

# TABLE OF CONTENTS

---

---

Chapter	Page
<b>EXECUTIVE SUMMARY</b>	
Introduction	ES-1
The Objectives of the JOS 2010 Master Facilities Plan	ES-1
The Planning Process	ES-2
The Evaluation and Screening of Alternatives	ES-2
The Recommended Project	ES-9
Project Cost and Financing	ES-10
<b>1. INTRODUCTION</b>	
1.1 The County Sanitation Districts of Los Angeles County	1-1
1.2 The Joint Outfall System	1-2
1.2.1 JOS Wastewater Treatment System	1-3
1.2.2 JOS Wastewater Conveyance System	1-4
1.3 JOS Planning History	1-5
1.3.1 The 1977 JOS Facilities Plan	1-6
1.4 Subsequent Developments in the JOS	1-9
1.5 Need for Project	1-11
<b>2. EXISTING AND PROJECTED PLANNING AREA CHARACTERISTICS</b>	
2.1 Description of the Planning Area	2-1
2.1.1 Geography and Topography	2-1
2.1.2 Geology	2-1
2.1.3 Hydrology	2-6
2.1.4 Soils	2-10
2.2 Environmental Setting	2-13
2.2.1 Botanical and Wildlife Resources	2-13
2.2.2 Aesthetics	2-13
2.2.3 Archaeological and Historical (Cultural) Resources	2-17
2.2.4 Receiving Waters	2-20
2.3 Population and Economy	2-22
2.3.1 Population	2-22
2.3.2 Housing	2-23

*Table of Contents*

---

<b>Chapter</b>		<b>Page</b>
	2.3.3 Economy and Employment .....	2-24
2.4	Land Use .....	2-27
	2.4.1 JOS Regional Land Use Setting .....	2-27
	2.4.2 Local Land Use Setting — JWPCP .....	2-28
	2.4.3 Local Land Use Setting — SJCWRP .....	2-35
	2.4.4 Local Land Use Setting — LCWRP .....	2-40
	2.4.5 Local Land Use Setting — WNWRP .....	2-45
	2.4.6 Local Land Use Setting — LBWRP .....	2-49
	2.4.7 Local Land Use Setting — PWRP .....	2-53
2.5	Water Resources .....	2-57
	2.5.1 The Metropolitan Water District of Southern California .....	2-57
	2.5.2 Relationship Between the JOS and the MWD .....	2-58
	2.5.3 Projected Water Demand .....	2-58
	2.5.4 The Water Supply — Existing Water Supply .....	2-62
	2.5.5 The Water Supply — Additional Water Supplies to Meet 2010 Demands .....	2-67
	2.5.6 Total Year 2010 Water Supplies .....	2-71
	2.5.7 Projected Water Supply and Demand Balance .....	2-72
	2.5.8 MWD Water Resource Panning .....	2-73
2.6	Air Quality .....	2-74
	2.6.1 Introduction .....	2-74
	2.6.2 Regional Setting .....	2-74
	2.6.3 Background on Districts' Air Quality Control Technology .....	2-79
2.7	Energy Consumption .....	2-82
<b>3.</b>	<b>WASTE DISCHARGE REQUIREMENTS, LAWS AND REGULATIONS</b>	
	3.1 Requirements for Discharge .....	3-1
	3.1.1 JWPCP .....	3-2
	3.1.2 Water Reclamation Plants .....	3-9
	3.2 Federal Laws and Regulations .....	3-15
	3.2.1 Clean Water Act .....	3-15
	3.2.2 Safe Drinking Water Act .....	3-16

<b>Chapter</b>	<b>Page</b>
3.2.3	Federal Clean Air Act ..... 3-17
3.2.4	Federal Endangered Species Act ..... 3-20
3.2.5	National Historic Preservation Act ..... 3-21
3.2.6	Other Applicable Federal Requirements ..... 3-21
3.3	State and Local Laws and Regulations ..... 3-23
3.3.1	State Water and Air Laws ..... 3-23
3.3.2	California Endangered Species Act ..... 3-25
3.3.3	Water and Air Regulations of Other State and Local Agencies ..... 3-26
3.3.4	Regulations Involving Soil Contamination ..... 3-30
3.4	Water Reuse and Reclamation Requirements ..... 3-33
<b>4.</b>	<b>DESCRIPTION OF EXISTING FACILITIES</b>
4.1	Treatment Plants and Conveyance System ..... 4-1
4.1.1	Description of JOS Wastewater Treatment Plants and Effluent Management ..... 4-1
4.1.2	Description of JOS Wastewater Conveyance System ..... 4-7
4.2	Solids Processing and Biosolids Management Practices ..... 4-9
4.2.1	Processing ..... 4-9
4.2.2	Biosolids Management ..... 4-9
<b>5.</b>	<b>EXISTING AND PROJECTED WATER AND WASTEWATER CHARACTERISTICS</b>
5.1	The Water Supply and Its Characteristics ..... 5-1
5.1.1	Significance to Districts' Wastewater Facilities Planning ..... 5-1
5.1.2	Imported Water Supplies ..... 5-2
5.1.3	Groundwater Supplies ..... 5-3
5.1.4	Findings ..... 5-4
5.2	Wastewater Flow and Projections ..... 5-6
5.2.1	Existing Flows and Capacities ..... 5-6
5.2.2	Demographic Data ..... 5-6
5.2.3	Methodology Used to Estimate Wastewater Flow from Population Data ..... 5-8
5.2.4	Required Capacity Projected for the JOS ..... 5-13

*Table of Contents*

---

<b>Chapter</b>		<b>Page</b>
5.3	Wastewater Characteristics .....	5-17
5.4	Current and Projected Biosolids Production .....	5-19
5.4.1	Current Solids Production in the JOS .....	5-19
5.4.2	Solids Projection .....	5-19
5.4.3	Solids Treatment and Disposal .....	5-21
5.5	Water Reuse and Reclamation .....	5-25
5.5.1	History of Water Reclamation and Reuse by the Districts .....	5-25
5.5.2	Current Markets and Levels of Water Reclamation and Reuse By the Districts .....	5-26
5.5.3	Projected Sizes and Locations of Water Reuse Markets in the JOS Area .....	5-49
<b>6.</b>	<b>ANALYSIS OF PROJECT ALTERNATIVES</b>	
6.1	Introduction .....	6-1
6.2	Planning Objectives .....	6-3
6.3	Planning Concepts and Constraints .....	6-4
6.3.1	Legal Requirements .....	6-4
6.3.2	Projected Wastewater Flows and Characteristics .....	6-4
6.3.3	Coping With Uncertainty .....	6-4
6.4	Conceptual Project Alternatives .....	6-6
6.4.1	Wastewater Treatment .....	6-6
6.4.2	Solids Processing .....	6-8
6.4.3	Biosolids Management .....	6-9
6.5	Screening of Conceptual Project Alternatives .....	6-10
6.5.1	Screening Criteria .....	6-10
6.5.2	Conceptual Project Alternatives Eliminated .....	6-11
6.6	Planning Concepts .....	6-15
6.6.1	Wastewater Treatment — Conventional Expansion .....	6-15
6.6.2	Solids Processing — Centralized at the JWPCP .....	6-15
6.6.3	Biosolids Management — Diversified Management Program .....	6-15
6.7	Preliminary Project Alternatives .....	6-17
6.7.1	System Constraints .....	6-17

<b>Chapter</b>	<b>Page</b>
6.7.2 Development of Alternatives .....	6-18
6.8 Screening of Preliminary Project Alternatives .....	6-24
6.8.1 Screening Criteria .....	6-24
6.8.2 Preliminary Project Alternatives Eliminated .....	6-27
6.9 Feasible Project Alternatives .....	6-29
6.10 Screening of Feasible Project Alternatives .....	6-31
6.10.1 Screening Criteria .....	6-31
6.10.2 Feasible Project Alternatives Eliminated .....	6-34
6.11 Final Project Alternatives — Summary .....	6-36
6.12 Final Project Alternatives — Detailed Description .....	6-39
6.12.1 No Project Alternative .....	6-39
6.12.2 Project Elements Common to All Final Project Alternatives .....	6-40
6.12.3 Balanced Treatment Alternatives .....	6-61
6.12.4 Emphasize Inland Treatment Alternative .....	6-83
6.13 Analysis of Final Project Alternatives .....	6-91
6.13.1 Meeting Project Needs .....	6-91
6.13.2 Cost .....	6-106
6.13.3 Technical Analysis .....	6-108
6.13.4 Environmental Impacts .....	6-110
6.13.5 Public Input/Public Acceptability .....	6-112
6.13.6 Identification of Preferred Project Alternative .....	6-112
 <b>7. SUMMARY OF RECOMMENDED PROJECT</b>	
7.1 Joint Water Pollution Control Plant .....	7-1
7.1.1 Proposed JWPCP Treatment Facilities .....	7-1
7.2 Proposed WRP Expansions .....	7-9
7.2.1 SJCWRP .....	7-9
7.2.2 LCWRP .....	7-9
7.3 Biosolids Management .....	7-10
7.4 Related Projects .....	7-11
7.4.1 Beneficial Reuse of Reclaimed Water .....	7-11
7.4.2 Sewer Rehabilitation .....	7-11

*Table of Contents*

---

<b>Chapter</b>	<b>Page</b>
7.4.3 La Cañada WRP Outfall Sewer .....	7-11
7.5 Project Financing .....	7-13
7.5.1 Capital Financing .....	7-13
7.5.2 Operation and Maintenance Financing .....	7-14
<b>8. PUBLIC PARTICIPATION AND WRITTEN COMMENTS</b>	
8.1 Summary of Public Participation .....	8-1
8.2 Written Comments .....	8-2
<b>LIST OF JOINT OUTFALL DISTRICTS BOARDS OF DIRECTORS ...</b>	<b>End of Document</b>
<b>LIST OF CONTRIBUTORS .....</b>	<b>End of Document</b>