



**City of Dallas**

➤ **Finance Department**

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August 28, 2008

Mr. Bob Rice  
Oregon Water Resources Department  
725 Summer Street NE, Suite A  
Salem OR 97301

RE: City of Dallas Wastewater Reuse Project

Dear Mr. Rice:

This letter confirms that the City of Dallas has allocated \$63,000 to fund water-reuse feasibility studies in 2009.

Sincerely,

Marcia Baragary  
Finance Director  
City of Dallas

MB:pas



GR0007 09

OREGON WATER RESOURCE DEPARTMENT
WATER CONSERVATION, REUSE AND STORAGE
GRANT PROGRAM

RECEIVED

AUG 29 2008

WATER RESOURCES DEPT
SALEM, OREGON

Project Name: City of Dallas Wastewater Reuse Project

Type of Grant Requested: [ ] Water Conservation [X] Reuse [ ] Above Ground Storage
[ ] Storage Other Than Above-Ground [Including Aquifer Storage and Recovery (ASR)]

Program Funding Dollars Requested: \$ 63,000 Total cost of planning study: \$ 126,000
Note: Request may not exceed \$500,000

Table with 2 columns: Applicant Name: Jerry Wyatt, City Manager; Co-Applicant Name; Organization: City of Dallas; Organization:; Address: 187 SE Court Street; Address:; Phone: 503-831-3502; Phone:; Fax: 503-623-2339; Fax:; Email: Jerry.Wyatt@ci.dallas.or.us; Email:

Table with 2 columns: Fiscal Officer Name: Marcia Baragary, Finance Director; Principle Contact: Kenn Carter, Assistant Director; Organization: City of Dallas; Organization: City of Dallas Public Works Department; Address: 187 SE Court Street; Address: 187 SE Court Street; Phone: 503-831-3505; Phone: 503-831-3556; Fax: 503-623-2339; Fax: 503-623-2339; Email: Marcia.Baragary@ci.dallas.or.us; Email: Kenn.Carter@ci.dallas.or.us

Certification:

I certify that this application is a true and accurate representation of the proposed work for a project planning study and that I am authorized to sign as the Applicant or Co-Applicant. By the following signature, the Applicant certifies that they are aware of the requirements of an Oregon Water Resources Department grant and are prepared to implement the project if awarded.

Applicant Signature: [Signature] Date: August 28, 2008
Print Name: Jerry Wyatt Title: City Manager

Please give a brief summary of the planning study using no more than 150 words.
This study evaluates the technical, social, environmental, regulatory and financial feasibility of providing reuse water from the City's wastewater treatment plant to parks, school grounds, residents, businesses, and industry. The study involves identifying reuse application opportunities and quantifying the demand for reuse water; identifying infrastructure needs along with capital and operation & maintenance costs; evaluating system development charges and rates; assessing regulatory and environmental constraints; and promoting public acceptance through public involvement. The study provides the City with a clear understanding of the constraints associated with its conceptual reuse project. The study will be used to further the City's goal of making the best use of water diverted from its sole water supply source (Rickreall Creek).

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## IV. Grant Specifics

### Section A. Common Criteria

**Instructions:** Answer all questions in this section by typing the answer below the question. It is anticipated that completed applications will result in additional pages.

1. Describe how the planning study will be performed. Include:
  - a. A description of the planning schedule/timeline, which includes identifying all key tasks. (Section VI provides an opportunity for a “graphical” representation of the schedule.)
  - b. When the planning study could begin.
2. Provide a description of the relevant professional qualifications and/or experience of the person(s) that will play key roles in performing the planning study. If the personnel have not been decided upon, include a description of the professional qualifications and/or experience of the person(s) you anticipate will play key roles in performing the planning study.
3. What local, state or federal project permitting requirements/issues do you anticipate in order for the planning study to be conducted?
4. Are permits/governmental approvals required for the planning study? If yes, indicate whether you have obtained the necessary permits/governmental approvals. If you have not obtained the necessary permits/governmental approval, describe the steps you have taken to obtain them.
5. Describe your goal (which must be based on evaluating the feasibility of developing a water conservation, reuse or storage project) and how this study helps to achieve the goal.
6. Describe the technical aspects of the planning study and why your approaches are appropriate for accomplishing the goal of the planning study.
7. Describe the level of involvement, interest and/or commitment of different entities associated with the planning study (attach letters of support). Describe how these entities will benefit or be impacted by the planning study.

SEE

ADDITIONAL

SHEETS

## Section B. Unique Criteria

**Instructions:** Answer the set of questions below that applies to the type of planning study that this grant will fund.

**Water Conservation** or  **Reuse**

1. Water Conservation or Reuse projects that may result from this planning study are requested to be included in the Water Resources Department's "Inventory of Potential Conservation Opportunities". Though you may have already submitted this information earlier in the year through a separate survey, we ask that all applicants complete the information on the form provided at the end of this application.  
 I have filled out the application or  I have not filled out the application.

2. Describe the water supply need(s) that the project associated with the planning study is intended to meet. Applicant should reference supporting documentation that would be available upon request.

3. Explain how the associated project will mitigate the need to develop new water supplies and/or use water more efficiently. Reference documentation and/or examples of the success of similar or comparable water conservation/reuse projects that would be available upon request.

4. Explain how the project associated with the planning study will meet the water supply need(s), and indicate what percentage of the need will be met. (For example, if your water supply need is 20,000 acre-feet of additional water and the project will supply 10,000 additional acre-feet, 50% of your need will be met).

5. Provide data and information on the associated project and the project's sources of water supply:

- The location of the associated project. (Include the basin, county, township, range and section.)
- The name(s) and river mile(s) of the source water and what they are tributary to, if applicable.
- Environmental flow needs and water quality requirements of supply source water bodies and water bodies downstream of associated and/or affected return flows.
- Reliance on return flows by downstream water right holders.

# City of Dallas 2008 Water Conservation, Reuse and Storage Grant Application Responses

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## Section A – Common Criteria

### 1. Describe how the planning study will be performed. Include:

- a. A description of the planning schedule/timeline, which includes identifying all key tasks. (Section VI provides an opportunity for a “graphical” representation of the schedule.)

The key tasks and schedule for the project are

1. Identify and quantify present and future reuse demands (January-March 2009)
  - 1a. Gather geographic information data for City and land use planning documents
  - 1b. Identify potential water use areas and high demand users
  - 1c. Collect reuse district soil characteristic information and irrigation meter data
  - 1d. Determine seasonal and diurnal irrigation capacity rates and demands
2. Develop wastewater treatment plant facility plan for reuse improvements (January-June 2009)
  - 2a. Develop design criteria and water quality goals for reuse treatment system
  - 2b. Evaluate treatment technologies to meet water quality goals for treatment system
  - 2c. Develop preliminary design of treatment processes and supporting facilities, and incorporate into plant layout and hydraulics
3. Public meetings (June-November 2009)
  - 3a. Develop and implement communication plan for project (e.g. location/time for public meetings, meeting visual aids , flyers, etc.)
  - 3b. Attend public meetings/workshops and respond to comments
4. Cost development and financial planning (June-December 2009)
  - 4a. Develop capital cost and operation & maintenance cost estimates for reuse treatment system
  - 4b. Identify sources of funding for project construction (grants, State Revolving Loan, system development charges, etc.)
  - 4c. Develop preliminary user rates for reuse water considering annual operations costs, infrastructure depreciation, annual maintenance costs, rate structure, etc.)

- b. When the planning study could begin.

Immediately after award of the grant (estimated to begin in January 2009)

- ### 2. Provide a description of the relevant professional qualifications and/or experience of the person(s) that will play key roles in performing the planning study. If the

personnel have not been decided upon, include a description of the professional qualifications and/or experience of the person(s) you anticipate will play key roles in performing the planning study.

**Kenn Carter, Assistant Public Works Director**

**Project Role: City Project Manager**

Qualifications: Kenn is a registered professional engineer (OR, CA) with 27 years of experience in water quality regulation and enforcement; design, construction, and operability of wastewater and reuse treatment plants; managing water and wastewater infrastructure improvements; and representing the City of Dallas on watershed councils and citizen groups.

**Jason Riegler, Environmental Engineer**

**Project Role: Wastewater Treatment and Conveyance**

Qualifications: Jason is a registered professional engineer (FL) with 11 years of experience in water supply, water treatment, conveyance and wastewater treatment. Jason has worked on alternative water supply and reuse projects including the Shingle Creek Reuse Augmentation Project, Yankee Lake Reuse Augmentation Project and Southlake Reuse Feasibility Study and Wastewater Master Plan. Jason was the project manager and engineer for these projects during the planning phase and through design and construction.

**Jason Smesrud, Soil Scientist and Agricultural Engineer**

**Project Role: Irrigation Demands**

Qualifications: Jason specializes in vadose zone hydrology and agricultural irrigation and drainage and routinely applies these capabilities throughout the Western United States. His engineering experience involves beneficial reuse and land application of wastewater and biosolids, irrigation and drainage system design and modeling, water resource planning, vadose zone hydrology modeling and monitoring, and engineering of soil/plant systems for waste management and natural treatment system projects. Jason was a technologist on the City of Dallas's Wastewater Irrigated Reuse Pilot, City of Harrisburg's Popular Tree Wastewater Reuse Study and the City of McCall's Wastewater Reuse Irrigation Demand Review.

**Linda Macpherson, Reuse Technologist and Public Involvement Specialist**

**Project Role: Public Involvement**

Qualifications: Linda has 30 years of experience developing public awareness programs for water, wastewater, and environmental quality and actively involved in planning and service organizations dealing with water resources issues, including the Water Environment Federation (WEF) Public Education Chair and Communications Task Lead for the Compounds of Emerging Concern Community of Practice (CEC COP), American Water Works Association (AWWA) Reuse Video Subcommittee, WateReuse Foundation Research Advisory Committee, Association of Metropolitan Sewerage Agencies (AMSA), Association of Clean Water Agencies (ACWA), Pacific Northwest Clean Water Agencies (PNCWA), Water Environment Research Foundation (WERF), and the WateReuse Association

In addition to the staff listed above, CH2M HILL's local Corvallis office has a variety of engineering staff available to assist with the project in all disciplines (e.g. mechanical, structural, electrical, instrumentation, etc.).

**3. What local, state or federal project permitting requirements/issues do you anticipate in order for the planning study to be conducted?**

No permitting issues or requirements are anticipated for the planning study. The Department of Environmental Quality will require review of the construction drawings and specifications once the project has been identified as feasible and ready for design and construction.

**4. Are permits/governmental approvals required for the planning study? If yes, indicate whether you have obtained the necessary permits/governmental approval. If you have not obtained the necessary permits/governmental approval, describe the steps you have taken to obtain them.**

No permits or government approvals are required for the planning study.

**5. Describe your goal (which must be based on evaluating the feasibility of developing a water conservation, reuse or storage project) and how this study helps to achieve the goal.**

The goal is to make the best use of water that the City diverts from Rickreall Creek. This can be accomplished by using the diverted water more than once and has the added benefit of:

- 1) Reducing the amount diverted and thereby leaving more instream water
- 2) Extending the life of the City's entitlement of water
- 3) Improving water quality

**6. Describe the technical aspects of the planning study and why your approaches are appropriate for accomplishing the goal of the planning study.**

The main technical aspects of the study are demand identification for a potential potable water offset, treatment, economics and public acceptance.

**7. Describe the level of involvement, interest and/or commitment of different entities associated with the planning study (attach letters of support). Describe how these entities will benefit or be impacted by the planning study.**

As leaders of the City of Dallas, the Public Works Department is responsible for providing a sustainable community for its customers. By performing this study, the City is looking after the interests of the community by managing limited water resources.

## **Section B – Unique Criteria**

**2. Describe the water supply need(s) that the project associated with the planning study is intended to meet. Applicant should reference supporting documentation that would be available upon request.**

This project will reduce the projected potable water irrigation and industrial demands for the City of Dallas identified in the 2002 Water Master Plan and Regional Water Supply Project with Monmouth, Dallas and Independence.. The irrigation demands are approximately 70% of the City's demand during the peak summer months.

- 3. Explain how the associated project will mitigate the need to develop new water supplies and/or use water more efficiently. Reference documentation and/or examples of the success of similar or comparable water conservation/reuse projects that would be available upon request.**

The City of Dallas stores water from Rickreall Creek in Mercer Reservoir. The reservoir is the majority of the water supply for the City during the summer and early fall months. The reservoir has a finite capacity and may not be able to meet demands during drought conditions. Substituting reuse water where potable water is currently used or will be used will mitigate the need for an additional future reservoir or to convey water from an alternate source such as the Siletz River or Willamette River.

- 4. Explain how the project associated with the planning study will meet the water supply need(s), and indicate what percentage of that need will be met. (For example: If your water supply need is 20,000 acre-feet of additional water and the project will supply 10,000 additional acre-feet, 50% of your need will be met).**

The reuse water generated with this project will provide water to meet irrigation and industrial demands associated with growth as well as potentially retrofitting existing areas of the City with reuse distribution systems. The projected demands in the 2002 Water Master Plan are approximately 8.5 MGD with a current demand of approximately 6 MGD. Of the 2.5 MGD water demand associated with growth, it is estimated that 70% or 1.75 MGD is for irrigation. This project is anticipated to supply between 1-2 MGD of reuse water or 60-100% of the need. As the community grows, there will be more opportunities to utilize more reclaimed wastewater as the reuse demand increases in parallel with the growth of the community, thus creating a sustainable and efficient community.

- 5. Provide data and information on the associated project and the project's sources of water supply:**
- a. The location of the associated project. (Include the basin, county, township, range and section.)**

The project is within the Willamette Basin and located in Polk County. The project is located in and around Section 28, Township 7S, Range 5W.
  - b. The name(s) and river mile(s) of the source water and what they are tributary to, if applicable.**

The source water is from Mercer Dam, Rickreall Creek and tributaries to Rickreall Creek (Rockhouse, Applegate, Canyon creeks). The dam is located at river mile 23.6. Rickreall Creek is a tributary to the Willamette River.

**c. Environmental flow needs and water quality requirements of supply source water bodies and water bodies downstream of associated and/or affected return flows.**

The goal of the project is to offset water demands so there is no net change of flow in the creek. The wastewater produced by the City's plant discharges downstream of the City of Dallas. By using reuse water, the withdrawal of surface water from Rickreall Creek upstream of the City is offset. This reduction in withdrawal allows more water to pass through Rickreall Creek between the withdrawal point and the return flow point. In addition, higher quality water remains in the creek while treated wastewater is diverted away from the creek thereby reducing pollutant loads to the creek. Wastewater that is currently discharged into the creek contains trace contaminants that will be reused to offset existing water uses, therefore having the benefit of not needing to divert source water from Rickreall Creek. This will help improve water quality of Rickreall Creek.

**d. Reliance on return flows by downstream water right holders.**

The City has senior storage and stream water rights on the Rickreall. Reuse will offset potable water demand with reuse water; therefore the net affect of water quantity will not change. From a water balance perspective, reuse will offset withdrawals and there will be no net change in stream hydrology.

## V. Match Funding Information

Applicants must demonstrate a minimum dollar-for-dollar match based on the total funding request. The match may include a) secured resources, b) previously expended resources, and/or c) pending resources. For secured funding, you must attach a letter of support from the match funding source that specially mentions the dollar amount shown in the "Amount/Dollar Value" column. For pending resources, documentation showing a request for the matching funds must accompany the application. For resources that have been previously expended, the expenditure must have occurred on or after July 1, 2005. Resources expended prior to July 1, 2005 are not eligible for match purposes.

The Type of matching funds may include:	The Status of matching funds may include:
<ul style="list-style-type: none"> <li>The value of in-kind labor, equipment rental and materials essential to the planning study provided by the applicant or partner*.</li> </ul>	<ul style="list-style-type: none"> <li>Secured funding commitments from other sources.</li> </ul>
<ul style="list-style-type: none"> <li>Cash is direct expenditures made in support of the planning study by the applicant.</li> </ul>	<ul style="list-style-type: none"> <li>Associated and documented expenditures for the planning study from non-program sources incurred on or before July 1, 2005.</li> </ul>
	<ul style="list-style-type: none"> <li>Pending commitments of funding from other sources. In such instances, Department funding will not be released prior to securing a commitment of the funds from other sources. Pending commitments of the funding must be secured within 12 months from the date of the award.</li> </ul>

\*"Partner" means a non-governmental or governmental person or entity that has committed funding, expertise, materials, labor, or other assistance to a proposed planning study. OAR 690-600-0010.

Match Funding Source (if in-kind, briefly describe the nature of the contribution)	Type (✓ One)	Status (✓ One)	Amount/ Dollar Value	Date Match Funds Available (Month/Year)
<i>Sewer Fund Reserve (Budget Code 3)</i>	<input checked="" type="checkbox"/> cash <input type="checkbox"/> in kind	<input checked="" type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending	\$63,000	1/2009
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		
	<input type="checkbox"/> cash <input type="checkbox"/> in kind	<input type="checkbox"/> secured <input type="checkbox"/> expended <input type="checkbox"/> pending		

## VI. Project Planning Study Schedule

**Estimated Project Duration: January 2009 to December 2009**

Place an "X" in the appropriate column to indicate when each element (key task) of the project will take place.

Project Planning Study Element (Key Tasks)	2009				2010				2011 & Beyond
	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr	1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr	
<i>Identify and quantify opportunities to offset potable water, Rickreall Creek surface water and other surface water diversions</i>	X								
<i>Wastewater Plant Reuse Facility Plan</i>	X	X							
<i>Public Meetings</i>			X	X					
<i>Cost Development/Financial Planning</i>			X	X					



*Request to be added to the Oregon Water Resources Department's*  
**Inventory of Potential Conservation Opportunities**

The purpose of this inventory is to catalogue potential conservation projects that water users themselves have identified but not yet pursued because of financial, institutional, or other barriers. For the purpose of this application, water storage other than above-ground are included as conservation opportunities and are most likely capital conservation projects.

As a water provider or user, you know your water demands and water conservation opportunities better than anyone. We would appreciate your assistance with this important data collection effort by completing this survey. Your participation will help provide the building blocks we need to begin to identify and achieve potential future water supplies. Please answer the questions as completely as possible, to the best of your ability. We appreciate your help with this important effort.

This inventory of already-identified, potential conservation projects includes both capital and programmatic projects. Capital projects are defined as one-time, large investments resulting in water savings. Examples include reclaimed water plants, reservoir covering, transmission line upgrades reducing leaks, or industrial engineering modifications to re-use process water. Programmatic projects are defined as ongoing investments resulting in water savings. Examples include facilitating upgrades to more efficient water using devices (e.g., distributing free showerheads, toilet rebates) and distribution system leak detection programs. The conservation inventory is primarily intended to include “planned” projects rather than projects that are currently being implemented. However, currently active programmatic projects may be listed if they will continue or expand in future years. The inventory of projects submitted will be compiled by county or basin.

Examples are provided below.

	<b>Example Capital Conservation Project</b>	<b>Example Programmatic Conservation Project</b>
<b>Project Description</b> Provide brief sentence	Line 3 miles of unlined ditch.	Toilet rebate program for residential customers
<b>Estimated Future Savings</b> Provide brief sentence, including information regarding savings seasonality.	20 acre feet of water per year	If we spend our full budget each year, we estimate 50,000 gallons of water save per year
<b>Seasonality</b> Indicate what part of the year savings are generated (e.g. year-round; summer only; etc.).	Peak (irrigation) season savings.	Savings should occur throughout the year.
<b>Estimated Future Costs</b> Provide brief sentence.	\$500,000 total project costs.	\$40,000 a year.
<b>Implementation Schedule</b> Provide brief sentence.	Not set. Have conducted cost and savings estimate, but still seeking funding.	We started the program in 2005 and plan to implement until 2015.
<b>Project Funded?</b> Designate either “yes”, “no”, or provide brief sentence if necessary	No. Pursuing grant funding.	Yes. IN our CIP through the next 5 years.

To add a project to the inventory of potential conservation opportunities, please provide the following information for each conservation project.

This is a <input checked="" type="checkbox"/> Capital Conservation Project <input type="checkbox"/> Programmatic Conservation Project	
<b>Project #/Name</b>	<b>City of Dallas Wastewater Reuse Project</b>
Project Description	Upgrade wastewater plant to produce reuse quality water to offset water demands
Estimated Future Savings	1-2 MGD
Seasonality	Primarily peak irrigation season; secondary year round for industrial users
Estimated Future Costs	\$5000,000 total project cost
Implementation Schedule	Planning/Design from 1/2009 to 12/2010; construction 1/2010 to 12/2010
What are the barriers to implementation, e.g. funding?	Funding and public acceptance
This is a <input type="checkbox"/> Capital Conservation Project <input type="checkbox"/> Programmatic Conservation Project	
<b>Project #/Name</b>	
Project Description	
Estimated Future Savings	
Seasonality	
Estimated Future Costs	
Implementation Schedule	
What are the barriers to implementation, e.g. funding?	

**- Include this form with your application -**