



2012

# Yellowstone Riverfront Trail Feasibility Study



PREPARED BY:  
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PREPARED FOR:  
Billings Chamber of Commerce



# Yellowstone Riverfront Trail Feasibility Study Acknowledgments

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## Table of Contents

1	Overview .....	1
1.1	Introduction .....	1
1.2	Purpose of Study .....	1
2	Existing Conditions.....	3
2.1	Physical Features .....	3
2.2	Field visit.....	9
2.3	Opportunities & Constraints .....	9
3	Property Owner Outreach .....	13
3.1	Initial Contact.....	13
3.2	Property Owner Meeting.....	13
4	Trail Alignment Alternatives.....	15
4.1	Segment Options.....	15
4.2	Segment Evaluation.....	27
4.3	Action Strategy.....	31
5	Implementation .....	35
5.1	Property Acquisition.....	35
5.2	Permitting.....	37
5.3	Cost Estimate.....	42

## List of Figures

Map 1: Yellowstone Riverfront Trail - Opportunities & Constraints.....	10
Map 2: Trail Alignment Options .....	17
Map 3: Trail Alignment Options North.....	19
Map 4: Trail Alignment Options Middle .....	21
Map 5: Trail Alignment Options South .....	23
Map 6: Trail Alignment Evaluation Results .....	29
Map 7: Trail Action Strategy .....	33

## List of Tables

Table 2.1: Federally Listed Species in Yellowstone County .....	8
Table 4.1: Trail Segment Summary .....	25
Table 4.2: Trail Segment Scoring Criteria .....	27
Table 4.3: Trail Segment Evaluation Results .....	28
Table 4.4: Yellowstone River Trail Action Strategy .....	31
Table 5.1: Estimated Costs for Segment Development .....	44
Table 5.2: Recommended Action Strategy Estimated Construction Cost .....	44

# EXECUTIVE SUMMARY

## Introduction

Bicycling and walking contribute greatly to our community's transportation system, recreational landscape, health, and 'livability' for residents, commuters, and visitors to the area. Studies show that businesses are more likely to relocate to, and expand in, communities that promote bicycle and pedestrian-friendly transportation options. Billings and Yellowstone County have demonstrated their commitment by constructing over 25 miles of paved, non-motorized trails in the last decade. The Billings Chamber of Commerce and its Trails Committee has adopted a vision to create a 26.2 mile off-road, paved trail around Billings. Dubbed the "Marathon Loop," a critical element to its success is its connectivity along the Yellowstone River. The Yellowstone River is arguably Billings' greatest, yet most underutilized, natural resource. Unfortunately, the vision of a continuous, paved, multi-use trail along the Yellowstone River has suffered from a conspicuous gap between Riverfront Park to the west and Mystic Park to the east. This study was done to determine the feasibility of building a 2.5 mile greenway to connect the existing trails in Riverfront and Mystic Parks. The study group evaluated various alternatives and now recommends a preferred route, implementation approach, and schedule of estimated costs. It also recommends minimal standards for trail construction and related improvements, such as trailheads, viewpoints, and historical sites.

## Rationale

Currently, public connections to the Yellowstone River greenway are limited by the lack of publicly owned land along its banks. Historically, uses on the private property along the river within this project's study area have not been conducive to public access and recreation. Residential, commercial, agricultural, and vacant properties are platted right to the river's edge. In 2010 the Billings Chamber of Commerce formed a study group of interested parties to investigate the feasibility of the 2.5 mile greenway connector.

## Methods

The study group hired Alta Planning + Design, as a consultant. Alta and committee members consulted the 1997 Yellowstone Greenway Master Plan and its revisions, background documents and data, property ownership records, aerial photographs and maps, and performed on-site field visits. The presiding public agencies and local landowners were consulted. The committee evaluated the data for logistical and financial feasibility, scenic quality and safety, and for maximum public benefit and minimal negative impact on landowners.

## Preferred Trail Route

The study group considered several routes for the Riverfront Trail Connector adjacent to and away from the river. Routes along the southern edge of I-90 and the paved S. Frontage Road and Garden Avenue were deemed less desirable because of safety, traffic noise, lack of scenic beauty, and lack of proximity to the Yellowstone River. The preferred location is along the northern edge of the river, just outside the 1997 flood plain. Since access to private property is not yet assured, practical alternatives were also considered.



## Public Benefit

The development of a greenway trail along the Yellowstone River will bring significant economic, environmental and social benefits to the community, including:

- Increased tourism, including by travelers using Interstate 90, especially if a Lewis & Clark interpretative site could be constructed in the vicinity
- Improved quality of life attractive to businesses and employees, especially young employees who are needed to cement Billings' growing reputation as an active, "young people" city

An attractive trail system near I-90 will improve the aesthetic appeal of our entryway area and mitigate visual impacts of industrial development

- Stimulation of economic development on Billings' south side
- Direct access to nature and scenic vistas along the Yellowstone River
- Safe, multi-modal transportation options that connect longer trail segments to the west and east
- Opportunity for outdoor, active recreation (such as walking, skating and biking), which also may improve public health
- Improvement and preservation of riparian habitat adjacent to the trail

## Impacts on Adjacent Landholders

The greenway trail's impact and benefit to adjacent landholders will depend on the alignment that is ultimately agreed upon. Impacts may include: trail easements; modifications to Garden Avenue, adjacent driveways and side street intersections; and purchase and voluntary sale of private property for park or trail designation. The long term financial impacts are likely to be positive. There are many examples nationally of property values rising after completion of a greenway trail nearby.

## Historical Considerations

There are three areas of historical interest along the preferred greenway. They include the site where members of William Clark's party crossed the Yellowstone in 1806, the western-most terminus of the paddle steamer Josephine in 1857, and the original holdings of the Great Western Sugar Co. These sites would be recognized with interpretive signage.

## Trail Structure

The study group recommends that the trail be a 10 ft. concrete, multi-use trail that is constructed according to Community Transportation Enhancement Program (CTEP) and American Disabilities Act (ADA) standards.

## Implementation

The study group recommends implementation in three stages over about 10 years. The short term (2-4 years) phase includes: repair and upgrade of existing trails on the east side of Riverfront Park, negotiations with property owners between Riverfront Park and the KOA campground to obtain public trail right-of-way, and development of identified segments east of Riverfront Park. An interim connection to the existing trail in Mystic Park can be made along Garden Avenue using shared-lane bicycle markings and “share the road” signage. Generally speaking, land owners have no obligation to make right-of-way available for trail development. Easement agreements without outright purchase are most desirable for all segments of the greenway. Medium term goals include continued dialogue with owners of the two campgrounds, and possible trail construction if an acceptable route becomes available (not the case now). By developing trail segments west of the campgrounds first it is possible that campground owners and the public may see a higher value in developing the remainder of the trail along the river, and additional funding opportunities may become available. In the third and final stage, which would be necessary only if negotiations with campground owners are unsuccessful in the long term, a more satisfactory alternative trail connection between the Western Sugar property and Mystic Park must be made that provides a higher level of safety and accommodation than the shared roadway along Garden Avenue.

## Estimated Costs

The estimated cost of implementing the short term (2-4 years) goals described above, not including right-of-way acquisition costs or improving trails in Riverfront Park, is approximately \$1.4 million (\$2.5 million with Riverfront Park improvements). The second stage would cost approximately \$550,000, or, in the alternative, the third stage would be approximately \$1.1 million. These figures do not include maintenance costs. However, the recent development of the City’s Parks District and a commitment by the County to financially support trail maintenance will assist in meeting long term maintenance needs for the entire trail system. Life expectancy of concrete surface trails is 40 years. With much of this segment in a natural setting there should be minimal landscape maintenance required.

# 1 Overview

## 1.1 Introduction

The concept of a continuous greenway trail along the Yellowstone River has inspired Billings residents and visitors for many years. Over the last 17 years a riverside trail has been proposed in numerous planning documents to provide residents a more personal connection to the river and its heritage. A continuous trail along the Yellowstone River is proposed in the 2011 Billings Area Bikeway and Trail Master Plan and had previously also been recommended in the 2007 Riverfront Park Master Plan Update, the 2004 Billings Heritage Trail Plan, the 1994 BikeNET Plan and the 1994 Yellowstone River Master Plan.

### RIVERFRONT TRAIL MISSION:

TO CONNECT MYSTIC AND  
RIVERFRONT PARKS WITH A  
GREENWAY TRAIL BY WORKING  
WITH LANDOWNERS AND TRAIL  
USERS FOR MUTUAL BENEFIT.

The history of Billings is also deeply tied to the Yellowstone River both with a rich Native American emphasis and with the beginnings of modern settlement with the 1806 passage by Captain William Clark of the Lewis & Clark expedition.

The City of Billings and Yellowstone County recognize through adoption and updates to plans and policies, that bicycling and walking are important aspects of transportation, recreation, health, and livability for residents, commuters, and visitors to the area. The City and the County have demonstrated this by constructing over 25 miles of paved non-motorized trail over the 6 years between 2004 and 2010.

## 1.2 Purpose of Study

This study is intended to determine the feasibility of building a 2.5 mile greenway trail along the Yellowstone River connecting existing trail segments in Mystic and Riverfront Parks. This study describes various potential alignment alternatives with a recommended implementation approach. This study also makes recommendations for the trail and related improvements such as trailheads, viewpoints, and historically significant sites. For this study, a greenway is defined as “a corridor of land that connects people and nature together” and a trail is defined as “a linear facility for non-motorized transportation and recreation.” The trail is intended to serve primarily as a shared-use path for pedestrians and bicyclists separated from motorized traffic.

The Yellowstone River runs along the south and east of Billings and is one of the most regionally significant rivers in Montana, yet there are limited opportunities to access the river. Today a trail connection along the river has been given renewed focus with the development of the 2011 Billings Area Bikeway and Trail Master Plan and the formation of the Billings Chamber of Commerce Trails Committee which together have placed significant emphasis on trails as a major component of what makes Billings a great place to live and work. In fact, the Chamber has given Billings the slogan of “Montana’s Trailhead.” Part of the Chamber’s vision is to see the development of a 26 mile ‘Marathon’ trail that will one day encircle the city. A significant portion of this



trail already exists through segments along Mystic Park, Riverfront Park, Shiloh Road, and Swords Park. Several significant gaps exist, with the Riverfront Trail rating the highest in value to the overall system.

The proposed trail offers options to the community for pedestrian and bicycle travel, close-to-home outdoor activities, potential economic development and health benefits of regular exercise. These opportunities can help residents be more active and healthy, combat obesity in children and adults, and encourage environmental stewardship in trail users of all ages.

## 2 Existing Conditions

This section of the study outlines the inventory of physical characteristics of the corridor between Mystic and Riverfront Parks along the Yellowstone River in Billings. The inventory includes the features that were studied in order to develop a comprehensive recommendation for a preferred alignment for the proposed greenway trail. These features include elements that were gathered from GIS information provided by The City of Billings and Yellowstone County, and on-the-ground fieldwork, which was performed by the Project Advisory Committee and Alta Planning + Design.

### 2.1 Physical Features

#### 2.1.1 Length, Dimensions, Boundaries and Topography

The approximate length of the existing gap in trails between Mystic and Riverfront Parks is 2.5 miles. The study area for this feasibility study stretches from I-90 on the north to the north bank of Yellowstone River on the south between Mystic and Riverfront Parks. The only road of significance in the study area is Garden Avenue, a two-lane rural roadway classified as a collector. This corridor provides the possibility of developing a greenway trail generally along the northern riverbank within public lands, along the northern riverbank through easements acquired from private property owners, or along Garden Avenue. A combination of the above is also possible. There are no significant slopes within the study area.

#### 2.1.2 Surrounding Land Uses

Undeveloped land, commercial campgrounds and residential parcels line the north bank of the Yellowstone River within the study area. This area is in Yellowstone County and only one landowner has been incorporated into the City of Billings. There are two campgrounds within the study area that provide a draw for tourists. Both have spaces for hookups while one offers scenic tent camping immediately adjacent to a channel of the river. There are agricultural lands where livestock graze, and private residences. There are also undeveloped parcels of land that stretch east from Riverfront Park.

#### 2.1.3 Flooding and the Yellowstone River

Aerial photographs are available beginning in 1940 to the present day that illustrate how dramatic the changes are along the banks of the Yellowstone River. One of the biggest floods occurred in 1997, which nearly inundated many of the river islands and low lying bank areas. 2011 was a significant year in terms of water level. While the water was not as high as 1997, many of the areas previously inundated were similarly



Extents of 1997 flooding

affected. Field observations made during the 2011 flooding helped indicate where locating a potential greenway trail would not be advisable.

## 2.1.4 Traffic and Roadway Capacity

Within the study area Garden Avenue (which becomes the I-90 frontage road) is a potential alternative for a non-motorized corridor. Garden Avenue is a Yellowstone County road and varies in width from 22-26 feet. The most recent traffic counts on Garden Avenue are displayed in Table 2.1.

**Table 2.1: Garden Avenue/I-90 Frontage Road Traffic Volumes**

Location	Average Daily Traffic (year collected)
Just north of South 27th Street	2,745 (2003)
Just south of South 27th Street	1,230 (2003)
Just west of Sugar Avenue	1,205 (2005)
Just east of South Billings Boulevard Interchange	1,825 (2007)

The speed limit along the majority of this roadway is 25mph with signs recommending lower speeds through the curves. To the south and west of Sugar Avenue, where Garden Avenue becomes the frontage road, the speed limit increases to 45mph. The right-of-way for the roadway varies considerably over the corridor. In some areas, such as around S 27<sup>th</sup> Street, Garden Avenue has 60 feet of right-of-way. To the south, dedicated roadway right-of-way disappears completely as adjacent property lines extend over the road surface. In these areas the roadway occupies easements over the private property. In other areas the right-of-way extends from the road centerline to a total width that varies between 32 and 40 feet. Where Garden Avenue passes Riverside Drive, the right-of-way is much wider at 90 feet in width. The physical width of the paved surface on Garden Avenue ranges from 22 to 26 feet in width. Multiple utility poles, trees, fencelines and the Grey Eagle irrigation ditch which runs along the side of the roadway present obstacles against establishing a separated paved trail within the roadway right-of-way.

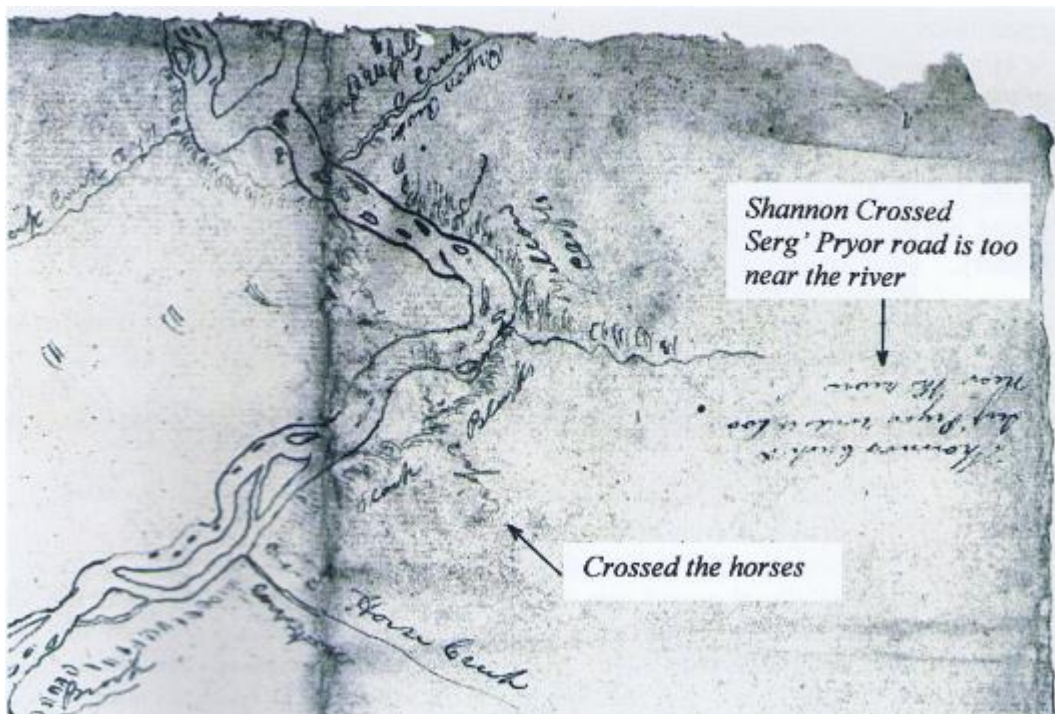


Garden Avenue near the Yellowstone River Campground

## 2.1.5 Cultural and Historic Resources

### Clark Expedition

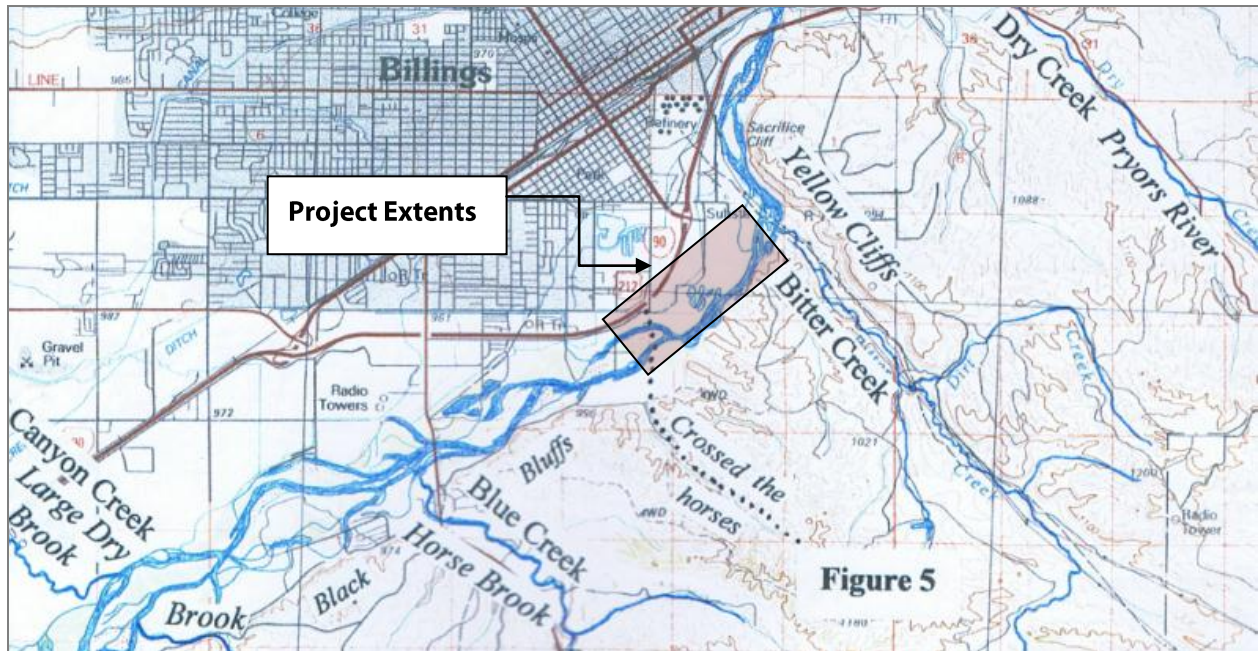
On the return leg of the Lewis & Clark Expedition to the Pacific Coast, William Clark split from Meriwether Lewis in 1806 and journeyed down the Yellowstone River with several dozen men and Sacagawea. In July 1806, the expedition passed through what is now Billings and crossed its horses from the south side to the north side of the Yellowstone River within the project study area.<sup>1</sup> This crossing site presents the opportunity to provide an interpretive component to a potential greenway trail aligned on, or near the Yellowstone River near this location.



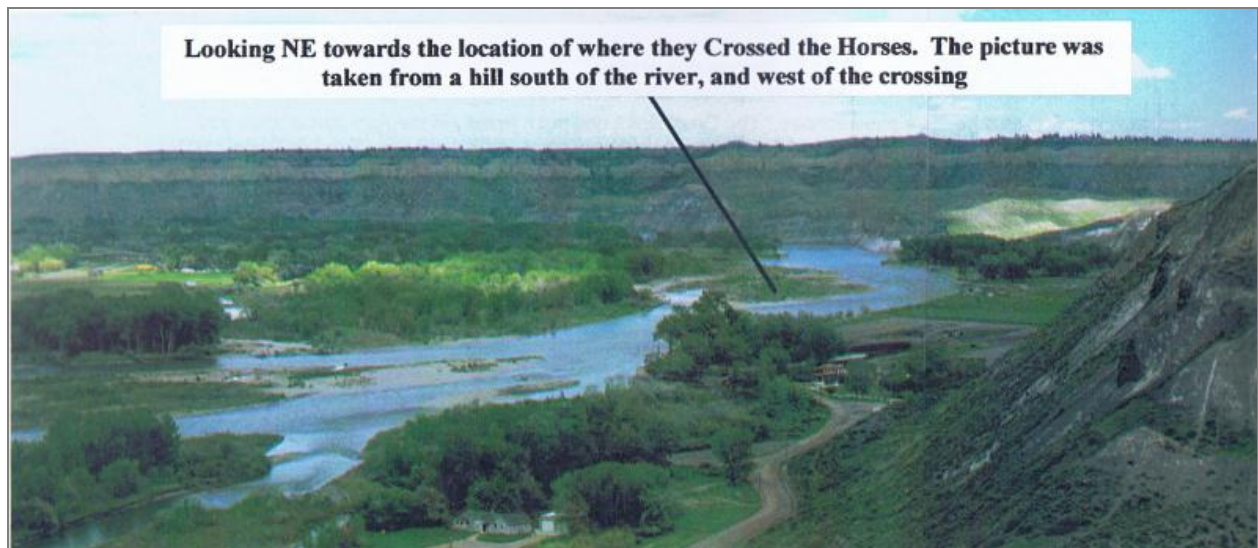
Scan of original Clark map indicating the point of crossing of the Yellowstone River (Saunders, 2008)

<sup>1</sup> Lewis & Clark Expedition – Touring Clark’s Journey on the River Rochejohnne – Reed Point to Billings Montana, Ralph Saunders, 2008



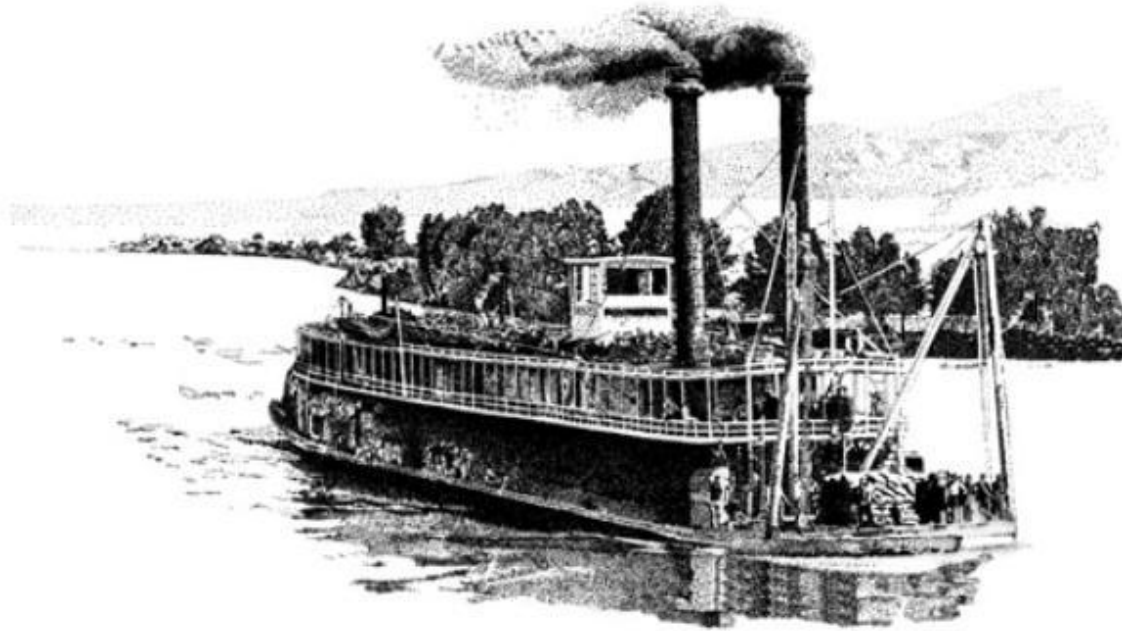


Crossing point marked on modern map of Billings (Saunders, 2008)



## Josephine River Boat

The Josephine was a wooden hulled sternwheel driven boat that was able to operate in shallow depths with as little as 20 inches of water. The Josephine made its first visit to the Billings area in June of 1857 and was tied to the 'Josephine Tree' in what is now Riverfront Park. This historic first visit prior to settlement of the area could be developed into an interpretive feature of the greenway trail.



Drawing of the Josephine River Boat<sup>2</sup>

## Western Sugar

Billings has been a regional processing center for sugar beets since the early 20<sup>th</sup> Century. The Great Western Sugar Company operated facilities in Nebraska, Colorado, Wyoming and Billings, Montana. In the 1980s, the business name was changed to Western Sugar Company, and the company changed hands several times. In 2002, the company became the Western Sugar Cooperative composing of over 1,000 sugar beet growers in the four state region. A large parcel on the riverfront is owned and managed by Western Sugar Cooperative. A water intake pump house is located here, and the property is currently used for grazing. This property also contains the Clark expedition crossing of 1806.<sup>3</sup>

### 2.1.6 Biological Resources & Endangered Species

The Yellowstone River is a focal point for local plant life and wildlife, both of which are a significant draw for Billings area residents and visitors. According to the Montana Fish and Wildlife and Parks Service and the US Department of the Interior, several species exist within Yellowstone County that are covered by the Endangered Species Act. Specific habitat areas within the study area were not defined as

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<sup>2</sup> <http://www.rootsweb.ancestry.com/~mtygf/county/cochran.htm> accessed July 2011.

<sup>3</sup> <http://www.westernsugar.com/History.aspx> accessed July, 2011



part of this feasibility study, but it is unlikely that trail development would put added pressure on any of the below species. A biological assessment and wetland delineation may be required upon project development of alignments as recommended as part of this Feasibility Study.

**Table 2.2: Federally Listed Species in Yellowstone County**

Scientific Name	Common Name	Federal Status
<i>Mustela nigripes</i>	Black-footed Ferret	Endangered
<i>Grus americana</i>	Whooping Crane LE	Endangered
<i>Centrocercus urophasianus</i>	Greater Sage-Grouse	Candidate
<i>Charadrius montanus</i>	Mountain Plover	Proposed
<i>Anthus spragueii</i>	Sprague's Pipit	Candidate

### 2.1.7 Links/Connections

Existing public connections to the Yellowstone River are limited due to the lack of publicly-owned land along its banks. Historically, the land uses on the private property along the river within the project study area have not been conducive to public access and recreation. Residential, commercial, agricultural and vacant properties are platted right to the river's edge with several parcels having structures or existing uses such as camp sites at the edge of the river channel. As the land use density is so low along this corridor the trail should be viewed predominantly as a 'through' route with little benefit from providing neighborhood connections.

### 2.1.8 Impacts and Benefits to Adjacent Land Uses

The greenway trail's impacts and benefits to adjacent land uses will be entirely dependent upon the alignment that is ultimately developed. Impacts may include, but are not limited to, trail easements, modifications to Garden Avenue and driveways and side street intersections, purchase of private property for purposes of park dedication. Financial impacts in the aggregate, however, are likely to be positive. Indeed, many examples exist throughout the country of adjacent property values rising after the completion of an adjacent or nearby greenway trail.

### 2.1.9 Environmental and Social Benefits

The development of a greenway trail along the Yellowstone River will bring significant environmental and social benefits to the community, including:

- Giving the community direct access to nature and vistas along the Yellowstone River
- Increasing multi-modal transportation options
- Providing opportunities for outdoor active recreation (such as walking and biking), leading to increased public health
- The potential for improving riparian habitat when completing any needed restoration work adjacent to the trail

## 2.2 Field visit

On June 10, 2011 the Billings Chamber of Commerce's Project Advisory Committee met to discuss opportunities and challenges to the project and walk as much of the corridor as possible. In advance, two letters were sent to all property owners who own property along the bank of the Yellowstone River. The second letter was necessitated due to the cancellation of the first attempt at a site visit due to heavy rains and flooding. These letters are attached in Appendix A and are discussed at greater length in Chapter 3. Following the Advisory Committee meeting the consultant and Chamber CEO met with three of the larger landowners along the corridor and visited multiple locations, including Mystic Park, Riverfront Park and points between. The field visit confirmed many challenges that would need to be overcome before a continuous greenway trail can be realized; however, the day also reaffirmed the enormous scenic potential that the corridor offers.



In June 2011, the Yellowstone River was experiencing high water, eroding the banks of the river and inundating many previously dry channels



## 2.3 Opportunities & Constraints

The following figure illustrates the opportunities and constraints of developing a continuous greenway trail along the Yellowstone River in Billings.

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Map 1: Yellowstone Riverfront Trail - Opportunities & Constraints



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## 3 Property Owner Outreach

Chapter 2 noted that one of the greatest obstacles to the development of a greenway trail along the Yellowstone River is the configuration of private property and the numerous property owners. A proactive and open effort at outreach and communication with these property owners is critical to fully determine the feasibility of developing a greenway trail connecting Mystic and Riverfront Parks. This chapter details the philosophy of the greenway trail planning effort, describes the efforts rendered by the Billings Chamber of Commerce to gain transparency in the planning process, and proposes a roadmap for gaining consensus.

### 3.1 Initial Contact

At the onset of the planning process, prior to the project kickoff meeting, letters were sent to each landowner along the Yellowstone River between Mystic and Riverfront Parks. The letters announced the launch of the feasibility study and provided a description of the scope of the project, the project team (including the funders – YRPA, BikeNET and the Chamber of Commerce), notification of an upcoming meeting, an invitation to attend the project site visit (held June 10<sup>th</sup>, 2011) and a request for permission to access their property for the site visit if they could not be in physical attendance. A second letter sent on May 27<sup>th</sup> clarified that other alternatives were going to be considered beyond a riverfront greenway trail alignment. Contact was made with three of the property owners with major portions of the riverfront. In-person meetings were initiated on June 10<sup>th</sup> with access given to two of the properties for field investigations. All owners were open to discussing the project, but several expressed concerns about security, potential alignments or anticipated operational problems. All were invited to attend the property owner meeting to further investigate the challenges within the corridor and to assist with planning initial alignment alternatives.

### 3.2 Property Owner Meeting

Following the site visit, the project team was able to distill base information and field observations derived during the site visit into composite opportunities and constraints map. No specific alignments were proposed at this time in the project. A major objective of the meeting was to develop initial alignment concepts at the table with property owners. It was hoped that this approach would instill the greatest transparency in the process and also provide a greater understanding of the feasibility process on the part of the property owner. Property owners along the greenway trail corridor were sent two letters inviting them to the meeting. Several significant landowners, such as the campgrounds, Western Sugar and other large parcel owners were sent emails and called individually to attend the meeting.

The meeting was held on July 13, 2011 at the Billings Chamber of Commerce. The Project Advisory Committee was in attendance at the meeting to facilitate discussion. Despite the effort put forth by the Chamber in contacting and inviting property owners, only one was in attendance (parcel D01863). The project team used this opportunity to personalize the meeting and were given verbal approval to propose a greenway trail along an irrigation ditch maintained by the Grey Eagle Ditch Company. Other items discussed included opportunities for interpretive signage at the following locations:

- Near Yellowstone River campground - Barnes Family Homestead
- KOA campground - first in the KOA system



- Josephine riverboat – farthest point accessed by the vessel in Riverfront Park
- Clark expedition crossing of the river on the Western Sugar property
- Sugar beet production and history on Western Sugar property

Following the meeting contact was made with Knife River, which owns parcels D01860 & D01859. JTL is in the process of seeking annexation of their land by the City of Billings. The company offered to include a trail easement as part of the process.

Contact was also made with the Nelsen Trust, which owns parcels A13327-A13331. The parcels are currently vacant; however, plans call for a trucking related use requiring approximately half of the available land. A trail through the property is something the owner is open to discussing.

## 4 Trail Alignment Alternatives

This Chapter describes the Yellowstone Riverfront Trail segment options and evaluation results.

### 4.1 Segment Options

Based on field visits, background documents and data research, property ownership research, stakeholder outreach, and input from the Project Advisory Committee, the Project Team developed 4 potential Yellowstone Riverfront Trail “segment reaches.” These segments are named “A” through “D” and incorporate a variety of routing options for linking Riverfront Park to Mystic Park. All segments depicted in this analysis are contingent on obtaining landowner consent to develop a trail. Improvements will also be needed to existing natural surface trails within Riverfront Park to provide a continuous greenway trail experience. A set of four maps (Map 2-5) depicts these segment options including a full vicinity map and three enlargements. It should be noted that numerous segments are terminated whenever they meet another segment. This enabled the Project Team to compare multiple trail routing portions that are interdependent, thus enabling a broader, holistic comparison of segment options against one another. Table 4.1: Trail Segment Summary provides details on features of the different segments depicted in Maps 2-5.

#### 4.1.1 Reach A

This trail reach is a short stretch running from the Washington Street access for Riverfront Park to the eastern edge of lot D01863. It has two options including running along Garden Avenue or along the Grey Eagle Ditch through the center of the property.

#### 4.1.2 Reach B

This trail reach runs from the western terminus of the JTL gravel pit to Sugar Avenue and/or the western edge of the Western Sugar property (parcel D01849). Reach B also has two alternatives; the first generally following the northern channel of the river where it would cross parcels of three distinct landowners, or along Garden Avenue.

#### 4.1.3 Reach C

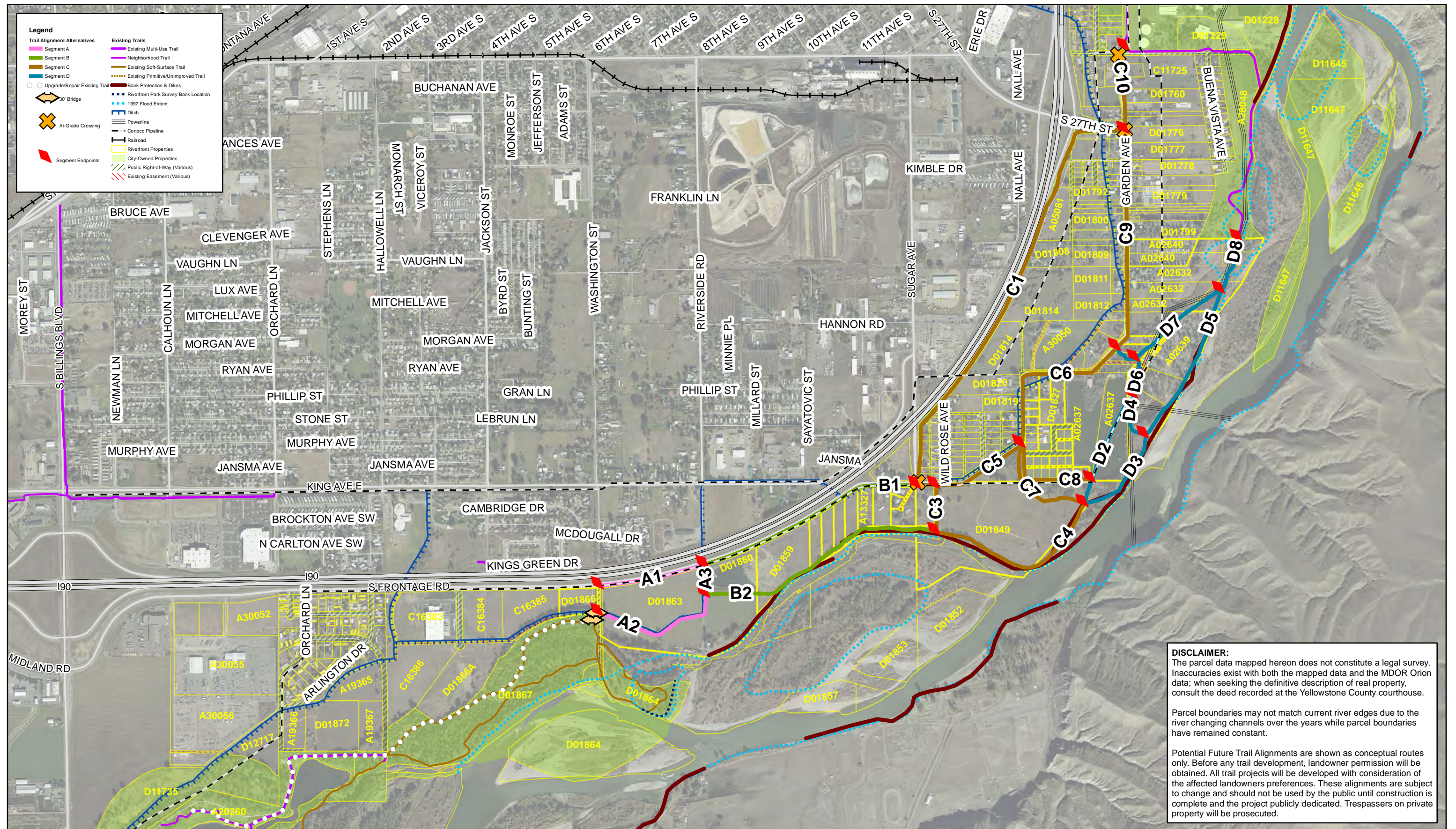
This trail reach is the most expansive of the four and runs from Sugar Avenue (or the western edge of the Western Sugar property) all the way to the intersection of Garden Avenue and S 27<sup>th</sup> Ave where it would join the existing trail. Segments within reach C will not be able to join with the existing trail terminus in Mystic Park.

#### 4.1.4 Reach D

Segments within reach D are exclusively located on property owned by the two campgrounds, which have similar concerns about a potential trail linkage. This reach extends from the eastern edge of the Western Sugar property to the existing trail terminus in Mystic Park.

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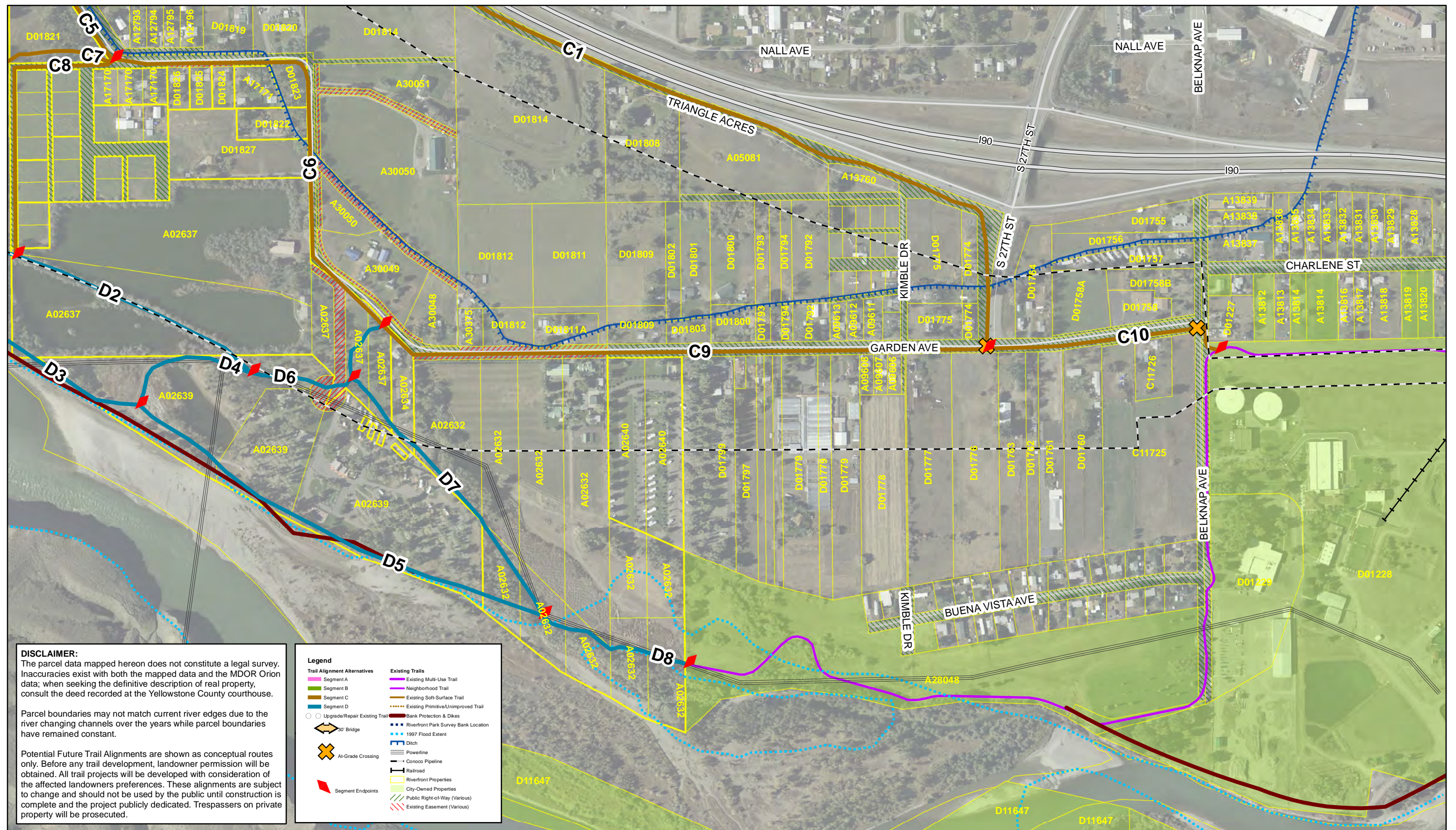


Map 2: Trail Alignment Options



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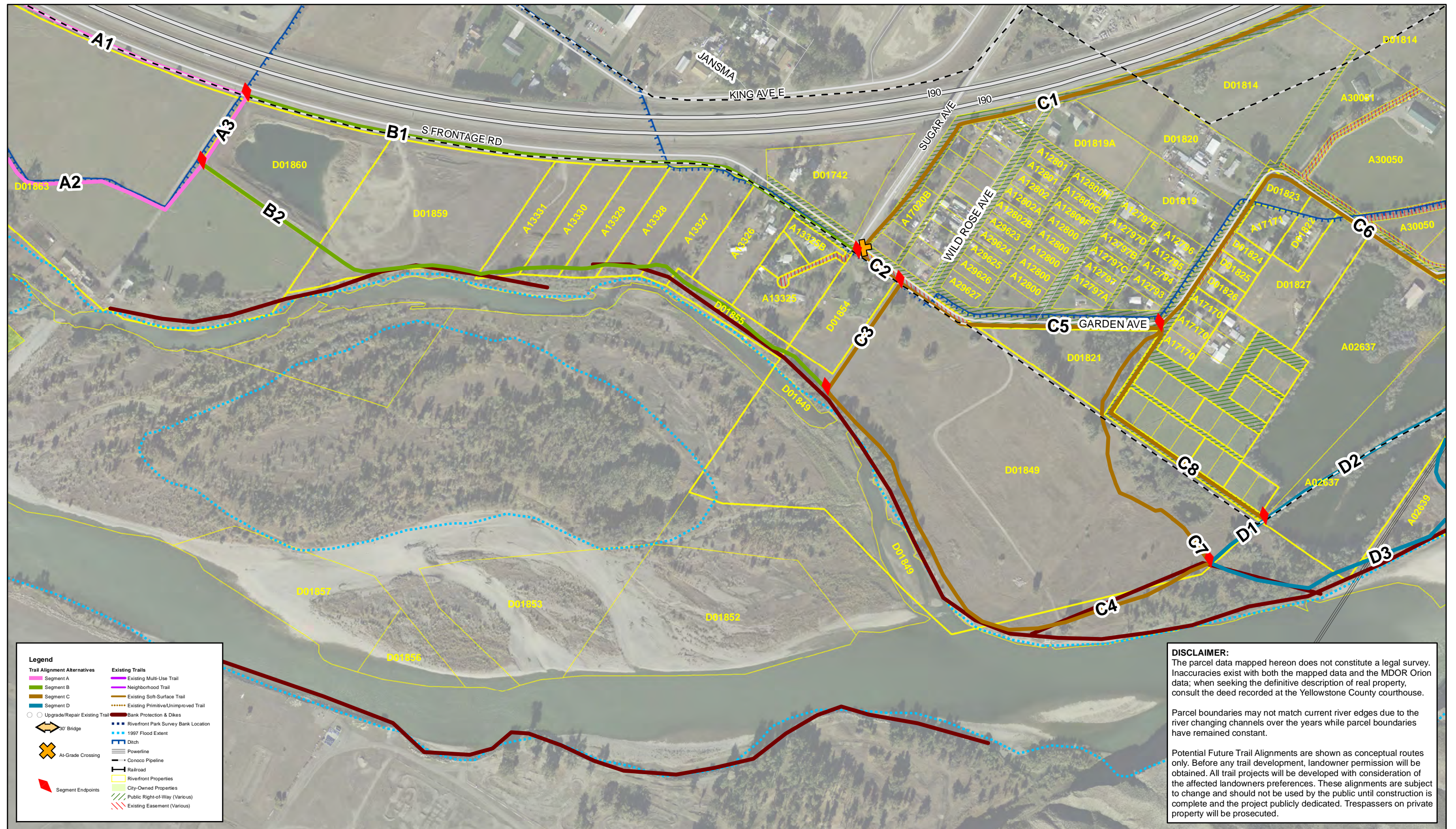


Map 3: Trail Alignment Options North



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Map 4: Trail Alignment Options Middle



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**Table 4.1: Trail Segment Summary**

Segment	Length (miles)	Improvements	Description	Number of Landowners Transited	Landowner Support	Easements / property needed?	Crossings
A1	0.25	10' wide sidepath along south side of Garden Ave	Trail segment running from Washington Street park access to western edge of JTL gravel pit.	None	Public	No	None
A2	0.32	10' wide shared-use path along east or west side of Grey Eagle Ditch	Short trail segment linking segments A3 where it meets B2 and B1 on Garden Ave.	Either 1 or 2	Verbal statements of support from both landowners	Yes	Potential crossing of ditch
A3	0.07	10' wide shared-use path along south side of Grey Eagle Ditch	Trail segment running on north or south side of Grey Eagle Ditch. No fence desired as it would restrict cattle from the ditch water. Property owner must not be responsible for animal waste on trail.	1	Verbal statement of support	Yes	30 foot bridge over storm sewer outflow
B1	0.54	10' wide sidepath along south side of Garden Ave	Trail segment running on the south side of Garden Ave from the end of segment A1 to Sugar Ave	None	Public	No	None
B2	0.59	10' side shared use path along riverfront	Trail segment running on the south of the JTL gravel pit to the riverfront thorough several parcels held in common ownership and finally through a narrow parcel owned by Western Sugar.	3	Verbal statements of support from JTL, Western Sugar and Nelsen Trust	Yes	None
C1	1.04	10' side shared use path	Trail segment running from Garden Ave along the east side of Sugar Ave. The trail would then travel within the MDT right-of-way along I-90 to South 27 <sup>th</sup> Street.	None	Public	No	At-grade crossings on both ends of Garden Ave
C2	0.04	10' wide sidepath along south side of Garden Ave (a), or shared lane markings along Garden Ave (b)	Short segment linking B1 to C5 if segment C1 is not developed. Garden Ave becomes 25mph here headed east and north. Many of the corners are 15 or 20mph. This could be developed as a shared use path or shared lane markings and bicycle warning signs could be used as a interim measure, though pedestrian connectivity would not be included.	None	Public	No	None
C3	0.11	10' side shared use path	Trail segment connects B2 with potential alignments along Garden Ave and I-90. It could be developed as an interim alignment prior to development within trail reach D.	1	Verbal statement of support	Yes	None
C4	0.44	10' side shared use path	Trail segment traverses the Western Sugar property following the riverbank. This segment offers dramatic views and provides one of the most unique scenic experiences along the Yellowstone River. Even if segments in Reach D cannot be developed at the same time, segment C4 could be implemented as a scenic spur to the trail.	2	Verbal statement of support from private owner, other is State	Yes	None
C5	0.23	10' wide sidepath along south side of Garden Ave (a), or shared lane markings along Garden Ave (b)	Trail segment C5 continues east along Garden Ave from the western edge of Western Sugar property. C5 could be developed as a shared use path or shared lane markings and bicycle warning signs could be used as a interim measure, though pedestrian connectivity would not be included.	None	Public	No	None
C6	0.40	10' wide sidepath along south side of Garden Ave (a), or shared lane markings along Garden Ave (b)	Trail segment C6 continues north and east along Garden Ave from segment C5 to the KOA driveway. C6 could be developed as a shared use path or shared lane markings and bicycle warning signs could be used as a interim measure, though pedestrian connectivity would not be included.	None	Public	No	None



Segment	Length (miles)	Improvements	Description	Number of Landowners Transited	Landowner Support	Easements / property needed?	Crossings
C7	0.26	10' side shared use path	Trail segment that could lead from the terminus of segment C4 back to Garden Ave, utilizing Western Sugar property	1	Verbal statement of support	Yes	None
C8	0.24	10' side shared use path	Trail segment that could lead from the terminus of segment D1 back to Garden Ave, utilizing public right of way that has been platted as part of a future subdivision that currently is a grazing field.	1	Unknown	Unknown	None
C9	0.52	10' wide sidepath along south side of Garden Ave (a), or shared lane markings along Garden Ave (b)	Trail segment along Garden Avenue to South 27 <sup>th</sup> Ave. Some parts of Garden Ave in this segment reside on easements as part of adjacent property.	None	Unknown	Unknown	None
C10	0.21	10' wide sidepath along south side of Garden Ave (a), or shared lane markings along Garden Ave (b)	Trail segment along Garden Avenue from South 27 <sup>th</sup> Ave to the existing trail across Belknap Ave. All alignment alternatives not utilizing segments in reach D would require developing this segment.	None	Public	No	At grade crossing of Belknap Ave to reach existing trail
D1	0.06	10' wide shared use path	Short trail segment connecting segments C4 and C7 with C6	2	Verbal statements of support from Western Sugar, other is State	Yes	None
D2	0.22	10' wide shared use path	Trail segment from terminus of segment D1 along a buried petroleum pipeline between two former gravel pits.	1	Landowner not supportive of trail at this time	Yes	None
D3	0.23	10' wide shared use path	Trail segment along levee edge with terrific views of main channel of river	2	Landowner not supportive of trail, other is State	Yes	None
D4	0.12	10' wide shared use path	Trail segment between alignments D2 and D4. Would be used to transition route away from river.	1	Landowner not supportive of trail at this time	Yes	None
D5	0.39	10' wide shared use path	Trail segment along the river levee through the KOA campground. This alignment could potentially impact the swimming pool and some tent camping.	1	Landowner not supportive of trail at this time	Yes	None
D6	0.15	10' wide shared use path	Short trail segment linking KOA campground segments to Garden Ave. This segment would be important if a greenway trail can be developed through the KOA but not yet through the Yellowstone River Campground.	1	Landowner not supportive of trail at this time	Yes	None
D7	0.26	10' wide shared use path	Trail segment along rear of the KOA campground. This alignment could run along the back side of the KOA property (requiring modification to the campsite configuration, or on the adjacent property requiring tree removal.	1 or 2	Neither landowner is supportive of trail at this time	Yes	None
D8	0.13	10' wide shared use path	Trail segment connection between segments D5 or D7 and the existing shared use path in Mystic Park. This segment generally follows a large overhead power line which reduces the potential for developing the land beneath. Segment D8 resides within a number of smaller sub-divided parcels away from the Yellowstone River Campground.	1	Landowner not supportive of trail at this time	Yes	None

## 4.2 Segment Evaluation

The segments presented in section 4.1 provide an overview of various alignment options for routing a continuous greenway trail, or trail and on-road connection between Mystic and Riverfront Parks. Scoring criteria were developed to evaluate these segments independently based, in part, on qualities the Project Advisory Committee held to be important. The following evaluation criteria and scoring descriptions were developed:

**Table 4.2: Trail Segment Scoring Criteria**

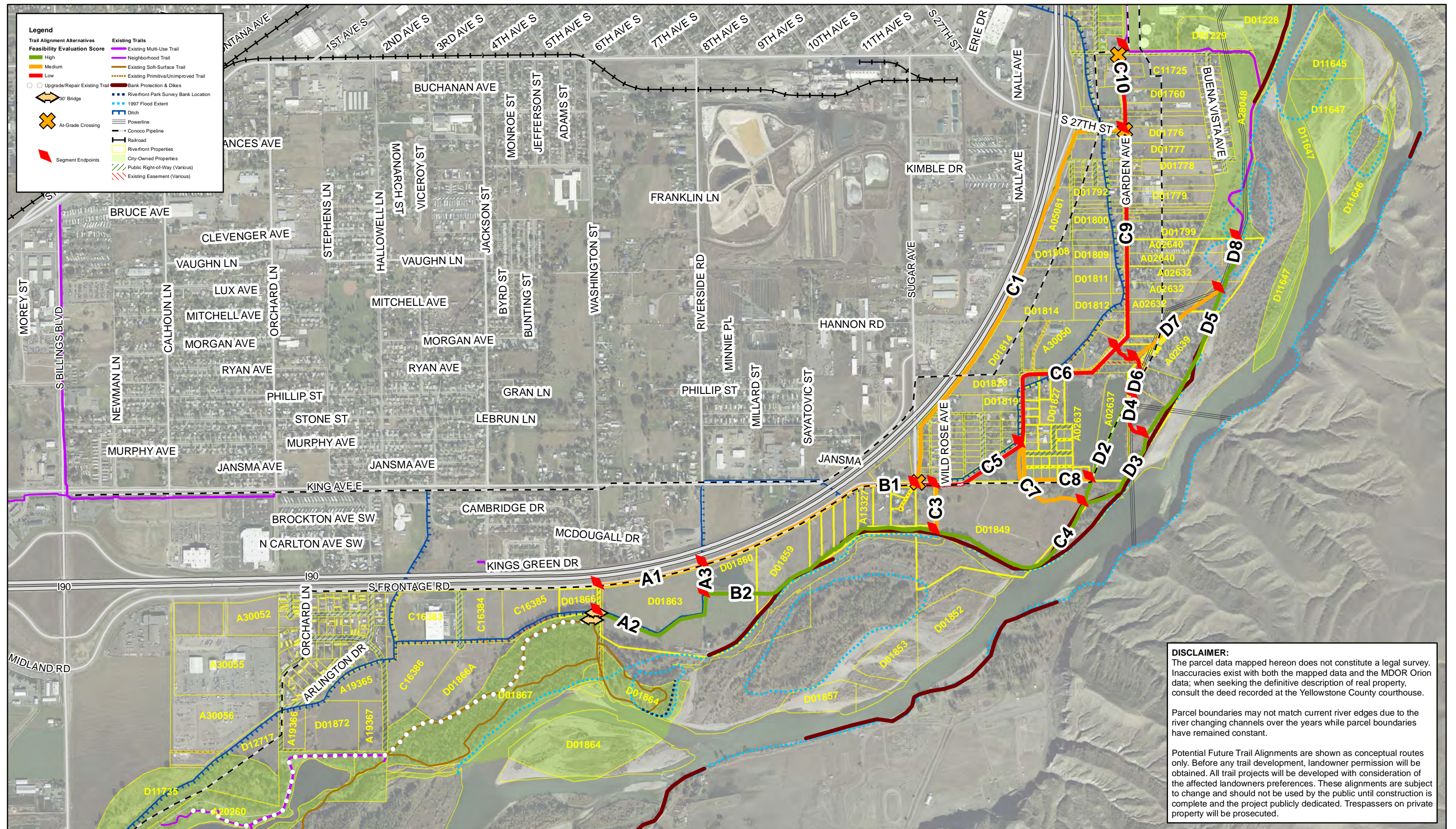
Criterion	Points	Description
<b>Opinion of User Comfort Along Facility</b>	3	Trail segment offers completely separated experience
	2	Trail segment offers separated facility along a roadway or highway
	1	Bicyclists and Pedestrians share roadway with vehicles
<b>Opportunities for Views, Scenic Experiences, Wildlife Viewing</b>	3	Trail segment provides fullest user experience
	2	Trail segment provides some views, scenic quality or wildlife viewing
	1	Trail segment provides limited views, scenic quality or wildlife viewing
<b>Opportunity to Provide Interpretive Sites</b>	3	Trail segment passes through historic or site of other significant importance
	2	Trail segment passes through site with potential interpretive experiences
	1	Trail segment passes through area with little or no interpretive value
<b>Directness of Route</b>	3	Trail segment provides most direct route along corridor
	2	Trail segment provides some out of direction travel
	1	Trail segment provides lengthy or circuitous connection
<b>Assessment of Property Owners' Support for the Trail</b>	3	Property owner has expressed written support or has dedicated easement
	2	Property owner had expressed verbal support for trail
	1	Property owner has not been contacted or does not support a trail connection
<b>Qualitative Assessment of Opportunities for Eyes on the Trail</b>	3	Trail segment will be visible to area residents, passing vehicles and others
	2	Trail segment will have limited visibility to adjacent land uses and residents
	1	Trail segment is in remote area with little observation beyond other trail users
<b>Relationship to Yellowstone Riverfront</b>	3	Trail segment resides as close as possible to Yellowstone River
	2	Trail segment is near Yellowstone River, may have some views
	1	Trail segment does not have any relationship with Yellowstone River
<b>Susceptibility to Flooding</b>	3	Trail segment is outside of 100 year FEMA flood zone
	2	Trail segment is within 100 year FEMA flood zone
	1	Trail segment is within 100 year FEMA flood zone and within 1997 extents

Table 4.3: Trail Segment Evaluation Results provides the results of this scoring process. Map 6 expresses these results visually. Trails that scored above 16 points are green, between 13 and 15 yellow, and below 13 red.

**Table 4.3: Trail Segment Evaluation Results**

Segment	Opinion of User Comfort Along Facility	Opportunities for Views, Scenic Experiences, Wildlife Viewing	Opportunity to Provide Interpretive Sites	Directness of Route	Assessment of Property Owners' Support for the Trail	Qualitative Assessment of Opportunities for Eyes on the Trail	Relationship to Yellowstone Riverfront	Susceptibility to Flooding	Score Total
A1	2	1	1	3	2	2	1	3	13
A2	3	2	1	3	2	2	2	3	16
A3	3	2	1	2	2	2	2	2	14
B1	2	1	1	3	2	2	1	3	13
B2	3	3	2	3	3	1	3	2	19
C1	2	1	1	3	2	2	1	3	13
C2a	2	1	1	2	2	3	1	3	12
C2b	1	1	1	2	2	3	1	3	11
C3	3	2	1	2	2	1	2	2	14
C4	3	3	3	3	2	1	3	2	19
C5a	2	1	1	2	2	2	1	3	12
C5b	1	1	1	2	2	2	1	3	11
C6a	2	1	1	2	2	2	1	3	12
C6b	1	1	1	2	2	2	1	3	11
C7	3	2	2	1	2	1	2	2	14
C8	3	2	1	1	1	1	2	3	13
C9a	2	1	1	2	2	2	1	3	12
C9b	1	1	1	2	2	2	1	3	11
C10a	2	1	1	2	2	2	1	3	12
C10b	1	1	1	2	2	2	1	3	11
D1	3	3	2	3	2	1	2	2	17
D2	3	3	3	3	1	1	2	2	17
D3	3	3	3	3	1	1	3	2	18
D4	3	2	1	1	1	2	2	2	12
D5	3	2	3	3	1	3	3	2	17
D6	3	1	1	1	1	3	1	2	10
D7	3	2	1	3	1	3	2	2	14
D8	3	3	2	3	1	2	3	1	16





Map 6: Trail Alignment Evaluation Results



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### 4.3 Action Strategy

Analysis provided in section 4.2 weights criteria for each potential greenway trail segment equally. This provides a good overall assessment of how each segment rates, but does not take into account how individual property owners can impact implementation of the greenway trail. Through interaction with property owners described in Chapter 3, it is clear that the two major challenges to implementing a continuous greenway trail that generally follows the Yellowstone River will be agreements with the KOA and Yellowstone River Campgrounds. For this reason, the trail segments proposed as potential linkages were grouped into reach D during the analysis.

The feasibility analysis of parcels to the west of the KOA Campground has conversely yielded promising results with no expression of opposition to a greenway trail and several owners offering to designate land for trail development. For these reasons short and medium and long term actions are proposed. Short term actions are tasks that should be completed within the next two to four years, medium term would be four to six years, and long term are defined as six years or greater. The Chamber of Commerce should seize any available opportunity to accelerate the proposed schedule.

**Table 4.4: Yellowstone River Trail Action Strategy**

Timing	Segments to Implement	Actions
Short Term	A2, B2, C4, C6, C7, C9, C10 Upgrade Riverfront Park Trails	<ul style="list-style-type: none"> <li>• Immediate: Chamber should begin negotiations with property owners west of KOA campground.</li> <li>• City/County should repair and upgrade linking trails within Riverfront Park to 10 foot concrete or asphalt standard.</li> <li>• City/County should develop identified segments east of Riverfront Park. Note: The Riverfront Park improvements and segments west of Western Sugar could be viewed as one complete project and submitted for funding. An interim connection to the existing trail in Mystic Park can be made via segments on Garden Avenue being implemented via shared lane bicycle markings and share the road signage. City Parks/YRPA should develop trailhead at Washington Street.</li> </ul>
Medium Term	D2 or D3, D6, D7, D8	<ul style="list-style-type: none"> <li>• Chamber should open dialogue with two campgrounds – this can happen at any time. An agreement without outright purchase would be the most desirable; however, outright purchase of some or all parcels may be necessary.</li> <li>• By developing trail segments west of the campgrounds first, it is possible that the public may see a higher value in developing the remainder of the trail along the Yellowstone River and identify funding, incentives, or new alternatives that will allow trail development through or near the campground properties.</li> </ul>
Long Term	C1, C2, C3, C10 (if medium term is unsuccessful)	<ul style="list-style-type: none"> <li>• If negotiations with campgrounds are unsuccessful and deemed to be without possible future resolution, a long term trail connection must be made that provides a higher level of accommodation than a shared roadway scenario along Garden Avenue.</li> <li>• City/County should then develop segments C1-C3 and C10 as full 10 foot wide shared-use path facilities with two roadway crossings. Working with MDT on segment C1 will be challenging but should not be considered impossible. See section 5.2 for more information.</li> </ul>



Concept of Greenway Trail Along the Yellowstone River



Concept of Shared Roadway on Garden Avenue as Interim Solution







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## 5 Implementation

This section discusses aspects of the feasibility study related to property acquisition for the proposed trail and describes the legal feasibility of the greenway trail in general terms. The proposed route will require a significant effort during the design development phase to create public access along the corridor, including the permitting processes required by multiple agencies and working cooperatively with landowners at a parcel-by-parcel level to create a publicly accessible right-of-way along the corridor. The framework for this process is outlined in the sections below.

### 5.1 Property Acquisition

The following is a summary of the various ways which property can be obtained or utilized for the project. It is likely that several of these methods will be required in order to obtain contiguous access throughout the proposed corridor. Although all options may not be possible for each lot, the methods are listed below in order of most to least desirable. The land acquisition phase of the project normally takes 12 to 18 months to complete. It must also be determined which agency or agencies of government (eg, the City of Billings and/or Yellowstone County) or private non-profit entity (e.g., YRPA) would act as transferee if any trail-related property rights and take responsibility for ongoing trail maintenance duties. It is likely that Yellowstone County would act as the transferee with the City of Billings assisting with trail maintenance support. Many trail related funding sources require a government agency to act as transferee.

#### 5.1.1 Temporary vs. Permanent Property Rights

Construction of the proposed trail will require the acquisition of both temporary and permanent property rights. Temporary rights provide a legal mechanism to enter upon private property for the purpose of design investigation, construction access, material staging, etc., during the term of trail construction. Permanent rights are legally binding agreements, typically recorded on County Clerk and Recorder records, which allow construction, maintenance, operation, and access to a facility such as a trail. A temporary right-of-entry release should be secured prior to visiting privately-owned properties along the proposed trail alignment. Once executed, this document would give specific parties access to a certain parcel of land for a designated period of time for specific purposes. The document will be necessary for the design engineer to perform site investigations on privately-owned properties along the proposed trail alignment.

#### 5.1.2 Means of Acquiring Permanent Property Rights

##### Donations of Land

Donations of land can be given from a private property owner to the project proponent. For the Yellowstone River Trail it is assumed that the project proponent will likely be either the City of Billings or Yellowstone County, both of which can assume maintenance responsibilities and liability for the trail. Under this scenario, the private owner donates land to the project proponent for the project. Title to the property transfers from the owner to the project proponent. Most trail development in Billings has occurred utilizing Community Transportation Enhancements Program funds administered by MDT. This funding source requires certain procedures be followed. The property owner must be informed of their right to receive a written appraisal and



just compensation for their property. The property owner must sign a statement waiving their right to compensation, in accordance with Montana Department of Transportation's Rights-of-Way guidelines. As a contingency to the donation, a property owner may require that an appraisal be prepared, even if they waive their right to compensation. This is typically done for tax planning purposes. If portions of property are donated, rather than complete lots of record, then care must be taken to avoid creation of a non-conforming lot. This may be accomplished through lot line revisions in most cases but sometimes requires subdivision, re-subdivision or a zoning variance.

### **5.1.3 Fee Acquisition**

Ownership in "fee simple" means the project proponent agency (e.g., the City of Billings or Yellowstone County) owns the land and the trail thereon. To use this option, the project proponent acquires the land from a private owner for an agreed-upon price. Fee acquisitions can be for entire parcels or portions thereof. If only a portion of a property is acquired, care must be taken to avoid creation of a non-conforming lot (this would not pose a problem if the fee acquisition is on behalf of the City or the County). This may be accomplished through lot line revisions in most cases but sometimes requires subdivision, or re-subdivision of the parcel. It's important to note that when the proponent acquires a parcel through either a purchase or donation, it also acquires potential environmental liability.

### **Easements**

Easements are another common form of acquiring property rights. An easement is the right to use a defined portion of another party's land for a specific purpose. Usually easements are obtained by compensating the owner of the property in exchange for the easement. The original owner still owns the underlying property, but the easement would convey specific rights to the trail proponent. The specific terms of the easement would be defined in a legal document permanently recorded in Yellowstone County land records for each property that would be affected along the proposed trail alignment. In this case, the trail could be built within an easement (or a series of easements from multiple owners), which would give the owner of the trail the right to build, maintain, and operate the trail through another party's land for a specified period of time, usually in perpetuity. Compensation is typically a one-time payment. Easements are recorded on municipal land records and are normally transferable. For parcels with limited development potential due to periodic flooding or the existence of buried or overhead utilities, a conservation easement may be preferable. A conservation easement may apply to a larger portion of land than occupied by a trail and offers some advantages to property owners as they may retain specific uses that could be defined within the legal documents that create the easement.

### **Lease Agreements**

For sections of the trail route that can utilize existing, publicly-owned properties (i.e., local, state or federal lands), the acquisition of rights or easements by a mutual agreement, "Memorandum of Understanding" or long-term lease may be negotiated. Agreements would not be required if the project proponent is a public entity.

### **Condemnation of Property**

Condemnation of property for trail development is not an option in the City of Billings or Yellowstone County. The 2011 Billings Area Bikeway and Trail Master Plan clearly states: "Respect will be shown to

private property rights regarding potential future trail alignments. These trails are recreational trails and while they are a nice amenity to the City of Billings and Yellowstone County, they will not take precedence over private property rights. Eminent Domain will not be used to acquire easements or property for any trail corridor that are not located within existing public rights-of-way.”

#### **5.1.4 Rights of Way Acquisition Process**

The funding source of the construction project also affects the procedures utilized to secure trail right-of-way. The acquisition of rights-of-way for projects funded through Federal Highway Administration (FHWA) Transportation Enhancement monies are subject to the requirements of the Uniform Relocation and Real Property Acquisition Policies Act of 1970 (Uniform Act), as amended. In addition, specific procedures contained in a manual entitled “Montana Right-of-way Operations Manual”, prepared in 2010 by MDT, must be adhered to in the process of property acquisition if the project is state or federally funded.

In cases where Yellowstone County is able to acquire clear title to a property, (through donation or purchase) without using state or federal monies, it is not strictly required to follow the requirements of the Uniform Act. However, if these requirements are not followed and a property acquisition is later challenged, the Federal Highway Administration may hold funding until the matter is resolved. For this reason, it is advisable to use Uniform Act procedures in all purchases.

#### **5.1.5 Property Owners**

The parcels directly affected by or adjacent to the recommended greenway alignment have been identified and listed in a table provided as Appendix C. The table presents parcel tax numbers, property owners' mail addresses and a brief summary of interaction during this feasibility study. The purpose of the table is to facilitate continued coordination with interested property owners.

#### **5.1.6 Title Search & Property Survey**

As discussed below, future greenway development is likely to require acquisition of property rights to certain parcels of privately owned land. When properties are acquired by purchase or donation, the proponent agency will need to perform a title search in conjunction with the transaction. If the proponent chooses to acquire property rights via easement or subdivision of an existing parcel, a boundary survey may also be required. In some cases, a permanent physical demarcation of the corners of the property (called “monumentation”) may also need to be established.

### **5.2 Permitting**

The construction of the Yellowstone Riverfront Trail will require permits from various agencies. A brief description of each anticipated permit is provided below. It should be noted that each permit may not be required for each identified trail segment, and there may be additional permitting requirements at the time of construction. Applicable trail segments are identified in conjunction with each permit type below. Additionally, permits that would be required if the trail alignment impacts the Yellowstone River channel are also identified.



## 5.2.1 Anticipated Required Permits

The following permits require further research at the time of design or construction.

### Yellowstone County Floodplain Permit

Segments:	B2, C4, D3, D5, D8
Basis:	Yellowstone County Floodplain Maps
Threshold:	Required for property development within the 100 year FEMA floodplain along the Yellowstone River. It is unclear if the dikes along much of the project extent exempt the adjacent land from 100 year flood status. Requirements may vary depending on extent of work.
Process:	Contact Yellowstone County Disaster Emergency Services Office for permit. \$50 processing fee
Time Line:	Varies

### Yellowstone County Public Works Permit

Segments:	C2, C5, C6, C9, C10
Basis:	Yellowstone County
Threshold:	Any work done within the road right-of-way, including private and public access, utilities, or any other construction work, must be permitted.
Process:	Contact County Engineer
Time Line:	Varies

### Conoco Phillips Encroachment Agreement

Segments:	A1, B1, C1, C2, C5, C7, C8, D1, D2, D6, D7
Basis:	General Encroachment Guidelines for Property Developers and Land Owners near Conoco Phillips Pipelines and Facilities
Threshold:	Any work done within the right-of-way of a Conoco Phillips pipeline. A trail should not encroach within 25 feet from pipeline if parallel. Crossings should be done at as close to a 90 degree angle as possible. Depth of cover should be at least 48 inches of vertical clearance.
Process:	CPPL would review proposal and make any suggested revisions, changes, etc. And, if approved, the drawing would become part of an Encroachment Agreement that the landowner would agree to and sign. Special approval can be given at the discretion of CPPL.
Time Line:	CPPL should be consulted early in the design process

### **Process for Developing Trail within Controlled Access Highway Right-of-Way**

Segment C1 is depicted as following an existing public right-of-way along the I-90 embankment. The process for developing a trail in this location will be more challenging than along other roads or highways as I-90 is an access controlled right-of-way. Furthermore, due to the nationwide transportation implications of the Interstate Highway System and the national defense aspects of the system, action would be required by the Federal Highway Administration to issue approval and re-designate the right-of-way. Though not unprecedented (trails in Interstate Highway right-of-way are not uncommon), conversations with MDT staff have stated that this would be a considerable exception and would require documentation that other alignment alternatives (contained in trail reach B and D) as depicted in this feasibility study had been attempted without success.

### **Working with MDT**

There is a strong likelihood that Community Transportation Enhancements Program (CTEP) funds will be used in the development of a greenway trail. If CTEP funds are utilized then coordination with MDT will be necessary regardless of whether the project is constructed within MDT right of way. MDT has a CTEP manual that outlines the details of project development. The MDT assigned Project Manager will work with the project proponent to identify applicable regulations, permitting, and funding requirements for reimbursement.

### **Army Corps of Engineers Nationwide Permit 42**

Segments:	Pending wetland delineation by biologist
Basis:	Federal statutes. Effective March 19, 2007.
Threshold:	Recreational facilities such as hiking trails and bike paths that will result in discharges or dredged or fill material into non-tidal waters of the United States. Project should not result in loss of more than 1/10 acre of wetlands.
Process:	Contact local Army Corps office at 406-657-5910
Time Line:	Corps district engineer should be notified of work as soon as possible. The district engineer will provide notification within 30 days at which time the review process will begin. Review process will vary depending on complexity of project.

### **5.2.2 Potential permits**

The following permits could be required if conditions such as right of way or jurisdictional boundaries change prior to construction. If the Yellowstone Riverfront Trail alignment is developed in an alternate location than depicted within this feasibility study, additional permitting could also be required, particularly if the trail is routed within the river channel (below 'top of bank').



## **Montana DEQ – Stormwater (City of Billings Department of Environmental Affairs)**

Segments:	None currently, however if annexations occur prior to construction this could become required.
Basis:	Federal Clean Water Act (CWA) prohibits discharge of any pollutant (including erosion sediment and vehicle discharges from paved areas) to waters of the United States unless the discharge is authorized by a National Pollutant Discharge Elimination System (NPDES) permit.
Threshold:	Construction activity which results in the 'disturbance' of one acre or more of total land area requires a General Permit for Storm Water Discharges Associated with Construction Activity ("General Permit"). Disturbance includes clearing and excavating, grading, stockpiling earth, and placement or removal of earth materials during a construction project.
Process:	A Notice of Intent (NOI) Package containing the application form, Storm Water Pollution Prevention Plan (SWPPP), and an application fee and first year annual fee are submitted to the Montana DEQ. When construction activity is complete and the site has achieved "final stabilization" a Notice of Termination (NOT) form must be submitted.

## **Encroachment Permit - City of Billings, Engineering**

Segments:	None currently. This could become required only if Garden Avenue becomes a city street.
Threshold:	Construction of curb, gutter, sidewalk, driveway, and roadway pavement within the public right-of-way.
Process:	Complete one copy of the permit form from the Engineering Division. The Engineering Division will review the application and either recommend approval or denial of the application. If the Engineering Division recommends denial, the applicant may follow the appeal process through the Billings City Council.
Time Line:	At least two weeks to review and approve permit.

## **FEMA Conditional Letter of Map Revision (CLOMR)**

Basis:	Federal law with some review authority delegated to the City.
Threshold:	Any earthwork or construction within a designated flood plain; work over, or in a designated floodway.
Process:	Application is made to FEMA with the concurrence of the City. The application must demonstrate that the water surface elevation is not increased by proposed activities through modeling using HEC-RAS software. Following construction, application must be made for a Letter of Map Revision (LOMR) depicting actual "as-built" conditions and modeling demonstrating that no increase in water surface elevations will result.
Time Line:	Normally takes 12 to 18 months for CLOMR.

## **Joint Application for Proposed Work in Streams, Lakes and Wetlands in Montana**

Segments:	None with proposed alignments. Should the city or county choose to move trail development within the river channel this application would need to be submitted.
Basis:	Federal statutes. Review authority delegated to local (city/county), state, and federal agencies. The Joint Application (JA) process allows applicants to apply for multiple permits through one submittal process.
Threshold:	Depending on where the project is located (wetland, floodplain, or stream bank), amount of excavation involved, and type of project there can be several permits required.
Process:	The JA can be used to apply for the following permits:

**Conservation District (local government) 310 permits:** Protects and preserves streams and rivers in their natural or existing state, and minimizes soil erosion and sedimentation. Any activity that physically alters or modifies the bed or banks of a perennially flowing stream requires a 310 permit. There is no charge for the permit. There is a 60 day timeframe to receive the permit once the application is received.

**MT Fish, Wildlife and Parks (state government) SP 124 permits:** Projects or facilities that may affect the natural existing shape and form of any stream or its banks or tributaries may require a SP124 permit. The permit protects and preserves fish and wildlife resources and maintains streams and rivers in their natural or existing state. There is no charge for the permit. There is a 60 day timeframe to receive the permit once the application is received.

**MT Floodplain and Floodway Management Act:** Applies to new construction within the 100 year floodplain including, but not limited to, placement of fill, roads, bridges, culverts, transmission lines, irrigation facilities, storage of equipment or materials, and excavation; new construction, placement, or replacement of manufactured homes; and new construction, additions, or substantial improvements to residential and commercial buildings. The purpose of the Act is to restrict floodplain and floodway areas to uses that will not be seriously damaged or present a hazard to life, if flooded, thereby limiting the expenditure of public tax dollars for emergency operations and disaster relief. Fees vary. There is a 60 day timeframe to receive the permit once the application is received.

**Federal Clean Water Act (404 Permit):** Applies to any activity that will result in the discharge or placement of dredged or fill material into waters of the United States, including wetlands. The purpose of the 404 Permit is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Application fees are up to \$100. The permit is reviewed by the Army Corps of Engineers, and may be approved within 90 to 120 days from receipt of the application.

**MT Department of Environmental Quality - 318 (turbidity) Authorizations:** Applies to construction activity that will cause short term or temporary violations of state surface water quality standards for turbidity. "State water" includes any body of water, irrigation system, or drainage system, either surface or underground, including wetlands, except for irrigation water where the water is used up within the irrigation system and the water is not returned



to other state water. The Authorization may be waived by DFWP during review of the 310 Permit or SPA 124 Permit. There is a \$150 application fee. Applications are normally processed within 30 to 60 days.

**MT Department of Natural Resource and Conservation (state government)** - Navigable river land use licenses and easements: Applies to any entity proposing a project on lands below the low water mark of navigable waters. Some activities are not required under this permit if an applicant also receives a 310 permit. There is a \$25 application fee plus a minimal annual rental fee. A Land Use License can normally be reviewed, approved, and issued within 60 days upon the payment of the application fee. The license may be held for a maximum period of 10 years, with the ability to request renewal for an additional 10 years. An easement requires approval from the Board of Land Commissioners, which normally takes up to 90 days. The current easement application fee is \$50, with an additional easement fee that varies based upon 50 percent of the appraised value of the adjoining property.

**Federal Rivers and Harbors Act (Section 10 Permit):** Required by any person, agency, or entity, either public or private, proposing any alteration of, or any construction activity in, on, under, or over any federally listed navigable water of the United States. This permit is required for the construction of any structure in or over any federally listed navigable waters of the United States, the excavation from or depositing of material in such waters, or the accomplishment of any other work affecting the course, location, condition, or capacity of such waters. The Yellowstone River within the project area is a navigable waterway. Application fees are up to \$100. The permit is reviewed by the Army Corps of Engineers, and may be approved within 10-45 days from receipt of the application.

Time Line: Varies by permit. See the above descriptions for timelines of individual permits.

## 5.3 Cost Estimate

### 5.3.1 Right-of-Way Acquisition Costs

If land donations cannot be obtained, easements and parcels required to construct the Yellowstone Riverfront Trail must be obtained from the property owners in fee. This cost will vary widely depending upon existing land use, size, and utility of the acquired portion of a parcel, development potential of the area, and a host of other factors.

In addition to the payments to property owners, the services of a licensed surveyor will be needed during the ROW acquisition process. The survey firm will perform boundary surveys and prepare easement maps that must be recorded in the county's land records. These services typically cost \$3,000 to \$4,000 per easement. (Note: this range assumes that easement maps are prepared after survey base maps of the proposed corridor are developed.)

Finally, legal services will be needed to perform the property transactions. A relatively simple easement transaction will typically cost on the order of \$1,500 per transaction if performed by an outside counsel.

### 5.3.2 Engineering Costs

Engineering costs cover a variety of professional services, including:

- Survey (including preparation of easement maps as described above)
- Wetland Delineation
- Preliminary, Semi-Final and Final Design
- Permitting (local, state and federal as required)
- Preparation of Construction Documents
- Bid Assistance
- Construction Observation and Contract Administration

Based upon similar project experience and the proposed greenway features, the engineering costs for the greenway are expected to range between twenty five and thirty percent of the total construction cost. However, the actual cost of these services will vary widely depending on the selected alignment and project phasing. To a large extent, the costs of permitting, preparing bid documents and administering the construction for a single phase is the same as the cost for the entire project. Similarly, survey and design are more cost effective if done at one time. For this reason, significant cost savings can be realized by developing the full corridor as a single project.

### 5.3.3 Construction Costs

This section includes preliminary estimates of construction costs based upon the recommended greenway alignment described in this report. Important assumptions used to arrive at these estimates include:

- All costs are in 2011 dollars (partially based on recent city bids for the Swords Park Trail)
- Costs do not include property acquisition
- Standard construction methods and materials are used
- A concrete trail section is assumed as most historical sources of funding for trails in Billings require paved trail surfacing. Natural surface trails are estimated to average 60% of the cost of a paved trail.

In developing these cost estimates, we have relied upon our experience with similar greenway projects to select the construction materials with the best life-cycle cost and performance characteristics. For the Yellowstone Riverfront Trail we have selected a 6 inch concrete trail option as it builds upon the existing Mystic Park Trail and will be more likely to resist potential flooding and have lower maintenance cost.

The following table provides a summary of estimated costs for each of the recommended construction segments. A more detailed cost estimate is provided in Appendix B.



**Table 5.1: Estimated Costs for Segment Development<sup>4</sup>**

Segment	Estimated Total	Segment	Estimated Total
Riverfront Park	\$1,050,000	D1	\$42,000
A1	\$180,000	D2	\$157,000
A2	\$224,000	D3	\$164,000
A3	\$49,000	D4	\$86,000
B1	\$383,000	D5	\$272,000
B2	\$419,000	D6	\$106,000
C1	\$831,000	D7	\$182,000
C2	\$32,000	D8	\$95,000
C3	\$78,000		
C4	\$370,000		
C5b	\$6,000		
C6b	\$10,000		
C7	\$183,000		
C8	\$171,000		
C9b	\$10,000		
C10a	\$150,000		
C10b	\$6,000		

Table 5.1 presents estimated costs for each individual segment. These costs are useful as multiple continuous routes could be implemented based on the segment alternatives. For the preferred Action Strategy presented in Section 4.3 the following costs are estimated in Table 5.2.

**Table 5.2: Recommended Action Strategy Estimated Construction Cost**

Timing	Segments to Implement	Estimated Construction Cost (Concrete Trail)	Estimated Construction Cost (Natural Surface)
Flexible	Upgrade Riverfront Park Trails	\$1,050,000	\$630,000
Short Term	A2, B2, C4, C7, C6, C9, C10	\$1,400,000	\$822,000
Medium Term	D2 or D3, D6, D7, D8	\$550,000	\$330,000
Long Term	C1, C2, C3, C10 (if medium term is unsuccessful)	\$1,100,000	\$600,000

Since these preliminary estimates are based on a planning-level understanding of trail components, rather than on a detailed design, they should be considered as “Order of Magnitude”. American Society for Testing

<sup>4</sup> Cost estimates should be considered as “Order of Magnitude”. American Society for Testing and Materials (ASTM) Standard E2620 defines Order of Magnitude as being accurate to within plus 50% or minus 30%.

and Materials (ASTM) Standard E2620 defines Order of Magnitude as being accurate to within plus 50% or minus 30%. This broad range of potential costs is appropriate given the level of uncertainty in the design at this point in the process. Many factors can affect final construction costs, including:

- Final construction phasing
- Revisions to the design as required by local, state and federal permitting agencies
- Additional requirements imposed by property owners as a condition of granting property rights (e.g., fencing, vegetated buffers, etc.)
- Fluctuations in commodity prices during the design and permitting processes
- Selected construction materials
- Type and quantity of amenities (e.g., benches, lighting, bike racks, etc.)
- Extent of landscaping desired
- Availability of donated materials and volunteer labor

As the project progresses through preliminary, semi-final and final design phases, these uncertainties begin to diminish. With each round of refinement and range of expected construction costs will become more accurately known.

#### **5.3.4 Maintenance Costs**

Maintenance costs for trails in Yellowstone County were examined in depth within the 2011 Trail Asset Management Plan, and the 2011 Billings Area Bikeway and Trail Master Plan. Anticipated costs are defined within these documents as well as strategies for raising funds, organizing volunteers, and trail sponsorship. Both documents are available through City/County Planning.



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## **Appendix A – Property Owner Correspondence**

Dear XXX,

The Billings Chamber of Commerce, Bike NET, and the Yellowstone River Parks Association have come together to examine the feasibility of developing a trail that would connect existing trails in Riverfront Park and Mystic Park. This is one of the missing links in the Chamber's vision for creating a comprehensive network of interconnected trails that enhance the quality of life for Billings' residents and its visitors. This trail segment also ranks very high as a recommendation from the 2011 Billings Area Bikeway and Trail Master Plan, and had previously also been recommended in the 2004 Billings Heritage Trail Plan, the 1994 BikeNET Plan and the 1994 Yellowstone River Master Plan.

The Billings Chamber Trails Committee has hired Alta Planning + Design of Bozeman to assist with investigating the feasibility of providing a linkage between Riverfront and Mystic Parks. No alignments have yet been proposed; in fact, we are only at the beginning of this project. As one of the first tasks of this project, we need to do a site visit and hoped to be in Billings on the afternoon of May 26th. We would be grateful for permission to walk the riverfront through your property to gain a deeper understanding of the topographical and logistical challenges that would face various alignment options. We would appreciate you joining us for this site investigation to both meet our study team and also to discuss challenges and opportunities.

Following this site visit, Alta will summarize opportunities and constraints at various locations and we will again welcome your participation at a feasibility workshop (date to be announced) where the group can discuss potential alignments to make this trail connection.

This project is a feasibility study to gain a greater appreciation of the potential to develop a trail connection. It is not a plan or proposal by the city or county for facility development. If this study finds that a trail is feasible, this effort will be critical to unlocking existing Federal resources and programs that currently exist to support trail development. These funds could benefit property owners potentially through capital improvements and/or financial compensation.

Please RSVP to John Brewer, President & CEO  
Billings Chamber of Commerce  
406.869.3720  
[john@billingschamber.com](mailto:john@billingschamber.com)

We would appreciate written permission to walk the riverfront on your property if you will not be in attendance, or if you would like to join us, a phone call to coordinate a meeting time and location.

Thank you for your consideration.

Sincerely,

John Brewer  
President/CEO



815 South 27th Street / P.O. Box 31177 / Billings, MT 59107-1177  
ph 406-245-4111 / f 406-245-7333 / [www.billingschamber.com](http://www.billingschamber.com)



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Dear XXX,

We would greatly appreciate your attendance at a workshop for key property owners who own land along the Yellowstone River between Mystic and Riverfront Parks.

This workshop will take place on **July 13th at 11am at the Billings Chamber** (815 South 27th Street). Lunch will be provided.

Last month, our project team conducted a project site visit and we are extremely grateful for access to certain properties for initial feasibility analysis. We are still gathering information throughout the corridor and no trail alignment proposals have yet been made. This workshop is a crucial step that we would like you to be involved with. We envision a collaborative effort to identify potential linkages to gain consensus on a preferred alignment. We will not be solely considering trail alignments along the river, but also potential corridors along Garden Avenue and I-90 and other opportunities.

This project is a collaboration between the Billings Chamber of Commerce, Bike NET, and the Yellowstone River Parks Association to examine the feasibility of developing a trail that would connect existing trails in Riverfront Park and Mystic Park. The City of Billings and Yellowstone County are not providing financial resources to this effort. This corridor is one of the missing links in the Chamber's vision for creating a comprehensive network of interconnected trails that enhance the quality of life for Billings' residents and its visitors. This trail segment also ranks very high as a recommendation from the 2011 Billings Area Bikeway and Trail Master Plan, and had previously also been recommended in the 2004 Billings Heritage Trail Plan, the 1994 BikeNET Plan and the 1994 Yellowstone River Master Plan.

This project is a feasibility study to gain a greater appreciation of the potential to develop a trail connection. It is not a plan or proposal by the city or county for facility development. If this study finds that a trail is feasible, this effort will be critical to unlocking existing Federal resources and programs that currently exist to support trail development. These funds could benefit property owners potentially through capital improvements and/or financial compensation.

Please RSVP to John Brewer, President & CEO; Billings Chamber of Commerce  
406.869.3720; [john@billingschamber.com](mailto:john@billingschamber.com)

Thank you for your consideration,

Sincerely,

John Brewer



815 South 27th Street / P.O. Box 31177 / Billings, MT 59107-1177  
ph 406-245-4111 / f 406-245-7333 / [www.billingschamber.com](http://www.billingschamber.com)



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## **Appendix B – Cost Estimates**

## APPENDIX B CONCEPTUAL COST ESTIMATE AUGUST 2011

### Trail Segments

Riverfront Park	Upgrade Natural Surface Trail	3361 ft			
Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1001	Clear and grub	40332	SF	\$0.50	\$20,166
1002	Earthwork	200	CY	\$1.50	\$300
1003	Base course	33610	SF	\$1.50	\$50,415
1004	10 foot wide concrete path	33610	SF	\$7.00	\$235,270
1005	4" yellow centerline Stripe	3361	LF	\$1.00	\$3,361
1006	30 Foot prefabricated steel truss bridge & abutments	2	EA	\$40,000.00	\$80,000
1007	Trail signage	6	EA	\$400.00	\$2,400
<i>Subtotal</i>					<i>\$391,912</i>
Design				10%	\$39,191
Mobilization				4%	\$15,676
Contingency				30%	\$117,574
Total					\$564,353

Riverfront Park	Resurface Existing Paved Trail	3145 ft			
Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1001	Demo and dispose of existing asphalt	25160	SF	\$2.00	\$50,320
1002	Clear and grub	37740	SF	\$0.50	\$18,870
1003	Base course	31450	SF	\$1.50	\$47,175
1004	10 foot wide concrete path	31450	SF	\$7.00	\$220,150
1005	4" yellow centerline Stripe	3145	LF	\$1.00	\$3,145
1006	Trail signage	6	EA	\$400.00	\$2,400
<i>Subtotal</i>					<i>\$342,060</i>
Design				10%	\$34,206
Mobilization				4%	\$13,682
Contingency				30%	\$102,618
Total					\$492,566

Segment A1		1329 ft			
Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1001	Clear and grub	15948	SF	\$0.50	\$7,974
1002	Earthwork	500	CY	\$1.50	\$750
1003	Base course	13290	SF	\$1.50	\$19,935
1004	10 foot wide concrete path	13290	SF	\$7.00	\$93,030
1005	4" yellow centerline Stripe	3145	LF	\$1.00	\$3,145
1006	Trail signage	3	EA	\$400.00	\$1,200
<i>Subtotal</i>					<i>\$126,034</i>
Design				10%	\$12,603
Mobilization				4%	\$5,041
Contingency				30%	\$37,810
Total					\$181,489

Segment A2		1686 ft			
Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1001	Clear and grub	20232	SF	\$0.50	\$10,116
1002	Earthwork	100	CY	\$1.50	\$150
1003	Base course	16860	SF	\$1.50	\$25,290
1004	10 foot wide concrete path	16860	SF	\$7.00	\$118,020



## APPENDIX B CONCEPTUAL COST ESTIMATE AUGUST 2011

1005	4" yellow centerline Stripe	1686	LF	\$1.00	\$1,686
1006	Trail signage	3	EA	\$400.00	\$1,200
<i>Subtotal</i>					\$156,462
Design 10%					\$15,646
Mobilization 4%					\$6,258
Contingency 30%					\$46,939
<b>Total</b>					<b>\$225,305</b>

### Segment A3

364 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<b>Site Work Schedule</b>					
1001	Clear and grub	4368	SF	\$0.50	\$2,184
1002	Earthwork	50	CY	\$1.50	\$75
1003	Base course	3640	SF	\$1.50	\$5,460
1004	10 foot wide concrete path	3640	SF	\$7.00	\$25,480
1005	4" yellow centerline Stripe	364	LF	\$1.00	\$364
1006	Trail signage	2	EA	\$400.00	\$800
<i>Subtotal</i>					\$34,363
Design 10%					\$3,436
Mobilization 4%					\$1,375
Contingency 30%					\$10,309
<b>Total</b>					<b>\$49,483</b>

### Segment B1

2863 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<b>Site Work Schedule</b>					
1001	Clear and grub	34356	SF	\$0.50	\$17,178
1002	Earthwork	954	CY	\$1.50	\$1,432
1003	Base course	28630	SF	\$1.50	\$42,945
1004	10 foot wide concrete path	28630	SF	\$7.00	\$200,410
1005	4" yellow centerline Stripe	2863	LF	\$1.00	\$2,863
1006	Trail signage	8	EA	\$400.00	\$3,200
<i>Subtotal</i>					\$268,028
Design 10%					\$26,803
Mobilization 4%					\$10,721
Contingency 30%					\$80,408
<b>Total</b>					<b>\$385,960</b>

### Segment B2

3135 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<b>Site Work Schedule</b>					
1001	Clear and grub	37620	SF	\$0.50	\$18,810
1002	Earthwork	523	CY	\$1.50	\$784
1003	Base course	31350	SF	\$1.50	\$47,025
1004	10 foot wide concrete path	31350	SF	\$7.00	\$219,450
1005	4" yellow centerline Stripe	3135	LF	\$1.00	\$3,135
1006	Trail signage	10	EA	\$400.00	\$4,000
<i>Subtotal</i>					\$293,204
Design 10%					\$29,320
Mobilization 4%					\$11,728
Contingency 30%					\$87,961
<b>Total</b>					<b>\$422,213</b>

## APPENDIX B CONCEPTUAL COST ESTIMATE AUGUST 2011

5496 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
	Site Work Schedule				
1001	Clear and grub	65952	SF	\$0.50	\$32,976
1002	Earthwork	916	CY	\$1.50	\$1,374
1003	Base course	54960	SF	\$1.50	\$82,440
1004	10 foot wide concrete path	54960	SF	\$7.00	\$384,720
1005	4" yellow centerline Stripe	5496	LF	\$1.00	\$5,496
1006	Trail signage	10	EA	\$400.00	\$4,000
1007	At-Grade Roadway Crossings	2	EA	\$2,500.00	\$5,000
1008	Install additional fencing	5400	LF	\$12.00	\$64,800
<i>Subtotal</i>					<i>\$580,806</i>
Design 10%					\$58,081
Mobilization 4%					\$23,232
Contingency 30%					\$174,242
Total					\$836,361

Segment C2

232 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
	Site Work Schedule				
1001	Clear and grub	2784	SF	\$0.50	\$1,392
1002	Earthwork	77	CY	\$1.50	\$116
1003	Base course	2320	SF	\$1.50	\$3,480
1004	10 foot wide concrete path	2320	SF	\$7.00	\$16,240
1005	4" yellow centerline Stripe	232	LF	\$1.00	\$232
1006	Trail signage	2	EA	\$400.00	\$800
<i>Subtotal</i>					<i>\$22,260</i>
Design 10%					\$2,226
Mobilization 4%					\$890
Contingency 30%					\$6,678
Total					\$32,054

Segment C3

579 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
	Site Work Schedule				
1001	Clear and grub	6948	SF	\$0.50	\$3,474
1002	Earthwork	97	CY	\$1.50	\$145
1003	Base course	5790	SF	\$1.50	\$8,685
1004	10 foot wide concrete path	5790	SF	\$7.00	\$40,530
1005	4" yellow centerline Stripe	579	LF	\$1.00	\$579
1006	Trail signage	2	EA	\$400.00	\$800
<i>Subtotal</i>					<i>\$54,213</i>
Design 10%					\$5,421
Mobilization 4%					\$2,169
Contingency 30%					\$16,264
Total					\$78,066

Segment C4

2,334 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
	Site Work Schedule				
1001	Clear and grub	28008	SF	\$0.50	\$14,004
1002	Earthwork	389	CY	\$1.50	\$584
1003	Base course	23340	SF	\$1.50	\$35,010

## APPENDIX B CONCEPTUAL COST ESTIMATE AUGUST 2011

1004	10 foot wide concrete path	23340	SF	\$7.00	\$163,380
1005	4" yellow centerline Stripe	2334	LF	\$1.00	\$2,334
1006	Trail signage	8	EA	\$400.00	\$3,200
1007	Fence around pumphouse	400	LF	\$100.00	\$40,000
<i>Subtotal</i>					<i>\$258,512</i>
Design 10%					\$25,851
Mobilization 4%					\$10,340
Contingency 30%					\$77,553
Total					\$372,257

Segment C5b 1,213 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<u>Site Work Schedule</u>					
1002	Thermoplastic Shared Lane Markings (250 foot spacing)	10	EA	\$250.00	\$2,500
1007	Share the Road signage	4	EA	\$400.00	\$1,600
<i>Subtotal</i>					<i>\$4,100</i>
Design 10%					\$410
Mobilization 4%					\$164
Contingency 30%					\$1,230
Total					\$5,904

Note: No estimate given for segment C5a as too many unknowns exist regarding utility relocation, fence relocations, etc...

Segment C6b 2,135 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<u>Site Work Schedule</u>					
1002	Thermoplastic Shared Lane Markings (250 foot spacing)	18	EA	\$250.00	\$4,500
1007	Share the Road signage	6	EA	\$400.00	\$2,400
<i>Subtotal</i>					<i>\$6,900</i>
Design 10%					\$690
Mobilization 4%					\$276
Contingency 30%					\$2,070
Total					\$9,936

Note: No estimate given for segment C6a as too many unknowns exist regarding utility relocation, fence relocations, etc...

Segment C7 1,379 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<u>Site Work Schedule</u>					
1001	Clear and grub	16548	SF	\$0.50	\$8,274
1002	Earthwork	230	CY	\$1.50	\$345
1003	Base course	13790	SF	\$1.50	\$20,685
1004	10 foot wide concrete path	13790	SF	\$7.00	\$96,530
1005	4" yellow centerline Stripe	1379	LF	\$1.00	\$1,379
1006	Trail signage	2	EA	\$400.00	\$800
<i>Subtotal</i>					<i>\$128,013</i>
Design 10%					\$12,801
Mobilization 4%					\$5,121
Contingency 30%					\$38,404
Total					\$184,338

Segment C8 1,289 ft

Estimated



## APPENDIX B CONCEPTUAL COST ESTIMATE AUGUST 2011

Item No.	Description	Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1001	Clear and grub	15468	SF	\$0.50	\$7,734
1002	Earthwork	215	CY	\$1.50	\$322
1003	Base course	12890	SF	\$1.50	\$19,335
1004	10 foot wide concrete path	12890	SF	\$7.00	\$90,230
1005	4" yellow centerline Stripe	1289	LF	\$1.00	\$1,289
1006	Trail signage	2	EA	\$400.00	\$800
Subtotal					\$119,710
Design				10%	\$11,971
Mobilization				4%	\$4,788
Contingency				30%	\$35,913
Total					\$172,383

Segment C9b 2,740 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1002	Thermoplastic Shared Lane Markings (250 foot spacing)	22	EA	\$250.00	\$5,500
1007	Share the Road signage	4	EA	\$400.00	\$1,600
Subtotal					\$7,100
Design				10%	\$710
Mobilization				4%	\$284
Contingency				30%	\$2,130
Total					\$10,224

Note: No estimate given for segment C9a as too many unknowns exist regarding utility relocation, fence relocations, etc...

Segment C10a 1,121 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1001	Clear and grub	13452	SF	\$0.50	\$6,726
1002	Earthwork	187	CY	\$1.50	\$280
1003	Base course	11210	SF	\$1.50	\$16,815
1004	10 foot wide concrete path	11210	SF	\$7.00	\$78,470
1005	4" yellow centerline Stripe	1121	LF	\$1.00	\$1,121
1006	Trail signage	4	EA	\$400.00	\$1,600
1007	At-Grade Roadway Crossings	1	EA	\$2,500.00	\$2,500
Subtotal					\$105,012
Design				10%	\$10,501
Mobilization				4%	\$4,200
Contingency				30%	\$31,504
Total					\$151,218

Segment C10b 1,121 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1002	Thermoplastic Shared Lane Markings (250 foot spacing)	10	EA	\$250.00	\$2,500
1007	Share the Road signage	4	EA	\$400.00	\$1,600
Subtotal					\$4,100
Design				10%	\$410
Mobilization				4%	\$164
Contingency				30%	\$1,230
Total					\$5,904

## APPENDIX B CONCEPTUAL COST ESTIMATE AUGUST 2011

### Segment D1

311 ft

Item No.	Description Site Work Schedule	Estimated Quantity	Unit	Unit Cost	Total Cost
1001	Clear and grub	3732	SF	\$0.50	\$1,866
1002	Earthwork	52	CY	\$1.50	\$78
1003	Base course	3110	SF	\$1.50	\$4,665
1004	10 foot wide concrete path	3110	SF	\$7.00	\$21,770
1005	4" yellow centerline Stripe	311	LF	\$1.00	\$311
1006	Trail signage	2	EA	\$400.00	\$800
<i>Subtotal</i>					<i>\$29,490</i>
Design 10%					\$2,949
Mobilization 4%					\$1,180
Contingency 30%					\$8,847
Total					\$42,465

### Segment D2

1,179 ft

Item No.	Description Site Work Schedule	Estimated Quantity	Unit	Unit Cost	Total Cost
1001	Clear and grub	14148	SF	\$0.50	\$7,074
1002	Earthwork	197	CY	\$1.50	\$295
1003	Base course	11790	SF	\$1.50	\$17,685
1004	10 foot wide concrete path	11790	SF	\$7.00	\$82,530
1005	4" yellow centerline Stripe	1179	LF	\$1.00	\$1,179
1006	Trail signage	2	EA	\$400.00	\$800
<i>Subtotal</i>					<i>\$109,563</i>
Design 10%					\$10,956
Mobilization 4%					\$4,383
Contingency 30%					\$32,869
Total					\$157,770

### Segment D3

1,233 ft

Item No.	Description Site Work Schedule	Estimated Quantity	Unit	Unit Cost	Total Cost
1001	Clear and grub	14796	SF	\$0.50	\$7,398
1002	Earthwork	206	CY	\$1.50	\$308
1003	Base course	12330	SF	\$1.50	\$18,495
1004	10 foot wide concrete path	12330	SF	\$7.00	\$86,310
1005	4" yellow centerline Stripe	1233	LF	\$1.00	\$1,233
1006	Trail signage	2	EA	\$400.00	\$800
<i>Subtotal</i>					<i>\$114,544</i>
Design 10%					\$11,454
Mobilization 4%					\$4,582
Contingency 30%					\$34,363
Total					\$164,944

### Segment D4

633 ft

Item No.	Description Site Work Schedule	Estimated Quantity	Unit	Unit Cost	Total Cost
1001	Clear and grub	7596	SF	\$0.50	\$3,798
1002	Earthwork	106	CY	\$1.50	\$158
1003	Base course	6330	SF	\$1.50	\$9,495
1004	10 foot wide concrete path	6330	SF	\$7.00	\$44,310

## APPENDIX B CONCEPTUAL COST ESTIMATE AUGUST 2011

1005	4" yellow centerline Stripe	633	LF	\$1.00	\$633
1006	Trail signage	4	EA	\$400.00	\$1,600
<i>Subtotal</i>					\$59,994
Design 10%					\$5,999
Mobilization 4%					\$2,400
Contingency 30%					\$17,998
<b>Total</b>					<b>\$86,392</b>

Segment D5 2,045 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<b>Site Work Schedule</b>					
1001	Clear and grub	24540	SF	\$0.50	\$12,270
1002	Earthwork	341	CY	\$1.50	\$511
1003	Base course	20450	SF	\$1.50	\$30,675
1004	10 foot wide concrete path	20450	SF	\$7.00	\$143,150
1005	4" yellow centerline Stripe	2045	LF	\$1.00	\$2,045
1006	Trail signage	4	EA	\$400.00	\$1,600
<i>Subtotal</i>					\$190,251
Design 10%					\$19,025
Mobilization 4%					\$7,610
Contingency 30%					\$57,075
<b>Total</b>					<b>\$273,962</b>

Segment D6 783 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<b>Site Work Schedule</b>					
1001	Clear and grub	9396	SF	\$0.50	\$4,698
1002	Earthwork	131	CY	\$1.50	\$196
1003	Base course	7830	SF	\$1.50	\$11,745
1004	10 foot wide concrete path	7830	SF	\$7.00	\$54,810
1005	4" yellow centerline Stripe	783	LF	\$1.00	\$783
1006	Trail signage	4	EA	\$400.00	\$1,600
<i>Subtotal</i>					\$73,832
Design 10%					\$7,383
Mobilization 4%					\$2,953
Contingency 30%					\$22,150
<b>Total</b>					<b>\$106,318</b>

Segment D7 1,363 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
<b>Site Work Schedule</b>					
1001	Clear and grub	16356	SF	\$0.50	\$8,178
1002	Earthwork	227	CY	\$1.50	\$341
1003	Base course	13630	SF	\$1.50	\$20,445
1004	10 foot wide concrete path	13630	SF	\$7.00	\$95,410
1005	4" yellow centerline Stripe	1363	LF	\$1.00	\$1,363
1006	Trail signage	4	EA	\$400.00	\$1,600
<i>Subtotal</i>					\$127,337
Design 10%					\$12,734
Mobilization 4%					\$5,093
Contingency 30%					\$38,201
<b>Total</b>					<b>\$183,365</b>



## APPENDIX B CONCEPTUAL COST ESTIMATE AUGUST 2011

703 ft

Item No.	Description	Estimated Quantity	Unit	Unit Cost	Total Cost
Site Work Schedule					
1001	Clear and grub	8436	SF	\$0.50	\$4,218
1002	Earthwork	117	CY	\$1.50	\$176
1003	Base course	7030	SF	\$1.50	\$10,545
1004	10 foot wide concrete path	7030	SF	\$7.00	\$49,210
1005	4" yellow centerline Stripe	703	LF	\$1.00	\$703
1006	Trail signage	4	EA	\$400.00	\$1,600
Subtotal					\$66,452
Design				10%	\$6,645
Mobilization				4%	\$2,658
Contingency				30%	\$19,936
Total					\$95,691

## **Appendix C – Parcel Information**

## APPENDIX C - PARCEL INFORMATION

<u>Tax ID</u>		<u>Owner</u>	<u>Status</u>	<u>Importance</u>	<u>Contact Summary</u>
A02640		BARNES, DOUGLAS A	Residence	High	Met with Judy Barnes on June 10th, 2011 at Yellowstone River Campground
A02632	MAILING	PO BOX 790 BILLINGS, MT 59103-0790	Campground		Judy indicated that the Barnes family is not supportive of a trail through their property Judy supported a Garden Avenue alignment and pledged support to making this happen.
	PROPERTY	3003 GARDEN AVE			
A02639		LINDE, MARVIN & CAROL	Residence	High	Met with Dave Linde on June 10th, 2011 at KOA.
A02637	MAILING	DBA BILLINGS KOA	Campground		Dave indicated that the trail will not be a part of the KOA under existing ownership and management. Dave indicated that there is a willingness to discuss sale of the operation
A02634		547 GARDEN AVENUE BILLINGS, MT 59101-5735 (406) 252-3104.			Sale would have to be entire property, not just enough to get the trail through.
	PROPERTY	308 GARDEN AVE BILLINGS, MT 59101-5735			
D01849		WESTERN SUGAR COMPANY	Grazing/	High	Initial conversations with Western Sugar by the Chamber of Commerce were positive.
D01855	MAILING	7555 E HAMPDEN AVE STE 600	Agriculture		Western Sugar is open to trail development within their property. Concerns include keeping
D01821		DENVER, CO 80231-4837			trail users away from the pump house and not wanting to upset neighbors if they allow a trail.
	CONTACT	A E STALEY MFG CO (M HERDT)			
A13326		PIPPIN, DONALD H & NORMAJEAN	Residential	Low	Unable to make contact
	BOTH	1036 RIVERSIDE DR BILLINGS, MT 59101-5746			
A13325		WAGGONER, MARY & DAVID	Residential	Moderate	Chamber of Commerce made telephone contact with the Waggoner residence. The Waggoners
D01854	MAILING	PO Box 1516 BILLINGS, MT 59103-1516			said that utility easements near the river make the land undevelopable. Screening the trail from these lots could be a benefit
	PROPERTY	2810 S Frontage Road BILLINGS, MT 59101			
A17172	BOTH	FOX, DARLENE,	Grazing land	Low	Unable to make contact
D01814		683 GARDEN AVE BILLINGS, MT 59101-5730			
A13327		MARTE M NELSON TRUST	Vacant	High	Chamber of Commerce spoke with Randy Reager. Property is slated to be sold and developed.
A13328	MAILING	3007 RADCLIFFE DR			Randy inciated that not all the land would be needed, and was supportive of a trail
A13329		BILLINGS, MT 59102-072			being developed along the river channel. Possible donation.
A13330					
A13331	PROPERTY	1102 RIVERSIDE DR			
D01859		JTL GROUP INC A MT CORPORATION	Vacant	High	Chamber of Commerce spoke with Bob Kolber—JTL/Knife River manager on July 20th, 2011
D01860	MAILING	404 N 31ST ST STE 410 BILLINGS, MT 59101-1211			The properties were annexed into the City of Billings on 9/14/2011 with an easement for a trail. Bicycle and pedestrian facilities: The property lies within the jurisdiction of the Billings Area Bikeway and Trail Master Plan. A 30-foot-wide pedestrian pathway easement is located along the southern edge of the property near the Yellowstone River. A trail in this easement may be constructed either at the time of property development or when further trail connections are made between River Front Park and Mystic Park.
D01863		DRISCOLL FAMILY LP	Vacant	High	Met with Mr. Driscoll on June 10th on the family property. Mr Driscoll also attended the
	MAILING	3363 CRATER LAKE AVE BILLINGS, MT 59102-6918			project workshop. He indicated a trail following the Grey Eagle Ditch would be possible as long as the trail does not impact the cattle grazing on the property or leave his family liable for animal waste on the trail.
A30051		OUREN, JAMES O & CONNIE D	Residential	Low	Unable to make contact
	BOTH	590 GARDEN AVE BILLINGS, MT 59101-5734			
D01778		ERHART, RUDOLPH F & PATRICIA L		Low	Unable to make contact
	BOTH	LINDE, DAVID - CB CONTRACT BUYER 547 GARDEN AVE BILLINGS, MT 59101-5735			
D01777		LINDE, MARVIN, CAROL & BRIAN	Residential	Low	See Linde notes above
	MAILING	430 LAKE ELMO DR STE 1 BILLINGS, MT 59105-3037			
	PROPERTY	159 GARDEN AVE			



## **Appendix B – Cost Estimates**

## **Appendix C – Parcel Information**