



Chapter 1: Introduction

Master Plan Organization:

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- Chapter 3: Operational and Design Criteria
- Chapter 4: Water Supply
- Chapter 5: Existing and Projected Future Water Demand
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- Chapter 7: Evaluation of Existing Water System
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Chapter Highlights:

Master Plan Purpose:

The purpose of this Retail Water Master Plan Update is to identify existing retail water system deficiencies and required retail water system improvements and to formulate a comprehensive Capital Improvement Program which meets the needs of existing and future retail customers.

Master Plan Objectives:

- Develop water system operational and design criteria
- Evaluate existing and projected future retail water demands
- Develop an updated hydraulic model
- Evaluate existing supply problem areas, such as those in the Upper and Lower Granite Bay, Sierra and Bacon Pressure Zones,
- Analyze the existing retail water system and identify deficiencies
- Analyze the 2025 retail water system and identify required improvements
- Recommend a Capital Improvement Program



CHAPTER 1. INTRODUCTION

MASTER PLAN PURPOSE

The previous Water Master Plan for the San Juan Water District's (District) retail water system was prepared in 1995. Since that time, many of the recommended improvements have been implemented. The purpose of this Retail Water Master Plan Update is to identify existing system deficiencies and required system improvements, based on updated demand estimates and system evaluations, and to formulate a comprehensive Capital Improvement Program (CIP) which meets the needs of existing and future retail customers.

MASTER PLAN OBJECTIVES

The objectives of this Retail Water Master Plan Update are:

- Develop operational and design criteria under which the existing system will be analyzed and future facilities will be formulated.
- Evaluate existing water demands and project future water demands.
- Develop an updated hydraulic model to assist with the analysis of the District's water system.
- Evaluate existing supply problem areas, such as those in the Upper and Lower Granite Bay, Sierra and Bacon Pressure Zones.
- Analyze the existing system under existing demand conditions and identify deficiencies.
- Analyze the system under projected future (2025) demand conditions and identify required improvements.
- Recommend a retail water system CIP which meets the needs of existing and future customers.

AUTHORIZATION

West Yost Associates (WYA) was authorized to prepare this Retail Water Master Plan Update by the District's Board of Directors at their December 1, 2003 meeting.

REPORT ORGANIZATION

This Retail Water Master Plan Update is organized into the following chapters:

- Chapter 2: Existing Retail Water System
- Chapter 3: Operational and Design Criteria
- Chapter 4: Water Supply



- Chapter 5: Existing and Projected Future Water Demands
- Chapter 6: Hydraulic Model Development
- Chapter 7: Evaluation of Existing Water System
- Chapter 8: Evaluation of the 2025 Water System
- Chapter 9: Recommended Capital Improvement Program.

The following appendices to this Retail Water Master Plan Update contain additional technical information and assumptions:

- Appendix A: Hydraulic Model Verification and Calibration
- Appendix B: Cost Estimating Assumptions
- Appendix C: Preliminary Evaluation of the District’s Lower Granite Bay Pressure Zone.

ACRONYMS AND ABBREVIATIONS

The following acronyms and abbreviations have been used throughout this Retail Water Master Plan Update to improve document clarity and readability.

AC	Asbestos Cement
af	Acre-feet
afa	Acre-feet annually
af/ac/yr	Acre-feet per acre per year
ARC	American River Canyon
AWWA	American Water Works Association
BMPs	Best Management Practices
CCI	Construction Cost Index
CFC	California Fire Code
CHWD	Citrus Heights Water District
CIP	Capital Improvement Program
CTP	Cooperative Transmission Pipeline
CVP	Central Valley Project
District	San Juan Water District
DOHS	Department of Health Services
ENR	Engineering News Record
EPS	Extended Period Simulation
FOWD	Fair Oaks Water District
FPP	Full Program in Place
fps	Feet per second
ft	Feet
ft/kft	Feet per thousand feet
GIS	Geographical Information System
gpcd	Gallons per capita per day
gpm	Gallons per minute



Hp	Horsepower
HPRs	Hydrant pressure recorders
ISO	Insurance Service Office, Inc.
JWSF	Joint Water Storage Facility
kVA	Kilovolt – Ampere
kW	Kilowatt
MG	Million gallons
mgd	Million gallons per day
NFPA	National Fire Protection Association
O&M	Operations and Maintenance
OVWC	Orange Vale Water Company
PCWA	Placer County Water Agency
PL	Public Law
PRS	Pressure Reducing Station
PRVs	Pressure Reducing Valves
psi	Pounds per square inch
PSS	Pressure Sustaining Station
PVC	Polyvinyl chloride
RCCP	Reinforced Concrete Cylinder Pipe
rpm	Revolutions per minute
SCADA	Supervisory Control and Data Acquisition
UFC	Uniform Fire Code
UGB	Upper Granite Bay
USBR	United States Bureau of Reclamation
VFD	Variable frequency drive
VOC	Volatile Organic Chemical
WTP	Sidney N. Peterson Water Treatment Plant
WYA	West Yost Associates