

TABLE OF CONTENTS

FACT SHEET i

ACRONYMS vii

TABLE OF CONTENTS ix

CHAPTER 1. Introduction..... 1-1

1.1 Overview 1-1

1.2 Project Location 1-1

1.3 Description of Chambers Creek Regional Wastewater Treatment Plant 1-4

 1.3.1 Current Operations..... 1-4

 1.3.2 Current Permitted Facilities 1-5

 1.3.3 Current NPDES Permit 1-5

1.4 Need for Facilities Plan..... 1-6

 1.4.1 Projected Service Area Growth 1-6

 1.4.2 NPDES Permit Requirements / Water Quality 1-9

1.5 Purpose of Facilities Plan 1-10

1.6 Overview of Related Planning Processes 1-10

 1.6.1 Unified Sewer Plan 1-10

 1.6.2 Chambers Creek Properties Master Site Plan 1-11

1.7 Environmental Review (SEPA) 1-12

1.8 Programmatic Review 1-12

1.9 Project Scoping..... 1-12

1.10 Summary of Alternatives 1-14

1.11 Actions Requested..... 1-16

1.12 Summary of Major Conclusions..... 1-16

1.13 Background Documents 1-27

1.14 Terminology Used throughout the Document..... 1-27

CHAPTER 2. Alternatives..... 2-1

2.1 Level of Service Alternatives..... 2-1

 2.1.1 No Action Alternative (LOS 0)..... 2-2

 2.1.2 Alternative 1: Maintain Existing Level of Service –
Marine Discharge (LOS 1)..... 2-4

 2.1.3 Alternative 2: Augment Existing Level of Service –
Marine Discharge (LOS 2)..... 2-6

 2.1.4 Alternative 3: Augment Existing Level of Service –
Partial Recycling (LOS 3)..... 2-9

 2.1.5 Alternative 4: Best Practice Level of Service – Full Recycling (LOS 4) 2-11

 2.1.6 Summary of Level of Service Alternatives..... 2-14

2.2 Project-Specific Actions..... 2-18

 2.2.1 Site Preparation and Perimeter Development 2-18

 2.2.2 Phase 1 Expansion 2-21

 2.2.3 Summary of Phase 1 Expansion 2-22

CHAPTER 3. Affected Environment, Impacts, and Mitigation 3-1

3.1 Earth, Soils and Geology 3-1

 3.1.1 Affected Environment..... 3-1

 3.1.2 Impacts 3-7

3.1.3	Mitigation Measures	3-13
3.1.4	Unavoidable Probable Significant Adverse Impacts	3-14
3.2	Water Resources	3-15
3.2.1	Affected Environment.....	3-15
3.2.2	Impacts.....	3-27
3.2.3	Mitigation Measures	3-45
3.2.4	Unavoidable Probable Significant Adverse Impacts	3-47
3.3	Air Quality and Odor	3-49
3.3.1	Affected Environment.....	3-49
3.3.2	Impacts.....	3-51
3.3.3	Mitigation Measures	3-58
3.3.4	Unavoidable Probable Significant Adverse Impacts	3-60
3.4	Plants and Animals	3-61
3.4.1	Affected Environment.....	3-61
3.4.2	Impacts.....	3-72
3.4.3	Mitigation Measures	3-81
3.4.4	Unavoidable Probable Significant Adverse Impacts	3-81
3.5	Land Use	3-83
3.5.1	Affected Environment.....	3-83
3.5.2	Impacts.....	3-87
3.5.3	Mitigation Measures	3-96
3.5.4	Unavoidable Probable Significant Adverse Impacts	3-96
3.6	Noise	3-99
3.6.1	Affected Environment.....	3-99
3.6.2	Impacts.....	3-102
3.6.3	Mitigation Measures	3-107
3.6.4	Unavoidable Probable Significant Adverse Impacts	3-108
3.7	Environmental Health	3-109
3.7.1	Affected Environment.....	3-109
3.7.2	Impacts.....	3-113
3.7.3	Mitigation Measures	3-120
3.7.4	Unavoidable Probable Significant Adverse Impacts	3-122
3.8	Transportation	3-123
3.8.1	Affected Environment.....	3-123
3.8.2	Impacts.....	3-129
3.8.3	Mitigation Measures	3-132
3.8.4	Unavoidable Probable Significant Adverse Impacts	3-132
3.9	Recreation.....	3-133
3.9.1	Affected Environment.....	3-133
3.9.2	Impacts.....	3-136
3.9.3	Mitigation Measures	3-139
3.9.4	Unavoidable Probable Significant Adverse Impacts	3-140
3.10	Public Services and Utilities.....	3-141
3.10.1	Affected Environment.....	3-141
3.10.2	Impacts.....	3-143
3.10.3	Mitigation Measures	3-146

3.10.4	Unavoidable Probable Significant Adverse Impacts	3-147
3.11	Cultural Resources.....	3-149
3.11.1	Affected Environment.....	3-149
3.11.2	Impacts.....	3-151
3.11.3	Mitigation Measures	3-153
3.11.4	Unavoidable Probable Significant Adverse Impacts	3-153
3.12	Aesthetics	3-155
3.12.1	Affected Environment.....	3-155
3.12.2	Impacts.....	3-157
3.12.3	Mitigation Measures	3-165
3.12.4	Unavoidable Probable Significant Adverse Impacts	3-166
CHAPTER 4.	References.....	4-1

LIST OF TABLES

Table 1-1.	NPDES Permit Limits ^a	1-6
Table 1-2.	Wastewater Flow and Load Projections Summary.....	1-9
Table 1-3.	Summary of Scoping Comments	1-13
Table 1-4	Comparative Environmental Impacts and Mitigation Measures for Level of Service Alternatives Considered in the Chambers Creek Regional Plant Facilities Plan EIS....	1-17
Table 2-1.	Summary of Components Associated with Each Level of Service Alternative	2-15
Table 2-2.	Summary of Components Associated with Site Preparation and Perimeter Development.....	2-20
Table 2-3.	Summary of Components Associated with Phase 1 Expansion.....	2-22
Table 3.1-1	Summary of Potential Earth Impacts of Level of Service Alternatives and Phase 1 Expansion	3-11
Table 3.2-1	Applicable Surface and Ground Water Regulations.....	3-16
Table 3.2-2	Washington State Water Quality Standards for Puget Sound through Admiralty Inlet and South Puget Sound (WAC 173-201A-210, 2006 Rule).....	3-17
Table 3.2-3	NPDES Permit Requirements for Chambers Creek Plant Effluent	3-18
Table 3.2-4	State Water Quality Standards for Ground Water (Toxic Substances).....	3-19
Table 3.2-5	Summary of Long-term Monitoring of Puget Sound; Status and Trends in Water Quality from 2001-2005: Gordon Point.....	3-26
Table 3.2-6	Permit Limitations and Discharge Concentrations, Current and Projected for LOS 2, 3 and 4	3-30
Table 3.2-7	Estimated Marine Water Loadings according to LOS Alternatives and Phases.....	3-31
Table 3.2-8	Estimated Ground Water Loadings according to LOS Alternatives and Phases.....	3-34
Table 3.2-9	Summary of Potential Water Resource Impacts of Level of Service Alternatives and Phase 1 Expansion.....	3-43
Table 3.3-1	Odor Dispersion Modeling Predictions	3-54

Table 3.3-2	Summary of Potential Air Quality Impacts of Level of Service Alternatives and Phase 1 Expansion	3-57
Table 3.4-1	Summary of Potential Biological Resource Impacts of Level of Service Alternatives and Phase 1 Expansion	3-78
Table 3.5-1	Summary of Potential Land Use Impacts of Level of Service Alternatives and Phase 1 Expansion	3-94
Table 3.6-1	Pierce County (City of University Place) Environmental Noise Limits (dBA).....	3-101
Table 3.6-2	Noise Producing Elements Located Outside of Utility Corridors	3-101
Table 3.6-3	Summary of Potential Noise Impacts of Level of Service Alternatives and Phase 1 Expansion.....	3-105
Table 3.7-1	Summary of Federal and State Regulations Relating to Environmental Health.....	3-112
Table 3.7-2	Hazardous Chemical Storage Requirements for LOS Alternatives.....	3-115
Table 3.7-3	Summary of Potential Environmental Health Impacts of Level of Service Alternatives and Phase 1 Expansion.....	3-118
Table 3.8-1Summary of Potential Transportation Impacts of Level of Service Alternatives and Phase 1 Expansion.....	3-131
Table 3.9-1	Public Recreational Resources within Approximately One Mile of the Site	3-135
Table 3.9-2	Summary of Potential Recreational Impacts of Level of Service Alternatives and Phase 1 Expansion	3-138
Table 3.10-1	Annual Energy Use (MWH/yr) at Build-Out.....	3-144
Table 3.10-2	Summary of Potential Energy Impacts of Level of Service Alternatives and Phase 1 Expansion	3-146
Table 3.11-1	Summary of Potential Impacts to Cultural Resources from Level of Service Alternatives and Phase 1 Expansion.....	3-152

LIST OF FIGURES

Figure 1-1	Vicinity Map	1-3
Figure 1-2	Plant Process Flow Schematic	1-5
Figure 1-3	Sewer Service Area Map	1-7
Figure 2-1	LOS 0 (No Action).....	2-3
Figure 2-2	LOS 1 (Maintain Existing Level of Service – Marina Discharge)	2-5
Figure 2-3	LOS 2 (Augment Existing Level of Service – Marine Discharge).....	2-8
Figure 2-4	LOS 3 (Augment Existing Level of Service – Partial Recycling)	2-10
Figure 2-5	LOS 4 (Best Practice – Full Recycling).....	2-12
Figure 2-6	Site Preparation – Excavation and Fill Areas	2-19
Figure 3.1- 1	Geohazards	3-5
Figure 3.2-1	Estimated Marine Water Loading by Alternative and Phase.....	3-32
Figure 3.4- 1	Streams, Wetlands and Wildlife Habitat.....	3-63
Figure 3.4- 2	Documented Subtidal Geoduck Areas	3-67
Figure 3.8- 1	Transportation Study Area.....	3-125
Figure 3.9- 1	Chambers Creek Properties Planned Recreational Uses.....	3-134
Figure 3.12-1	Plant and Expansion Area.....	3-155
Figure 3.12-2	View from Chambers Creek Road South.....	3-155

Figure 3.12-3 View from Oakbrook Neighborhood 3-156
Figure 3.12-4 View from Golf Course..... 3-156
Figure 3.12-5 Representative Layouts 3-159

LIST OF APPENDICIES

Appendix A Land Use Approvals
Appendix B Transportation Section, Chambers Creek Property Master Plan Update Final SEIS
Appendix C SERP Documentation