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# SALT LAKE CITY COUNCIL STAFF REPORT

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**DATE:** February 3, 2009

**SUBJECT:** **Approval of a US Bureau of Reclamation (USBR) Application for Phase 2 of the Big Cottonwood Tanner Water Conservation & Fire Flow Improvement Project**

**AFFECTED COUNCIL DISTRICTS:** Citywide (also affects Murray City, Holladay City, Unincorporated County)

**STAFF REPORT BY:** Lehua Weaver

**ADMINISTRATIVE DEPT. AND CONTACT PERSON:** Department of Public Utilities  
Tom Ward, Deputy Director

**CC:** David Everitt, Jeff Niermeyer, Tom Ward, Rusty Vetter

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## **BRIEF OVERVIEW:**

The Administration has submitted an application for the US Bureau of Reclamation's Water for America Grant. The grant funds would be used toward the already scheduled second phase of the Big Cottonwood Tanner Ditch Water Conservation and Fireflow project. The application requires documentation of the governing body's support in the form of meeting minutes and an adopted resolution.

The Department of Public Utilities has budgeted that this project would require approximately \$1.4 million over fiscal years 2009-10 and 2010-11. This grant creates a potential contribution of \$300,000. The grant requires a 50/50 match, which would be satisfied by the balance of the project funds still anticipated in 2009 through 2011.

## **KEY ELEMENTS:**

By way of background, Salt Lake City has a long-standing agreement with the Big Cottonwood Tanner Ditch Company (BCT) to provide irrigation water and culinary water to Company shareholders with water rights. This agreement was entered into in the 1920s to afford the City use of higher quality snow pack run-off for system wide use, which had previously been used by farmers as irrigation water. This allowed the City to use Utah Lake water for the irrigation purposes.

Based on the agreement and recent updates where the City assumed ownership of the BCT culinary system, the City is required to provide adequate water flow for fire suppression within the BCT service area, which affects sections of Murray City, Holladay City, Cottonwood Heights, and unincorporated areas of the County. The 2008 update also relieved the City of the requirement to provide irrigation water via open canals, in exchange for providing vouchers to guarantee the water to users.

To meet the needs of this 2008 agreement update, to improve water delivery, and to eliminate water loss, the Department of Public Utilities had planned for Phase 1 and 2 of this Big Cottonwood Tanner Ditch Water Conservation and Fireflow project. Phase 1 included \$6.5 million of fire flow

upgrades in the BCT area. Phase 2 is budgeted in fiscal years 2009-10 and 2010-11 – pending confirmation through the Mayor’s Office and City Council. This \$1.4 million phase 2 of the project is one of the estimated \$23 million in capital projects the Department schedules each year in its water fund.

Phase 2 would construct 11,200 feet of water pipeline to replace open canals, and therefore eliminates significant water seepage. The improvements will also:

- Improve pressure for irrigation delivery, increasing conservation efforts through the ability to use improved irrigation systems.
- Implement a water voucher system for those with shares to the water, which will aid in establishing water budgets and begin metered water delivery, which will be an overall improvement to water delivery and use efficiencies.
- Increase fire flows for applicable service areas within Murray City, Holladay City, Cottonwood Heights, and unincorporated areas of the County.

The improvements support initiatives outlined in the City’s Water Conservation Master Plan, and also improve the conditions and protection of the water in keeping with goals for water quality.

The total cost of Phase 2 is \$1,460,767, of which \$300,000 may come from this grant. The grant requires a minimum 50/50 local match, which will be satisfied by the \$1.1 million balance, which comes from the remaining capital money budgeted by Public Utilities.

*The Council may wish to inquire if any other future projects are planned to meet the terms of this agreement.*

## **OPTIONS:**

The Administration has prepared a resolution for the Council’s consideration, which indicates the Council’s support for submitting the application. Pending the Council’s support, this item can be placed on the February 10 Unfinished Business.

JEFFRY T. NIERMEYER  
DIRECTOR

# SALT LAKE CITY CORPORATION

DEPARTMENT OF PUBLIC UTILITIES  
WATER SUPPLY AND WATERWORKS  
WATER RECLAMATION AND STORMWATER

RALPH BECKER



David Everitt, Chief of Staff

## CITY COUNCIL TRANSMITTAL

Date Received: \_\_\_\_\_  
Date sent to Council: JAN 29, 2009

**TO:** Salt Lake City Council  
Carlton Christensen, Chair

**DATE:** January 27, 2009

**FROM:** Jeff Niermeyer, Director of Public Utilities 

**SUBJECT:** US Bureau of Reclamation (USBR) Water for America Challenge Grant Application

**STAFF CONTACT:** Tom Ward, Deputy Director, 483.6768 (cell 243.5609)

**DOCUMENT TYPE:** Resolution

**RECOMMENDATION:** Staff recommends Council pass a resolution supporting City application to the USBR Water Marketing & Efficiency Challenge Grant Program for the Phase 2 Big Cottonwood Tanner Water Conservation & Fire Flow Improvements Project.

**BUDGET IMPACT:** The grant requires a minimum 50/50 local match. Public Utilities is proposing funding and construction of this \$1.4M project in FY09/10 and FY10/11 within the Department's annual capital improvement cash flow (total water capital was \$23M in FY08/09). Award of the grant (\$300,000 maximum) would reduce City expenditure for the project, making those funds available for other capital water projects throughout the City. The project includes Public Utilities funding to City general fund for administration costs for the grant (estimated \$8,000 total for FY 09/10 and FY 10/11).

**BACKGROUND/DISCUSSION:** The project is the result of the 2008 agreement between Salt Lake City and the Big Cottonwood Tanner Ditch Company (BCT) which, among other things, retires the City's contractual delivery of over 2,800 acre feet of water to the BCT open ditch system. The project and agreement unencumbers City water rights and eliminates historical canal seepage/evaporation losses, both of which are significant goals for the Water for America challenge grant program.

Construction of this project will be subject to Mayor and Council approval of the project in Public Utilities' FY09/10 and FY 10/11 budget. The Mayor and Council will have opportunity to further review and approve the project budget through normal Department FY09 budget review. If the USBR awards the grant to the City, Public Utilities will submit a funding agreement to Mayor/Council to approve project funding obligations.

**PUBLIC PROCESS:** No public outreach is needed for Council approval of this resolution. The 2008 agreement between the City and BCT included extensive outreach and coordination with the BCT shareholders and the City of Holladay. If approved, the project design and construction will require outreach to the water customers in the affected area.

Resolution No. \_\_\_ of 2009  
Authorizing Salt Lake City  
To Apply for a Grant Award From  
The United States Bureau of Reclamation  
For Water Efficiency and Conservation

WHEREAS, the United States Bureau of Reclamation (the "Bureau") offers grants under its Water 2025, Water Efficiency & Conservation Grant Program; and

WHEREAS, on April 23, 2008 the City entered into an Amended and Restated Water Exchange Agreement with Big Cottonwood Tanner Ditch Company ("BCT") to perform, among other things, capital improvements necessary to enhance the BCT water system and other culinary lines (the "Capital Improvements") to deliver a sufficient flow of water to meet current fire flow standards and to eliminate historical canal seepage and evaporation losses throughout BCT's service area; and

WHEREAS, the Department of Public Utilities is in the process of completing Phase 1 of the Capital Improvements and intends to seek City Council approval to expend at least \$1,400,000 to complete Phase 2 of the Capital Improvements over fiscal years 2009-10 and 2010-11; and

WHEREAS, the Department of Public Utilities has adequate capability through its revenues collected from providing water and sewer services to fund Phase 2 of the Capital Improvements for the next two fiscal years, which will be subject to City Council approval; and

WHEREAS, through the Bureau's Grant Program, a portion of the Capital Improvements could be funded thereby reducing the City's expenditure for the project, making funds available for other capital water projects throughout the City.

NOW THEREFORE, BE IT RESOLVED by the City Council of Salt Lake City, Utah, as follows:

1. That the Director of the Department of Public Utilities should submit the grant application (attached as Exhibit A) with the Bureau to fund a portion of Phase 2 of the Capital Improvements necessary to enhance the BCT water system and to work with the Bureau to meet established deadlines for the City to enter into a cooperative agreement to accept a grant from the Bureau.
2. Ralph Becker, Mayor of Salt Lake City, Utah, or his designee, shall have the authority to enter into a cooperative agreement with the Bureau, upon appropriate review and approval of the City Council.

Passed by the City Council of Salt Lake City, Utah, this \_\_\_\_\_ day of February, 2009.

SALT LAKE CITY COUNCIL

By \_\_\_\_\_  
CHAIRPERSON

ATTEST:

\_\_\_\_\_  
CHIEF DEPUTY CITY RECORDER

HB\_ATTYY-#6774-v1-Resolution\_Authorizing\_Grant\_for\_Big\_Cottonwood\_Construction\_1-09

APPROVED AS TO FORM  
Salt Lake City Attorney's Office  
Date 1/29/09  
By [Signature]

Application for Federal Assistance SF-424

Version 02

* 1. Type of Submission: <input type="checkbox"/> Preapplication <input checked="" type="checkbox"/> Application <input type="checkbox"/> Changed/Corrected Application	* 2. Type of Application: <input checked="" type="checkbox"/> New <input type="checkbox"/> Continuation <input type="checkbox"/> Revision	* If Revision, select appropriate letter(s): _____ * Other (Specify): _____
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* 3. Date Received: Completed by Grants.gov upon submission.	4. Applicant Identifier: _____
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5a. Federal Entity Identifier: _____	* 5b. Federal Award Identifier: _____
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State Use Only:

6. Date Received by State: _____	7. State Application Identifier: _____
----------------------------------	--

8. APPLICANT INFORMATION:

\* a. Legal Name: Salt Lake City Corporation

* b. Employer/Taxpayer Identification Number (EIN/TIN): 87-6000279	* c. Organizational DUNS: 072957822
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d. Address:

\* Street1: 1530 South West Temple Street, Box 5528  
Street2: \_\_\_\_\_  
\* City: Salt Lake City  
County: Salt Lake County  
\* State: UT: Utah  
Province: \_\_\_\_\_  
\* Country: USA: UNITED STATES  
\* Zip / Postal Code: 84115-5528

e. Organizational Unit:

Department Name: Public Utilities	Division Name: _____
--------------------------------------	-------------------------

f. Name and contact information of person to be contacted on matters involving this application:

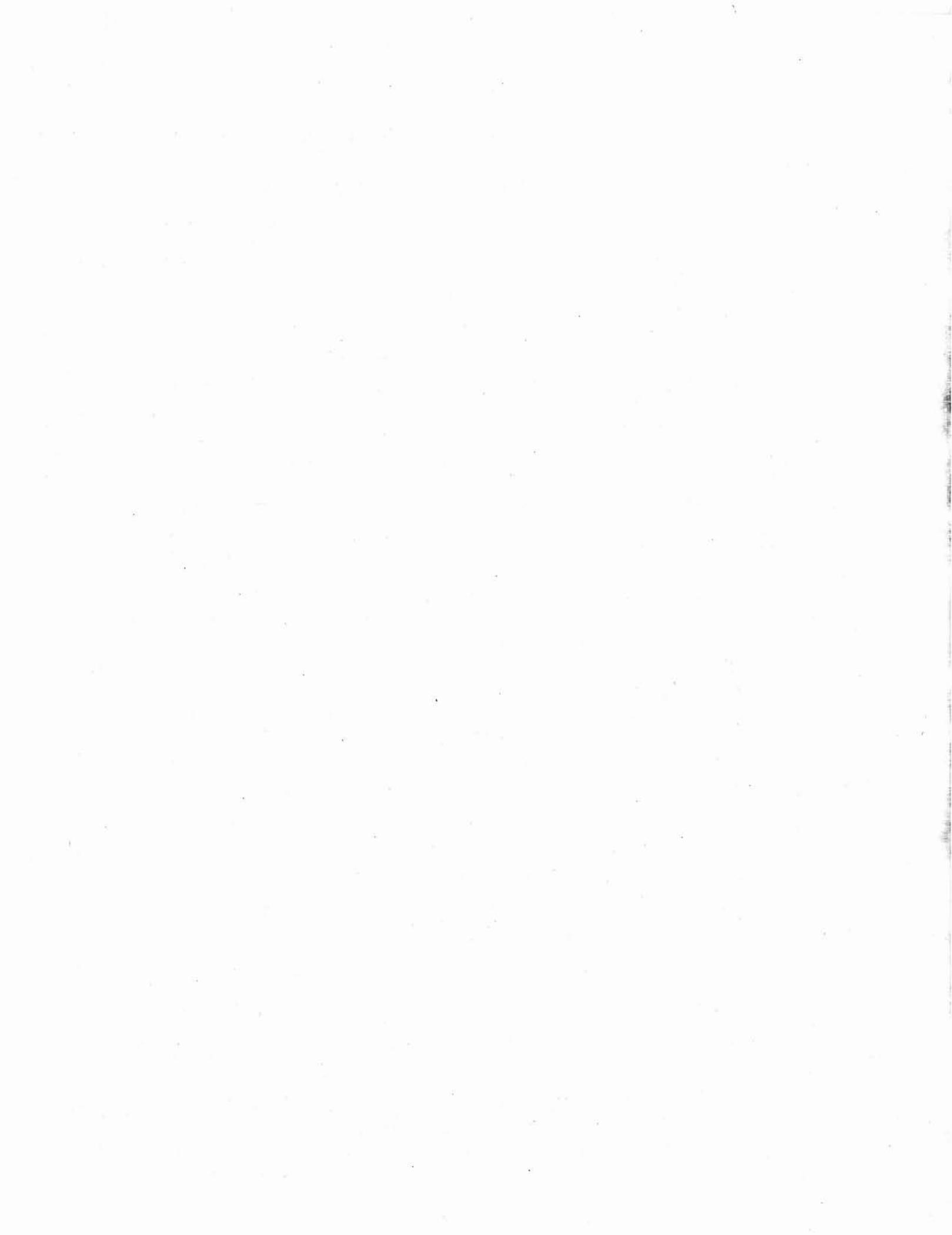
Prefix: Mr. \* First Name: Thomas  
Middle Name: \_\_\_\_\_  
\* Last Name: Ward  
Suffix: \_\_\_\_\_

Title: Deputy Director, Dept. of Public Utilities

Organizational Affiliation:  
\_\_\_\_\_

* Telephone Number: 801-483-6768	Fax Number: 801-483-6855
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\* Email: thomas.ward@slcgov.com



Application for Federal Assistance SF-424

Version 02

9. Type of Applicant 1: Select Applicant Type:

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

\* Other (specify):

\* 10. Name of Federal Agency:

Bureau of Reclamation, Denver Office

11. Catalog of Federal Domestic Assistance Number:

15.507

CFDA Title:

Water 2025

\* 12. Funding Opportunity Number:

09SF811468

\* Title:

Water for America: Water Marketing and Efficiency Grants for Fiscal Year 2009

13. Competition Identification Number:

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Salt Lake City, Utah; Murray City, Utah; Holladay City, Utah; and unincorporated Salt Lake County

\* 15. Descriptive Title of Applicant's Project:

Big Cottonwood Tanner Water Conservation & Fire Flow Improvements Project-Phase 2

Attach supporting documents as specified in agency instructions.

Add Attachments

Delete Attachments

View Attachments

Application for Federal Assistance SF-424

Version 02

16. Congressional Districts Of:

\* a. Applicant

\* b. Program/Project

Attach an additional list of Program/Project Congressional Districts if needed.

17. Proposed Project:

\* a. Start Date:

\* b. End Date:

18. Estimated Funding (\$):

* a. Federal	<input type="text" value="300,000.00"/>
* b. Applicant	<input type="text" value="1,160,767.00"/>
* c. State	<input type="text" value="0.00"/>
* d. Local	<input type="text" value="0.00"/>
* e. Other	<input type="text" value="0.00"/>
* f. Program Income	<input type="text" value="0.00"/>
* g. TOTAL	<input type="text" value="1,460,767.00"/>

\* 19. Is Application Subject to Review By State Under Executive Order 12372 Process?

- a. This application was made available to the State under the Executive Order 12372 Process for review on
- b. Program is subject to E.O. 12372 but has not been selected by the State for review.
- c. Program is not covered by E.O. 12372.

\* 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes", provide explanation.)

Yes  No

21. \*By signing this application, I certify (1) to the statements contained in the list of certifications\*\* and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances\*\* and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)

\*\* I AGREE

\*\* The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix:  \* First Name:

Middle Name:

\* Last Name:

Suffix:

\* Title:

\* Telephone Number:  Fax Number:

\* Email:

\* Signature of Authorized Representative:  \* Date Signed:

Authorized for Local Reproduction

Standard Form 424 (Revised 10/2005)  
Prescribed by OMB Circular A-102

APPROVED AS TO FORM  
Salt Lake City Attorney's Office  
Date January 13, 2009  
By Melanie Heif

**Application for Federal Assistance SF-424**

Version 02

**\* Applicant Federal Debt Delinquency Explanation**

The following field should contain an explanation if the Applicant organization is delinquent on any Federal Debt. Maximum number of characters that can be entered is 4,000. Try and avoid extra spaces and carriage returns to maximize the availability of space.

# DISCLOSURE OF LOBBYING ACTIVITIES

Complete this form to disclose lobbying activities pursuant to 31 U.S.C.1352

Approved by OMB  
0348-0046

<b>1. * Type of Federal Action:</b> <input type="checkbox"/> a. contract <input checked="" type="checkbox"/> b. grant <input type="checkbox"/> c. cooperative agreement <input type="checkbox"/> d. loan <input type="checkbox"/> e. loan guarantee <input type="checkbox"/> f. loan insurance	<b>2. * Status of Federal Action:</b> <input type="checkbox"/> a. bid/offer/application <input checked="" type="checkbox"/> b. initial award <input type="checkbox"/> c. post-award	<b>3. * Report Type:</b> <input checked="" type="checkbox"/> a. initial filing <input type="checkbox"/> b. material change
--	--	--

**4. Name and Address of Reporting Entity:**

Prime     SubAwardee

\* Name:

\* Street 1:     Street 2:

\* City:     State:     Zip:

Congressional District, if known:

**5. If Reporting Entity in No.4 is Subawardee, Enter Name and Address of Prime:**

<b>6. * Federal Department/Agency:</b> <input type="text" value="Not applicable."/>	<b>7. * Federal Program Name/Description:</b> <input type="text" value="Water 2025"/> CFDA Number, if applicable: <input type="text" value="15.507"/>
--	---

<b>8. Federal Action Number, if known:</b> <input type="text"/>	<b>9. Award Amount, if known:</b> \$ <input type="text"/>
--	--

**10. a. Name and Address of Lobbying Registrant:**

Prefix:     \* First Name:     Middle Name:

\* Last Name:     Suffix:

\* Street 1:     Street 2:

\* City:     State:     Zip:

**b. Individual Performing Services (including address if different from No. 10a)**

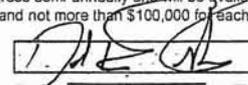
Prefix:     \* First Name:     Middle Name:

\* Last Name:     Suffix:

\* Street 1:     Street 2:

\* City:     State:     Zip:

**11.** Information requested through this form is authorized by title 31 U.S.C. section 1352. This disclosure of lobbying activities is a material representation of fact upon which reliance was placed by the tier above when the transaction was made or entered into. This disclosure is required pursuant to 31 U.S.C. 1352. This information will be reported to the Congress semi-annually and will be available for public inspection. Any person who fails to file the required disclosure shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

\* Signature: 

\* Name: Prefix:     \* First Name:     Middle Name:

\* Last Name:     Suffix:

Title:     Telephone No.:     Date:

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Standard Form - LLL (Rev. 7-97)

APPROVED AS TO FORM  
Salt Lake City Attorney's Office  
Date: January 13, 2009  
By: Melanie Pfeil

### BUDGET INFORMATION - Construction Programs

OMB Approval No. 4040-0008  
Expiration Date 07/30/2010

*NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.*

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	\$ 7,756.00	\$	\$ 7,756.00
2. Land, structures, rights-of-way, appraisals, etc.	\$ 0.00	\$	\$ 0.00
3. Relocation expenses and payments	\$ 0.00	\$	\$ 0.00
4. Architectural and engineering fees	\$ 0.00	\$	\$ 0.00
5. Other architectural and engineering fees	\$ 0.00	\$	\$ 0.00
6. Project inspection fees	\$ 0.00	\$	\$ 0.00
7. Site work	\$ 0.00	\$	\$ 0.00
8. Demolition and removal	\$ 0.00	\$	\$ 0.00
9. Construction	\$ 292,244.00	\$	\$ 292,244.00
10. Equipment	\$ 0.00	\$	\$ 0.00
11. Miscellaneous	\$ 0.00	\$	\$ 0.00
12. SUBTOTAL (sum of lines 1-11)	\$ 300,000.00	\$ 0.00	\$ 300,000.00
13. Contingencies	\$	\$	\$ 0.00
14. SUBTOTAL	\$ 300,000.00	\$ 0.00	\$ 300,000.00
15. Project (program) income	\$	\$	\$ 0.00
16. TOTAL PROJECT COSTS (subtract #15 from #14)	\$ 300,000.00	\$ 0.00	\$ 300,000.00
<b>FEDERAL FUNDING</b>			
17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter eligible costs from line 16c Multiply X <input style="width: 40px;" type="text"/> % Enter the resulting Federal share.			\$ 0.00

## ASSURANCES - CONSTRUCTION PROGRAMS

OMB Approval No.4040-0009  
Expiration Date 07/30/2010

Public reporting burden for this collection of information is estimated to average 15 minutes per response, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to the Office of Management and Budget, Paperwork Reduction Project (0348-0042), Washington, DC 20503.

**PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.**

**NOTE:** Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statute(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statute(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.
12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.
13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.
14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is \$10,000 or more.
15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).
16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.
17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).
18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."
19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

* SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL 	* TITLE Deputy Mayor
* APPLICANT ORGANIZATION Salt Lake City Corporation	* DATE SUBMITTED 1/14/2009

SF-424D (Rev. 7-97) Back

APPROVED AS TO FORM  
 Salt Lake City Attorney's Office  
 Date January 13, 2009  
 By Melanie King

TITLE PAGE

US Bureau of Reclamation  
Water for America  
Water Marketing and Efficiency Challenge Grant FY 2009

Project Title: Big Cottonwood Tanner Ditch Water Conservation & Fireflow Project  
Phase 2

Applicant Information:

Organization Name: Salt Lake City Corporation

Applicant Address: 1530 South West Temple Street  
Salt Lake City, Utah 84115

Project Manager: Thomas Ward, P.E., Deputy Director, Salt Lake City  
Department of Public Utilities

Project Manager Phone: (801) 483-6768

Project Manager Fax: (801) 483-6855

Project Manger E-Mail: [thomas.ward@slcgov.com](mailto:thomas.ward@slcgov.com)

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US Bureau of Reclamation  
Water for America: Water Marketing and Efficiency Challenge Grant FY 2009

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## TECHNICAL PROPOSAL

### (1) – EXECUTIVE SUMMARY

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1.1	Date:	January 12 2009
	Applicant:	Salt Lake City Corporation
	City, County, State:	Salt Lake City Salt Lake County Utah
1.2	Project Name:	Big Cottonwood Tanner Ditch Water Conservation & Fireflow Improvements Project Phase 2

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#### 1.3 Project Summary

Phase 2 of the Big Cottonwood Tanner Ditch Water Conservation & Fireflow Project constructs 11,200 ft of water pipeline which allows full conversion of a 1,758 acre area served by open canal irrigation to pressure irrigation. This project provides benefit under Task A – Water Bank and Water Market, Task C - Canal Lining, and Task D – Measuring Devices, of the Water for America Water Marketing and Efficiency Challenge Grants FY2009. The project is a multi-jurisdictional collaboration and the result of a cooperative agreement between Salt Lake City and the Big Cottonwood Tanner Ditch Company, which a) resolves decades old water disputes; b) quiets title of over 8,926 acre-feet (af) water rights to Salt Lake City; c) retires over 2,800 af of contractual delivery by open canal thereby eliminating approximately 1,400 af of seepage and evaporation losses; d) creates over 4,263 marketable water vouchers; e) converts 1,421 customer accounts from unmetered open ditch flood irrigation to more efficient and metered pressurized sprinkler irrigation; f) establishes a “water budget” for each share/voucher holder; and g) improves public safety by increasing fire flows to meet current code requirements in the areas of Murray City, Holladay City, Cottonwood Heights and unincorporated areas of Salt Lake County that fall within the service area of the Big Cottonwood Tanner Ditch Company.

### (2) – BACKGROUND DATA

#### 2.1 Introduction

The Big Cottonwood Tanner Ditch Company (“BC Tanner”) service area is located in the Salt Lake County area bounded by Highland Drive, 4800 South, Holladay Boulevard and 6200 South as shown on Figure 1. Portions of the BC Tanner service area are within the cities of Holladay, Cottonwood Heights, and Murray, and unincorporated areas of Salt Lake County.

During the late 1800's and early 1900's, Salt Lake City Corporation (the "City" or "SLC") realized that the growth and prosperity of the community on the edge of the Great Salt Lake Desert required additional high quality water supply. In turn, farmers who had developed farmland and secured water rights to the nearby Wasatch Range streams were confronted with the fact that high snowpack runoff dried up in the summer, severely limiting the length, reliability and productivity of the growing season.

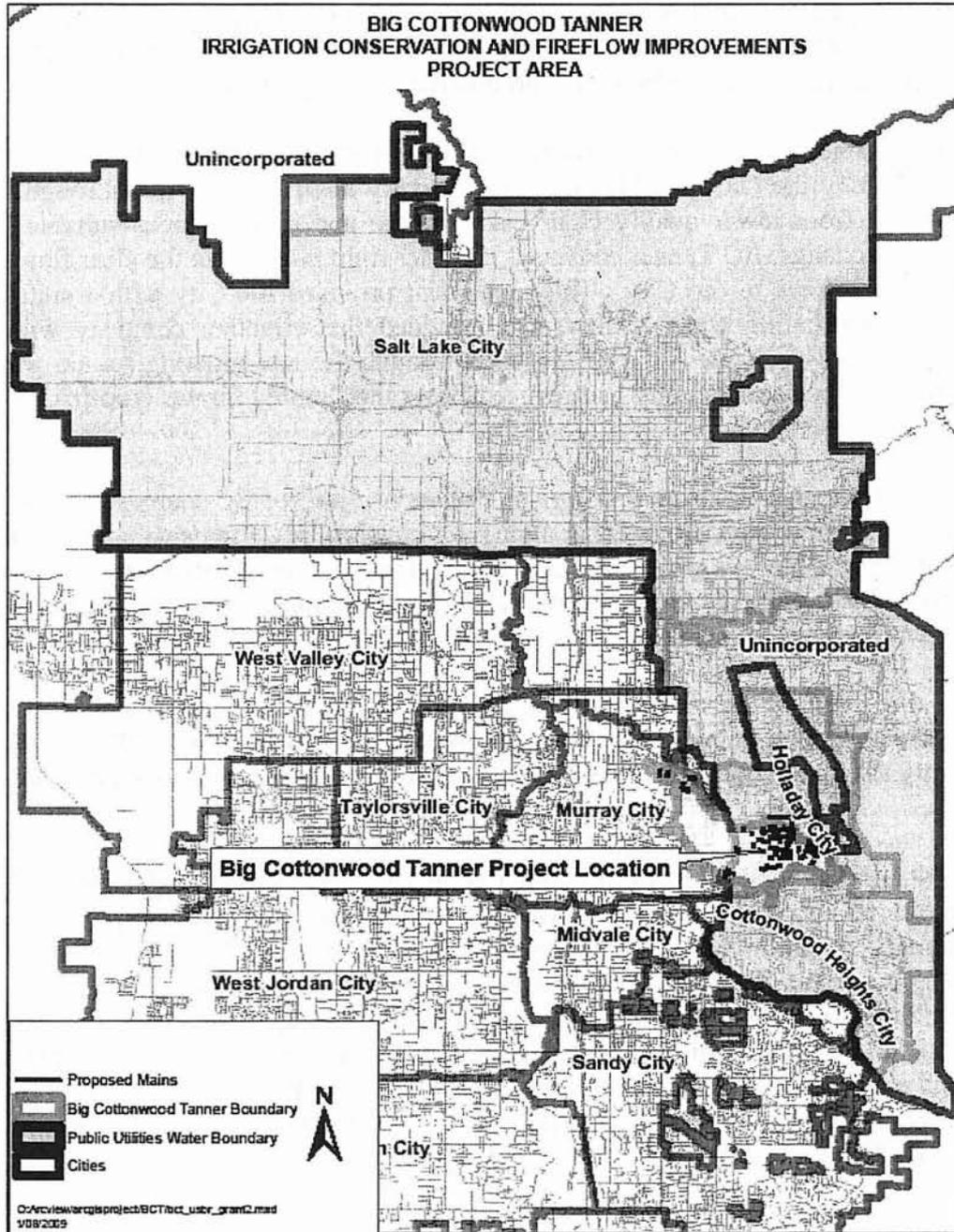
In 1920, BC Tanner and Salt Lake City Department of Public Utilities entered into an agreement whereby the City provides delivery of irrigation water through the growing season from lower quality Utah Lake storage and other sources suitable for irrigation. In exchange, BC Tanner conveyed its water right interests in the clear flowing Big Cottonwood Creek to the City. This agreement provided the City with a suitable water source of drinking water quality, and provided the irrigation company with a reliable water supply suitable for crop irrigation through the late growing season when Big Cottonwood Creek historically had reduced flows that limited farmer crop irrigation and yield.

Over the recent decades, the historical agricultural service area of BC Tanner has largely developed with conversion from large farms to housing developments and smaller "hobby farms". Much of the water SLC delivered to the BC Tanner irrigation system has recently been used by shareholders to water landscapes and for aesthetic purposes to fill landscape ponds and water features.

In addition, the terms of the 1920 agreement provided that the City operate and maintain a water system for BC Tanner for delivery of culinary (drinking) water delivery. The responsibility to upgrade the system for fire protection was disputed between the City and BC Tanner.

In 2008, Salt Lake City Department of Public Utilities and Big Cottonwood Tanner Ditch Company entered into a new agreement whereby the City assumed ownership of the BC Tanner culinary system. The agreement calls for the City to upgrade the culinary water system to meet current fire flow water delivery standards, and to provide vouchers to the BC Tanner shareholders for water from the City system. The agreement also eliminates the required delivery of irrigation water to the BC Tanner open canal system, eliminating seepage and evaporation losses. Finally, the agreement frees the City's water rights from any encumbrance to meet potential irrigation needs, which had previously restricted the flexibility, availability and use of the City's water for other purposes.

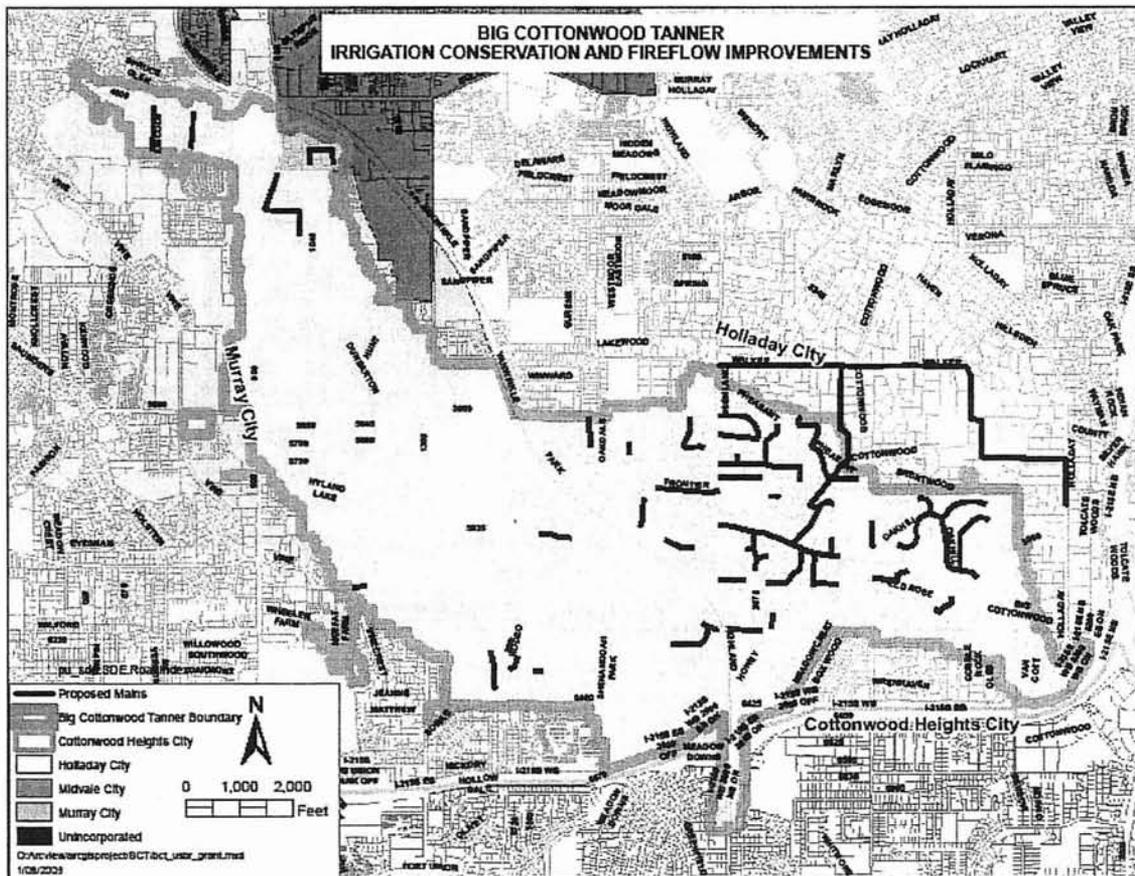
Figure 1  
Big Cottonwood Tanner Irrigation Conservation & Fireflow Project



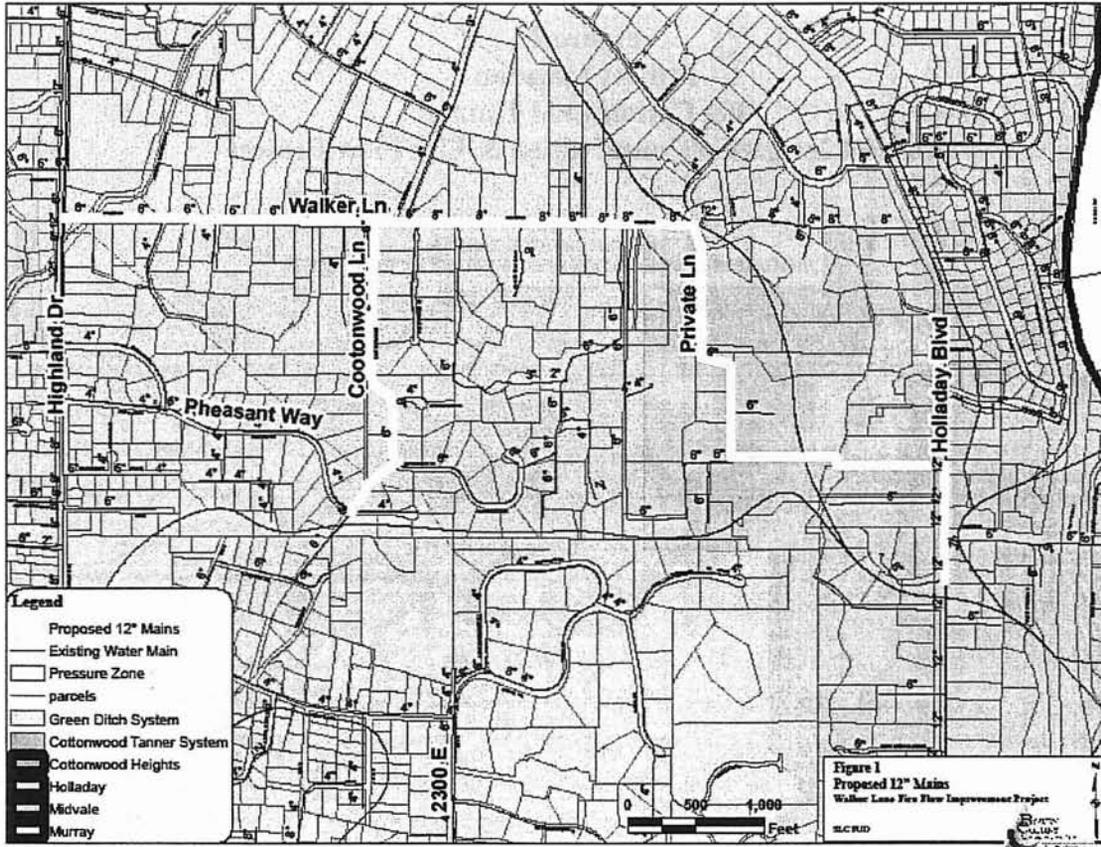
**2.2 Location**

The project is bounded by Highland Drive (1830 East) on the west; Walker Lane (5450 South) on the north; Holladay Boulevard (2725 East) on the east and a line traversing west from approximately 5800 South and Holladay Boulevard as shown on Figure 2.

**Figure 2  
Project Location  
Big Cottonwood Tanner  
Phase 1 Irrigation Conservation & Fire Flow Project**



**Figure 3**  
**Project Location**  
**Big Cottonwood Tanner**  
**Phase 2 Irrigation Conservation & Fire Flow Project**



### 2.3 Water Supply

A significant portion of City water rights are based upon various 75 to 100 year old exchange agreements under which the City provided farmers with a water supply suitable for flood irrigation, in exchange for higher quality stream flows for culinary water use throughout the SLC service area.

The water rights involved in this project are based upon an exchange agreement dating back to 1920 which provided BC Tanner with irrigation deliveries of up to 30 cfs from the City, based in part upon City storage water rights in Utah Lake. The City received in exchange BC Tanner rights to water in Big Cottonwood Creek which are based upon a share percentage of instantaneously variable creek flow, with an annual average of approximately 8,926 af. The parties continued delivery and exchange of the waters for the past 88 years, during which time period the BC Tanner service area has urbanized,

replacing the original open agricultural water use with homes, hobby farms and aesthetic water feature enhancement. The 2008 agreement between the parties confirms City ownership of the aforesaid water rights, and resolves other issues regarding water delivery, water system ownership responsibilities, and needed improvements to meet current fire flow capacities.

**2.4 Water Use**

Salt Lake City currently serves approximately 289,765 residents within its water service area, and an additional commercial/industrial employee base of approximately 285,060. Table 2-1 shows historical water use for the past nine years.

As a large metropolitan city on the edge of the Great Salt Lake desert, both water supply and demand are highly influenced by weather. While the City has experience growth since year 2000, the City has been able to reduce per capita water consumption and maintain water demands below year 2000 levels.

**Table 2-1  
Salt Lake City Water Service Area  
Historical Water Use**

<b>Year</b>	<b>Annual Demand (ac-ft)</b>	<b>Percent of year 2000 use</b>	<b>Conservation Goal as Percent below year 2000 use</b>
2000	109,804	100.00%	0.00%
2001	109,967	100.15%	-0.15%
2002	98,263	89.49%	10.51%
2003	91,020	82.89%	17.11%
2004	91,804	83.61%	16.39%
2005	87,931	80.08%	19.92%
2006	93,260	84.93%	15.07%
2007	101,561	92.49%	7.51%
2008	96,280	87.68%	12.32%

According to the Wasatch Front Regional Council, population and employment for the City water system are estimated to increase 34 percent to 389,100 persons and 18 percent to 349,900 employees respectively, by year 2030. Through conservation programs, the City has a goal of reducing per capita water use 25 percent from year 2000 baseline rates no later than the year 2050. In accordance with the State of Utah's overall conservation goal, half of this (12.5 percent) is desired by 2020, with the remaining half achieved between 2020 and 2050. The demand projections summarized in Table 2-2 represent demand through 2030 assuming the City and its customers are able to achieve the aforesaid conservation goals.

**Table 2-2  
Estimated Service Area Demand (With Conservation)**

<b>Year</b>	<b>Annual Demand (acre-ft)</b>	<b>Winter Day Demand (mgd)</b>	<b>Peak Day Demand (mgd)</b>
2010	110,500	49.8	222.4
2030	129,700	66.6	264.0

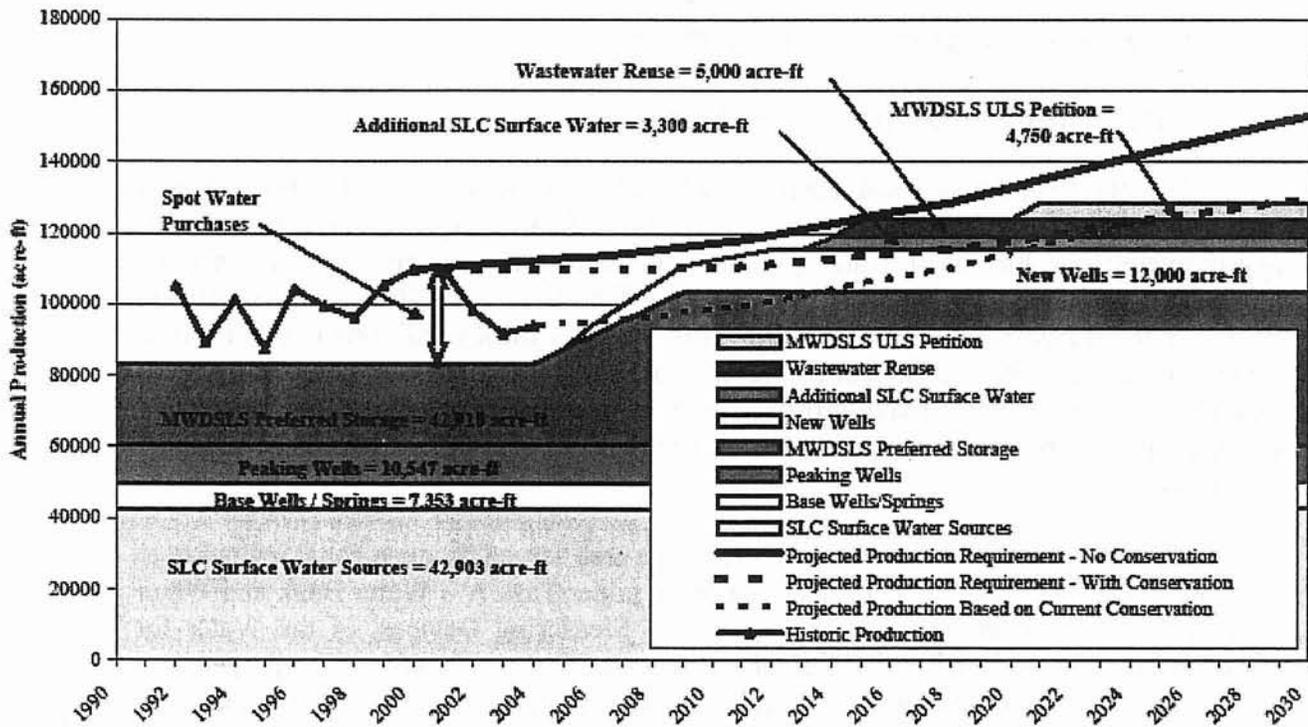
## 2.5 Water Delivery System

Salt Lake City delivers water to a 135 square mile service area with 84,524 residential, commercial, industrial and institutional customers via a delivery system that includes over 1,390 miles of distribution piping, 3 City owned water treatment plants, 6 dams, 26 groundwater wells, and wholesale water supplies received from the Metropolitan Water District of Salt Lake & Sandy. Table 2-3 shows existing “firm yield” (dry year) supply sources, as well as projected future source development supplies.

**Table 2-3  
Projected Dry Year Production - Existing and Future Sources**

<b>Supply Category</b>	<b>Dry Year Production 2004 (acre-ft)</b>	<b>Future Dry Year Production – 2030 (acre-ft)</b>
SLC Surface Water Sources	42,473	43,277
Base Wells and Springs	7,353	7,353
Peaking Wells	10,547	10,547
SLC Preferred Rights in MWDSL	22,910	42,910
New Wells	0	12,000
Additional Surface Water Development	0	3,300
Wastewater Reuse	0	5,000
Utah Lake System Water	0	4,750
<b>Total</b>	<b>83,283</b>	<b>128,763</b>

**Figure 2-1  
Salt Lake City  
Historical and Projected Water Demand vs Dry Year Supply**



\*Volumes given are for 2030 projected supply.

Comparing water demand to supply sources shows that the existing dry year supply of 83,283 af is inadequate during times of drought to meet current demands. This is evidenced by the fact that the City had to purchase water on the spot market in previous years as shown in Figure 2-1. The City is engaged in developing future supply sources as shown, and is relying upon successful implementation of conservation and other water supply enhancement projects such as the Big Cottonwood Tanner Irrigation Conservation and Fire Flow Project to free up existing supplies for more efficient management and use.

## 2.6 Past Relationships with the Bureau of Reclamation

Through its wholesale water interest in Metropolitan Water District of Salt Lake & Sandy, the City is a significant water user of Bureau of Reclamation water and facilities in the Provo River Project and Central Utah Project water. Through these relationships, the City has worked both directly and indirectly with the Bureau of Reclamation on several projects involving Deer Creek Reservoir, Jordanelle Reservoir, the Provo Reservoir Canal, and other Bureau of Reclamation facilities. We value our relationship with Bureau of Reclamation and look forward to continuing our mutual cooperation into the future.

## (3) – TECHNICAL PROJECT DESCRIPTION

### 3.1 Detailed Scope and Approach of Work

Phase 2 of the Big Cottonwood Tanner Ditch Water Conservation & Fireflow Project includes preliminary design, easement acquisition, final design and construction of approximately 11,200 ft of water pipeline, including replacement of water service connections, meters, fire hydrants and ancillary facilities. The Project Engineer and Inspector for the Salt Lake City Department of Public Utilities will devote a portion of effort to facilitate project meetings, review design documents, consult with design engineers and contractors, make project/site visits, conduct construction site inspection, complete project reporting to the Bureau of Reclamation, and other duties involved with the project.

The project allows full conversion of a 1,758 acre area served by open canal irrigation to pressure irrigation. This project provides benefit under Task A – Water Bank and Water Market, Task C - Canal Lining, and Task D – Measuring Devices, of the Water for America Water Marketing and Efficiency Challenge Grants FY2009. The project is a multi-jurisdictional collaboration and the result of a cooperative agreement between Salt Lake City Corporation and the Big Cottonwood Tanner Ditch Company that:

- *Resolves decades old water disputes.* The BC Tanner and the City have disputed the terms and nature of their past agreement for many years on such issues as responsibility for fire flow improvements, water rights, and other issues. The 2008 agreement, which includes the proposed construction project, resolves and settles those issues.
- *Quiets title of 8,926 acre-feet (af) water rights to Salt Lake City.* The 2008 agreement affirms the City's title and interest to BC Tanner water rights.
- *Eliminating 1,490 af of seepage and evaporation losses.* BC Tanner shareholders will obtain their irrigation water from the improved pressurized culinary water system, which results in conservation savings of all past open canal losses. Historical delivery from the City to the BC Tanner system over recent years

averaged 2,800 af. Traditionally, estimates of seepage and evaporation losses in Utah are 50 percent for system return flows, or 1,400 af. It is estimated that even greater conservation will be obtained due to the fact that many ditch shareholder practices may have been even less efficient.

- *Creates over 4,263 marketable water vouchers.* The 2008 agreement creates two summer water vouchers and one winter water voucher for each BC Tanner share. This was requested by the BC Tanner shareholders and board to allow for market flexibility and use of their respective water interests.
- *Provides more efficient pressure irrigation and metering of 1,421 customer accounts, which were previously unmetered open ditch flood irrigation users.* All BC Tanner shareholders will now obtain their irrigation water through individual meters off the City pressure system, resulting in better consumer awareness of water use and responsibility for payment for any overuse of water or loss due to leakage on the customer system. Previously, shareholders had no incentive to improve efficiency of their irrigation delivery system, as the City delivered a relatively constant flow of water to the open canal.
- *Establishes a “water budget” for each voucher holder for more efficient use.* Each shareholder receives vouchers for water as noted previously. The amount of water associated with each voucher is based upon an estimated value and need for irrigating fixed area. These vouchers create a budget of water, coupled with the City’s inclined block rate structure for any water a voucher holder may use in addition to the voucher allotment of free water, create a “budget” or target for water use for each customer.
- *Fire flow and public safety improvements.* The project and pipeline improvements provide better public safety by increasing fire flows to meet current code requirements in the areas of Murray City, Holladay City, Cottonwood Heights and unincorporated areas of Salt Lake County that fall within the service area of the Big Cottonwood Tanner Ditch Company.
- *Pipe enclosure of approximately 3,000 feet of City owned open canal.* In addition to retiring the BC Tanner open canal distribution system, the project work also includes pipe enclosure of approximately 3,000 feet of the City’s existing East Jordan Extension Canal from Pheasant Lane to Walker Lane in the vicinity of Cottonwood Lane. The East Jordan Extension is required to remain in service as it is part of the City’s irrigation delivery infrastructure required to meet exchange irrigation contract delivery to various other canal companies. The conservation water savings from lining the City’s canal is in addition to the conservation savings achieved by eliminating required deliveries to the BC Tanner open canal distribution system and converting its shareholders completely to pressure irrigation. This results in 90 af annual conservation of historic canal seepage losses.

### **3.2 – Project Schedule**

Phase 1 of the project has been bid and is under construction. It is scheduled to be completed by October 2009. The schedule for Phase 2 of the project is as follows:

<b>Task</b>	<b>Start</b>	<b>Complete</b>
Preliminary Design & Easements	March 2009	June 2009
Phase 2 Final Design	June 2009	December 2009
Phase 2 Bidding	February 2010	February 2010
Phase 2 Construction	April 2010	October 2010

### **3.3 – Engineering Plans, Designs, and Analyses**

Various planning studies, stakeholder meetings and contract negotiations were conducted over many years through 2008. The final designs for Phase 1 of the project were completed and bid in 2008. Phase 1 is currently under construction and is anticipated to begin final design in June 2009. Phase 2, which will complete the BC Tanner portion of the conservation and fireflow improvements project, will begin final design in June 2009.

The engineering scope of work is attached for reference as Appendix A.

### **3.4 –Water 2025 Goals**

The proposed project meets the goals of the Water 2025 program as follows:

#### **(a) CONSERVATION, EFFICIENCY, MARKETS**

##### **Subcriteria No. 1, Water Marketing:**

The project and 2008 agreement creates over 4,263 marketable water vouchers. The 2008 agreement creates 2 summer water vouchers each worth 970 gallons per day, and one winter water voucher worth 500 gallons per day, for each BC Tanner share. These total 1,945 af of marketable water, 1,548 af of which is transferable from property to property within the historical BC Tanner service area. This part of the agreement was requested by the BC Tanner shareholders and board to allow for market flexibility and use of their respective water interests, which is entirely consistent with our understanding of the Water for America goals and intent under this criteria.

The project and 2008 agreement free any respective encumbrance of the City's storage rights in Utah Lake, making that water available for the City to hold over for other users within its irrigation exchange system, and/or available for lease or exchange to other third party water users in the region. This equates to no less than 2,800 af market availability.

**Subcriteria No. 2, Conservation and Improved Efficiency:**

As discussed previously, the City's average annual water supply diversion and use is listed in Table 2-1, with 2008 total use of 96,280 af. Total conserved water is 2,050 af, or 2 percent of the City's water supply. The water saved is estimated as follows:

- Conversion of BC Tanner open canal to pressure irrigation = 1,400 af. This is based upon regionally accepted seepage and evaporation loss of 50 percent of the 2,800 recent year's diversion to the BC Tanner canal system headgate.
- Increased shareholder pressure sprinkler irrigation vs flood = 280 af. This is based upon estimated 20% increased efficiency of the consumer pressure sprinkler systems vs historic flood irrigation of 1,400 af.
- Reduction of canal system overflow and return flows estimated at 280 af based upon observation of historic BC Tanner system overflow.
- Canal seepage loss reduction of 90 af based upon piping 3,000 lf of existing open canal through the City's East Jordan Canal Extension. This is based upon historical flow records and loss estimate for the subject reach of 0.25 cfs for six months, or 90 af for the 6 ft wide by 6 ft deep cobble-lined trapezoidal channel (design flow 30 cfs). The City will measure savings by comparing historical and post-project flows based upon upstream and downstream measurements.

The measurement and verification of conserved flows will be a simple and very accurate exercise based upon the fact that the City has historical records of irrigation water deliveries to the BC Tanner open canal system. The City is not required to make irrigation deliveries three years after the project is constructed. In turn, each BC Tanner shareholder and voucher owner will be identified by individual metered account on the City water system, and their respective water use before and after the project will be metered.

**Subcriteria No. 3, Improved Water Management:**

The project provides significantly improved water management by more efficient pressure irrigation and metering of 1,421 customer accounts which were previously unmetered open ditch flood irrigation users. With construction of the project, all BC Tanner shareholders will obtain their irrigation water through individual meters off the City pressure system, resulting in better consumer awareness of water use and responsibility for payment for any overuse of water or loss due to leakage on the customer system. Previously, shareholders had not incentive to improve efficiency of their irrigation delivery system, as the City delivered a relatively constant flow of water to the open canal.

In addition, now that these customers are on metered accounts, they will be able to respond to the City's extensive public education and outreach for adjustment of automated timers and other consumer watering habits that can be responsive to up to date weather patterns and City media and other guidelines for appropriate water use.

**Subcriteria No. 4, Reasonableness of the Costs for benefits gained:**

Total Phase 2 project cost is \$1,460,767. Annual acre feet conserved is the 2,050 af detailed under subcriteria number 2 above. Based upon City experience with water line materials performance in the project area, the expected life of the improvements is 100 years. Based upon the foregoing, the Reclamation "reasonableness" calculations yields:

$$(\$1,460,767) / [(2,050 \text{ af}) \times (100 \text{ years})] = \$7 \text{ per af} - \text{year}$$

**(b) RELEVANCE TO WATER 2025**

**Subcriteria No. 1, Improve Sustainable Water Supplies for the 21<sup>st</sup> Century:**

- 1) The water conserved and better managed under this project addresses several specific concerns. As shown on Figure 1, the City is in great need of additional supply development as well as conservation to meet its 25 percent demand reduction goals. The project directly conserves 2,050 af towards that goal, creates a water market and allows better flexibility in management of the City water supply.
- 2) The conserved creek water will go towards meeting existing City system demands as shown in Figure 1. The Utah Lake water used to meet the historical exchange will be retained for holdover storage for use by the City in times of drought, and or for lease to other irrigation water users in time of need.
- 3) This affects sustainable water supply development by extending the City's flexibility in utilizing streamflow and Utah Lake water through conjunctive use agreements with other water providers. For example, regional water transmission pipelines now make it possible for the City to treat and convey treated drinking water to a number of water providers nearly anywhere in the Salt Lake Valley under appropriate exchange agreements. This will allow more use of stream runoff flows for drinking water, and better management important storage supplies for times of drought in the City's share of Provo River Water Users (Deer Creek) and Central Utah Project systems, including Bureau related projects.

**Subcriteria No. 2, Collaboration and Stakeholder Involvement:**

The project is a multi-jurisdictional collaboration and the result of a cooperative agreement between Salt Lake City Corporation and the Big Cottonwood Tanner Ditch Company, which resolves decades old water disputes. The parties have a previous history of litigation, and through patient collaboration, were able to come up with the 2008 agreement that satisfied the needs of all parties involved. In addition, three other cities and the County Fire Authority are in great support of the project due to the additional public safety benefit by increasing fire flows to meet current code requirements in the areas of Murray City, Holladay City, Cottonwood Heights and

unincorporated areas of Salt Lake County that fall within the service area of the Big Cottonwood Tanner Ditch Company.

Salt Lake City is the only non-Bureau of Reclamation funding partner.

Letters of support from the Big Cottonwood Tanner Ditch Company and cities are provided in Appendix B.

**Subcriteria No. 3, Connection to Bureau of Reclamation Activities:**

As noted previously, the project affects the City's flexibility in utilizing streamflow and storage water within the City's own portfolio and through conjunctive use agreements with other water providers. This will allow more use of stream snowpack runoff flows for drinking water, and better management important storage supplies for times of drought in the City's share of Bureau of Reclamation related facilities, including the Provo River Water Users (Deer Creek Reservoir) and Central Utah Project (Jordannelle Reservoir), and related systems.

**(c) DEMONSTRATED RESULTS**

**Subcriteria No. 1, Previous Planning:**

**Water Conservation Plan**

The City prepared and submitted one of the first Water Conservation Plans in the State of Utah in accordance with the State statute. The City also adopted the first water conservation rate structure, and is in the process of preparing a 5 year update to both the conservation plan and water rate analysis. As noted previously and illustrated in Figure 1, the City has a goal and water resource plan includes reducing per capita water use 25 percent from year 2000 baseline rates by the year 2050. In accordance with the State of Utah's overall conservation goal, half of this (12.5 percent) is desired by 2020, with the remaining half achieved between 2020 and 2050.

The City's conservation plan includes a drought contingency plan, with appropriate authority to institute varying degrees of water restrictions based upon escalating drought severity. The City hereby self-certifies that the City has a water conservation plan. A portion of the plan is provided in Appendix E, and the City is pleased to provide a full copy, if requested by the Bureau of Reclamation. The State of Utah Division of Water Resources can also certify the existence and their acceptance of the Salt Lake City Water Conservation Plan.

The City has conducted several planning studies which identify and provide high priority for the proposed project. Several studies have been completed identifying the need to resolve issues with water rights, water system pressures, fire flow capacities, and irrigation concerns.

Engineering and design work performed in support of the project include the Big Cottonwood Tanner and Green Ditch Fire Flow Study was completed in 2005 for the City. This project implements Phase 2 of the Big Cottonwood Tanner portion of the study recommendations. The City previously expended \$1M in 2007/08 for engineering Phase 1 of the project, and is currently contracted for the \$6.4M construction of the Phase 1 improvements.

As noted previously, this project supports the City's efforts and need to meet the State 25 percent water conservation goals.

**Subcriteria No. 2, Benefit Documentation:**

As noted previously, the measurement and verification of conserved flows will be a simple and very accurate exercise based upon the fact that the City has historical records of irrigation water deliveries to the BC Tanner open canal system. The City is not required to make irrigation deliveries three years after the project is constructed. In turn, each BC Tanner shareholder and voucher owner will be identified by individual metered account on the City water system, and their respective water use before and after the project will be metered.

**Subcriteria No. 3, Measurement of Performance:**

As discussed previously, total conserved water totals 1,960 af, or 2 percent of the City's water supply. The water saved is estimated as follows:

- Conversion of BC Tanner open canal to pressure irrigation = 1,400 af. This is based upon regionally accepted seepage and evaporation loss of 50 percent of the 2,800 recent year's diversion to the BC Tanner canal system headgate. (per State of Utah Division of Water Rights).
- Increased shareholder pressure sprinkler irrigation vs flood = 280 af. This is based upon estimated 20 percent increased efficiency of the consumer pressure sprinkler systems vs historic flood irrigation of 1,400 af. (pre Utah State Extension).
- Reduction of canal system overflow and return flows estimated at 280 af based upon observation of historic BC Tanner system overflow.
- The City will have increased flexibility in management of its water rights, held in part to meet the irrigation contract exchange deliveries.

**(d) PROJECT FINANCING AND COST-SHARING**

**Subcriteria No. 1, Ability to Pay:**

- (a) Funding plan identifying all non-Bureau of Reclamation funding sources** – A funding plan identifying all sources of non-Bureau of Reclamation funding is included in the proposal.
- (b) Funding plan documentation** – The City generates revenue through water sales to retail water customers. Currently, the City has enough money in its capital improvements budget to pay for its portion of the proposed project costs.
- (c) Estimate of changes in O&M costs** – The proposed project improves operation and maintenance in the area, and will reduce long term costs for both the City irrigation system, the BC Tanner irrigation system, and City drinking water system.
- (d) Letters of commitment from all cost-sharing partners** – Letters of commitment from the Big Cottonwood Tanner Ditch Company and Holladay City are included with this application in Appendix B.

**Subcriteria No. 2, Reasonable Cost Share:**

The budget proposal identifies costs associated with the project. Included are all direct, indirect, environmental, and contingency costs that have been identified by the City.

**Subcriteria No. 3, Non-federal Funding in Excess of 50 Percent:**

The total cost of Phase 2 of the project is \$1,460,767 of which \$300,000 is requested in federal funding. The percentage of non-federal funding provided by Salt Lake City Corporation equals 79 percent.

**PERFORMANCE MEASURE FOR QUANTIFYING POST-PROJECT  
BENEFITS**

The measurement and verification of conserved flows will be simple and very accurate. The City has a complete historical baseline record of monthly irrigation water deliveries to the BC Tanner open canal system. After the project, each BC Tanner shareholder will obtain their irrigation water through a metered connection to the City irrigation system. A comparison of historical canal headgate diversions to the sum of each shareholders irrigation use before and after the project will yield net water savings and quantify the post-project benefit. Measurement of the canal lining portion of the project will be determined based upon pre-project baseline and post-project measurement of canal flow at a 5 ft Parshall flume upstream of the portion to be piped and at the downstream end of the piped portion.

## POTENTIAL ENVIRONMENTAL IMPACTS

- (1) **Impact on Surrounding Environment** – The proposed project is not anticipated to have an impact on the surrounding environment other than any temporary impact caused by construction activities. The proposed project will include some grading and tree/shrub removal for the installation of the pipelines. Best management practices will be implemented to minimize adverse impact to water quality, to any endangered or threatened species, or to any cultural or historical resource. Every precaution will be taken during the construction process to preserve and protect the conditions of the surrounding area.
- (2) **Endangered or Threatened Species** – The project area is highly urbanized. It does not appear that there are any endangered or threatened species in the project area.
- (3) **Wetlands** – The project area is an urban setting, and there are currently no wetlands identified within the project area.
- (4) **Date of Original Construction** – The original BC Tanner water system was constructed around 1924.
- (5) **Effects to Existing Irrigation Systems** – This project will not result in any modification of individual features of the BC Tanner irrigation system. The City will no longer be required to deliver water to the BC Tanner open canal system three years following completion of the project in accordance with the 2008 agreement. It is anticipated that this will reduce flows into the private BC Tanner canal system to local drainage. As noted previously, the project will include piping approximately 3,000 feet of the City's East Jordan Extension Canal. The subject portion of the East Jordan Extension was constructed around 1924.
- (6) **National Register of Historic Places** – There are no known buildings or structures that will be affected by the project that are currently listed on the National Register of Historic Places.
- (7) **Archeological Sites** – The City is not aware of any archeological sites within the proposed project area.

### **REQUIRED PERMITS OR APPROVALS**

It is expected that the following permits will be required:

- County road construction permit from Holladay City and Salt Lake County.

The City will work with the indicated agencies to obtain the required permits. The City has worked with these agencies on similar projects and does not anticipate any significant problems in securing the permits. Some easements from private property owners will also be required as part of Phase 2 of the project, and the City is currently in the process of obtaining easements in the vicinity of the project.

## FUNDING PLAN

- (1) **Applicant's contribution** – The City generates revenue through water sales and impact fees. The City plans to fund the project using money from its capital improvements budget to pay for its portion of the outlined proposed project costs. These funds are currently in the City's five-year cash flow projections and are proposed for FY09/10 annual budget approval, which occurs in the spring. The Salt Lake City Council is in the process of adopting a resolution stating the City has the financial capability and intent to enter into a cooperative agreement with the Bureau of Reclamation for implementation of the proposed project and to use the funds identified in this funding plan.
- (2) **Previously incurred in-kind costs** – The City has completed a number of preliminary studies associated with the project, as well as \$1 million engineering and \$6.4 million for construction of the Phase 1 improvements.
- (3) **Funding Partners** – The City does not have any funding partners other than the Bureau of Reclamation for this project.
- (4) **Federal Funding Request** – The federal funding requested as part of this proposal is \$300,000 and does not exceed the maximum request amount.
- (5) **Other Federal Funding Requested** – The City has not requested any other federal funding in connection with this proposed project.
- (6) **Other Pending Funding Requests** – There are no other pending funding requests for the proposed work.

**OFFICIAL RESOLUTION**

Due to the timing of the resolution approval process of the Salt Lake City Council, an Official Resolution has not been included at this time. The Official Resolution will be submitted within 30 days of the application deadline and should be added to this report under Appendix C.

**BUDGET PROPOSAL**

**1.1 General**

The proposed budget for the project is summarized in Table 1.

**Table 1  
Proposed Budget and Funding Plan**

Budget Item Description	Computation		Recipient Funding	Bureau of Reclamation Funding	Total Cost
	\$/Unit and Unit	Quantity			
<i>Salaries and Wages</i>					
Grants Program Administrator	\$27.70/hr	280 hrs	\$0	\$7,756	\$7,756
<i>Fringe Benefits</i>			\$0	\$0	\$0
None			\$0	\$0	\$0
<i>Travel</i>					
None			\$0	\$0	\$0
<i>Equipment</i>					
None			\$0	\$0	\$0
<i>Supplies/Marketing</i>					
None			\$0	\$0	\$0
<i>Contractual</i>					
<u>Design/Engineering:</u>					
• Final Design	See Appendix D		\$49,110	\$0	\$49,110
• Construction Services	See Appendix D		\$55,100	\$0	\$55,100
• General Expenses	See Appendix D		\$24,801	\$0	\$24,801
<u>Construction:</u>					
• Asphalt	\$35.50/ SY	9,000 SY	\$319,500	\$0	\$319,500
• 12-Inch Ductile Iron Pipe	\$72.50/ft	11,200 ft	\$519,756	\$292,244	\$812,000
• Fire Hydrants	\$3,500 ea.	15 ea.	\$52,500	\$0	\$52,500
• 12-inch Gate Valves	\$1,900 ea.	30 ea.	\$57,000	\$0	\$57,000
• Galvanized Water Services, 3/4 inch, 1 inch	\$600 / CY	30 CY	\$18,000	\$0	\$18,000

**BIG COTTONWOOD TANNER DITCH WATER  
CONSERVATION & FIREFLOW PROJECT**

• 42-inch pipe/canal enclosure	\$120 / foot	300 feet	\$36,000	\$0	\$36,000
<i>Environmental And Regulatory Compliance</i>			\$29,000	\$0	\$29,000
<i>Reporting</i>					
None			\$0	\$0	\$0
<i>Other</i>					
None			\$0	\$0	\$0
<b>Total Direct Costs</b>			<b>\$1,160,767</b>	<b>\$300,000</b>	<b>\$1,460,767</b>
Indirect Costs	\$0	0	\$0	\$0	\$0
<b>Total Project Costs</b>			<b>\$1,160,767</b>	<b>\$300,000</b>	<b>\$1,460,767</b>

**1. 2 Budget Narrative**

**a. Salaries and Wages**

The Grants Program Manager for the City will devote 140 hours each year (approximately 11 hours per month over the two year project period) valued at a rate of \$27.70 per hour to monitor grant expenditures, submit requests for reimbursement, prepare and submit quarterly financial reports, and produce and process contractual agreements for consultant and/or contracted services.

**b. Fringe Benefits**

No direct fringe benefit costs are included in this proposal.

**c. Travel**

Travel was not included for reimbursement of project costs.

**d. Equipment**

There is no equipment that will be purchased separate of the construction contract listed separately below. Thus, no additional equipment costs are shown here.

**e. Materials and Supplies**

No special materials or supplies are expected as part of this project.

**f. Contractual**

The contractual costs of \$1,424,011 have been divided into phases including final design, construction, and construction services. The labor and expense cost for each contractual item is outlined below.

**Contractual Costs Breakdown**

<b>Description</b>	<b>Total</b>
Final Design	\$49,110
Construction	\$1,295,000
Construction Services	\$55,100
General Expenses	\$24,801
<b>TOTAL</b>	<b>\$1,424,011</b>

The City plans to fully contract for all design and construction and does not plan to use any in-kind services towards these services. Construction services will also be partially contracted to an outside provider. The City also claims sole responsibility for the operation and maintenance costs of the project once completed. A description of how these costs were calculated is outlined below.

- **Final Design:** Conceptual design for this project has been completed and a general layout of the project has been developed. Final design would involve developing this general concept into a set of drawings and specifications for bidding and construction. This would include gathering and evaluating site survey and other existing data, engineering calculations as necessary, and the production of contract drawings and specifications. A detailed estimate of engineering fees associated with this phase of the project is included in Appendix D: Engineering Man-Hour and Fee Estimate (page 46).
- **Construction:** This phase of the project will include the construction of the pipeline and related water system improvements. Line-item cost estimates were developed as follow: 1) supply and spread 8,225 square yards of asphalt based on the local purchase and installation cost of \$35.50 per square yard; 2) supply and install 11,200 feet of 12-inch ductile iron pipe based on the local purchase and installation cost of \$72.50 per foot; 3) supply and install 15 fire hydrants based on the local purchase and installation cost of \$3,500 each; 4) supply and install 30 twelve-inch gate valves based on a the local purchase and installation cost of \$1,900 each; 5) supply and install 30 cubic yards of galvanized  $\frac{3}{4}$  inch and  $\frac{1}{2}$  inch galvanized water services based on a local purchase and installation rate of \$600 per cubic yard; and 6) supply and install 300 feet of 42-inch pipe to enclose the irrigation canal based on the local purchase and installation cost of \$120 per foot. A detailed construction cost

estimate is also included in Appendix D: Table D-1. Construction Costs Estimate Phase II (page 47).

- **Construction Services:** This contractual item includes the services of a construction manager and engineer during the construction phase of the project. A detailed estimate of engineering fees associated with this phase of the project is included in Appendix D: Engineering Man-Hour and Fee Estimate (page 46). This includes only part-time inspection services. It is expected that the City will perform any remaining inspection. This is reflected in the time estimate for City personnel reported previously.
- **General Expenses:** A detailed estimate of general engineering expense associated with this phase of the project is included in Appendix D: Engineering Man-Hour and Fee Estimate (page 47).

**g. Environmental and Regulatory Compliance**

The \$29,000 for the environmental and regulatory compliance costs represents the minimum budget amount required as specified in the application guidelines provided by the Bureau of Reclamation. At this time, it does not appear that there are issues or concerns that would warrant increasing environmental compliance needs or activities greater than the 2 percent.

**h. Reporting**

The majority of reporting requirements will be taken care of through funds budgets for grant administration under *Salaries and Wages* and by the construction manager for the project, which is correspondingly included as part of construction services costs listed above. The City will incur any additional costs associated with the reporting required by this grant.

**i. Other**

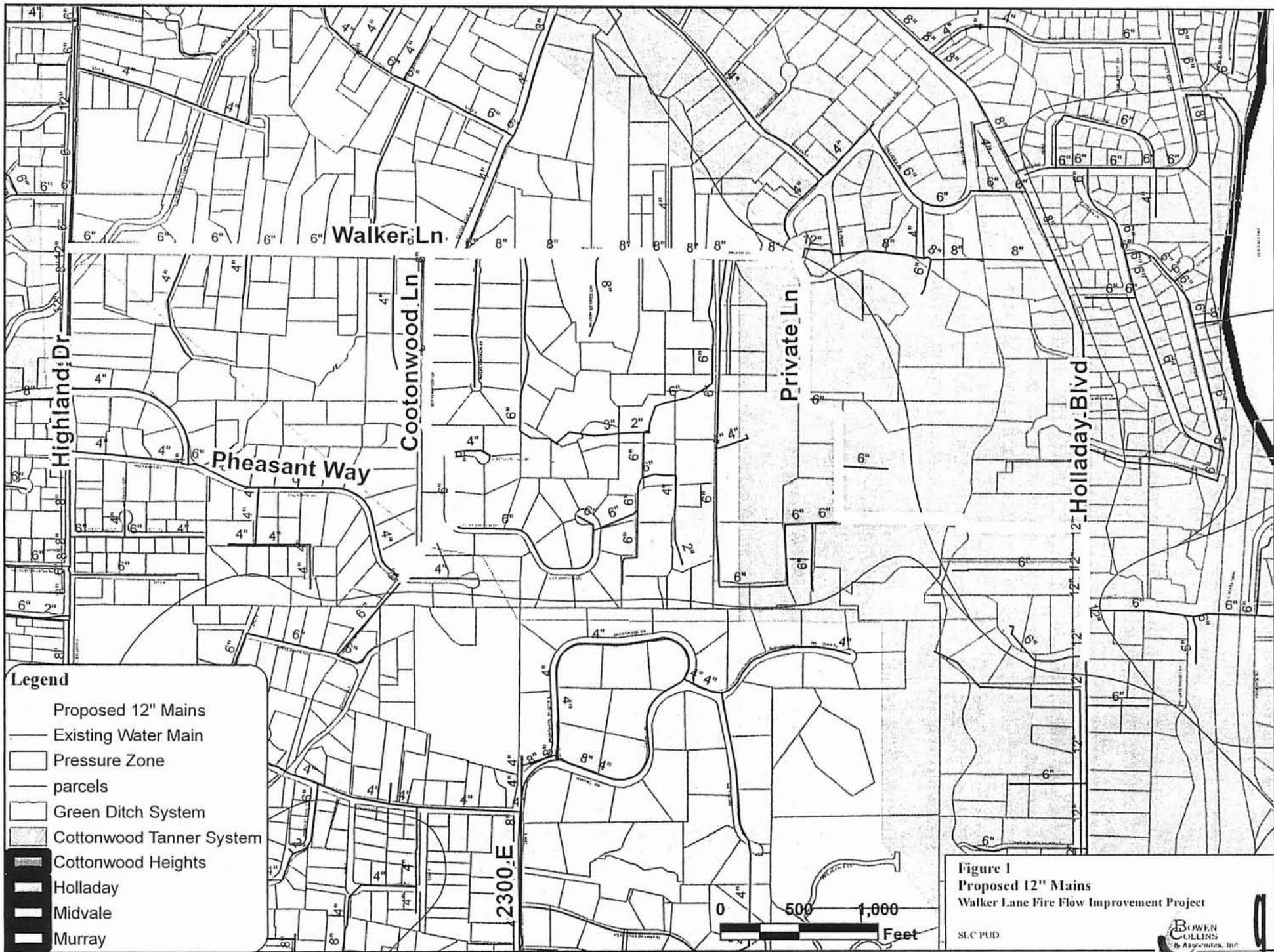
No other costs are included in this application.

**j. Indirect Costs**

None Indirect Costs are included in this application

**k. Total Cost**

The total project cost is \$1,460,767. The federal cost-share amount is \$300,000. The non-federal cost-share amount is \$1,160,767.



**Figure 1**  
**Proposed 12" Mains**  
 Walker Lane Fire Flow Improvement Project

SLC PUD



**APPENDIX B**

**Letters of Commitment**

Big Cottonwood Tanner Ditch Company

6018 La Tour Street  
Holladay, Utah 84121-1459  
Tel. (801) 278-2172

Bureau of Reclamation  
Attn: Mr. Randale Jackson  
Denver Federal Center, Bldg. 67 Rm. 152  
6<sup>th</sup> and Kipling Street  
Denver, CO 80225

c/o Salt Lake City Department of Public Utilities (Grant Application)

Subject: Support for the Big Cottonwood Tanner Irrigation Conservation and Fire  
Flow Project USBR Water Marketing and Efficiency Grant Application  
Water for America Challenge Grant Program

Dear Mr. Jackson,

The Big Cottonwood Tanner Ditch Company is pleased to submit this letter in support of Salt Lake City in its application for challenge grant funding of the Big Cottonwood Tanner Irrigation Conservation and Fire Flow Project. This project, and the 2008 agreement between the Tanner Ditch Company and Salt Lake City, is a critically important project which provides a wide range of benefits to the Tanner Ditch shareholders and members of our surrounding communities.

After decades of contention, the 2008 agreement between Tanner Ditch and the City conveys full ownership and maintenance responsibility of the system to the City, and provides each shareholder with a winter water voucher and two summer water vouchers so they can obtain their irrigation water from metered connections to the City pressurized water system in lieu of the historical open ditch distribution diversions. This results in a much more efficient delivery of water.

Most importantly, the project greatly improves public safety by increasing fire flows to meet current code requirements in the cities of Murray, Holladay, and Cottonwood Heights and in the unincorporated areas of Salt Lake County that fall within the Big Cottonwood Tanner Ditch Company service area.

Thank you for consideration of grant funding for this vital infrastructure project.

Sincerely,



J. James Palmer, Jr.  
Vice President and Member of the Board



CITY OF HOLLADAY

January 13, 2009

Bureau of Reclamation  
Attn: Mr. Randale Jackson  
Denver Federal Center, Bldg. 67 Rm. 152  
6<sup>th</sup> and Kipling Street  
Denver CO 80225

c/o Salt Lake City Department of Public Utilities (Grant Application)

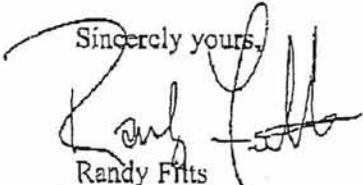
**Subject: Letter of Support for the Big Cottonwood Tanner Irrigation  
Conservation and Fire Flow Project USBR Water Marketing and  
Efficiency Grant Application Water for America Challenge Grant  
Program**

Dear Mr. Jackson,

The City of Holladay is pleased to submit this letter of support to Salt Lake City in its application for challenge grant funding of Phase 2 of the Big Cottonwood Tanner Irrigation Conservation and Fire Flow Project. This is an important project which provides a wide range of benefits to residents and business in the Tanner Ditch service area of Holladay City. Specific to Holladay City concerns, the project improves public safety by increasing fire flows to meet current code requirements in the areas of Holladay City and neighboring communities of Salt Lake County that fall within the service area of the Big Cottonwood Tanner Ditch Company.

Thank you for consideration of grant funding for this important project.

Sincerely yours,

  
Randy Fitts  
Holladay City Manager

**APPENDIX C**

**Official Resolution**

**Insert Official Resolution Upon Receipt from Salt Lake City  
Corporation**

**APPENDIX D**

**Cost Estimates for Contracted Work**

## Engineer Man-Hour and Fee Estimate

Option 1 - Add as Change Order to BC Tanner Project

	Labor Category	Office/Support		Technicians				Engineers			Subtotal Hours	Subtotal Labor
		Office	Editor	Tech 1	Tech 3	Tech 4	Tech 5	Engnr 1	Engnr 3	Engnr 8		
	<b>Labor Rate*</b>	\$60	\$60	\$60	\$80	\$90	\$95	\$80	\$95	\$145		
<b>Task</b>	<b>Task Description</b>											
	Design Phase:											
1-1.	Collect & Review Existing Information	2	0	0	6	0	0	6	6	3	23	\$2,085
1-2.	Progress, Meetings/Coordination	3	0	0	0	0	0	6	15	6	30	\$2,955
1-3.	Utility Investigations	2	0	3	30	0	0	36	15	0	86	\$7,005
1-4.	Permits	0	2	0	0	0	0	3	6	0	11	\$930
1-5.	Easement Acquisition	4	0	0	24	0	0	72	16	0	116	\$9,440
1-6.	Design Drawings	3	3	0	135	0	6	80	35	6	268	\$22,325
1-7.	Additional Support Meetings	3	6	0	0	0	0	12	18	8	47	\$4,370
	<b>Design Subtotal</b>	<b>17</b>	<b>11</b>	<b>3</b>	<b>195</b>	<b>0</b>	<b>6</b>	<b>215</b>	<b>111</b>	<b>23</b>	<b>581</b>	<b>\$49,110</b>
	Construction Period Services:											
3-1.	Pre Construction Services	2	0	0	0	3	0	6	12	0	23	\$2,010
3-2.	Services During Construction	15	0	0	0	48	0	0	48	0	111	\$9,780
3-3.	Project Observation	6	0	0	490	0	0	0	0	0	496	\$39,560
3-4.	Project Documentation	3	0	0	24	12	0	0	6	0	45	\$3,750
	<b>Construction Services Subtotal</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>514</b>	<b>63</b>	<b>0</b>	<b>6</b>	<b>66</b>	<b>0</b>	<b>675</b>	<b>\$55,100</b>
	<b>Total Hours</b>	<b>43</b>	<b>11</b>	<b>3</b>	<b>709</b>	<b>63</b>	<b>6</b>	<b>221</b>	<b>177</b>	<b>23</b>	<b>1,256</b>	
	<b>Total Cost</b>											<b>\$104,210</b>

\* Labor rates based on estimated 2009 rates. All labor will be billed at actual rates for year in which the work is performed.

	Item	Unit	Rate	Cost
<b>Expenses</b>	Communication/Computer	1256	\$6	\$7,536
	Printing/Graphics	1600	\$0.75	\$150
	Auto Mileage			\$1,200
	Postage/Supplies			\$75
	Legal Descriptions (No Field Survey)			\$14,400
	Outside Services Markup			\$1,440
	<b>Total Expenses</b>			

Labor	<b>\$104,210</b>
Expenses	<b>\$24,801</b>
<b>Total Fee</b>	<b>\$129,011</b>

**BIG COTTONWOOD TANNER DITCH WATER  
CONSERVATION & FIREFLOW PROJECT**

**Table D-1. Construction Cost Estimate Phase II**

<u>Project:</u> Big Cottonwood Tanner Ditch Water Conservation & Fireflow Project					
<u>Owner:</u> Salt Lake City Corporation/Salt Lake City Department of Public Utilities					
					Date: 1/7/2009
No.	Item	Quantity	Units	Unit Cost	Cost
1	12-Inch Ductile Iron Pipe	11,200	Feet	\$72.50	\$812,000
2	Asphalt	9,000	Square Yards	\$35.50	\$319,500
3	Fire Hydrants	15	Lump Sum	\$3,500	\$52,500
4	12-Inch Gate Valves	30	Lump Sum	\$1,900	\$57,000
5	Replace Galvanized Water Service, ¾ inch, 1-inch	30	Cubic Yards	\$600	\$18,000
6	Enclose Canal in 42-inch Pipe	300	Feet	\$120	\$36,000
7					
8					
9					
10	<b>Total Construction Costs</b>				<b>\$1,295,000</b>

**APPENDIX E**

**Salt Lake City Water Conservation Master Plan 2004**

## Content Summary: Water Conservation Master Plan

In 1999, Salt Lake City submitted to the State Division of Water Resources a Water Conservation Master Plan. As directed in Utah Code 73-10-32, updates to these plans are required every five years, with the scheduled update for Salt Lake City due April 30, 2004. This document fulfills that obligation.

The Water Conservation Master Plan (WCMP) is organized into six sections, a glossary, and appendices. It should be noted that while the Department of Public Utilities is mentioned as the acting agency, it is only with the support and approval of the Administration and City Council that it does so. The content of each section is as follows:

- Introduction: Describes the dual role of the Utility and community in long-term water conservation efforts, establishes the long term water savings goal, and identifies the benchmark for measurement
- Background: Explains the system profile, including area of delivery, number of customers, current and benchmark average and peak delivery
- History: Portrays Salt Lake City's long history of water conservation and resource protection
- Current and Ongoing Programs: Describes programs currently being conducted by the Utility
- Conservation Plan Initiatives: Outlines the goals, objectives, selection criteria, and evaluative process for new and existing conservation initiatives. This section includes the list of proposed program initiatives, divided into target-customer categories
- The Next Step: Establishes a Water Conservation Annual Report, to describe initiatives for the coming year in detail, including time-lines, estimated budgets, and participants. This report will also include evaluations of current initiatives
- Glossary: Definitions of terms used in WCMP and in included documents
  
- Appendices:
  - HB 153

- System Profile: Statistical information pertaining to water delivery, demand, and water rights
- Conservation Checklist: A checklist provided by the Division of Water Resources
- No. 20 of 2003, Amending Sections 17.16.670 and 17.16.680 of the Salt Lake City Code, relating to water rates
- Salt Lake City Water-wise Plant List: Originally drafted in 1995, this updated version has an extended plant list, cultural and descriptive comments, and a new feature, plant area value
- Water Shortage Contingency Plan: Plan, ordinance, and response guidelines related to short and long term water shortage planning and response. Approved by City Council June, 2003
- Best Management Practices: Action items in checklist form for a variety of water customers and usage, including lawn watering, restaurant and food service, hotels, commercial carwash, general commercial, green industry, and swimming pools
- Sample brochures for lawn watering, park strips, and new water rates

The Department of Public Utilities would like to express its appreciation for the members of the Public Utilities Advisory Committee, who have spent countless hours assisting in the processes that have created the Rate Restructuring, the Water Shortage Contingency Plan, and this document. Those outcomes are better for your involvement. Thank you.

This document is stored electronically at H:\Water Conservation\2004 Conservation Master Plan\2004 Master Plan finals.

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PUAC	8	Rate Structure Ordinance	
Loss Prevention	8	Water-wise Plant List	
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## INTRODUCTION

In 1999, Salt Lake City, acting through the Department of Public Utilities (the Utility), drafted and submitted to the State Division of Water Resources a Water Conservation Plan. The 1999 Plan does not, however, mark the beginning of conservation in Salt Lake City. The City has a long history of water conservation, from universal metering and watershed protection programs begun in the early 1900's, to volumetric sewer charges in the 1980's, to the adoption of conservation rates for culinary water in 1995. On into the 21<sup>st</sup> Century, water conservation continues to be an integral part of water planning for the Utility.

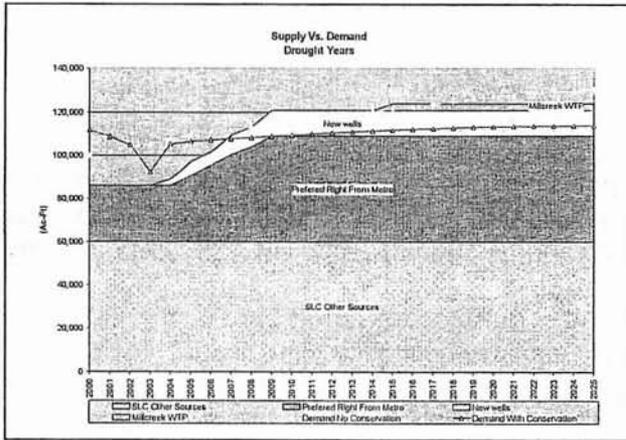
In order to meet the current and future needs of the community, the Utility has developed an integrated planning approach involving the protection of our watersheds, capital improvement projects and improved system efficiencies, acquiring new sources of water, and water conservation.

Water conservation is a strategy or set of strategies for reducing the volume of water withdrawn from a water supply source, for reducing loss or waste of water, for maintaining or improving efficiency in the use of water, for increasing the recycling and reuse of water, and for preventing the pollution of water. The purpose of water conservation is to provide those essential benefits as efficiently as practicable, given current knowledge, state of technology, and prudent cost considerations.

Every person, animal, and plant which resides within, works, or passes through our community benefits from water conservation. When water is used efficiently and with consciousness, more water remains for recreation, wetlands, open space, natural aesthetics, and habitat for fish and wildlife. When we conserve water, we increase the likelihood that we will have adequate supplies to meet our future needs and the needs of those who come after us. Customers benefit by extending supplies; extending the life of existing infrastructure; reducing or eliminating the need to obtain new sources of lesser quality, more expensive water; and protecting the environment.

Water conservation is not free and may not always be cheap. When customers' use less water, Public Utilities' costs do not decrease proportionally. On the other hand, conservation defers the need for supply expansion, thereby deferring some water rate increases. In any case, since not everyone conserves at the same rate, those who save more will definitely save more money than those who save less.

Water conservation is the duty of Public Utilities and many of the programs, for instance, leak detection, billing information, and water reuse programs, place the accountability on the Utility. Yet much of the potential savings must come from the actions and habits of our water customers. Water conservation is many small actions added together to make a real difference.



To identify future water needs and to address the means of meeting those needs, the Utility hired an outside consultant to conduct a study. The 1997 Water Master Plan projected an average annual demand of 130,500 acre feet of water, with peak demands of 318 millions of gallons per day (mgd) by the year 2025. Programs adopted and implemented by the City have proved to be effective in keeping peak demand at approximately 200 mgd. The Utility’s goal is to reduce that future demand to 114,000 acre feet through a combination of conservation measures and the utilization of secondary and reuse water. This represents a savings of 16,500 acre feet of water annually, or enough for over 36,000 households.

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The 2004 Water Conservation Master Plan Update (WCMP) describes the water conservation goals and programs to be implemented by the Utility over the next five years (2004 through 2009). It is important to note that by water conservation, the Utility means using water wisely; taking advantage of technological advances and best management practices to eliminate waste and reduce the need for water, including the utilization of alternative sources of lower quality water for landscape purposes. All water, regardless of the source, however, ought to be used as efficiently as is practicable, whether culinary, secondary, or reuse. The purpose of water conservation is not to deprive our community of essential benefits such as health, nutrition, and an appealing urban environment. Rather, water conservation is an integral component in the broad approach taken by the Utility in its continuing effort to provide adequate levels of water for all necessary uses as efficiently as practicable.

Achieving this goal will require that conservation measures be taken indoors as well as out of doors. The 1997 Master Plan states that indoor consumption will need to be reduced by 5 percent and outdoor consumption by 15 percent, for a weighted average reduction of 13 percent in total water use. It should be noted that during the 2002 and 2003 drought years, the City exceeded these reduction goals; however, conservation measures will need to be sustained in order to achieve the total reduction goal for 2025.

The Utility recognizes that water conservation cannot be imposed on people. Success of these programs depends on how well the public understands the need for conservation, perceives the fairness of policies, and has a willingness to comply with requests for demand reduction, long and short term. To be successful in its long-range conservation goals, conservation must be a shared responsibility between the Utility and the residents, business owners, and manufacturers that consume water.

Reflecting this understanding, representatives of the Utility regularly attend neighborhood community meetings to share information and to listen to the concerns and issues of community members relating to water supply. When addressing specific policy issues such as the Rate Restructuring and Water Shortage Contingency Plan, the Utility actively solicits involvement through the establishment of citizen-based committees charged with the task of examining issues in-depth. Additionally, the Public Utility Advisory Committee meets monthly for the purpose of reviewing issues and making recommendations to the Utility. This committee is authorized by ordinance passed by the City Council; its members, citizen volunteers, are appointed to four-year terms.

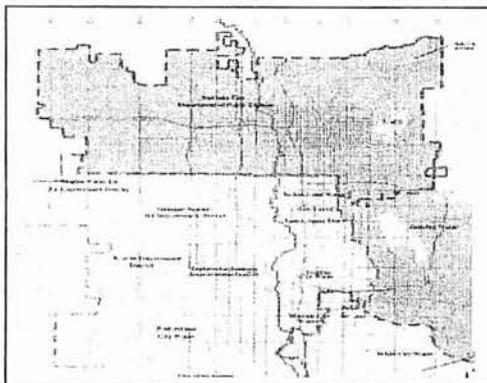
In keeping with that tradition of facilitating public involvement, the Utility invites public comment on the WCMP, during both its drafting and implementation. It should also be noted that all programs and initiatives relating to water conservation proposed by the Utility are carried out through the continued support and approval of the Administration and the City Council.

This document does not include the Watershed Master Plan, Capital Improvements Plan, or other plans developed by the Utility and referenced in this Plan. Those documents can be viewed at the Utility offices at 1530 South West Temple. Additionally, while this plan does not address action plans during droughts or other delivery emergencies, a copy of the Water Shortage Contingency Plan has been included in the appendices.

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## BACKGROUND

The Utility provides culinary water to over 326,000 customers through nearly 92,000 connections within Salt Lake City and portions of unincorporated Salt Lake County, a service area of 135 square miles. Included in our customer base is one international airport,

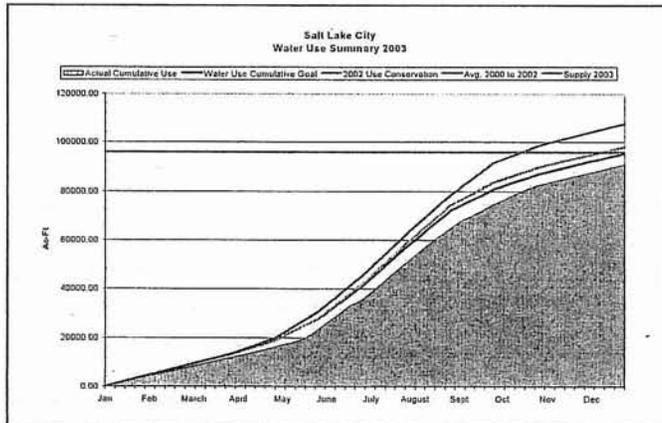


two universities, numerous hospitals, 210 public schools, and over 1400 acres of irrigated public parks and golf courses.

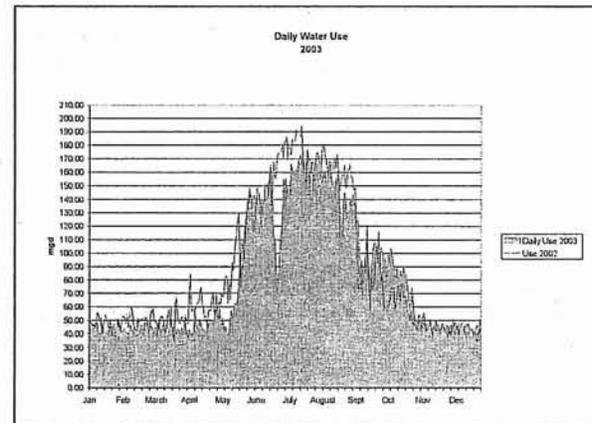
Additionally, Salt Lake City experiences an estimated day-time population of nearly 400,000; a result of employment, institutions of higher education, as well as visitors to the airport, hospitals, and tourist and convention guests.

Salt Lake City Service Area  
 Corporate Limits of Salt Lake City  
 Unincorporated Salt Lake County  
 Water System Extensions into other municipalities

In Fiscal Year 2002-2003 (July through June), the Utility delivered 30,078,800,000 gallons of water, or 92,308 acre feet. The highest volume of water delivered on a single day was 173 MG, delivered on July 16; this peak demand reflects a consistent decline, even during the hottest days of the one of the driest summers on record. Current average residential consumption per capita day is 140 gallons, with total per capita consumption of 218 gallons; these numbers also reflect a consistent decline in consumption, down from a total per capita consumption of 345 gallons in 1990 and below the current state average of 298 gallons per day per capita.



Water Use Summary 2003



Daily Water Use 2003

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## HISTORY

### Water Development

Water planning and water conservation are not new to Salt Lake City. As early as 1847, settlers began the history of water development and the practice of artificial irrigation in the Great Basin. Water was diverted from City Creek to irrigate crops and provide the settlement culinary water.

As the City became the population center of the settlement, others moved out to the far reaches of the valley and began diverting the waters of Parleys, Mill Creek, and Big and Little Cottonwood streams. Cooperative irrigation companies were formed to expand the network of ditches placing more land under irrigation. Water law evolved from these early practices, where "first in time - first in right," and "beneficial use" are the basis and measurement of a water right.

Within the City, waters were diverted from Red Butte Creek and Emigration Creek to augment City Creek as the City's main water supply. Ditches lined each side of the City's streets conveying water to the homes and gardens of City dwellers. When Salt Lake City was incorporated in 1851, the elected City Council passed ordinances that regulated the flow of water through its corporate limits, established the position of water master, and prevented the pollution of the water. As the City's population grew, so did the shortage of water.

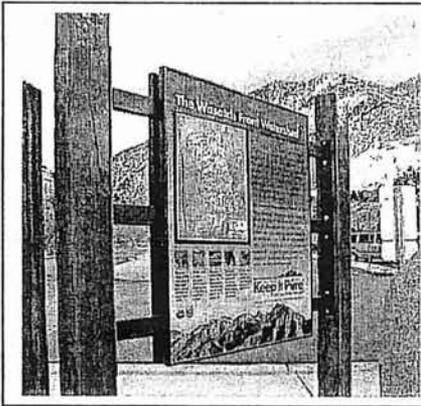
Water service within the Utility's delivery area has evolved since Salt Lake City first developed its water supplies and infrastructure. For the first 150 years of history the City pioneered water development by diverting City Creek, Red Butte, and Emigration Creeks for municipal uses, constructing the Salt Lake City and Jordan Canal, entering into exchange agreements with the other canyon stream owners, building dams, forming the Metropolitan Water District of Salt Lake City to build the Provo River Project, drilling wells and helping form the Central Utah Project. As the population in the valley has grown to over three-quarters of a million inhabitants, the delivery of water depends on a complex network of storage dams, aqueducts, water treatment plants, distribution reservoirs and main lines conjunctively managed by the major water supply entities to meet the greater public good. By planning for the future and acting in the present the Utility throughout its history has made good decisions regarding water management.

While some of those early actions helped to control water demand, such as metering and the seasonal peak rate structure, most have focused on water supply—actions undertaken by the Utility acting alone or in conjunction with other utilities, cities, or districts. Rights to most of the less-expensive and high quality water have been obtained, and the most recent major water development project, the Central Utah Project, will provide the additional water necessary to meet the needs of a growing community until the year 2020, but only if conservation measures take place.

### **Watershed Management**

Salt Lake City's viability has historically been dependant on the limited flow of water from the mountain streams of the Wasatch Canyons. Quality and quantity of water supply has been a hinge pin for the development of the surrounding area. Water law and water rights have been highlighted throughout the history of the city and the state of Utah. The survival of the early pioneers and the subsequent urban growth and development of Salt Lake County have depended on the mountain streams for high quality drinking water in a region of the United States that borders the Great Basin desert. Climactic changes impact both quality and quantity of the water supply, as illustrated by the impacts of the drought conditions that have existed here during the past five years.

Utah Department of Natural Resources Executive Director Robert L. Morgan recently articulated the importance of protecting our watersheds and the quality of our drinking water, when he described watersheds as lifesheds. In 2003, Salt Lake City Department of Public Utilities has launched two planning programs meant to sustain our quality of life and to assure a quality, long term water supply: watershed protection and water conservation.



The *Keep It Pure* program is designed to help promote long-term public education on the source of our drinking water and the responsibility of local residents to help maintain water quality at the source. The second program is the development, implementation, and evaluation of this Water Conservation Master Plan.

Together these programs look forward to the future of Salt Lake City and its water service area in Salt Lake County and address the pressing needs of a safe and sufficient water supply. One without the other isn't much good, but together the synergistic combination provides a lifeline to the community. Water, safe and available for essential uses, even in times of limited supply, is a gift to the community made possible through the planning and foresight of professionals willing to address the future by making difficult decisions today.

## CURRENT AND ONGOING PROGRAMS

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- **Universal Metering and Meter Replacement**

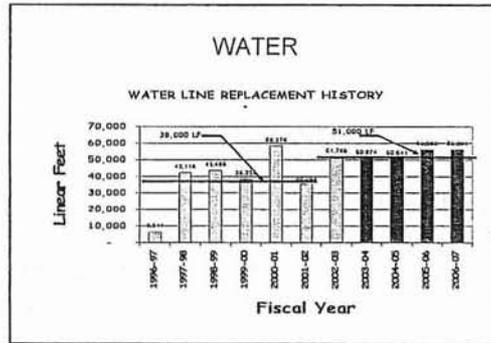
The City began a universal metering program in the 1920's that was completed by the early 1950's. It was recognized that the best way to ensure financial stability for the water department and to address consumer demand, and hence be able to change it, lay in the City's ability to accurately determine the actual volume of water being used by individual customers.

The department is currently in the third year of a five year meter replacement program. Over the last two years the utility has replaced 45,920 meters which were more than 10 years old to reduce the amount of unbilled water usage. It is the intent of the department to continue the program over the next two years, replacing an additional 17,000 residential meters. By reducing water loss 1 to 2 percent, this program is expected to recover the \$6 million program cost through additional revenue gained over the life of the five-year program.

- **Public Utility Advisory Committee**

The earliest use of a public advisory committee was in 1928 to address the need for water development. The Public Utility Advisory Committee (PUAC) continues this vital role of providing public involvement in the planning process. Its voluntary members, appointed by the City Council, have been instrumental in the creation of a number of water conservation programs including the recently adopted Rate Restructuring, the Water Shortage Contingency Plan, and this Plan. This committee regularly reviews existing conservation programs, and will be involved in the selection and review of new programs.

- **Loss Prevention**



Maintaining distribution lines is critical to reducing loss due to leakage and breakage. Through a combined strategy of prioritizing capital improvements, aggressive pipe replacement programs, highly trained personnel, and utilizing the latest technologies, the Utility maintains an average number of breaks per mile of pipe less than the national average, despite having one of the oldest distribution systems in the West. Since 2000, the Utility has replaced 48,443 linear feet of pipe at an average annual cost of \$6,435,000.

Additionally, the Utility has contracted with an independent consultant to conduct a Water Loss Study. The study, to be concluded in August of 2004, should provide recommended initiatives to reduce water loss within the system.

- **Leak Detection**

This program was developed to assist water customers in controlling and eliminating leaks. Winter demand levels are monitored and usage in excess of 20 percent of average winter usage triggers notification of the customer, providing for timely repair of the system.

Another component of the Leak Detection Program is conducted through the Geographic Information Systems (GIS) group of the Utility. Using geophones leaking pipes are discovered quickly, reducing the volume of water lost and the cost of repair.

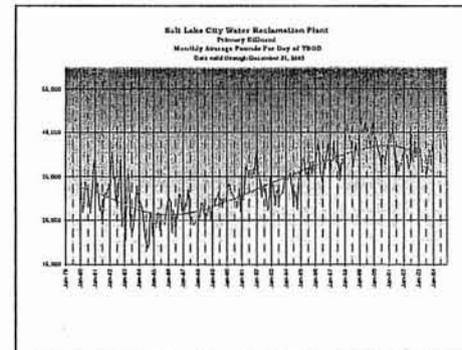
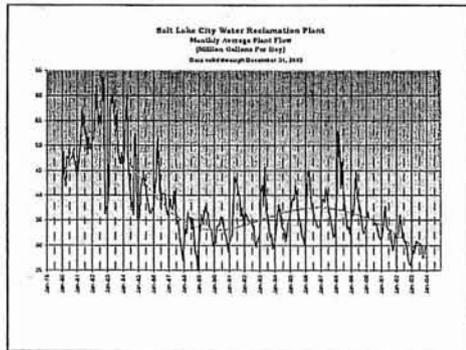
- **Monthly Billing**

A crucial component of conservation is being aware of consumption. The Utility bills its customers monthly, providing information on the volume of water used in each of three billing tiers and the price per unit and per tier. A comparison of water used over the previous twelve months is also provided. Bills also have simple messages and tips relating to water conservation and regularly include inserts with more detailed water conservation information.

- **Sewer Charges**

In 1982, the Utility implemented sewer rates based on metered winter water usage. This initiative resulted in a significant reduction in water waste as customers repaired leaking plumbing fixtures. During the next five years the Utility observed a 10 percent reduction in flows to the Waste Water Treatment Plant, including a 12.5 percent reduction in indoor residential use.

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In 2000, the Utility launched an initiative targeted to commercial, industrial, and institutional customers to reduce the BOD loading. This was accomplished through both an educational campaign, and by the enactment of an ordinance affixing additional sewer charges based on the strength of the waste discharge. This initiative motivated customers to develop and implement more efficient water use and waste management practices. Ordinance No. 17.72.030, pertaining to sewer rates and load strength may be viewed on the City's web page at [www.slccgov.com](http://www.slccgov.com), or at the Public Utility Administration Office at 1530 South West Temple.

In 2001, the Utility launched a public education campaign, "*It's a No Drainer*," to discourage the use of garbage disposals amongst residential customers. Brochures mailed in utility bills inform customers that by not disposing of waste in the sink they can save money by reducing their water and energy bills. The brochure goes on to explain that those savings are also shared by the waste treatment facility and that by extending current capacity, we can all save even more.

- **Conservation Rate Structure**

Salt Lake City implemented its first conservation rate structure for culinary water in 1995, making it one of the first cities in Utah to do so. The Summer-Peak Rate Structure resulted in significant reduction in peak water usage.

In 2002, working with a citizen subcommittee and a consultant, the Utility began the process to review its existing seasonal peak rate structure. The subcommittee and the PUAC recommended a three-tiered seasonal peak structure, which was adopted by City Council in June of 2003. The new rate structure has several important conservation aspects, including: 1) extending the summer irrigation season to include April, May, and October; 2) the elimination of a 5 ccf base water allotment; and 3) increasing price of water through the three blocks, creating additional inducement to reduce summer peak demand. Amended Ordinance No. 17.16.680 establishing the new rate structure may be viewed at the Public Utility Administration Office at 1530 South West Temple, or on the City's web page at [www.slccgov.com](http://www.slccgov.com).

- **Landscape Ordinance, Water-wise Plant List, and HPG Initiative**

In 1995, Salt Lake City amended its landscape ordinances to encourage water conservation through the use of water-wise plants and by not requiring turf in landscapes. In addition to the ordinance, a Water-wise Plant List was created to assist contractors, designers, and homeowner in plant selection. In 1999, the City amended the Park Strip component of the Landscape Ordinance, removing the turf requirement and allowing for non-turf-type plants to occupy as little as one-third of the area of the park strip. The Plant List was updated in 2004, as a component of this Plan. The Landscape and Park Strip Ordinance (No. 21A.48 Landscaping and Buffers) may be viewed on the city's web page [www.slcgov.com](http://www.slcgov.com) or in the City's Recorder's Office.

Additionally, the Utility assisted in the construction of the High Performance Building Initiative (HPBI), to be submitted to the City Council in the spring of 2004. This document will provide water and energy efficiency guidelines for construction and building rehabilitation projects conducted by the City.

- **Irrigation Audit Program**

Salt Lake City was the first community to sponsor the irrigation audit program conducted by the USU Extension Services, contracting with USU Extension to conduct irrigation audits at no cost to customers. In 1998, the City encouraged other communities and districts to participate, enabling an expansion of the Extension program with greater community participation. Besides receiving lawn water scheduling advice, auditors also provide each homeowner with a checklist for irrigation repairs and improvements. Since its beginning, The "*Slow the Flow*" Irrigation Check Program has performed over a thousand irrigation audits for Utility customers.

- **Demonstration Gardens**

In 2001, in an effort to provide both a learning opportunity and inspiration for commercial and home gardeners, the Utility, in conjunction with the Department of Public Services and the Central Utah Project, constructed the City's first demonstration garden, located at Washington Square. Future Demonstration Gardens are planned for the Public Utilities Administration Building, Modesto Park, and a number of other sites.

- **Brochures and Mailing**

The Utility produces several brochures for customers providing specific information on how to save water, including a Lawn Watering Guide, A Park Strip Guide, and an Indoor Watering Savings Guide. Additionally, the Utility provides articles for the city-wide newsletter mailed monthly to all residents. The articles and brochures are also available online at [www.slcsaveh2o.com](http://www.slcsaveh2o.com), and are distributed at events.

- **Web Page [www.slcsaveh2o.com](http://www.slcsaveh2o.com)**

In 2002, the Utility launched a Water Conservation Web Page, designed to provide up to-date information regarding water conservation ideas and tools, as well as weekly updates on water supply and conservation goals. Visitors can even use an on-line Rate Calculator to estimate their water bill. The page is also used to advertise public hearings and committee meetings relating to conservation, and to provide

a mechanism by which the community could input on proposed plans. Copies of a number of documents are also posted on the page, including the Water Shortage Contingency Plan, the Rate Restructuring Ordinance, and the City's Landscape Ordinances.

- **Water Shortage Contingency Plan**

In the fall of 2002, the Utility began the process of drafting a water shortage contingency plan (WSCP). The purpose of the plan is to identify specific calls for action during water shortages, such as the current drought and other water shortage emergencies by anticipating the impacts of such shortages. By determining the actions and procedures for responding to a water shortage in advance of an actual emergency, the Utility and community can be better prepared and experience less disruption.

The water shortage contingency plan was written with the assistance of the PUAC, as well as a number of professional associations, including the Intermountain Turf Producers, Utah Irrigation Association, Utah Carwash Association, Tree Utah, and representatives of the hotel and lodging industry. After a review by the Administration, the WSCP was adopted by the City Council in June of 2003, and the text is included in the appendix of this document.

## CONSERVATION PLAN INITIATIVES

### Goals

The primary purpose of Salt Lake City's Water Conservation Plan is to promote the efficient use of water during times of plenty and to ensure a smooth transition to a reduction in demand during times of scarcity and drought.

The Utilities' approach to conservation, as with all of its other programs, is one of prevention, using effective planning and water management tools to forestall problems when possible, and lessen the inconvenience and hazards to our community during those events that are not preventable. Water conservation is currently and will continue to be an integral part of water management planning for Salt Lake City, and our ability to conserve water will be a factor in future decisions relating to the development of new water supplies.

The nature of this policy guide is that, unlike actions that reflect mitigation measures, prevention and avoidance are difficult to measure. Accordingly, while the Utility has identified numerous water conservation initiatives, it has identified only one primary goal; that is, to reduce the overall water consumption within the Utility service area by 13 percent by the year 2025; a volume of water equal to 16,400 acre feet or 5.4 billion gallons.

This goal will be realized through the achievement of two secondary goals:

- Reducing indoor water use by 5 percent, for a savings of 1.1 billion gallons per year
- Reducing outdoor water use by 20 percent, for a savings of 4.3 billion gallons per year

## Objectives

To ensure that the selected initiatives assist us in achieving our goals, a subcommittee of the Public Utility Advisory Committee (PUAC) met with the Water Conservation staff and identified, for the purposes of program selection and implementation, the following objectives:

- Ensure adequate supply of high quality drinking water for our current and future customers
- Improve the mechanisms by which the Utility and the Water Conservation Office can benchmark and monitor water usage by customer category
- Promote an awareness that water conservation is the responsibility of all water consumers
- Strive for equity among customer categories for meeting water conservation goals
- Continue to maximize opportunities for partnerships between the Utility and other organizations, agencies, and interested groups
- Utilize funds and labor hours wisely, protecting and honoring our responsibilities to the community we serve
- Plan for scarcity to ensure minimal disruption and a smooth transition to reduced consumption
- Maintain financial stability
- Defer expansion of existing facilities and the acquisition of new water sources through the wise and selective use of existing water supplies

It is the desire of the Utility that water conservation initiatives meet not only the goals expressed in this Plan, but also that they are consistent with other goals of the Utility and community relating to resource management. With this in mind, the following secondary objectives were identified:

- Promote awareness that Salt Lake City, while situated near the Wasatch watershed, is also at the edge of the Great Basin Desert and receives on the average only 15 inches of precipitation annually
- Protect our watershed and water sources
- Preserve habitat and recreational opportunities
- Demonstrate the City's commitment to responsible, environmentally sound, and efficient use of natural resources
- Establish the City as a role model for our own and other communities in implementing, practicing, and achieving water conservation
- Select solutions which do not result in the waste of other limited resources or lead to decreases in environmental quality

## Initiative Selection Criteria

The variety of water conservation programs is extensive, and while each initiative provides an opportunity for savings, it is important that we select those that maximize our savings potential while optimizing our limited resources. Also important is that the need for each selected initiative can be conveyed; that there is fairness and equity in implementation; and that there are no legal impediments to implementation.

Criteria were identified in order to facilitate: program selection; the identification of benchmarks; and to develop a mechanism for evaluation once implemented. The criteria were then organized into the following categories: Legal and Institutional; Fiscal; Resource and Environment; Fairness and Equity; Ease of Implementation. Initiatives will be ranked according to the extent to which it meets the criteria.

Prior to developing and implementing water conservation initiatives and as a part of evaluating those initiatives, the following criteria will be considered:

### Legal and Institutional

- Ensure compliance with
  - Federal legislation
  - State statutes and administrative procedures for regulation of water supply and water use, including water rights laws, administrative regulations and procedures, environmental permits, water and energy programs, building and plumbing codes, and state legislation
  - Interstate compacts, court decrees, and local water agreements
  - City ordinances, resolutions, agreements, and programs, including current programs; rate structures and policies; land use and planning; and building and plumbing codes
- Verify Utility/Municipality jurisdiction and/or the existence of supporting ordinances

### Resource and Environment

- Extends water supply
- Reduces energy usage
- Complements Watershed Master Plan
- Protects environment by diverting less water from streams, lakes, and reservoirs

### Equity and Fairness

- Creates equity for responsibility among customer categories
- Provides for sustainable water savings
- Achievable acceptance of the program within applied category

Fiscal

- Defers or delays capital improvement projects relating to increased demand
- Defers or delays the need to acquire new water sources
- Implementation costs are less than the cost of acquired water
- Opportunities for outside funding

Ease of Implementation

- Measurable, positive outcomes can be achieved and documented
- Achievable with existing staff
- Opportunities for partnership

## Program Initiatives

The following initiatives have been identified as meeting most or all of the above criteria and have been organized into three categories:

**Utility Programs** are actions directed within the Utility to improve our ability to assist our community in its water conservation efforts and to improve water efficiencies

**City Programs** are actions initiated by the Utility directed towards assisting the various City departments in enhancing their water conservation efforts

**General Outreach Programs** are intended to assist all water customers to improve or increase water use efficiency

The timeline for implementation and specific initiative details shall be established by the Water Conservation Subcommittee and made available in report form annually.

### Utility Programs

- Construct a method of classifying customer accounts by category
- Develop a database of control and subject groups from each category for benchmarking purposes
- Improve the clarity and usefulness of the information on water bills
- Devise “pseudo bills” for each office or facility that has multiple meters
- Work closely with wholesale providers on conservation plans

- Share information with others in conservation-related organizations
- Explore opportunities for reuse and untreated raw or secondary water
- Determine the volume and cause of unaccounted for water and devise strategies for correction
- Make suggestions and contributions of research to the American Water Works Association Research Foundation for conservation research
- Assist in the review and revision, or development of City ordinance pertaining to water conservation
- Develop and implement a plan for customer feedback

### **City Programs**

- Direct and work with city departments to evaluate policies and procedures for conformity with conservation master plan
- Develop Best Management Practices for each department and establish implementation plans
- Conduct interior audits of plumbing fixtures and develop plans for low water-use fixture retrofitting
- Develop a schedule for replacement of outdated irrigation systems with efficient and well designed systems
- Conduct regular irrigation audits and make repairs as necessary
- Communicate in-house conservation practices to the community
- Create and distribute conservation materials to elected, appointed, and career public officials and their employees

### **General Outreach Programs**

- Develop educational plans for each of the main customer categories
- Distribute conservation materials to locations associated with water usage, such as garden centers and plumbing supply stores
- Create a collection of conservation information to be distributed at public locations such as libraries and city offices
- Utilize City newsletters, both internal and publicly distributed, to provide useful information regarding conservation and appropriate water use
- Maintain and promote the water conservation website with current information relating to demand and supply levels, tips, and information
- Participate in public events such as farmers' markets, festivals, and fairs
- Develop partnerships with business, industry, and commercial associations in order to increase participation in conservation programs by those sectors
- Develop Best Management Practices for each of the defined customer groups, and establish a program to facilitate the implementation of those practices
- Support adoption of water efficient building codes

## Monitoring and Evaluation

There is a growing interest for water utilities and districts to implement programs that deliver what are called “hard fixes,” programs that involve plumbing refitting or landscape rebates. These programs are attractive in that they create public relations opportunities, and also that the outcomes, or water savings, may be measurable. While these types of programs will be considered, it is felt that existing plumbing codes will correct fixture inefficiencies. An efficient appliance does not innately conserve water if the individual operating that appliance or fixture does not use it appropriately, therefore, public education will continue to be the primary focus of the Utilities’ water conservation effort.

There are mechanisms to determine the success of initiatives through the identification of specific criteria as an evaluative tool, as well as such much as surveys and questionnaires. Every method is not applicable to all programs; selection of the most appropriate evaluative tools will be important in measuring actual success. Some of the tools that will be utilized in order to evaluate the success of these programs are as follows:

- Establish benchmarks within each customer category and for the community as a whole
- Gather information in a timely manner
- Define success, either in terms of water savings, costs saving, public perception, etc
- Design and maintain functional and durable databases
- Analyze periodically the success, acceptance, cost, and other relevant characteristics of each program and measure through the use of surveys, questionnaires, and focus groups
- Prepare annual reports of progress, costs, customer participation and acceptance.
- Prepare Action Plans for each program component, including Action description, timelines for implementation, financial expenditures, and estimated water savings

## THE NEXT STEP

Working with the PUAC, representatives of various city departments, and other experts, the Utility will draft a Water Conservation Annual Report. This report will provide an evaluative update on existing programs, as well as descriptions of new conservation initiatives for the coming year. By providing an annual report, the Utility will increase its opportunities to work with the community and enhance the quality of information relating to program implementation. This report is to be completed by the end of each calendar year.

## GLOSSARY

**Acre Feet (af):** A measurement to describe a volume of water; One acre-foot is the amount of water which would cover one acre of land to a depth of one foot; 325,851 gallons.

**Action Plan:** A detailed, analytical course of action to implement programs, initiatives, or measures outlined in the Master Plan to achieve specific objectives and/or goals, typically including information relating to time-lines for implementation, evaluative measures, and costs relating to staffing and/or materials; a component of the Water Conservation Annual Report.

**Annual Report:** This report will provide an evaluative update on existing programs, as well as outlining new conservation initiatives for the coming year, providing initiative timelines, estimated costs, participating groups, and responsible parties.

**Best Management Practice (BMP):** For the purposes of Salt Lake City, a BMP is defined as a policy, program, practice, rule, regulation, or ordinance, or the use of devices, equipment, or facilities that meets either of the following criteria:

- An established and generally accepted practice among water suppliers that results in the more efficient use of water; or
- A practice for which sufficient data are available to indicate that significant conservation or conservation related benefits can be achieved; that the practice is technically and economically reasonable and not environmentally or socially unacceptable; and that the practice is not otherwise unreasonable for most water suppliers to carry out

**Conservation:** A set of strategies to solve the dilemma of providing water to people, both through supply and demand management; wise, efficient use of water by suppliers and customers.

**Demand Management:** Methods to encourage customers to reduce water demand, whether through a change in behavior, the implementation of water-saving technologies, or through the reduction or elimination of waste.

**Evaluation:** An overall determination of a conservation program or measure's effectiveness in achieving an articulated objective.

**Goals:** General statements of purpose for a measure or program; goals should compliment and reinforce other community and Utility goals.

**Gray Water:** wastewater generated in the household or at a place of work, excluding toilet wastes (black water), and including wastewater from bathroom sinks, baths, showers, laundry facilities, dishwashers, assuming there is no fecal material present.

**Initiative:** A course of action(s) designed to meet specific program objectives or goals.

3. Appropriate plant selection
4. Practical turf areas
5. Efficient irrigation
6. Use of mulch
7. Appropriate maintenance

SESSION: 3:00 p.m. Room 326, City & County Building, 451 So. State St. **(Items from the following list that Council is unable to complete in Work Session from approximately 3:00 – 6:30 p.m. will be addressed in a Work Session setting following the Consent Agenda.)**

1. The Council will interview Angela Dean prior to consideration of her appointment to the Planning Commission.
2. The Council will receive a presentation from Gabe Epperson, Planning Director of Envision Utah regarding the “Blueprint Jordan River: A Lake to Lake Vision” plan.
3. The Council will receive a briefing regarding a request to approve the Land and Water Conservation Funds grant application for a trail project along the Jordan River Parkway (between 1800 N and the City / Davis County boundary).
4. The Council will receive a briefing regarding Budget Amendment No. 2 for Fiscal Year 2008-2009. (Item G2)
5. The Council will receive a briefing regarding an ordinance amending provisions of Title 21A (Zoning) of the *Salt Lake City Code* pertaining to Community Correctional Facilities pursuant to Petition No. PLNPCM2008-00641. (Item G1)
6. The Council will receive a briefing regarding an ordinance enacting Chapter 2.94 of the *Salt Lake City Code* creating the Parks, Trails, and Urban Forestry Advisory Board, and amending Chapter 2.26 of the *Salt Lake City Code* which contains the Urban Forestry Ordinance.
7. The Council will receive a briefing regarding a resolution approving the renaming of Airport II in West Jordan to South Valley Regional Airport.
8. (TENTATIVE) The Council will receive a briefing regarding Legislative Issues for the 2009 State Legislative Session.
9. Report of the Executive Director, including a review of Council information items and announcements.

B. OPENING CEREMONY:

Council Chair Carlton Christensen will conduct the Formal Council Meetings during the month of January.

1. Pledge of Allegiance.
2. The Council will approve the minutes of January 13, 2009.

C. PUBLIC HEARINGS:

(None)

D. COMMENTS:

1. Questions to the Mayor from the City Council.
2. Comments to the City Council. (Comments are taken on any item not scheduled for a public hearing, as well as on any other City business. Comments are limited to two minutes.)

E. NEW BUSINESS:

(None)

F. UNFINISHED BUSINESS:

(None)

G. CONSENT:

1. Ordinance: Set Date: Amend Title 21A pertaining to Community Correctional Facilities  
Set the date of February 3, 2009 at 7:00 p.m. to accept public comment and consider adopting an ordinance amending provisions of Title 21A (Zoning) of the *Salt Lake City Code* pertaining to Community Correctional Facilities pursuant to Petition No. PLNPCM2008-00641.

(P 09-1)

Staff Recommendation:                      Set date.

2. Ordinance: Set Date: Budget Amendment No. 2 Fiscal Year 2008-2009  
Set the date of February 17, 2009 at 7:00 p.m. to accept public comment and consider adopting an ordinance amending Salt Lake City Ordinance No. 64 of 2008 which adopted the final budget of Salt Lake City, Utah, for the fiscal year beginning July 1, 2008 and ending June 30, 2009.

(B 09-4)

Staff Recommendation:                      Set date.

3. Board Appointment: Dagmar Vitek, Mosquito Abatement District  
Consider approving the appointment of Dagmar Vitek M.D., to the Mosquito Abatement District for a term extending through December 31, 2012.  
(I 09-1)  
Staff Recommendations: Approve
  
4. Board Appointment: Benjamin Jordan Rivkind, Open Space Lands Advisory Board  
Consider approving the appointment of Benjamin Jordan Rivkind to the Open Space Lands Advisory Board for a term extending through March 1, 2013.  
(I 09-2)  
Staff Recommendation: Approve
  
5. Board Appointment: Michael R. Fife, Planning Commission  
Consider approving the appointment of Michael R. Fife to the Planning Commission for a term extending through July 1, 2012.  
(I 09-3)  
Staff Recommendation: Approve.
  
6. Board Re-appointment: Craig D. Galli, Land Use Appeals Board  
Consider approving the re-appointment of Craig D. Galli to the Land Use Appeals Board for a term extending through December 31, 2011.  
(I 09-4)  
Staff Recommendation: Approve.
  
7. Resolution: Re-appointment Tom Godfrey, Metropolitan Water District  
Consider approving a resolution confirming the re-appointment of Tom Godfrey to the Metropolitan Water District Board of Trustees for a term until January 1, 2013.  
(I 09-5)  
Staff Recommendation: Approve.

H. ADJOURNMENT:

