

**UTAH DIVISION OF WATER QUALITY**

195 North 1950 West

PO Box 144870

Salt Lake City, Utah 84114-4870

**Willard Bay 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: **Box Elder County/Willard City Special District for Flood Control and Drainage**

Co-Applicant Name(s) (if applicable): N/A

Project Title: **Willard City 650 South Detention**

Agency or Business Name (if applicable): **Contact: Michael Braegger, Board Chair**

Mailing Address: **PO Box 286** City: **Willard** State: **UT** Zip: **84340**

Phone: **(801) 430 - 3503** E-mail: **mbraegger@tramcor.com**

Individual      Non-Profit      **Govt. Agency**      Academic      Commercial      Other

1. Estimated Project Costs:

Labor	\$ 36,534
Materials	\$ 127,133
Equipment	\$ 52,533
Administration/Engineering	\$ 43,660
Miscellaneous	\$ 147,640
<b>TOTAL</b>	<b>\$ 407,500</b>

Other sources of project funding:

<u>Source</u>	<u>Amount</u>	<u>Source</u>	<u>Amount</u>
<b>Doug Young</b>	\$ 80,000	<b>Willard Flood District</b>	\$ 20,000
In-kind donation of land		Cash – Impact Fees	

Total project cost including other sources of funding:

Total DWQ Funding Request	\$ 307,500
Total District Cash Contribution	\$ 20,000
<u>Total Value of Land Donation</u>	<u>\$ 80,000</u>
<b>Total Project Cost</b>	<b>\$407,500</b>

(See Attachment A for Engineer Cost Estimate)

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

**Background:** The Box Elder County/Willard City Flood Control District (District) prepared a Capital Improvements Plan in August of 2006. Within this plan it was noted the land use for the service area was making a major shift from agricultural use to residential use. Significant land use and allowable density has changed just in the past three years due to the development of a new waste water treatment facility. Within the past four months three new developments have come before the District Board indicating over 500 new residential units will be developed within the District's service area. This will prove to have substantial impacts on the water quality and the amount of water that is currently moving through the District's existing stormwater system and draining into the Willard Bay and marshes/wetlands that surround the Bay.

The District's subdivision policy is to have developers provide onsite detention that will limit the discharge from a development to 0.2 cfs per acre which approximates the runoff from undeveloped land. Some of the new detention basins do not connect to the District's storm drain system and therefore have to find their own way to the wetlands. The District wants to change this. As part of their Capital Improvements Plan a number of projects were identified that will allow the District to connect many of the existing systems and detention basins together so they are able to discharge water to existing discharge points and allow for reduced sediments and pollutants.

The project includes the 200 South and 650 South drainage service areas. These systems collect water from Holmes and Cook Canyons, storm drainage off HWY-89, and from Willard City as far north as Center Street and as far south as the Willard City limits. Currently the 650 and 200 South storm drain lines discharge individually into the marshes/wetlands that surround the Bay and prior to discharging directly into Willard Bay. These lines **are not connected** to detention basin or other pre-treatment areas before discharging. A new development at 600 South and 300 West, called Buckskin Development, has 200 single-family homes. A requirement of this development is to include 30% of the land as open space. A small detention basin is planned as part of their development. This basin will connect to the 600 South storm drain line and will discharge into the Willard Bay area.

**Project:** The project includes connecting the 200 and 600 South storm drain lines together along 200 West with 24" ADS pipe. The 200 South line will be disconnected at 200 West eliminating the 200 South discharge point. The water will use the existing 600 South line to continue down to a 4 acre detention basin. An oil/grit separator will be installed to filter the water before returning back to the 600 South line to then discharging to the Willard Bay. **(See Attachment B Project Location Map)**

**Purpose:** The proposed project includes two significant best management practices (BMPs) namely detention basins and oil/grit separators. The purpose of the project:

- Connection: Connect the 200 South and 600 South drainages together
- Reduce Discharge Lines: Reduce the number of drainage lines discharging directly into the Bay area without detention or pre-treatment opportunities
- Detention: Detain the water of the two drainages systems into one detention basin

- **Water Quality:** Provide for pre-treatment to reduce sediments by using an oil/grit separator to produce a higher quality of water
- **Improve Habitats:** Improve the habitats where this water currently drains
- **Leverage Land Opportunities:** Leverage the ability to obtain more land, by a donation from the developer, for a larger detention basin than what would have been required to service only his development. The donation of the land will reduce the cost of the project and be able to service the 200 and 650 South drainage lines now and in the future
- **Emergency Response:** Allow for a way to detain water or hold water, if required, in case of any future environmental issue, spills, or contaminations that may occur within the discharge area for the District.
- **Help Meet State of Utah Water Quality Goals:** Provide for better water quality thus helping to achieve the goal of the Utah Nonpoint Source Management Program to “protect and restore water quality from impacts of nonpoint sources of pollution in order to provide a clean and healthy environment”

**Need:** The District needs to:

- **Detain Water:** The District currently has no way to detain the water before discharging into the Willard Bay area. During clean-up of the recent Chevron Pipeline spill, the District was approached by Chevron and a request made that District shut off water that was flowing into the area. The District was unable to comply with the request simply because they did not have facilities in place to stop the water from flowing in the spill area.
- **Combine and Eliminate Discharge Points:** The District currently has two discharge points in this project area, one at 200 South and the other at 600 South. They want to combine and detain these two together and eliminate the 200 South discharge point. By doing so they can significantly reduce pollutants currently being released into Willard Bay.
- **Leverage Development Opportunities:** As developers are required to detain water from their new developments the District can cooperate with developers to size and build detention basins that will be adequate for future development. Opportunities for pre-treatment can become more economical as the District shares the cost for oil/grit separators that can be provided for better water quality and sediment controls. The District has limited resources to build new detention basins on their own without willing land owners
- **MS4 Phase II Permitting:** The District has recently been required to follow the MS4 Phase II permitting requirements. This project will allow the District to take major steps in following the Post Construction Storm Water Treatment requirements of the permit by detaining and treating the water before it is released into the Willard Bay.
- **Water Quality Monitoring:** The District currently has no way to monitor water quality within the project area or to understand the impact of their storm water on the marshes/wetlands and on Willard Bay. This project will provide the opportunity to have a single discharge location that would facilitate water quality monitoring if desired or required in the future.

3. Estimated time frame of the project with significant milestones:

Project Schedule:

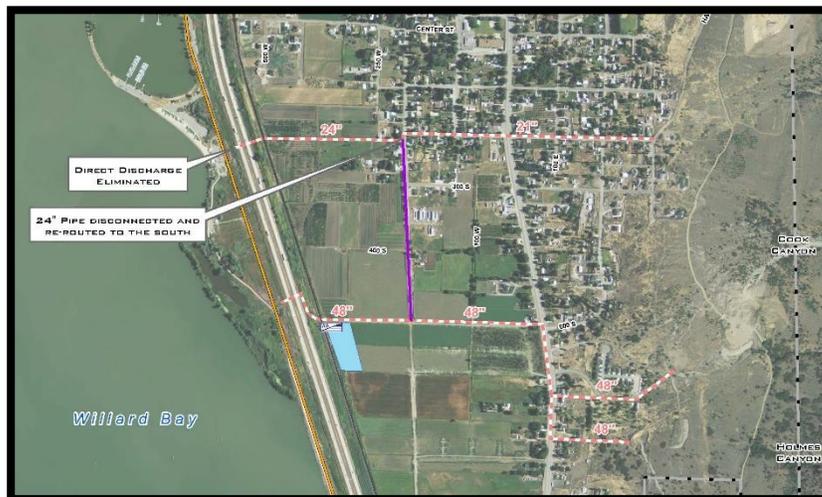
Timeline	Milestones
May – June 2014	DWQ Contracts/Prepare detailed project implementation plan
May – June 2014	Prepare land agreements between Developer and District
June – September 2014	Project Design
September – October 2014	Bid Project/Project kick-off meeting
October 2014 – June 2015	Construct Project
June – July 2015	Prepare final reports

4. Describe the location of the project:

The project is located in Willard City and begins at 200 South and travels along 200 West to 600 South connecting the 200 and 600 South drainage lines together then continuing down the existing 600 South drainage line to a new detention basin and oil/grit separator. After the water passes through the detention area it continues through the existing drainage line and is released into the marshes/wetlands south of the State Marina. **(See Attachment B for a Larger Project Location Map)**

The total area to be enhanced by the project includes 824 acres within Willard City and 95 acres of marsh/wetlands located next to Willard Bay (where the 200 South and 600 South storm drainage lines currently discharge). The storm drainage in the project area and the water from Holmes and Cook Canyons will now drain into a detention basin and through an oil/grit separator producing higher quality water removing trash, debris, sediments, oil,

grease, immiscibles, floatables, and total suspended solids from the storm water flow.



The project can significantly reduce pollutants currently being released into Willard Bay because there are currently no such BMPs on this particular storm drain outfall.

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

The project is located 1.4 miles south of the Chevron pipeline spill. Most, if not all, of the existing discharge lines are located within the same corridor as the Chevron Pipeline. When Chevron’s work crew was first cleaning up the spill they thought the water coming into the spill area was from the Flood District. They contacted the District to see if they had a way

to shut off the water coming into the spill area. The District told them they had no way to stop or detain the water flowing into that area because it was from Willow Creek, and not from one of their discharge lines.

If another incident occurred near the location of this project the District could currently not detain or stop the water from discharging and possibly moving the contaminants further into the marshes/wetlands and eventually into Willard Bay. However, with the development of this project, the District will now have a way to address an incident and to detain and hold their storm water, for a time if necessary. They will also be able to continually have a substantial benefit to the water quality, wildlife, and vegetation, in the corridor, where Chevron's pipeline is located.

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

The existing storm drain lines (200 and 600 South) release their unfiltered drainage water directly into the marches/wetlands and Willard Bay. The water is collected from existing developments, HWY-89, and Holmes and Cook Canyon. This project connects the two undetained drainages into one line which will be detained and filtered to implement storm water quality management and flood control. It will filter pollutants and assist in preservation of water quality by teaming with developers to upsize detention areas within the project to service future growth. The water from this project area impacts the wetlands around Willard Bay and eventually the Bay where people, fish, birds, and other sensitive habitats rely on the water to survive.

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

This project, although small in comparison to the large watershed area, can still bring social benefits to the area. The detriment to the ecosystem from nonpoint source pollution effects not only the environment and its species but the overall economy of the area. Jobs, recreation opportunities, tourism, and commerce can be greatly affected due to mismanagement of water quality. This project in small way plays an important part to the ecosystem and economy of the discharge area. Just a few of the social benefits could include:

- Ecosystem Enhancement: Reducing sediments and pollutants that are currently coming into the marshes/wetlands in and around Willard Bay from HWY-89 helps to enhance the ecosystem within the discharge areas. With higher water quality wetlands can survive and thrive allowing for better protection and feeding areas for birds and other species that rely on these types of habitats.
- Tourism/Recreation: If birds/other species thrive in the area, people will come to the area to bird watch, hunt, camp, and fish. If the water quality of the Bay continues to improve, other recreational activities that attract people to the area such as swimming and boating will also increase. Recreation on Willard Bay brings thousands of dollars annually to the local economy of Willard City and Box Elder County.
- Park Development: the detention basin can serve as an excellent setting for soccer fields, trails, and other recreation opportunities which can provide important exercise, play, and amusement to the residents of the development, Willard City, and surrounding area.

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

The District has been working with the land owner and developer for the Buckskin Subdivision to coordinate the project and work out the details of the land donation. The piping portion of the project will be in the road right-of-way of Willard City. They are in full support of the project and will allow the construction of the project within their right-of-way.

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

This project is not out of the realm of the District's experience. The District has implemented a number of improvements to their system over the past 20 years. They have reconstructed debris basins that were built in the 1930's by U.S. Government, constructed five large storm water collection projects, and debris/detention basins on the major frontal canyons in the Willard area.

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

The District is a taxing entity. The maintenance of the project will be funded through the taxes that are collected annually. The District has a continuous maintenance schedule throughout the year which is approved by the Board. Over the past several years the District has developed a relationship with a group of local contractors who have provided maintenance on the storm drains and debris basins. This will continue to be the process for maintenance with the development of this project.

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

Name/Company	Address	Phone
<b>Ryan Tingey</b> <b>Box Elder County Commissioner</b>	Box Elder County 01 South Main Street Brigham City, UT 84302	435-734-3347
<b>Kenny Braegger</b> <b>Willard City Mayor</b>	Willard City 80 West 50 South PO Box 593 Willard, UT 84340	435-730-4381
<b>David Young</b> <b>Landowner/Developer</b>		
<b>Brian Deeter</b> <b>J-U-B Engineers, Inc</b>	J-U-B Engineers, Inc. 466 North 900 West Kaysville, UT 84037	801-547-0393

Signature Michael W. Braegger Date 5-1-14  
Applicant



J-U-B ENGINEERS, INC.

J-U-B COMPANIES



THE LANGDON GROUP



GATEWAY MAPPING INC.

Attachment A for Engineer Cost Estimate  
April 28, 2014

Box Elder County/Willard City Flood Control District Capital Improvements Projects Willard City - 650 South Detention				
Item	Unit	Quantity	Unit Price	Price
Mobilization	LS	1	\$ 10,000.00	\$ 10,000.00
SWPP	LS	1	\$ 2,000.00	\$ 2,000.00
24" RCP	LF	2300	\$ 34.00	\$ 78,200.00
60" Concrete Manhole	EA	5	\$ 2,800.00	\$ 14,000.00
Detention	LS	1	\$ 60,000.00	\$ 60,000.00
Hydrodynamic Separator	EA	1	\$ 50,000.00	\$ 50,000.00
Pipe Bedding	TON	400	\$ 15.00	\$ 6,000.00
Land Purchase	Acre	4	\$ 20,000.00	\$ 80,000.00
Connect to Existing Storm Drain	LS	2	\$ 1,500.00	\$ 3,000.00
Misc. & Contingency 20%				\$ 60,640.00
<b>Construction Subtotal</b>				<b>\$ 363,840.00</b>
Administration & Engineering - 8%				\$ 29,107.00
Construction Observation - 4%				\$ 14,553.00
<b>TOTAL</b>				<b>\$ 407,500.00</b>

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# Willard City 650 South Detention Attachment B Project Location Map



**CHEVRON DIESEL  
SPILL LOCATION**

**DIRECT DISCHARGE  
ELIMINATED**

**24" PIPE DISCONNECTED AND  
RE-ROUTED TO THE SOUTH**

*Willard Bay*

**Legend**

**Storm Drain Lines**

- 2014 Projects
- Existing
- Open Ditch
- Chevron Pipeline
- Oil/Grit Separators

**Detention Basins**

- Proposed
- Willard City Boundary

0 1,000 2,000 Feet

# Willard City Corporation

80 West 50 South  
Box 593



Willard, Utah 84340  
(435)734-9881

April 30, 2014

Director Walt Baker  
Division of Water Quality  
PO Box 144870  
Salt Lake City, UT 84114

Re: Support of 650 South Project Proposal Request from Box Elder County/Willard City Special District for Flood Control and Drainage

Dear Mr. Baker,

Willard City is pleased to write in support of the proposal being submitted by the Box Elder/Willard City Flood Control District. The 650 South project will have a substantial impact on how storm water is delivered within a large portion of Willard City. It will greatly affect the storm water quality currently being discharged in this project area and will significantly enhanced the ecosystem of Willard Bay and its surrounding marshes and wetlands. The City will work in partnership with the District to give access to construct the project within the 200 West roadway. They will participate in negotiating with Buckskin Development to acquire additional land to size the detention basin so it will accommodate future developments in the area, eliminate a discharge point, and provide for treatment of the storm water before it is delivered to Willard Bay or adjacent marshlands.

The 650 South project requested by the District is important to the City as well as to the most recent Chevron spill area, as it will allow the District additional safety measures, ways to detain or hold water if another incident occurs, and will improved water quality within the Chevron Pipeline corridor. It will enhance the corridor where spill was located and the habitats in that area along with Willard Bay and its surrounding marshlands. We support the District in their dedication and forward thinking to address the water quality needs of our community and their overall service area and request your strong consideration of this project.

Sincerely,

A handwritten signature in black ink, appearing to read "Kenneth Braegger".

Mayor Kenneth Braegger

April 30, 2014

Director Walt Baker  
Division of Water Quality  
PO Box 144870  
Salt Lake City, UT 84114

Re: Support of 650 South Project Proposal Request for Box Elder County/Willard City Special District for Flood Control and Drainage

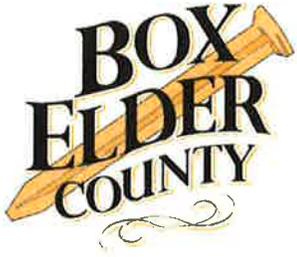
Dear Mr. Baker,

As a developer/landowner within the 650 South Detention Project area I fully support the project being submitted by the Box Elder/Willard City Flood Control District. The 650 South project will have a substantial impact on how storm water is delivered from my development. I am willing to negotiate with Willard City and the District to donate land to size the detention basin so it will accommodate future growth in the area, eliminate a discharge point, and provide for treatment of the storm water before it is delivered to Willard Bay or adjacent marshlands.

Thank you for your consideration of this project.

Sincerely,

A handwritten signature in blue ink, appearing to be "Kurt", written in a cursive style.



## COMMISSION OFFICE

Ryan Tingey • Stan Summers • Jeff Scott  
County Commissioners

**COUNTY OFFICIALS**  
Ryan Tingey, COMMISSIONER  
Stan Summers, COMMISSIONER  
Jeff Scott, COMMISSIONER  
Rodney D. Bennett, ASSESSOR  
Stephen R. Hadfield, ATTORNEY  
Tom Kotter, AUDITOR  
Marla R. Young, CLERK  
Kevin R. Christensen, JUSTICE COURT JUDGE  
Chad Montgomery, RECORDER  
J. Lynn Yeates, SHERIFF  
Shaun Thornley, TREASURER

May 2, 2014

Director Walt Baker  
Division of Water Quality  
PO Box 144870  
Salt Lake City, UT 84114

Re: Support of Proposal Requests by the Box Elder County/Willard City Special District for Flood Control and Drainage

Dear Mr. Baker,

Box Elder County is pleased to write in support of the proposals being submitted by the Box Elder/Willard City Flood Control District. These projects will have a substantial impact on how storm water is delivered throughout the county greatly affecting the water quality and ecosystem of Willard Bay, Harold Crane Bay and their surrounding marshes and wetlands.

The county will work in cooperation with the flood control district to permit access to construct these projects within county roads. They will help the district negotiate with developers to build detention basins large enough to accommodate future growth and provide higher quality treated storm water before it is delivered to the Willard Bay or its adjacent marshlands.

The projects will provide to the county and district additional safety measures, improved water quality, and enhancement to the habitats within the Willard and Harold Crane Bays and their surrounding marshlands. We support the Box Elder/Willard City Flood Control District in their commitment to address the water quality needs of their service area and request your strong consideration of both projects.

Sincerely,

Jeff Scott  
Box Elder County Commissioner