

SECTION 2

INTRODUCTION

2-1 Purpose

The City of Ontario provides domestic water service to a population of approximately 175,000 residents, as well as commercial, industrial, public and agricultural lands and the Ontario International Airport within its service area. The City recognizes its responsibility to efficiently meet the customers' needs with long range planning efforts. By reviewing its existing water system and future needs, the City can continue to maintain a high service level and reliability in its water system in a cost effective and fiscally responsible manner. This report is intended to update the domestic water analysis of the *2006 Water and Recycled Water Master Plan* and to provide a comprehensive planning guide for improving and upgrading the City's domestic water system through 2035.

2-2 Previous Studies

Previous studies completed and utilized in the development of this Water Master Plan include the following:

- *The Ontario Plan (General Plan), February 2010*
- *The Ontario Plan Draft Environmental Impact Report, April 2009*
- *City of Ontario Water and Recycled Water Master Plan Update, April 2006*
- *City of Ontario Urban Water Management Plan, December 2005*

2-3 Scope of Work

The scope of work for this study consists of the following:

Task 1 – Obtain and Review all Related Information

Task 2 – Update Domestic Water System Hydraulic Model

- Determine existing demands from recent water sales information and use to update model
- Determine future demands using The Ontario Plan land use information
- Obtain record drawings of the pipelines, wells, and other system improvements that have been implemented since the completion of the 2006 Water Master Plan and update the model
- Update operational settings in the model to current conditions

Task 3 – System Analyses

- Review and update criteria with City staff, including residential fire flow requirements
- Conduct analyses of the existing system for the average day, maximum day, and maximum day plus fire flow scenarios
- Review and update the following:
 - o Pipeline Replacement Plan
 - o Storage Reservoir Condition Assessment
 - o Storage Capacity Evaluation
 - o System-wide Supply Analysis

Task 4 – Develop Capital Improvement Program

Task 5 – Prepare Master Plan Report

- Prepare a comprehensive master plan report that summarizes the efforts and results of Tasks 1 through 4

2-4 Acknowledgements

AKM Consulting Engineers would like to express their sincere appreciation to the following individuals for their valuable assistance and support throughout the preparation of this study:

- Scott Burton, Assistant Utilities General Manager
- Dennis Mejia, Utilities Engineering Division Manager
- Jeffrey Krizek, Associate Engineer
- Sheldon Yu, Senior Associate Civil Engineer
- Fernando Cobos, Utilities Project Manager
- Ryan Bengsch, Assistant Engineer
- Ivan Sanchez, Engineering Assistant/GIS
- Tom O'Neill, Water Production Manager
- Chris Bonadurer, Water Production Supervisor
- Donnie Hamilton, Water Production Supervisor

2-5 Abbreviations

To conserve space and improve readability, abbreviations have been used in this report. Each abbreviation has been spelled out in the text the first time it is used. Subsequent use of the term is usually identified by its abbreviation. The abbreviations utilized in this report are contained in Table 2-1.

Table 2-1
Abbreviations

Abbreviation	Explanation
Ac, ac	Acre
AC, ACP	Asbestos Cement Pipe
AF	Acre-Foot or Acre Feet
AFY	Acre Feet per Year
AL	Action Level
amsl	Above Mean Sea Level
APA	Allowable Pumping Allocation
AWWA	American Water Works Association
BPS	Booster Pump Station
CBWM	Chino Basin Watermaster
ccf	Hundred Cubic Feet
CCWRF	Carbon Canyon Wastewater Reclamation Facility
CDA	Chino Basin Desalter Authority
CDA I	Chino Basin Desalter 1
CDA II	Chino Basin Desalter 2
CDPH	State of California Department of Public Health
cfs	Cubic Feet per Second
CII	Commercial, Institutional, Industrial
CIP, cip	Cast Iron Pipe
CIP	Capital Improvement Program
City	City of Ontario
CMLS	Concrete Mortar Lined Steel
CML & CMC	Concrete Mortar Lined & Concrete Mortar Coated
CML & CS	Concrete Mortar Lined & Coated Steel
CML & WS	Concrete Mortar Lined & Welded Steel
Conc	Concrete
CU	Copper
CUWCC	California Urban Water Conservation Council
CVWD	Cucamonga Valley Water District
D/DBPR	Disinfectants/Disinfection By-Products Rule
DPH	State of California Department of Public Health
Dia	Diameter
DIP	Ductile Iron Pipe
DU, du	Dwelling Unit
DWMP	Domestic Water Master Plan
DWR	State of California, Department of Water Resources
DW	Domestic Water
DYY	Dry Year Yield

Table 2-1 (continued)
Abbreviations

Abbreviation	Explanation
EL, el	Elevation
ENR	Engineering News Record
EPA	United States Environmental Protection Agency
ESWTR	Enhanced Surface Water Treatment Rule
F	Fahrenheit
FCV	Flow Control Valve
fps	Feet per Second
ft	Feet
FY	Fiscal Year
GIS	Geographic Information System
gpcd	Gallons per Capita per Day
gpd	Gallons per Day
gpm	Gallons per Minute
GSTL	Galvanized Steel
HGE	Hydraulic Grade Elevation
HGL	Hydraulic Grade Line
HP, hp	Horsepower
HWL	High Water Level
IDSE	Initial Distribution System Evaluation
in	Inch
IEUA	Inland Empire Utilities Agency
JCSD	Jurupa Community Services District
LF	Lineal Feet
MCL	Maximum Contaminant Level
MCLG	Federal Maximum Contaminant Level Goal
MG, mg	Million Gallons
mgd	Million Gallons per Day
mg/l	Milligrams per Liter or Parts per Million
MWD	Metropolitan Water District of Southern California
NAVD	National American Vertical Datum
NL	Notification Levels
NMC	New Model Colony
OBMP	Optimum Basin Management Program
OFD	Ontario Fire Department
OMC	Old Model Colony
O&M	Operation and Maintenance
OSHA	Occupational Safety & Health Administration
OSY	Operating Safe Yield
PCE	Tetrachloroethylene
PCCP	Pre-Cast Concrete Pipe

Table 2-1 (continued)
Abbreviations

Abbreviation	Explanation
PHG	Public Health Goal
PRS	Pressure Regulating Station
PRV	Pressure Reducing Valve
psi	Pounds per Square Inch
PVC	Polyvinyl Chloride
RCCP	Reinforced Concrete Cylinder Pipe
RL	Response Levels
RPM	Rotations per Minute
RSTL	Riveted Steel
SAWC	San Antonio Water Company
SARWC	Santa Ana River Water Company
SCADA	Supervisory Control and Data Acquisition
SCE	Southern California Edison
SDWA	Safe Drinking Water Act
SF	Square Feet
SOI	Sphere of Influence
STL, stl	Steel
TCE	Trichloroethylene
TDH	Total Dynamic Head
TDS	Total Dissolved Solids
THAAS	Total Haloacetic Acids
TOC	Total Organic Carbon
TTHM	Total Trihalomethanes
TVMWD	Three Valleys Municipal Water District
µg/l	Micrograms per Liter or Parts per Billion
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey
UWMP	Urban Water Management Plan
VFD	Variable Frequency Drive
VOCs	Volatile Organic Compounds
WFA	Water Facilities Authority
WMP	Water Master Plan
WMWD	Western Municipal Water District
WQPP	Water Quality Protection Plan
WS, WSTL	Welded Steel
WTP	Water Treatment Plant