

UTAH DIVISION OF WATER QUALITY

195 North 1950 West

PO Box 144870

Salt Lake City, Utah 84114-4870

Willard Bay Project Proposal 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: **8700 South Storm Water Detention and Discharge**

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	\$ 133,817
Materials	\$ 465,266
Equipment	\$ 157,816
Administration/Engineering	\$ 170,712
Miscellaneous	\$ 381,180
TOTAL	\$ 1,308,792

Other sources of project funding:

<u>Source</u>	<u>Amount</u>	<u>Source</u>	<u>Amount</u>
Jerry Preston	\$160,000	Willard Flood District	\$ 30,000
In-kind donation of land		Cash – Impact Fees	

Total project cost including other sources of funding:

Total DWQ Funding Request	\$ 1,118,792
Total District Cash Contribution	\$ 30,000
<u>Total Value of Land Donation</u>	<u>\$ 160,000</u>
Total Project Cost	\$1,308,792

(See Attachment 1 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 storm water 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 District's requirement that all subdivisions detain their storm water has resulted in a number of small detention basins throughout the service area. Within this project area there is a series of three detention basins along 1050 West, between approximately 7800 and 8200 South in South Willard. These detention basins now discharge untreated water into the drainage ditches that run along the railroad and eventually make their way to the Harold Crane Bay Waterfowl Area and adjacent marshlands.

A new development located between 8300 and 8700 South in South Willard, called Residence at the Orchard, is currently under review by Box Elder County. This development has planned for 138 single-family homes and 72 townhomes. A requirement of this development is to include 30% of the land as open space. A detention basin is planned as part of their development and would only service their development. This development's detention basin would follow suit with the others in this area by discharging their detained water into the same drainage ditches as do the other detention basins on 1050 West.

The proposed project will allow the District to connect all of the detention basins along 1050 West into a pipeline that will connect into a larger detention basin (sized for present and future needs) at the bottom of the new subdivision "Residence at the Orchard." This detention basin will allow the district to treat the water with an oil/grit separator before discharging in to another pipeline that would deliver the water to the Willard Canal where it would be directly released into Willard Bay.

Project: The project includes connecting three existing detention basins along 1050 West with 24" ADS pipe, delivering the water into an 8-acre detention basin. An oil/grit separator will be installed to filter the water before continuing on in a 36" ADS pipeline discharging to the Willard Bay. **(See Attachment 2 Project Location Map)**

Purpose: The proposed project will make significant strides in producing a higher quality of water. This will enhance Willard Bay and stop delivery of untreated water from existing and new detention basins into Harold Crane Bay and adjacent wetlands by using two significant best management practices (BMPs) namely detention basins and oil/grit separators. The purpose of the project:

- **Connection:** Connect the three 1050 West detention basins into one large basin with an oil/grit separator before being discharged into the Willard Bay with higher quality water.
- **Reduce Untreated Water:** Reduce the number of untreated detention basins discharging directly into drainage ditches that eventually deliver to marshlands and to Harold Crane Bay.
- **Detention:** Detain the water of the four drainages systems into one detention basin.
- **Water Quality:** Provide for treatment to reduce sediments using an oil/grit separator to produce a higher quality of water.
- **Improve Habitats:** Improve the habitats around and in Harold Crane Bay by eliminating the District's water that is carrying sediments and pollutants into the Bay and surrounding wetlands.
- **Leverage Land Opportunities:** Leverage the ability to obtain more land, through 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 service future growth in the area near the detention basin location.
- **Emergency Response:** Allow for a way to detain water or hold water, if required, in case of any future environmental issues, spills, or contaminations that may occur along I-15, SR-89 or with the Chevron diesel line 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:

- **Combine and Eliminate Discharge Points:** The District currently has three discharge points in this project area and one new one that will come as a result of the new development. If we can move now to eliminate the three other discharge points it will allow the District to combine them all into one and treat all of them. Harold Crane Bay and surrounding wetlands will no longer be receiving this untreated water and the water draining into Willard Bay will see significantly reduced pollutants from the drainage water it will be receiving.
- **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 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 Harold Crane Bay, Willard Bay or adjacent marshlands. 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 plans
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 South Willard in Box Elder County beginning at 7800 South and traveling along an undeveloped county road to 8300 South. It then goes under the railroad through an existing pipe and into the new detention basin. It will be treated through the oil/grit separator before it is released in to a pipeline traveling west under I-15 and continuing on 8300 South. From there it will continue along a number of undeveloped county roads and abandoned railroad bed until it is delivered to the Willard Canal and into Willard Bay. (See Attachment 2 for Larger Project Location Map)

The total area to be enhanced by the project includes 515 acres within Box Elder County and many, many acres included in the Harold Crane Bay Waterfowl Area. The storm drainage in the project area will now drain into a detention basin and through an oil/grit separator producing higher quality water and 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 Harold Crane Bay, Willard Bay and associated marshlands 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 3.6 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.

If another incident occurred near the location of this project the District could not detain or stop the water from discharging and possibly moving the contaminants further into the marshes/wetlands. With the development of this project the District will now have a way to detain and hold their storm water, for a time if necessary, and 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 detention basins along 1050 West release their unfiltered drainage water into drainage ditches that can ultimately make their way into Harold Crane Bay. The water is collected from existing developments, HWY-89 and Pearson's Canyon. This project connects the detention basins and detains all of the water in one area making it easier and less expensive to filter, implement storm water quality management practices, and flood control. The project will bring a feeling of cooperation as it brings developers and the District together to upsize detention areas within the project to service future growth. The water from this project area impacts 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: No longer delivering sediments and pollutants that are currently coming through the water discharged from detention basin into the Harold Crane Bay will help to enhance the ecosystem within the Waterfowl Management area of the Bay. By reducing the contaminants and pollutants the wetlands within the Harold Crane Bay may have a better chance of surviving allowing for better protection and feeding areas for birds and other species that rely on these types of habitats. The project also enhances the ecosystem of Willard Bay by delivering treated water into the Bay through the new discharge point of the project.
- 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 because of its size and location has the potential to make 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 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 Residents at the Orchard Subdivision to coordinate the project and work out the details of the land donation. The piping portion of the project will be in the undeveloped road right-of-way of Box Elder County and within the abandoned railroad bed. Box Elder County 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
Ryan Tingey Box Elder County Commissioner	Box Elder County 01 South Main Street Brigham City, UT 84302	435-734-3347
Jerry Preston Landowner/Developer	JPC Contraction Inc. PO Box 9870 Farmington UT 84025	801-461-5625
Brian Deeter J-U-B Engineers, Inc	J-U-B Engineers, Inc. 466 North 900 West Kaysville, UT 84037	801-547-0393

Signature Michael R. Pappas Date 5-1-14
Applicant



J-U-B ENGINEERS, INC.

J-U-B COMPANIES



THE LANGDON GROUP



GATEWAY MAPPING INC.

**8700 South
Attachment 1 for Engineer Cost Estimate
April 28, 2014**

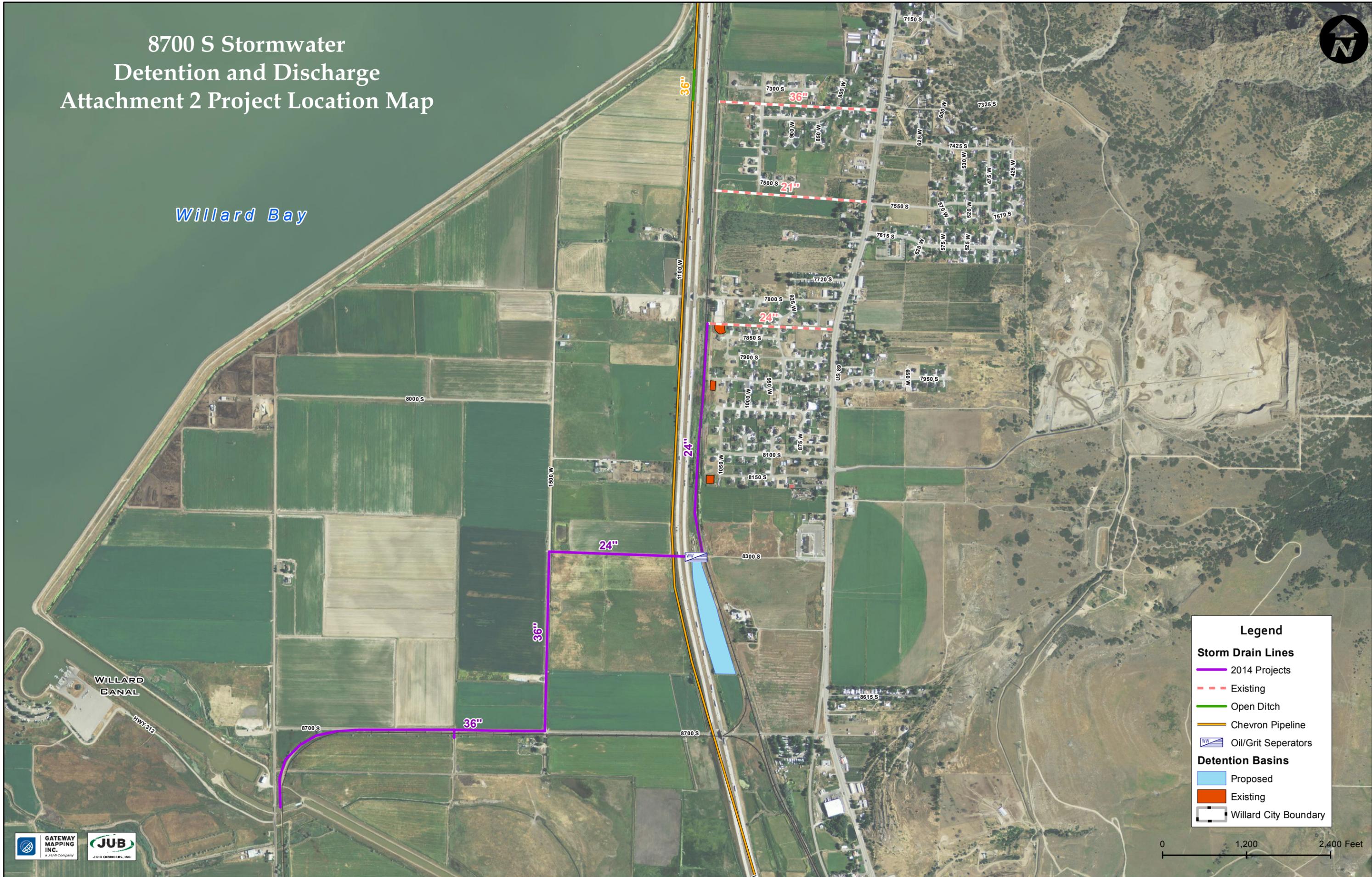
Box Elder County Willard City Special District for Flood Control and Drainage Capital Improvements Projects 8700 South Stormwater Detention and Discharge				
Item	Unit	Quantity	Unit Price	Price
Mobilization	LS	1	\$ 20,000.00	\$ 20,000.00
SWPP	LS	1	\$ 3,500.00	\$ 3,500.00
Permits	LS	1	\$ 8,000.00	\$ 8,000.00
36" ADS	LF	6000	\$ 50.00	\$ 300,000.00
24" ADS	LF	2200	\$ 34.00	\$ 74,800.00
18" ADS	LF	3300	\$ 22.00	\$ 72,600.00
72" Concrete Manhole	EA	23	\$ 3,000.00	\$ 69,000.00
30" Bore RR & I-15	LF	300	\$ 300.00	\$ 90,000.00
Detention East of I-15	LS	1	\$ 60,000.00	\$ 60,000.00
Hydrodynamic Separator	EA	1	\$ 50,000.00	\$ 50,000.00
Pipe Bedding	TON	2700	\$ 15.00	\$ 40,500.00
Land Purchase	Acre	8	\$ 20,000.00	\$ 160,000.00
Misc. & Contingency 20%				\$ 189,680.00
Construction Subtotal				\$ 1,138,080.00
Administration & Engineering - 8%				\$ 91,046.40
Construction Observation - 7%				\$ 79,665.60
TOTAL				\$ 1,308,792.00

Insert file name here

8700 S Stormwater Detention and Discharge Attachment 2 Project Location Map



Willard Bay



Legend

Storm Drain Lines

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

Detention Basins

- Proposed
- Existing
- Willard City Boundary



COMMISSION OFFICE

Ryan Tingey • Stan Summers • Jeff Scott
County Commissioners

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Stan Summers, COMMISSIONER
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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