

**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 (Organization or affiliation): Springville Public Utility District
3. Project Title: Treated Effluent Disposal Project - Reclaimed Water Conveyance Facilities
4. Person authorized to sign and submit proposal:
- | | |
|-----------------|-----------------------------------|
| Name, title | <u>Wallace Johnson, President</u> |
| Mailing address | <u>P.O. Box 434</u> |
| Telephone | <u>Springville, CA 93265</u> |
| | <u>(559) 539-2869</u> |
| Fax. | <u>(539) 539-1002</u> |
| E-mail | <u>kelweg1@aol.com</u> |
5. Contact person (if different):
- | | |
|------------------|--------------------------|
| Name, title. | <u>Dennis R. Keller</u> |
| Mailing address. | <u>District Engineer</u> |
| | <u>P.O. Box 911</u> |
| Telephone | <u>Visalia, CA 93279</u> |
| | <u>(559) 732-7938</u> |
| Fax. | <u>(559) 732-7937</u> |
| E-mail | <u>kelweg1@aol.com</u> |
6. Funds requested (dollar amount): \$1,000,000
7. Applicant funds pledged (dollar amount): \$360,500
8. Total project costs (dollar amount): \$1,360,500
9. Estimated total quantifiable project benefits (dollar amount): \$2,106,900
- Percentage of benefit to be accrued by applicant: 80%
- Percentage of benefit to be accrued by CALFED or others: 20%

**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): 112
- Estimated total amount of water to be saved (acre-feet): 2240
- Over ___ years 20
- Estimated benefits to be realized in terms of water quality, instream flow, other: Improved water quality
11. Duration of project (month/year to month/year): March 2002 to March 2005
12. State Assembly District where the project is to be conducted: 32nd
13. State Senate District where the project is to be conducted: 14th
14. Congressional district(s) where the project is to be conducted: 21st
15. County where the project is to be conducted: Tulare
16. Date most recent Urban Water Management Plan submitted to the Department of Water Resources: Not Required

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
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 A. Project Information Form (continued)**

19. Project type (select one):
 Prop 13 Urban Grant or Prop 13
 Agricultural Feasibility Study Grant
 capital outlay project 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 system 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.

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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.

Signature

Name and title

Date

GRANT APPLICATION
CAPITAL OUTLAY GRANT
PROPOSITION 13 URBAN WATER CONSERVATION PROGRAM
SPRINGVILLE PUBLIC UTILITY DISTRICT

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(NOTE: All application material is including on the accompanying compact disc (CD), excluding attachments.)

(Insert - Proposal Part One)

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT
(Insert - Proposal Part One)

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
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(Insert - Proposal Part One)

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URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT
(Insert - Proposal Part One)

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT
PROJECT SUMMARY

The Springville Public Utility District (District) serves the unincorporated community of Springville, which is located in southeastern Tulare County, in the Sierra-Nevada foothills (Township 21 South, Range 29 East, Mount Diablo Base and Meridian). Springville is located approximately 2 miles upstream of Lake Success along Highway 190 and adjacent to the Tule River. Since 1980, the District has been pursuing means to address a locally imposed moratorium on new connections to their sanitary sewer system as a result of limited wastewater disposal capacity. The District-imposed moratorium has been overshadowed by a Cease and Desist Order (Order) issued by the Regional Water Quality Board (RWQCB) (Order No. 96-196).

The District's efforts have resulted in the Treated Effluent Disposal (TED) Project. The scope of work for the TED Project includes Title 22 reclamation treatment facilities and pumping, conveyance, and storage facilities for the treated effluent. The TED Project will expand the disposal capacity of the District's facilities from 62,000 gallons per day (g.p.d.) to 100,000 g.p.d., thereby matching the wastewater treatment capacity. The treated effluent will be used for irrigation of citrus orchards and pasture land.

The Project is a component of the District's TED Project. The scope of this Project is limited to the design and construction of the pumping facilities, conveyance pipeline and appurtenances and a storage reservoir. The Project will be developed using standard engineering practices. Preliminary design and planning commenced with the preparation of engineering reports and agency reviews. Detailed design will be performed based upon the approaches outlined in the reports. Detailed design will result in the preparation of final plans and specifications for constructing the Project. After a public bid and award process, the Project will be constructed as specified. Project monitoring will be performed by the District and funding agencies, as necessary.

The Project must be completed in conjunction with the TED Project to realize any benefits to the District. When undertaken, the expected outcomes of the Project include the following:

- S Efficient design and timely construction of the Project components;
- S Completion of the TED project;
- S Approval of new Waste Discharge Requirements;
- S Elimination of the sewer connection moratorium;
- S Rescission of the existing Order; and
- S Increased sewer and water revenues for the District.

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The anticipated Project cost is approximately \$1.36 million, including variable items such as design and administrative costs. The primary benefit to the District will be increased sewer revenue associated with new connections and monthly sewer service fees. The benefits resulting from the Project will total approximately \$2.11 million over a period of approximately 20 years. The community growth will likely increase commercial revenues and county tax revenues as well.

The TED Project will produce approximately 112 acre-feet per year of recycled water. This recycled water subsequently will result in reduced groundwater pumping to meet citrus and pasture demands. Other benefits include improved Tule River water quality as individual septic tank systems are retired and use of the existing evaporation/percolation ponds is reduced. Improved water quality will be beneficial to downstream water users and diverters.

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PART A - SCOPE OF WORK: RELEVANCE AND IMPORTANCE

The Springville Public Utility District's (District) existing wastewater treatment and disposal facilities are located adjacent to the Tule River. The capacity of the wastewater treatment plant is 100,000 gallons per day. The District utilizes evaporation/percolation ponds to dispose of treated wastewater effluent. The soil conditions and groundwater conditions currently limit the disposal capacity to 62,000 gallons per day. Soil testing and historical observations have determined that increasing the percolation capacity in the plant area is not feasible. As a result, the District has been enforcing a self-imposed moratorium on new sewer connections to their sanitary sewer system since 1980. The District-imposed moratorium has been overshadowed by a Cease and Desist Order issued by the Central Valley Regional Water Quality Board (RWQCB) in 1996 which mandated that the District pursue effluent disposal improvements. Since 1982, the District has worked to develop a project that best addresses the District's needs and financial capabilities. The District's efforts have resulted in the Treated Effluent Disposal (TED) Project.

This Project is a component of the District's TED Project designed to expand the disposal capacity of the existing facilities to correspond with the treatment capacity. The scope of work for the TED Project includes Title 22 reclamation treatment facilities and related pumping, conveyance and storage facilities to manage the treated effluent. The District has recently completed negotiation of an agreement with a local landowner for the acceptance and use of tertiary treated wastewater effluent matching the treatment plant capacity. The treated effluent will be used for irrigation of citrus trees and pasture land.

This Project has been separated from the TED Project to due to its funding eligibility under the Proposition 13 Urban Water Conservation Program. The components of the Project are grant-eligible, whereas treatment facilities have been excluded from program eligibility. The scope of this Project is limited to the design and construction of treated effluent pumping facilities, the conveyance pipeline and appurtenances and a storage reservoir. The objective of the Project is to provide conveyance of treated effluent to the identified disposal site.

The Project is integral to the TED Project. This Project must be completed in conjunction with the TED Project for benefits to be realized. The TED Project is needed to expand the existing disposal capacity to match the available treatment capacity. The TED Project will allow the District to rescind a 22-year-old sewer connection moratorium and address provisions of an adopted Cease and Desist Order issued by the RWQCB.

The primary water-related issue associated with the Project is water quality in the nearby Tule River. The RWQCB's Watershed Management Initiative Chapter (January 2001) identified a high potential for bacteria levels for the Tule Basin. The existing evaporation/percolation ponds used for disposal of treated wastewater effluent are located approximately 200 feet away from the Tule River. The close proximity to the river and the area soils allow for the potential of effluent to impact the quality of water in the River. Dischargers outside of the District utilize individual treatment systems which may be contributing high nutrient and bacterial loadings to the river. Locally, River water is diverted for agricultural purposes through irrigation ditches. These ditches meander through the area in close proximity to residences and are available for domestic purposes such as lawn watering and gardening. The Project represents one element in limiting the potential of bacteria (and nutrient) loadings impacts on the River through increased and improved wastewater effluent disposal.

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Downstream, Tule River water has been pumped into the Friant-Kern Canal for either sale or exchange. Friant-Kern Canal water is used for domestic water supply and irrigation purposes. By using the Friant-Kern Canal, the Tule River water can be used by other water agencies throughout the CalFED Solution Area, including Bay-Delta water diverters. To allow the pumping of Tule River water into the Friant-Kern Canal, the water quality of the Tule River must not degrade the quality of the Friant-Kern Canal supply. The Project (in conjunction with the TED Project) addresses water quality issues through the reduction in use of percolation ponds adjacent to the Tule River and by the ability to accommodate additional sewer connections, thereby limiting (and ultimately reducing) the number of septic systems in the area. Nutrients, such as nitrates and bacteria loadings on the Tule River will be reduced through advanced treatment. Subsequently, this Project contributes to maintaining a high quality water source for domestic purposes in the CALFED solution area. The Project is also consistent with the RWQCB (Region 5) Water Quality Control Plan because it utilizes wastewater reclamation in lieu of direct discharges to surface waters. Finally, the Tulare County Foothill Growth Management Plan specifically encourages growth in the foothill regions in order to preserve valley floor agricultural land.

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PART B - SCOPE OF WORK: TECHNICAL/SCIENTIFIC MERIT

PROJECT FACILITIES

The Project is being undertaken by the Springville Public Utility District (District). The components of the Project include treated effluent pumping facilities, conveyance pipeline and appurtenances and a storage reservoir. Figure 1 presents the route of the recycled water pipeline to the effluent disposal site. After tertiary treatment, including filtration and UV disinfection, the recycled water will be pumped to the reclamation site. The treated effluent pump station will consist of three pumps and a wet well. Two pumps will be used in series, with the third pump as a standby. A two-pump operation has been designed in order to accommodate the diurnal fluctuations in flow from the wastewater treatment plant. The pumps must provide 70 p.s.i. at the reclamation site for irrigation purposes. The selection of the pump type will be finalized during the detailed design phase.

The pipeline is proposed to be constructed of 4-inch SDR 26 PVC material. The pipeline will be assembled using rubber gasketed, push-on joints. This approach will give the pipeline some flexibility to withstand seismic forces. The length of the pipeline is estimated to be approximately 11,000 feet. The pipeline will be constructed along the edge of existing pavement to minimize pavement repairs. It will be installed along the western side of Highway 190 to avoid existing utilities. Two borings underneath the highway will be required. Air relief valves will be required at various high points in the pipeline. The pipeline will be laid with 3 to 5 feet of cover, following the natural grade along the pipeline alignment. To reduce the overall length of the pipeline, a direct route crossing underneath the Tule River will be necessary to reach the reclamation site. The pipeline will follow State Highway 190 until the alignment leads to crossing the Tule River. A profile of the alignment grade is shown in Figure 2.

Storage will be required at the effluent disposal site to accommodate the constant treated effluent discharge and variable crop irrigation requirements. The recycled water will irrigate approximately 17 acres of pasture land or 40 acres of citrus plantings. Approximately 40 acre-feet of storage will be required to balance discharge levels with irrigation demand. The preliminary design of the storage pond calls for approximately 4 surface acres with a pond depth of about 11 feet (including freeboard). The water balance determining the storage requirement is summarized in Attachment A. The pond has been sized to accommodate citrus and pasture irrigation needs in a “wet” year (1983 - with annual rainfall of 24.25 inches). The new pond is being constructed for storage purposes only. It is not anticipated that the pond will be available for other uses, such as fishing or swimming, due to the irrigation needs of the proposed crops and seasonal considerations. The pond will have no public access due to its location within private property. The recycled water may be stored in the District’s existing ponds if repairs to the proposed effluent disposal system are required.

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PROJECT METHODS

The Project will be developed using standard engineering practices in conjunction with the development of Treated Effluent Disposal (TED) Project. The Project will consist of three general phases: preliminary engineering, detailed design and construction. Figure 3 shows each phase, the anticipated deliverables and the expected duration.

Preliminary Engineering

Preliminary design and planning will commence with the preparation of engineering reports and agency reviews. Reports are being prepared that outline the project approach for the TED Project. These reports will serve as the basis for design of the conveyance and storage facilities. The anticipated reports delivered as part of the Project are listed below:

1. Third Supplemental Preliminary Engineering Report (PER). This report develops the recommended project and associated costs. This report augments the previous engineering reports completed by the District. The PER establishes the project components and preliminary design concepts for the design phase of the Project;
1. CEQA Initial Study. The Initial Study is used to document the evaluation of the proposed project and associated environmental considerations. This document is required under CEQA guidelines and is used to establish environmental protection measures for the proposed project. This document was prepared in January 2001; and
1. Title 22 Engineering Report. The Title 22 Report is required to summarize the proposed treatment and reclamation measures for the wastewater effluent. This document describes reclamation methods, operating procedures, and redundancy and reliability features of the treatment and disposal facilities. A draft report has been completed and is in the final edit stage.

These reports will be submitted to appropriate agencies of jurisdiction for review and comment. Comments will be addressed and/or incorporated into the final reports and subsequent design documents.

Detailed Design

Upon completion of the preliminary engineering and initial approvals, detailed design of the Project components can begin. Detailed design will be performed based upon the approaches outlined in the reports. All of the preliminary engineering assumptions will be confirmed and refined. Detailed design will result in the preparation of final plans and specifications for the Project. The following documents represent the deliverables associated with the design and construction of the Project:

1. 60 Percent Design. These design documents represent 60 percent complete plans and specifications. These documents describe preliminary design concepts and rough design features and considerations. These documents will be submitted to agencies of jurisdiction for review and comment as required;
1. 90 Percent Design. These documents represent 90 percent complete design plans and specifications. These documents represent the final design concepts and detailed design

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features of the Project. These documents will address review comments made on the 60 percent design documents. These documents will be submitted to agencies of jurisdiction for review and comment as required;

1. 100 Percent Design. These documents represent the completed plans and specifications. These documents will be used for bidding purposes. The 100 percent design documents further refine the design features of the Project. These documents will address review comments made on the 90 percent design documents. Changes to these documents required as a result of the bidding process will be issued as addenda to the bidding documents; and
1. Permits. The following permits and other agreements will be required for the Project. These documents will need to be completed during the design phase of the Project:
 - a. Waste Discharge Requirements represent the discharge requirements established by the Central Valley Regional Water Quality Board (RWQCB) for the wastewater treatment and disposal facilities;
 - a. Encroachment Permits will be required since the pipeline alignment lies within State Highway 190 right-of-way;
 - a. Temporary and Permanent Construction Easements will need to be obtained from landowners where the pipeline crosses private parcels. All landowners affected by the pipeline alignment have indicated a willingness to enter into easement agreements;
 - a. A Streambed Alteration Agreement will be required by the Department of Fish and Game as the pipeline will cross the Tule River. This agreement has been executed and is presented in Attachment B; and
 - b. A Federal 404 Permit may be required by the United States Army Corps of Engineers depending on the stream diversion methods. This permit is required when materials are placed within a stream, or diversion of the stream occurs.

Record Documents

Upon completion of the contract documents, the construction portion of the Project can be initiated. The final contract documents will establish the exact requirements of the Project. After a public bid and award process, the Project will be constructed as specified. The selected construction contractor will be responsible for the means and methods of construction. The District will maintain a construction oversight role to ensure that the construction adheres to the requirements of the contract documents. Project monitoring will also be performed by agencies of jurisdiction, as necessary. Record documents represent the final deliverables of the Project. The following documents will be prepared and submitted to complete this phase of the Project:

1. As-Built/Record Documents. “As-Built” drawings will be maintained throughout the construction phase of the Project. All changes to the bid documents will be incorporated into a final set of plans and specifications to represent the final “As-Built” project. These plans and specifications become the record documents for the Project; and

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1. O&M Manual. An Operation and Maintenance (O&M) Manual will be created for the new equipment supplied as part of the Project. This manual will be delivered as part of the Project's completion and supplement the existing Manual.

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TASK LIST AND SCHEDULE

Figure 3 presents a detailed schedule for the TED Project. The pipeline and storage facilities comprise a portion of the TED Project. Based upon the schedule shown, the construction of pipeline and storage facilities would be completed in October, 2004. This completion date, however, is contingent upon the participation of funding agencies and their associated review of and comments on the project documents. This schedule is also based upon sufficient funding to complete this Project and the TED Project.

The Project has been divided into eight tasks. The development of each Project component can follow the overall Project's task structure. Although each task can be considered separable from the other tasks, unfunded tasks represent obstacles to the Project's completion due to the existing funding shortfall. Each task is described below.

Task No. 1 - Reports

Engineering reports will be required due to the nature of the Project. This task will result in two deliverables, the Third Supplemental Preliminary Engineering Report (PER) and the Title 22 Engineering Report. These reports will be completed for the TED Project which includes the components of this Project. The PER is required to document the design approach. The Title 22 Report is required by Department of Health Services to document the treatment and disposal features for DHS approval.

Work on these reports commenced in 1997. As a result, some expenses have already been incurred by the District. The budgeted costs for this task have been established from the planning and design costs incurred to date.

Task No. 2 - Funding Applications

The TED Project cost is estimated at \$2.072 million. The current amount of obligated funding for the TED Project totals approximately \$1.36 million. As a result, the District continues to pursue potential funding sources to address the funding shortfall. This task will address preparation of any funding applications and related documents as potential funding opportunities arise.

Task No. 3 - California Environmental Quality Act (CEQA) Procedures

This task was completed in January, 2001. A Supplemental Environmental Assessment was prepared to augment the District's previous work. The document was circulated by the State Clearinghouse (SCH No. 1997022047) among various local, state, and federal agencies. No significant comments were received which impacted the District's initial findings. Excerpts from this document and review comments are presented in Attachment C. A Negative Declaration was adopted in January, 2001.

Task No. 4 - Funding Approvals

This task is required to complete paperwork and procedures associated with approved funding applications. Funds available to Task No. 2 will also be used to complete this task. This task will result in funding contracts and agreements between the District and funding agencies.

Task No. 5 - Design

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This task consists of the activities required to complete the design of the Project components and ready the Project for bid and construction. Design level surveys need to be completed along the pipeline alignment and at the reservoir location to establish existing topographic conditions. This activity will be completed by a subconsultant to the District and produce data to be used during design. Preparing permit applications for the Project will begin during this Task. The anticipated permits were described in PROJECT METHODS.

Detailed design of the pipeline and storage facilities will be completed during this task. The design will further develop the approach outlined in the engineering reports. A limited amount of design has been completed as evidenced by the preliminary plans and specifications compiled in Attachment D. During the design task, intermittent reviews by the District will be performed to ensure Project quality.

Deliverables during this task will consist of permit applications, intermittent design review documents and final construction plans and specifications.

Task No. 6 - Design Reviews

This task will be completed by funding agencies and permitting authorities. This task allocates review time for the respective parties to review the design documents and permit applications. It is expected that funding agencies will review the plans and specifications for cost effectiveness and completeness. Permits and design details required for the river crossing by the pipeline will need to be reviewed and approved by regulatory agencies. Since the pipeline alignment will be in the State Highway 190 right-of-way, California Department of Transportation review will be required to ensure that the design complies with the agency's standards and so that an encroachment permit can be issued. The comments received from these reviews during this task will be addressed prior to completing subsequent project tasks.

Task No. 7 - Bid and Award Process

The District will utilize a public bid and award process to select a qualified contractor for the construction of the Project. After the completion of Task No. 6, the District will publish an invitation to bid on the Project. The District will receive bids for the Project's construction and after reviewing the bidders' submittals, the District will select the lowest responsible bidder. The District will execute a contract with the selected bidder to construct the Project.

Task No. 8 - Construction

The construction of the pipeline and storage facilities can be constructed independently from other TED Project components. Construction oversight will be performed by the District during this task. The construction of the river crossing must occur between the months of August and November as required by the Streambed Alteration Agreement. This period of the year also represents the time of the lowest water levels in the Tule River. Deliverables resulting from this project include the "As-Built" record documents and O&M manual.

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MONITORING AND ASSESSMENT

General

This Project must be completed in conjunction with the TED Project. The following items will be used to monitor, measure and evaluate the success of the Project (and subsequently the TED Project):

S	Project schedule milestones;
S	Intermittent design review and comments;
S	Construction documents addenda;
S	Construction progress meetings;
S	Construction progress payments and change orders;
S	Construction milestones; and
S	Plant performance.

Project Schedule Milestones

The milestones established by the final project schedule will be monitored over the course of the Project. Meeting the established milestones assures timely completion of the Project. Meeting milestones also indicates sufficient detail and thoroughness in Project documents and execution which avoid Project delays.

Intermittent Design Review and Comments

Review comments to design and construction documents typically identify areas for improvement in the documents. Utilizing interim reviews for the design and construction documents reduces the likelihood of encountering significant obstacles during the construction phase of the Project. In addition, the content of the comments can reflect directly upon the quality of the reviewed documents.

Construction Document Addenda

Addenda to bidding documents are common in projects of similar scope to the Project. The material compiled for the addenda can be used, however, to reflect upon the quality of the final bid documents.

Construction Progress Meetings

Construction progress meetings will be held regularly during the construction of the Project. The meetings will be used to establish effective communication between the District, the contractor and other project participants. Effective communication will be used to anticipate upcoming project difficulties and result in timely project completion.

Construction Progress Payments and Change Orders

The success of the construction documents can be measured by schedule compliance and contract change orders. Meeting the anticipated budget for the Project indicates thorough construction documents and good cost estimating. Although change orders are essentially unavoidable on projects of this magnitude due to unforeseen circumstances, minimal changes in contract prices reflect competently prepared project documents.

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Construction Milestones

The milestones established for the construction of the Project will be monitored during construction. Meeting the established milestones assures timely completion of the construction of the Project and indicates sufficient detail and thoroughness in the construction documents and planning resulting in minimal delays in construction.

Plant Performance

After the construction of this Project and the TED Project, the effluent treatment and disposal facilities performance can be used to evaluate the success of the Project. Proper operation and continued successful delivery of the recycled wastewater to the storage reservoir will demonstrate Project success.

PRELIMINARY PLANS AND SPECIFICATIONS

Preliminary Project plans for the pipeline and storage facilities are included in Attachment D. Preliminary specifications are included in Attachment E, as part of the Effluent Disposal Agreement. Since funding agencies will likely have specific requirements for the nontechnical sections, only the technical specifications have been included.

OTHER DOCUMENTS

The following documents further demonstrate the District's readiness to proceed with this Project and the TED Project. These documents have been included as part of the application for reference purposes and are located in the appendices to this application:

1. Executed Effluent Disposal Agreement (Attachment E);
2. Adopted CEQA Initial Study excerpts and comments (Attachment C); and
3. Department of Fish and Game Streambed Alteration Agreement (Attachment B).

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PART C - QUALIFICATIONS

The Springville Public Utility District (District) intends on using its District Engineer, Dennis R. Keller, as the Project Manager. Mr. Keller has served as the District Engineer for more than 25 years and has been instrumental in past improvements to the District's water and sewer infrastructure. Mr. Keller's resume' is presented in Attachment F.

Since the Treated Effluent Disposal (TED) Project has secured USDA-RD funding, it will be required that USDA-RD monitor the progress of the Project. The California Department of Transportation will perform construction inspection oversight for all Project components within the state highway right-of-way. The Department of Fish and Game will monitor the construction of the river crossing and activities associated with the Tule River streambed.

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PART D - BENEFITS AND COSTS

BUDGET BREAKDOWN AND JUSTIFICATION

The Project is being undertaken by the Springville Public Utility District (District). The Project budget breakdown is presented in Table 1. Each cost category is described in greater detail in its line item components. Items that can be quantified by the preliminary layout and design of the pumping, conveyance and storage facilities are treated as direct construction costs. The direct construction costs represent the construction-related costs of the Project. The costs listed represent budgetary estimates obtained from suppliers and engineering experience based upon previous projects with similar components. The fixed costs will need to be further refined during final design. The contingency cost element is treated as a function of the construction cost. A 10 percent contingency has been used as only a limited amount of preliminary design has been completed.

The cost estimate for the Treated Effluent Disposal (TED) Project and subsequently this Project originated in July, 1998, during the development of a previous approach. The cost estimate has been revised to reflect the current approach and adjusted to Year 2001 dollars by utilizing the Engineering News Record 20-City Construction Cost Index (ENR CCI) for July, 1998, and the Year 2001 Annual Average as required by the Urban Construction Program proposal guidelines. The Project's adjusted construction cost (including contingency) is estimated to be \$951,500.

Associated costs represent costs that cannot be established through construction quantities and suppliers. These costs typically include planning, design, inspection and other administrative costs. Establishing variable costs is accomplished by utilizing a fixed percentage of the direct construction cost based upon engineering experience and judgement. Since the TED Project began in 1997, the District has expended approximately \$109,300 in planning costs to produce reports, funding applications, CEQA documents and permit applications and negotiations.

COST SHARING

The preliminary cost estimate for the TED Project is \$2.072 million (Year 2001 dollars). To meet this requirement, the District has actively pursued cost sharing opportunities through various grant and loan funding programs. The District has secured a grant and loan funding commitment from the United States Department of Agriculture - Rural Development (USDA-RD) in the amount of \$1.18 million for the TED Project. A copy of the commitment letter from USDA-RD is presented in Attachment G. The District will be contributing approximately \$73,200 in direct cash contribution. The District has received a Small Community Grant in the amount of \$40,100 for planning purposes.

The total cost of the subject Project is estimated at \$1.36 million, which represents approximately 62 percent of the TED Project cost. As the Project is a component of the TED Project, current funding sources for the TED Project will be utilized to fund a portion of the Project.

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT
(Insert Table 1 - Budget Breakdown)

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT
BENEFIT SUMMARY AND BREAKDOWN

The Project must be completed in conjunction with the balance of the TED Project to realize any benefit to the District or other parties. The Project will result in additional treatment and disposal capacity and subsequently, additional sewer connections and additional irrigation water supply. The quantifiable project outcomes and benefits are described below:

1. Additional treatment and disposal capacity will afford the District the capability to accommodate additional sewer connections. Subsequently, additional revenue will be generated to meet the requirements of the District's sewer budget through monthly sewer service fees from the new connections. Additional monthly water service fees are expected with the development of new residences as well. The projected benefit from the additional revenue is \$3.15 million over 20 years (constant Year 2001 dollars). The benefits impact the District's customers through:
 - S a larger customer base available for debt service;
 - S fixed monthly costs become divided amongst a larger customer base; and
 - S sufficient funds become available for future capacity, thereby reducing financial need to complete capital improvements projects;

1. The anticipated community growth will result in an increased tax base for local and county purposes. Increased county tax revenues will increase available funding for county services which serve the community, such as police, fire and traffic services. This outcome will benefit all residents of the Springville community and Tulare County. The projected annual county revenue is anticipated to be \$28,200 as a result of construction of new residences connected to the sewer system;

1. Utilizing reclamation in lieu of evaporation/percolation for effluent disposal will result in approximately 112 acre-feet per year (100,000 g.p.d.) being generated for beneficial use. The recipient of the reclaimed wastewater will benefit by having additional irrigation water to replace a like amount of groundwater. This allows the groundwater to be available for other consumptive purposes. If the reclaimed water was made available for sale, it would generate approximately \$6,300 annually, based upon the current value of irrigation surface water; and

1. The reclaimed water will have a limited amount of beneficial nutrients, such as nitrogen (as nitrates). Irrigating with the reclaimed water will result in a cost savings as a reduced amount of applied commercial fertilizer will be required for the citrus orchard or pasture land. It is estimated that the nutrient value of the reclaimed water will produce a benefit of \$1,000 annually.

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT

When completed, the TED Project will result in several benefits to the District and the community that cannot be economically quantified. The qualitative project outcomes and benefits are summarized below:

1. Improved water quality in the Tule River is anticipated as individual septic tank systems are retired and the use of the existing evaporation/percolation ponds is reduced. These outcomes will reduce potential bacteria, pathogenic, virus and nutrient loading impacts to the Tule River. Downstream users and diverters will realize a benefit from improved water quality. Water available for sale or exchanges is an additional potential benefit. The Project will contribute to maintaining a high quality water source for domestic purposes within the CalFED Solution Area;
1. Community growth, both residential and commercial, is expected with the lifting of the sewer connection moratorium. Having utility service readily available will relieve the two (2) decade-old impediment to growth in the area. This growth will likely result in economic benefit to the community's commercial establishments and assist in overcoming the high unemployment rate in the area; and
1. New Waste Discharge Requirements will be issued for the wastewater treatment and disposal facilities. As a result, the existing Orders will be rescinded. The District will no longer be subject to the potential of imposition of restrictive actions and/or penalties by the RWQCB. The District will return to good standing with the RWQCB.

ASSESSMENT OF COSTS AND BENEFITS

The primary cost element of the Project is the capital cost required to complete the pump station, pipeline and storage facilities. Operation, maintenance and replacement (OM&R) costs and debt service cost will also result from this Project and the TED Project as a whole.

The principal benefit resulting from the Project is additional revenue for the District that will be realized after the existing sewer connection moratorium is rescinded. Table 2 summarizes the estimate of economic benefits that will result from this Project and the TED Project. As shown in the table, the revenue generated by the monthly fees will increase until all new connections have been established. At that time (Year 20), the monthly revenue stream will remain constant.

The estimate of the economic benefits is based upon the following information:

1. The District's sewer collection and water distribution systems are capable of accommodating the additional connections without any major system improvements or expansion being required at District expense. The District has determined that it can provide sewer and water service to all portions of the community within its boundaries;

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT
(Insert Table 2 - Project Economic Benefits)

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT

1. The additional capacity in the wastewater treatment plant (38,000 gallons per day) that will be secured after the completion of the TED Project will result in the availability of approximately 227 additional sewer connections. This estimate is based upon the existing number of sewer connections and the existing disposal capacity. Assuming a growth rate of 12 connections per year, the wastewater treatment and effluent disposal facilities will have a service life of 19 years until additional expansion is required. The projected population of 1,379 persons resulting from the additional sewer connections is consistent with historical population trends (Attachment H);

1. The sewer capacity rights fee was established at \$4,540 based upon the estimate of costs to replace the projected available capacity assuming no available grant funding. Sewer capacity rights fees have not been formally set by Board Resolution because a sewer connection moratorium is still in place. New capacity rights fees will need to be established as part of related Project actions. These fees are required to be paid in order to access capacity in the wastewater collection, treatment and disposal systems. The 2001 water capacity rights fee is \$2,470. This rate is increased \$110 annually to accommodate reduction in debt; and

1. Monthly sewer rates used in the analysis are \$24.15 per month, per connection. This rate represents the single family residential rate, which comprises the majority of the sewer connections in the District. Commercial rates will be equal or higher. Likewise, monthly water rates are \$16.96. Variable costs, such as power and chemical, were not included in either monthly service rate.

The monthly sewer cost does not include the operations, maintenance and reserve (OM&R) and debt service cost anticipated as a result of the TED Project. This portion has been omitted since OM&R and debt service represents an additional project cost which is being offset by customer monthly fee (revenue) increases.

Table 3 summarizes the Project cost and benefits. The benefits have been determined based upon the completion of the TED Project. The benefits have been discounted over the life of the Project to reflect their present value. As shown in Table 3, the Benefit to Cost (B/C) ratio exceeds 1.0. Table 4 summarizes the Project benefits and beneficiaries.

The B/C ratio is sensitive to various conditions. First, the benefits estimate is dependent on the projected life of the Project. Water conservation efforts that result in extending the life (or additional connections) will increase the revenue available to the District. Second, the capacity rights fees are typically adjusted intermittently to reflect actual capacity status. Finally, the B/C ratio increases if the reservoir (or other Project cost) is omitted from the Project due to funding requirements or limitations. The B/C ratio will also increase if the benefits resulting from the completion of the Project are realized more quickly (i.e., discounting the economic benefits is reduced).

PROPOSAL PART TWO
 URBAN CAPITAL OUTLAY GRANT APPLICATION
 SPRINGVILLE PUBLIC UTILITY DISTRICT
TABLE 3

PROJECT COST AND BENEFIT
RECLAIMED WATER CONVEYANCE FACILITIES PROJECT(1)
SPRINGVILLE PUBLIC UTILITY DISTRICT

Project Cost	Project Benefit
\$1,360,500 (See Table 1 for development)	\$2,106,900 (See Table 2 for development)
Project Benefit to Cost Ratio = 1.55	

Note:

(1) Project is a component of the District's Treated Effluent Disposal (TED) Project.

PROPOSAL PART TWO
 URBAN CAPITAL OUTLAY GRANT APPLICATION
 SPRINGVILLE PUBLIC UTILITY DISTRICT

TABLE 4
PROJECT BENEFITS AND BENEFICIARIES
RECLAIMED WATER CONVEYANCE FACILITIES PROJECT(1)
SPRINGVILLE PUBLIC UTILITY DISTRICT

Benefit	Beneficiaries
Sewer Revenue	District Customers
Reduced Groundwater Extractions	Disposal Area and Adjacent Landowners Local Groundwater Basin
Reclaimed Water (112 acre-feet per year)	Landowner
Available Sewer Connections (227)	District Landowners and Commercial Business Enterprises
Improved Tule River Water Quality	District Springville Community Downstream Users and Diverters CalFED
Community Growth	District Springville Community Tulare County
New Waste Discharge Requirements (Rescinded Cease and Desist Order)	District Springville Community RWQCB

Note:

(1) Project is a component of the District's Treated Effluent Disposal (TED) Project.

PROPOSAL PART TWO
 URBAN CAPITAL OUTLAY GRANT APPLICATION
 SPRINGVILLE PUBLIC UTILITY DISTRICT
PART E - OUTREACH, COMMUNITY INVOLVEMENT AND ACCEPTANCE

This Project is an integral element of the Treated Effluent Disposal (TED) Project. The TED Project consists of the addition of tertiary treatment and conveyance facilities to treat the Springville Public Utility District's (District) existing wastewater effluent for direct use (recycling) purposes. Development of the (TED) Project has been underway since 1982. Since 1997, monthly District Board meetings, special public meetings and CEQA comment meetings have been held. This Project has also been thoroughly covered by the local newspapers. The District will continue with this level of effort of community outreach and involvement throughout the Project life. The District will request opportunities for Project presentations to groups such as the Friends of the Tule River and the Kaweah-Tule Watershed Management Council to gain further support for the TED Project.

A summary of local groups or organizations that aware of the TED Project and an indication of each group's level of support is presented in Table 5.

TABLE 5
LOCAL GROUPS AND LEVEL OF SUPPORT
RECLAIMED WATER CONVEYANCE FACILITIES PROJECT(1)
SPRINGVILLE PUBLIC UTILITY DISTRICT

Local Group/Organization	Level of Support
Tulare County Board of Supervisors	Expressed Support
Springville Chamber of Commerce	Endorsement
Springville Businessmen's Association	Monitoring Progress
Friends of the Tule River	Consideration of Commitment Pending

Note:

(1) Project is a component of the District's Treated Effluent Disposal (TED) Project.

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT
(Figure 1 - Project Location Map)

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT
(Figure 2 - Existing Grades for Pipeline)

PROPOSAL PART TWO
URBAN CAPITAL OUTLAY GRANT APPLICATION
SPRINGVILLE PUBLIC UTILITY DISTRICT

(Insert Figure 3 - Project Schedule)

TABLE 1
BUDGET BREAKDOWN
RECLAIMED WATER CONVEYANCE FACILITIES PROJECT(1)
SPRINGVILLE PUBLIC UTILITY DISTRICT

REVENUE

Category	Amount
Item	
A. United States Department of Agriculture - Rural Development	
1. Loan	\$244,475
2. Grant	\$42,825
B. District Funds	\$73,200
C. Proposition 13 - Urban Water Conservation Program	
1. Urban Capital Outlay Grant	\$1,000,000
TOTAL REVENUE	
	\$1,360,500

EXPENDITURES

Category	Unit	\$/Unit	Quantity	Direct Construction Costs (2)	Associated Costs (3)
Item					
A. Land Purchase/Easement					
1. Easements	Acre (AC)	15,000	2	\$30,000	
2. Land	AC	8,000	7	\$56,000	
B. Planning/Design/Engineering					
1. Reports (4)	Lump Sum (L.S.)	109,300	-		\$109,300
2. Permitting	L.S.	2.4% of Adj. Const. Cost			\$22,800
3. Design	L.S.	9.0% of Adj. Const. Cost			\$85,600
4. Funding Applications	L.S.	2.3% of Adj. Const. Cost			\$21,900
C. Materials/Installation					
1. Discharge Pumps, manifold & valves	Horsepower	3,000	12	\$36,000	
2. Discharge Pipe	Linear Foot (L.F.)	40	10,500	\$420,000	
3. Air Release valves	Each (EA)	750	6	\$4,500	
4. In-line Control Valves	EA	500	3	\$1,500	
5. Highway Boring	EA	20,000	1	\$20,000	
6. River Crossing (below ground)	L.F.	100	600	\$60,000	
D. Structures					
1. Wet Well	EA	2,000	1	\$2,000	
2. Terminus Structure	EA	10,000	1	\$10,000	
3. Storage Reservoir - Earthwork	Cubic Yard	4	16,000	\$64,000	
4. Storage Reservoir - Liner (bentonite)	Square Foot	0.25	214,000	\$53,500	
5. Canal/ditch Crossing	L.S.	20,000	1	\$20,000	
E. Equipment Purchases/Rentals	-	-	-		
F. Environmental Mitigation/Enhancement					
1. Tree Removal Mitigation	L.S.	10,000	1	\$10,000	
2. Stream Crossing	L.S.	20,000	1	\$20,000	
G. Construction/Administration/Overhead	L.S.				
1. Inspection	L.S.	9.0% of Adj. Const. Cost			\$85,600
2. Additional Engineering	L.S.	2.3% of Adj. Const. Cost			\$21,900
H. Project/Legal/License Fees	L.S.	2.5% of Adj. Const. Cost			\$23,800
I. Contingency	L.S.	10.0% of Tot. Fixed Costs		80,800	
J. Other					
1. Bonding	L.S.	1.5% of Adj. Const. Cost			\$14,300
2. Interim Financing	L.S.	2.5% of Adj. Const. Cost			\$23,800

Subtotals \$888,300 \$409,000

Cost Adjustment to 2001 dollars, multiplier = 1.0711 (5) \$951,500

TOTAL PROJECT COST \$1,360,500

Notes

1. Project is a component of the District's Treated Effluent Disposal (TED) Project
2. Direct Construction Costs have been established through supplier/contractor contacts and previous project history
3. Associated Costs have been established as a function of Adjusted Total Construction Cost
4. Includes expenditures from previous project alternatives.

5. Cost Adjustment from July, 1998, (ENR CCI = 5921) to Annual Average 2001 (ENR CCI = 6342)

TABLE 2
PROJECTED ECONOMIC BENEFITS
RECLAIMED WATER CONVEYANCE FACILITIES PROJECT (1)
SPRINGVILLE PUBLIC UTILITY DISTRICT

No. of Years After Construction (2)	District Benefit				County Benefit (7)	Value of Reclaimed Water (8)	Nutrient Value of Reclaimed Water
	Sewer		Water				
	Capacity Rights Fees (3)	Service Revenue (4)	Capacity Rights Fees (5)	Service Revenue (6)			
	4840	24.15	2470	16.96		75	1000
1	\$58,080	\$3,478	\$30,960	\$2,442	\$30,000	\$6,750	\$1,000
2	\$58,080	\$6,955	\$32,280	\$4,884	\$28,200	\$6,750	\$1,000
3	\$58,080	\$10,433	\$33,600	\$7,327	\$28,200	\$6,750	\$1,000
4	\$58,080	\$13,910	\$34,920	\$9,769	\$28,200	\$6,750	\$1,000
5	\$58,080	\$17,388	\$36,240	\$12,211	\$28,200	\$6,750	\$1,000
6	\$58,080	\$20,866	\$37,560	\$14,653	\$28,200	\$6,750	\$1,000
7	\$58,080	\$24,343	\$38,880	\$17,096	\$28,200	\$6,750	\$1,000
8	\$58,080	\$27,821	\$40,200	\$19,538	\$28,200	\$6,750	\$1,000
9	\$58,080	\$31,298	\$41,520	\$21,980	\$28,200	\$6,750	\$1,000
10	\$58,080	\$34,776	\$42,840	\$24,422	\$28,200	\$6,750	\$1,000
11	\$58,080	\$38,254	\$44,160	\$26,865	\$28,200	\$6,750	\$1,000
12	\$58,080	\$41,731	\$45,480	\$29,307	\$28,200	\$6,750	\$1,000
13	\$58,080	\$45,209	\$46,800	\$31,749	\$28,200	\$6,750	\$1,000
14	\$58,080	\$48,686	\$48,120	\$34,191	\$28,200	\$6,750	\$1,000
15	\$58,080	\$52,164	\$49,440	\$36,634	\$28,200	\$6,750	\$1,000
16	\$58,080	\$55,642	\$50,760	\$39,076	\$28,200	\$6,750	\$1,000
17	\$58,080	\$59,119	\$52,080	\$41,518	\$28,200	\$6,750	\$1,000
18	\$58,080	\$62,597	\$53,400	\$43,960	\$28,200	\$6,750	\$1,000
19	\$58,080	\$66,074	\$54,720	\$46,403	\$28,200	\$6,750	\$1,000
20 (9)	\$0	\$66,074	\$0	\$46,403	\$0	\$6,750	\$1,000
Subtotals	\$1,103,520 11.158	\$726,818	\$813,960	\$510,428	\$537,600 11.158	\$135,000 11.47	\$20,000 11.47
Present Worth (Notes)	\$648,057 (10)	\$342,156 (11)	\$452,782 (11)	\$240,288 (11)	\$334,740 (10)	\$77,423 (10)	\$11,470 (10)
TOTAL ECONOMIC BENEFIT (rounded)							\$3,847,300
PRESENT WORTH OF TOTAL ECONOMIC BENEFIT (rounded)							\$2,106,900

Notes:

- Project is a component of the District's Treated Effluent Disposal (TED) Project.
- Upon rescinding sewer connection moratorium. Assumes 12 new sewer connections to system per year.
- Connection fees based upon \$4,840 for a single family residence.
- Service Revenue based upon \$24.15 per month, per single family residence (fixed portion of cost only).
This does not include OM&R and debt service for the TED Project (approximately \$5.60 per month).
- Connection fees based upon \$2,470 (2001) for a single family residence and increase \$110 annually.
- Service Revenue based upon \$16.96 per month, per single family residence (fixed portion of cost only).
- County tax revenue benefit based upon tax rate of 2 percent on \$125,000 residence less \$7,500 homeowners exemption (12 homes).
- Based upon current value of water if made available for sale, after losses (estimated at 90 acre-ft/yr).
Value of reclaimed water established at \$75/acre-ft.
- Available connection capacity will be reached (227 connections).
Monthly revenue will continue for new connections which have occurred.
- Present worth (discount) based upon constant annual series, P/A, using $i=6\%$, for (n) number of years.
- Present worth based (discount) upon present worth of future amount, P/F, using $i=6\%$, with F occurring after (n) number of years and totaled over Project life.