	6/1/2016	10/1/2013	
Pre-Project Monitoring	Project Status	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
	Est. Completion Date	-	-	-	-	-	
Design	Project Status	In Progress	Not Started	Not Started	Not Started	Not Started	
	Est. Completion Date	4/1/2013	7/1/2014	5/1/2013	6/1/2016	10/1/2014	

Project Name	Los Vaqueros Pond E-7 Embankment Rehabilitation	Stormwater Management at Meadows Siphon	Canal Liner Rehabilitation and Slope Stability at Milepost 23.03	Advanced Wastewater Treatment	DDSD Advanced Water Treatment		
Sponsoring Agency / Organization	Contra Costa Water District	Contra Costa Water District	Contra Costa Water District	Delta Diablo Sanitation District	Delta Diablo Sanitation District		
Project Status - Implementation	Environmental Permits	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Applicable
		Est. Completion Date	2/1/2013	7/1/2014	5/1/2013	-	-
	Building/Other Permits	Project Status	Not Started	Not Applicable	Not Applicable	Not Applicable	Not Applicable
		Est. Completion Date	2/1/2013	-	-	-	-
	Construction / Implementation	Project Status	Not Started	Not Started	Not Started	Not Started	Not Started
		Est. Completion Date	8/1/2013	7/1/2015	12/1/2013	9/1/2020	3/1/2016
	Post Project Monitoring	Project Status	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
		Est. Completion Date	-	-	-	-	-
	Environmental Permits	Describe any required	Permits include a DFG streambed alteration permit, USACE Nationwide 404 permit, and RWQCB 401 water quality certification.	1. United States Bureau of Reclamation (USBR) National Environmental Policy Act (NEPA) Categorical Exclusion Checklist (CEC). 2. California Environmental Quality Act (CEQA) Notice of Exemption (NOE).	1. United States Bureau of Reclamation (USBR) National Environmental Policy Act (NEPA) Categorical Exclusion Checklist (CEC). 2. Notice of Exemption (NOE) under California Environmental Quality Act (CEQA).	-	-
		Status?	Permits not yet submitted.	NEPA and CEQA will be finalized in the first half of 2013.	NEPA and CEQA will be completed in the first half of 2013.	-	-
Other Permits (e.g., Encroachment, Building)	Describe any required	Contra Costa County Grading Permit	MP 620 approval by USBR for modification and improvement to the Contra Costa Canal.	1. MP 620 Permit. Issued by USBR for modifications/repairs to the Contra Costa Canal.	-	-	
	Status?	Permit not yet submitted.	MP 620 will be submitted once engineering design and NEPA are prepared.	MP 620 can be issued once NEPA is completed and engineering designed is approved.	-	-	
Project Schedule Available?	-	-	-	-	-		
Describe any data gaps or uncertainties	-	-	-	-	-		
Project Costs - Implementation	Land Purchase / Easement	NA	NA	NA	Unknown	Unknown	
	Planning	\$ 2,800	\$ 27,000	NA	Unknown	Unknown	
	Design	\$ 29,000	\$ 60,000	\$ 70,000	Unknown	Unknown	
	Environmental Review	\$ 3,000	Unknown	\$ 8,000	Unknown	Unknown	
	Permits	\$ 5,000	Unknown	Unknown	Unknown	Unknown	
	Construction / Implementation	\$ 145,000	\$ 250,000	\$ 550,000	Unknown	Unknown	
	Environmental Mitigation / Compliance	\$ 25,000	Unknown	Unknown	Unknown	Unknown	
	Other	NA	NA	\$ 10,000	\$ 80,000,000	\$ 50,000,000	
	Total Project Cost	\$ 209,800	\$ 337,000	\$ 638,000	\$ 80,000,000	\$ 50,000,000	
	Cost Estimate Available?	Yes	-	-	-	-	
Project Funding - Implementation	Agency funds or in-kind contributions	Amount	\$ 52,000	\$ 160,000	\$ 319,000	\$ -	
		Regional Assessments	-	-	-	-	
		Developmental Fees	-	-	-	-	
		User Rates	Yes	Yes	Yes	-	
		User Fees	-	-	-	-	
		Bonded Debt Financing	-	-	-	-	
		Property Tax	-	-	-	-	
		Contributions	-	-	-	-	
	Other	-	-	-	-		
	Existing grants	Amount	\$ -	\$ -	\$ -	\$ -	
State Grants		-	-	-	-		
State funding for flood control / flood prevention projects	-	-	-	-			
Local Grants	-	-	-	-			
Federal Grants	-	-	-	-			
Currently unfunded	\$ 157,800	\$ 177,000	\$ 319,000	\$ 80,000,000	\$ 50,000,000		
Economic Feasibility Analysis Available?	-	-	-	-			
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECC region?	-	-	-	Yes: Water supply benefits to DACs include improved water reliability through recycled water expansion, which can reduce dependence on Delta supplies. Water quality improvements will also benefit the region and may provide economic improvements.	Yes: Census tracts show significant areas in Pittsburg, Bay Point, and Antioch meeting the DAC definition. Adequate water supply and quality is a critical issue for this region. This project seeks to expand water supply and improve water quality.	
	What Community(ies)?	-	-	-	DAC census tracts in Bay Point, Pittsburg and Antioch.	Bay Point, Pittsburg, and Antioch	
	How were the DACs included in the planning or development of the project?	-	-	-	TBD - planning has not yet started.	DACs will be involved as the project moves into planning.	
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	-	-	-	Yes: This project improves water quality and expands water supply, which provides greater access to clean water and recreation.	Yes: Will provide greater availability and access to clean water.	
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-	
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	-	-	-	Yes: Climate change is expected to result in drought and decreased water supply. Recycled water is the most drought-tolerant supply available. Expansion of recycled water use will help the region address this aspect of climate change.	Yes: Climate change is expected to result in droughts and declining water supplies. Recycled water is the most drought-tolerant, reliable supply available. Expansion of recycled water use will help the region address this aspect of climate change.	
	Does (will) the project reduce greenhouse gas emissions?	-	-	-	-	-	

Project Name	DDSD Recycled Water Distribution System Expansion	DDSD Salinity Reduction - Softener Rebate Program	Recycled Water Facility Renewable Energy System	Total Dissolved Solids Reduction / Salinity Management	Wastewater Renewable Energy Enhancement	
Sponsoring Agency / Organization	Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District	
Project ID #	30	54	31	32	33	
Project Type	Infrastructure - Wastewater / Recycled Water	Other	Infrastructure - Wastewater / Recycled Water	Infrastructure - Wastewater / Recycled Water	Infrastructure - Wastewater / Recycled Water	
Project Description	Describe the project	This project helps to meet water demands and reduce dependence on the Delta by expanding the recycled water system to serve industrial and irrigation users within the cities of Antioch and Pittsburg. The expansion project involves the installation of pipelines, storage, pumps and retrofits that can be implemented in phases to serve demands as opportunities arise. Facilities in this expansion include the construction of a storage tank (0.9 MG), approximately 47,000 LF of new recycled water pipeline, rehabilitation of 48,200 LF of existing pipeline, a pump station, control and isolation valves, and site retrofits to serve 22 irrigation and industrial customers. This project will be capable of meeting recycled water average annual demands of 4,200 AFY.	Total dissolved solids (TDS) concentration and salinity management are potential water quality concerns in the region. Water softeners from residences in the service area can contribute to higher salinity and TDS concentrations in the wastewater influent. This project involves implementation of a water softener rebate program for residents in order to reduce salinity and TDS loading to the wastewater treatment plant. Reducing TDS in the influent will improve recycled water quality and help reduce salinity.	In California, water-related energy use consumes a significant percent of the State's electricity and natural gas. In addition, there is substantial water requirement for non-renewable forms of electricity generation. This is the basis of the water-energy nexus. This project will install a 1.1 MW PV solar energy system to offset 50-60% of the energy use and associated costs at the recycled water facility. This project is part of a Regional Renewable Energy Procurement Project, which provides additional cost savings through volume pricing. This project will improve recycled water facility sustainability, reducing greenhouse gas (GHG) emissions, and providing energy cost savings through cost control/stability of on-site renewable energy generation.	Total dissolved solids concentrations and salinity management are potential water quality concerns in the region. DDSD operates a recycled water facility, and closely monitors the TDS concentration. Water with higher TDS concentrations has limits to its usefulness, and conventional treatment facilities have limited ability to significantly reduce TDS. Therefore, TDS management at treatment facilities is an important factor for producing high-quality recycled water. This project involves the installation of 10,500 LF of HDPE pipe to carry high TDS-containing water from Dow in Pittsburg to the optimal location at the treatment plant in order to reduce TDS concentration in the water produced at the recycled water facility. By improving water quality, this project can also increase water supply by increasing reuse and freeing up capacity for other users.	Fats, oils and greases (FOG) that are improperly disposed into the sanitary sewer system are a major contributor to pipe blockages and sewer overflows. FOG that makes its way to the headworks of the treatment plant can negatively impact equipment and treatment. FOG discharges can come from both residences and commercial facilities within DDSD's 42 sq. mile service area of Antioch, Bay Point and Pittsburg. This project will design and construct a facility to accept up to 10,000 gallons of FOG per day from waste haulers, which will then be fed into digesters for treatment and biogas production. Construction involves modifying an existing, unused thickener facility to house a storage tank, along with positive displacement pumps, odor control, instrumentation, and approximately 200 feet of 66" steel pipe. This project will help keep greasy wastes out of the sanitary sewer collection system and the environment, reducing overflows, while enhancing biogas production at the treatment plant.
	Project Partners	City of Pittsburg, City of Antioch, U.S. DOI, Bureau of Reclamation	-	-	Dow	-
Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	Additional: This project will incorporate efficiencies to reduce system operating costs. Also, DDSD recycled water rates are lower than raw/treated water rates, and provide landscape irrigation users with a source of nutrients, saving money for city parks.	Additional: By reducing the amount of TDS/salinity in wastewater influent, DDSD can improve wastewater and recycled water treatment cost efficiencies. Improved recycled quality can reduce chemical usage and cost for cooling tower use.	Primary: On-site generation of electricity will provide cost savings for recycled water production & distribution.	Additional: By controlling the introduction of high TDS wastewater into the treatment plant, DDSD can improve wastewater and recycled water treatment cost efficiencies. Improved quality can reduce chemical usage and cost for cooling towers.	Primary: Keeping FOG discharges out of the sewer system decreases system and equipment maintenance costs. A regional FOG receiving facility provides increased efficiency for waste haulers. Biogas enhancement decreases cost to purchase additional natural gas.
	Implement projects that have region-wide benefits	Additional: This project expands recycled water use in Pittsburg and Antioch, helping to meet the region's water supply needs. Recycled water system expansion across the region is also being coordinated with Ironhouse Sanitary District and City of Brentwood.	Additional: Decreasing salinity of recycled water used for irrigation can benefit salinity management programs in Pittsburg and Antioch.	Additional: This project can reduce demand on regional energy generation and transmission infrastructure. Region-wide benefits include addressing impacts of climate change. The regional energy procurement program is available to public agencies in Contra Costa.	Additional: Decreasing TDS concentrations of recycled water used for irrigation can benefit salinity management programs in Pittsburg and Antioch.	Additional: This project will provide a regional FOG collection facility, of benefit to DDSD's 42 square mile service area and the surrounding communities.
Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	Primary: Delta water is the major supply for Pittsburg and Antioch. This project will expand recycled water service to irrigation and industrial users in Antioch and Pittsburg, providing a drought-tolerant supply that is less subject to Delta influences.	Additional: Improving recycled water quality can potentially expand its use for industrial and irrigation purposes.	-	Additional: This project seeks to improve recycled water quality, thus potentially expanding its use for industrial and irrigation purposes.	-
	Increase water conservation and water use efficiency	Additional: Switching irrigation and industrial uses from potable supplies to recycled water can offset urban water use and help water suppliers to meet 20% by 2020 potable water conservation targets.	-	-	-	-
	Increase water transfers	-	-	-	-	-
	Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	-
	Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-
	Protect/improve source water quality	Additional: Expanded recycled water use can replace Delta supplies, which can offset demands and reduce diversions; this may help reduce salinity/saltwater intrusion and protect source water quality.	-	-	-	-
Water Quality and Related Regulations	Maintain/improve regional treated drinking water quality	-	-	-	-	-
	Maintain/improve regional recycled water quality	Additional: This project expands recycled water distribution in the region for irrigation and industrial uses, and maintains recycled water quality.	Primary: This project will improve recycled water quality by decreasing salinity/TDS concentration of the water entering the treatment facility.	Additional: Providing on-site renewable energy for the recycled water facility will improve sustainability and help to maintain the recycled water facility.	Primary: This project will improve recycled water quality by decreasing TDS concentration of the water entering the treatment facility.	-
	Increase understanding of groundwater quality and potential threats to groundwater quality	-	-	-	-	-
	Meet current and future water quality requirements for discharges to the Delta	Additional: While DDSD expects to remain in compliance with water quality and discharge regulations, increasing recycled water production and use reduces wastewater discharges and mass loading to the Sacramento-San Joaquin Delta.	Additional: Increased recycled water production and use will decrease effluent discharges to the Delta.	-	Additional: Increased recycled water production and use will decrease effluent discharges to the Delta.	-
	Limit quantity and improve quality of stormwater discharges to the Delta	-	-	-	-	-
	Enhance and restore habitat in the Delta and connected waterways	-	-	-	-	-
	Minimize impacts to the Delta ecosystem and other environmental resources	Additional: Expanded recycled water use can offset delta supplies, which may offset demands and reduce diversions; this may allow greater in-stream flows and improve Delta ecosystem health.	Additional: Improved recycled water quality and expanded use can offset Delta supplies, which may offset demands and reduce diversions; this may allow greater in-stream flows and improve Delta ecosystem health.	Additional: Solar power is clean energy. Switching from fossil fuel to renewable energy sources generated on-site may help minimize impacts to environmental resources.	Additional: Improved recycled water quality and expanded use can offset Delta supplies, which may offset demands and reduce diversions; this may allow greater in-stream flows and improve Delta ecosystem health.	Additional: Sewer overflows are detrimental to the environment. Providing a local FOG receiving facility may reduce improper discharges of FOG into the sewer system, thus reducing blockages and overflows.
Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Reduce greenhouse gas emissions	Additional: Greater use of local, recycled water can be less energy intensive than conveying and treating imported water. This project will increase operating efficiency resulting in lower energy use and the associated GHG emissions from fossil fuel sources.	-	Additional: Switching from fossil fuel to renewable energy sources will reduce GHG emissions. This project will reduce GHG emissions by up to 642 annual metric tons of CO2.	-	Additional: Providing a local/regional FOG receiving facility can minimize trucking miles for waste haulers, thus reducing associated vehicle/greenhouse gas emissions. The nearest FOG collection facility is over 35 miles away.
	Provide better accessibility to waterways for subsistence fishing and recreation	-	-	-	-	-
	Manage local stormwater	-	-	-	-	-
	Improve regional flood risk management	-	-	-	-	-

Project Name		DDSD Recycled Water Distribution System Expansion	DDSD Salinity Reduction - Softener Rebate Program	Recycled Water Facility Renewable Energy System	Total Dissolved Solids Reduction / Salinity Management	Wastewater Renewable Energy Enhancement		
Sponsoring Agency / Organization		Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District		
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	Additional: There are DACs within DDSD's service area, and recycled water project planning will include involvement of these DACs in Pittsburg and Antioch.	-	Additional: Census tracts with DACs as defined by the State are located across the DDSD service area. The community will have opportunities for involvement in this project and the IRWM process.	-	-		
	Increase awareness of water resources management issues and projects with the general public	Additional: DDSD website and project flyers will include information on the benefits of recycled water and its role in water management.	-	Additional: DDSD will provide project information to the general public and seek to increase awareness on water resource management issues, including the water-energy nexus.	-	Additional: This project will be widely publicized to promote use and understanding of proper FOG disposal, and associated benefits to the environment.		
	Please elaborate on any benefits that your project may provide outside of the stated objectives	-	-	-	-	-		
Program Preferences- Ranking Criteria #2	CALFED Objectives	Resolves Water-Related Conflicts	Yes: Regional recycled water planning can improve water supply reliability through more effective use of resources, and cooperative planning to address future water supply related conflicts related to climate change and increasing Delta constraints.	-	-	-		
		Improve the state's water quality from source to tap	-	-	-	-		
		Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion	-	-	-	-	-	
		Allow for the increase of water supplies and more efficient and flexible use of water resources	Yes: Expanded recycled water use increases the region's water supplies, allowing more efficient and flexible use of water resources.	Yes: Improved recycled water quality can expand the uses for industrial purposes, providing more efficient and flexible use of this recycled water supply. Improved quality can increase cycles/reuse in cooling towers, freeing up capacity for other users.	Yes: There may be indirect water increase through the offsetting of water loss from fossil fuel energy production.	Yes: Improved recycled water quality can expand the uses for industrial purposes, providing more efficient and flexible use of this recycled water supply. Improved quality can increase cycles/reuse in cooling towers, freeing up capacity for other users.	-	
		Improve the ecological health of the Bay-Delta watershed	Yes: Increased use of recycled water can positively impact Bay-Delta water supply and water quality, by potentially reducing Delta diversions, and decreasing wastewater discharges. These contribute to Bay-Delta ecological health.	Yes: Better control and reduction of TDS concentration in the recycled water that is used for irrigation purposes can help salinity management programs in Pittsburg and Antioch.	-	Yes: Better control and reduction of TDS concentration in the recycled water that is used for irrigation purposes can help salinity management programs in Pittsburg and Antioch.	Yes: Prevention of sewer overflows helps to protect human health, wildlife and water quality in the watershed.	
		Effectively Integrate Water Management with Land Use Planning	Yes: Recycled water distribution expansion planning will identify water resource availability and quality, fostering communication with county and city land use planners and informing their land use plans.	-	-	-	-	
Statewide Priorities - Ranking Criteria #3	Water	Drought Preparedness	Yes	Yes	-	Yes		
		Use and Reuse Water More Efficiently	Yes	Yes	-	Yes		
		Climate Change Response Actions	Yes	Yes	Yes	Yes	Yes	
		Expand Environmental Stewardship	Yes	Yes	Yes	Yes	Yes	
		Practice Integrated Flood Management	-	-	-	-	-	
		Protect Surface Water and Groundwater Quality	Yes	Yes	-	Yes	Yes	
		Improve Tribal Water and Natural Resources	-	-	-	-	-	
		Ensure Equitable Distribution of Benefits	Yes	-	-	-	-	
		Resource Management Strategies - Diversification Considerations	Reduce Water Demand	Agricultural Water Use Efficiency	-	-	-	-
				Urban Water Use Efficiency	Yes	Yes	-	Yes
Conveyance - Delta	-			-	-	-		
Conveyance - Regional / Local	Yes			-	Yes	-		
Improve Operational Efficiency	System Reoperation		-	-	-	-		
	Water Transfers		-	-	-	-		
	Conjunctive Management & Groundwater Storage		-	-	-	-		
	Desalination		-	-	-	-		
Increase Water Supply	Precipitation Enhancement		-	-	-	-		
	Recycled Municipal Water		Yes	Yes	-	Yes		
	Surface Storage - CALFED		-	-	-	-		
	Surface Storage - Regional / Local		-	-	-	-		
Improve Water Quality	Drinking Water Treatment and Distribution		-	-	-	-		
	Groundwater Remediation / Aquifer Remediation		-	-	-	-		
	Matching Quality to Use		Yes	Yes	-	Yes		
	Pollution Prevention		-	-	-	-		
Improve Flood Management	Salt and Salinity Management		-	Yes	-	Yes		
	Urban Runoff Management		-	-	-	-		
	Flood Risk Management		-	-	-	-		
	Practice Resources Stewardship		Agricultural Lands Stewardship	-	-	-	-	
Economic Incentives (Loans, Grants and Water Pricing)			Yes	-	Yes	-		
Ecosystem Restoration			-	-	-	-		
Forest Management			-	-	-	-		
Recharge Area Protection			-	-	-	-		
Water-Dependent Recreation			-	-	-	-		
Watershed Management			-	-	-	-		
Crop Idling for Water Transfers			-	-	-	-		
Other Strategies	Dew Evaporation or Atmospheric Pressure Desalination		-	-	-	-		
	Fog Collection	-	-	-	-			
	Irrigated Land Retirement	-	-	-	-			
	Rainfed Agriculture	-	-	-	-			
	Waterbag Transport / Storage Technology	-	-	-	-			
	Project Phases	Planning	Project Status	In Progress	Not Started	In Progress	Not Started	Completed
Est. Completion Date			12/1/2012	5/1/2013	9/1/2012	4/1/2013	9/1/2012	
Feasibility		Project Status	Not Applicable	Not Started	Completed	Not Applicable	In Progress	
		Est. Completion Date	-	6/1/2013	9/1/2012	-	10/1/2012	
Environmental Assess.		Project Status	In Progress	Not Applicable	Not Started	Not Applicable	Not Started	
		Est. Completion Date	10/1/2013	-	6/1/2013	-	4/1/2013	
Pre-Project Monitoring		Project Status	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
		Est. Completion Date	-	-	-	-	-	
Design		Project Status	Not Started	Not Applicable	Not Started	Not Started	Not Started	
		Est. Completion Date	10/1/2014	-	6/1/2013	10/1/2013	4/1/2013	

Project Name	DDSD Recycled Water Distribution System Expansion	DDSD Salinity Reduction - Softener Rebate Program	Recycled Water Facility Renewable Energy System	Total Dissolved Solids Reduction / Salinity Management	Wastewater Renewable Energy Enhancement			
Sponsoring Agency / Organization	Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District	Delta Diablo Sanitation District			
Project Status - Implementation	Environmental Permits	Project Status	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	
		Est. Completion Date	-	-	-	-	-	-
	Building/Other Permits	Project Status	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
		Est. Completion Date	-	-	-	-	-	-
	Construction / Implementation	Project Status	Not Started	Not Started	Not Started	Not Started	Not Started	Not Started
		Est. Completion Date	3/1/2016	7/1/2015	6/1/2014	4/1/2014	10/1/2013	
	Post Project Monitoring	Project Status	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
		Est. Completion Date	-	-	-	-	-	-
	Environmental Permits	Describe any required	-	-	-	-	-	-
		Status?	-	-	-	-	-	-
	Other Permits (e.g., Encroachment, Building)	Describe any required	-	-	-	-	-	-
		Status?	Not started	-	-	-	-	-
Project Schedule Available?	-	-	-	-	-	-	-	
Describe any data gaps or uncertainties	The list of potential water users and water demands was developed through the DDSD Recycled Water Master Plan. There are no expected impacts related to technical feasibility; the only uncertainties are related to the timing of recycled water connection for some users. Therefore, it is expected that users will be added in phases based on readiness and water demand.	-	-	-	Changing the entry point of the high-TDS, low-volume wastestream into the treatment process requires review and approval by the SWRCB. This review is underway to confirm the feasibility of the proposal and identify any regulatory issues and requirements.	-	-	
Project Costs - Implementation	Land Purchase / Easement	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
	Planning	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
	Design	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
	Environmental Review	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
	Permits	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
	Construction / Implementation	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
	Environmental Mitigation / Compliance	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	
	Other	\$ 25,000,000	\$ 3,000,000	\$ 3,800,000	\$ 2,500,000	\$ 1,200,000		
	Total Project Cost	\$ 25,000,000	\$ 3,000,000	\$ 3,800,000	\$ 2,500,000	\$ 1,200,000		
	Cost Estimate Available?	-	-	-	-	-	-	
Project Funding - Implementation	Agency funds or in-kind contributions	Amount	\$ -	\$ -	\$ -	\$ -	\$ -	
		Regional Assessments	-	-	-	-	-	
		Developmental Fees	-	-	-	-	-	
		User Rates	-	-	-	-	-	
		User Fees	-	-	-	-	-	
		Bonded Debt Financing	-	-	-	-	-	
		Property Tax	-	-	-	-	-	
		Contributions	-	-	-	-	-	
		Other	-	-	-	-	-	
		Amount	\$ 270,000	\$ -	\$ -	\$ -	\$ -	
Existing grants	State Grants	-	-	-	-	-		
	State funding for flood control / flood prevention projects	-	-	-	-	-		
	Local Grants	-	-	-	-	-		
	Federal Grants	Yes	-	-	-	-		
Currently unfunded	\$ 24,730,000	\$ 3,000,000	\$ 3,800,000	\$ 2,500,000	\$ 1,200,000			
Economic Feasibility Analysis Available?	-	-	-	-	-			
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECCO region?	Yes: The water supply benefits to DACs in this project include improved water reliability through recycled water expansion. This project will reduce dependence on Delta supplies, is drought tolerant, and has the potential to improve economic development.	-	-	-	-		
	What Community(ies)?	Census tract areas in Pittsburg and Antioch, esp. north of Hwy 4.	-	-	-	-		
	How were the DACs included in the planning or development of the project?	Outreach and involvement are underway, as this project is in the early planning stages.	-	-	-	-		
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	Yes: DDSD's recycled water is a reliable, affordable resource, resulting in water and fertilizer cost savings compared to current irrigation. This can be a benefit to cities when used on parks which provide recreation access to the community.	-	-	-	-		
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-		
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	Yes: Climate change is expected to result in drought and decreased water supplies. Recycled water is the most drought-tolerant supply available. Expansion of recycled water use will help the region address this aspect of climate change.	Yes: Will allow more efficient use/reuse of water, expanding a drought-tolerant supply for the region.	Yes: Potential impacts of climate change include decreased water supplies & increased energy demand. Switching from distributed energy/fossil fuel to on-site renewable energy can reduce/offset water & energy demand over current power generation.	Yes: Will allow more efficient use/reuse of water, expanding a drought-tolerant supply for the region.	-		
	Does (will) the project reduce greenhouse gas emissions?	Yes: This expansion project evaluates system operation, identifying efficiencies and optimization to reduce power use. Reduction of power use will decrease the associated greenhouse gas emissions generated from conventional power production.	-	Yes: The renewable energy project (solar) will reduce GHG emissions over current energy sources for the recycled water facility. The project is expected to reduce GHG emissions by up to 642 annual metric tons of CO2.	Yes: Improved operational efficiency/reduced treatment will reduce energy consumption at the wastewater treatment plant and recycled water facility, resulting in subsequent GHG emission reduction for energy sources derived from fossil fuels.	Yes: A FOG collection facility in this region will reduce trucking miles for waste haulers, thus reducing associated greenhouse gas emissions from vehicles.		

Project Name	Advanced Metering and Leak Detection (AMLD) Project	Beacon West Arsenic Replacement Well	Bethel Island Water Supply Pipeline	High Efficiency Toilets and Landscape Water Conservation	Phase 3 Well Utilization Project			
Sponsoring Agency / Organization	Diablo Water District	Diablo Water District	Diablo Water District	Diablo Water District	Diablo Water District			
Project ID #	34	35	36	37	38			
Project Type	Monitoring	Infrastructure - Water / Water Quality	Infrastructure - Water / Water Quality	Other	Infrastructure - Water / Water Quality			
Describe the project	The Advanced Metering and Leak Detection (AMLD) Project will assist the Diablo Water District improve its water management practices by converting 10,000 outdated meters to "smart" meters. The project will help the District conserve water and better manage its water losses by providing the technology necessary to mitigate customer leaks through real-time meter reading capabilities. Existing meters are more than a decade old and have diminished capabilities to accurately meter or report water usage. This has led to undetected leaks and unaccounted for water and loss for the District's customers. Some of the meters have even stopped turning. The new meters are magnetic read with no moving parts and are capable of alerting the District when a customer has water flowing 24 hrs/day which is an indication of a leak.	Beacon West Well serves a Disadvantaged Community of approximately 22 homes and has Arsenic levels of more than double the current Primary Drinking Water Standards. This project would be for the construction of a new well into an aquifer with water having Arsenic levels that are below the Primary Drinking water standards. In September 2009, Diablo Water District received a Non Compliance Order from the Contra Costa County Department of Environmental Health, for exceeding the arsenic MCL in the Disadvantaged Community's supply well. Since that time Diablo Water District has been working to find funding to help this community come into compliance with the drinking water standards.	Extend treated water service onto Bethel Island to replace poor quality groundwater supply for approximately 1,000 Island residents.	Provide rebates for the installation of high efficiency toilets (HET) including cost of installation in addition to landscape conservation incentives.	Third Phase of groundwater utilization project for the Oakley Area			
Project Partners	Agency / Organization Name							
ECCC IRWM Plan Objective(s) - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	Primary: AMR will help customers better control their water usage.	-	-	Additional: Reducing water conservation improves delivery efficiency and conserves water.	Primary: Reduces cost of delivering drinking water as opposed to pumping and treating surface water.	
		Implement projects that have region-wide benefits	-	-	-	Additional: Using less water will help other agencies in the region with more available supply.	Additional: Reduces demand on Delta Water Supplies which leaves more supply for others in the region and the State.	
	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	-	-	-	-	-	-
		Increase water conservation and water use efficiency	Additional: AMR system detects customer leaks that can be repaired, reducing water consumption and increase efficiency.	-	-	-	Primary: Reducing water consumption improves delivery efficiency and conserves water.	-
		Increase water transfers	-	-	-	-	-	-
		Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	-	-
		Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-	Additional: Project looks to utilize additional groundwater supply in the District's conjunctive use program.
	Water Quality and Related Regulations	Protect/improve source water quality	-	Primary: Provides source water to the DAC with arsenic levels below Primary Drinking Water Standards.	Primary: Replace poor groundwater that does not meet primary and secondary drinking water standards with high quality treated surface water.	-	-	-
		Maintain/improve regional treated drinking water quality	-	-	Additional: Replace poor groundwater that does not meet primary and secondary drinking water standards with high quality treated surface water.	-	-	-
		Maintain/improve regional recycled water quality	-	-	-	-	-	-
		Increase understanding of groundwater quality and potential threats to groundwater quality	-	Additional: Project will identify areas of high and low arsenic levels in drinking water supplies.	-	-	-	-
		Meet current and future water quality requirements for discharges to the Delta	-	-	Additional: Improved source water quality will improve waste water quality by lowering salt content of waster discharges from Ironhouse Sanitary District.	-	-	-
		Limit quantity and improve quality of stormwater discharges to the Delta	-	-	-	-	-	-
	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	-	-	-	-	-	-
		Minimize impacts to the Delta ecosystem and other environmental resources	-	-	-	-	-	-
		Reduce greenhouse gas emissions	Additional: Customer leaks waste power needed to pump water into distribution mains. Less power utilized by the District will reduce greenhouse gasses.	-	-	-	Additional: Excessive toilet water use wastes power needed to pump water. Less power utilized by the District will reduce greenhouse gasses.	-
		Provide better accessibility to waterways for subsistence fishing and recreation	-	-	-	-	-	-
	Stormwater and Flood Management	Manage local stormwater	-	-	-	-	-	-
		Improve regional flood risk management	-	-	-	-	-	-

Project Name	Advanced Metering and Leak Detection (AML) Project	Beacon West Arsenic Replacement Well	Bethel Island Water Supply Pipeline	High Efficiency Toilets and Landscape Water Conservation	Phase 3 Well Utilization Project		
Sponsoring Agency / Organization	Diablo Water District	Diablo Water District	Diablo Water District	Diablo Water District	Diablo Water District		
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	Additional: Letters have been sent to the members of this Disadvantaged Community advising them of the high Arsenic levels and the District's efforts to find funding to resolve the problem.	Additional: Letters have been sent to the members of this Disadvantaged Community advising them of the high Arsenic levels and the District's efforts to find funding to resolve the problem. Meetings have been held with island Residents explaining the project.				
	Increase awareness of water resources management issues and projects with the general public						
	Please elaborate on any benefits that your project may provide outside of the stated objectives						
Program Preferences- Ranking Criteria #2	CALFED Objectives	Resolves Water-Related Conflicts					
		Improve the state's water quality from source to tap		Yes: Improved water quality to residents of Bethel Island.			
		Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion					
		Allow for the increase of water supplies and more efficient and flexible use of water resources	Yes: Using less water from the Delta will provide for an increase of water supplies and a more efficient use of resources.		Yes: Reducing water consumption will reduce the quantity of water that Diablo Water District will need to use from the Delta which benefits the region and the State.	Yes: Provides use of groundwater during times of drought and augments the District's surface water supply.	
		Improve the ecological health of the Bay-Delta watershed		Yes: Reduces salt loading on waste water system and discharges to the Delta.	Yes: More water left in the Delta improves the ecological health of the Day-Delta watershed.	Yes: Using less water from the Delta will provide for an increase of water supplies that will improve the ecological health of the Bay-Delta.	
		Effectively Integrate Water Management with Land Use Planning				Yes: Impacts on growth and land use planning were a part of the project EIR.	
Statewide Priorities - Ranking Criteria #3	Drought Preparedness	Use and Reuse Water More Efficiently	Yes		Yes		
		Climate Change Response Actions	Yes		Yes		
		Expand Environmental Stewardship			Yes		
		Practice Integrated Flood Management					
		Protect Surface Water and Groundwater Quality			Yes		
		Improve Tribal Water and Natural Resources					
		Ensure Equitable Distribution of Benefits					
		Resource Management Strategies - Diversification Considerations	Reduce Water Demand	Agricultural Water Use Efficiency			
				Urban Water Use Efficiency	Yes		Yes
			Operational Efficiency	Conveyance - Delta			Yes
Conveyance - Regional / Local							
Increase Water Supply	System Reoperation						
	Water Transfers						
	Conjunctive Management & Groundwater Storage				Yes		
	Desalination						
Improve Water Quality	Precipitation Enhancement						
	Recycled Municipal Water						
Improve Flood Management	Surface Storage - CALFED						
	Surface Storage - Regional / Local						
Practice Resources Stewardship	Drinking Water Treatment and Distribution		Yes				
	Groundwater Remediation / Aquifer Remediation						
	Matching Quality to Use		Yes				
	Pollution Prevention						
	Salt and Salinity Management		Yes				
	Urban Runoff Management						
	Other Strategies	Flood Risk Management					
		Agricultural Lands Stewardship					
Project Status	Economic Incentives (Loans, Grants and Water Pricing)						
	Ecosystem Restoration						
	Forest Management						
	Recharge Area Protection						
	Water-Dependent Recreation						
	Watershed Management						
	Crop Idling for Water Transfers						
	Dew Evaporation or Atmospheric Pressure Desalination						
	Fog Collection						
	Irrigated Land Retirement						
Planning	Project Status	Completed	Completed	Not Started	Completed	Completed	
	Est. Completion Date	9/1/2012	7/1/2012	9/1/2013	9/1/2013	9/1/2012	
Feasibility	Project Status	Completed	Completed	Not Started	Completed	Completed	
	Est. Completion Date	9/1/2012	7/1/2012	9/1/2014	9/1/2013	9/1/2012	
Environmental Assess.	Project Status	In Progress	Not Started	Not Started	Not Applicable	Completed	
	Est. Completion Date	9/1/2013	7/1/2012	9/1/2014	-	9/1/2012	
Pre-Project Monitoring	Project Status	In Progress	Completed	Not Started	Not Started	Not Started	
	Est. Completion Date	9/1/2012	7/1/2012	9/1/2014	9/1/2013	9/1/2014	
Design	Project Status	Completed	In Progress	Not Started	Not Started	Not Started	
	Est. Completion Date	9/1/2012	7/1/2012	9/1/2015	12/1/2013	9/1/2015	

Project Name	Advanced Metering and Leak Detection (AML) Project	Beacon West Arsenic Replacement Well	Bethel Island Water Supply Pipeline	High Efficiency Toilets and Landscape Water Conservation	Phase 3 Well Utilization Project			
Sponsoring Agency / Organization	Diablo Water District	Diablo Water District	Diablo Water District	Diablo Water District	Diablo Water District			
Project Status - Implementation	Environmental Permits	Project Status	Not Applicable	In Progress	Not Started	Not Applicable	Completed	
		Est. Completion Date	-	7/1/2012	9/1/2015	-	-	9/1/2015
	Building/Other Permits	Project Status	Not Applicable	In Progress	Not Started	Not Applicable	Not Applicable	Not Started
		Est. Completion Date	-	7/1/2012	9/1/2015	-	-	9/1/2015
	Construction / Implementation	Project Status	Not Started	Not Started	Not Started	Not Started	Not Started	Not Started
		Est. Completion Date	9/1/2015	7/1/2012	12/1/2016	6/1/2015	-	12/1/2016
	Post Project Monitoring	Project Status	Not Started	Not Started	Not Started	Not Started	Not Started	Not Started
		Est. Completion Date	12/1/2015	7/1/2012	9/1/2017	9/1/2015	-	9/1/2017
	Environmental Permits	Describe any required	Project will fall under CEQA Categorical Exemption.	Preparation of a Negative Declaration.	Mitigated Neg. Dec. or EIR will most likely be required	Project is exempt	-	EIR for the project was completed in December 2008. NOD filed 12/18/2008
		Status?	Yet to be adopted and NOD filed.	Not started.	Not Started	-	-	NOD filed 12/18/2008
	Other Permits (e.g., Encroachment, Building)	Describe any required	-	County Encroachment permit and County Environmental Health Permit.	County Encroachment permit.	Homeowners may need to secure individual building permits.	-	City of Oakley Encroachment permit will be required for pipeline construction.
		Status?	-	County Environmental Health has indicated that they are ready to issue a permit.	Not Started	-	-	Will be secured just prior to start of construction.
Project Schedule Available?	-	-	-	-	-	-	-	
Describe any data gaps or uncertainties	-	-	Uncertain about the exact water quality we will encounter at the depths we are targeting.	-	-	-	-	
Project Costs - Implementation	Land Purchase / Easement	NA	NA	\$ 1,000,000	NA	\$ 150,000		
	Planning	NA	\$ 3,000	\$ 400,000	NA	NA		
	Design	\$ 8,000	\$ 10,000	\$ 1,000,000	\$ 20,000	\$ 400,000		
	Environmental Review	\$ 2,000	\$ 15,000	\$ 200,000	Unknown	NA		
	Permits	NA	\$ 2,000	\$ 500,000	Unknown	\$ 50,000		
	Construction / Implementation	\$ 2,000,000	\$ 80,000	\$ 26,400,000	\$ 400,000	\$ 7,000,000		
	Environmental Mitigation / Compliance	NA	NA	\$ 500,000	NA	\$ 500,000		
	Other	NA	NA	NA	NA	NA		
	Total Project Cost	\$ 2,010,000	\$ 110,000	\$ 30,000,000	\$ 420,000	\$ 8,100,000		
	Cost Estimate Available?	-	-	-	-	-		
Project Funding - Implementation	Agency funds or in kind contributions	Amount	\$ 210,000	\$ 10,000	\$ 1,000,000	\$ 20,000	\$ 810,000	
		Regional Assessments	-	-	-	-	-	
		Developmental Fees	-	-	-	-	Yes	
		User Rates	Yes	Yes	Yes	Yes	Yes	
		User Fees	-	-	Yes	-	-	
		Bonded Debt Financing	-	-	-	-	-	
		Property Tax	-	-	-	-	-	
		Contributions	-	-	-	-	-	
		Other	-	-	-	-	-	
		Existing grants	Amount	\$ -	\$ -	\$ -	\$ -	\$ -
State Grants	-		-	-	-	-		
State funding for flood control / flood prevention projects	-		-	-	-	-		
Local Grants	-		-	-	-	-		
Federal Grants	-		-	-	-	-		
Currently unfunded	\$ 1,800,000	\$ 100,000	\$ 29,000,000	\$ 400,000	\$ 7,290,000			
Economic Feasibility Analysis Available?	-	-	-	-	-			
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECCC region?	-	Yes: Project will allow the DAC served by this groundwater to receive water meeting the current drinking water standards for arsenic.	Yes: Provides improved water quality to DACs on Bethel Island	-	-		
	What Community(ies)?	-	North area of Bethel Island	Beacon West and Bethel Island	-	-		
	How were the DACs included in the planning or development of the project?	-	Letters have been sent to the DAC informing them of the options the District is pursuing to resolve the high arsenic issue in their water supply.	Public Meetings informing them of the proposal	-	-		
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	-	Yes: Project will allow the DAC served by this groundwater to receive water meeting the current drinking water standards for arsenic.	-	-	-		
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-		
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	Yes: Less water consumption reduces the power required for pumping and thus green house gasses which affects climate change.	-	-	-	-		
	Does (will) the project reduce greenhouse gas emissions?	Yes: Less water consumption reduces the power required for pumping and thus green house gasses which affects climate change.	-	-	Yes: Lower pumping due to water conservation will reduce power consumption which reduces green house gasses.	Yes: Groundwater pumping utilizes 666 kWh/Mg less power as compared to utilizing treated surface water which is a reduction of 237,187 lbs of CO2 emissions/Mg.		

Project Name	Tracy Subbasin Safe Yield Analysis	Treatment of Brackish Groundwater	Leak Detection and Repair	Watershed and Habitat Protection/Restoration	Ironhouse Sanitary District Recycled Water Implementation - Phase B	
Sponsoring Agency / Organization	Diablo Water District	Diablo Water District	Diablo Water District/Contra Costa Water District	East Contra Costa County Habitat Conservancy	Ironhouse Sanitary District	
Project ID #	39	40	41	42	43	
Project Type	Monitoring	Infrastructure - Water / Water Quality	Infrastructure - Water / Water Quality	Environmental (e.g., habitat)	Infrastructure - Wastewater / Recycled Water	
Project Description	Describe the project	Determine the safe yield of the Tracy Subbasin for the District's municipal water system and to preserve the safety and reliability of sources of supply for other small water systems within its sphere of influence.	Construct Reverse Osmosis system for treatment of brackish groundwater.	Project will identify and prioritize leaks in drinking water distribution system water mains (DWD) and untreated water laterals (CCWD) and provide funding to make repairs including water mains and laterals in DAC areas. Project costs are \$425,000 for DWD and \$1 million for CCWD.	This project will be implemented by the East Contra Costa County Habitat Conservancy as part of the implementation to the HCP/NCCP. The proposed project will have 3 primary tasks: Land acquisition, Habitat Restoration Design, and Construction. Land acquisition will occur in pre-identified priority areas in eastern Contra Costa County. The project will include primarily creek, pond or wetland habitats. The specific project/acquisition that the funding will be used for depends on the timing of the award. The location of this project could be exclusively in the ECC IRWMP area, or in the area of overlap with the SF Bay Area IRWMP.	The project involved installation of 24,600 feet of 12-inch and 6-inch recycled water piping along city streets and ROW's to provide 809 acre-feet per year of recycled water to a proposed power plant, parks, medians, and vineyards. The project also involves construction of a new recycled water pump station.
	Project Partners	Agency / Organization Name			East Bay Regional Park District, U.S. Fish and Wildlife Service, CA Department of Fish and Game	
Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	Additional: Use of groundwater is less costly than treated surface water, and uses less chemicals and power.	-	Additional: Reducing leaks in water mains and laterals improves delivery efficiency and conserves water.	-	Primary: Reduces the amount of water that needs treatment and delivery for potable uses.
	Implement projects that have region-wide benefits	Additional: Understanding the groundwater basin yield will benefit the communities of Oakley, Bethel Island, Knightsen, Brentwood and Discovery Bay.	Additional: Reduced use of Delta Water has regional benefits	Additional: Project is proposed to cover the areas of Brentwood, Oakley, Antioch, Discovery Bay and Pittsburg.	Additional: The HCP/NCCP is a regional project that when implemented will create a preserve system that will provide regional environmental benefits as well as recreation opportunities for people in the region.	Additional: Benefits all of California by reducing demand for Delta water supplies.
Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	Additional: Groundwater is not impacted by levee breaches that severely affect delta water quality.	Primary: Reduced use of Delta Water has regional benefits	-	-	-
	Increase water conservation and water use efficiency	-	-	Primary: Reducing leaks in water mains and laterals improves delivery efficiency and conserves water.	-	Additional: Allows potable supplies to be available for other potable uses.
	Increase water transfers	-	-	-	-	-
	Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	-
	Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	Additional: Determining subbasin yield is critical to identifying the maximum amount of groundwater that can be relied upon for the District's conjunctive use program.	Additional: Reduced use of Delta Water has regional benefits	-	-	-
Water Quality and Related Regulations	Protect/improve source water quality	Additional: Over drafting a groundwater basin would damage groundwater quality.	Additional: RO water has higher quality	-	Additional: Headwaters of creeks in the ECC IRWMP area are within the high priority acquisition zones identified in the plan. Protecting these areas helps preserve water quality in the Delta.	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality of the Delta.
	Maintain/improve regional treated drinking water quality	Additional: Over drafting a groundwater basin would damage groundwater quality.	Additional: RO water has higher quality	Additional: Reduces possibility of ground contaminants from entering into drinking water mains.	-	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality of the Delta thereby improving the water quality of the Delta for 23 million Californians.
	Maintain/improve regional recycled water quality	-	Additional: Higher drinking water quality improves wastewater available to improve recycled water quality.	-	-	-
	Increase understanding of groundwater quality and potential threats to groundwater quality	Primary: Subbasin yield is directly linked to groundwater quality.	-	-	-	-
	Meet current and future water quality requirements for discharges to the Delta	Additional: Groundwater quality impacts customer treated water quality which in turn impacts the quality of the water being discharged by the Ironhouse Sanitary District into the Delta.	-	-	-	Additional: Would decrease the amount of wastewater effluent discharged to the Delta.
	Limit quantity and improve quality of stormwater discharges to the Delta	-	-	-	-	-
Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	-	-	-	Primary: This project will protect watersheds and restore aquatic habitats within the IRWMP area.	-
	Minimize impacts to the Delta ecosystem and other environmental resources	-	-	-	Additional: This project will protect watersheds and restore aquatic habitats within the IRWMP area.	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta.
	Reduce greenhouse gas emissions	Additional: Energy required to pump groundwater uses 666 kWh/Mg less than treated surface water resulting in 237,793 CO2e lb/Mg less of Equivalent Carbon Dioxide.	-	Additional: Distribution and untreated water system losses waste power needed to pump water into distribution mains and keep pressure up. Less power utilized by the Districts will reduce greenhouse gasses.	-	-
	Provide better accessibility to waterways for subsistence fishing and recreation	-	-	-	-	-
Stormwater and Flood Management	Manage local stormwater	-	-	-	-	-
	Improve regional flood risk management	-	-	-	-	-

ECCC IRWMP Plan Objective(s) - Ranking Criteria #1

Project Name		Tracy Subbasin Safe Yield Analysis	Treatment of Brackish Groundwater	Leak Detection and Repair	Watershed and Habitat Protection/Restoration	Ironhouse Sanitary District Recycled Water Implementation - Phase B	
Sponsoring Agency / Organization		Diablo Water District	Diablo Water District	Diablo Water District/Contra Costa Water District	East Contra Costa County Habitat Conservancy District	Ironhouse Sanitary District	
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	Additional: DACs rely on groundwater in the basin area and will be involved with the basin yield analysis.	-	Additional: Part of the program will monitor and repair water mains in the Beacon West DAC community.	-	-	
	Increase awareness of water resources management issues and projects with the general public	Additional: Several mutual water companies and other small water systems rely on the basin as their only source of water and will be included in the public outreach portion of the project.	-	-	-	Additional: The project would provide recycled water for uses that currently use potable water which would address water resource management issues.	
	Please elaborate on any benefits that your project may provide outside of the stated objectives	-	-	-	-	-	
Program Preferences- Ranking Criteria #2	Resolves Water-Related Conflicts	-	-	-	Yes: Please see explanation in previous IRWMP docs that explain the relationship of the HCP/NCCP to CCWD's water allotment from the Delta.	Yes: Free up potable water for other uses.	
	Improve the state's water quality from source to tap	-	-	Yes: Leaks in water mains can be sources of contamination.	-	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta. Reduces the amount of wastewater effluent discharged to the Delta.	
	Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion	Yes: Overpumping could lead to seawater intrusion	-	-	-	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta.	
	Allow for the increase of water supplies and more efficient and flexible use of water resources	Yes: Understanding limits on groundwater basin yields will solidify actual groundwater pumping limits.	Yes: Treatment of brackish supplies provides greater flexibility of water resources.	Yes: Using less water from the Delta will provide for an increase of water supplies and a more efficient use of resources.	Yes: Please see explanation in previous IRWMP docs that explain the relationship of the HCP/NCCP to CCWD's water allotment from the Delta.	Yes: Free up potable water for other uses.	
	Improve the ecological health of the Bay-Delta watershed	-	-	Yes: Using less water from the Delta will provide for an increase of water supplies that will improve the ecological health of the Bay-Delta.	Yes: Preservation, restoration and management of lands within the Bay-Delta watershed will improve the quality of water that runs off into the Bay-Delta.	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta. Reduces the amount of wastewater effluent discharged to the Delta.	
	Effectively Integrate Water Management with Land Use Planning	-	-	-	Yes: The HCP/NCCP is a regional plan for permitting development, mitigating that development and above those base mitigation requirements, contributing to the recovery of special status species in the region.	-	
Statewide Priorities - Ranking Criteria #3	Drought Preparedness	Yes	Yes	Yes	-	Yes	
	Use and Reuse Water More Efficiently	-	Yes	Yes	-	Yes	
	Climate Change Response Actions	-	-	Yes	-	-	
	Expand Environmental Stewardship	-	-	Yes	-	Yes	
	Practice Integrated Flood Management	-	-	-	-	-	
	Protect Surface Water and Groundwater Quality	Yes	-	-	-	Yes	
	Improve Tribal Water and Natural Resources	-	-	-	-	-	
	Ensure Equitable Distribution of Benefits	-	-	-	-	-	
Resource Management Strategies - Diversification Considerations	Reduce Water Demand	Agricultural Water Use Efficiency	-	-	-	-	
		Urban Water Use Efficiency	-	-	Yes	-	Yes
		Conveyance - Delta	-	-	-	-	-
	Improve Operational Efficiency	Conveyance - Regional / Local	-	-	-	-	-
		System Reoperation	-	-	-	-	-
		Water Transfers	-	Yes	-	-	-
	Increase Water Supply	Conjunctive Management & Groundwater Storage	Yes	Yes	-	-	-
		Desalination	-	Yes	-	-	-
		Precipitation Enhancement	-	-	-	-	-
		Recycled Municipal Water	-	-	-	-	Yes
	Improve Water Quality	Surface Storage - CALFED	-	-	-	-	-
		Surface Storage - Regional / Local	-	-	-	-	-
		Drinking Water Treatment and Distribution	-	Yes	Yes	-	-
	Improve Flood Management	Groundwater Remediation / Aquifer Remediation	-	-	-	-	-
		Matching Quality to Use	-	-	Yes	-	-
		Pollution Prevention	-	-	-	-	-
		Salt and Salinity Management	Yes	Yes	-	-	-
	Practice Resources Stewardship	Urban Runoff Management	-	-	-	-	-
		Flood Risk Management	-	-	-	-	-
		Agricultural Lands Stewardship	-	-	-	Yes	-
		Economic Incentives (Loans, Grants and Water Pricing)	-	-	-	-	-
		Ecosystem Restoration	-	-	-	Yes	-
		Forest Management	-	-	-	-	-
		Recharge Area Protection	-	-	-	-	-
Water-Dependent Recreation		-	-	-	-	-	
Watershed Management	-	-	-	Yes	-		
Other Strategies	Crop Idling for Water Transfers	-	-	-	-	-	
	Dehumidification or Atmospheric Pressure Desalination	-	-	-	-	-	
	Fog Collection	-	-	-	-	-	
	Irrigated Land Retirement	-	-	-	-	-	
	Rainfed Agriculture	-	-	-	-	-	
Waterbag Transport / Storage Technology	-	-	-	-	-		
Project Phases	Planning	Project Status	In Progress	Not Started	Completed	In Progress	Completed
		Est. Completion Date	9/1/2013	9/1/2013	9/1/2012	1/1/2014	5/1/2012
	Feasibility	Project Status	Not Started	Not Started	Completed	Not Started	In Progress
		Est. Completion Date	6/1/2013	9/1/2013	9/1/2012	1/1/2014	1/1/2014
	Environmental Assess.	Project Status	Not Started	Not Started	Not Started	Not Started	Not Started
		Est. Completion Date	9/1/2013	9/1/2014	9/1/2013	1/1/2014	9/1/2012
	Pre-Project Monitoring	Project Status	Not Started	Not Started	Not Applicable	Not Started	Not Started
		Est. Completion Date	9/1/2013	9/1/2013	-	6/1/2014	9/1/2012
	Design	Project Status	Not Started	Not Started	Not Started	Not Started	Not Started
		Est. Completion Date	9/1/2013	9/1/2014	6/1/2013	7/1/2014	9/1/2012

Project Name	Tracy Subbasin Safe Yield Analysis	Treatment of Brackish Groundwater	Leak Detection and Repair	Watershed and Habitat Protection/Restoration	Ironhouse Sanitary District Recycled Water Implementation - Phase B		
Sponsoring Agency / Organization	Diablo Water District	Diablo Water District	Diablo Water District/Contra Costa Water District	East Contra Costa County Habitat Conservancy	Ironhouse Sanitary District		
Project Status - Implementation	Environmental Permits	Project Status: Not Started Est. Completion Date: 9/1/2013	Project Status: Not Started Est. Completion Date: 9/1/2015	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Started Est. Completion Date: 7/1/2014	Project Status: Not Started Est. Completion Date: 9/1/2012	
	Building/Other Permits	Project Status: Not Started Est. Completion Date: 9/1/2013	Project Status: Not Started Est. Completion Date: 9/1/2015	Project Status: Not Applicable Est. Completion Date: -	Project Status: Not Started Est. Completion Date: 7/1/2014	Project Status: Not Started Est. Completion Date: 9/1/2012	
	Construction/Implementation	Project Status: Not Started Est. Completion Date: 9/1/2015	Project Status: Not Started Est. Completion Date: 9/1/2016	Project Status: Not Started Est. Completion Date: 6/1/2014	Project Status: Not Started Est. Completion Date: 11/1/2014	Project Status: Not Started Est. Completion Date: 9/1/2012	
	Post Project Monitoring	Project Status: Not Started Est. Completion Date: 12/1/2016	Project Status: Not Started Est. Completion Date: 9/1/2017	Project Status: Not Started Est. Completion Date: 7/1/2014	Project Status: Not Started Est. Completion Date: 12/1/2015	Project Status: Not Started Est. Completion Date: 9/1/2012	
	Environmental Permits	Describe any required: Unknown at this time	Describe any required: Unknown at this time	Describe any required: Project will fall under CEQA Categorical Exemption.	Describe any required: US Army Corps, DFG streambed alteration agreement, USFWS, 401 Certification,	Describe any required: -	
	Environmental Permits	Status?: -	Status?: -	Status?: Yet to be adopted and NOD filed.	Status?: Not started	Status?: -	
	Other Permits (e.g., Encroachment, Building)	Describe any required: -	Describe any required: Unknown at this time	Describe any required: Standard City of Oakley Encroachment permits	Describe any required: Contra Costa Grading Permit	Describe any required: -	
	Other Permits (e.g., Encroachment, Building)	Status?: -	Status?: -	Status?: Will be secured just prior to construction	Status?: Not started	Status?: -	
	Project's schedule Available?	-	-	-	-	-	
	Describe any data gaps or uncertainties	-	Unknown at this time	None. Standard Leak detection and repair methods will be used.	-	-	
	Project Costs - Implementation	Land Purchase / Easement: \$ 200,000	Design: \$ 150,000	Environmental Review: \$ 50,000	Permits: \$ 50,000	Construction / Implementation: \$ 500,000	Environmental Mitigation / Compliance: \$ 50,000
	Project Costs - Implementation	Other: Unknown	Total Project Cost: \$ 1,150,000	Cost Estimate Available?: -	Other: Unknown	Total Project Cost: \$ 1,460,000	Cost Estimate Available?: -
Project Funding - Implementation	Agency funds or in kind contributions: Amount \$ 150,000	Existing grants: Amount \$ -	Currently unfunded: \$ 1,000,000	Agency funds or in kind contributions: Regional Assessments \$ 1,000,000	Existing grants: State Grants \$ -	Currently unfunded: \$ 1,425,000	
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECC region? Yes: DACs utilize the same groundwater basin as the project area	What Community(ies)? Beacon West Bethel Island	How were the DACs included in the planning or development of the project? Not Yet	Does (will) the project help to address any environmental justice concerns? -	Does (will) the project create/raise any environmental justice concerns? -	Does (will) the project reduce greenhouse gas emissions? -	
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region? -	Does (will) the project reduce greenhouse gas emissions? -	Yes: Climate change will be addressed during environmental review.	Yes: Repairing watermain and lateral leaks in DAC areas will improve supply and water quality for that community.	Yes: Fewer watermain and lateral leaks reduce the power required for pumping and thus greenhouse gases which affects climate change.	Yes: Yes. The HCP/NCCP considered climate change in the Plan and associated environmental documents.	

Project Name	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District Recycled Water Implementation -Phase A	Oakley Sewers	Salinity Reduction	Septage Receiving Station			
Sponsoring Agency / Organization	Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District			
Project ID #	44	45	46	47	48			
Project Type	Infrastructure - Wastewater / Recycled Water	Infrastructure - Wastewater / Recycled Water	Infrastructure - Wastewater / Recycled Water	Other	Infrastructure - Wastewater / Recycled Water			
Describe the project	The project involves installation of 33,000 feet of 12-inch, 8-inch and 6-inch recycled water piping along city streets to provide 377 acre-feet per year of recycled water to parks and medians. The project also involves construction of a new recycled water pump station.	The project involves installation of 65,800 feet of 16-inch, 10-inch and 6-inch recycled water piping along city streets to provide 695 acre-feet per year of recycled water to parks, medians, and vineyards. The project also involves construction of a new recycled water pump station.	The project involves sewerage areas in the City of Oakley currently on septic systems.	Salinity management is of utmost importance in the Central Valley and our region. To assist Ironhouse Sanitary District meet salinity requirements imposed by the Central Valley Regional Water Quality Control Board a rebate program to remove discharging water softeners from homes and businesses will be established.	The project involves construction of a septage receiving facility at Ironhouse Sanitary District's Water Recycling Facility. The purpose is to provide a place for septage haulers to dispose of their wastes at a local facility.			
Project Partners	Agency / Organization Name			Diablo Water DistrictOakley Generating Station				
ECCC IRWM Plan Objectives - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	Primary: Reduces the amount of water that needs treatment and delivery for potable uses.	Primary: Reduces the amount of water that needs treatment and delivery for potable uses.	-	Additional: Reducing salinity in the wastewater influent improves the effluent quality providing the following benefits: Better quality effluent for recycled water Improved Delta water quality	Primary: A septic receiving station at the ISD Water Recycling facility will provide a more local means for discharge of septic waste, which means less travel time for the septic hauler.	
		Implement projects that have region-wide benefits	Additional: Benefits all of California by reducing demand for Delta water supplies.	Additional: Benefits all of California by reducing demand for Delta Water supplies.	-	Additional: The Delta is a region wide resource. Reducing salinity will improve the water quality in the Delta and provide a better wastewater effluent for recycled water users.	Additional: A septic receiving station at the ISD Water Recycling facility will provide a more local means for discharge of septic waste, which means less travel time for the septic hauler.	
	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	-	-	-	-	-	-
		Increase water conservation and water use efficiency	Additional: Allows potable supplies to be available for other potable uses.	Additional: Allows potable supplies to be available for other potable uses.	-	-	-	-
		Increase water transfers	-	-	-	-	-	-
		Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	-	-	-
		Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-	-
	Water Quality and Related Regulations	Protect/improve source water quality	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality of the Delta.	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality of the Delta.	Primary: Groundwater quality will be improved.	Primary: Less salinity in the wastewater effluent means better source water quality in the Delta.	-	-
		Maintain/improve regional treated drinking water quality	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality for 23 million Californians.	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality of the Delta for 23 million Californians.	-	Additional: Less salinity in the wastewater effluent means better source water quality in the Delta.	-	-
		Maintain/improve regional recycled water quality	-	-	-	Additional: Lower salinity levels will improve recycled water quality opening up more uses for the recycled water.	-	-
		Increase understanding of groundwater quality and potential threats to groundwater quality	-	-	-	-	-	-
		Meet current and future water quality requirements for discharges to the Delta	Additional: Would decrease the amount of wastewater effluent discharged to the Delta.	Additional: Would decrease the amount of wastewater effluent discharged to the Delta.	-	Additional: Ironhouse Sanitary District has very stringent salinity requirements for discharge into the San Joaquin River. Lower the salinity of the influent will assist ISD in meeting the discharge requirements	-	-
		Limit quantity and improve quality of stormwater discharges to the Delta	-	-	-	-	-	-
	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	-	-	-	Additional: Lower salinity in the effluent discharged to the Delta will enhance and restoring habitat present in the Delta.	-	-
		Minimize impacts to the Delta ecosystem and other environmental resources	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta.	Additional: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta.	-	Additional: Lower salinity in the effluent discharged to the Delta will enhance and restoring habitat present in the Delta.	-	-
		Reduce greenhouse gas emissions	-	-	-	-	-	-
		Provide better accessibility to waterways for subsistence fishing and recreation	-	-	-	-	-	-
	Stormwater and Flood Management	Manage local stormwater	-	-	-	-	-	-
		Improve regional flood risk management	-	-	-	-	-	-

Project Name		Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District Recycled Water Implementation -Phase A	Oakley Sewers	Salinity Reduction	Septage Receiving Station
Sponsoring Agency / Organization		Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	-	-	-	-	-
	Increase awareness of water resources management issues and projects with the general public	Additional: The project would provide recycled water for uses that currently use potable water which would address water resource management issues.	Additional: The project would provide recycled water for uses that currently use potable water which would address water resource management issues.	-	Additional: Through ISD's newsletters the general public has been informed on why salinity reduction is important. By implementing the rebate program the public will become aware of how important it is to reduce salinity in wastewater influent.	-
	Please elaborate on any benefits that your project may provide outside of the stated objectives	-	-	-	-	-
Program Preferences- Ranking Criteria #2	Resolves Water-Related Conflicts	Yes: Free up potable water for other uses.	Yes: Free of potable water for other uses.	-	Yes: The project will provide better quality wastewater effluent discharged to the Delta.	-
	Improve the state's water quality from source to tap	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta. Reduces the amount of wastewater effluent discharged to the Delta.	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta. Reduces the amount of wastewater effluent discharged to the Delta.	Yes: Project will improve groundwater quality.	Yes: The project will provide better quality wastewater effluent discharged to the Delta.	-
	Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta.	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta.	-	-	-
	Allow for the increase of water supplies and more efficient and flexible use of water resources	Yes: Frees up potable water for other uses.	Yes: Free of potable water for other uses.	Yes: Improving groundwater quality will enhance the groundwater used for potable water use.	Yes: A decrease in salinity in source water will allow for more uses.	-
	Improve the ecological health of the Bay-Delta watershed	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta. Reduces the amount of wastewater effluent discharged to the Delta.	Yes: Reduces the amount of water that is taken from the Delta thereby improving the water quality and ecosystem of the Delta. Reduces the amount of wastewater effluent discharged to the Delta.	-	Yes: A lower salinity effluent will improve the ecological health of the Delta.	-
	Effectively Integrate Water Management with Land Use Planning	-	-	-	-	-
Statewide Priorities - Ranking Criteria #3	Drought Preparedness	Yes	Yes	Yes	Yes	-
	Use and Reuse Water More Efficiently	Yes	Yes	-	Yes	-
	Climate Change Response Actions	-	-	-	-	-
	Expand Environmental Stewardship	Yes	Yes	-	Yes	-
	Practice Integrated Flood Management	-	-	-	-	-
	Protect Surface Water and Groundwater Quality	Yes	Yes	Yes	Yes	-
	Improve Tribal Water and Natural Resources	-	-	-	-	-
	Ensure Equitable Distribution of Benefits	-	-	-	-	-
Resource Management Strategies - Diversification Considerations	Reduce Water Demand	Agricultural Water Use Efficiency	-	-	-	-
		Urban Water Use Efficiency	Yes	Yes	-	-
		Conveyance – Delta	-	-	-	-
		Conveyance – Regional / Local	-	-	-	Yes
	Improve Operational Efficiency	System Reoperation	-	-	-	-
		Water Transfers	-	-	-	-
		Conjunctive Management & Groundwater Storage	-	-	-	-
		Desalination	-	-	-	-
	Increase Water Supply	Precipitation Enhancement	-	-	-	-
		Recycled Municipal Water	Yes	Yes	-	Yes
		Surface Storage - CALFED	-	-	-	-
		Surface Storage - Regional / Local	-	-	-	-
	Improve Water Quality	Drinking Water Treatment and Distribution	-	-	-	-
		Groundwater Remediation / Aquifer Remediation	-	-	-	-
		Matching Quality to Use	-	-	-	-
		Pollution Prevention	-	-	Yes	-
	Improve Flood Management	Salt and Salinity Management	-	-	-	Yes
		Urban Runoff Management	-	-	-	-
	Practice Resources Stewardship	Flood Risk Management	-	-	-	-
		Agricultural Lands Stewardship	-	-	-	-
Economic Incentives (Loans, Grants and Water Pricing)		-	-	-	-	
Ecosystem Restoration		-	-	-	-	
Forest Management		-	-	-	-	
Recharge Area Protection		-	-	-	-	
Water-Dependent Recreation		-	-	-	-	
Watershed Management		-	-	-	-	
Other Strategies	Crop Idling for Water Transfers	-	-	-	-	
	Dew Evaporation or Atmospheric Pressure Desalination	-	-	-	-	
	Fog Collection	-	-	-	-	
	Irrigated Land Retirement	-	-	-	-	
	Rainfed Agriculture	-	-	-	-	
	Waterbag Transport / Storage Technology	-	-	-	-	
Planning	Project Status	Completed	Completed	Not Started	In Progress	In Progress
	Est. Completion Date	5/1/2012	5/1/2012	9/1/2012	1/1/2012	9/1/2012
Feasibility	Project Status	In Progress	In Progress	Not Started	In Progress	In Progress
	Est. Completion Date	1/1/2014	1/1/2014	9/1/2012	6/1/2013	9/1/2012
Environmental Assess.	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Started
	Est. Completion Date	9/1/2012	9/1/2012	9/1/2012	-	9/1/2012
Pre-Project Monitoring	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Started
	Est. Completion Date	9/1/2012	9/1/2012	9/1/2012	-	9/1/2012
Design	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Started
	Est. Completion Date	9/1/2012	9/1/2012	9/1/2012	-	9/1/2012

Project Name	Ironhouse Sanitary District Recycled Water Implementation - Phase C	Ironhouse Sanitary District Recycled Water Implementation -Phase A	Oakley Sewers	Salinity Reduction	Septage Receiving Station		
Sponsoring Agency / Organization	Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District	Ironhouse Sanitary District		
Project Status - Implementation	Environmental Permits	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Applicable
		Est. Completion Date	9/1/2012	9/1/2012	9/1/2012	-	-
	Building/Other Permits	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Applicable
		Est. Completion Date	9/1/2012	9/1/2012	9/1/2012	-	-
	Construction / Implementation	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Started
		Est. Completion Date	9/1/2012	9/1/2012	9/1/2012	-	9/1/2012
	Post Project Monitoring	Project Status	Not Started	Not Started	Not Started	Not Applicable	Not Started
		Est. Completion Date	9/1/2012	9/1/2012	9/1/2012	-	9/1/2012
	Environmental Permits	Describe any required	-	-	-	-	None.
		Status?	-	-	-	-	-
	Other Permits (e.g., Encroachment, Building)	Describe any required	-	-	-	-	-
		Status?	-	-	-	-	-
Project's schedule Available?	-	-	-	-	-	-	
Describe any data gaps or uncertainties	-	-	-	-	-	-	
Project Costs - Implementation	Land Purchase / Easement	Unknown	Unknown	Unknown	NA	NA	
	Planning	Unknown	Unknown	Unknown	NA	Unknown	
	Design	\$ 2,559,000	\$ 2,240,800	\$ 1,240,000	NA	Unknown	
	Environmental Review	Unknown	Unknown	Unknown	NA	NA	
	Permits	Unknown	Unknown	Unknown	NA	NA	
	Construction / Implementation	\$ 9,254,000	\$ 8,003,000	\$ 4,960,000	\$ 2,500,000	\$ 500,000	
	Environmental Mitigation / Compliance	Unknown	Unknown	Unknown	NA	NA	
	Other	Unknown	Unknown	Unknown	NA	NA	
	Total Project Cost	\$ 11,813,000	\$ 10,243,800	\$ 6,200,000	\$ 2,500,000	\$ 500,000	
	Cost Estimate Available?	-	-	-	-	-	
Project Funding - Implementation	Agency funds or in kind contributions	Amount	\$ -	\$ -	\$ -	\$ -	
		Regional Assessments	-	-	-	-	
		Developmental Fees	-	-	-	-	
		User Rates	-	-	-	Yes	
		User Fees	-	-	-	-	
		Bonded Debt Financing	-	-	-	-	
		Property Tax Contributions	-	-	-	-	
		Other	-	-	-	-	
		Existing grants	Amount	\$ -	\$ -	\$ -	\$ -
			State Grants	-	-	-	-
State funding for flood control / flood prevention projects	-		-	-	-		
Local Grants	-		-	-	-		
Federal Grants	-		-	-	-		
Currently unfunded	\$ 11,813,000	\$ 10,243,800	\$ 6,200,000	\$ 2,500,000	\$ 500,000		
Economic Feasibility Analysis Available?	-	-	-	-	-		
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECC region?	-	-	-	-	-	
	What Community(ies)?	-	-	-	-	-	
	How were the DACs included in the planning or development of the project?	-	-	-	-	-	
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	-	-	-	-	-	
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-	
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	-	-	-	-	-	
	Does (will) the project reduce greenhouse gas emissions?	-	-	-	-	-	

Project Name	Wastewater Storage Pond Management	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Jersey Island Cut-off Levees	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Marsh Creek Delta Restoration Project			
Sponsoring Agency / Organization	Ironhouse Sanitary District	Lake Alhambra Property Owners Association	Reclamation District 830	Reclamation District 830	Reclamation District 830			
Project ID #	55	49	50	51	52			
Project Type	Infrastructure - Wastewater / Recycled Water	Infrastructure - Stormwater / Flood Management	Infrastructure - Water / Water Quality	Infrastructure - Stormwater / Flood Management	Environmental (e.g., habitat)			
Describe the project	Create an earthened berm within a 17 acre wastewater storage pond to create a smaller area for wastewater storage. This will minimize clean-up and odors when the pond is used during small events. For large flow events the entire storage pond will still be available for usage.	Lake Alhambra is a residential lake completed in the late 1950's as part of a housing subdivision that includes 240 single family homes in north central Antioch. The lake is at the end of E Antioch Creek that drains an area of 7,000 acres from the foothills of Mt. Diablo to the Delta. A study done around 1981 indicated that approximately 50,000 cubic yards of sediment had been deposited in the lake and the depth of the lake had gone from 10.5 to 7 or 8 feet as a result. According to the Lake Alhambra POA an equal amount has been deposited since for a total of 100,000 cubic yards of sediment deposited in the lake since its completion. The lake depth is now at 3 or 4 feet. This drainage area has experienced growth of light industrial and residential land use resulting in reduced permeable area, increased stormwater flow, and sediment from poor erosion controls. The project involves dredging to remove sediment to increase lake capacity (flood/sediment control) and restore beneficial uses.	The project is construction of two cut-off levees one approximately 3,000 feet and the other approximately 3,000 feet on Jersey Island to divide the island into three parts. Jersey Island is one of the 8 western island critical to protection of water quality for 23 million Californians. Construction of these levees would limit the amount of salt water intrusion into the drinking water supply.	The project entails raising and widening a levee section on Jersey Island from Station 333+00 to 470+00 for levee stability to prevent flooding of the island.	The Marsh Creek Delta Restoration Project would create up to 100 acres of marsh, riparian, and upland habitats on lands adjacent to the Dutch Slough Tidal Marsh Restoration Project.			
Project Partners	Agency / Organization Name	Contra Costa County Flood Control and Water Conservation District	City of Antioch/Contra Costa Flood Control and Water Conservation District	Ironhouse Sanitary District	Ironhouse Sanitary District			
ECCC IRWM Plan Objectives - Ranking Criteria #1	Funding for Water-Related Planning and Implementation	Increase regional cost efficiencies in treatment and delivery of water, wastewater, and recycled water	-	-	-	Additional: Protecting Jersey Island from flooding with help maintain water quality in the Delta for 23 million Californians.	-	
		Implement projects that have region-wide benefits	Additional: Dirt from the Upper Sand Creek Detention Basin project will be used for the Wastewater Storage Pond Management project.	-	-	-	Additional: Protecting Jersey Island from flooding with help maintain water quality in the Delta for 23 million Californians.	Additional: Creation of up to 100 acres of marsh, riparian, and upland habitats will improve the Delta which benefit the region.
	Water Supply	Pursue water supplies that are less subject to Delta influences and drought, such as recycled water and desalination	-	-	-	-	-	-
		Increase water conservation and water use efficiency	-	-	-	-	-	-
		Increase water transfers	-	-	-	-	-	-
		Pursue regional exchanges for emergencies, ideally using existing infrastructure	-	-	-	Additional: Construction of the levees would minimize the amount of salt water intrusion into the drinking water supply for 23 million Californians in the event of a levee failure on Jersey Island.	-	-
		Enhance understanding of how groundwater fits into the water portfolio and investigate groundwater as a regional source (e.g. conjunctive use)	-	-	-	-	-	-
	Water Quality and Related Regulations	Protect/improve source water quality	Additional: Eliminates discharge of non-compliant wastewater discharge to the San Joaquin River and land application areas.	-	-	Primary: Construction of the levees would minimize the amount of salt water intrusion into the drinking water supply for 23 million Californians in the event of a levee failure on Jersey Island.	Primary: Protecting Jersey Island from flooding with help maintain water quality in the Delta for 23 million Californians.	-
		Maintain/improve regional treated drinking water quality	-	-	-	Additional: Construction of the levees would minimize the amount of salt water intrusion into the drinking water supply for 23 million Californians in the event of a levee failure on Jersey Island.	Additional: Protecting Jersey Island from flooding with help maintain water quality in the Delta for 23 million Californians.	-
		Maintain/improve regional recycled water quality	-	-	-	-	Additional: Protecting Jersey Island from flooding with help maintain water quality in the Delta for 23 million Californians. The salinity in the Delta has a direct correlation to quality of recycled water provided to end users.	-
		Increase understanding of groundwater quality and potential threats to groundwater quality	-	-	-	-	-	-
		Meet current and future water quality requirements for discharges to the Delta	Primary: Eliminates discharge of non-compliant wastewater discharge to the San Joaquin River and land application areas.	Additional: The capacity of the lake has been reduced by 50% decreasing the sediment removal capability of the lake by 50% and increasing the sediment load to the Delta. Other projects upstream and downstream should also be considered to reduce sediment to lake.	-	-	-	-
		Limit quantity and improve quality of stormwater discharges to the Delta	-	Additional: Removing sediment will increase the lake capacity by 50% decreasing the sediment load to the Delta and increasing water retention and infiltration. Other projects upstream and downstream should also be considered.	-	-	-	-
	Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources	Enhance and restore habitat in the Delta and connected waterways	Additional: Eliminates discharge of non-compliant wastewater discharge to the San Joaquin River and land application areas.	Additional: The capacity of the lake has been reduced >50% decreasing sediment removal capability of the lake >50% and increasing sediment load to the Delta. Because the lake is at the end of the watershed it is the last filtration mechanism before the delta.	Additional: Construction of the levees would allow intentional flooding of a portion of Jersey Island. This flooded portion could be used for habitat restoration.	Additional: Protecting Jersey Island from flooding with help maintain water quality in the Delta and help to maintain habitat in the Delta.	Primary: Restore mosca habitats. Restore tidal marsh. Provide habitat for a broad range of sensitive species. Provide up to 600 thousand cubic yards of material for the Dutch Slough Property. Restore a complex delta system at the mouth of Marsh Creek.	-
		Minimize impacts to the Delta ecosystem and other environmental resources	Additional: Eliminates discharge of non-compliant wastewater discharge to the San Joaquin River and land application areas.	-	-	Additional: Protecting Jersey Island from flooding with help maintain water quality in the Delta and help to maintain the Delta ecosystem.	-	
		Reduce greenhouse gas emissions	-	-	Additional: Construction of the levees would allow intentional flooding of a portion of Jersey Island. This flooded portion would reduce greenhouse gases by dequistering carbon production from peat oxidation.	-	-	
		Provide better accessibility to waterways for subsistence fishing and recreation	-	-	-	-	-	
	Stormwater and Flood Management	Manage local stormwater	-	Primary: Lake Alhambra has lost >50% of its capacity due to siltation w/ similar decrease in flood control. With development stormwater flows will increase. Because the lake is at the end of the watershed it is the last filtration mechanism before the delta.	-	-	-	
		Improve regional flood risk management	-	Additional: Removing sediment increases capacity of the lake. Storm flows are held in the lake then slowly released to the marsh area downstream of the lake and then to the Delta. Lake Alhambra protects residences in the flat downstream area of the watershed.	Additional: Construction of the levees would prevent complete flooding a critical western Delta island.	Additional: Maintaining the levees on Jersey Island will help prevent the flooding of Jersey Island.	-	

Project Name		Wastewater Storage Pond Management	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Jersey Island Cutoff Levees	Jersey Island Levee Raising and Widening from Stations 333+00 to 470+00	Marsh Creek Delta Restoration Project	
Sponsoring Agency / Organization		Ironhouse Sanitary District	Lake Alhambra Property Owners Association	Reclamation District 830	Reclamation District 830	Reclamation District 830	
Water-Related Outreach	Collaborate with and involve DACs in the IRWM process	-	Additional: The Lake Alhambra subdivision is a DAC.	-	-	-	
	Increase awareness of water resources management issues and projects with the general public	-	-	Additional: Construction of the levees would minimize the amount of salt water intrusion into the drinking water supply for 23 million Californians in the event of a levee failure on Jersey Island.	-	Additional: The project once completed will be open to the public for viewing of the created habitat.	
	Please elaborate on any benefits that your project may provide outside of the stated objectives	-	The aesthetics of the lake have been deteriorated by the presence of shallow sediment that is at the surface in many areas. The beneficial uses have been severely impacted. The shallower water is also heated to higher temperatures resulting in increased algal growth rates (and likely mosquitoes and other potential vectors) requiring increased maintenance by the POA. The presence of sediment and shallower lake bottom has also reduced the recreational benefits of the lake.	-	-	-	
Program Preferences - Ranking Criteria #2	Resolves Water-Related Conflicts	-	Yes: The POA has been discussing this issue with the City and the Flood Control (and litigation). The POA believes the City and Flood Control Agency have allowed or caused the deposition of sediment and impairment to the lake and should be responsible.	-	Yes: Protecting Jersey Island from flooding with help maintain water quality in the Delta for 23 million Californians.	-	
	Improve the state's water quality from source to tap	Yes: Eliminates discharge of non-compliant wastewater discharge to the San Joaquin River and land application areas.	Yes: Reduce the sediment load to the Delta which is a surface water drinking supply. Because the lake is at the end of the watershed it is the last filtration mechanism before the delta. Sediment and contaminants are settled out and retained in the lake.	Yes: Provides water supply protection and reliability from a levee failure in the western Delta..	Yes: Protecting Jersey Island from flooding with help maintain water quality in the Delta for 23 million Californians.	-	
	Protect water supplies needed for ecosystems, cities, industry and farms by reducing the threat of levee failures that would lead to seawater intrusion	-	-	Yes: Provides water supply protection and reliability from a levee failure in the western Delta. Also a portion of the island could intentionally flooded which could provide	Yes: Protecting Jersey Island from flooding with help maintain water quality in the Delta and help to maintain the Delta ecosystem.	-	
	Allow for the increase of water supplies and more efficient and flexible use of water resources	-	-	Yes: In the event a levee fails on Jersey Island the water supply amount available for use would be impacted, if the cut-off levees were constructed a less amount of water supply would be impacted.	-	-	
	Improve the ecological health of the Bay-Delta watershed	Yes: Eliminates discharge of non-compliant wastewater discharge to the San Joaquin River and land application areas.	Yes: Reduce the sediment load to the Delta. Because the lake is at the end of the watershed it is the last filtration mechanism before the delta. Sediment and contaminants are settled out and retained in the lake.	Yes: If the cut-off levees were installed and a portion of Jersey Island was intentionally flood the flooded area could provide habitat restoration, help with subsidence reversal and provide the ability to sequester carbon production from peat oxidation.	Yes: Protecting Jersey Island from flooding with help maintain water quality in the Delta and help to maintain the Delta ecosystem.	Yes: Restore mosaic habitats. Restore tidal marsh. Provide habitat for a broad range of sensitive species. Provide up to 600 thousand cubic yards of material for the Dutch Slough Property. Restore a complex delta system at the mouth of Marsh Creek.	
Effectively integrate Water Management with Land Use Planning	-	Yes: Land use has exceeded the capacity of the stormwater system. The sediment load is too high and the current system is unsustainable. Upstream and downstream measures need to be considered to stop sediment depositing in the lake (not POA controlled).	-	-	-		
Statewide Priorities - Ranking Criteria #3	Drought Preparedness	-	-	Yes	-	-	
	Use and Reuse Water More Efficiently	-	-	-	-	-	
	Climate Change Response Actions	-	Yes	-	-	-	
	Expand Environmental Stewardship	-	Yes	Yes	-	Yes	
	Practice Integrated Flood Management	-	-	Yes	Yes	-	
	Protect Surface Water and Groundwater Quality	Yes	Yes	Yes	Yes	-	
	Improve Tribal Water and Natural Resources	-	-	-	-	Yes	
	Ensure Equitable Distribution of Benefits	-	Yes	-	-	-	
	Agricultural Water Use Efficiency	-	-	-	-	-	
Resource Management Strategies - Diversification Considerations	Reduce Water Demand	Urban Water Use Efficiency	-	-	-	-	
		Conveyance - Delta	-	-	-	-	
		Conveyance - Regional / Local	-	-	-	-	
	Improve Operational Efficiency	Water Transfers	-	-	-	-	-
		Conjunctive Management & Groundwater Storage	-	-	-	-	-
		Desalination	-	-	-	-	-
		Precipitation Enhancement	-	-	-	-	-
	Increase Water Supply	Recycled Municipal Water	-	-	-	-	-
		Surface Storage - CALFED	-	-	-	-	-
		Surface Storage - Regional / Local	-	-	-	-	-
		Drinking Water Treatment and Distribution	-	-	-	-	-
	Improve Water Quality	Groundwater Remediation / Aquifer Remediation	-	-	-	-	-
		Matching Quality to Use	-	-	-	-	-
		Pollution Prevention	Yes	-	-	-	-
		Salt and Salinity Management	-	-	Yes	Yes	-
		Urban Runoff Management	-	Yes	-	-	-
	Improve Flood Management	Flood Risk Management	-	Yes	Yes	Yes	-
		Agricultural Lands Stewardship	-	-	-	-	-
	Practice Resources Stewardship	Economic Incentives (Loans, Grants and Water Pricing)	-	-	-	-	-
		Ecosystem Restoration	-	Yes	-	-	Yes
		Forest Management	-	-	-	-	-
		Recharge Area Protection	-	-	-	-	-
		Water-Dependent Recreation	-	-	-	-	-
		Watershed Management	-	Yes	Yes	-	Yes
		Crop Idling for Water Transfers	-	-	-	-	-
	Other Strategies	Dewvaporation or Atmospheric Pressure Desalination	-	-	-	-	-
		Fog Collection	-	-	-	-	-
Irrigated Land Retirement		-	-	-	-	-	
Rainfed Agriculture		-	-	-	-	-	
Waterbag Transport / Storage Technology		-	-	-	-	-	
-		-	-	-	-	-	
Planning	Project Status	Completed	Not Started	Not Started	Completed	In Progress	
	Est. Completion Date	11/1/2012	12/1/2012	9/1/2012	9/1/2012	9/1/2012	
Feasibility	Project Status	Completed	Not Started	Not Started	Completed	Not Started	
	Est. Completion Date	11/1/2012	12/1/2012	9/1/2012	9/1/2012	9/1/2012	
Environmental Assess.	Project Status	Not Applicable	Not Started	Not Started	Completed	Not Started	
	Est. Completion Date	-	3/1/2013	9/1/2012	9/1/2012	9/1/2012	
Pre-Project Monitoring	Project Status	Not Applicable	Not Applicable	Not Started	Completed	Not Started	
	Est. Completion Date	-	-	9/1/2012	9/1/2012	9/1/2012	
Design	Project Status	Not Applicable	Not Started	Not Started	Completed	Not Started	
	Est. Completion Date	-	6/1/2013	9/1/2012	9/1/2012	9/1/2012	

Project Name	Wastewater Storage Pond Management	Lake Alhambra Sediment Mitigation Antioch Drainage Area 56	Jersey Island Cut off Levees	Jersey Island Levee Raising and Widening from Stations 339+00 to 470+00	Marsh Creek Delta Restoration Project			
Sponsoring Agency / Organization	Ironhouse Sanitary District	Lake Alhambra Property Owners Association	Reclamation District 830	Reclamation District 830	Reclamation District 830			
Project Status - Implementation	Environmental Permits	Project Status	Not Applicable	Not Started	Not Started	In Progress	Not Started	
		Est. Completion Date	-	3/1/2013	9/1/2012	9/1/2012	9/1/2012	9/1/2012
	Building/Other Permits	Project Status	Not Applicable	Not Applicable	Not Started	Not Applicable	Not Applicable	Not Started
		Est. Completion Date	-	-	9/1/2012	-	-	9/1/2012
	Construction / Implementation	Project Status	In Progress	Not Started	Not Started	Not Started	Not Started	Not Started
		Est. Completion Date	11/1/2012	9/1/2013	9/1/2012	9/1/2012	9/1/2012	9/1/2012
	Post Project Monitoring	Project Status	Not Applicable	Not Applicable	Not Started	Not Started	Not Started	Not Started
		Est. Completion Date	-	-	9/1/2012	9/1/2012	9/1/2012	9/1/2012
	Environmental Permits	Describe any required	-	potential permits include USACE 404, CDF&G 1602, and RWQCB water quality certification 401	Army Corp of Engineers	DF&G Streambed Alteration	-	-
		Status?	-	not started, funding is needed to begin.	Not started	-	-	-
	Other Permits (e.g., Encroachment, Building)	Describe any required	-	-	-	-	-	-
		Status?	-	-	-	-	-	-
Project's schedule Available?	-	-	-	-	-	-	-	
Describe any data gaps or uncertainties	-	-	Evaluating re-use or disposal options for the dredged and dewatered sediment is a major component of the project planning.	-	-	-	-	
Project Costs - Implementation	Land Purchase / Easement	NA	NA	NA	NA	Unknown	Unknown	
	Planning	NA	\$ 20,000	Unknown	NA	Unknown	Unknown	
	Design	NA	\$ 40,000	Unknown	NA	Unknown	Unknown	
	Environmental Review	NA	\$ 100,000	Unknown	NA	Unknown	Unknown	
	Permits	NA	\$ 40,000	Unknown	Unknown	Unknown	Unknown	
	Construction / Implementation	\$ 144,000	\$ 2,000,000	\$ 27,300,000	\$ 7,000,000	\$ 9,751,000	\$ 9,751,000	
	Environmental Mitigation / Compliance	NA	Unknown	Unknown	Unknown	Unknown	Unknown	
	Other	NA	NA	Unknown	NA	Unknown	Unknown	
	Total Project Cost	\$ 144,000	\$ 2,200,000	\$ 27,300,000	\$ 7,000,000	\$ 9,751,000	\$ 9,751,000	
	Cost Estimate Available?	-	-	-	-	-	-	
Project Funding - Implementation	Agency funds or in kind contributions	Amount	\$ 8,000	\$ -	\$ -	\$ -	\$ -	
		Regional Assessments	-	-	-	-	-	
		Developmental Fees	-	-	-	-	-	
		User Rates	-	-	-	-	-	
		User Fees	-	-	-	-	-	
		Bonded Debt Financing	-	-	-	-	-	
		Property Tax	-	-	-	-	-	
	Existing grants	Amount	\$ -	\$ -	\$ -	\$ -	\$ -	
		State Grants	-	-	-	-	-	
		State funding for flood control / flood prevention projects	-	-	-	-	-	
Local Grants	-	-	-	-	-			
Federal Grants	-	-	-	-	-			
Currently unfunded	\$ 136,000	\$ 2,200,000	\$ 27,300,000	\$ 7,000,000	\$ 9,751,000			
Economic Feasibility Analysis Available?	-	-	-	-	-			
Disadvantaged Communities (DACs)	Does (will) the project help to address critical water supply and water quality needs of DACs within the ECC region?	-	Yes: Reduce/eliminate impairment of quality Manage flood flows that threaten the habitability of dwellings	Yes: Provides water supply protection and reliability for 23 million Californians some of which are from disadvantaged communities.	-	-		
	What Community(ies)?	-	Lake Alhambra	Whatever communities that currently receive there potable water supply from the Delta.	-	-		
	How were the DACs included in the planning or development of the project?	-	The Lake Alhambra POA is submitting this project. The City of Antioch and Contra Costa Flood Control District are listed as partners but have not yet agreed to any form of collaboration.	No planning or development started.	-	-		
Environmental Justice - Ranking Criteria #4	Does (will) the project help to address any environmental justice concerns?	-	Yes: Sediments and contaminants from urban runoff within the 11.4 square mile East Antioch Creek drainage area are deposited in Lake Alhambra burdening the residents of this disadvantaged community (DAC). Sediment is from development and ongoing land use.	-	-	-		
	Does (will) the project create/raise any environmental justice concerns?	-	-	-	-	-		
Climate Change / Greenhouse Gas Emission Reduction - Ranking Criteria #4	Does (will) the project consider and/or address the effects of climate change on the region?	-	Yes: the project improves flood control. additional measures downstream should be considered to address sea level rise.	-	-	-		
	Does (will) the project reduce greenhouse gas emissions?	-	-	Yes: Sequestering carbon production from peat oxidation reduces greenhouse gas emissions.	-	-		

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Appendix F – ECCC Water Management Issues

The East County Water Management Association (ECWMA) explored water management issues and regional needs during deliberations in February 2012. Concerns were organized into six broad topics.

- Topic: Water Quality and Related Regulations
- Topic: Water Supply
- Topic: Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources
- Topic: Funding for Water-Related Planning and Implementation
- Topic: Stormwater and Flood Management
- Topic: Access to Resources

Following is a recap of the broad issues and needs.

Table F-1. Topic: Water Quality and Related Regulations

Water Management Issues	Regional Need
<ul style="list-style-type: none"> • Delta water quality impairment, especially due to future Delta-wide actions, such as Delta Plan/BDCP • Treated water quality impairment • Groundwater quality impairment • Stormwater runoff entering receiving water • Uncertainty in future regulations 	<ul style="list-style-type: none"> • Protection of Delta water quality (to the greatest extent possible), and options for managing raw water quality through storage/blending • Protection of public health • Protection of groundwater supply • Control of water quality of discharges entering the Delta • Anticipation of future regulations, with measures in place before enforcement of new regulations

Table F-2. Topic: Water Supply

Water Management Issues	Regional Need
<ul style="list-style-type: none"> • Unreliable surface water supply, especially in dry years and when considering future growth • Regional dependence on Delta water supplies, which are subject to future Delta-wide influences, such as the BDCP/Delta Plan, climate change, and/or potential levee failure 	<ul style="list-style-type: none"> • Reliable water supply in the future, even in dry years by expanding water portfolio • Regional self-sufficiency in water supply and reduced dependence on the Delta

Table F-3. Topic: Restoration and Enhancement of the Delta Ecosystem and Other Environmental Resources

Water Management Issues	Regional Need
<ul style="list-style-type: none"> • Fragile Delta ecosystem • Environmental impacts • Historical decline of wetland habitats • Lack of access to waterways for subsistence fishing and recreation 	<ul style="list-style-type: none"> • Balanced water management that enhances and restores Delta ecosystem habitat, minimizes negative impacts to the ecosystem, and mitigates unavoidable impacts • Reduced environmental impacts and a planning process that minimizes environmental impacts • Restoration of wetland habitats • Accessible waterways for subsistence fishing

Table F-4. Topic: Funding for Water-Related Planning and Implementation

Water Management Issues	Regional Need
<ul style="list-style-type: none"> • Lack of funding for planning and implementation because of slower development and reduced water usage (insufficient or variable revenue stream) • Competitive nature, limited available funds, and potential schedule delays associated with grant funding 	<ul style="list-style-type: none"> • Money for direct funding and grant match funding. • Grant funding, when appropriate, to support planning and project implementation.

Table F-5. Topic: Stormwater and Flood Management

Water Management Issues	Regional Need
<ul style="list-style-type: none"> • Localized flooding • Regional/catastrophic flooding due to levee failure 	<ul style="list-style-type: none"> • Limit occurrences of and damages from localized flooding • Delta levee integrity and an understanding of other factors that could induce regional flooding, such as climate change

Table F-6. Topic: Access to Resources

Water Management Issues	Regional Need
<ul style="list-style-type: none"> • Inequitable distribution of resources in the region 	<ul style="list-style-type: none"> • Equitable distribution of resources in the region

Appendix G - ECCC Resource Management Strategies

IRWM Plan Standards describe what must be in an IRWM Plan and can be used as criteria in Implementation Grant applications. One of the requirements is that the plan must document the range of Resource Management Strategies (RMS) considered to meet the IRWM objectives and identify which RMS were incorporated into the IRWM Plan.

The RMS to be considered must include the RMS found in Volume 2 of the State of California's Water Plan (CWP) Update 2009. At the time of issuance of the 2012 Guidelines, DWR was in the process of developing CWP Update 2013. Update 2013 will include additional or different RMS. Consideration of such alternate RMS is encouraged, but not mandated:

A key objective of the State's CWP Update is to present a comprehensive and diverse set of RMS's that can help meet the water-related resource management needs of each region and statewide. The RMS narratives are developed by subject matter experts from the CWP State Agency Steering Committee members with considerable input from other experts and stakeholders.

The list of RMSs was shared with the ECWMA and stakeholders to consider when developing projects. Of the 335 individual tools described in the CWP 2009 RMS section, the ECWMA identified 24 with potential for use in meeting the IRWM Plan objectives, plus the three new CWP 2013 RMS. Following is the list of resource management strategies, the assessment of applicability to the region, and the analysis of why or why not the tools could be applied.

Table G-1. Resource Management Strategies and Applicability to ECCC Region

RMS Topic	RMS	Applicability to ECCC Region	Reason for Applicability
Reduce Water Demand	Agricultural Water Use Efficiency	Applicable	Agriculture is prominent in the ECCC region. The region is evaluating agricultural water use and current practices to determine whether or not agricultural water use efficiency measures are appropriate.
	Urban Water Use Efficiency	Applicable	Water conservation is an important component of the ECCC region's approach to water management. The current conservation programs being implemented are in accordance with Best Management Practices established by the California Urban Water Conservation Council. The agencies are committed to ongoing demand management as a cornerstone to meeting future supply needs and to implement conservation measures to account for a decrease of 20% in per capita water use of 20% of demand by 2020.

Table G-1. Resource Management Strategies and Applicability to ECCC Region (contd.)

RMS Topic	RMS	Applicability to ECCC Region	Reason for Applicability
Improve Operational Efficiency and Transfers	Conveyance – Delta	Applicable	How and whether Delta conveyance moves forward is crucial to water management for the ECCC region. Delta conveyance could impact the ECCC region’s water supply availability, timing, and quality. Although the member agencies would not implement a project for Delta conveyance, it remains an important activity for the region to track.
	Conveyance – Regional/Local	Applicable	Conveyance of water resources is essential to diversify the region’s water portfolio, use storage options for water quality and timing of deliveries, and promote the use of recycled water. The region wishes to maximize use of existing conveyance infrastructure and construct new conveyance infrastructure where needed.
	System Reoperation	Applicable	System operational efficiency is a high priority for the region’s water agencies. CCWD and its retail customers are undertaking an optimization study to determine how best to operate their water treatment, storage, and conveyance facilities.
	Water Transfers	Applicable	The ECCC region’s water supply is subject to hydrology, constraints on Delta resources, and complex statewide water operations. Water transfers are part of the portfolio of supplies that will be needed to meet CCWD’s water supply reliability goal to meet 100% of demands in normal years and a minimum of 85% of demands during extended droughts. Within the ECCC region, water transfers are strategic for water agencies to cope with emergency situations. The region is undertaking an inventory and evaluation of agency interties.

Table G-1. Resource Management Strategies and Applicability to ECCC Region (contd.)

RMS Topic	RMS	Applicability to ECCC Region	Reason for Applicability
Increase Water Supply	Conjunctive Management & Groundwater Storage	Applicable	The member agencies recognize conjunctive use as a potential future water supply alternative. As the local groundwater basins become more fully described and safe yields are established, conjunctive use may become an increasingly viable water supply alternative.
	Desalination	Applicable	Desalination is regarded as a potential water supply alternative for the participating agencies. Feasibility-level projects are underway to evaluate the feasibility of brackish water desalination as a viable water supply alternative within the region and to provide interregional benefits with the Bay Area region.
	Precipitation Enhancement	Not Applicable	The majority of the ECCC region’s water comes from the Delta, which is subject to statewide hydrology. Precipitation enhancement within the region would not have a significant influence over Delta conditions, and therefore would not have a significant impact on the region’s water supplies.
	Recycled Municipal Water	Applicable	ECCC is a leader in recycled water production. Continued commitment to water reuse is a major component of the future water supply programs of these agencies. Many projects and programs within the study area focus on water reuse.
	Surface Storage – CALFED	Applicable	Los Vaqueros Reservoir Expansion was named as one of the CALFED storage projects. CCWD currently owns and operates Los Vaqueros Reservoir, and the expansion study is ongoing. An expansion could benefit the region by providing more local storage to improve water supply reliability and, potentially, water quality.
	Surface Storage – Regional/Local	Applicable	Some of the participating agencies currently own and operate surface water storage facilities. Region-wide optimization of these storage facilities is planned for evaluation.

Table G-1. Resource Management Strategies and Applicability to ECCC Region (contd.)

RMS Topic	RMS	Applicability to ECCC Region	Reason for Applicability
Improve Water Quality Improve Water Quality	Drinking Water Treatment and Distribution	Applicable	Water treatment and distribution are important elements of protecting public health. Ongoing projects and programs within ECCC aim to improve and optimize water treatment and distribution to enhance public health protection.
	Groundwater Remediation/Aquifer Remediation	Not Applicable	Groundwater contamination requiring remediation is not a known problem in the ECCC region.
	Matching Quality to Use	Applicable	Source water quality varies within the region. Water agencies are working together to determine the most suitable and efficient end use of different source waters. One example is an investigation to determine whether groundwater can be better managed through understanding its current application to agriculture.
	Pollution Prevention	Applicable	<p>Non-point source pollution control is a key element of the County's stormwater management plan, which identifies a variety of strategies including public education and industrial outreach, new development, and construction controls, and watershed management activities, including wetland restoration.</p> <p>Contra Costa County, 19 of its incorporated cities and the Contra Costa Flood Control & Water Conservation District have joined together to form the CCCWP. The CCCWP strives to eliminate stormwater pollution and has partnered with the ECWMA to help implement these strategies in the ECCC region.</p>
	Salt and Salinity Management	Applicable	Salt and salinity management is important for water management agencies across the ECCC region. Ongoing salinity management efforts within the region include source water salinity management (Delta salinity varies with season, location, and statewide water operations), salt and nutrient management plan for Pittsburg Plain Groundwater Basin, and salinity management for treated wastewater disposal.
	Urban Runoff Management	Applicable	The Contra Costa County Stormwater Management Plan contains detailed county-wide objectives for management of stormwater. A variety of projects and programs being conducted within the study area include stormwater capture and management elements.

Table G-1. Resource Management Strategies and Applicability to ECCC Region (contd.)

RMS Topic	RMS	Applicability to ECCC Region	Reason for Applicability
Improve Flood Management	Flood Risk Management	Applicable	The Contra Costa County Flood Control and Water Conservation District has a mandate to protect infrastructure, property, and public safety from flooding. In an effort to improve habitat, water quality, and stormwater management, the district has worked with a number of participating agencies to identify strategies and projects that improve or maintain flood protection while advancing other regional objectives.
Practice Resources Stewardship	Agricultural Lands Stewardship		With projected regional growth, land-use planning is critical for protecting water quality, sensitive habitats, and open space as well as maintaining water supply reliability. The County General Plan and urban limit line establish guidelines for land-use planning.
	Economic Incentives (Loans, Grants, and Water Pricing)	Applicable	Economic incentives that influence water management are critical to the ECCC region. With the economic slowdown and the disparity between revenue projections and actual revenue, the region has relied heavily on State-funded economic incentives to accomplish certain water management activities. In turn, water agencies have established economic incentives for their customers to address critical water supply needs of disadvantaged communities and promote water conservation.
	Ecosystem Restoration	Applicable	Participating agencies have identified and advanced a variety of ecosystem restoration and habitat protection alternatives. These projects will help protect a variety of threatened and endangered species identified in the HCP. The ECCCHC implements integrated habitat recovery above and beyond mitigation requirements in a manner that protects water quality and ecosystem function.
	Forest Management	Not Applicable	Forested watersheds are not prevalent in the ECCC region.
	Land Use Planning	Applicable	Water managers work closely with their land use counterparts on floodplain issues and evaluating lands for use in meeting ecosystem goals.
	Recharge Area Protection	Applicable	Groundwater in the ECCC region is overlaid by urban development, rural lands, and open space. Groundwater is fed by natural recharge. Recent regional groundwater activities, such as a basin management plan and a salt/nutrient management program, have aided in the region's understanding of groundwater quality and quantity, identification of potential threats, and plans for managing groundwater and protecting recharge areas.

Table G-1. Resource Management Strategies and Applicability to ECCC Region (contd.)

RMS Topic	RMS	Applicability to ECCC Region	Reason for Applicability
Practice Resources Stewardship (contd.)	Water-Dependent Recreation	Applicable	Integrating recreation and public access into project and facilities management allows the public to access and enjoy open space lands on the Delta shoreline and throughout the Diablo range. It also provides agencies with an effective vehicle for educating the public about the region's water supply and ecosystem. Multiple projects and programs for the ECCC region explicitly include recreation and public access elements.
	Watershed Management	Applicable	The IRWM planning process promotes integrated watershed management that crosses jurisdictional and political boundaries. Collaborative, regional water management remains a top priority for the ECCC region.
Other Strategies	Crop Idling for Water Transfers	Not Applicable	The region does not currently recognize a need for crop idling for water supply.
	Dew-vaporation or Atmospheric Pressure Desalination	Not Applicable	The technologies are still under development and are not yet cost effective. Under the current portfolio of regional projects and programs, desalination is considered a more feasible technology to implement at the current time.
	Fog Collection	Not Applicable	The technologies are high cost and low production, and most relevant to areas where little or no other water sources are available.
	Irrigated Land Retirement	Applicable	Irrigated land retirement occurs naturally when economic growth drives the market for development. It does not occur in times of economic downturn. Forced retirement of irrigated land for water management purposes is not being considered by water agencies at this time because irrigated land leads to agricultural productivity and local revenue.
	Rain-fed Agriculture	Not Applicable	Crops that get their full water supply from rainfall are generally impractical in the ECCC region due to the lack of significant rainfall in the summer and fall months.
	Waterbag Transport/Storage Technology	Not Applicable	This strategy is not currently used in California, and would require new coastal infrastructure to divert and offload the water. Freshwater supplies statewide are largely allocated; unallocated freshwater supplies would be far away, reducing the cost effectiveness of transporting water.

Table G-1. Resource Management Strategies and Applicability to ECCC Region (contd.)

RMS Topic	RMS	Applicability to ECCC Region	Reason for Applicability
New for CWP 2013	Sediment Management	Applicable	Sediment management is a particular concern for stormwater and flood management, and a potential concern for regional surface storage. The Contra Costa Clean Water program a collaboration of many agencies and led by Contra Costa County has issued a stormwater guide that specifically offers direction on sediment.
	Water and Culture	Applicable	The ECWMA is aware of cultural practices related to fishing, Delta as place, and potentially some water related historic infrastructure (in some cases pre-dating statehood) that should be considered in planning. Additionally, while it is not a current use or historically recorded use, some restored habitat locations maybe suitable for cultural practices, such as gathering materials for basket weaving. Current day examples include one in Antioch that is on the National Register of Historic Places, and was a building occupied by the Bureau of Reclamation during the design and construction of the Central Valley Project.
	Outreach and Education	Applicable	The ECWMA has identified outreach and education as a major concern of the region.

Key:

CALFED = California Bay-Delta Program
 CCCWP = Contra Costa Clean Water Program
 CCWD = Contra Costa Water District
 CWP = California Water Plan
 Delta = Sacramento-San Joaquin Delta

ECCC = East Contra Costa County
 ECCCHC = East Contra Costa County Habitat Conservancy
 ECWMA = East County Water Management Association
 HCP = East Contra Costa County Habitat Conservation Plan
 IRWM = integrated regional water management
 RMS = Resource Management Strategies

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Appendix H. IRWM Plan Purpose and Conforming Changes

East County Water Management Association Agreement

Contract Number
Approved/Authorized
Executed

97-029
2/19/97
5/28/97

This Agreement is entered into this 26th day of June, 1997, by and between the Cities of Brentwood, Antioch, and Pittsburg; Contra Costa County Water Agency, Byron-Bethany Irrigation District, Delta Diablo Sanitation District, Contra Costa County Sanitation District 19, Diablo Water District, East Contra Costa Irrigation District, Ironhouse Sanitary District, and Contra Costa Water District. These eleven agencies are collectively referred to as the "member agencies."

PURPOSE:

The purpose of this Agreement is to establish an East County Water Management Association (ECWMA) to facilitate continued communication, cooperation and education between member agencies regarding matters affecting the existing and potential water supplies of eastern Contra Costa County, and to consider and guide the implementation of the recommendations of the ECWMA's Phase II Study Report in order to provide long-term water supplies and treatment facilities in a cost effective, reliable, implementable, and cooperative manner while maintaining institutional independence and customer satisfaction.

RECITALS:

1. The Contra Costa Water District, at the request of the Board of Supervisors, completed Phase I of the East County Water Supply Management Study, which provided a preliminary analysis of future water demands and potential water supplies for East Contra Costa County.
2. On March 13, 1995, the member agencies signed an agreement forming the ECWMA. Said Agreement terminated on November 21, 1996, and the remaining monies were subsequently refunded to the member agencies in accordance with that Agreement.
3. On November 21, 1996, prior to termination of the Agreement, the Governing Board Representatives of the ECWMA accepted the Phase II Report consisting of a detailed analysis of selected water service alternatives, including new infrastructure requirements, cost estimates, implementation requirements, and institutional issues.
4. The member agencies wish to cooperate in the implementation of the recommendations contained in the Phase II Report.

5. This Agreement provides a process for funding and reestablishment of the ECWMA.

AGREEMENT:

NOW, THEREFORE, the member agencies which are parties hereto set forth the following terms and provisions of their agreement.

1. **Recitals.** The recitals contained herein are an integral part of this Agreement.
2. **ECWMA Formed.** Subject to and in accordance with the terms of the Agreement, the member agencies hereby form the ECWMA.
3. **Governing Board Representatives (GBR).** The ECWMA shall be governed and operated by the GBR which shall be comprised of one elected official representative from each member agency. The governing body of each member agency shall designate, and may replace, one of its members as its representative, on the GBR. No individual shall serve as the representative of more than two member agencies. Each member agency shall have one vote on the GBR. All actions of the GBR shall require the affirmative vote of a majority of its members.

The GBR shall provide policy guidance in the implementation of the purposes of the ECWMA and authorize disbursement of funds in accordance with this Agreement.

The GBR shall choose a regular meeting date and shall meet at least semi-annually.

The GBR shall appoint one of its members as the Chair and one as Vice-Chair. The Chair or any three members of the GBR may call a special meeting. A Secretary shall also be appointed by the GBR. The term of office for the Chair, Vice-chair and Secretary shall be for two years.

The meetings of the GBR shall be open to the public, noticed, and conducted in accordance with the Brown Act, Government Code Section 54950 et seq.

4. **Joint Managers Committee (JMC).** The managers of each of the member agencies shall be members of the JMC of the ECWMA which shall have primary administrative responsibility for the implementation of the purposes of this Agreement. The term "Manager" means City Manager, County Administrator, or General Manager of each of the member agencies and their respective alternates designated by the member agency, or their designees. The JMC shall appoint one of its members as the Chair and one as Vice-chair. The term of office for the Chair and Vice-chair shall be two years. The JMC may act directly or through a subcommittee established by a majority of its members. Each member agency shall have one vote on the Committee. Meetings of the JMC shall be as determined by the JMC.

5. **Administrative Procedures.** The GBR shall adopt bylaws, rules for conduct of the meetings, and administrative procedures. The administrative procedures of a member agency may be adopted for the ECWMA by the GBR.

6. **ECWMA Financing.** Unless otherwise changed by a majority vote of the GBR, each member agency shall deposit annually (March 1) \$500 with the Director of Financial Services for the City of Antioch who shall serve as Treasurer for the ECWMA.

The Treasurer shall be the depository of and have custody of all funds of the ECWMA from whatever source. The Treasurer shall also perform all duties required to be performed by an auditor. The Treasurer shall:

- a. Receive and receipt all money of the ECWMA and place it in the treasury of the City to the credit of the ECWMA;
- b. Be responsible for the safekeeping and disbursement of all ECWMA money;
- c. Pay, when due, from ECWMA funds and upon the signature of the Chair or Vice-chair of the JMC, all sums payable by the ECWMA; and
- d. Report in writing to the JMC quarterly and semi-annually to the GBR the amount of receipts since the last report and the amount paid out since the last report.
- e. Invest ECWMA funds according to the policies and procedures of the Treasurer's agency. Interest derived from deposited funds shall remain in the ECWMA's account.

7. **Special Assessments.** Any additional assessments to cover the appropriate costs of the ECWMA above the amounts specified in Section 6 shall be as approved by the GBR and shall be paid within 45 days of such action. If a member agency's Governing Board Representative votes against undertaking a specific project, except for execution of responsibilities set forth in Section 6, other member agencies desiring to proceed with such project may do so collectively as long as the dissenting member agency is not responsible for costs of such project. Publishing and distribution of resulting documents, opinions, findings, and recommendations (collectively "reports") shall, unless all member agencies consent, be only on behalf of the consenting member agencies. Any reports issued by the association shall state that the reports do not necessarily represent the views of the governing bodies of the individual member agencies.

8. **Liability.** Each member agency agrees to indemnify and hold every other member agency to this Agreement, and their officers, agents and employees, free and harmless from any cost or liability imposed upon any other member agency, officers, agents, or employees arising out of any acts or omissions of its own officers, agents, or employees.

9. **Cooperation.** All the member agencies agree that their respective monetary contributions are an expression of an intent to cooperate towards the purpose of the ECWMA.

10. **Dissolution.** Upon dissolution of the ECWMA by a majority vote of the GBR, any remaining association funds shall be refunded to the member agencies in proportion to the amount contributed by each over the life of the Joint Association.

11. **Termination.** If a member agency, through its governing board, votes to terminate its participation in the ECWMA, that agency will no longer participate on the GBR or JMC. Deposits made theretofore will remain with the ECWMA.

12. **Amendment.** This Agreement may be amended only by a written agreement approved by a unanimous vote of the member agencies.

13. **Effective Date.** This Agreement shall become effective upon approval by eight member agencies.

14. **Notices.** Notices authorized or required to be given pursuant to this Agreement shall be in writing and shall be deemed to have been given (1) when mailed, postage prepaid or faxed, or (2) delivered during working hours to the addresses and fax numbers set forth below for

each member agency. Each member agency that changes its address shall promptly provide notice of the changed address to the Chair of the JMC, which will be the current address of the member agency.

16. **Execution.** This Agreement may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties when at least one copy hereof shall have been signed by all parties hereto. In approving this Agreement, it shall not be necessary to produce or account for more than one such counterpart.

IN WITNESS WHEREOF, the parties hereto, pursuant approval of their respective City Councils, Boards of Supervisors, Boards of Directors or governing boards, have caused their names to be affixed by the party and respective officers as of the day and year first above written.

City of Antioch

By Mary Helen Rocha
Mary H. Rocha

Title Mayor

Date April 23, 1997

City of Brentwood

By _____

Title _____

Date _____

Byron-Bethany Irrigation District

By _____

Title _____

Date _____

Contra Costa County Water Agency

By _____

Title _____

Date _____

each member agency. Each member agency that changes its address shall promptly provide notice of the changed address to the Chair of the JMC, which will be the current address of the member agency.

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IN WITNESS WHEREOF, the parties hereto, pursuant approval of their respective City Councils, Boards of Supervisors, Boards of Directors or governing boards, have caused their names to be affixed by the party and respective officers as of the day and year first above written.

City of Antioch

By _____

Title _____

Date _____

City of Brentwood

By Jay M. Cooney

Title City Manager

Date 4.25.97

Byron-Bethany Irrigation District

By _____

Title _____

Date _____

Contra Costa County Water Agency

By _____

Title _____

Date _____

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IN WITNESS WHEREOF, the parties hereto, pursuant approval of their respective City Councils, Boards of Supervisors, Boards of Directors or governing boards, have caused their names to be affixed by the party and respective officers as of the day and year first above written.

City of Antioch

By _____

Title _____

Date _____

City of Brentwood

By _____

Title _____

Date _____

Byron-Bethany Irrigation District

By *Mike Colucci*

Title *General Manager*

Date *4/8/97*

Contra Costa County Water Agency

By _____

Title _____

Date _____

each member agency. Each member agency that changes its address shall promptly provide notice of the changed address to the Chair of the JMC, which will be the current address of the member agency.

16. **Execution.** This Agreement may be executed in several counterparts, each of which shall constitute one and the same instrument and shall become binding upon the parties when at least one copy hereof shall have been signed by all parties hereto. In approving this Agreement, it shall not be necessary to produce or account for more than one such counterpart.

IN WITNESS WHEREOF, the parties hereto, pursuant approval of their respective City Councils, Boards of Supervisors, Boards of Directors or governing boards, have caused their names to be affixed by the party and respective officers as of the day and year first above written.

City of Antioch

By _____

Title _____

Date _____

City of Brentwood

By _____

Title _____

Date _____

Byron-Bethany Irrigation District

By _____

Title _____

Date _____

Contra Costa County Water Agency

By Mark D. S. L.

Title Chair, Board of Supervisors

Date 5/20/97

Contra Costa County Sanitation District 19

By _____

Title _____

Date _____

Contra Costa Water District

By Thomas J. O'Brien

Title GENERAL MANAGER

Date 7/29/97

Delta Diablo Sanitation District

By _____

Title _____

Date _____

Diablo Water District

By _____

Title _____

Date _____

East Contra Costa Irrigation District

By _____

Title _____

Date _____

Ironhouse Sanitary District

By _____

Title _____

Date _____

City of Pittsburg

By _____

Title _____

Date _____

DMc-rlr - 8

[Signature] 16 July 97
DEPARTMENT HEAD DATE

[Signature] 7/18/97
ASSISTANT GENERAL MANAGER DATE

[Signature] 7/19/97
RISK MANAGEMENT OFFICER DATE

March 20, 1997

[Signature] 7/16/97
DIRECTOR OF FINANCE DATE

Page 6

Contra Costa County Sanitation District 19

By _____
Paul H. Causey
Title General Manager/District Engineer Date 9/2/97

Contra Costa Water District

By _____
Title _____ Date _____

Delta Diablo Sanitation District

By Paul H. Causey
Paul H. Causey
Title General Manager/District Engineer Date 9/2/97

Diablo Water District

By _____
Title _____ Date _____

East Contra Costa Irrigation District

By _____
Title _____ Date _____

Ironhouse Sanitary District

By _____
Title _____ Date _____

City of Pittsburg

By _____
Title _____ Date _____

DMc-rlr - 8

J-97 THU 14:30

CCWD ENGINEERING

FAX NO. 5106888303

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Contra Costa County Sanitation District 19

By _____

Title _____

Date _____

Contra Costa Water District

By _____

Title _____

Date _____

Delta Diablo Sanitation District

By _____

Title _____

Date _____

Diablo Water District

By *V. Wallace Allen*

Title _____

Date *4-5-97*

East Contra Costa Irrigation District

By _____

Title _____

Date _____

Ironhouse Sanitary District

By _____

Title _____

Date _____

City of Pittsburg

By _____

Title _____

Date _____

DMc-rlr - 8

March 20, 1997

Page 6

Contra Costa County Sanitation District 19

By _____

Title _____

Date _____

Contra Costa Water District

By _____

Title _____

Date _____

Delta Diablo Sanitation District

By _____

Title _____

Date _____

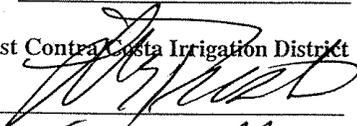
Diablo Water District

By _____

Title _____

Date _____

East Contra Costa Irrigation District

By  _____

Title General Manager

Date 3-11-97

Ironhouse Sanitary District

By _____

Title _____

Date _____

City of Pittsburg

By _____

Title _____

Date _____

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Contra Costa County Sanitation District 19

By _____

Title _____

Date _____

Contra Costa Water District

By _____

Title _____

Date _____

Delta Diablo Sanitation District

By _____

Title _____

Date _____

Diablo Water District

By _____

Title _____

Date _____

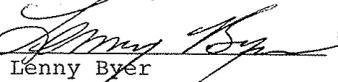
East Contra Costa Irrigation District

By _____

Title _____

Date _____

Ironhouse Sanitary District

By 
Lenny Byer

Title President

Date March 28, 1997

City of Pittsburg

By _____

Title _____

Date _____

DMc-rlr - 8

Contra Costa County Sanitation District 19

By _____

Title _____

Date _____

Contra Costa Water District

By _____

Title _____

Date _____

Delta Diablo Sanitation District

By _____

Title _____

Date _____

Diablo Water District

By _____

Title _____

Date _____

East Contra Costa Irrigation District

By _____

Title _____

Date _____

Ironhouse Sanitary District

By _____

Title _____

Date _____

City of Pittsburg

By _____

Title City Manager

Date 6/26/97

DMc-rlr - 8

**AMENDMENT NO. 1 TO THE
EAST COUNTY WATER MANAGEMENT ASSOCIATION AGREEMENT**

This is Amendment No. 1 to the East County Water Management Association Agreement (“ECWMA Agreement”) dated March 20, 1997, by and among the Cities of Brentwood, Antioch, and Pittsburg; Contra Costa County, Byron-Bethany Irrigation District, Delta Diablo Sanitation District, Diablo Water District, East Contra Costa Irrigation District, Ironhouse Sanitation District, Town of Discovery Bay Community Services District and Contra Costa Water District. All of the parties to the ECWMA Agreement are also parties to this Amendment No. 1, and the East Contra Costa County Habitat Conservancy is also a party to this Amendment No. 1.

RECITALS

A. The purpose of this Amendment No. 1 is: 1) to add the East Contra Costa County Habitat Conservancy as a party to the ECWMA Agreement; 2) to change the name of existing party Contra Costa County Water Agency to Contra Costa County; 3) to change the name of existing party Contra Costa County Sanitation District 19 to Town of Discovery Bay Community Services District; 4) to expand the purpose of the ECWMA Agreement to include guidance of the East Contra Costa County Functionally Equivalent Integrated Regional Water Management (IRWM) Plan update; 5) and to authorize the Managers of the member agencies to approve the addition of projects in the Functionally Equivalent IRWM Plan.

AGREEMENT

1. Effective Date. The Effective Date of this Amendment No. 1 is October 28, 2010.
2. Parties as of Effective Date. As of the Effective Date of this Amendment No. 1, the parties to the ECWMA Agreement are the Cities of Brentwood, Antioch, and Pittsburg; Contra Costa County, Byron-Bethany Irrigation District, Delta Diablo Sanitation District, Town of Discovery Bay Community Services District, Diablo Water District, East Contra Costa Irrigation District, Ironhouse Sanitation District, East Contra Costa County Habitat Conservancy District and Contra Costa Water District. These agencies are collectively referred to as the “member agencies.”
3. The Paragraph identified in the ECWMA Agreement as PURPOSE is deleted in its entirety and replaced with the following:

PURPOSE. The purpose of this Agreement is to establish an East County Water Management Association (ECWMA) to facilitate continued communication, cooperation and education between member agencies regarding matters affecting the existing and potential water supplies of eastern Contra Costa County, and to consider and guide the implementation of the recommendations of the ECWMA's, Phase II Study Report in order to provide long-term water supplies and treatment facilities in a cost effective, reliable, implementable, and cooperative

manner while maintaining institutional independence and customer satisfaction. The ECWMA will also guide the preparation of the update to the East Contra Costa County Functionally Equivalent Integrated Regional Water Management (IRWM) Plan.

4. The following additional RECITALS are added to the RECITALS Section of the ECWMA Agreement:

6. In 2005, a Functionally Equivalent IRWM Plan was developed for the ECWMA, in accordance with the Proposition 50, *Water Security, Clean Drinking Water, Coastal and Beach Protection Act of 2002* grant application process.

7. In 2009, the East Contra Costa County was accepted as an IRWM Region through the California Department of Water Resources' Region Acceptance Process, allowing the region to be eligible for future IRWM funding opportunities.

8. In 2010, the California Department of Water Resources released grant program guidelines for funding through Proposition 84, *The Safe Drinking Water, Water Quality and Supply, Flood Control, River and Coast Protection Bond Act of 2006*, which included new plan standards which will require update to the Functionally Equivalent IRWM Plan.

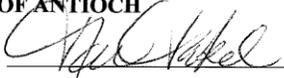
5. Section 4 of the ECWMA Agreement, "Joint Managers Committee (JMC)" is deleted in its entirety and replaced with the following

4. **Joint Managers Committee (JMC).** The managers of each of the member agencies shall be members of the JMC of the ECWMA which shall have primary administrative responsibility for the implementation of the purposes of this Agreement. The term "Manager" means City Manager, County Administrator, or General Manager of each of the member agencies and their respective alternates designated by the member agency, or their designees. The JMC shall appoint one of its members as the Chair and one as Vice-chair. The term of office for the Chair and Vice-chair shall be two years. The JMC may act directly or through a subcommittee established by a majority of its members. Each member agency shall have one vote on the Committee. Meetings of JMC shall be as determined by the JMC. The JMC shall have authority to approve the addition of projects into the Functionally Equivalent IRWM Plan in accordance with the plan goals and objectives.

6. **Entire Agreement.** In the event of a conflict with the ECWMA Agreement, the terms of this Amendment No. 1 shall prevail over anything to the contrary in the ECWMA Agreement. In all other respects the ECWMA Agreement, and this Amendment No. 1 will be the entire agreement among the parties construed together as one and the same agreement.

7. Effect. Except for the amendments agreed to herein, the above referenced ECWMA Agreement remains in full force and effect.
8. Counterparts: This Amendment may be executed in multiple counterparts, each of which shall be deemed an original and all of which together shall constitute one and the same instrument.
9. Signatures: The following signatures attest each member agency's agreement hereto.

CITY OF ANTIOCH

By: 

Name: JAMES JAKER

Title: CITY MANAGER

Date: 11/22/10

CITY OF BRENTWOOD

By: Donna Landeros

Name: Donna Landeros

Title: City Manager

Date: 4/15/2011

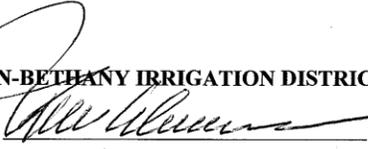
APPROVED AS TO FORM:

By: Damien B. Brower
Damien B. Brower, City Attorney

October 18, 2010

Page 6

BYRON-BETHANY IRRIGATION DISTRICT

By: 

Name: RICK GILMORE

Title: GENERAL MANAGER

Date: 4/9/10

CONTRA COSTA COUNTY

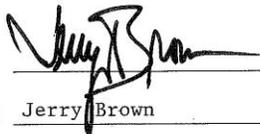
By: _____

Name: Roberta Gulant

Title: Executive Officer, CCCWA

Date: 1-3-11

CONTRA COSTA WATER DISTRICT

By: 
Name: Jerry Brown
Title: General Manager

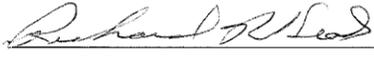
Date: 12/16/10

DELTA DIABLO SANITATION DISTRICT

By: 
Name: Gary W. Darling
Title: General Manager

Date: December 9, 2010

DIABLO WATER DISTRICT

By: 

Name: Richard R. Head

Title: Vice President

Date: 11-16-10

EAST CONTRA COSTA COUNTY HABITAT CONSERVANCY

By: 
Name: John Kopchik
Title: Executive Director

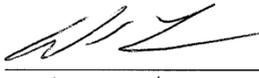
Date: 1-24-11

EAST CONTRA COSTA IRRIGATION DISTRICT

By: Patricia A. Corey
Name: PATRICIA A COREY
Title: GENERAL MANAGER

Date: Nov. 15, 2010

IRONHOUSE SANITARY DISTRICT

By: 

Name: Don Lew

Title: Director

Date: 11/18/2010

CITY OF PITTSBURG

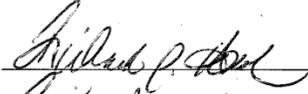
By: 

Name: Nancy L. Parent

Title: Council Member

Date: December 28, 2010

TOWN OF DISCOVERY BAY COMMUNITY SERVICES DISTRICT

By: 

Name: Richard S. Howard

Title: General Manager

Date: 11-15-10

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