

Montara Water and Sanitary District

Draft Water System Master Plan

March 18, 2004

Draft Water System Master Plan - Background

- Board of Directors adopts a 3-year Water System Capital Improvements Program (CIP) **June 19, 2003**
- Department of Health Services (DHS) issues a Permit to operate the water system to the District **August 1, 2003**
- Permit requires that the District prepare a Water System Master Plan
- Board authorization of Master Plan development **October 16, 2003**
- Board adopts of the Master Plan Design Criteria **January 15, 2004**
- Board review of the Draft Master Plan - **March 18, 2004**

3-year CIP Highlights

- Provided comprehensive approach to ensure high quality drinking water and reliable water resources
- Prioritized projects based on
 - Regulatory requirements, protection of public and employees' health and safety (e.g., DHS requirements);
 - Water System security and reliability;
 - Meeting fire flow requirements and providing adequate storage;
 - Funding sources (e.g., funded by grants)
- Addressed new facilities and renewal and replacement of the existing facilities

CIP Implementation at the District

- Projects completed or in progress since adoption of the 2003 CIP by the Board:
- ▶ Airport South Well Rehabilitation
 - ▶ Portola III Well Pump Replacement
 - ▶ Emergency Generator Enclosure Refinish
 - ▶ Distribution Main Flushing
 - ▶ Alta Vista Water Treatment Plan Improvements
 - ▶ Test Well Drilling
 - ▶ Airport Wells Treatment Study
 - ▶ Airport Wells Treatment Demonstration Testing
 - ▶ Drake and Wagner Wells Improvements
 - ▶ School House Booster Pump 2 Replacement
 - ▶ Alta Vista Tank Access Improvements
 - ▶ Alta Vista Raw Water Pipeline Replacement *CEQA prepared & under review*
 - ▶ Disinfection/Disinfection Byproducts Monitoring Plan
 - ▶ Airport Wells Blending Plan *for DAS*
 - ▶ Other miscellaneous projects

Water System Master Plan Purpose


- Address water supply issues at the District
- Assess the existing water infrastructure
- Examine current and future water demands
- Outline viable alternatives to address system deficiencies



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Master Plan Approach

- ▶ Assess current water system, including:
 - Water Supply
 - Storage Facilities
 - Treatment Facilities
 - Distribution System
- ▶ Assess the water system ability to meet demands and water quality standards
- ▶ Identify deficiencies
- ▶ Develop a plan of addressing the deficiencies



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Existing Water Supply Sources and Facilities

▶ Water Sources

- Montara Creek – surface water
- Eight active groundwater wells*: North Airport 2, South Airport, Airport Well 3, Drake, Wagner, Portola Estate I, III, and IV.
- Two standby wells: Park and Portola Estates II.
- Total source capacity: 481 gpm
- Total reliable capacity** : 396 gpm

* Seven at Draft Master Plan publishing time, Portola Estates III Well has since been rehabilitated and put back in service

** With one largest source out of service (Montara Creek 75 gpm)



Storage and Treatment Facilities

- ▶ **Storage**
 - Raw Water – 77,000 gallons at Alta Vista Water Treatment Plant (AVWTP)
 - Treated Water:
 - Portola Estates Tank 100,000 gallons
 - Alta Vista Tank 462,000 gallons
 - Schoolhouse Tank 100,000 gallons
- ▶ **Treatment**
 - AVWTP
 - Airport wells blending and disinfection
 - GAC at Drake and Wagner Wells

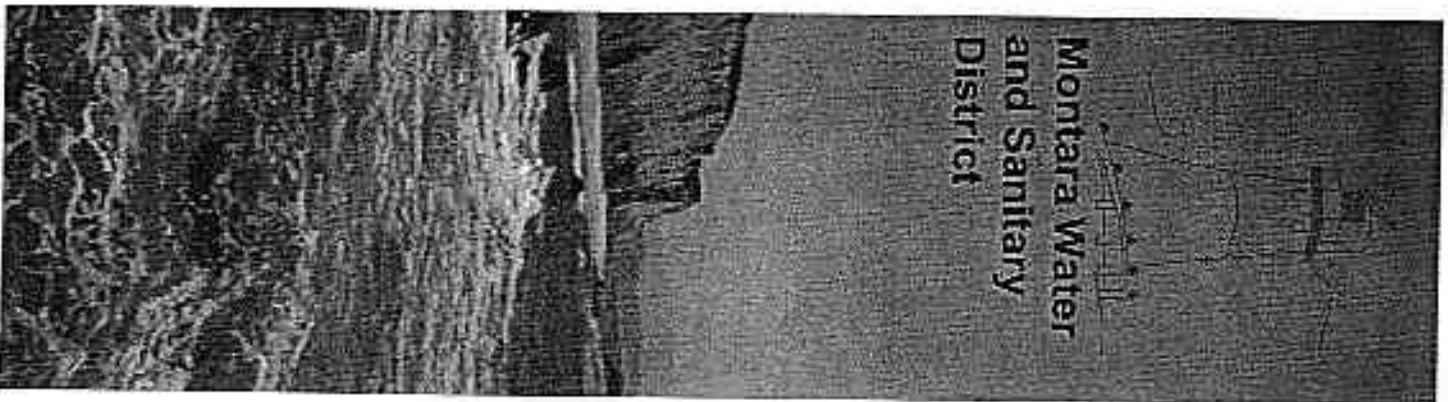
Water Distribution System

- ▶ 1,656 metered service connections
- ▶ 151,000 feet of 2 to 16-inch-diameter pipe
- ▶ 25 pressure-reducing valves

Ability of Water System to Meet Demands

▶ Regulatory Requirements

- Title 22
 - Deliver sufficient quantity of water to satisfy maximum day demand
 - System pressure to remain at or above 20 psi
- National Fire Code/Insurance Service Office
 - Sufficient storage to provide fire flow for a two-hour duration
 - Fire flow of 2,000 gpm for multiple residential, light commercial, and light industrial development



System Analysis

- ▶ **Hydraulic Modeling allows to:**
 - Simulate the system response under various demand conditions;
 - Identify system deficiencies;
 - Identify improvements to address the deficiencies;
 - Assist in prioritizing the improvements.

Master Plan Update - Summary of Findings

- ▶ About 150 gallons per minute of additional reliable water production capacity is required to satisfy existing customer demands
- ▶ Unaccounted-for-water amounts to 14 percent of the total production
- ▶ Additional 1.2 million gallons of storage capacity is required to ensure adequate operational, fire, and emergency service to existing customers
- ▶ Additional storage is required at existing storage facilities and elsewhere in the system, depending on the groundwater exploration program findings

Master Plan Update – Implementation Plan

- ▶ Addresses key issues for the Water System:
 - Existing water supply and reliability deficiencies;
 - Seismic reliability and emergency response deficiencies;
 - Plan for lifting the moratorium on new water connections;
 - Plan for addressing demand at buildout.

Near-Term Implementation Plan-2010

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▶ Capital Projects - New Facilities*

- Airport Wells Treatment Facility \$450
 - New Groundwater Well Development Program \$550
 - Emergency Intertie with CCWD \$150
 - School House Tank Replacement and Site Improvements \$500
 - Portola Tank Replacement and Site Improvements \$500
 - Alta Vista Tank No. 2 and Site Improvements \$750
 - Security Improvements (placeholder) \$100
- New Facilities Subtotal* \$3,000**

*Costs in thousand dollars