Proposition 13 Agricultural Feasibility
Study Grant Program Proposal

Sonoma Valley Recycled Water Feasibility Study

Submitted by
Sonoma County Water Agency
on behalf of
Sonoma Valley County Sanitation District

March 1, 2002

Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form

1. Applying for (select one):	☐ (a) Prop 13 Urban Water Conservation Capital Outlay Grant ☒ (b) Prop 13 Agricultural Water Conservation Capital Outlay Feasibility Study Grant ☐ (c) DWR Water Use Efficiency Project	
2. Principal applicant	Sonoma Valley County Sanitation District	
3. Project Title:	Sonoma Valley Recycled Water Feasibility Study	
4. Person authorized to sign and submit proposal:	Name, title	Randy D. Poole, General Manager/Chief Engineer
	Mailing address	P.O. Box 11628, Santa Rosa, CA 95406
	Telephone	(707) 526-5370
	Fax.	(707) 544-6123
	E-mail	rdp@scwa.ca.gov
5. Contact person (if different):	Name, title.	Kiergan R. Pegg, Administrative Services Officer
	Mailing address.	P.O. Box 11628, Santa Rosa, CA 95406
	Telephone	(707) 521-1844
	Fax.	(707) 544-6123
	E-mail	kpegg@scwa.ca.gov
6. Funds requested (dollar amount):		$100,000
7. Applicant funds pledged (dollar amount):		$220,000
8. Total project costs (dollar amount):		$320,000
9. Estimated total quantifiable project benefits (dollar amount):		Unknown
Percentage of benefit to be accrued by applicant:		Unknown
Percentage of benefit to be accrued by CALFED or others:		Unknown

Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form (continued)

10. Estimated annual amount of water to be saved (acre-feet):

Estimated total amount of water to be saved (acre-feet):	1,100 MG
Over 40 years	
Estimated benefits to be realized in terms of water quality, in-stream flow, other:	See Part Two
11. Duration of project (month/year to month/year):	7/01 to 7/03
12. State Assembly District where the project is to be conducted:	7
13. State Senate District where the project is to be conducted:	2
14. Congressional district(s) where the project is to be conducted:	1
15. County where the project is to be conducted:	Sonoma
16. Date most recent Urban Water Management Plan submitted to the Department of Water Resources:	May 14, 2001

17. Type of applicant (select one):
Prop 13 Urban Grants and Prop 13 Agricultural Feasibility Study Grants:

- ☐ (a) city
- ☐ (b) county
- ☐ (c) city and county
- ☐ (d) joint power authority
- ☒ (e) other political subdivision of the State, including public water district
- ☐ (f) incorporated mutual water company

DWR WUE Projects: the above entities (a) through (f) or:

- ☐ (g) investor-owned utility
- ☐ (h) non-profit organization
- ☐ (i) tribe
- ☐ (j) university
- ☐ (k) state agency
- ☐ (l) federal agency

18. Project focus:

- ☒ (a) agricultural
- ☐ (b) urban

Consolidated Water Use Efficiency 2002 PSP
Proposal Part One:
A. Project Information Form (continued)

19. Project type (select one):
Prop 13 Agricultural Feasibility Study Grant related to:

☐ (a) implementation of Urban Best Management Practices

☐ (b) implementation of Agricultural Efficient Water Management Practices

☐ (c) implementation of Quantifiable Objectives (include QO number(s)

☒ (d) other (specify)

conveyance systems for recycled water

DWR WUE Project related to:

☐ (e) implementation of Urban Best Management Practices
☐ (f) implementation of Agricultural Efficient Water Management Practices
☐ (g) implementation of Quantifiable Objectives (include QO number(s))
☐ (h) innovative projects (initial investigation of new technologies, methodologies, approaches, or institutional frameworks)
☐ (i) research or pilot projects
☐ (j) education or public information programs
☐ (k) other (specify)

20. Do the actions in this proposal involve physical changes in land use, or potential future changes in land use?

☐ (a) yes

☒ (b) no

If yes, the applicant must complete the CALFED PSP Land Use Checklist found at http://calfed.water.ca.gov/environmental_docs.html and submit it with the proposal.

Consolidated Water Use Efficiency 2002 PSP
Proposal Part One
B. Signature Page

By signing below, the official declares the following:

The truthfulness of all representations in the proposal;

The individual signing the form is authorized to submit the proposal on behalf of the applicant; and

The individual signing the form read and understood the conflict of interest and confidentiality section and waives any and all rights to privacy and confidentiality of the proposal on behalf of the applicant.

_____
Authorized Signature

Randy D. Poole, General Manager/Chief Engineer
Name, Title

February 28, 2002
Date

PROPOSAL PART TWO

Project Summary

Location

The Sonoma Valley (Valley) is located north of San Francisco Bay and southeast of the City of Santa Rosa, as illustrated in Exhibit A. The Valley encompasses approximately 103,000 acres situated between the Petaluma Valley and the Sonoma Mountains to the west and the Napa Valley and Mayacamas Mountains to the east. San Pablo Bay borders the Valley to the south and surface water near the town of Kenwood is considered to delineate the northern boundary of the Valley.

Nature

This feasibility study (Study) will identify and evaluate project alternatives to facilitate use of recycled water generated at the Sonoma Valley County Sanitation District (SVCSD) treatment plant.

Goals and Objectives

The objectives of the feasibility study are to:

- Evaluate the feasibility (technical and economic) of expanded recycled water use to better utilize water resources in the Valley.
- Evaluate the role of recycled water as part of an integrated water resource strategy to achieve potential water supply, environmental, ecological and economic benefits for stakeholders.
- Develop a long-term planning document to implement a phased recycled water program.

Methods and Procedures

The Study will include engineering, financial, and environmental evaluations. The SVCSD will work closely with the Valley of the Moon Water District (VOMWD), the City of Sonoma (City), the Sonoma Ecology Center and agricultural interests to further identify potential recycled water users. Storage requirements will be established and pipeline routes will be evaluated. Project alternatives will include system layouts and cost estimates.

A financial plan will identify potential funding sources and system revenues to repay any debt incurred. Finally, project alternatives will be evaluated for potential environmental impacts. Feasible alternatives will be evaluated, as required by the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) in a project-level environmental impact report (EIR).

Expected Outcomes

The feasibility study will result in a long-term planning document identifying the potential water supply benefits of recycled water use and the evaluating the feasibility of recycled water project alternatives within the Sonoma Valley.

Costs and Benefits
The study will cost approximately $320,000. Benefits of the Study include identification and evaluation of project alternatives that will result in environmental benefits from reduced discharges to waters of the United States, which are tributaries to San Pablo Bay, reduction of peak demands on existing potable water distribution systems, potential reduction of groundwater pumping for agricultural purposes and an annual savings of approximately 1,100 million gallons.

A. Scope of Work: Relevance and Importance

The Study will identify and evaluate projects to facilitate use of recycled water generated at the SVCSD treatment plant. The Study will identify projects that will address the specific local, regional and Bay-Delta water issues as noted below:

Local Issues:	Reduce groundwater pumping by both agricultural and municipal users to reduce potential saltwater intrusion into the aquifer and protecting the aquifer for future potable water supply Reduce the need to develop additional potable water diversions and transmission system facilities
Regional Issues:	Reduce diversions from the Russian River
Bay-Delta Issues:	Reduce or eliminate winter discharges to waters of the United States, which are tributaries to San Pablo Bay

There are currently no local or regional water management plans or other resource management plans in place within the Valley or within greater Sonoma County.

B. Scope of Work: Technical/Scientific Merit, Feasibility

1. Methods, Procedures and Facilities

The feasibility study will include engineering, financial, and environmental evaluations. The engineering analysis will establish the amount of recycled water available through the development of a predictive water balance model. The potential demand for recycled water will be established using the SVCSD's existing Geographical Information System database. The Agency will also work closely with the VOMWD, the City, and agricultural interests to further identify potential recycled water users. Storage requirements will be established and pipeline routes and pumping requirements evaluated. Project alternatives will include system layouts and phasing of project components. Cost estimates will be developed for each alternative.

A financial plan will identify potential funding sources and system revenues to repay any debt incurred. The most feasible project alternatives will be selected for further study, including preparation of appropriate environmental documents as required by CEQA and NEPA. This could include preparation of a project level EIR to address potential impacts.

2. Task List and Schedule
(see Exhibit B)

3. Monitring and Assessment
(not applicable for Agricultural Fesibility Study projects)

4. Preliminary Plans and Specifications and Certification Statement
(not applicable for Agricultural Fesibility Study projects)

C. Qualifications of the Applicants and Cooperators

1. (see Exhibit C for resume of project manager)

2. Role of Any External Cooperators That Will Be Used for This Project.
The Study will be conducted by the Sonoma County Water Agency (Agency) on behalf of the SVCSD. The Agency has had preliminary discussions with the VOMWD, and the City regarding the Study. The Agency will perform the technical and financial analyses and the environmental review for the Study. VOMWD and the City will review of all aspects of the Study. It is possible that the Sonoma Ecology Center will assume an active role in the public outreach activities. The Agency is planning to meet with these entities to further discuss their respective roles in the project.

D. Benefits and Costs

1. Budget Breakdown and Justification
(see Exhibit D)

2. Cost-Sharing
The SVCSD received notification from the State Water Resources Control Board, Division of Water Recycling (SWRCB) that a Water Recycling Facilities Planning Grant will be available upon approval by their Board for up to $75,000 of the cost of the Study. This funding comes with a cost share requirement of 50 percent or $75,000 from the SVCSD. It is anticipated a grant contract will be forthcoming for execution in the next two to three months. A portion of the remaining costs of the study are proposed to be funded in part by the Department of Water Resources Agricultural Feasibility Study Grant Program ($100,000). The balance of Study costs will be provided by the SVCSD ($145,000).

3. Benefit Summary and Breakdown

Below is abbreviated Benefits and Costs information, as required for a Prop 13 Agricultural Fesibility Study Grant

Potential Benefits to be Realized and Information to be Gained
The Study will identify and evaluate project alternatives that will increase water use efficiency by facilitating distribution and reuse of recycled water in place of potable water for irrigation. This will reduce the need to develop additional potable Russian River water diversions and transmission system facilities. Additionally, use of recycled water will reduce groundwater pumping by agricultural users. Groundwater is a major source of potable water in the Valley for VOMWD, the City and private domestic well owners. Consequently, reduced agricultural groundwater pumping will help protect this water resource for potable uses. Less groundwater pumping could reduce potential saltwater intrusion into the aquifer, further protecting the aquifer for future potable water supply. The project alternatives identified will provide environmental benefits by reducing diversions from the Russian River and winter discharges to waters of the United States, which are tributaries to San Pablo Bay.

Benefit Realized and Information Gained Versus Costs
Since water supply, water quality and environmental issues currently and will undoubtedly continue to challenge the Valley and its neighbors, it is critical that projects be identified to address these short-term and long-term issues. This study is the first step in this process intended to evaluate the feasibility of recycled water projects and, therefore, must be conducted before any significant projects can move forward. Since many project alternatives may be identified to address these issues, the benefits that such projects would bring can not easily be quantified at this time.

E. Outreach, Community Involvement and Acceptance

Agency staff has had preliminary discussions with the VOMWD, the City, and the Sonoma Ecology Center, regarding the nature and timing of the Study. Additionally, outreach to landowners and other potential recycled water users previously conducted in 1999 as part of an earlier study of recycled water use in Sonoma County.

Agency staff will obtain assistance and input from stakeholders during the study through a public participation program. As a first step in this program, Agency staff will prepare a project information handout that will detail the events to be completed during all stages of the project. The handout will include information regarding the following:

General Project Information – A description of the goals and objectives of the recycled water use project, the benefits that could be obtained by such a project, existing water supply issues, regulations governing recycled water use, and other recycled water use projects that have been successfully implemented.

Engineering Feasibility Study – A brief discussion of the elements of the engineering feasibility study that will be completed in order to inform and educate the public about the process that will result in the development of project alternatives.

Environmental Constraints Analysis – A brief discussion of the environmental process to be completed concurrent with the engineering feasibility study.

Project Schedule and Funding Information – A discussion of the overall project funding and scheduling. Funding information will include the potential federal, state, and local funding sources that may be obtained for the project. Scheduling information will present the timeline for completion of the engineering feasibility and environmental constraints analysis portion of the project, as well as a projected schedule of future project activities.

Opportunities for Public Input – A discussion of the opportunities for public input during the engineering feasibility stage.

Public Workshops

Public workshops will be conducted to support the engineering feasibility and environmental constraints analysis. As previously mentioned, it is anticipated that the Agency, in cooperation with the Sonoma Ecology Center, the VOMWD and the City will conduct workshops to inform the local public about project activities and to garner public support for the project. It is anticipated that the public handout would be prepared and distributed at the first workshop. At the completion of engineering feasibility and environmental constraints analysis, a second workshop would be held to present the findings of both the engineering feasibility report, and the environmental constraints analysis. The meetings will be held in conjunction with local agency board meetings of the VOMWD and City of Sonoma. Alternatively, the Project Team may also hold a workshop to present project activities as part of a monthly Sonoma Valley Citizen's Advisory Committee meeting.

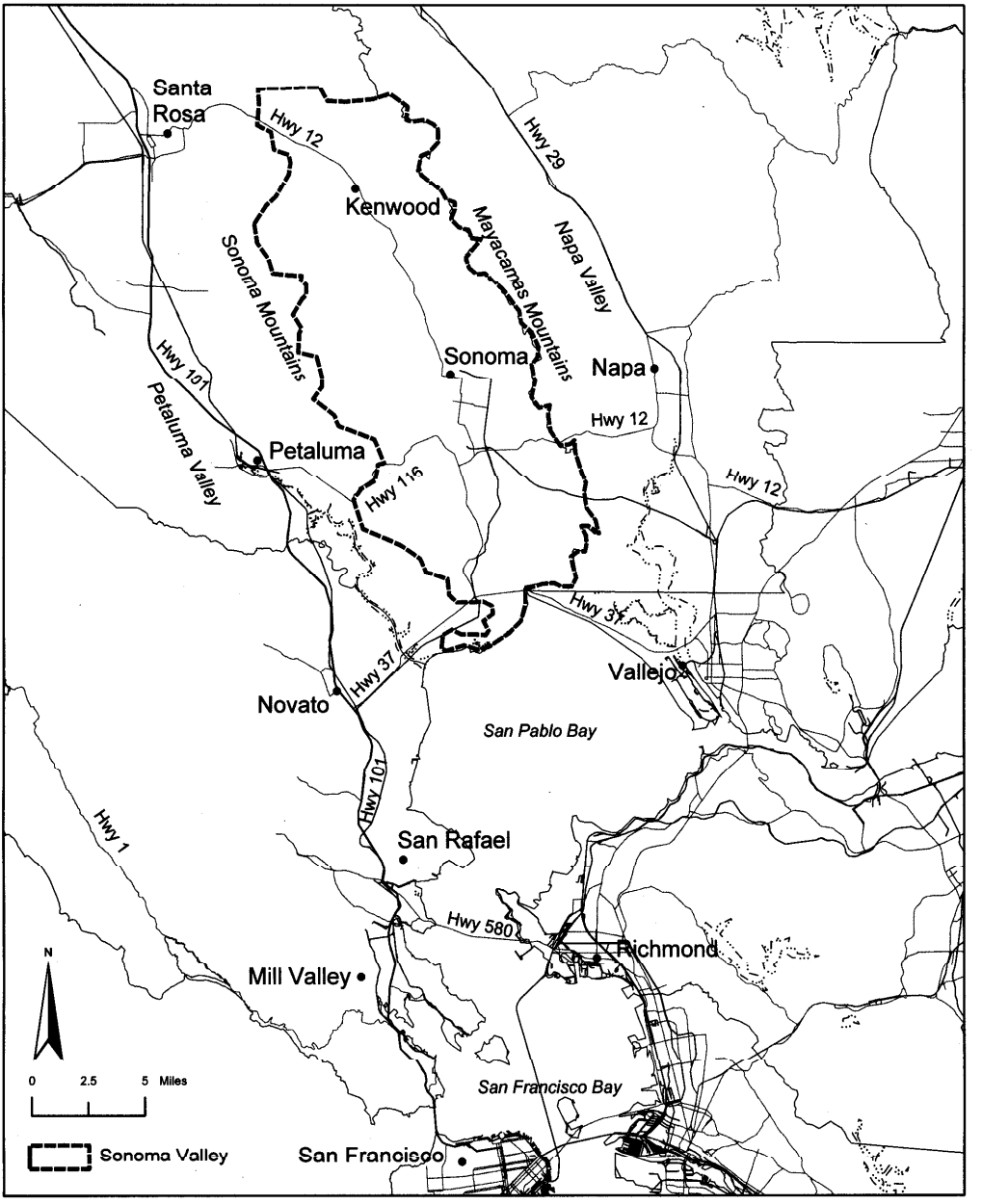
Additional Public Outreach Efforts

In addition to the initial public outreach efforts conducted during the engineering feasibility and environmental analysis portion of the project, public outreach activities will also occur during the engineering design and environmental review phase of the project. Once the engineering feasibility is complete and overall project alternatives are selected for further study, the Agency will embark on the preparation of environmental documentation for the project in compliance with CEQA and NEPA. During preparation of the environmental documents, the Agency will conduct additional public workshops and meetings as required by CEQA and NEPA to inform the public about project alternatives and environmental review activities, and to solicit public input on the project's environmental documentation process.

The VOMWD, the City and the Sonoma Ecology Center have indicated initial support for the Study, as benefits would accrue to each of these entities. No opposition to the Study has been expressed at this point. The public outreach program will further identify support and opposition to specific project alternatives identified during the engineering, economic and environmental evaluations. It is estimated the Study will directly benefit the 31,000 water customers in the Valley and will indirectly benefit more than 500,000 water customers served by the Agency's water supply and transmission system.

PROPOSAL PART THREE

(To be submitted only if proposal is selected for funding)



SONOMA COUNTY WATER AGENCY

REGIONAL LOCATION
SONOMA VALLEY RECYCLED WATER PROJECT

EXHIBIT A

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Exhibit B
Sonoma Valley Recycled Water Feasibility Study
Task List and Preliminary Schedule

Task Description	Deliverables	Start Date	Completion Date	Expenditure Projection
Part I Engineering Evaluation				
Task 1 - Review of Regulatory Requirements for Recycled Water Use	N/A	Jul-01	Aug-01	$10,000
Task 2 - Evaluation of SVCSD Facilities	N/A	Sep-01	Dec-01	10,000
Task 3 - Assessment of Projected Growth	N/A	Oct-01	Feb-02	15,000
Task 4 - Development of Water Balance Model	N/A	Jul-01	Feb-02	30,000
Task 5 - Identification of Potential Recycled Water Users	N/A	Feb-02	Sep-02	20,000
Task 6 - Development of Supply and Demand Curves	N/A	Jul-02	Oct-02	30,000
Task 7 - Estimation of Recycled Water Storage Requirements	N/A	Sep-02	Oct-02	20,000
Task 8 - Development of Preliminary Project Alternatives	N/A	Aug-02	Nov-02	30,000
Task 9 - Evaluation of Project Alternatives	N/A	Nov-02	Feb-03	20,000
Part II Financial Plan				
Task 1 - Economic Analysis	N/A	Mar-03	May-03	5,000
Task 2 - Financial Analysis	Preliminary Financial Plan	Mar-03	May-03	15,000
Part III Environmental Review of Alternatives				
Task 1 - Environmental Constraints Analysis	N/A	Jan-03	Jun-03	30,000
Task 2 - Summary of Environmental Constraints	Summary of Environmental Constraints	May-03	Jul-03	5,000
Part IV Preparation of Feasibility Study Report				
Task 1 - Feasibility Study Report	Feasibility Study Report	May-03	Jul-03	50,000
Part V Public Participation Plan				
Task 1 - Public Information Handout	Public Information Handout	Mar-02	Jun-02	5,000
Task 2A - Public Workshops (Present Workplan)	Feasibility Study Workplan, Summary of Comments Received	Jun-02	Jun-02	10,000
Task 2B - Public Workshops (Present Study Results)	Feasibility Study Report, Summary of Comments Received	Jul-03	Jul-03	10,000
Task 3 - Additional Public Outreach Efforts	N/A	TBD	TBD	$5,000

Exhibit C
Resume of the Project Manager

JAMES L. JASPERSE, P.E.

BACKGROUND

Mr. Jasperse has professional experience in planning and design engineering, in addition to hydrogeology, for both water resource and environmental engineering projects. He has served as lead engineer and manager for numerous engineering feasibility studies, design projects, and water resource studies/remedial investigations. He is experienced in all phases of water resource programs including planning, feasibility evaluations, regulatory negotiations, and public outreach. He possesses experience in aquifer testing, data analysis, and well network design. He also has supervised well installation and groundwater sampling programs.

EDUCATION

M.S., Civil Engineering, University of California, Berkeley, California, 1987

B.S., Geology, University of California, Davis, California, 1983

HAZARDOUS WASTE TRAINING

Health and Safety training courses (40 hours) following EPA requirements.

Hazardous materials supervisory course (8 hours).

EXPERIENCE

2000 – Present:	Sonoma County Water Agency, Santa Rosa California – Water Agency Principal Engineer
1998 – 2000:	Sonoma County Water Agency, Santa Rosa California – Water Agency Engineer
1990 - 1998:	PES Environmental, Inc., Novato, California –Principal, Associate, and Senior Engineer
1987 - 1990:	Harding Lawson Associates, Novato, California – Project and Staff Engineer
1986 - 1987:	Seidelman Associates, Pleasant Hill, California - Engineering Assistant
1984 - 1985:	Alza Corporation, Palo Alto, California – Junior Chemist
1983 - 1984:	Department of Earth Sciences, University of Virginia – Research Assistant

REGISTRATION

Civil Engineer - California

REPRESENTATIVE PROJECTS

Sonoma Valley County Sanitation District, Wet Weather Overflow Prevention Study, Sonoma County, California - Mr. Jasperse provided lead oversight in developing and implementing a 3-year study to evaluate the compliance of the Sonoma Valley County Sanitation District collection system with the Wet Weather Overflow Policy of the Regional Water Quality Control Board, San Francisco Bay Region's Basin Plan. The study consisted of flow monitoring, water quality monitoring, collection system inspections (e.g., CCTV, smoke testing, manhole inspections), development of a water balance model, development of a Geographic Information System (GIS) database, and development of a hydraulic model. The information obtained from these activities was utilized to evaluate the potential for wet weather overflows due to inflow and infiltration. The impacts of wet weather overflows on beneficial uses of receiving waters was then evaluated determine compliance with Basin Plan policy.

Diversion Alternatives Evaluation, Water Supply and Transmission System Project, Sonoma County, California - Mr. Jasperse is currently managing a series planning projects related to evaluating potential sources of water supply for the Sonoma County Water Agency. These projects include a feasibility study for surface water diversion and treatment, a series of hydrogeologic investigations to assess groundwater resources along the Russian River, and a feasibility study of innovative groundwater diversion technologies. In addition to managing these projects, Mr. Jasperse has played a lead role in developing the scope of the studies and conducted groundwater flow modeling (MODFLOW). The hydrogeologic studies have consisted of drilling and well installation, aquifer testing, temperature monitoring, seismic refraction studies, and self-potential surveys.

Airport Larkfield Wikiup Sanitation Zone, Sonoma County, California – As an engineer for the Sonoma County Water Agency, Mr. Jasperse provided engineering planning activities related to the expansion of wastewater treatment, storage and disposal facilities. Activities included: (1) developing the preferred project alternative; (2) performing water balance modeling; (3) participation in numerous community meetings; and (4) making presentations in public meetings. The preferred project alternative received the general support of the local community and the project environmental impact report was approved and certified by the Sonoma County Water Agency Board of Directors.

MEMBERSHIPS

American Chemical Society
Association of Groundwater Scientist and Engineers

REPRESENTATIVE PUBLICATIONS AND PRESENTATIONS

1988 *Venting of volatile organic chemicals for low permeability soil at a site in Santa Clara County, California*. Presented at the American Institute of Chemical Engineers Summer National Meeting (with D. P. Hochmuth, E. G. Lappala, and K. S. Udell).

Exhibit D
Sonoma Valley Recycled Water Feasibility Study
Detailed Preliminary Budget

Line Item Description	Direct Labor Hours	Salaries	Benefits	Travel	Supplies and Expendables	Services or Consultants	Equipment	Other Direct Costs	Total Direct Costs	Indirect Costs	Total Costs
Part I Engineering Evaluation	a	b	c	d	e	f	g	h	I	j	k
Task 1 - Review of Regulatory Requirements for Recycled Water Use	208	$6,493	$3,308	$0	$200	$0	$0	$0	$6,693	$3,308	$10,000
Task 2 - Evaluation of SVCSD Facilities	208	6,493	3,308	0	200	0	0	0	6,693	3,308	10,000
Task 3 - Assessment of Projected Growth	312	9,739	4,961	0	300	0	0	0	10,039	4,961	15,000
Task 4 - Development of Water Balance Model	108	3,379	1,721	0	600	24,300	0	0	28,279	1,721	30,000
Task 5 - Identification of Potential Recycled Water Users	416	12,985	6,615	0	400	0	0	0	13,385	6,615	20,000
Task 6 - Development of Supply and Demand Curves	624	19,478	9,923	0	600	0	0	0	20,078	9,923	30,000
Task 7 - Estimation of Recycled Water Storage Requirements	416	12,985	6,615	0	400	0	0	0	13,385	6,615	20,000
Task 8 - Development of Preliminary Project Alternatives	624	19,478	9,923	0	600	0	0	0	20,078	9,923	30,000
Task 9 - Evaluation of Project Alternatives	416	12,985	6,615	0	400	0	0	0	13,385	6,615	20,000
Subtotal - Part 1	**3332**	**104,013**	**52,988**	**0**	**3,700**	**24,300**	**0**	**0**	**132,013**	**52,988**	**185,000**
Part II Financial Plan											
Task 1 - Economic Analysis	108	3,246	1,654	0	100	0	0	0	3,346	1,654	5,000
Task 2 - Financial Analysis	325	9,739	4,961	0	300	0	0	0	10,039	4,961	15,000
Subtotal - Part II	**433**	**12,985**	**6,615**	**0**	**400**	**0**	**0**	**0**	**13,385**	**6,615**	**20,000**
Part III Environmental Review of Alternatives											
Task 1 - Environmental Constraints Analysis	649	19,478	9,923	0	600	0	0	0	20,078	9,923	30,000
Task 2 - Summary of Environmental Constraints	108	3,246	1,654	0	100	0	0	0	3,346	1,654	5,000
Subtotal - Part III	**758**	**22,724**	**11,576**	**0**	**700**	**0**	**0**	**0**	**23,424**	**11,576**	**35,000**
Part IV Preparation of Feasibility Study Report											
Task 1 - Feasibility Study Report	1067	32,463	16,538	0	1,000	0	0	0	33,463	16,538	50,000
Subtotal - Part IV	**1067**	**32,463**	**16,538**	**0**	**1,000**	**0**	**0**	**0**	**33,463**	**16,538**	**50,000**
Part V Public Participation Plan											
Task 1 - Public Information Handout	108	3,246	1,654	0	100	0	0	0	3,346	1,654	5,000
Task 2A - Public Workshops (Present Workplan)	216	6,493	3,308	0	200	0	0	0	6,693	3,308	10,000
Task 2B - Public Workshops (Present Study Results)	216	6,493	3,308	0	200	0	0	0	6,693	3,308	10,000
Task 3 - Additional Public Outreach Efforts	108	3,246	1,654	0	100	0	0	0	3,346	1,654	5,000
Subtotal - Part V	**649**	**19,478**	**9,923**	**0**	**600**	**0**	**0**	**0**	**20,078**	**9,923**	**30,000**
Totals	**6,238**	**$191,661**	**$97,639**	**$0**	**$6,400**	**$24,300**	**$0**	**$0**	**$222,361**	**$97,639**	**$320,000**