ELKHORN VALLEY/EASTSIDE MASTER TRAIL PLAN

The Casper Metropolitan Planning Organization
The Platte River Parkway Trust, Inc.
Prepared by DHM Design Corporation and The Greenway Team, Inc.
Spring, 2010

"….A trail within 15 minutes of every American household"
--Adopted national policy statement, American Trails

"….My wife and I ride our bicycles…often and always notice wildlife, …changing seasons, sunsets and even an approaching thunderstorm one evening."
--Keith Cottam, Past President, Platte River Parkway Trust, Inc

Riparian Area Along Elkhorn Creek

The Casper Metropolitan Planning Organization

Leah Reeb, MPO Supervisor

The Platte River Parkway Trust, Inc.

Angela, Emery, Executive Director

Keith Tyler, Planning Development Chairman

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Luker Realty Company, Inc.

Mr. William Luker, CEO

We Also Thank:

The Participants in the planning sessions and public workshops including: neighborhood property owners and businesses; representatives of WYDOT, City public works and operations staff; trail users and enthusiasts and others who shared their ideas, concerns, aspirations and advice.

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Ecological and Floodplain Analysis

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View of Elkhorn Creek from Casper Mountain

View of Ekhorn Reservoir

View of Rock Outcrops to the East

Autumn View Along Elkhorn Creek

View of Elkhorn Valley to Casper Mountain

CHAPTER ONE: INTRODUCTION

Mission
Purpose of this Document
Study Area and Corridor Description
Background
The Planning Process, Stakeholder and Community Engagement
Needs Assessment

Mission Statement

Explore opportunites for future conservation, stewardship and recreational uses of the Elkhorn Valley Study Area - including potential for trail connections to neighborhoods, schools, parks, businesses and the regional trail network.

Purpose of this Document

This intent of this document is to guide the creation of a multi-use trail and greenway corridor that provides a new trail link serving residents, businesses and employees in the east Casper area. The core route roughly follows Elkhorn Creek from E. 12th Street to E. Yellowstone Highway where it would join the continuation of the Chicago and Northwestern Rails-to-Trails route. The Rails-to-Trail route, in turn, links to the Platte River Parkway Trail—a major recreational amenity serving the larger Casper area. The goal is to provide the community with a sustainable, accessible multi-use amenity that links neighborhoods, schools, parks, activity centers and open spaces with a continuous, family-friendly pedestrian and bicycle trail.

This plan provides an overall vision for the trail and trail corridor, guidelines, trail layouts, cross sections, proposed trail amenities, access points, cost estimates, maintenance considerations and steps toward implementation. It is a planning tool and vision to help guide design and development. It will also aid in securing rights-of-way, raising funds and assembling partnerships to realize the vision. It reflects detailed study, community input and participation of key agencies and jurisdictions. Every effort has been made to represent a consensus of the participants.

The proposed trail improvements will be designed to accommodate walkers, bicyclists, joggers, people in wheelchairs and other appropriate non-motorized uses. The plan also proposes stewardship of the proposed Betty and Bill Luker Nature Conservancy improving the visual character and protecting wildlife benefits. This plan was commissioned in early 2009 as a key step in Casper's effort to create a pedestrian/bicycle friendly community. It considers a ten-year timeframe (or sooner) to achieve the recommended improvements.

Study Area and Corridor Description

The study area includes a "core" investigation area—primarily the reach of Elkhorn Creek between E. 21st Street and E. Yellowstone Highway and a larger planning "context". The larger context area includes nearby neighborhoods to the east of Wyoming Boulevard and south of E. 2nd Street on both sides of Elkhorn Creek (Blackmore Vista, Eastgate II and the Heights). Contextual planning also examined linkage to Evansville neighborhoods and the Platte River Parkway in the vicinity of Cemetery Road.

While site-specific trail alignments and improvements were planned for the "core" area, planning for the larger context looked at connections and access to the Elkhorn Creek corridor via planned and existing bike paths and existing on-street links including sidewalks and streets friendly to on-street bicycle traffic.

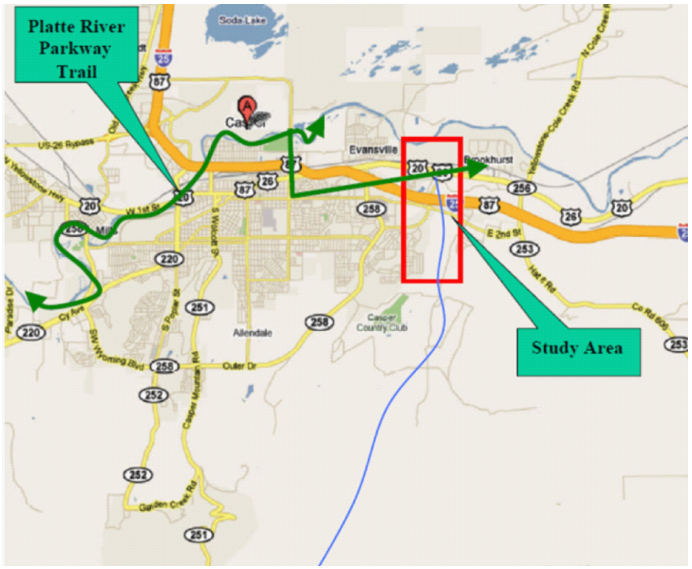
Finally, planners also considered the vision of a larger region-wide trail network to include the entire urban area and key features such as the Platte River Parkway, Downtown, Casper Mountain and other parks , trails and destinations throughout Casper.

Background

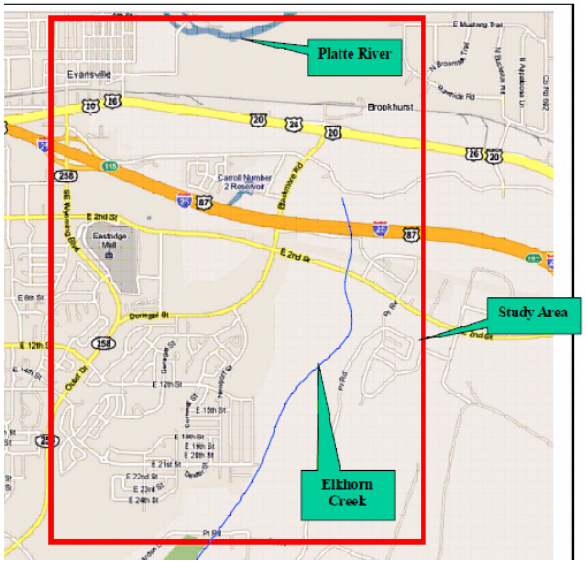
The Casper Area Metropolitan Planning Organization (MPO) and The Platte River Parkway Trust initiated this plan. Working with the MPO, the Trust envisions a continuous greenway and trail corridor following the North Platte River and the former Chicago and Northwestern Rail right-of-way (now "rail-banked" for trail use) running through the heart of Casper and Evansville linking Paradise Valley (Mills) on the west to Edness Kimball Wilkins State Park on the east.

This trail corridor, much of which is already in place, will extend for more than 14 miles linking neighborhoods, businesses, downtown, schools, parks and other activity centers. Along with the Platte River Parkway/Rail Trail corridor, the MPO and The Trust envision feeder trails and greenways following tributaries to the Platte such as Elkhorn Creek forming a larger trail network linking neighborhoods and other destinations.

Specifically, the Elkhorn Creek corridor offers an opportunity to connect existing and newly developing eastside neighborhoods, particularly to the south of E. 2nd Street, to the Rail Trail and to the Platte. There could also be opportunities in the future to connect to Casper Mountain.



Larger Region-wide Network



Core Investigation Area and Neighborhood Context

Complementing this trail opportunity is the conservation objective expressed by Mr. Bill Luker, owner of the substantial parcel of open land along Elkhorn Creek between E. 2nd and E. 12th Streets. This site has attractive vistas and is frequented by wildlife. Mr. Luker has started plans to preserve a portion of the creek and associated wetland and riparian areas along with providing a corridor for a multi-use trail along the west side of his creek-side property. This plan lays out the specific recommended trail improvements on the Luker property.

The Planning Process, Stakeholder and Community Engagement

The planning process included seven major elements:

1. A thorough inspection and inventory of the resources, challenges, and opportunities of the core site (The Luker Property between 2nd and 21st Streets); the neighborhood context; the larger metro-wide trail system including the Platte River Parkway, the Rail Trail and Casper Mountain.

2. Formation of a Plan Working Group, composed of representatives of public agencies including: City of Casper, Evansville and MPO officials, The Platte River Parkway Trust, WYDOT and other key stakeholders.

3. Meetings with Mr. Bill Luker, owner of the core site to review plans and aspirations for the Luker property.

4. A public review process that consisted of a series of public open houses where residents, landowners, user groups and business representatives were invited to review the plan. Sessions were held at the initiation of the site inventory and to review the final draft plan.

5. Individual one-to-one meetings and site visits with residents, property and business owners and other key interested parties.

6. Development of a preferred draft final plan.

7. Final presentation, approval and adoption of the plan. The process also included review of previous and related planning affecting the area including:
   - Trail and bicycle transportation planning by the City of Casper, The City of Evansville, The Casper Metropolitan Planning Organization and the Platte River Parkway Trust, Inc.
   - Conceptual planning for the Luker Property
   - GIS data from Casper officials showing floodplains, topography, utilities, rights -of-way etc.
   - 2030 Long Range Transportation Plan
   - Flood hazard mapping available from FEMA
   - Informal Threatened and Endangered Species Assessment and High Water Observations
   - Casper Metropolitan Area multiuse trail system planning

During the site inspection process the planning team walked the core trail corridor from end-to-end. Field investigation also included visits to the surrounding neighborhoods including areas to the east and west of Elkhorn Creek as well as nearby neighborhoods of Evansville. There were also site tours of the Platte River Parkway Trail and the existing Rail Trail as well as inspection of other trails and parks in the Casper area including Casper Mountain. Considering both the local neighborhoods and the larger regional context, the planning team identified opportunities and constraints, laid out optimal trail alignments and prepared typical cross-sections as well as cost estimates.

The community engagement process also significantly shaped planning for the trail. Community engagement for this plan was extensive and thorough. During the open houses, individuals from the community met with the planning team, reviewed maps of the study area and shared their opinions, ideas and concerns.

The public open house process included two sessions, one held at The C'mon Inn of Casper and one at the new Tate Pump House Trail Center located on the Platte River Parkway Trail. Meetings were well attended with 20 to 30 participants at each. The project also maintained a Web site and e-mail address where citizens could share comments or ask questions.

Needs Assessment

There are several ways to identify needs for trails in a community and specifically the need for the proposed Elkhorn Creek trail. These include: citizen surveys, input through public participation processes such as community meetings and Web sites, and comparison to published standards for level of services (i.e. recommended miles of trails per 1000 population).

While the planning process, due to budget constraints, did not include a scientific community survey, conclusions about trail needs can be reached considering a number of sources. Foremost, people who attended the community open houses demonstrated substantial support. In addition, citywide, voter approval of the 1% tax-funding program shows taxpayer commitment for park, trail and greenway investments. The success of the Platte River Parkway Trust over the past three decades in raising donations in the community and repeated allocations of 1% funding to projects strengthens this evidence of support.

This planning effort also fits with a larger expressed goal to make Casper a state-of-art pedestrian and bicycle-friendly community. As Wyoming's second largest urban area with 60,000 inhabitants and growing, Casper Area residents and leaders have been pursuing a quality trail infrastructure as a key component of this vision. Not only does this enhance quality of life for its citizens, it is also considered vital for the Casper Area to compete with other cities across the nation in attracting businesses, skilled workers and professionals who consider these amenities when relocating. In addition, numerous national studies have indicated trails and trail activity as one of the top two most popular outdoor activities. Availability of trail facilities is often a key factor homebuyers consider in selecting a neighborhood in which to purchase a residence (2001 University of Nebraska Study of Omaha, National Association of Homebuilders).

While the state-of-the art in measuring community needs, standards for multi-use trails is still somewhat primative, there are some published recommendations. For example, the State of Colorado Small Community Park and Recreation Planning Standards (2003) recommends approximately 1 mile of paved multi-use trails per 1000 population. San Diego, CA suggests a minimum baseline of .84 miles of trail per 1000 residents within 15 minutes travel time. Based on these standards given a population of over 60,000 and less than 20 miles of paved trails, Casper could be as much as 40 miles deficient in available paved trails mileage!

From a statewide standpoint scientific surveys in association with the Wyoming Statewide Comprehensive Outdoor Recreation Plan (SCORP) indicate that over 60% of Wyoming respondents regularly participate in hiking or walking. This activity rated in the top five of 39 activities listed. Viewing natural features, wildlife and finding quiet places—all related to trail use—also ranked in the top five activities. (WYSAC, University of Wyoming, Wyoming Outdoor Recreation Plan Survey 2008 pages 7 and 23.). Other states have had similar findings with trail recreation participation hovering around 61% and ranking as one of the most popular activities. (The 2004 Trail Activities in Nevada Study, Nevada Division of State Parks).

CHAPTER TWO:
GUIDING PRINCIPLES AND COMPONENTS

Vision Statement
Guiding Principles
Trail TYpes, Components
and Cross Sections

Vision Statement

To fully benefit from the opportunities afforded by this trail corridor, the trail, amenities, and the associated improvement corridor (i.e. the Elk Creek Conservation Corridor), there needs to be a net improvement to the community—leaving it better than we found it. To that end, the trail improvements should enhance the character of the neighborhoods and offer an outstanding user experience.

The trail must also be safe (within the parameters of state-of-the-art design and maintenance), functional, and convenient for the trail users, especially nearby residents. It must also be affordable to build and maintain. The guiding principles, components, and design standards presented below are benchmarks used to achieve these goals. These principles grew out of consultation with citizens, property and business owners, public agencies and The Platte River Parkway Trust and in concert with the technical expertise and experience of the planning team.

Guiding Principles

1. Offer a safe trail with state-of-the art design standards appropriate to the area.
2. Respect private property rights: Be a good neighbor!
3. Offer an enjoyable trail experience.
4. Preserve and enhance sensitive natural and cultural resources.
5. Offer enjoyable, efficient non-motorized commuting opportunities for local and regional travel including trips to schools.
6. Promote connectivity of trail for the nearby neighborhoods and to the regional trail network (Platte River Parkway and Rail Trail).
7. Project must be appealing to potential financial backers and funding agencies
8. Project should be affordable to build and maintain
9. Offer readily accessible (ADA) multiple non-motorized uses.
10. Offer opportunities for youth, student and volunteer stewardship activities
11. Offer educational/interpretive opportunities (ecology, history, culture).

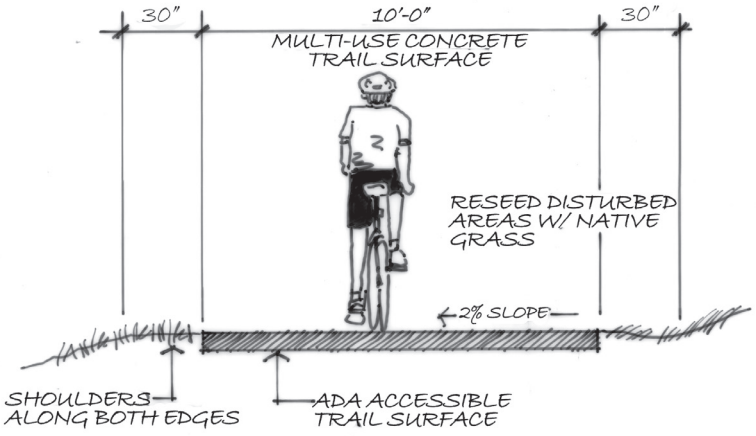
Trail Types, Components and Cross Sections

This plan recommends several key elements or components that become building blocks for the trail system. A list of components was generated considering field conditions, the wishes expressed at community meetings and other input. The following descriptions, plan, and cross section drawings specify, in general, the recommended elements. Note that these are for planning and budgeting purposes and not engineering drawings. Specific designs, specifications and detailing will occur during the design and construction phase*.

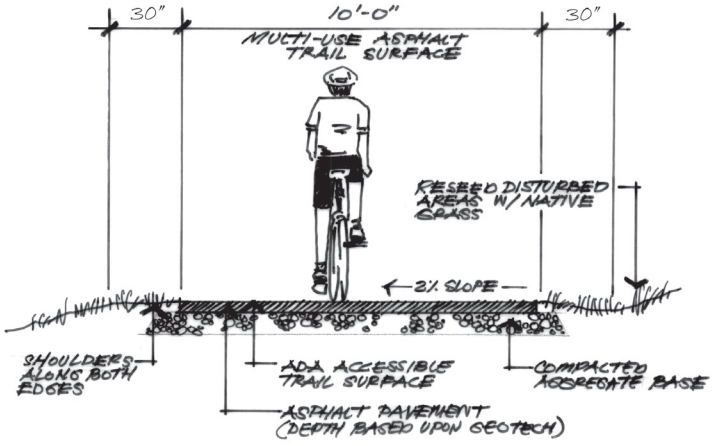
** For more details, standards and design references see: Guild for the Development of Bicycle Facilities, American Association of State Highway and Transportation Officials (AASHTO); Trails for The 21st Century, Rails to Trails Conservancy and Island Press; Trail Planning Design and Development Guidelines, Minnesota Department of Natural Resources; and www.americantrails.org. See also Manual of Uniform Traffic Control Devices (MUTCD), U.S. FHWA, utcd.fhwa.dot.gov/ (for signage and other traffic regulation-related features for both automobile and bicycle facilities). See guidelines for accessibility per the Americans with Disabilities Act, www.access-board.gov.*

1. Paved Multi-Use (Shared-Use) Trail

There are two paved trails surface options—asphalt and concrete. Because of its durability and lower maintenance requirements, concrete is preferred for this project. Paved trail surfaces accommodate pedestrians, bicycles, skates, and wheelchairs. Typically the paved surface is 10′-wide and designed to national engineering (AASHTO for Bicycles) and Americans with Disability Act accessibility standards. There is a graded trail shoulder on either side between 30″ and 5′ -wide with 5′ preferred. This shoulder area should be mowed and kept free of debris though the width of the mowed area may undulate for improved aesthetics. Typically grades do not exceed 5% with up to 10% for very short distances. For purposes of this plan, the shared-use path when adjacent to a roadway includes an 5′-10′-wide landscaped buffer between the trail and the adjacent road. There should be a 30″ minimum buffer between the trail edge and adjacent fences walls or other obstructions.



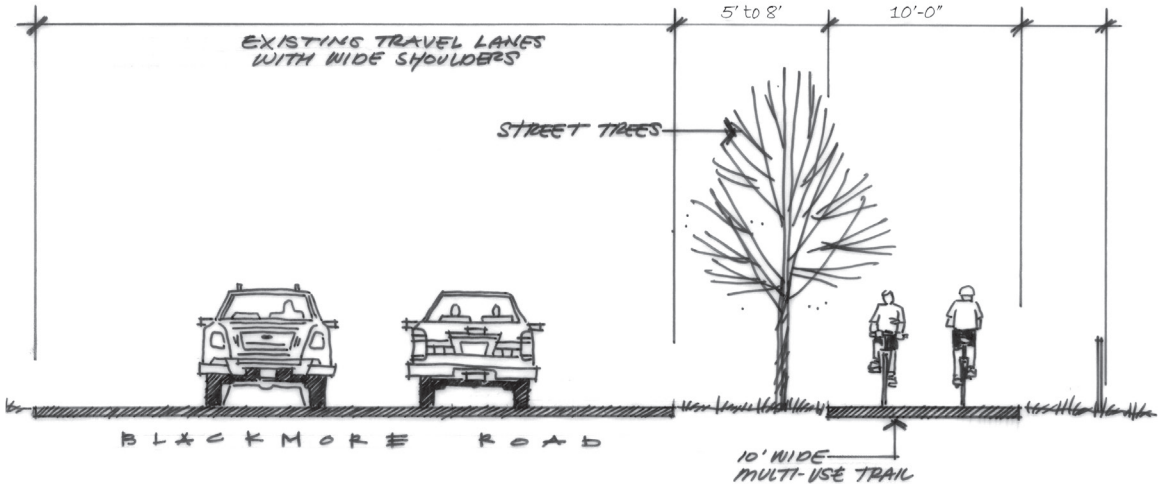
Typical Cross Section - Concrete Multiuse Trails



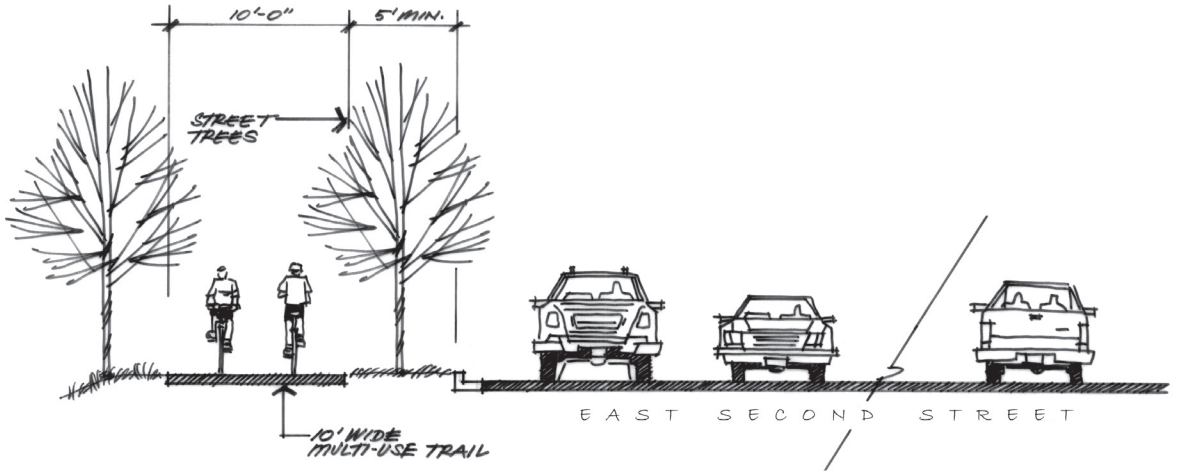
Typical Cross Section - Asphalt Multiuse Trail

2. Roadside (Shared-Use) Trail

In some instances, such as along Blackmore Road and E. 2nd Street, the paved multi-use trail will run parallel to the roadway. Typically this consists of a 10'-wide concrete surface with a landscaped (5' or more in width preferred) median between the road and the trail. The trail allows for two-way bicycle and pedestrian traffic.



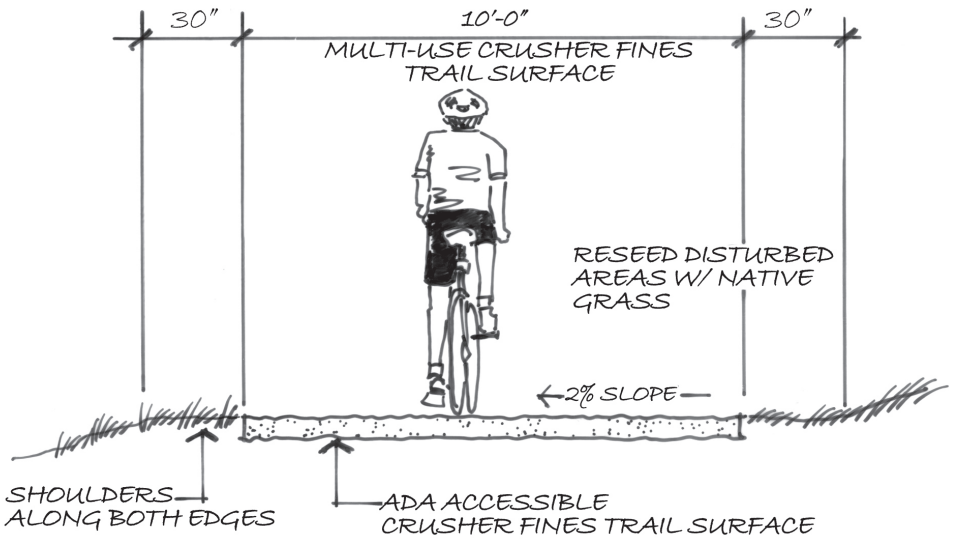
Typical Cross Section - Roadside (shared-use Trail along Blackmore Road)



Typical Cross Section - Roadside (shared-use Trail along E. 2nd Street)

3. Crushed Gravel (Crusher Fine) Trail

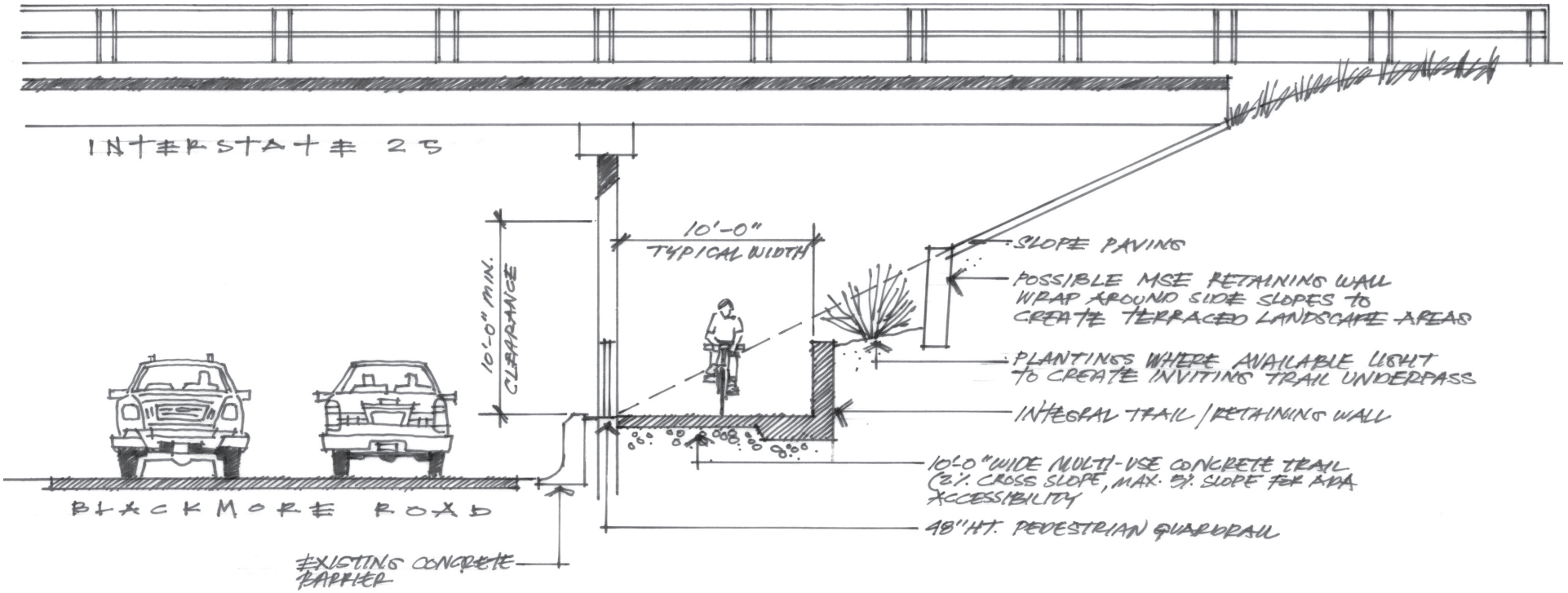
This is a groomed, granular stone surface designed for most bikes and for walking, including wheelchairs. Typically it has a 10'-width, though this may vary in places. This trail should also meet national bike path (AASHTO) standards but should be posted as having a granular surface. Typically grades do not exceed 5%.



Typical Cross Section - Crushed Gravel Trail

4. I-25/Blackmore Road Underpass

This is an adaptation of the underpass of I-25 along Blackmore Road allowing the multiuse trail to pass under the highway. It includes modifying the existing viaduct slope paving with a retaining wall, pathway and railing, allowing safe passage beneath I-25.



Typical Cross Section - I-25/Blackmore Road Underpass

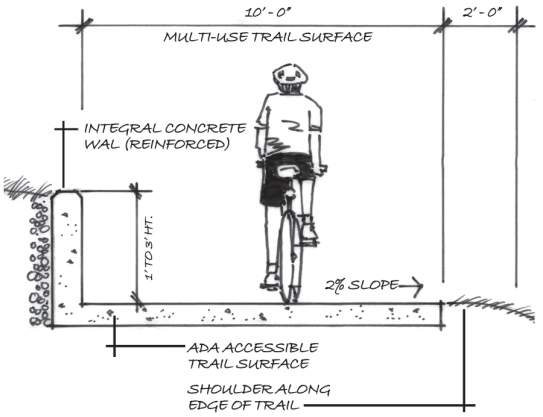
5. Paved Trail with Retaining Wall

This is a paved trail with an integral retaining wall. This wall may be 3′ to 5′ high and is typically built as an integrated unit where the wall is "keyed" into the trail surface and/or connected with re-enforcing steel rods. The trail surface is typically 10′-wide and there may be a safety guardrail where a steep drop-off or other hazard exists.

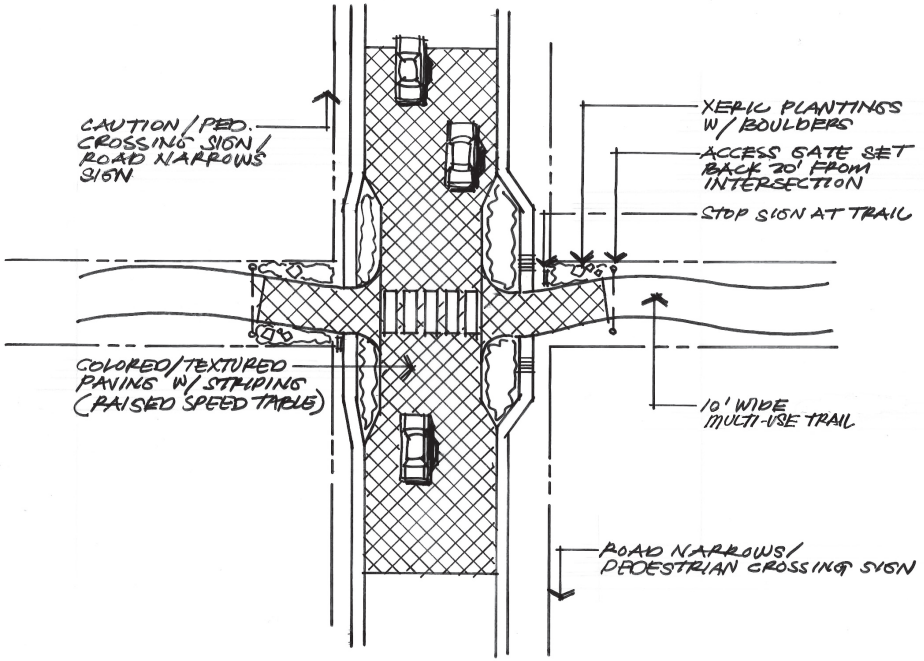
6. At-Grade Street Crossings and "Traffic Calming" Street/Trail Intersection

There will be several instances where the trail system will cross streets. In some instances that will be at intersections controlled by either a traffic light (ie. E. 2nd Street at Blackmore) or by stop signs. In the instances of busier roads, for instance E. 2nd, crossings should always be traffic light-controlled with a pedestrian-activated signal for trail users. ADA accessible curb ramps should be provided.

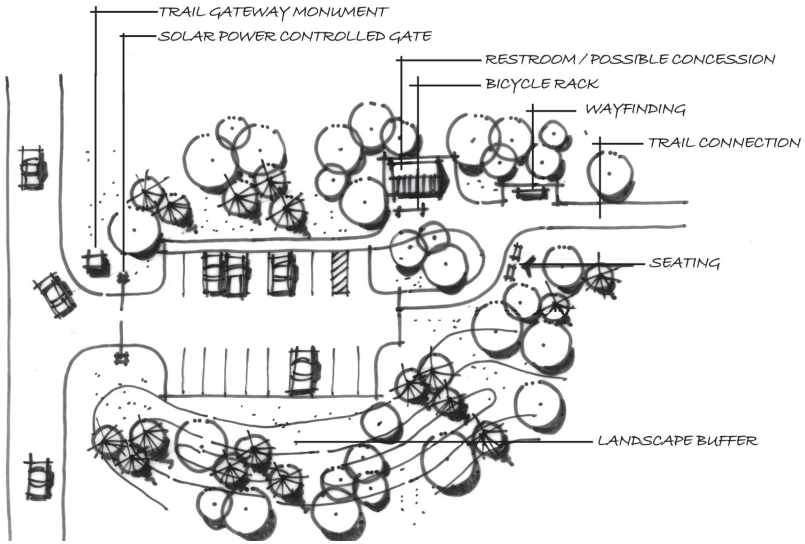
Along lower volume streets there may also be trail crossings. In these instances, particularly mid-block, a layout that promotes a safe interaction of trail users, both bikes and pedestrians, should be provided. This consists of warning signs per the Manual of Uniform Traffic Control Devices MUTCD, a neck down that narrows the traffic lane, special texturing of both the street and the trail approach and/or possibly a raised pavement "speed bump" or "speed table" to alert and slow motorists.



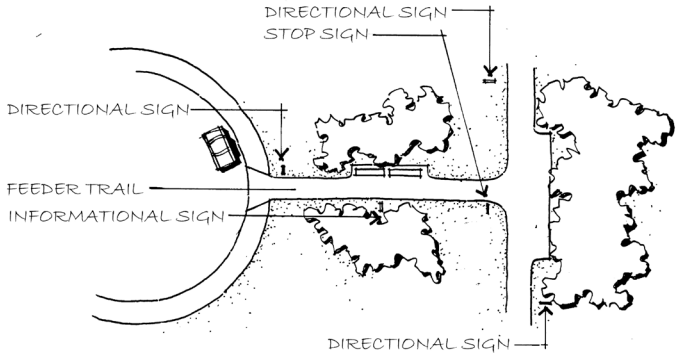
Typical Cross Section - Paved Trail with Retaining Wall



Street Crossings and "Traffic Calming"



Typical Trailhead Layout (with parking)



Typical Trailhead Layout (without parking)

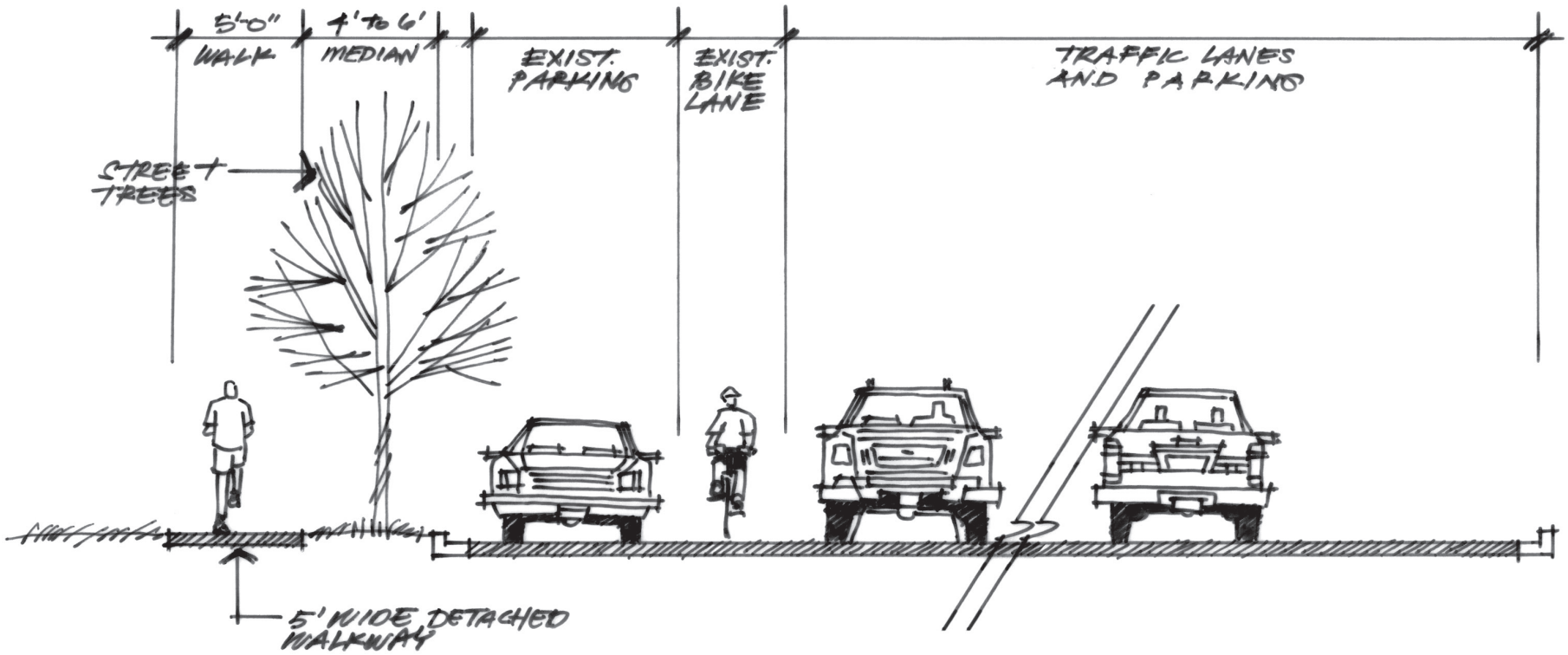
7. Trailheads and Access Gates

The larger community trail network should have clearly identifiable points of access. Readily visible trail markers and perhaps wayfinding "blazes" attached to street signs along the on-street routes can delineate these. Entry points should have ADA accessible curb ramps, gates and appropriate regulatory signage to restrict unauthorized motor vehicles. In most instances, trail access will not include parking. In some locations trailheads with parking spaces could be provided, although these should not be located near residences or other locations where there are potential use conflicts.

Access gates restrict automobile entry to trail corridors especially at roadways (i.e. at E. 12th Street). The gate is designed with a lock and is hinged for easy entry by authorized personal. Typically the gate is set back from the adjoining street with enough clearance to allow work vehicles to safely pull off the street to open the gate. The gate is substantial enough to discourage removal or damage. A gap is left in the gateway that allows a bicycle or pedestrian to pass through but not a motor vehicle. Safety and regulatory signage, in accordance with MUTCD, on the street alerts motorists, as does similar signage on the trail alerts trail users of the gateway. Signage is placed an adequate distance ahead to allow response time and is designed per the MUTCD.

8. Paved Sidewalk

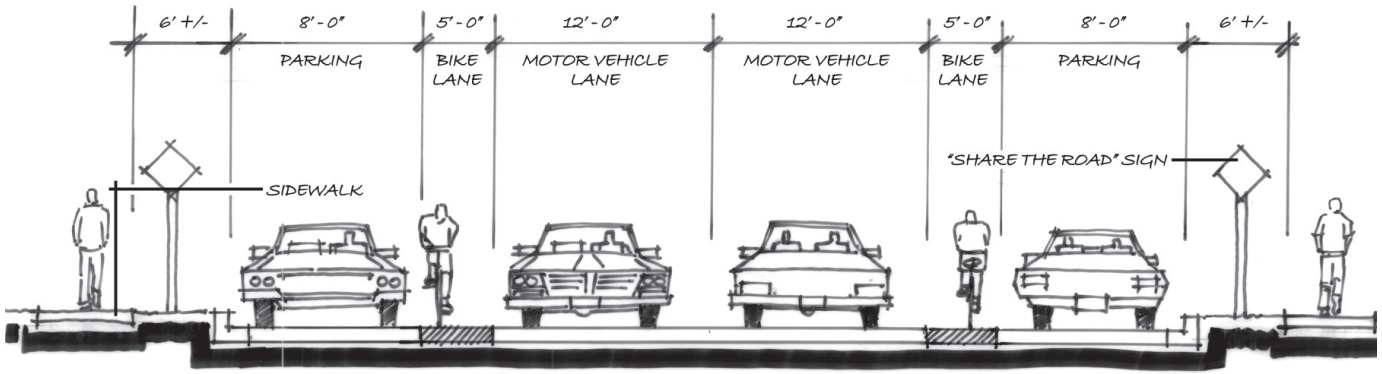
This is a 5'-wide concrete sidewalk designated for pedestrian use only. Ideally there is a 4'-6' tree median between the sidewalk and the roadway.



Typical Cross Section - Paved Sidewalk

9. On-Street Bicycling Routes

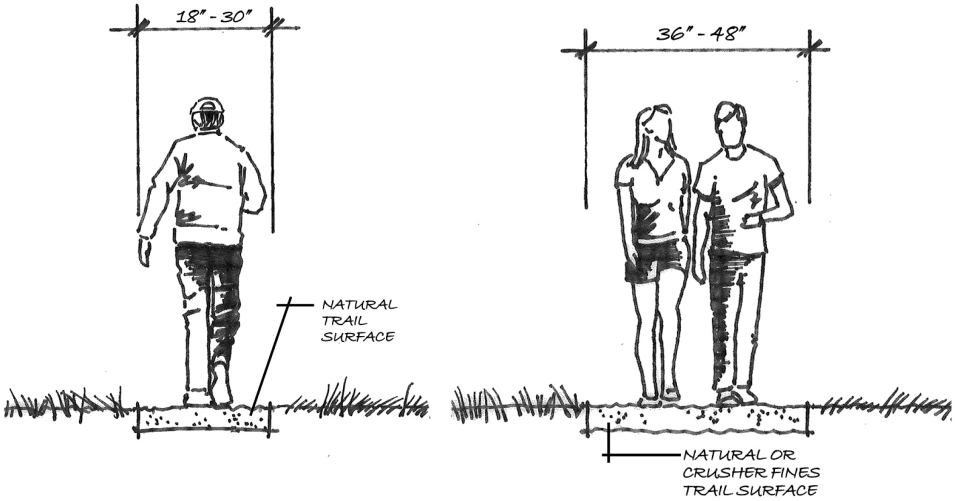
There are several "feeder" streets identified for on-street bicycle traffic and sidewalks including E. 12th Street. Typically these are where bicyclists share a lower volume, lower speed (25 mph) street with vehicles. This may consist of "share-the- road" yellow diamond caution signs with a bicycle symbol and placards that spell out "share the road". In some instances, there may be a designated bike lane defined by either a solid white paint strip or painted bicycle symbols applied to the pavement to designate bicycle use. Designs are per the *US Manual of Uniform Traffic Control Devices (MUTCD) and the AASHTO Guide to the Development of Bicycle Facilities.* Typically the shared lane is 13' wide if no parking lane.



Typical Cross Section - On-Street Bicycling Route

10. Blackmore Road Entry Park

This is a special feature proposed near Blackmore Road where there is an opportunity to create a trailhead/mini park. This site will overlook the Elkhorn Creek valley serving both as a trail access point as well as a small park. Amenities will include a small pond (built by expanding the current pond on the site) a paved loop trail around the point, an entry monument sign, orientation mapping showing the entire Casper area trail system, landscaping and possibly a small sun shelter.



Typical Cross Section - Natural Surface Trail

11. Natural Surface Trail

This is a graded dirt surface with appropriate erosion control and stabilization. Width may vary from 18" to 72". Depending on permitted use, this trail accommodates hikers, mountain bikes, all-terrain wheelchairs, and equestrians. It does not meet national (AASHTO) standards for bicycles. Typically grades do not exceed 5% with 12.5% for very short distances. (While not delineated in this specific plan, this cross section provides for the possibility that natural surface trails might be added at appropriate locations in the future).

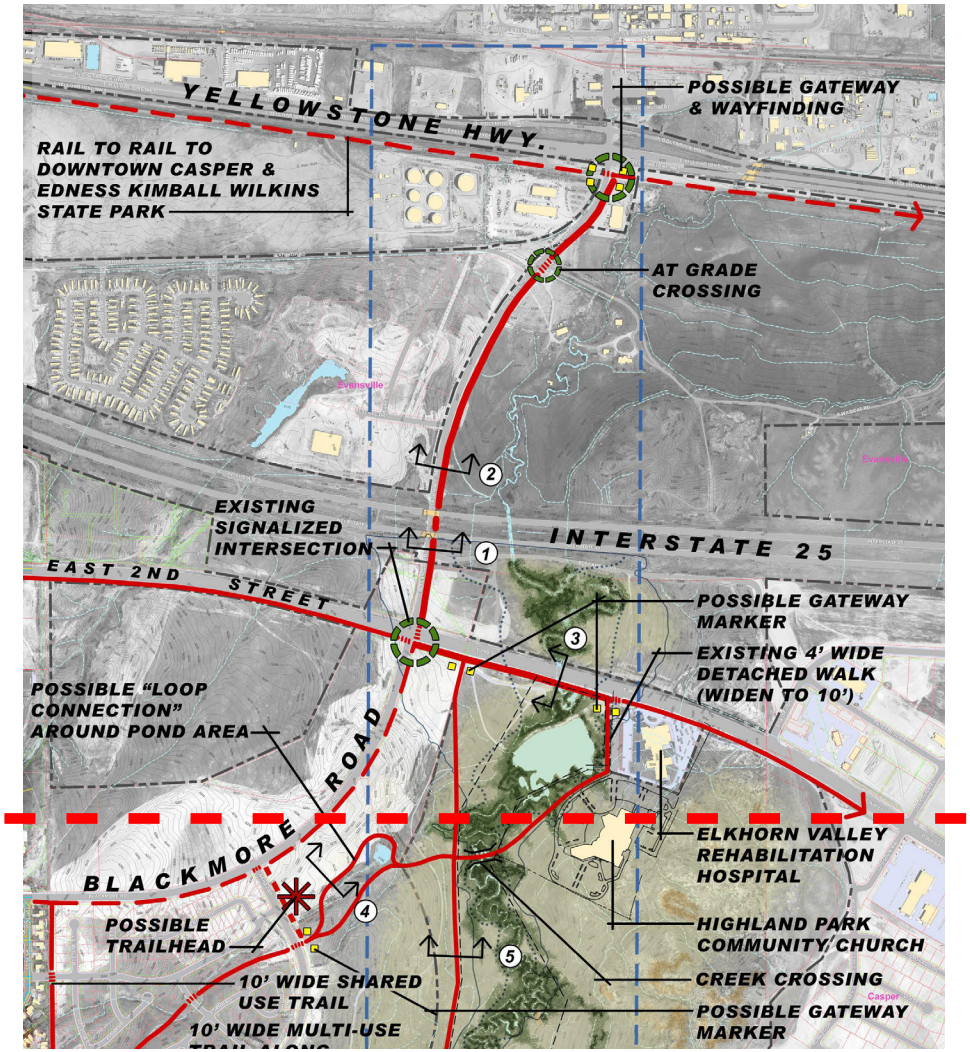
View of Rock Outcrops to the East

View of Geologic Rock Outcrops

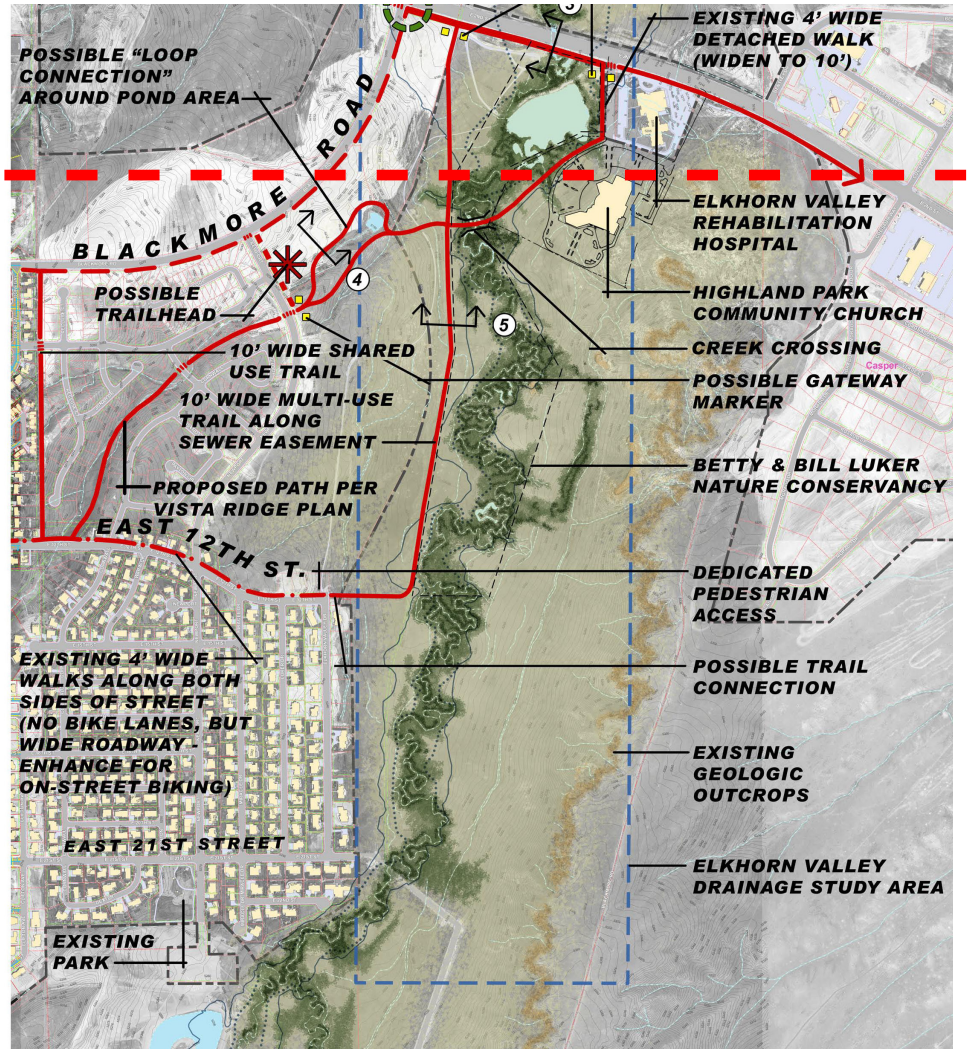
View of Elkhorn Valley

CHAPTER THREE: RECOMMENDED IMPROVEMENTS

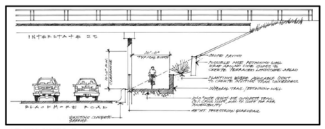
The Core Planning Area
Recommended Improvements
The Neighborhood Connectivity and Larger Trail Network

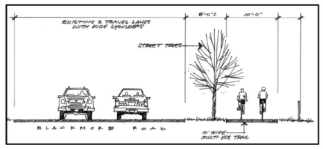


North Portion of Study Area



South Portion of Study Area


SECTION 1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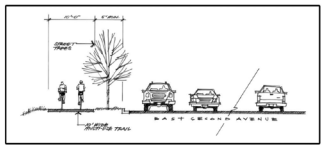
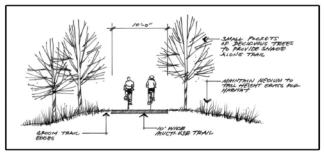

SECTION 3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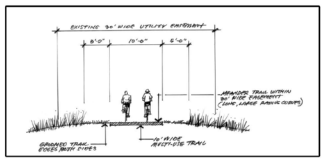
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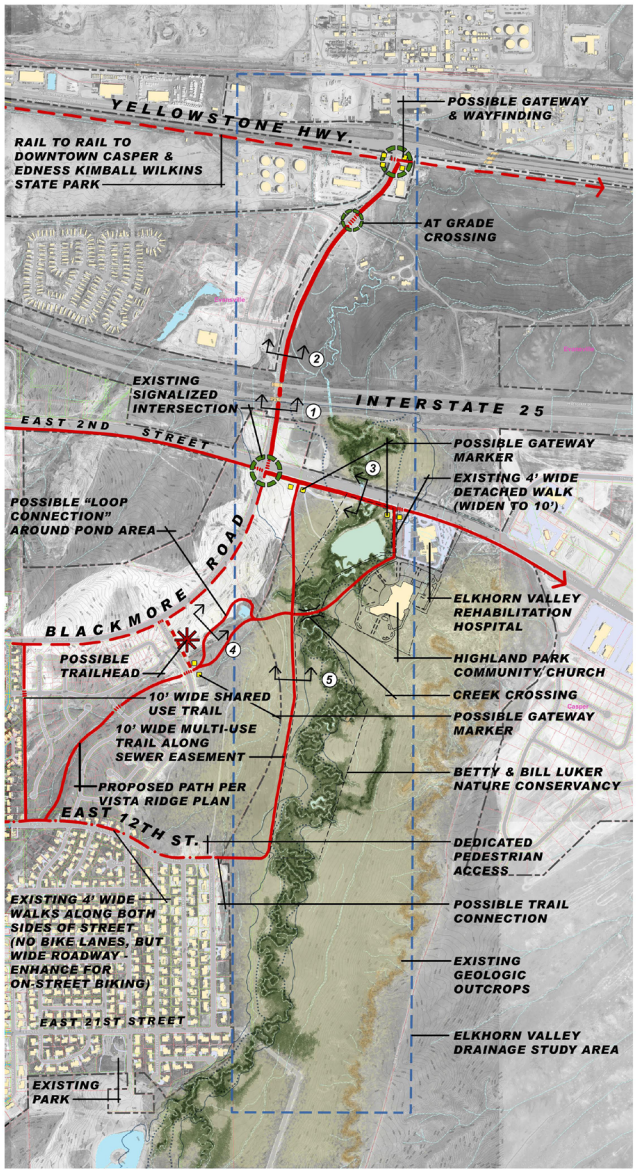


Legend

Cities
Ownership
Parcel Line
Easement
Buildings
Water
Road
Off-Street Parking
Rail Line
Hydro Line
Bridge
2 Ft. Contour
AT-GRADE CROSSING
TRAILHEAD
10' WIDE MULTI-USE TRAIL
EXISTING TRAIL
ON-STREET BIKE ROUTE
EXISTING WALKWAY
PROPOSED FOOTPATH

ELKHORN VALLEY / EASTSIDE
CONCEPTUAL TRAIL MASTER PLAN

Prepared By:
DHM Design / Greenway Team

Prepared For:
Casper Area Metropolitan Planning Organization
Platte River Parkway Trust

Date: July, 2010

NORTH
0 300
150 600
Scale: 1" = 300'

The Core Planning Area—E. 21st Street to Yellowstone Highway

This plan addresses two elements—a "core" study area that consists of the Elkhorn Creek riparian area between the Rail Trail (at Blackmore and Yellowstone Highway) and E. 21st Street, and a larger "community context" area defined by the neighborhoods of eastern Casper and Evansville. This section lays out recommended trail alignments and key feature areas building on the components described in Chapter 2

Recommended Improvements

Recommended improvements for this area include the following:

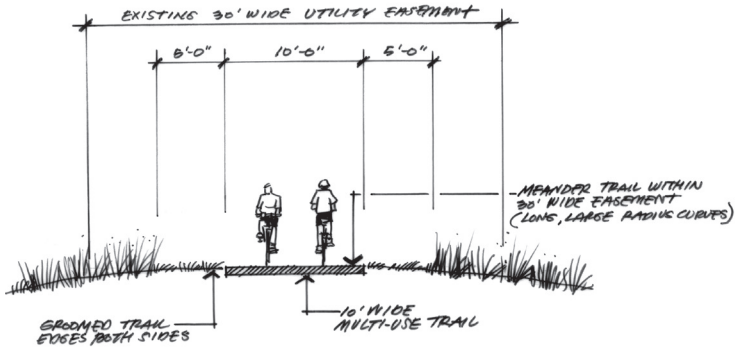
- A continuous paved multi-use pathway (walking, bicycle, skates, wheelchair) from just north of E. 12th Street to the Rail Trail at Yellowstone Highway
- A new roadside multi-use path running east/west along the south side of E. 2nd Street from Blackmore to Ranch Road and from Blackmore to Eastridge Mall
- Neighborhood gateway/access points
- A 1-to-4 acre "gateway park"/trailhead on Blackmore Road and Newport Street
- At grade trail crossings (at E. 2nd Street and Blackmore/Yellowstone Highway)
- Trail underpass along Blackmore at I-25 (modify I-25 underpass to accomodate trail on east side)
- Trail-related fixtures and furnishings including: signage, rest areas, shelters, restroom

The Multi-Use Trail

Totaling 0.9 miles in length, the paved concrete shared-use trail will mostly follow the east edge of the Elkhorn Creek riparian area from E. 12th Street to E. 2nd Street. At East 2nd Street the trail will come up to street grade affording an at-grade crossing of E. 2nd Street and Blackmore Road. This street crossing will be facilitated by a pedestrian-activated traffic light. Yellow diamond pedestrian trail-crossing signs are recommended for E. 2nd Street approaching the traffic light from both directions per accepted engineering standards.

The trail then proceeds north along the east side of Blackmore road separated from the traffic pavement by a 5'-10' wide median. The trail will pass under I-25 incorporated into the underpass structure by building an integral retaining wall. It will then continue north for approximately another 1/4 mile where it will intersect the Rail Trail at Yellowstone Highway. An improved at-grade trail crossing (east/west following the Rail Trail alignment) is recommended at Yellowstone Highway to facilitate traveling west on the Rail Trail.

View south along Elkhorn Creek



Typical Section Along Utility Easement on Luker Property

View north Along Blackmore Road

View North at I-25/Blackmore Road Underpass

In addition to the trail running parallel to Elkhorn Creek, a paved multi-use trail is recommended running along the south side of E. 2nd Street (separated from traffic by a 5'-10'-wide median) from Blackmore to Ranch Road. The existing sidewalk along E. 2nd Street from Blackmore Road to Eastridge Mall should also be upgraded. In addition, sidewalk upgrades are recommended running west along E. 2nd Street connecting to Eastridge Shopping Mall at Wyoming Boulevard. Minimally this should be a 5'-wide continuous sidewalk connecting without gaps to the shopping mall. In the near future, it should be upgraded to a 10-'wide multi-use roadside trail.

Access Points

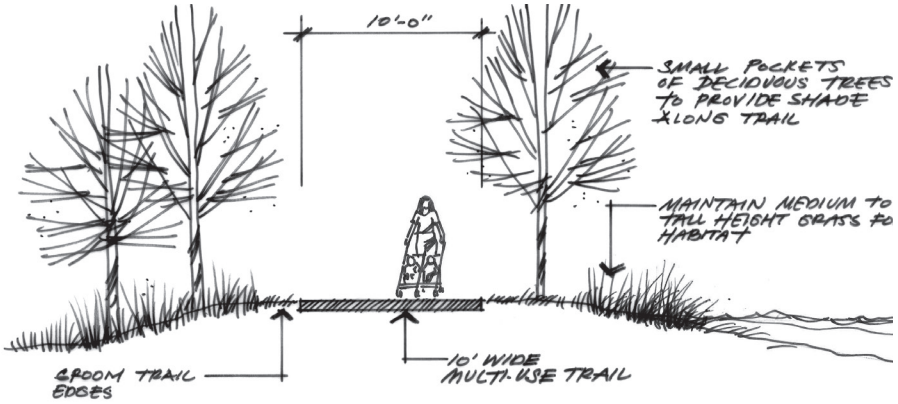
Improved trail access points are recommended at E. 12th Street, Newport Street (See "Gateway Park") E. 2nd Street, PR Road and at Yellowstone Highway. These access points include an entry marker or monument identifying the trail and a system map/wayfinding display. At major access points E. 12th Street and Newport Street entry markers will include user courtesy/ trail regulations and other relevant information.

View east Along E. 2nd Avenue

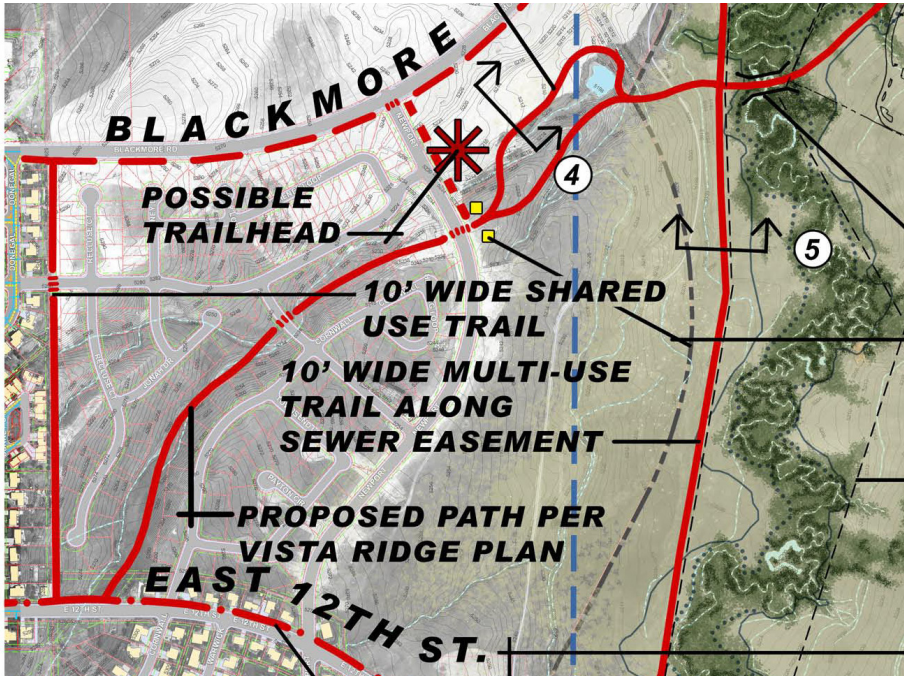
Existing Rail Trail at Yellowstone Highway

Gateway Park/Trailhead

This is a new special entry to the system. It will become a 1-to-4 acre neighborhood park. Improvements will include an expanded pond, a loop trail around the pond, and a trellis-shaded sun/storm shelter overlooking the Elkhorn Creek riparian area. There will also be a trail stub connecting to the main trail and a map/wayfinding display. This site might also include an interpretive display about the site, the creek riparian area and the Luker vision of wellness. Parking for up to 10 cars will be provided including an ADA-accessible parking space.



Trail Section around Pond (Gateway Park)



View East Toward Possible Gateway Park

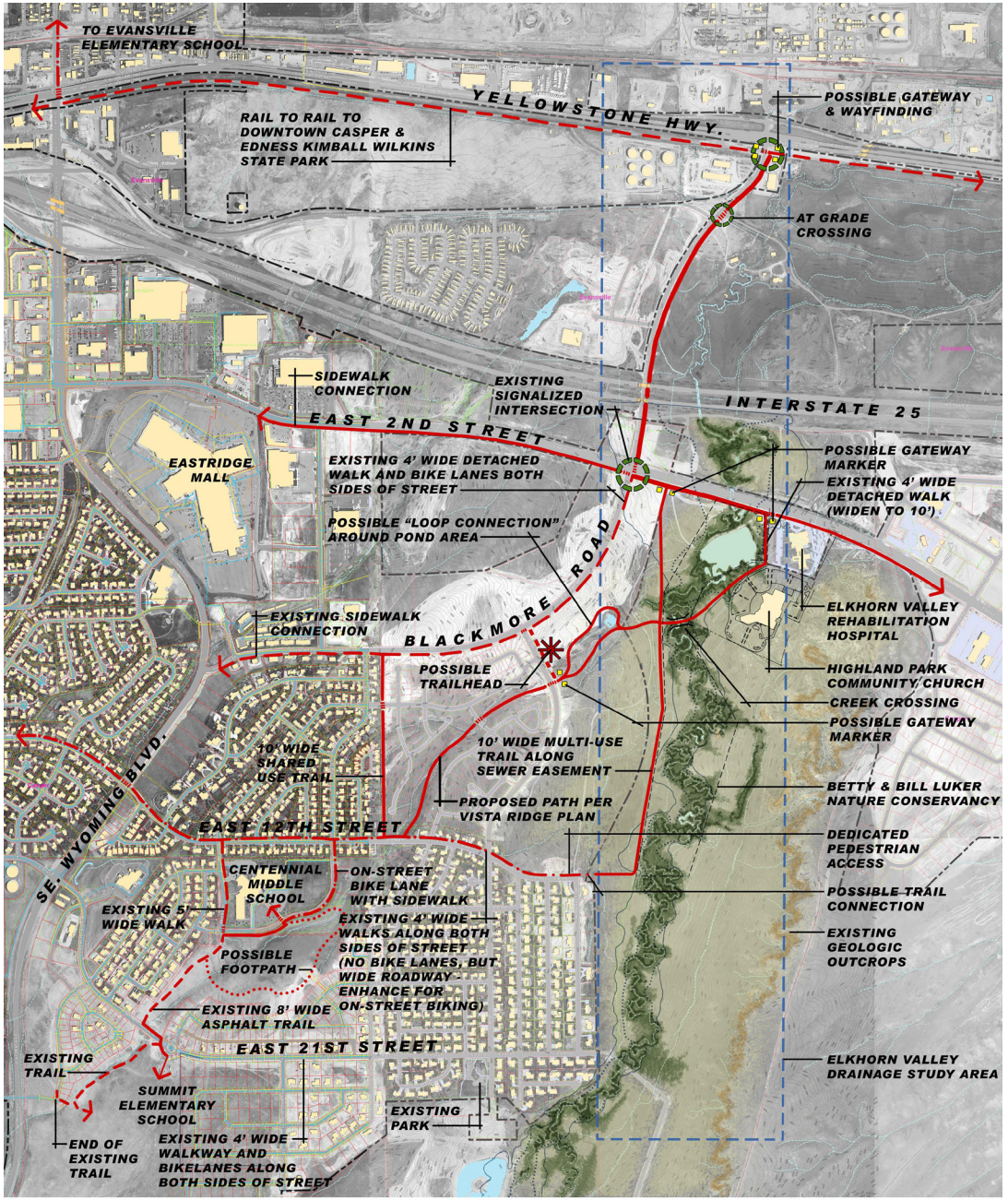
Fixtures and Furnishings

Fixtures and furnishings are depicted on the plan map with symbols and show suggested locations for rest areas, shelter(s), entry points, wayfinding displays, interpretive features and other suggested trail enhancements. In general it is recommended that the style and "branding" of the furnishings conform to the motifs currently employed along the Platte River and Rail Trail corridors. Improvements should also include indigenous tree, shrub and wildflower plantings along the trail and trees along the roadside multi-use pathways.

The Neighborhood Connectivity Plan and Larger Trail Network

Recommended improvements for this area include the following:

- Connecting multi-use pathways (pedestriasn, bicycle, skates, wheelchair) feeding into the Core area trail
- Delineated on-street bicycle and sidewalk routes
- Neighborhood gateway/access points
- Trail-related fixtures and furnishings including: signage, rest areas, shelters, restroom



Overall Connectivity Plan

Existing On-Street Route Along Blackmore

Existing On-Street Neighborhood Connecting E. 12th Street

Connecting Multi-Use Pathways and On-Street Routes

This plan envisions a network of inter-connected pathways feeding into the core trail system. The network includes trails following drainage ways and roadside pathways following major streets and arterials. In addition the network integrates and utilizes low-volume, low-speed streets with adequate cross sections to comfortably accommodate bicycles on the street along with pedestrians on adjacent sidewalks.

In addition to connecting to residential areas, the system connects with key destinations. These include: neighborhood schools (Summit Elementary and Centennial Middle School), churches, Eastridge Shopping Mall, parks, the Rail Trail, The Platte River Parkway and other destinations in Casper and Evansville.

Existing Trail Connection to Centennial Elementary

Wayfinding Examples

CHAPTER FOUR: IMPLEMENTATION

Organization Structure for Effective Implementation
Community Involvement
Rights-of-way and Permitting
Purchasing and fundrasing Strategy
Maintenance Activities, Cost, Responsible Agency

Organizational Structure for Effective Implementation

The Elkhorn Creek Trail will become an important community amenity when completed. It will be a key element in a neighborhood trail network serving the eastside neighborhoods. It will connect to, and become an integral element of, a larger metro-wide system linking to the Rail Trail and to the Platte River Parkway.

The complete trail network will pass through two cities, existing and proposed subdivisions, along street rights-of-way, underneath I-25 and with approval, through other ownerships and jurisdictions. This implies engaging a number of public and private sector partners including: The City of Casper; The Casper Area MPO; The City of Evansville; The Platte River Parkway Trust; Developers of the Luker property and the associated Luker property land trust. There will also be other stakeholders and participants including area property developers, Wyoming Department of Transportation and other area property owners with interests.

Going forward with successful and timely implementation the improvements envisioned in this plan, call for an effective and enduring organizational structure that can provide leadership and forge a cooperative effort among the parties to see all of the trail improvements through to completion. Skills in design, engineering, right-of-way acquisition, fundraising and overall coordination will be needed. Staff, consultants, political leaders and other champions for the project must be engaged in the process.

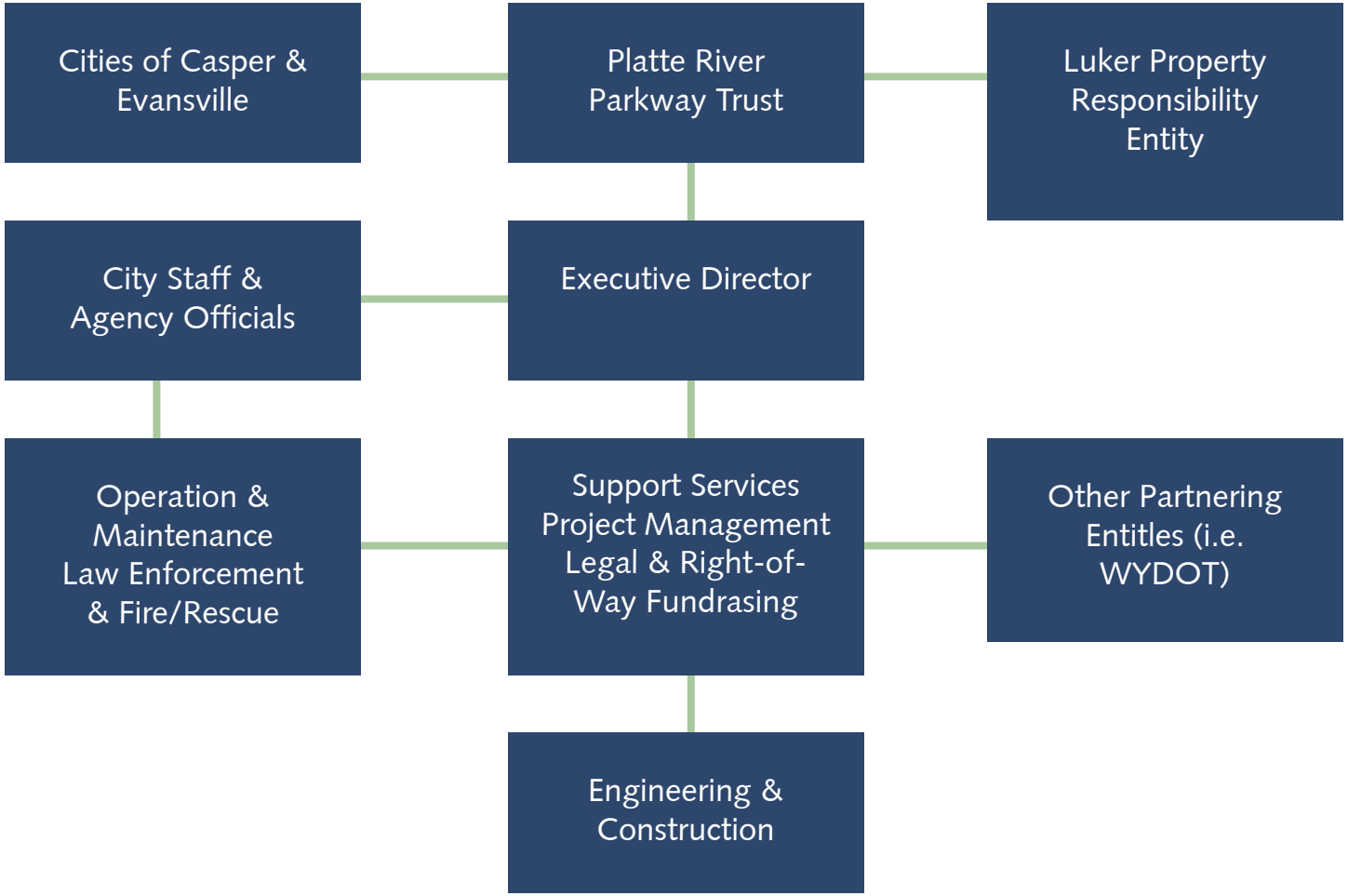
A key to this is having a designated entity and "point person" charged with managing the efforts and accomplishing completion of the project segments on time and within budget. There also needs to be a designated entity with authority to accept grants, appropriate funds, accept right-of-way conveyances, retain contractors, monitor construction and take on long-term operations and maintenance.

There are several models for accomplishing this ranging from public agency management to private sector leadership to a public/private partnership. Casper is fortunate to have a successful history of public/private partnering to build trails. This is clearly demonstrated by the Platte River Parkway and the Rail Trail efforts. Given the successful history and demonstrated capability of the Platte River Parkway Trust, it is recommended that the Trust, in cooperation with the Cities of Casper and Evansville, manage the effort.

In this scenario, the Trust leads the development effort providing staff services to pursue rights-of-way, raise funds, coordinate planning, design and construction, and otherwise oversee and lead key implementation activities. This, of course, is carried out in close cooperation with the other partnering entities. In most cases, as appropriate, depending on funding sources and other considerations, the respective city agencies would take on responsibility for contracting and supervising construction services and in some instances engineering. The Trust, in cooperation with the cities and the Luker organization, will oversee operations and maintenance. The appropriate police, fire and rescue authorities will have responsibility for law enforcement and security along the trail and on associated park properties

The following table might best describe the management structure and working relationships.

Elk Creek and East Casper Area Trail Implementation Organizational Framework



Community Involvement

This trail plan included a community participation process. Area residents, trail recreationlists, churches, schools, businesses and others along the corridor all have a stake in the outcome of the trail construction process. These individuals and entities should be kept well abreast of progress on the trail in a timely manner and their input openly received and responded to. The Project Coordinator should keep a list of the contacts and regularly brief them. This might also include holding public update meetings at key junctures in the implementation process.

Rights-of-Way and Permitting

To expedite the process—and because right-of-way and permitting can be a lengthy process—these efforts should move forward expeditiously. While significant portions of the proposed trail corridor is on a single property, completing linkages to the nearby neighborhoods and to the Rail Trail and Platte River trail will also require securing rights-of-way. Permits, including possible approvals under Sec 404 of the Clean Water Act, may be required for any trail work that impacts wetlands. Acquisition areas include, but are not necessarily limited to the Luker Property; routes for connecting trails to adjacent neighborhoods; an underpass beneath I-25; trail rights-of-way needed alongside roads in both Casper and Evansville; and through other private properties with owner approval. Additional connecting on-street bicycles routes will need designation and signage.

Typically easements provide the best acquisition instrument. Easements are a permanent land ownership instrumment that does not include the entire property, just the right-of-way for a trail and any associated landscaping and/or conservation areas. The process will require surveying, legal descriptions, negotiation, appraisals and legal services. If outside funding is involved, such as federal transportation enhancement funds, more stringent steps may be required and must be carefully adhered to. While there are no known environmental hazards (i.e. contaminants) proper due diligence is always recommended that may include a site evaluation by a qualified environmental consultant.

Phasing and Fundraising Strategy

A cost estimate was prepared as part of this plan. Please see Appendix "A". It is a "planning level" estimate useful for initial budgeting, phasing and fundraising. It is anticipated that design consultants will prepare more detailed cost estimates during the construction phase. Based on available funding and other considerations, the project will be divided into several phases and funds budgeted with the goal of completing projects. It is recommended that a logical usable phase, that can stand on its own, be completed each year.

Project Phasing and Next Steps

Phasing of projects is best guided by several factors including:

- An immediate opportunity such as the trail corridor envisioned by the Luker Property interests
- Completing a logical usable trail connection or improvement
- Availability of funding to build and maintain improvements
- Catalytic projects that build public support and promote further fundraising
- Availability of rights-of-way and permitting.

Based on these criteria and the logical phases appear to be:

- **Phase I: Luker Property Improvements and Neighborhood Network:** Construct the gateway trailhead/neighborhood park along Blackmore Road including improvements to the pond and loop trail around the pond. Construct the proposed trail following Elkhorn Creek from a new gateway trailhead. Provide a gated trail access just north of 12th Street. Work with local developers to construct and complete trail connections in the neighborhoods, schools and businesses to the east—especially along the creek drainage through Vista Ridge subdivision. This also includes improving and completing the trail that follows the north/south alley east of Recluse Court.

- **Phase II: Eastside Link:** Construct a trail link crossing Elkhorn Creek north of 12th Street that links to E 2nd Street to Highland Valley Community Church and the Elkhorn Valley Rehabilitation Hospital at E. 2nd Avenue.

- **Phase III: Rail Trail Link:** Complete Rail Trail to the intersection of Blackmore Road and E. Yellowstone Highway.

Future Phase: Complete a network of on-street and off-street trail connections to the Platte River tying in to Evansville. This could potentially include securing a right-of-way through the largely vacant land west of the Sinclair refinery where there is an existing underpass beneath the railroad.

Funding Strategy

There are several potential funding sources likely to be available over the next several years. Theses include:

The Optional One Cent Sales Tax—This program has been a prime funding source for trail and greenway programs in the Casper area including the Platte River Parkway and Rail Trail effort. This will likely be a prime funding source for the improvements recommended in this plan.

The Luker Property—The owners and developers of the Luker property have indicated a desire to donate trail right-of-way and other benefits to the trail effort.

Nearby Developers and Property Owners—Several properties adjacent to the Elkhorn corridor are currently undergoing development or largely vacant. It will be important early on to work with these interests to define trail connections, secure rights-of-way and promote trail improvements to close any gaps in the trail network connecting toadjacent neighborhoods.

Federal Funding—There are a number of potential federal programs that could become available. These include transportation enhancements monies, trails monies, Land and Water Conservation funds, "ARRA Stimulus" programs, health and fitness and community development programs. It will be helpful to monitor federal web sites to identify programs. American Trails (www.americantrails.org) typically posts alerts about various programs. Possible time delays or more stringent grant terms and requirements and associated administrative costs should be weighed in considering certain federal programs. The benefit of larger grants ($500,000 or more) and lower matching requirements may offset the higher application and administrative costs of some programs.

Individual, Philanthropic and Corporate Giving—There are several possible sources of private sector funding for trail projects. Programs and levels of sponsorship vary. Again, the Platte River Parkway Trust has been and is in the best position to seek and accept funds from private donors.

In-Kind and Volunteerism—There may be opportunities to engage in-kind services from public agencies or private participants both in land donations and possibly use of equipment, labor or materials. This might also include youth programs, scout projects and volunteerism.

The table below summarizes the next key steps in the implementation process:

Key Step	Lead Entity(ies)	Timeframe
Confirm Organization structure/designate project manager	Cities/PRPT	July 2010
Finalize Luker Plans and execute appropriate agreements	Cities/PRPT	Sept 2010
Initiate securing of rights-of-way and permits	PRPT	July 2010
Initiate Fundraising Program	PRPT	Sept 2010
Initiate Preliminary Design	Cities/PRPT	Jan 2009
Complete Bid Documents for Phase I	To be determined	Apr 2010
Initiate construction of Phase I	Cities/PRPT	July 2011
Complete construction of Phase I Trail/Cut Ribbon	Cities/PRPT	Nov 2011
Complete Bid Documents for Phase II	Cities/PRPT	2011-2012
Complete construction of Phase II	Cities/PRPT	2012
Complete construction of Phase III	To be determined	2011-2012

Maintenance Activities, Costs, Responsible Agency

Key maintenance activities will include:

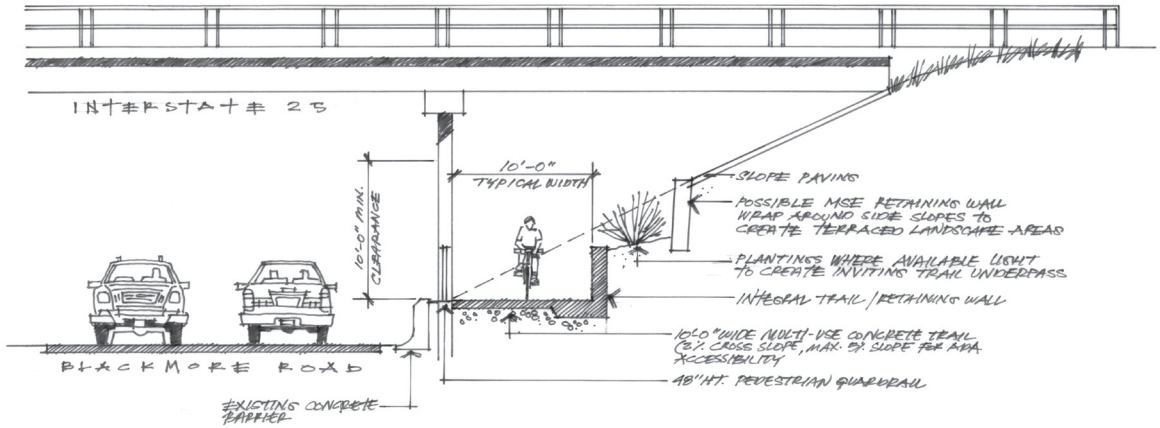
- Trail maintenance patrol and monitoring
- Trail sweeping
- Trail corridor weed and vegetation management
- Trail surface, fixture and furnishings routine repair
- Watering trees and landscape materials
- Application of fertilizer and pest management
- Litter and debris removal
- Remedial repair of improvements such as fixing washouts, erosion
- Public safety and rescue patrol, enforcement and emergency services

Annual operations and maintenance costs are estimated to run between $2,500 and $8,000 per mile depending on the level of improvement and maintenance.

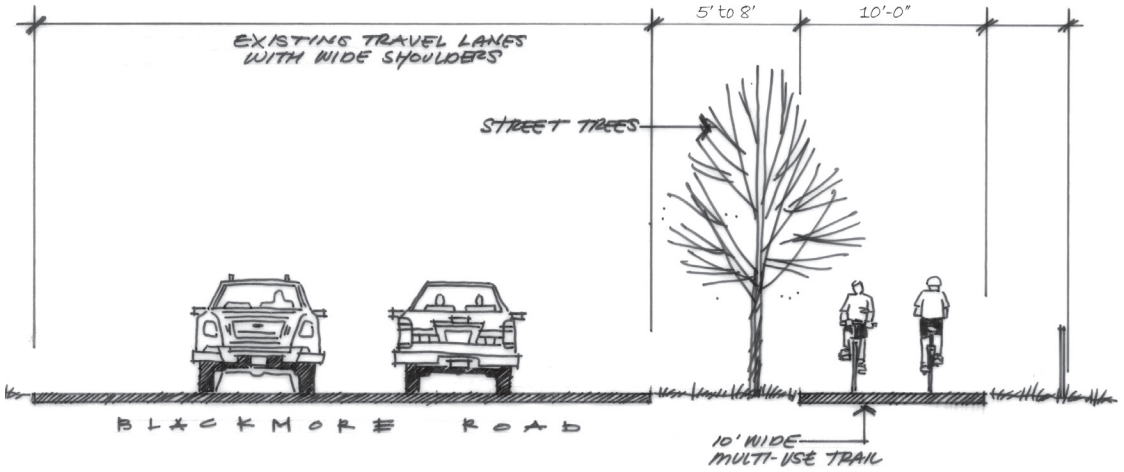
Per working agreements, the Platte River Parkway Trust and the Cities will be responsible for all operations and maintenance activities—except drainage related activities

APPENDIX

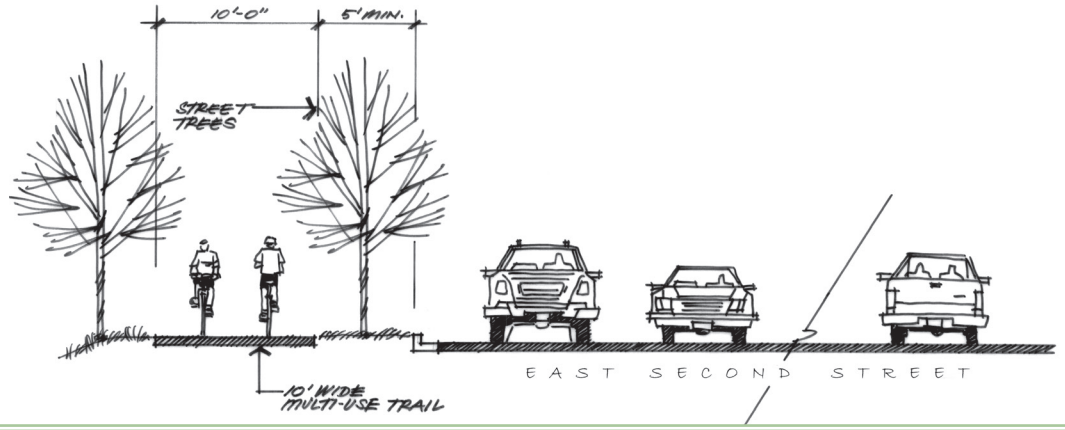
A. Plan Layout and Cross Sections
B. Inventory and Analysis
C. Cost Estimates
D. Alternate Layouts Considered



Section 1

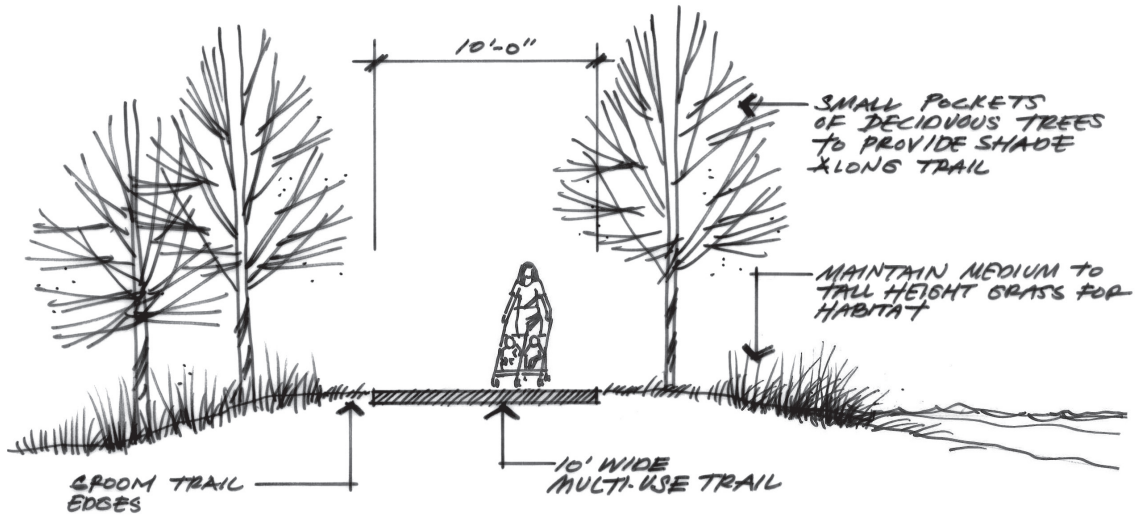


Section 2

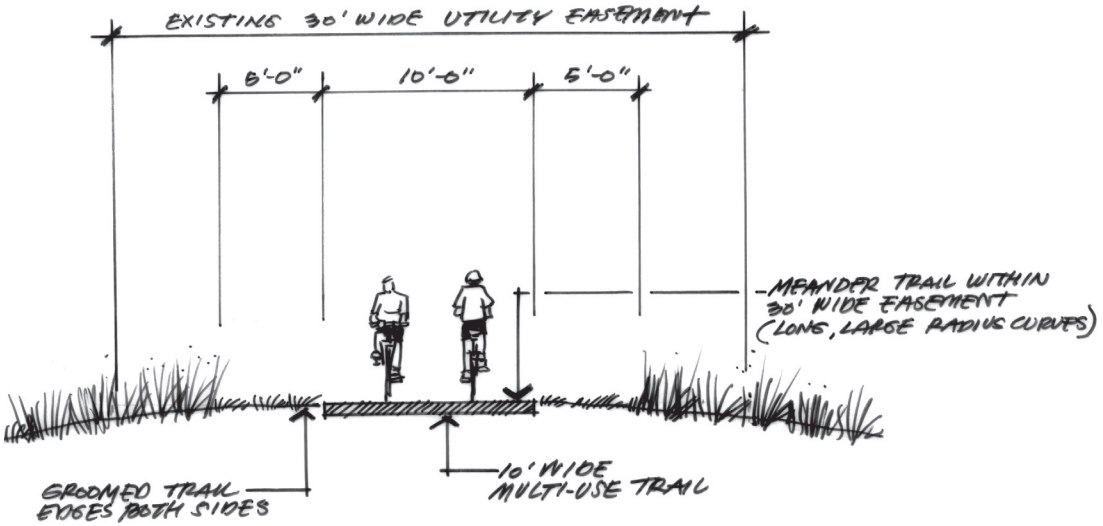


Section 3

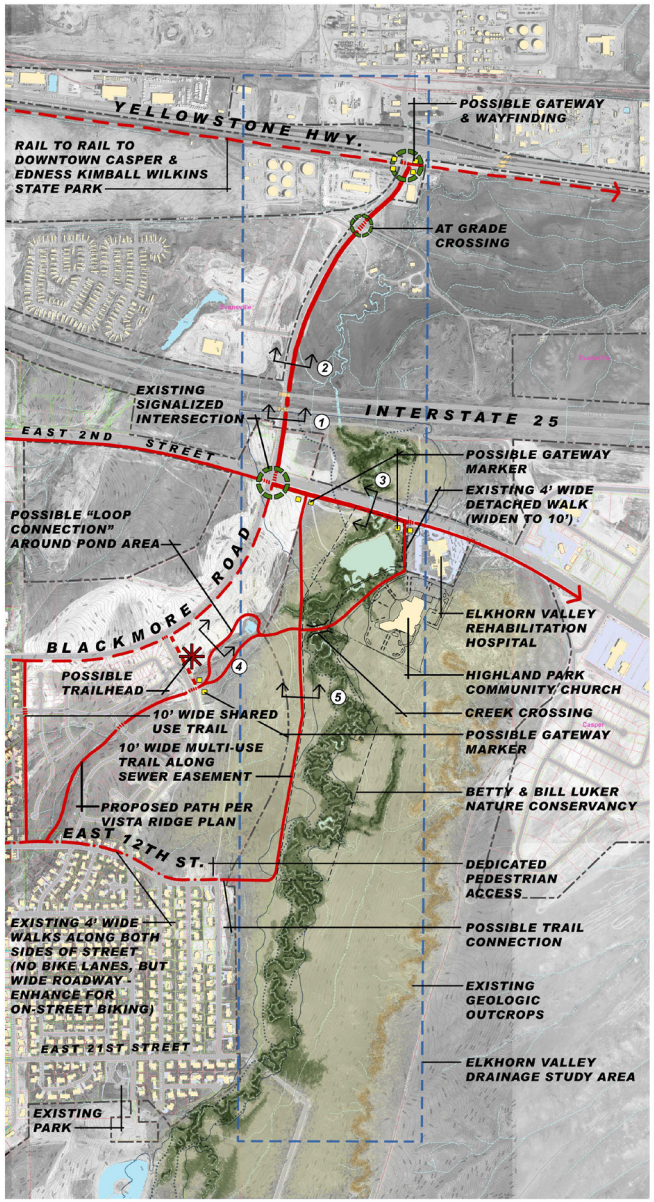
A. Plan Layout and Cross Sections



Section 4



Section 5



ELKHORN VALLEY / EASTSIDE

CONCEPTUAL TRAIL MASTER PLAN

Legend

Cities, Ownership, Parcel Line, Easement, Buildings, Water, Road, Off-Street Parking, Rail Line, Hydro Line, Bridge, 2 Ft. Contour

AT-GRADE CROSSING

TRAILHEAD

10' WIDE MULTI-USE TRAIL
EXISTING TRAIL
ON-STREET BIKE ROUTE
EXISTING WALKWAY
PROPOSED FOOTPATH

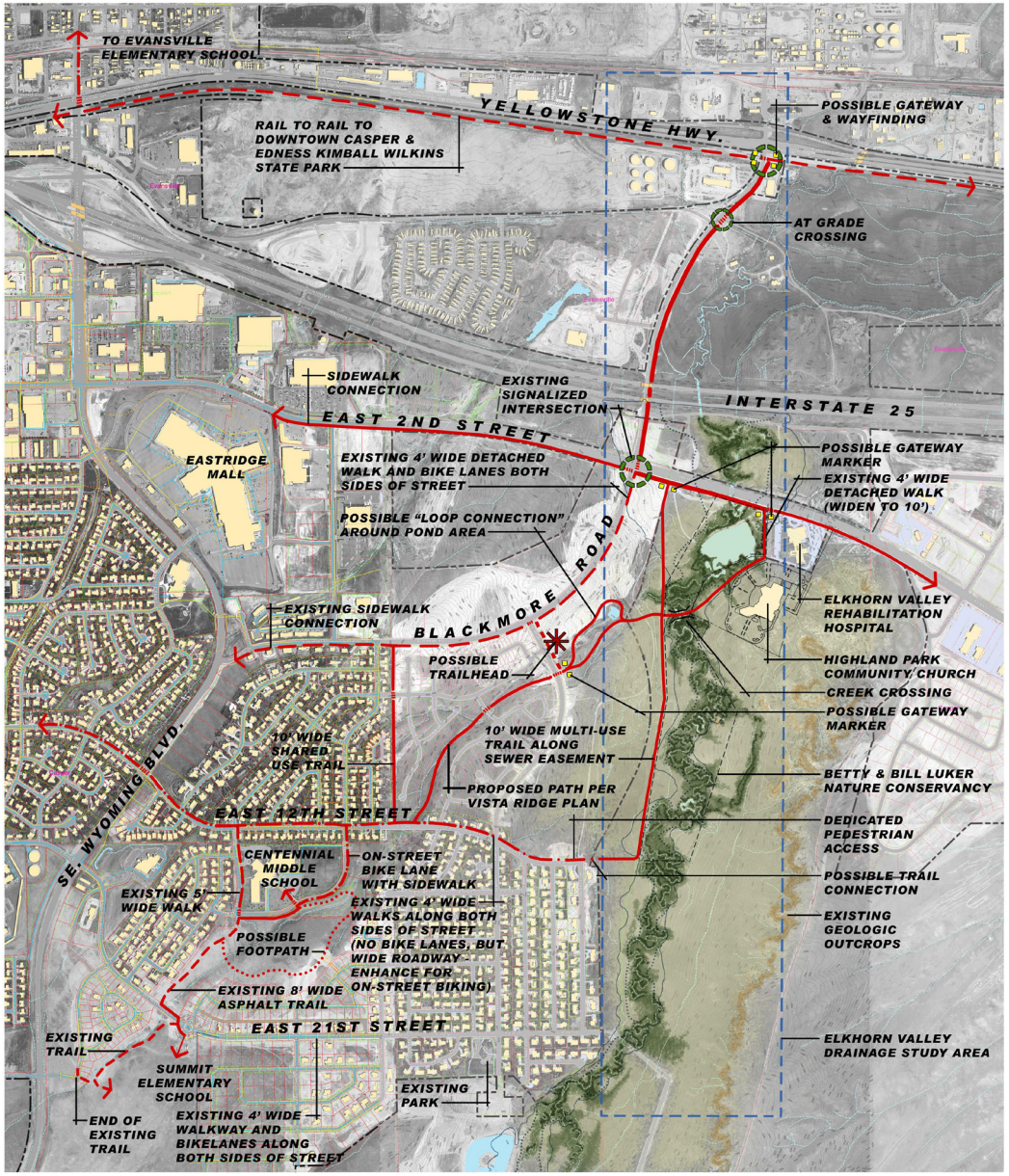
Prepared By:
DHM Design / Greenway Team

Prepared For:
Casper Area Metropolitan Planning Organization
Platte River Parkway Trust

Date: July, 2010

NORTH
0 300 150 600
Scale: 1" = 300'

A. Plan Layout and Cross Sections



ELKHORN VALLEY / EASTSIDE

OVERALL NEIGHBORHOOD CONTEXT & CONNECTIVITY PLAN

Prepared By:
DHM Design / Greenway Team

Prepared For:
Casper Area Metropolitan Planning Organization
Platte River Parkway Trust

Date: July, 2010

NORTH
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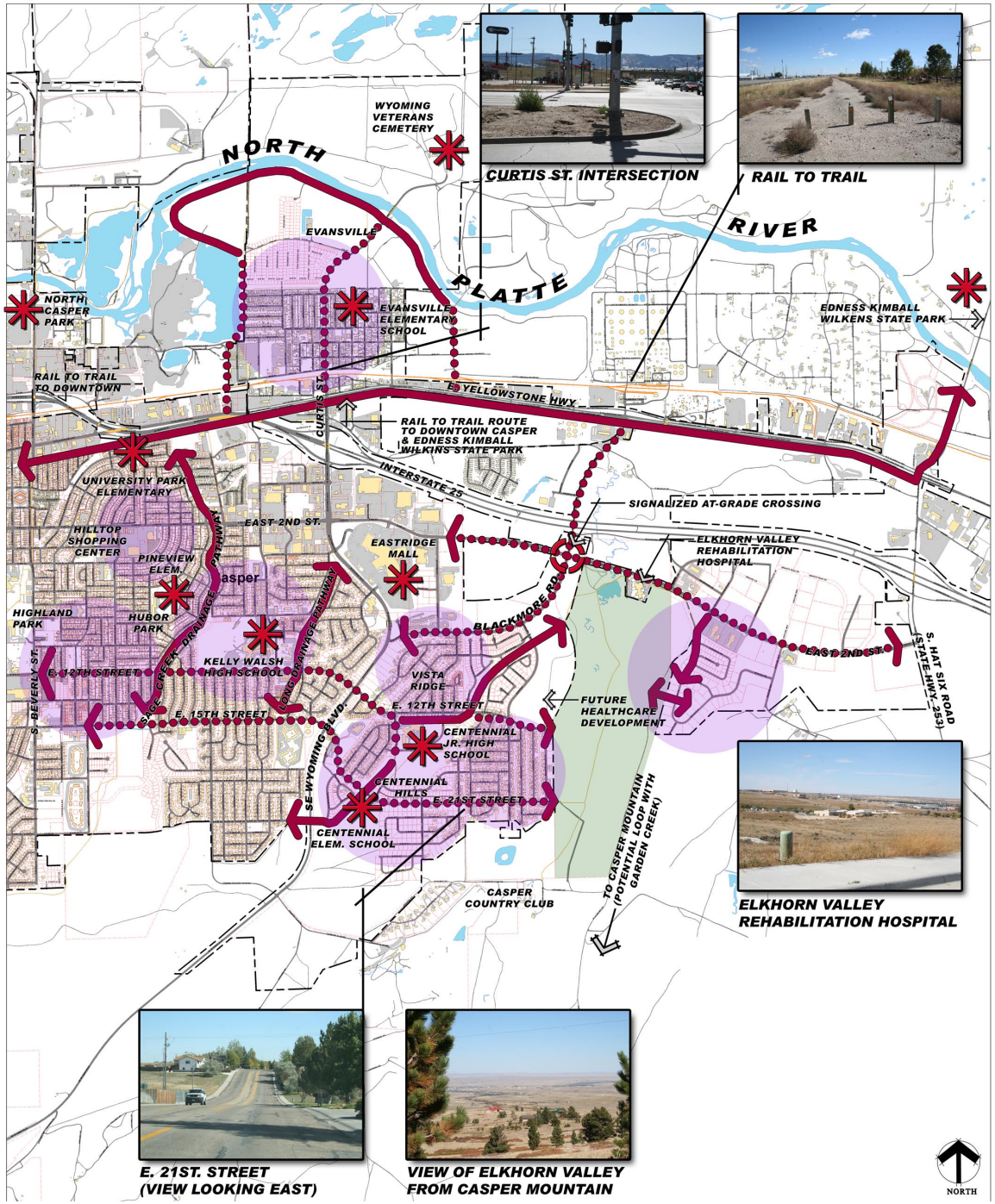
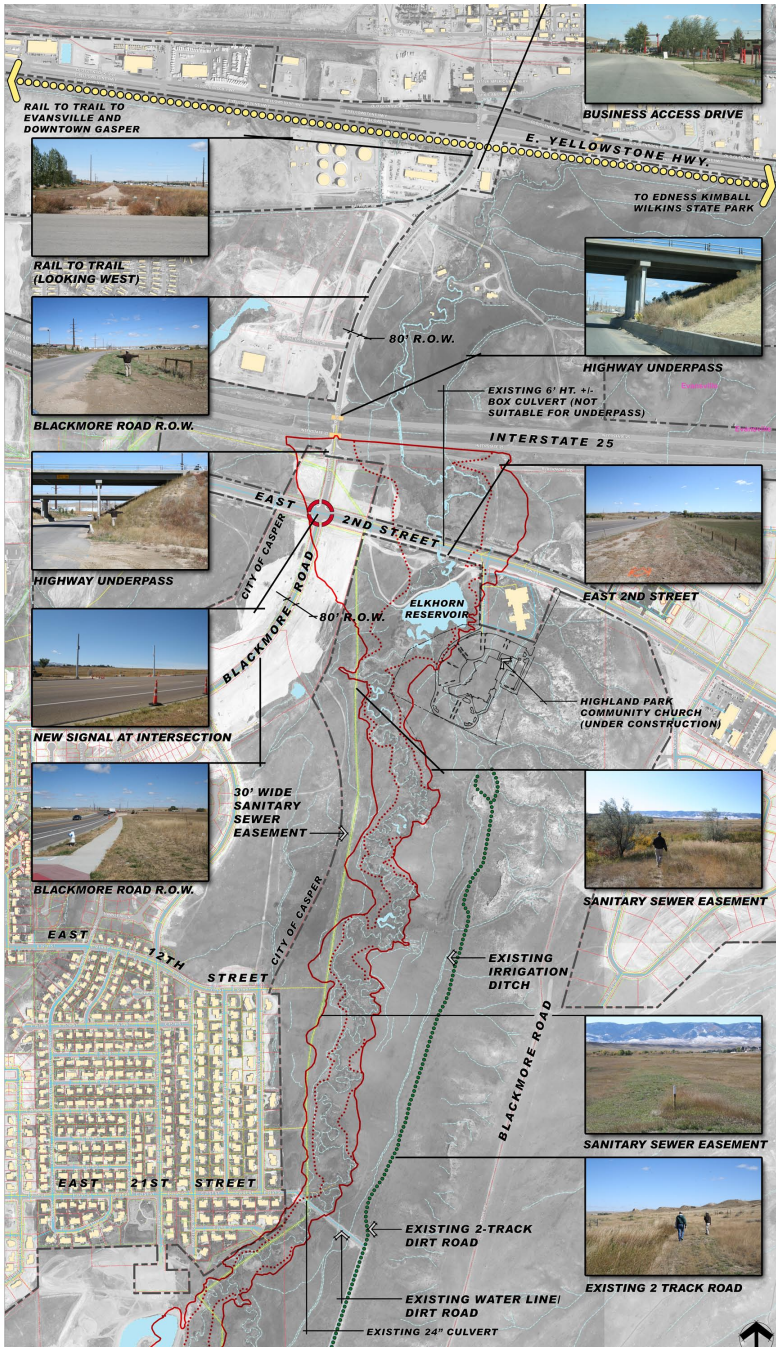
150 600
Scale: 1" = 300'

A. Plan Layout and Cross Sections

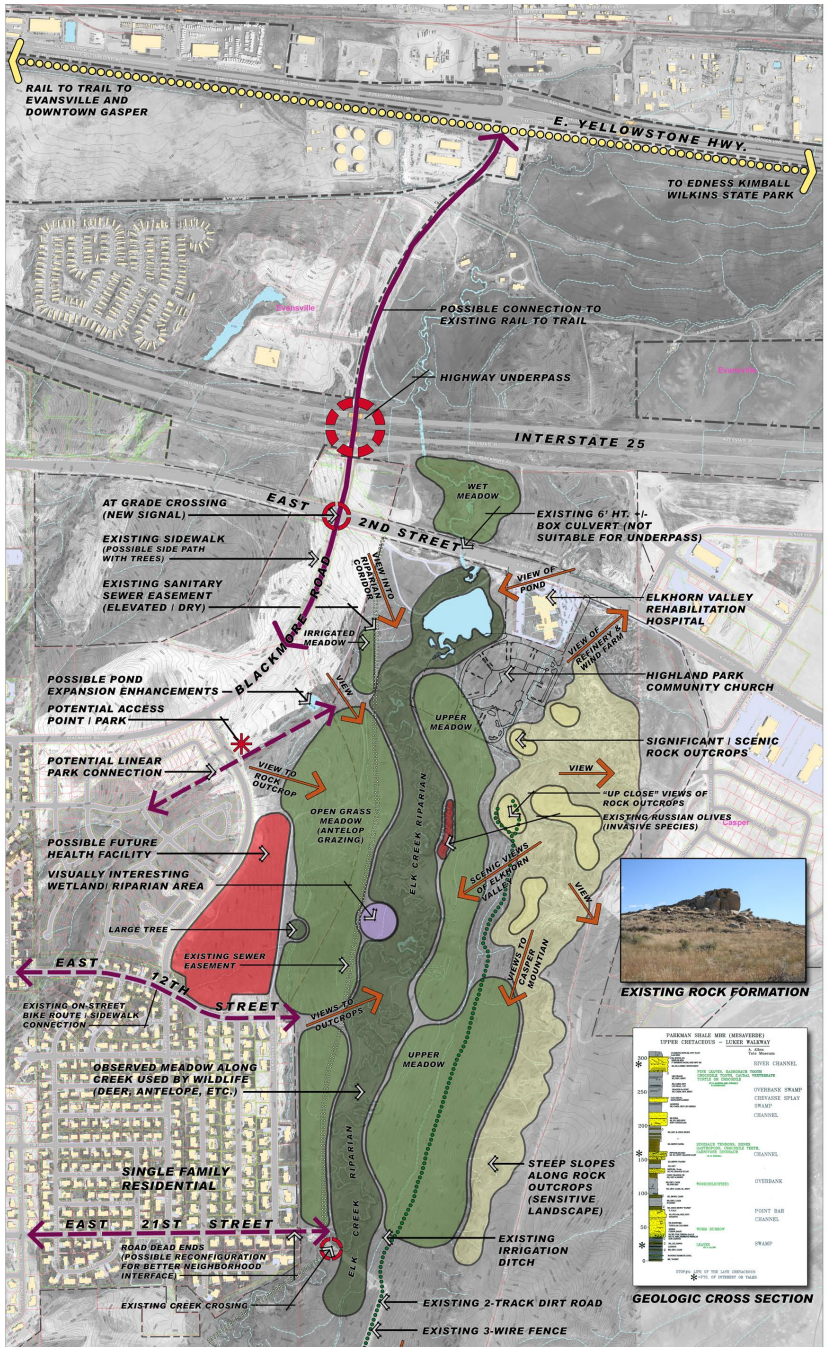


Context Plan

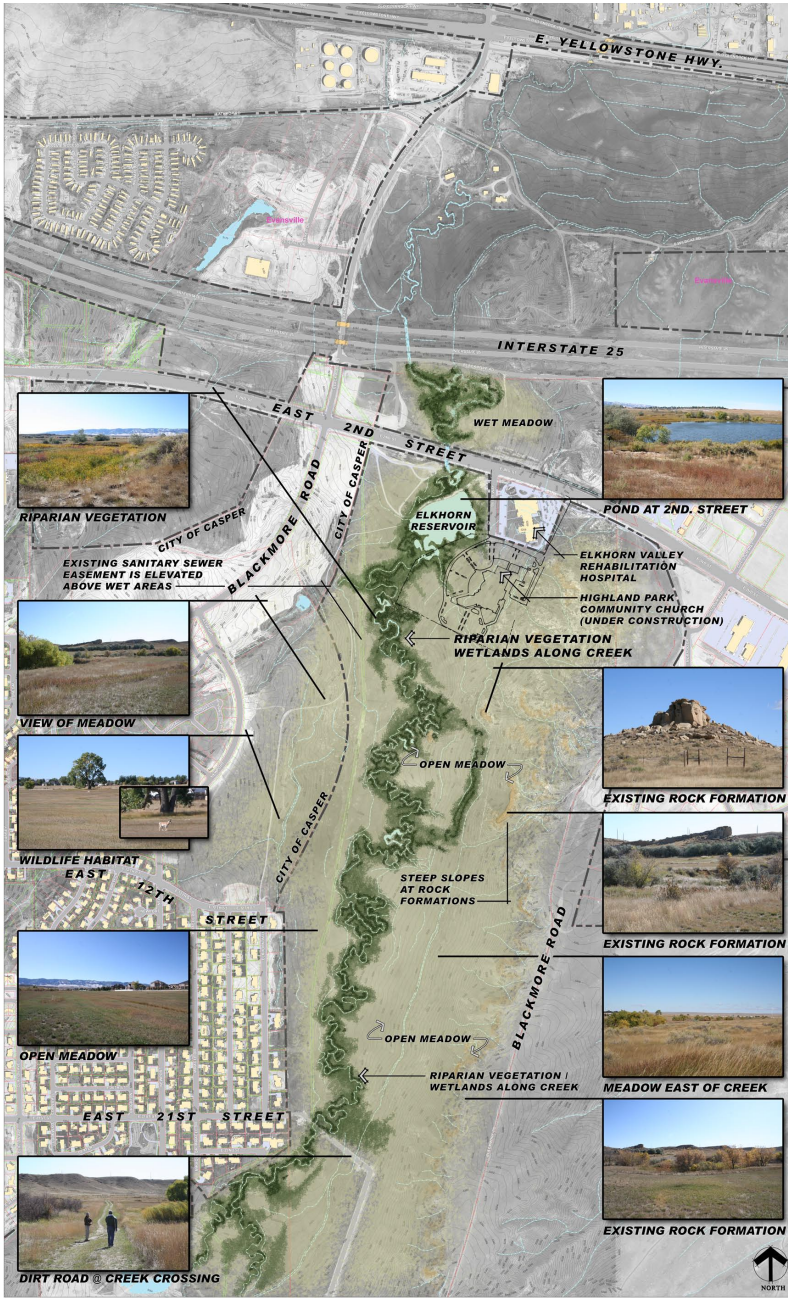
Legend
- On-street / Sidewalk
- Off-street Trails
- Destinations
- New Signalized Crossing



Analysis Map - Utilities, R. O. W. Easements



Site Analysis - Opportunites & Constraints



Site Inventory - Topography, Vegetation, Habitation

Site Inventory - Ownership

TETRA TECH

January 13, 2010

Mr. Bill Neumann
DHM Design
1390 Lawrence Street, Suite 100
Denver, Colorado 80204

RE: Informal Threatened and Endangered (T&E) Species Assessment and High Water Observations

Mr. Neumann,

Tetra Tech has completed an informal assessment of the planned Elkhorn Creek Pathway in accordance with our proposal dated June 9, 2009. The objectives of the assessment were to determine if the project area (see attached map) has the potential to be occupied or utilized by threatened and endangered species and to compare the proposed pathway with the seasonal high water mark. The assessment consisted of a review of a US Fish and Wildlife Service list of threatened and endangered (T&E) species that could potentially occur within Natrona County (USFWS 2009). The species habitat needs and historic and current distributions within Natrona County were evaluated through the review of scientific literature (refer to the *Literature Consulted* section for references). In addition, an informal site evaluation was conducted on October 27, 2009 by Mr. Joe Scott. The purpose of the site evaluation was to determine if suitable habitat for any T&E species occurs within the project area and to determine if there were any obvious visual indications of T&E species. Observations of the seasonal high water mark in relation to the proposed pathway were also noted during the site evaluation.

T&E
The USFWS T&E list indicated that there were eight T&E species that could potentially occur within Natrona County. The distribution and habitat needs of these species were reviewed and it was determined that these species do not have a history of occurring in the project area and habitat does not occur. In addition, there were no indications of T&E species noted during the site evaluation. No Sage Grouse (*Centrocercus urophasianus*) or Sage Grouse habitat was observed during the site evaluation. A member of the local Sage Grouse working group also informed Tetra Tech that they were not aware of that any of the collared birds from the relatively nearby Hat Six group has made it anywhere near Elkhorn Creek.

DHM has mentioned the possibility of creating a loop path up to one of the rock outcrops. There are two prominent outcrops at the site on the east side of the creek. The southern outcrop (see map) contained a number of what appeared to be American Kestrel (falco sparverius) nest sites (see photos). Rock cavities provide good nesting habitat for the Kestrels. A path that came too close to these nest sites could affect the nesting success of the Kestrels. The northern rock outcrop did not contain these nesting sites. Only one perching site was noted; therefore using the northern outcrop for the loop path would likely reduce affects on nesting raptors.

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Tel 307.234.2126 Fax 307.266.5143 www.tetratech.com

The current land use of most of the area around Elkhorn Creek is irrigated grassland. A change in this land use could cause a change in the species that occur at this location and possibly change the conditions noted above.

High Water
As part of this study we were requested to examine Elkhorn Creek in the project area to determine if the pathway as planned would be inundated on a seasonal basis. We did not examine the planned pathway relative to the potential for inundation resulting from unusual flood events such as a 10, 25 or 100 storm event. Our review was based solely on a visual examination of the project area and the planned pathway as described below. The only additional source of information we used was the Casper and Brookhurst 7 ½ minute USGS topographic maps.

Elkhorn Creek lies in a broad valley which gradually widens to the north (see photos). In the project area, the east side of the valley is steeper sided than the west side. The creek, as observed in 2009 and early 2010 is meandering, narrow and shallow, occupying only a very small portion off the valley. For most of the study area, a short distance above the current creek an obvious embankment is present along both sides of the creek.

The path was described by DHM as following the sewer line south from Second Street along the western edge of the creek and then crossing to the east on the existing creek crossing and then progressing back northward along the existing dirt road to the east of the creek to the Highland Park Church site (see site map attached).

During the inspection there were no obvious indications of seasonal high water extending to the planned pathway, except in the area around the crossing (see map). In this area, the water level is approximately two feet below the level of the ground surface at the crossing, with only a small culvert in place to carry the water beneath the crossing. It appears possible that during normal seasonal flooding, this portion of the planned pathway could be inundated for a significant distance either as a result of a natural rise in the water level or if debris were to block the culvert.

Conclusions
Neither the T&E observations nor the seasonal high water observations can be considered a formal assessment and the observations noted herein cannot be purported as such. If a more conclusive determination of T&E species or drainage information is needed formal studies should be completed.

Sincerely,
TETRA TECH

Dave Weinert, P.G.
Environmental Services Manager

Enclosures: Proposal Dated June 9, 2009
Site Map
Site Photos

Literature Consulted

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Fertig, W. 2000. Status review of the Ute ladies tresses (Spiranthes diluvialis) in Wyoming. Report prepared for the Wyoming Cooperative Fish and Wildlife Research Unit, US Fish and Wildlife Service, and Wyoming Game and Fish Department by the Wyoming Natural Diversity Database, Laramie, WY.

Fertig, W. 2001. 2000 survey for Blowout penstemon (Penstemon haydenii) in Wyoming. Prepared for the Bureau of Land Management Wyoming State Office by the Wyoming Natural Diversity Database, University of Wyoming, Laramie, WY.

Travsky, A. and G. P. Beauvais. 2004. Species assessment for the Whooping Crane *(Grus Americana) in Wyoming.* http://www.uwyo.edu/wynddsupport/docs/Reports/SpeciesAssessments/Whooping%20Crane%20-%20Final%20.

U.S. Geological Survey, 1984, Brookhurst 7 ½ Minute Topographic Map.

U.S. Geological Survey, 1984, Casper 7 ½ Minute Topographic Map.

U.S. Fish and Wildlife Service (USFWS). 2009. Federal endangered and threatened species and designated habitats that occur in or may be affected by projects in Natrona County, Wyoming: August 2009. http://www.fws.gov/wyominges/PDFs/CountySpeciesLists/Natrona-sp.pdf

USFWS. 2010. Endangered Species Act consultations with the USFWS. www.fws.gov/platteriver

ELKHORN VALLEY OPEN SPACE AREA

PUBLIC OPEN HOUSE #1
November 12, 2009

NEEDS ASSESSMENT- QUESTIONS

- *What are your preferences for trails?*
- *Hiking single track or paved multi-use trail?*
- *What opportunities do you see for this area?*
- *What do you see as best future for this site?*
- *Are there trails within easy access of your home and school?*
- *Does the trail system work well for non-motorized transportation?*
- *What improvements would enhance your trail experience?*
- *Would you like to see more trails in your neighborhood?*
- *Are there gaps or barriers that would keep you from getting to trail facilities?*
- *How do you value wildlife and open space areas near your neighborhoods?*
- *What if any concerns do you have about this area?*

Elkhorn Valley/ Eastside Master Trail Plan

Casper, Wyoming — DHM Design/Greenway Team

Trail Master Plan- Estimate of Probable Costs

Based upon plan dated July 28, 2010

Segment 1: *Yellowstone Highway to East 2nd Street*

	DESCRIPTION	Note	QTY	UNIT	UNIT COST	TOTAL	Category Sub-Totals
	Basic Trail						
	Site Preparation/Grading						
	Mobilization/ General Conditions		1	LS	$16,000.00	16,000	
	Traffic Control		1	LS	$4,000.00	4,000	
	Erosion control (silt fence, etc.)		6906	LF	$2.50	17,265	
	Clear and grub existing vegetation		3453	LF	$2.50	8,633	
	Site Grading/drainage culverts		3453	LF	$2.00	6,906	
	Revegetation/ Seeding		3	AC	$2,400.00	7,200	
					Subtotal	60,004	
				20% contingnecy items		12,001	
	Item Sub-Total:						**72,004**
	Trail Surface/ Hardscape						
	Concrete Trail (10' wide)	6" depth	3453	LF	$45.00	155,385	
	Integral Concrete Trail with Retaining Wall		90	LF	$250.00	22,500	
	Concrete Ramps		4	EA	$1,500.00	6,000	
	Retaining Walls		90	LF	$150.00	13,500	
	Rip-rap/Slope Stabilization		1	LS	$10,000.00	10,000	
	Colored/ Textured Concrete Paving		200	SF	$7.00	1,400	
	Concrete Curb & Gutter (estimate assumes no street improvements)						
	Crosswalk Striping		2	EA	$1,200.00	2,400	
					Subtotal	211,185	
				20% contingency items		42,237	
	Item Sub-Total:						**253,422**
	Trail Fixtures						
	Wayfinding Signage		1	EA	$400.00	400	
	Entry Monument Signage		1	EA	$4,000.00	4,000	
	On-street bike signage/wayfinding/sharrows		3453	LF	$4.00	13,812	
	Gates/Vehicle Restriction at Entry Points		1	EA	$1,200.00	1,200	
	Irrigation (tap fee not included)		1	LS	$25,000.00	25,000	
	Deciduous Shade Trees		86	EA	$300.00	25,898	
					Subtotal	70,310	
				20% contingency items		14,062	
	Item Sub-Total:						**84,371**
	Construction Sub-Total					409,798	
	Surveying/Design/Administration				20%	81,960	
			SEGMENT TOTAL BASIC TRAIL:			**491,757**	

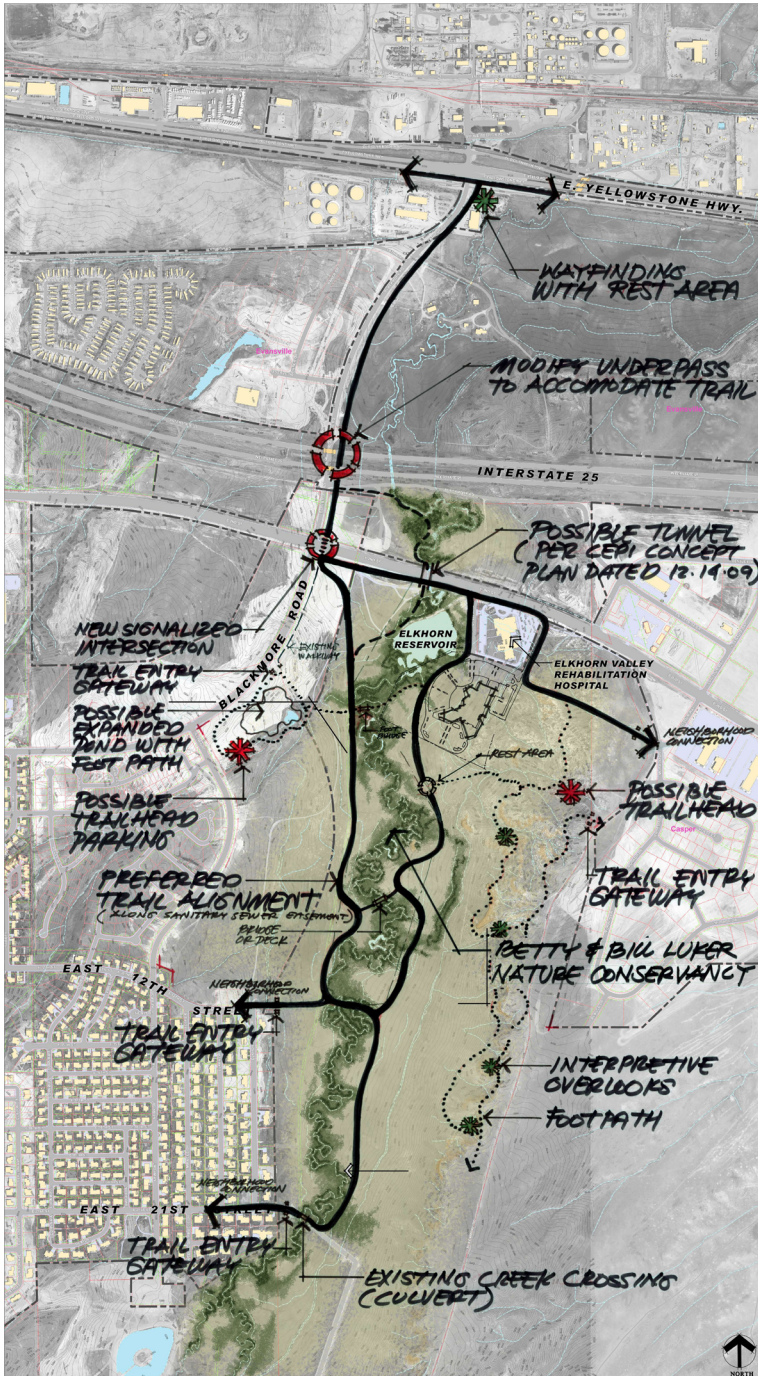
Segment 2: *East 2nd Street to East 12th Street*

	DESCRIPTION	Note	QTY	UNIT	UNIT COST	TOTAL	Category Sub-Totals
	Basic Trail						
	Site Preparation/Grading						
	Mobilization/ General Conditions		1	LS	$23,000.00	23,000	
	Traffic Control		1	LS	$2,500.00	2,500	
	Erosion control (silt fence, etc.)		15764	LF	$2.50	39,410	
	Clear and grub existing vegetation		7882	LF	$2.50	19,705	
	Misc. tree removal/trimming/protection		1	LS	$2,000.00	2,000	
	Site Grading/drainage culverts		7882	LF	$2.00	15,764	
	Revegetation/ Seeding		5	AC	$2,400.00	12,720	
					Subtotal	115,099	
				20% contingnecy items		23,020	
	Item Sub-Total:						**138,119**
	Trail Surface/ Hardscape						
	Concrete Trails (10' wide)	6" depth	7882	LF	$45.00	354,690	
	Concrete Ramps		2	EA	$1,500.00	3,000	
	Prefabricated Pedestrain bridge w/ abutments		200	LF	$1,100.00	220,000	
					Subtotal	577,690	
				20% contingency items		115,538	
	Item Sub-Total:						**693,228**
	Trail Fixtures						
	Wayfinding Signage		0	EA	$400.00	0	
	Entry Monument Signage		2	EA	$4,000.00	8,000	
	On-street bike signage/wayfinding/sharows		7882	LF	$4.00	31,528	
	Gates/Vehicle Restriction at Entry Points		1	EA	$1,200.00	1,200	
	Possible Wetland Permit/ Mitigation		1	LS	$5,000.00	5,000	
					Subtotal	45,728	
				20% contingency items		9,146	
	Item Sub-Total:						**54,874**
	Construction Sub-Total					886,220	
	Surveying/Design/Administration				20%	177,244	
			SEGMENT TOTAL BASIC TRAIL:			**1,063,464**	

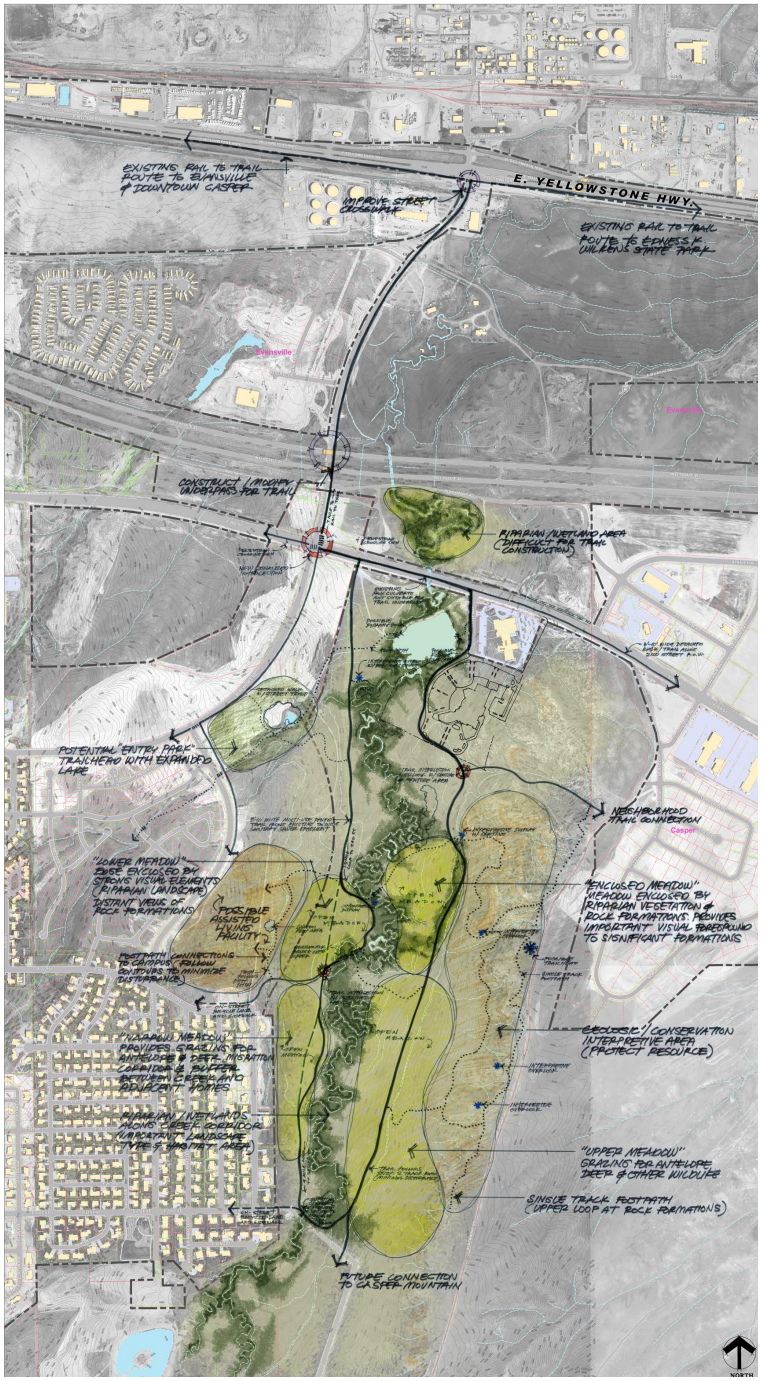
Segment 2A: *Loop Trail and Trailhead*

	DESCRIPTION	Note	QTY	UNIT	UNIT COST	TOTAL	Category Sub-Totals
	Basic Trail						
	Site Preparation/Grading						
	Mobilization/ General Conditions		1	LS		0	
	Trafic Control		1	LS	$10,000.00	10,000	
	Erosion control (silt fence, etc.)		5100	LF	$2.50	12,750	
	Clear and grub existing vegetation		2550	LF	$2.50	6,375	
	Misc. tree removal/trimming/protection		2550	LF	$2.00	5,100	
	Site Grading/drainage culverts		2550	LF	$2.00	5,100	
	Revegetation/ Seeding		2550	LF	$2.50	39,325	
					Subtotal	78,650	
				20% contingnecy items		15,730	
	Item Sub-Total:						**94,380**
	Trail Surface/ Hardscape						
	Concrete Trails/ walks 10' wide	6" depth	2550	LF	$45.00	114,750	
	Concrete Ramps		2	EA	$1,500.00	3,000	
	Colored/ Textured Concrete Paving		2000	SF	$7.00	14,000	
	Crosswalk Striping		1	EA	$1,200.00	1,200	
	Asphalt Paving-Possible trailhead parking		8000	SF	$3.00	24,000	
	Curb and gutter		300	LF	$12.00	3,600	
					Subtotal	160,550	
				20% contingency items		32,110	
	Item Sub-Total:						**192,660**
	Trail Fixtures						
	Deciduous trees and shrubs		1	LS	$15,000.00	15,000	
	Drip irrigation (does not include tap)		1	LS	$20,000.00	20,000	
	Wayfinding Signage		1	EA	$400.00	400	
	Entry Monument Signage		1	EA	$4,000.00	4,000	
	Gates/Vehicle Restriction at Entry Points		1	EA	$1,200.00	1,200	
	Solar Activated Gate		1	EA	$4,000.00	4,000	
					Subtotal	44,600	
				20% contingency items		8,920	
	Item Sub-Total:						**53,520**
	Construction Sub-Total					340,560	
	Surveying/Design/Administration				20%	68,112	
			SEGMENT TOTAL BASIC TRAIL:			**408,672**	

PROJECT TOTAL FOR ALL SEGMENTS: $ 1,963,894



D. Alternate Layouts Considered



D. Alternate Layouts Considered