

## **Section 8: Development of Projects**

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### **8.1 Introduction and Project Development**

This Master Plan presents a list of projects planned to meet the District's needs with respect to recycled water and fresh water infrastructure and management in their Alpine County operations. The District has successfully managed its recycled water and a portion of the freshwater in Alpine County for many years and the Master Plan serves as a guidance manual for the District to continue its successful management. In developing the projects of the Master Plan, particular attention was directed towards identifying the areas of the District's operations in Alpine County that could be improved. Project development was also based on the information detailed in Section 7 including meeting the objectives of the Master Plan, purpose and needs anticipated, and the District's guiding principles in Alpine County operations.

The projects of the Master Plan were developed with input from, and coordination with, District personnel familiar with the opportunities and constraints of the District's operations in Alpine County. Numerous meetings and site visits were held to develop project concepts, address limiting aspects and conditions, identify realistic project implementation strategies, and develop potential projects and variations.

The Master Plan projects presented herein are classified into the following four project types.

- 1) Recycled Water Infrastructure Projects
- 2) Recycled Water Management Projects
- 3) Fresh Water Infrastructure Projects
- 4) Fresh Water Management Projects

Generally infrastructure projects are those projects requiring capital investment and construction, while management projects are projects that make managerial or procedural changes. For these four project types, the Master Plan projects are grouped in three different categories including projects recommended for implementation in the near future, projects whose implementation is contingent on various factors, and future projects that may or may not be implemented in the future

The projects intend to be publicly supportable, financially feasible, and effective in meeting the District's recycled water management needs. The Master Plan development process upheld the CEQA requirements through evaluation of multiple alternatives, including a "no action" alternative. Master plan alternatives are included in the Environmental Impact Report associated with the Master Plan. The Master Plan does not specifically omit any of the alternatives developed however recommended projects are identified. Implementation of alternatives other than the Master Plan projects could be affected by technological, regulatory, economical and other potential changes.

Each of the projects listed in Table 8.1 (page 8-59) were compiled to satisfy a specific management philosophy. Through a process of public presentation and comment/comparison to the District's guiding principles, the most desirable projects were defined.

There are some projects that were developed to address inadequacy of existing facilities, primarily the District's On-Farm emergency disposal system. Other projects were developed to

address potential operational concerns as well as the possibility of the loss of lands currently irrigated with recycled water due to subdivision or some other cause. Lastly, some projects have been developed in response to regulatory or environmental considerations. Projects were developed, as much as possible, to meet multiple needs.

## **8.2 Master Plan Project Listing**

The Master Plan consists of 26 distinct projects classified in the four types mentioned previously. Of these 26 projects, eight are recommended for implementation in the near future, twelve projects are identified as projects that may or may not be implemented based on various contingencies and project triggers, and the remaining six projects are classified as potential future projects.

Table 8.1 (page 8-59) presents a summary of the Master Plan projects, including conceptual costs for recommended infrastructure projects. Each of the projects are detailed in the following sections with the recycled water infrastructure projects discussed in Section 9, the recycled water management projects discussed in Section 10, the freshwater infrastructure projects discussed in Section 11, the freshwater management projects discussed in Section 12, and the projects classified as potential future projects detailed in Section 13. All of the recommended and contingent projects are shown in Figure 8.1 (at the end of Section 8).

Some of the Master Plan projects include variations to provide the District with some flexibility while others stand alone. The Master Plan projects reflect the most desirable aspects of the project alternatives to provide the framework of a Master Plan that provides the District with the security, reliability, and economy required; provide the County and local residents with continued support of agricultural practices; and impart a minimal impact to aesthetics and land use practices in the area.

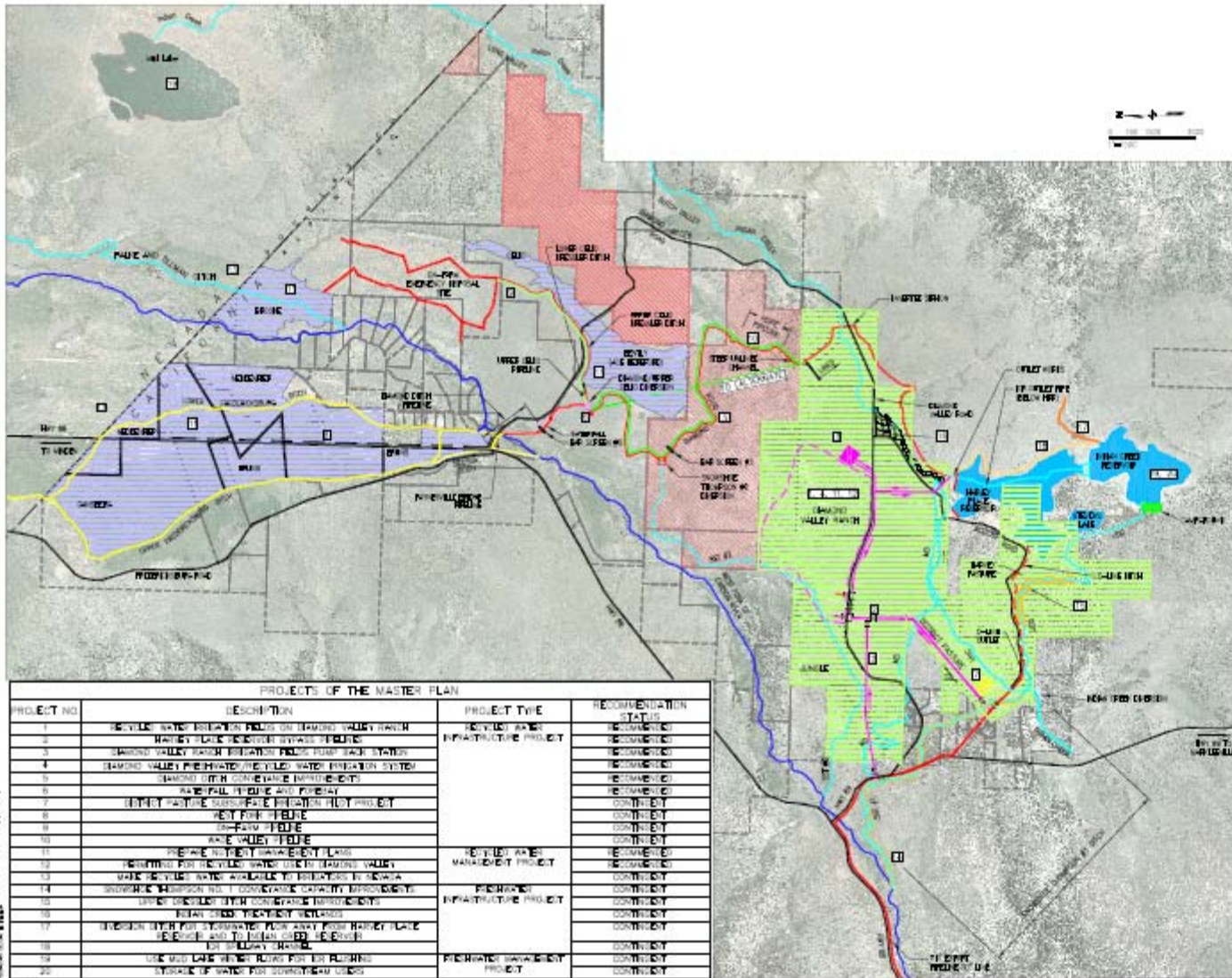
**Table 8.1 Recycled Water Facilities Master Plan Projects**

Project Number	Project Description	Project Type	Recommendation Status	Conceptual Cost (\$MIL)	Incorporates All or Portion of Component Number(s)**
1	Recycled Water Irrigation Fields on Diamond Valley Ranch	Recycled Water Infrastructure Projects	Recommended	7.3	11, 19
2	Harvey Place Reservoir Bypass System Pipelines and Ditches		Recommended	6.9	11
3	Diamond Valley Ranch Irrigation Fields Pump Back Station		Recommended	0.6	11
4	Diamond Valley Freshwater/Recycled Water Irrigation System		Recommended	1.9*	29, 30
5	Diamond Ditch Conveyance Improvements		Recommended	1.2	3
6	Waterfall Pipeline Forebay and Pipeline		Recommended	2.0	3, 4, 6, 22
7	District Pasture Subsurface Irrigation Pilot Project		Contingent	0.4	7, 14, 16
8	West Fork Pipeline		Contingent	4.6	1, 2, 4, 7, 14
9	On-Farm Pipeline		Contingent	2.8	1, 6, 7, 14
10	Wade Valley Pipeline		Contingent	3.1	5, 14, 20, 22
11	Prepare Nutrient Management Plans	Recycled Water Management Projects	Recommended	Not Developed	18
12	Permitting for Recycled Water Use in Diamond Valley		Recommended		19
13	Make Recycled Water Available to Irrigators in Nevada		Contingent		2
14	Snowshoe Thompson No. 1 Conveyance Capacity Improvements	Freshwater Infrastructure Projects	Contingent	3.0	17, 23, 24
15	Upper Dressler Ditch Conveyance Improvements		Contingent	2.5	23, 24
16	Indian Creek Treatment Wetlands		Contingent	0.9	23, 24
17	Diversion Ditch for Stormwater Flow Away from Harvey Place Reservoir and to Indian Creek Reservoir		Contingent	0.4	31
18	Indian Creek Reservoir Spillway Channel		Contingent	0.9	32
19	Use Mud Lake Winter Flows for Indian Creek Reservoir Flushing	Freshwater Management Projects	Contingent	Not Developed	23
20	Storage of Water for Downstream Users		Contingent		24
21	Develop Recycled Water Wholesale Program	Future Projects	Future	Not Developed	25
22	Biosolids Composting		Future		26
23	Become a Water Rights Buyer/Broker to Maintain the Value of Recycled Water		Future		27
24	Power Generation		Future		28
25	Extend the C-Line to the State Line		Future		33
26	Injection Well Program		Future		8, 34

\*Does not include Phase 3, Irrigation of the Jungle.

\*\*See Appendix F – Technical Memorandum 6 for component listing.

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PROJECTS OF THE MASTER PLAN

PROJECT NO.	DESCRIPTION	PROJECT TYPE	RECOMMENDATION STATUS
1	RECYCLE WATER FROM LAKE TOWNSHIP VALLEY WATER	RECYCLE WATER	RECOMMENDED
2	HARVEY LAKE RESERVOIR BYPASS PROJECT	INFRASTRUCTURE PROJECT	RECOMMENDED
3	LAKE VALLEY WATER TREATMENT PLANT PHASE 2 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
4	LAKE VALLEY WATER TREATMENT PLANT PHASE 1 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
5	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
6	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
7	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
8	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
9	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
10	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
11	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
12	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
13	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
14	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
15	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
16	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
17	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
18	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
19	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED
20	LAKE VALLEY WATER TREATMENT PLANT PHASE 0 SYSTEM	INFRASTRUCTURE PROJECT	RECOMMENDED

**STPUD**

South Tahoe Public Utility District

1000 LAKE AVENUE, SOUTH TAHOE, CALIFORNIA 96155

TEL: 760.933.1234 FAX: 760.933.1235

WWW.STPUD.COM

**PROJECT INFORMATION**

PROJECT NAME: SOUTH TAHOE PUBLIC UTILITY DISTRICT

PROJECT NO.: 2011-001

PROJECT DATE: 10/2011

PROJECT STATUS: PRELIMINARY DRAFT

**LEGEND**

**Level 1**

- RECYCLE WATER PROJECT
- WATER TREATMENT PROJECT
- WATER SUPPLY PROJECT
- WATER CONSERVATION PROJECT
- WATER DISTRIBUTION PROJECT
- WATER STORAGE PROJECT
- WATER INFRASTRUCTURE PROJECT
- WATER MANAGEMENT PROJECT

**SYMBOLS**

- LAKE
- RESERVOIR
- WATER TREATMENT PLANT
- WATER STORAGE TANK
- WATER DISTRIBUTION LINE
- WATER CONSERVATION DEVICE
- WATER INFRASTRUCTURE
- WATER MANAGEMENT

**SCALE**

1" = 100'

**PROJECT LOCATION MAP**

STPUD DISTRICT

AS SHOWN

8.1 1 of 1 0