

**APPLICATION NUMBER 6-**  
**Salt Lake City**  
**Project Title: 900 South Oxbow Restoration**

UTAH DIVISION OF WATER QUALITY

195 North 1950 West  
PO Box 144870  
Salt Lake City, Utah 84114-4870

Red Butte Creek Project Proposal Form

**NOTE: Proposal must be no longer than 6 pages. Supplemental documents such as letters of support, information to demonstrate previous project implementation and other relative supportive documents may be submitted in addition to this form.**

Applicant Name: Salt Lake City Corporation

Co-Applicant Name (if applicable): Not applicable

Agency or Business Name (if applicable): Salt Lake City Department of Public Services

Mailing Address: P.O. Box 145470 City: Salt Lake City State: UT Zip: 84114-5470

Phone: ( 801 ) 535 - 7774 E-mail: rick.graham@slcgov.com

Individual  Non Profit  Govt. Agency  Business  Commercial  Other

1. Estimated Project Costs:

Labor	\$	<u>303,952</u>
Materials	\$	<u>included in Labor</u>
Equipment	\$	<u>0</u>
Administration	\$	<u>2,000</u>
Miscellaneous	\$	<u>77,370</u>
TOTAL	\$	<u>383,322</u>
<b>Total funding request</b>	<b>\$</b>	<b><u>\$383,322</u></b>

Other sources of project funding

<u>          </u>	<u>\$0</u>	<u>          </u>	<u>\$0</u>
Source	Amount	Source	Amount
<u>          </u>	<u>\$0</u>	<u>          </u>	<u>\$0</u>
Source	Amount	Source	Amount
<u>          </u>	<u>\$0</u>	<u>          </u>	<u>\$0</u>
Source	Amount	Source	Amount
<u>          </u>	<u>\$0</u>	<u>          </u>	<u>\$0</u>
Source	Amount	Source	Amount

Total project cost including other sources of funding: \$ 383,322  
(please include bids for labor, equipment, rentals, etc.)

2. *Describe the purpose and need of the project:*

*Purpose.* The 900 South Oxbow Restoration involves the restoration of a critical stretch of lowland riparian corridor of the Jordan River with the goal to improve water quality and shoreline vegetation for fish and birds and to improve the public's experience with one of the only remaining parts of the original watercourse of the Jordan River through Salt Lake City. The 900 South Oxbow Restoration will serve as a significant restoration demonstration project on the Jordan River that will improve conditions for water quality, wildlife species, and their critical habitat along the Jordan River. The four habitat restorations will include: 1) 0.31-acre of graminoid slope wetland; 2) 0.28-acre riparian forest complex; 3) 4.1-acres of upland grassland; and 4) 0.79-acres of upland shrubland. The 900 South Oxbow is all that remains of the narrow, meandering historic Jordan River corridor following years of channel dredging and diversions to mitigate flood flows. Prior to the channelization, the river bends slowed the water facilitating the deposition of sediments and removal of suspended solids from the water column and it provided habitat to native fauna and flora. The 900 South Oxbow is an intact historic remnant meander representing the only productive aquatic habitat left in the riverine system suitable to serve these critical functions. The proposed restoration project will serve as a demonstration and living example of what oxbow restoration can accomplish for the ecosystem, recreation, and the community.

*Need.* The Jordan River in the 900 South Oxbow area was impacted by oil that flowed from the spill site, down Red Butte Creek, and into the city storm drain system, finally reaching the Jordan River at the 1300 South, 900 South and 800 South storm drain discharge locations. Oil-adsorbent booms were placed at storm drain outfalls and other strategic locations from 1300 South to 600 North, in an effort to capture the released oil before it could reach the Great Salt Lake. The Jordan River Parkway in this area was closed to public use entirely during the initial days following the spill, and the waterway was closed to boating and other recreational uses for months after the spill. Parkway and river closures, as well as long-term oil boom maintenance during Red Butte Creek cleanup activities affected public access and enjoyment of this public amenity and negatively impacted public perception of the river. The Red Butte Creek oil release was particularly impactful for the Jordan River because it is already listed as water quality impaired on the State of Utah 2008 303(d) list for low dissolved oxygen, high sediment, high levels of total suspended solids, high temperature, and high bacteria levels. Although the 900 South Oxbow Restoration project can not address all of these impacts, it will restore important riparian habitat at the intersection of the Jordan River Parkway trail and the 9Line trail. The proposed restoration project is an opportunity to bring a section of degraded riparian habitat to a healthy, self-sustaining ecosystem with natural function and a predominance of native species. The restoration project will serve the community through three primary benefits: 1) ecological benefits associated with the improved water quality and wildlife habitats; 2) recreation benefits in the form of an enhanced trail experience as well as wildlife viewing opportunities from land and water trails on the Jordan River Parkway and the 9Line; and 3) natural and cultural historical benefits resulting from the preservation of a critical ecosystem function remaining from the original river. As identified in the Jordan River Total Maximum Daily Load (TMDL) study, there is also a need for public education about water quality and the best management practices (BMP) that can be implemented to maintain water quality. Through the proposed project, the public will be invited to be directly involved in monitoring and maintenance of the site through engaging educational volunteerism opportunities led by the Lowell Bennion Community Service Center, a volunteer-oriented program of the University of Utah. The monitoring satisfies a critical component of the adaptive implementation strategy recommended in the Jordan River TMDL.

3. *Estimate time frame of the project with significant milestones (Note: Project must be completed with final reports filed by November 10, 2014):*

The estimated time frame for the 900 South Oxbow Restoration is 33 months (2.75 years) with a start date of February 2012 and a completion date of October 2014.

<u>Interim Milestones</u>	<u>Start Date</u>	<u>Completion Date</u>
Develop qualified consultant list	February 2012	February 2012
Issue RFP to qualified consultant list	February 2012	March 2012
Select riparian design consultant	March 2012	April 2012
Final design and specification documents	April 2012	June 2012
Issue RFP to qualified bidders	July 2012	September 2012
Select riparian restoration specialist	September 2012	September 2012
Permits, due diligence, and public outreach (Phase 1)	October 2012	February 2013
Riparian restoration site work	March 2013	September 2013
Conduct public outreach (Phase 2)	May 2013	September 2013
Fall planting	October 2013	November 2013
Spring planting	April 2014	May 2014
Fall planting	October 2014	October 2014

4. *Describe the location of the project with attached location map, including details on the total area that will be directly enhanced by the project:*

The proposed restoration area is located along the Jordan River Parkway in Salt Lake City between 800 S and 1000 S and at the intersection of the 9Line trail. The restoration will take place along 4,640 linear feet of stream bank. The total area that will be directly enhanced is 5.48 acres.

5. *Describe how the project will specifically enhance and protect waterways affected by the Red Butte release and improve the conditions of one or more of the following: wildlife, habitat, natural vegetation, water quality or emergency response:*

The proposed project is designed to enhance and protect this affected portion of the surface water system in the following ways:

Waterway Protection. The 900 South Oxbow Restoration will enhance and protect 5.48 acres of critical lowland riparian habitat, which comprises less than 1.2 percent of the land area of Salt Lake City and which play a critical ecological role for mammals and birds<sup>1</sup>. The conservation and restoration of this critical riparian stretch through public land supports the ecosystem services of the waterway to the urban core and allows for continued public access and increased educational opportunities. The proposed project plan includes several public outreach efforts to engage and educate the public on: 1) the value of the Jordan River; 2) the ecological importance a historic, remnant meander within the river corridor; and 3) the opportunity for their participation in the long-term stewardship and protection of the waterway. Stewardship activities will be conducted with support from the Lowell Bennion Community Service Center.

Improved Conditions for Wildlife. Wildlife is inextricably connected to the quality and availability of habitat. The restoration area contains upland, riparian, and wetland habitats that are generally low functioning due to high percentage of weed cover and unrestricted human access. The proposed habitat improvements and restoration activities will create a diversity of habitat types, thereby increasing the diversity of species that the Oxbow supports. These habitat types will benefit both avian and aquatic species. Additionally, the project will increase the acreage of habitat available for

<sup>1</sup> Salt Lake City. 2010. Salt Lake City Riparian Corridor Study: Final Red Butte Creek Management Plan. Pg 1-4.

species reproduction (nesting and spawning), resting and feeding by the wildlife that rely on the Jordan River within a dense urban environment. Increased acreage of habitat will also provide protection for wildlife from predators.

Improved Conditions for Habitat and Natural Vegetation. The habitat is primarily complex riparian vegetation including tree canopy, understory vegetation, and upland grasses, shrubs, and trees on the stream banks. The project will increase native plant populations by restoring the following critical habitat zones:

- 1) *Graminoid Slope Wetland (0.31 acre):* The graminoid slope wetlands allow for a more gradual transition from river to upland and provide a location for the establishment of a diverse community of wetland and riparian plants along the river banks. A native plant palette of wetland plugs and seed mix will establish the graminoid slope wetland habitat.
- 2) *Riparian Forest Complex (0.28 acre):* The forest structure will be restored through the removal of non-native trees and shrubs and the thinning and planting with a native plant palette of trees, shrubs, pole plantings, and seed mix. Restoration of this habitat will result in the creation of a structurally complex, species-rich habitat.
- 3) *Upland Grassland (4.1 acre):* The area is currently dominated by noxious and non-native grasses and forbs. The upland grasslands habit restoration will involve the chemical and/or physical removal non-native invasive plant species followed by planting and seeding with native and desirable grasses and forbes to create a healthy native habitat.
- 4) *Upland Shrubland (0.79 acre):* The existing upland shrubland restoration will involve the chemical and/or physical removal of non-native invasive plant species followed by planting and seeding with native and desirable grasses, forbes, and high-end shrubs.

Temporary fencing will be installed to protect the restoration from foot traffic during the crucial period of plant establishment. An irrigation system will be installed to provide water during the native plant establishment period.

Improved Conditions for Water Quality. Water quality will be addressed through reestablishment of diverse native riparian habitat zones. Re-establishing native habitat along the streambanks will support soil stabilization, erosion control, and prevention of nutrient loading. Physical soil stabilization of 4,640 linear feet of stream bank will be achieved through increasing vegetation cover and will result in reduced sediment loads to the river bed and reduced total suspended solids in the water column. Vegetative stream banks will filter nutrient loads, particulate matter, and other potential pollutants from entering the stream. Stream temperature will be also be regulated by the reestablishment of a complex riparian habitat. These best-management practices will support the elimination of the river's water quality impairments of low dissolved oxygen, total suspended solids, *E. coli*, and water temperature.

6. *Describe project's connectivity to other natural areas or projects that further enhance wildlife, habitat, natural vegetation, water quality or emergency response:*

The 900 South Oxbow Restoration project is connected with the City's 9Line Corridor Plan, the 900 South Filtration Wetland BMP, and the City's focus on restoration of the Jordan River that complies with the Blueprint Jordan River guidelines.

9Line Corridor Plan. The 900 South Oxbow will be a natural riparian feature of the 9Line, a new linear parkway that will be constructed within the old Union Pacific rail corridor that runs 900 South / 900 West to the Surplus Canal, west of Redwood Road. The new 9Line Parkway will provide opportunities to create new community spaces and amenities in locations along the route.

900 South Filtration Wetland BMP. With funding from the Utah Division of Water Quality's Non-Point Source Financial Assistance Program, Salt Lake City Department of Public Utilities is re-engineering the existing vegetative wetland located at the intersection of 900 South and 900 West, the Jordan River, and the Jordan River Parkway. The re-engineered wetland will establish one-acre of filtration wetlands. The filtration wetland satisfies the best-management practices recommended in the Jordan River TMDL. The filtration wetlands will enhance the storm water facility currently at the site by increasing the surface area to address stagnation issues. The facility will also increase the natural wetland filtration functions to address storm water pollutants prior to discharge to the river. The 900 South Oxbow is located west across the river from the 900 South filtration wetland. Together, they will function to reduce stormwater pollution and fine particulate matter entering the Jordan River from 340 acres of stormwater that drain through the wetland and oxbow areas annually. The synergy created by the water and land trail, filtration wetland, and proposed riparian restoration is a critical education opportunity for public.

Blueprint Jordan River. One stated goal of the *Blueprint Jordan River* is to enhance the connectivity of riparian habitat along the Jordan River through increased riparian vegetative cover and improved habitat quality. Other guiding principles identified in the *Blueprint Jordan River* involve establishing buffers between the river and the built environment, restoration of riparian and in-stream habitat, and stormwater management. The proposed restoration will support the implementation of these goals and guiding principles of the *Blueprint Jordan River* while balancing the needs for recreation and public access. The City will provide project data for use by other jurisdictions for implementation of restoration projects to address Jordan River TMDLs.

7. *Describe any additional social benefits of implementing this project:*

The 900 South Oxbow Restoration will provide high quality riparian experiences for the public and will serve as a key riparian landmark for users of the Jordan River Parkway. The oxbow's location on public lands along the Jordan River Parkway and its intersection with the new 9Line trail make it a fixture in the local community. The relatively lush vegetation within the riparian corridor is visually distinct from the remainder of the city's landscape and has a unique aesthetic value. The conserved open space provides opportunities for residents to experience and learn about the unique, natural processes and ecology of riparian corridors, opportunities for active and passive recreation and to find a respite within the urban landscape.

8. *Project plans and details, including rights to work on specified piece(s) of land:*

A discussion of the proposed scope of restoration work is provided above in the response to Question 2 and Question 5. A detailed conceptual plan is attached. If the project grant is awarded, the City will secure the services of a qualified riparian restoration design consultant to draw up final detailed design plans and restoration specifications. In addition, the City will secure the services of a qualified riparian restoration specialist to conduct the site restoration work. The City owns the property on which the restoration work will occur and has the right to work on the property. As with all projects that could affect a riparian system or flood plain, the City will coordinate with appropriate jurisdictions to secure any necessary permits.

9. *Describe your experience in implementing projects of similar scope and magnitude:*

Three restoration projects of similar scope and magnitude that the City is in the process of implementing include: 1) City Creek Canyon (100-acre restoration); 2) Wasatch Hollow Open Space (10-acre restoration); and 3) Parley's Historic Nature Park (63-acre restoration).

Additionally, the City recently completed stream bank re-grading and establishment of native habitat at four restoration sites along the Jordan River with funding from the State Division of Water Quality. The 900 South Oxbow Restoration will be overseen by the City's Parks and Public Lands Division and City's Department of Public Services in collaboration with the City's Department of Public Utilities. With the inter-department collaboration, the project will have access to professionals within each department with experience in riparian restoration, open lands management, and implementing water quality best management practices. The project budget was developed with cost effectiveness in mind and based on local rates for professional services.

10. Describe how ongoing maintenance of the project will be funded and carried out:

The City will maintain the 4,640 linear feet of stream bank as part of the general maintenance and upkeep of the Salt Lake Regional Athletic Complex. The ongoing maintenance of the restoration area will incorporate the best-management practices that the City uses to actively steward the 2,574 acres of open space within its municipal boundaries. Restoration maintenance will include replacing plants, replacing irrigation parts, weeding, monitoring, and/or other site modifications required to ensure that the restoration work is healthy into the future. On-going monitoring and management of noxious and invasive weeds will follow strategies outlined in the City's Integrated Pest Management Plan. The City will budget for the maintenance and monitoring for the site beyond the grant period through the City's Parks and Public Lands Division annual operating budget. Additionally, the public will be involved in monitoring and maintenance of the site through volunteer opportunities led by the Lowell Bennion Community Service Center.

11. List consultants or agency partners that have participated in project development (below):

Lowell Bennion Community Center 200 S., Central Campus Dr. Union Bldg. Rm 101 (801) 587-9027  
 Name/Company Address Phone

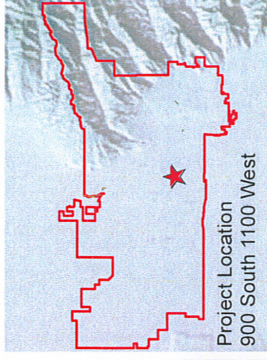
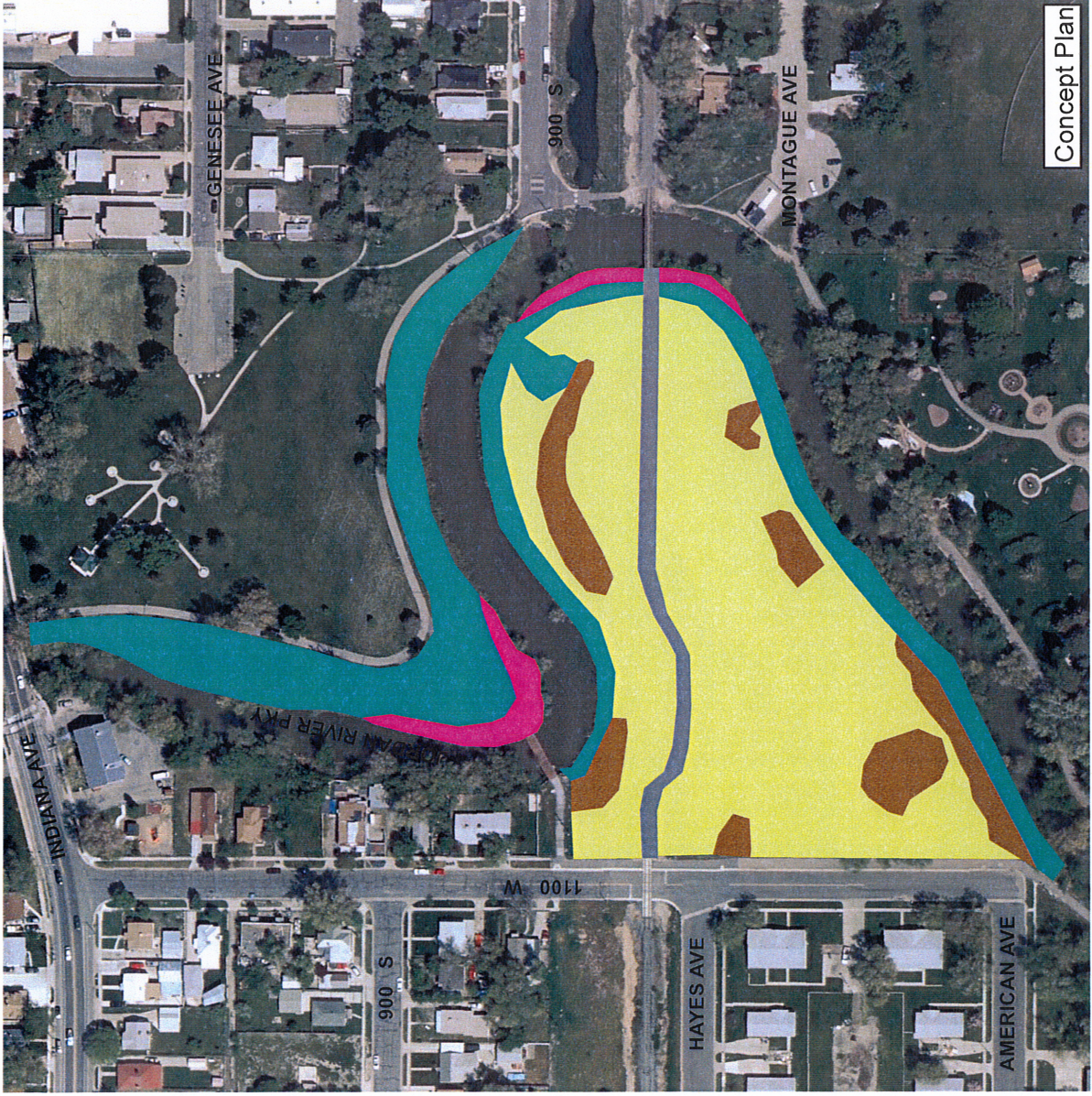
\_\_\_\_\_  
 Name/Company Address Phone

I am willing to: (1) comply with all applicable laws and work with designated technical personnel as assigned to the above-referenced project in preparation of project implementation; (2) submit detailed project information to the Utah Division of Water Quality as requested to evaluate water quality improvements; (3) not to apply any practices which would tend to defeat the purpose of the project; and (4) allow continued monitoring and evaluation of the project activities implemented on my property.

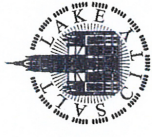
Signature *Nina Graham* Date 12-13-11  
 Applicant

Signature \_\_\_\_\_ Date \_\_\_\_\_  
 Co-Applicant (if applicable)

APPROVED AS TO FORM  
 Salt Lake City Attorney's Office  
 Date 12/13/11  
 By *[Signature]*

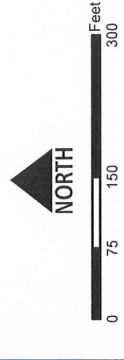


## 900 South Oxbow



### Legend

- Trail In Development-0.31 ac.
- Graminoid Slope Wetland-0.28 ac.
- Riparian Forest Complex-2.31 ac.
- Upland Grassland-4.1 ac.
- Upland Shrubland-0.79 ac.





### 900 South Oxbow Restoration Project Budget

Category	Cost Detail / Scope of Work	Requested Amount
<b>Personnel</b>		
Grants Program Administrator	\$27.60 per hour x 72.5 hours	\$2,000
<b>Total Personnel</b>		<b>\$2,000</b>
<b>Fringe Benefits</b>		
None.	None.	\$0
<b>Travel</b>		
None.	None.	\$0
<b>Equipment</b>		
None.	None.	\$0
<b>Materials and Supplies</b>		
None.	None.	\$0
<b>Contractual</b>		
	<i>Scope of Work *</i>	
Riparian Designer	To include developing schematic design and creating restoration specifications and plans. Calculation based on 10% of riparian restoration.	\$27,632
<b>Total Riparian Designer</b>		<b>\$27,632</b>
Site Preparation	To include: 1) invasive plant removal; 2) rough grading; 3) installation of temporary access control fencing; and 4) establishment of irrigation.	\$179,970
Habitat Restoration	To include excavation and planting of at least four of the following native riparian habitats: 1) graminoid slope wetland; 2) riparian forest complex; 3) upland grassland; and 4) upland shrubland. Total acreage estimated at 5.48 acres.	\$71,350
Permitting		\$25,000
<b>Total Riparian Restoration Specialist</b>		<b>\$276,320</b>
<b>Total Contractual</b>		<b>\$303,952</b>
<b>Other</b>		
Contingency	15% of riparian restoration	\$41,448
Design Oversight	2% of riparian restoration	\$5,526
Restoration Oversight	6% of riparian restoration	\$16,579
Restoration Establishment	3% of riparian restoration specialist	\$8,290