

The Monterey Bay Regional Desalination Project



March 31, 2011

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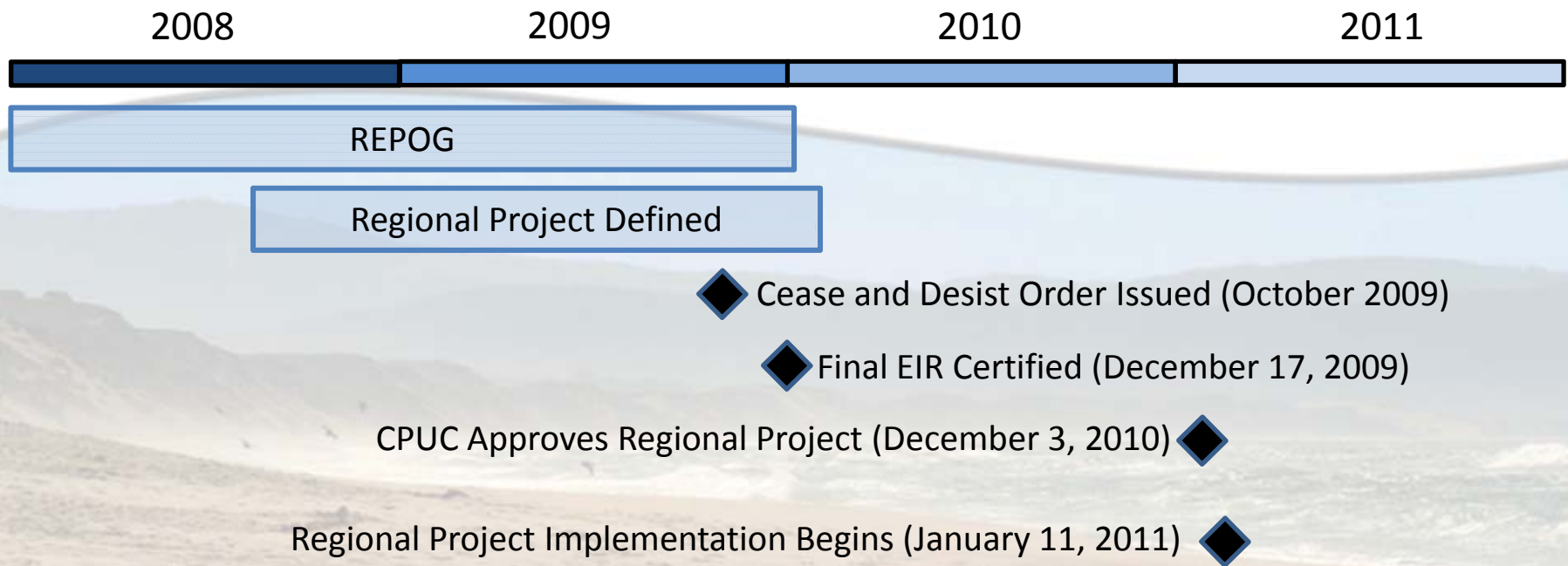
Acknowledgements

- California American Water Company
- Local Community
- Marina Coast Water District
- Monterey County Water Resources Agency

Presentation Outline

- History/Background
- Objectives
- Components
- Benefits
- Costs
- Schedule

Project History



Regional Project Objectives

- Fulfill SWRCB Order 95-10/
Cease and Desist Order
- Protect adjudicated Seaside Basin
- Meet Water Needs for Approved
Redevelopment of Former Fort
Ord
- Protect listed species in Carmel
River
- Reclaim intruded Salinas Aquifer



*Regional
Desalination
Project
Components*

Brackish Source Water Wells

Monterey Bay



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Seawater Intrusion

Seawater Intrusion
in the
180 Foot Aquifer

Brackish Source Water Wells

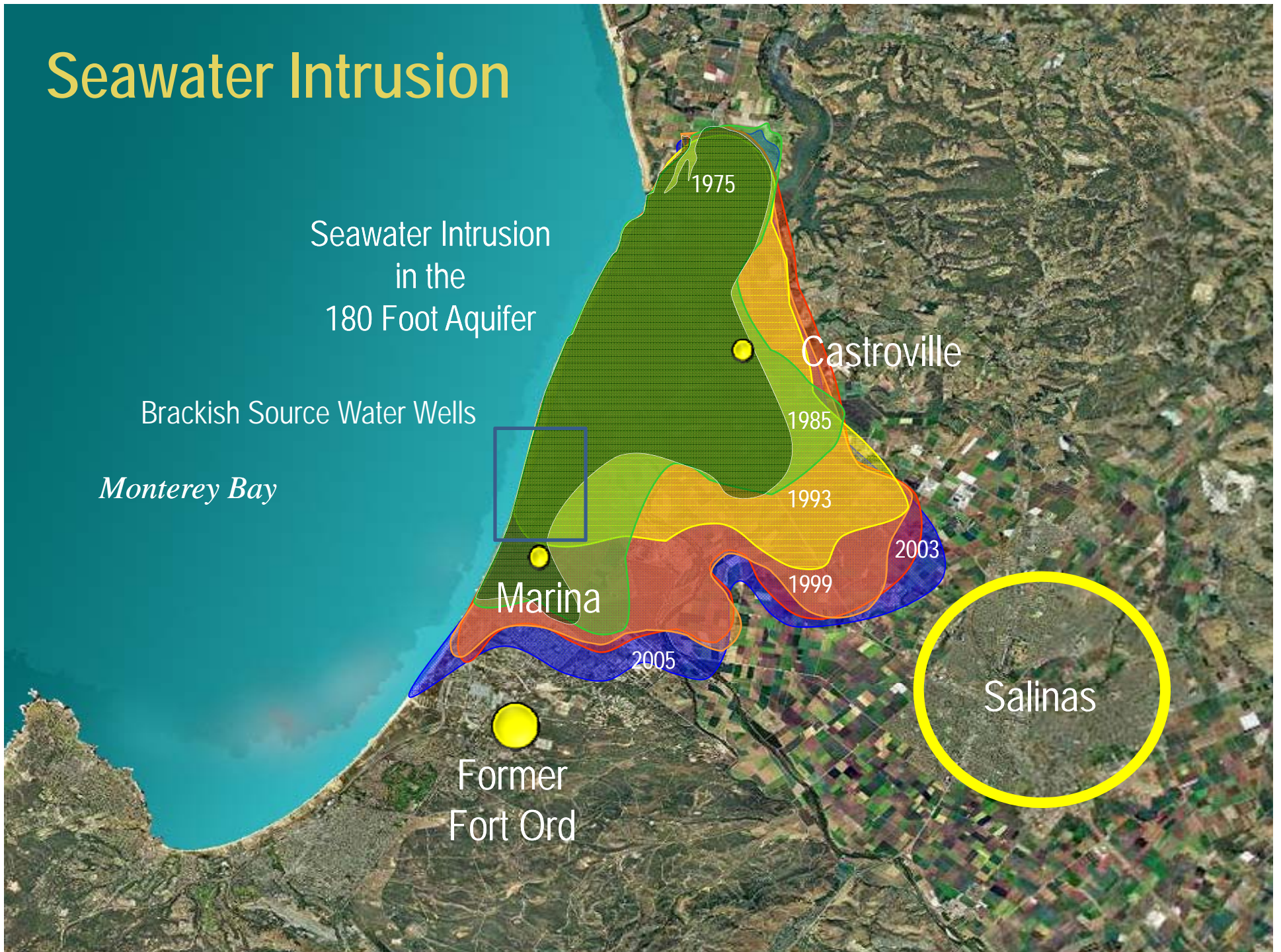
Monterey Bay

Marina

Former
Fort Ord

Castroville

Salinas



Brackish Source Water Wells

- Located between Highway 1 and dunes
- Eliminates Impingement and Entrainment
- Creates Localized Barrier to Seawater Intrusion

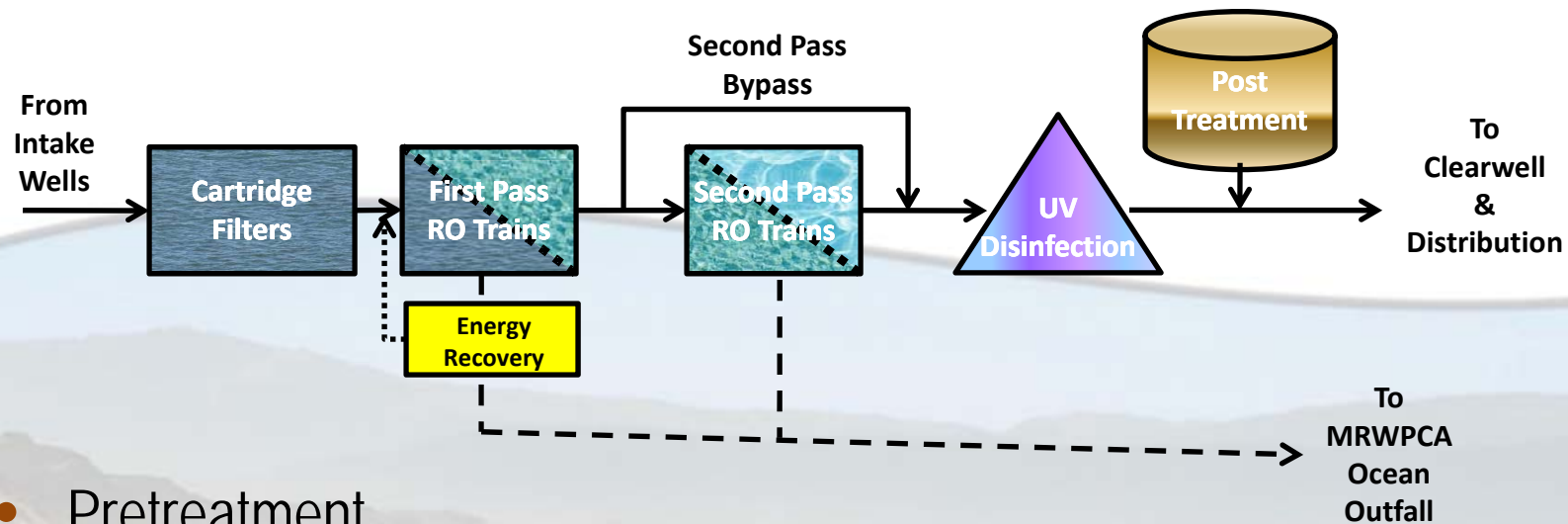


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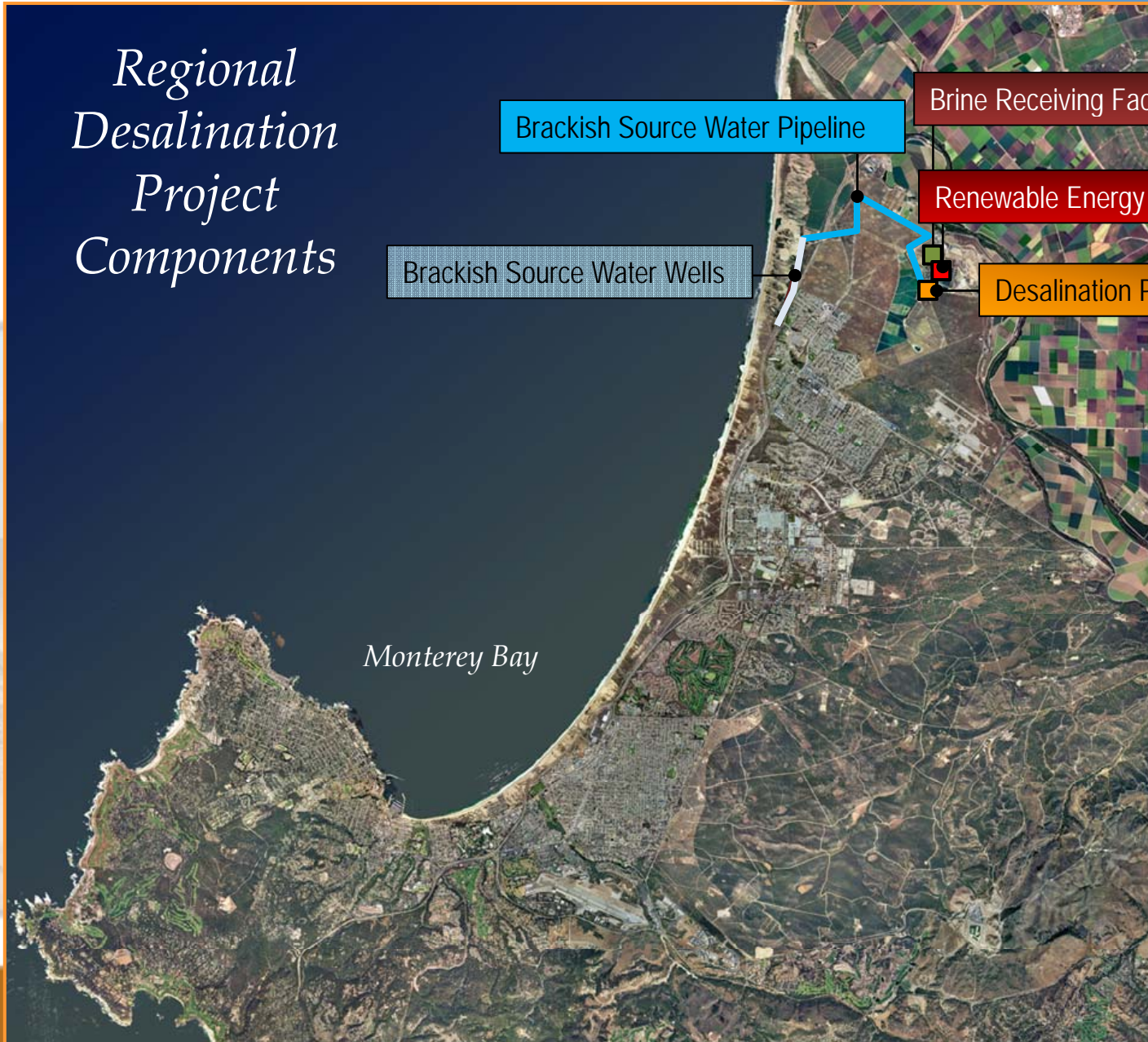
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Desalination Plant



- Pretreatment
- 10 MGD Firm Capacity
- Energy Recovery
- Partial Second Pass for additional Boron and Chloride Removal
- UV Disinfection to meet CDPH Requirements

*Regional
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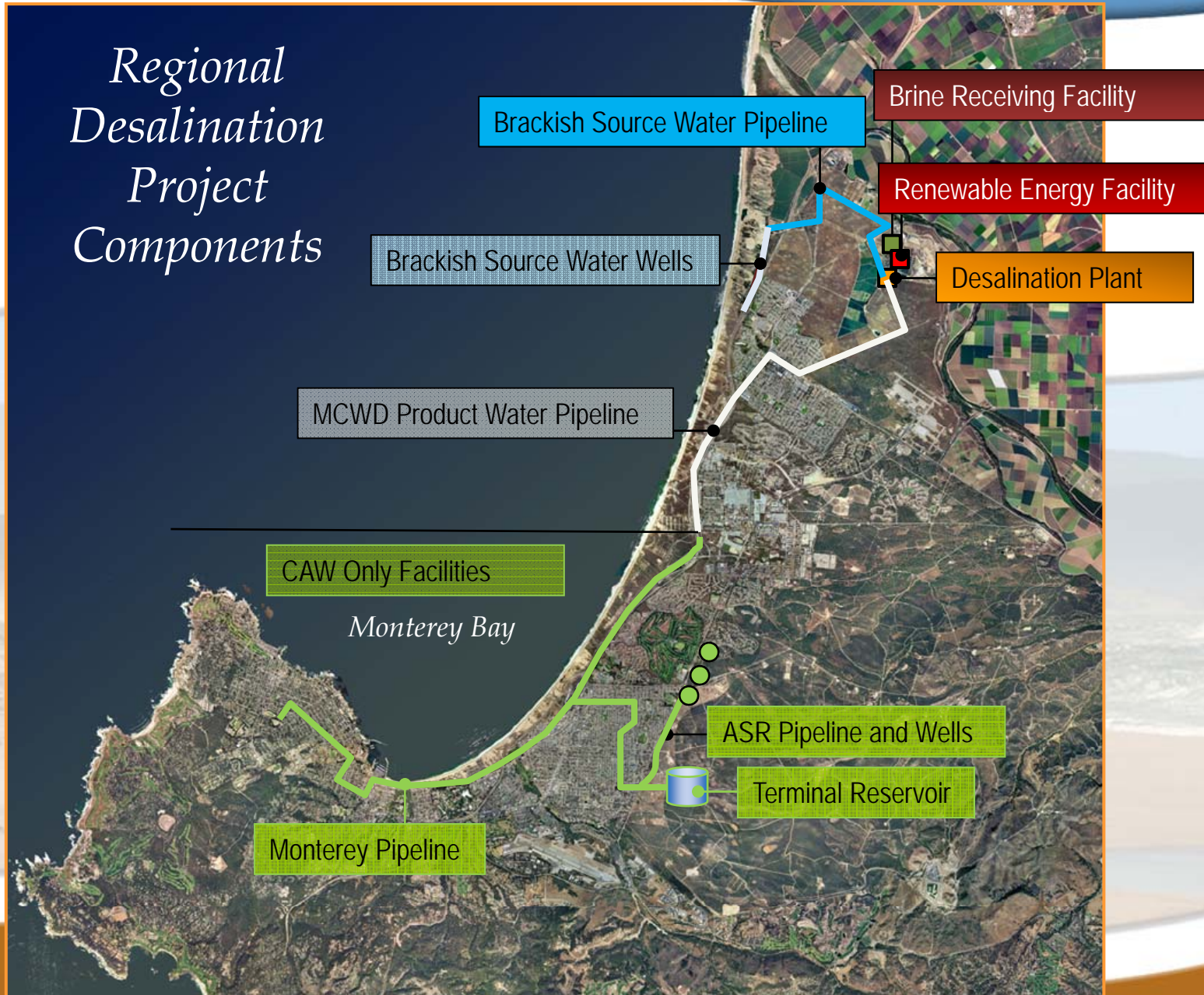
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Facilities will Rely on Power from Landfill Gas Cogeneration - Independent Project



- Cogeneration power from adjacent landfill
 - New 6 mw cogeneration plant
 - Initially energy source: combination of natural gas and methane
 - Intertie with existing 5 mw cogeneration plant
- Renewable energy credits
- Long-term, low-cost reliable energy supply
- Addresses potential GHG impacts

Regional Desalination Project Components



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Overview of Project Components

Project Component	Description	Ownership
Brackish Source Water Wells	Up to six vertical and/or slant wells drilled in seawater-intruded aquifer.	MCWRA
Brackish Source Water Pipeline	21,000 linear feet (LF) of 36 to 42-inch pipe	MCWRA
Desalination Plant	Reverse osmosis treatment plant with a peak production rate of 10 mgd	MCWD
MCWD Product Water Pipeline	43,500 LF of 24 to 36-in pipe	MCWD
Outfall Facilities	Connection to existing outfall for reject water disposal.	MRWPCA
Cal-Am Facilities	Distribution pipelines, Terminal reservoir, pump stations, ASR wells	CAW
Renewable Energy Facility	6 MW co-generation facility using landfill gas/natural gas to produce power for the desalination plant	MRWMD

Project Costs

Facility	Total Estimated Cost	% Total
Brackish Source Water Wells and Pipeline	\$ 39,800,000	10%
Desalination Plant	\$134,800,000	33%
MCWD Product Water Pipeline (MCWD Only)	<u>\$ 28,000,000</u>	7%
<i>Construction Costs Total</i>	<i>\$202,600,000</i>	
Pre-Effective Date Costs	\$ 14,000,000	3%
Post-Effective Date Implementation Costs	\$ 59,000,000	15%
Right of Ways, Easements, Outfall	\$ 6,900,000	2%
Reserve Fund/Cost of Obtaining Financing	<u>\$ 15,000,000</u>	4%
<i>MCWRA/ MCWD Total</i>	<i>\$297,500,000</i>	
CAW Facilities (CAW Only)	<u>\$107,000,000</u>	26%
<i>Project Total</i>	<i>\$404,500,000</i>	

Project Financing

- Project Initiated via \$8 Million Line of Credit from CAW
- Pursuing State Revolving Loan funds
- Pursuing Federal Grants
- Pursuing Bond Financing (Private Activity Bonds)

Permitting Activities

- Over 30 Separate Permits Required for Implementation
- Coastal Development Permit (Coastal Commission)
 - Consolidated Permit Process
 - Separate Application for Test Wells
 - Single Application for Entire Project
- NPDES Permit (Regional Water Quality Control Board)
 - Existing MRWPCA Permit Includes Brine Disposal
 - Modifying Permit to Incorporate Regional Desalination Project

Project Implementation Schedule

Regional Desalination Project- Summary Schedule																				
Task	2011				2012				2013				2014				2015			
	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Test Wells	Design		Construction/Testing																	
Brackish Source Water Wells	Predesign, Permitting, Design								Construction											
Brackish Source Water Pipeline	Predesign, Permitting, Design								Construction											
Desalination Plant	Predesign, Permitting, Design								Construction											
MCWD Product Water Pipeline	Predesign, Permitting, Design								Construction											
CAW Facilities	Predesign, Permitting, Design								Construction											

Regional Project Provides Substantial Regional Benefits

- Fulfills SWRCB Order 95-10 & CDO
- Protects adjudicated Seaside Basin
- Protects Carmel River for restoration of riparian and aquatic habitat
- Meets FORA water needs
- Minimizes carbon footprint thru green landfill gas power
- Protects local economy from \$1 billion per year economic impact
- Reclaims intruded groundwater aquifer



Questions?



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