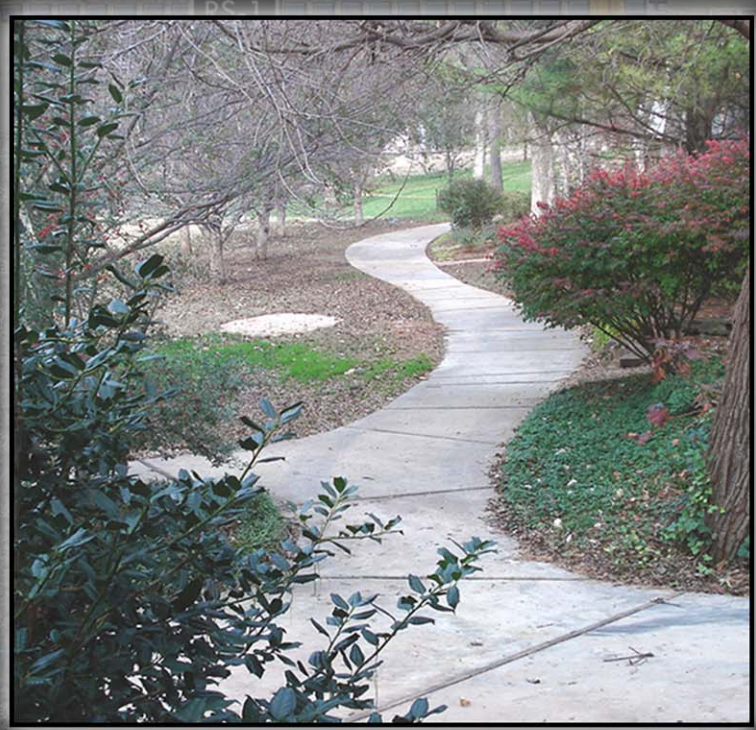

City of Norman Oklahoma

2009

GREENWAY MASTER PLAN

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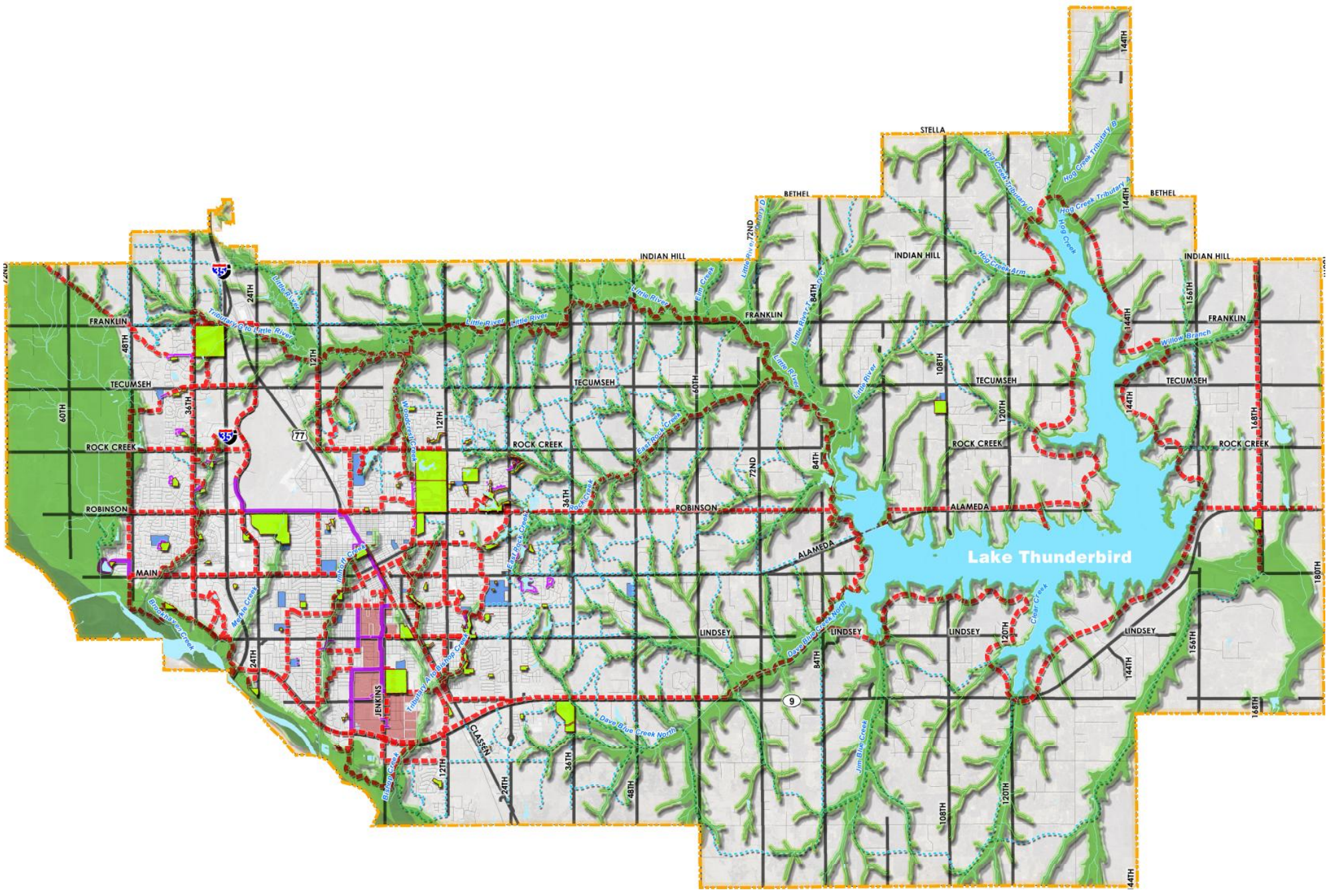
Greenways into the Future:



Norman's Greenways Master Plan

February 2009

Final Draft Report

February 24, 2009

Patrick Copeland
City of Norman
201 West Gray, Bld. A
Norman, OK 73069

Reference: Final Draft Report, Norman Greenways Master Plan

Dear Mr. Copeland:

Halff Associates Inc. is pleased to submit the final Greenway Master Plan report for Norman. This report seeks to capture the many observations and findings developed as part of the planning process, and to match those to the dreams and expectations of the citizens of Norman. The plan's recommendations encompass a variety of different greenway types, seeking first and foremost to create a citywide system of continuous greenways that link all parts of Norman. The ultimate goal and dream of this plan is to truly connect all parts of Norman.

As in any comprehensive analysis, this document contains many recommendations that are prioritized over time. Many of the actions in this plan are immediate in nature and can be developed as funding becomes available. Others can be developed in conjunction with ongoing development in Norman. Finally, some are long term actions that may not be funded for some time, but that are shown to ensure that they remain present in the city's planning for the future and as new funding sources become available.

Ultimately, this plan stresses what all citizens of Norman already know and care about - that quality of life is one of the key reasons to live in Norman. As much as anything else, greenbelts can transform Norman and continue to make it one of the best places to live in the United States.

We greatly appreciate the opportunity to have worked with you, your staff, and the citizens of Norman.

Sincerely,

Halff Associates, Inc.

Jim Carrillo, A.S.L.A., A.I.C.P.
Vice President, Director of Planning

Greenways can draw people together in their communities to provide open spaces for all close to their own homes. They have the potential to be this country's most important land-based effort for conservation and recreation in the next several decades.

They can draw private and local entities into lead roles in provision of recreation opportunities. They can capitalize on the entreprenuerial spirit of Americans and give pride of accomplishment and responsibility to millions of people in every community. They can protect vital water, fish, wildlife, and recreation resources as integral parts of the growth of cities and communities.

And, if greenways truly capture the imagination and boldness of American spirit, they could eventually form the corridors that connect open spaces, parks, forests, and deserts- and Americans- from sea to shining sea.

- President's Commission on American Outdoors, Report and Recommendations to the President of the United States, 1986

Acknowledgements

The 2008 Greenways Master Plan was developed by the City of Norman Planning and Public Works Departments with the technical assistance and design help of Halff Associates. A special thanks goes to the many residents, landowners, business owners, and community leaders for their insight and direction throughout the duration of this planning effort.

City of Norman- City Council

Mayor – Cindy S. Rosenthal

Bob Thompson – Ward 1

Tom Kovach – Ward 2

Hal Ezzell - Ward 3

Carol Dillingham – Ward 4

Rachel Butler – Ward 5

James Griffith – Ward 6

Doug Cubberley - Ward 7

Dan Quinn – Ward 8

Greenbelt Commission

Jane Ingels, Chair

Lyntha Wesner, Vice Chair

Michelle Surber

Julie Knutson

Caryn Vaughn

Van Cline

Juli Ridgeway

Jim McCampbell

Richard Mckown

Elizabeth Gunn

Betsy Peters

Norman Stormwater Task Force Members

Trey Bates , Norman Developers Council

Geoff Canty, ECAB Board Member/Norman Area Land Conservancy Board Member

Ellen Censky, Sam Noble Museum of Natural History Director

Russ Dutnell, Geomorphologist/Sole Proprietor – Riverman Engineering

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Joan Goth, Parks Board Member

Chris Lewis, Board of Directors – Summit Lakes Homeowners Association

Curtis McCarty, Planning Commissioner/Home Builders Association President

Richard McKown, Greenbelt Commissioner/Norman Developers Council Chairman

Richard Ryan, Professor – The University of Oklahoma, Construction Science Dept.

Lyntha Wesner, Greenbelt Commission Member, Imagine Norman – Parks Advocate

City of Norman Staff

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Public Works Department-

Shawn O'Leary- Director

Angelo Lombardo

Parks and Recreation Department-

Jud Foster, Director

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Purpose of the Greenways Master Plan
Key Guiding Principles of the Greenway Master Plan
Greenway Planning Methodology
Who will Implement the Greenway Master Plan
Timeframe for the Greenway Master Plan
Previous Planning Recommendations
Planning by Watersheds

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INTRODUCTION

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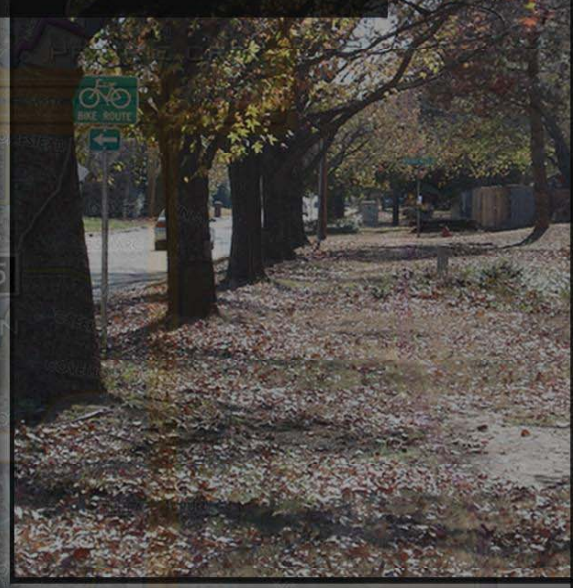
- Planning by Watersheds



City of Norman Oklahoma

GREENWAY MASTER PLAN

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... greenways are features that tie a bigger system of park components together, and they emphasize harmony with the natural environment, provide outdoor recreation opportunities, and help create an interconnected park system.

—James Mertes and James Hall, Park, Recreation, Open Space and Greenway Guidelines, 1996

Introduction - Why Plan for Greenways in Norman

The Green Dreams report issued in 2002 ushered in a new era for Norman. In that report, and in subsequent actions undertaken by the City of Norman, the case was made for greatly increasing the focus on preserving natural corridors throughout the City. The Green Dreams report was written by citizens of Norman, and it documented the tremendous support and desire that Norman residents have to make this a beautiful Norman and interesting place to live in.

Across the United States today, greenbelts and natural trail corridors are and always have been one of the most popular physical features of most communities. The significant benefits derived from greenbelts are many. Some of those benefits are as follows:

Greenbelts and Trails help to preserve natural areas and can beautify the city. Imagine Norman 20 years from now with preserved greenway corridors and beautiful streets with trails, trees, and shaded places for walking and recreation.

In 2008 Norman, Money Magazine, ranked Norman as the 6th best place to live in the United States. The continued development of a citywide greenway trail system will clearly speak to Norman's commitment to establishing a very high quality of life standard for its citizens. This commitment to quality tells everyone that Norman will always seek to be a premier place to live.

Greenbelt conservation will benefit storm-water management by preserving floodplains and drainage areas. Greenbelts do not necessarily have to be public spaces. These natural preserved areas will still benefit the overall quality of the city if they retain their natural characteristics.

Greenbelt conservation can also benefit the city by creating natural green corridors for Trail users. The uses of these trails can vary by surface type. The trails can vary from a concrete trail in an urban environment, to a natural surface type in a rural undeveloped environment.

Trails are popular because they offer something for every one of all ages seeking a tranquil place to walk, relax, or exercise. Trails provide an opportunity to see the beautiful natural parts of the city, and they provide opportunities to see other neighborhoods and newer parts of the city.

Trails promote healthy lifestyles by providing opportunities for people to get outside and have multiple ways of exercising, whether it be simply walking or be more strenuous activities such as running, roller blading, or cycling.

The Purpose of the Citywide Greenways Master Plan

The need for Citywide Greenway and trail corridor preservation was originally established as one of the key goals by the citizens of Norman in the 2020 comprehensive plan. That plan foresaw future growth issues and the great need to preserve open space for storm-water drainage and as potential locations and opportunity for a trail system.

A Citywide greenways plan provides an outline from which the City of Norman and the private sector can collaborate to create beautiful and functional trail and open space corridors.

This greenbelt plan is intended to be flexible, so as to remain a viable tool as Norman continues to prosper and change. This plan is also intended to serve for many years, but should be periodically updated so as to reflect updated conditions within the city, its neighboring communities and the greater Oklahoma City area.

Norman is the largest city in and the county seat of Cleveland County in the state of Oklahoma, and is part of the Oklahoma City Metropolitan Statistical Area.
Norman is situated approximately 20 miles south of downtown Oklahoma City and is the third largest city in the state. As of 2006, the city was estimated to have 109,323 full-time residents. It is the business and employment center of Cleveland County.

Source: http://staging.okcommerce.gov

Norman is best known as the location of the University of Oklahoma (with about 25,000 full-time students), making it a center of culture, technology, and scientific research. OU is home to the Sam Noble Oklahoma Museum of Natural History, one of the largest of its kind, and the Fred Jones, Jr. Museum of Art. The Jones Museum made news in 2000 when it was given the Weitzenhoffer Collection, the single most important collection of impressionist art ever given to an American university, including works by Mary Cassatt, Vincent van Gogh, Paul Gauguin, Pierre-Auguste Renoir, and Camille Pissarro, and other collections.

Source: MapQuest

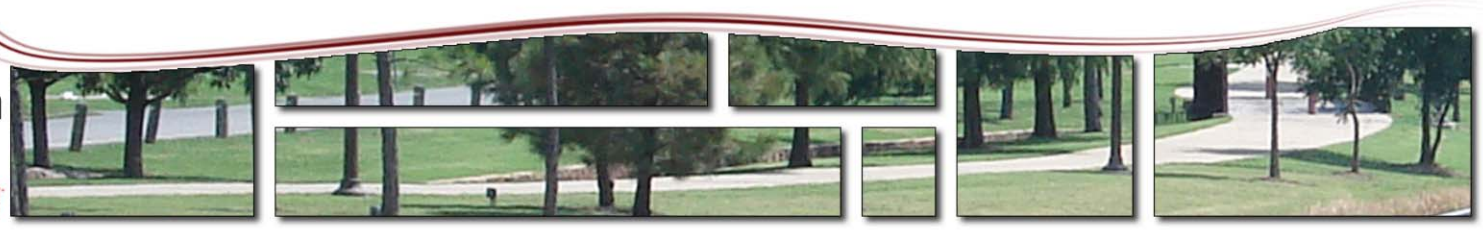
Norman's picture-book Main Street is a great source of pride for Normanites, as are the many shady, tree-lined housing areas that surround the OU campus. The west and north sides of town have seen the most development in recent years, including affluent areas like Brookhaven, a large neighborhood of town homes, apartments, large estates and upscale retail and dining.

Growth in Norman is also occurring close to campus, where there are infill developments underway that are making Norman a denser, and more attractive college town. The central and eastern sections of town are older and include the areas around the OU campus and downtown. Both areas retain much of their historic appearance and resemble what most people would think of as the core area of a college town.

Source: GoogleEarth

Greenways are about connections:
connections between people and the land, between public parks, natural areas,historic sites, and other open spaces, between conservation and economic development, and between environmental protection and our quality of life.

—Chuck Flink & Robert Searn, Greenways, 1993



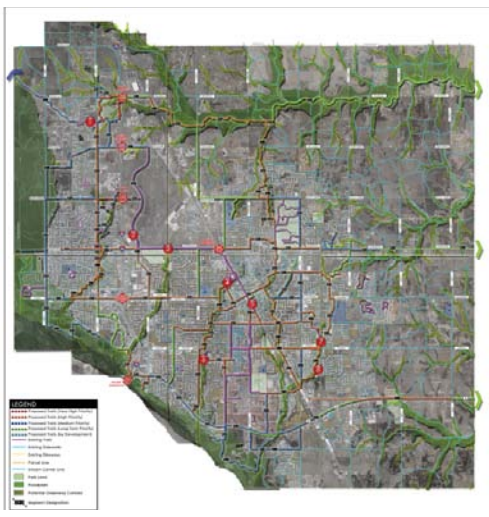
Key Guiding Principles of the Greenway Master Plan

The system of trails and pedestrian connections recommended in this master plan creates an opportunity to enhance not only recreation opportunities but also to influence commuting through Norman. This plan is both visionary and practical. The visionary component foresees a network of beautiful corridors that seamlessly allow a user to easily go anywhere in Norman by walking or riding. The practical side envisions connections to all neighborhoods via readily accessible, wide, safe and attractive pathways.

The following guiding principles were developed through the master planning process, and serve to guide the alignment and layout of both the trails proposed by this document, as well as additional pathways proposed in the future.

(1.) Creates an interconnected system - The ultimate goal is to create an interconnected system of trails that allow multiple connections across all of Norman. Where possible, trail corridors and alignments should be designed to enhance linkages between schools, parks, major civic destinations, retail and entertainment areas, employment centers, and other destinations. This may range from simple neighborhood sidewalk connections to the trails, to complete "trail heads" with parking and comfort facilities such as shade shelters and restrooms.

(1.)



(2.) Create opportunities for Green space preservation – The greenbelt system should preserve valuable open space, natural habitat and key areas with existing vegetation. These will become the green areas of the Norman of the future.

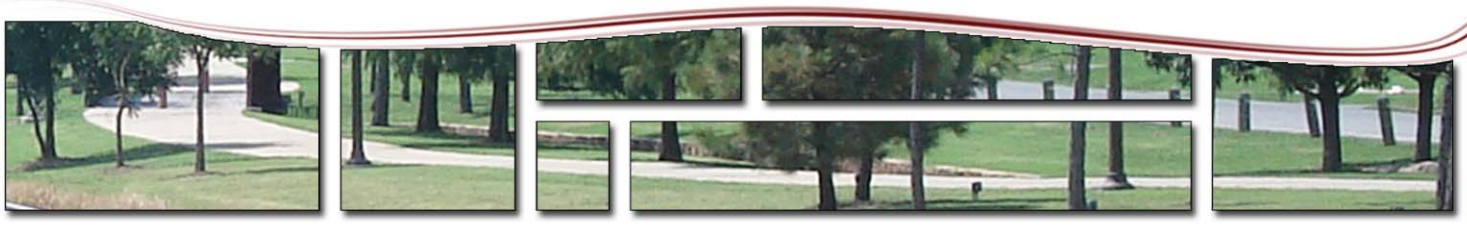
(3.) Create Identity - Trail segments should be designed so that they convey the physical and historical character of the City of Norman and relate to the neighborhoods through which the trail corridors pass.

(4.) Enhance Learning - Greenway corridors provide unique opportunities to learn about the history, culture, and accomplishments of Norman. Greenways provide access to the natural habitat in the city, and should offer ample opportunities to learn about the environment.

(5.) Promote Safety -Trails should provide smooth walk able corridors that are open and visible at all times during the day.

(6.) Contribute to the Beauty of the City - The trail system should contribute to enhancing the physical appearance of the city, whether through new pedestrian features, landscaping added to the trail corridors, or simply by revealing natural areas not previously visible to the general public.

(7.) Encourage Creating Partnerships - The Citywide Greenway system should encourage the creation of public and private partnerships that help build the entire system more quickly.



Lake Thunderbird- One of the Key Attractions and Destinations

The Existing Legacy Trail

Citizen Input Meetings

Greenway Planning Methodology:

Proposed Trails and Greenways for Norman

> Our success depends on the collaborative efforts of volunteers, agencies, and communities working to close the gaps.
>
> –Barbara Rice, Bay Area Ridge Trail Council, 1993

WHO WILL IMPLEMENT THE PLAN?

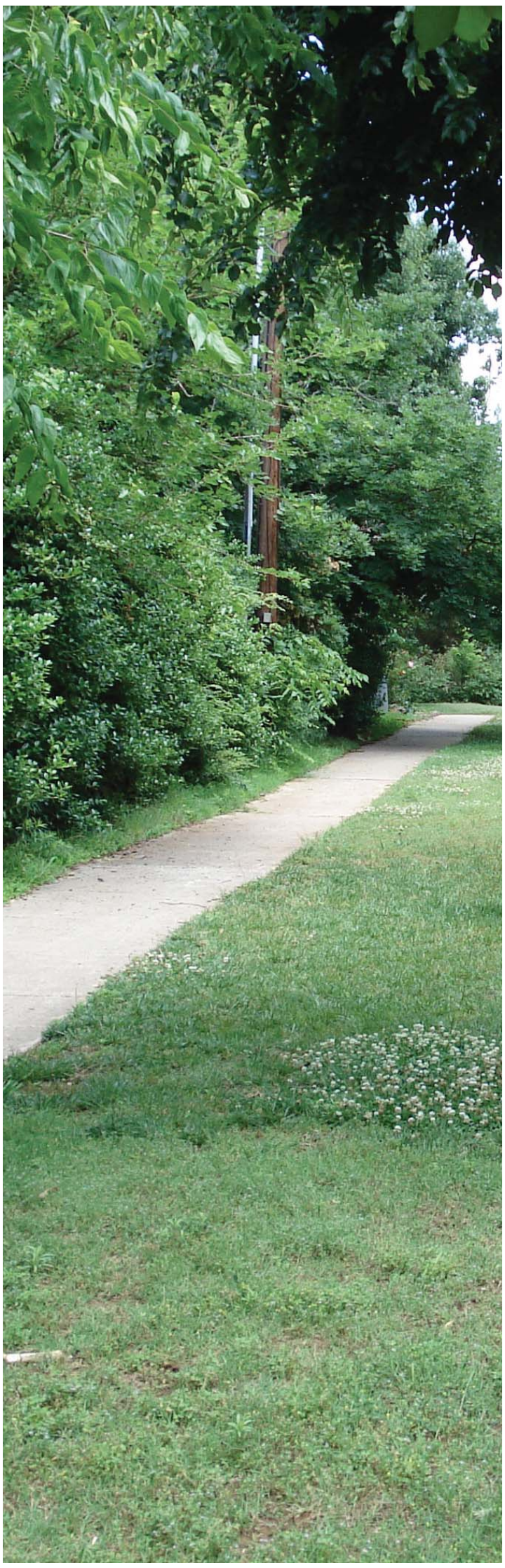
Each citizen in Norman has a social responsibility in the implementation of the Greenways Master Plan. The guidance and support by the city of Norman and its Parks Department will lead in motivating others to follow the key guidelines and implementation strategies suggested.

Key implementers will include:

- *Primary Responsibility* - the City of Norman, the Engineering Department, the Parks and Recreation Department, and the Greenbelt Commission
- *All area governments entities*, including the City of Norman, Cleveland County, all area school districts, and other entities in the surrounding region
- In their own way, *all departments within the City of Norman*, from Community Development to Public Works and even the Police and Fire Departments should work with the Parks and Recreation Department to implement components of the plan
- Other *single purpose government entities*
- The *business community* of Norman, including property owners, developers, commercial entities and others
- *Community homeowner associations* (HOA's) as Representatives of the residents who live in their neighborhoods
- *All citizens* of Norman, no matter which part of the City they live in
- *Adjacent residents* in Cleveland County, since the Greenways Master Plan system of Norman effects the overall greenways system, encouraging connections and building "bridges" to other adjacent systems

TIMEFRAME FOR THE PLAN

The plan is formulated to address an approximate 10 to 11 year time frame from the beginning of 2009 through the year 2020. While many of its recommendations will remain valid for a much longer period of time, periodic review is recommended to provide an opportunity for citizen feedback and to adjust for any major events or occurrences that may significantly alter the recommendations of this plan.



An existing trail in Norman

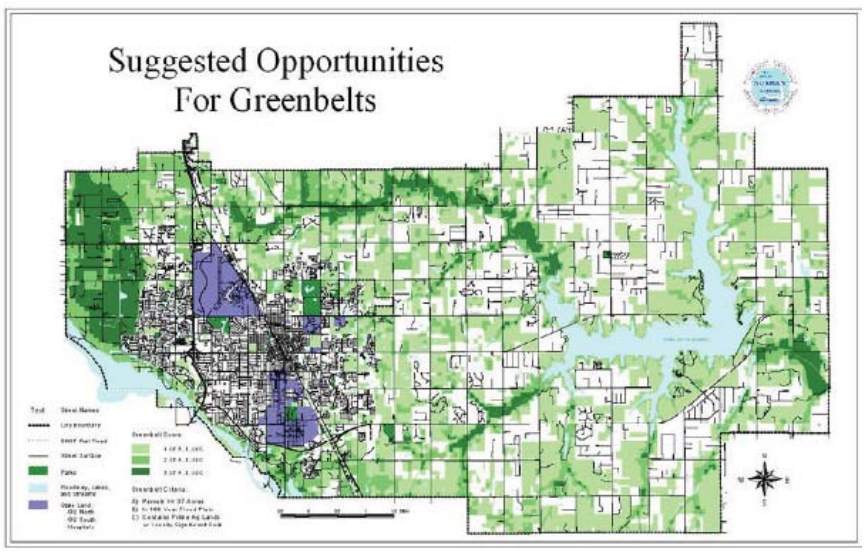
The "Green Dreams' report, prepared in 2002, listed a series of recommendations to begin development of a greenbelt system in Norman. Those recommendations are as follows:

City of Norman Greenbelt Task Force

GREEN DREAMS

Report and Recommendations
on Forming a Greenbelt System
for the
City of Norman
July 2002

Graphics from Green Dreams"



PREVIOUS PLANNING RECOMMENDATIONS

Recommendation #1

The Norman City Council ***adopt a resolution*** committing the City to development of a Greenbelt System as an on-going process that will continue as long as the City of Norman City officials recognize the importance of a Greenbelt System and give it consideration throughout the city planning process, even in indirect ways, from code revamping to plat acceptances. The first opportunity to do that is in the imminent update of the NORMAN 2020 Plan. Other opportunities are listed later in this report.

Recommendation #2

The City ***work with local business and tourism groups*** to seek opportunities to use the Norman Greenbelt System to bring in tourists for special events.

Recommendation #3

Greenbelt open space sites be given priority in floodplains, including around Lake Thunderbird and along the Little and (South) Canadian rivers, in riparian corridors and on agricultural land.

Recommendation #4

The City Council pledge to make ***citizen participation a key component*** of the Greenbelt System creation process, which should involve all interested and potentially interested persons, firms and institutions, both public and private.

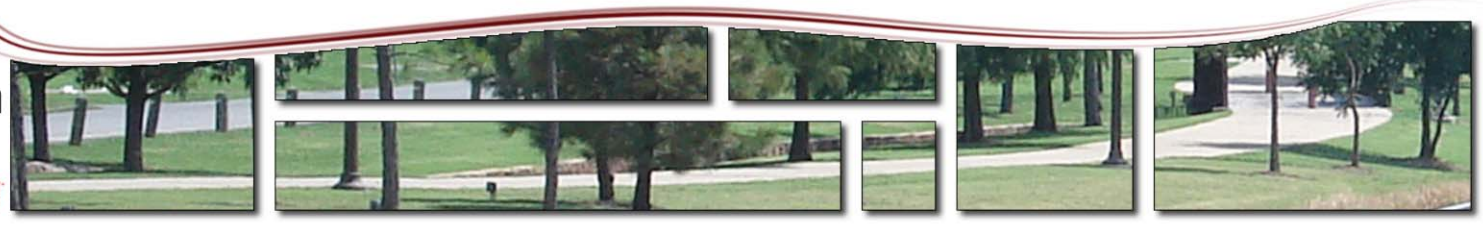
Recommendation #5

The City Council ***pursue voluntary means*** and not use eminent domain to secure rights-of-way to assemble the Greenways and the Greenbelt System.

Recommendation #6

The City provide professional and administrative staff support to work with the Greenbelt Commission. This staff support preferably would be from the planning department and be from staff members with interest and experience in the Greenbelt System. The Staff will be especially important in assisting the Commission with continuing public outreach and communication on behalf of the Greenbelt System. Specifically, staff should:

- Help communicate the goals of the Greenbelt System to the public
- Arrange for presentations to community groups
- Solicit public comments on the Greenbelt System and forward them to the appropriate parties
- Work with the City's Information Systems Division to maintain the Greenbelt System web site, changing its content as approved by the Greenbelt Commission, and reviewing and acting appropriately on messages sent by the public via the web site.



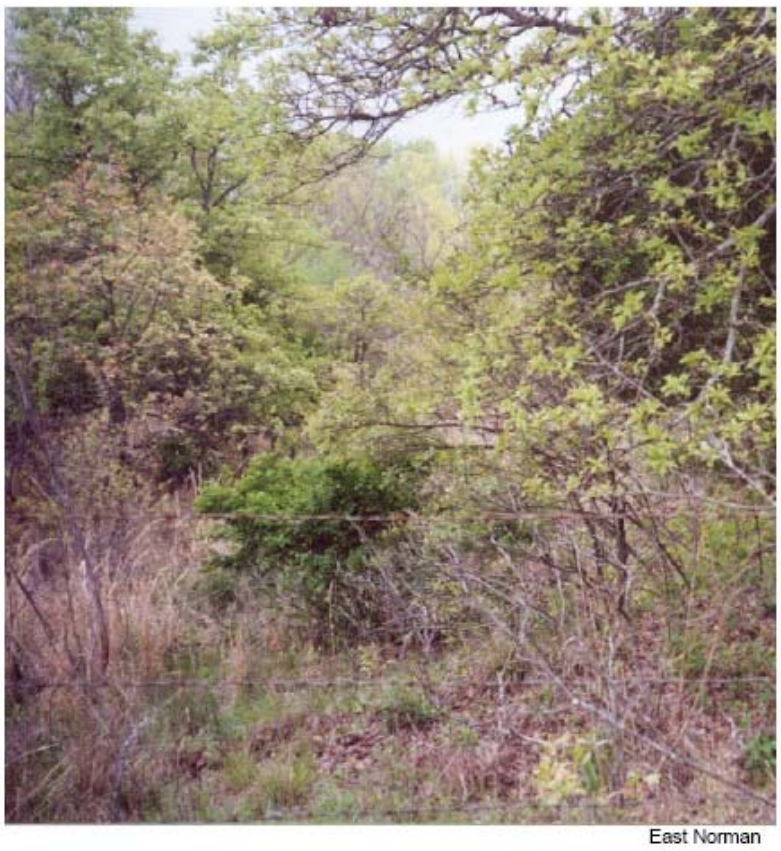
One certainty has emerged, though. The Norman Greenbelt System is -- and will continue to be -- a work in progress. Today we can identify the infancy stage of the system; it will be decades before it will be full-grown. In the meantime, the City and its residents must follow a slow but sure course to encourage, promote and preserve an open-space-and-trails system. This course -- like the Greenbelt System -- will not be a straight road but a winding, inter connecting trail that twists and turns on itself in order to get us home.

- Green Dreams, July 2002

Recommendation #7

The Norman City Council ***establish a permanent Greenbelt Commission*** that will:

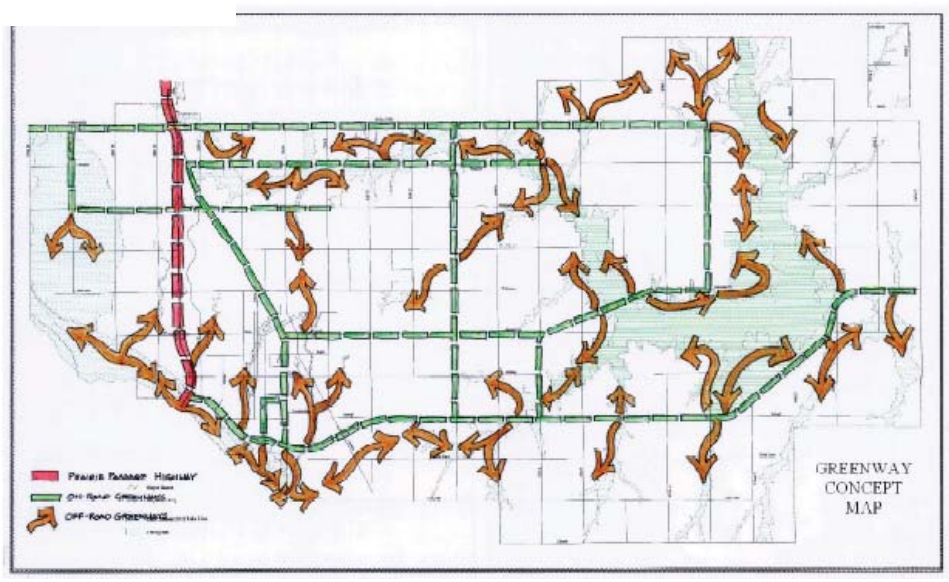
- Identify possible parcels of land and develop a policy to determine Greenbelt suitability for individual parcels;
- Work for partnerships and other means of implementation, including securing funds;
- Make recommendations to the City Council regarding policies and other related matters;
- Advocate for the Greenbelt System in the city's planning process;
- Solicit public opinion in planning for the Greenbelt and facilitate citizen participation in the planning process so that the public's interest in the Greenbelt System is expressed; and
- Develop policies regarding security and safety in the Greenbelt System.



East Norman
Graphics from "Green Dreams"

Recommendation #8

The city ***partner with other governmental units and private groups*** to identify adjuncts to the Greenbelt System, such as open spaces and other natural areas that are under control of other governmental units.



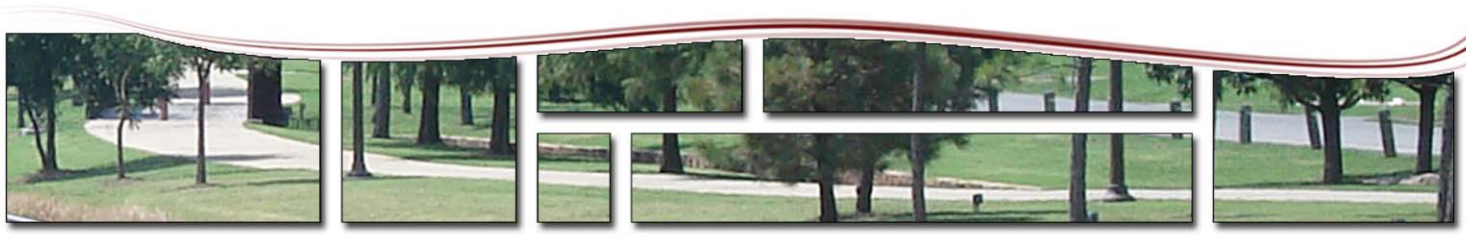
Recommendation #9

Implement an ***initial Greenway System before the end of 2002*** through signage of existing systems. Designing the signage would include holding a contest before the end of 2002 to establish a logo for the Greenbelt/Greenway System. The logo would be placed on the Greenway System.

Recommendation #10

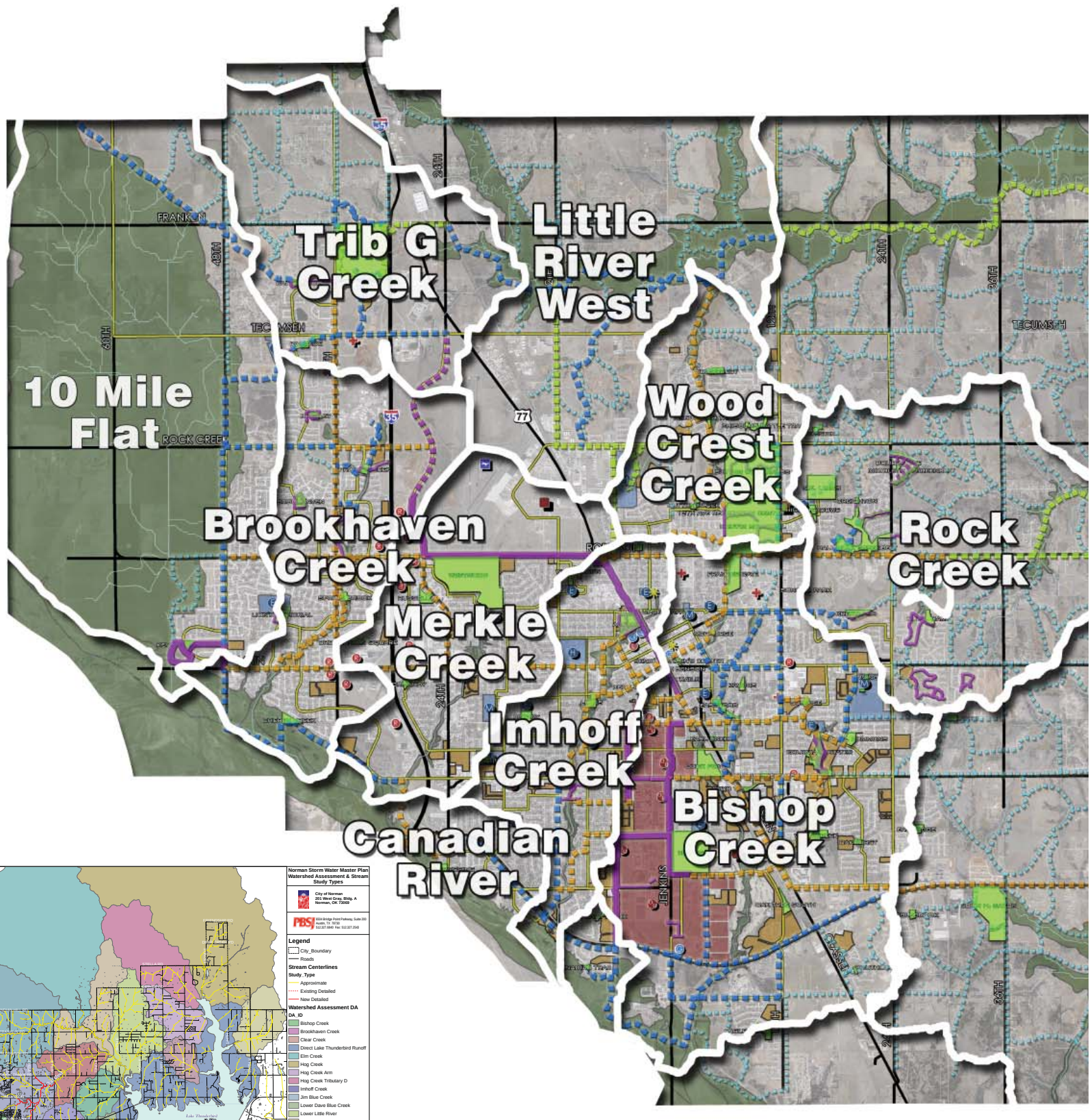
As part of its duties, the Greenbelt Commission will propose ***an ordinance establishing the Greenbelt System*** of open spaces and Greenways. This ordinance should include, but not be limited to:

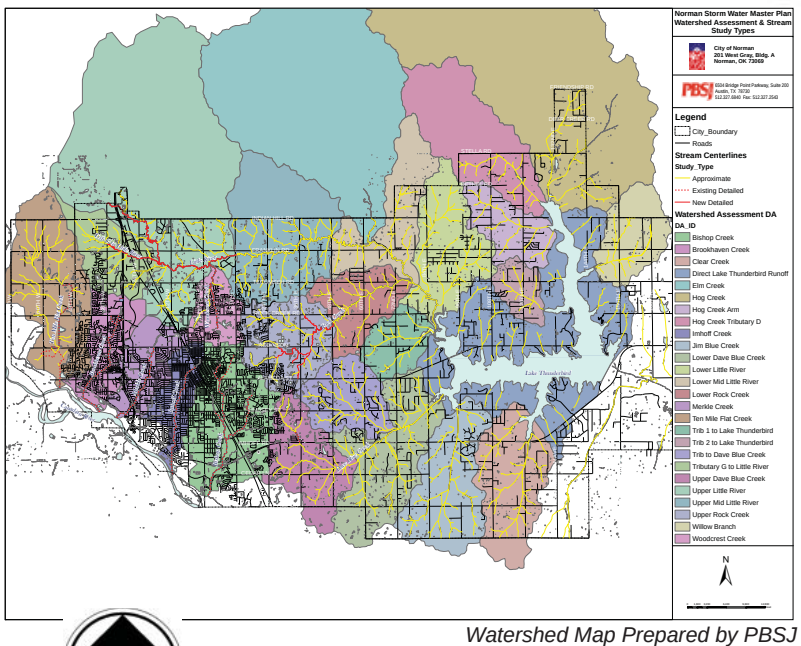
- Identification of primary Greenbelt areas.
- Requirements that all platting and survey applications made at City Hall include a Greenbelt Enhancement Statement that articulates how the goals and objectives of Norman's Greenbelt System plan are met by the proposed development. The ordinance should determine and make clear the responsibilities of City staff and developers in drafting the Greenbelt Enhancement Statement.
- An opportunity for the Greenbelt Commission to comment on each Greenbelt Enhancement statement. If a comment is made, this comment would accompany the application through the City Hall process and be considered by the City Council.
- Establishment of procedures to encourage citizen input and public discussion of Greenbelt and Greenway opportunities in proposed developments in primary Greenbelt areas and that this involvement occurs early in the City Council's consideration of such developments. A summary of all such citizen input should be attached to the Greenbelt Enhancement Statement and included among the documents for the City Council's consideration.



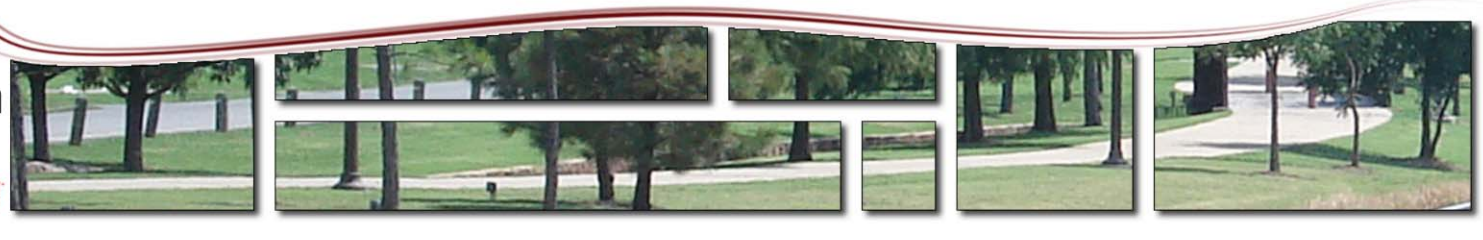
PLANNING BY WATERSHED

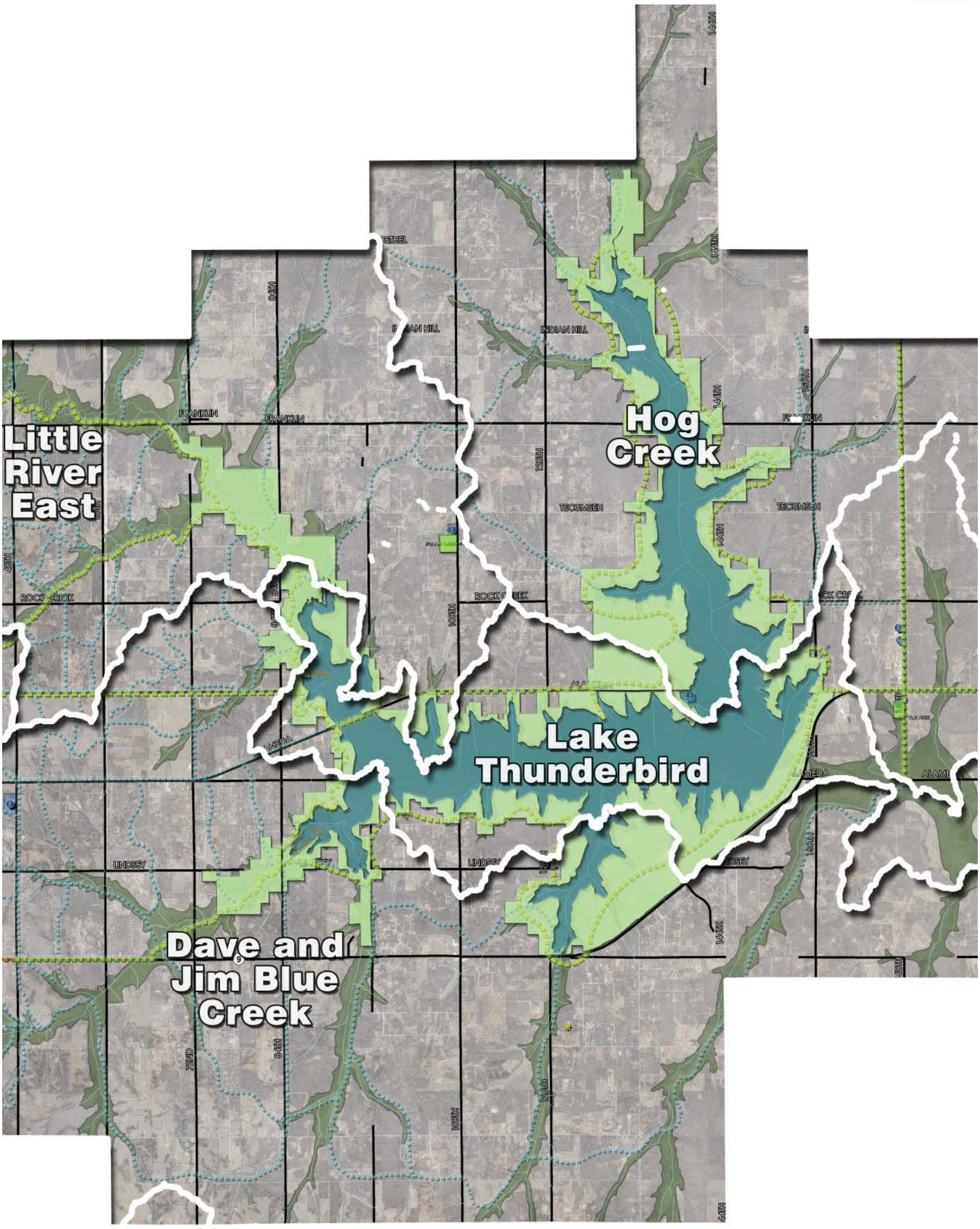
To allow for a more detailed study throughout Norman, the city was divided into planning sectors by watershed drainage areas. These zones are shown on the map seen on the page. The city was divided into 14 planning sectors to be used for the planning process.

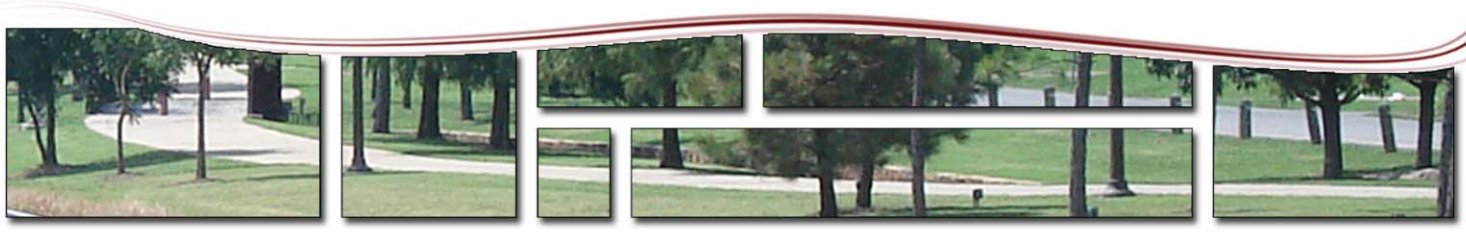




Watershed Map Prepared by PBSJ

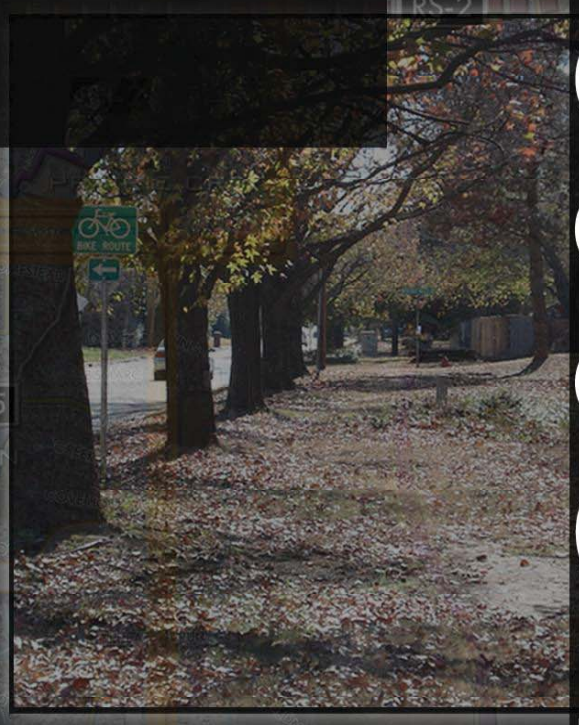



Little River East
Hog Creek
Lake Thunderbird
Dave and Jim Blue Creek
BETHEL
INDIAN HILL
FRANKLIN
TECUMSEH
ROCK CREEK
ALAMEDA
LINDSEY
72ND
84TH
108TH
120TH
132ND
144TH
156TH
168TH
44TH



CHAPTER B CONTENTS

- Norman's Population Growth
- Major Citywide Destinations and Attractions
- Existing Greenbelts and Trails in and near Norman



NORMAN 2008

City of Norman Oklahoma

GREENWAY MASTER PLAN

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The Greenways Master Plan is designed for the citizens of Norman. Norman is home to residents from many different backgrounds that share a common desire to live in a city that focuses on providing high quality of life facilities and standards.

In planning for Greenways, this plan considers both the population of today and areas where additional growth will occur. It also considers the context of the city today, looking at the many key destinations and attractions that should be accessible from the trails system. The plan must also coordinate with other regional planning efforts in the greater Oklahoma City area.

City of Norman

Norman's Population & Growth

Norman's growth over the last three decades has been steady, and has transformed the city into one of the most dynamic and desirable communities to live in Oklahoma. The city's population has almost doubled from 52,000 in 1970 (refer to table).

Over the next few decades, the population is expected to continually increase, and by the year 2030 be near a population of 120,000 residents. The city has significant room to grow towards the eastern half of the city. However, the eastern half of the city is also the location of both the surface water and water wells supplying the entire City of Norman water supply. This is a major area of importance for water quality concerns.

> "Norman is no longer a best kept secret: the word is out! Norman's strong sense of community, its high quality of life and affordability, and its appreciation for diversity, the arts and culture have earned us this ranking.
>
> - Mayor Cindy Rosenthal
> (In response to CNN announcing Norman as one of the top 10 places to live.)

Population Growth for Norman and Cleveland County

	Norman		Cleveland County	
Year	Population	% of Growth	Population	% of Growth
1970	52,117	-	81,839	-
1980	68,020	30.51	133,173	62.73
1990	80,071	17.72	174,253	30.85
2000	95,694	19.51	208,016	19.38

(Source: U.S. Census)

The pictures above and below demonstrate new development in Norman

Recent Growth of Norman

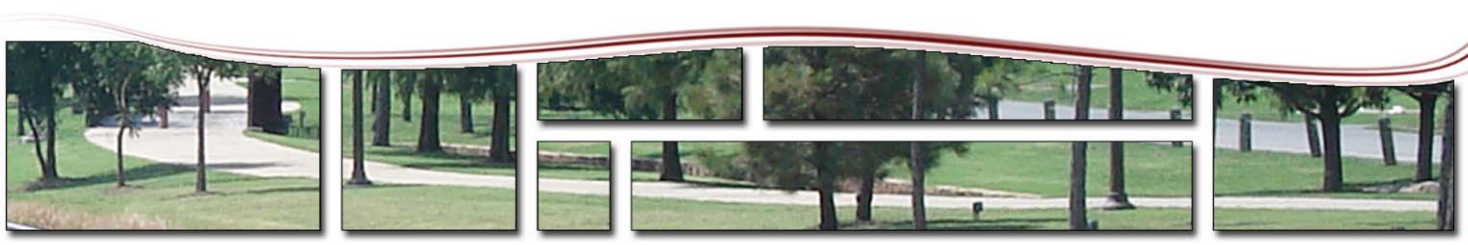
Year	Population	% of Growth
2000	95,694	-
2001	97,664	2.06
2002	99,370	1.75
2003	102,154	2.80
2004	105,315	3.09
2005	107,690	8.37
2006	109,323	7.02
2007	110,349	4.78

(Source: City of Norman Reapportionment Commission)

Population Projections for Norman

Year	Population	% of Growth
2000	95,694	-
2010	106,450	11.24
2015	110,780	4.07
2020	114,360	3.23
2025	117,630	2.86
2030	120,760	2.66

(Source: Oklahoma State Data Center)

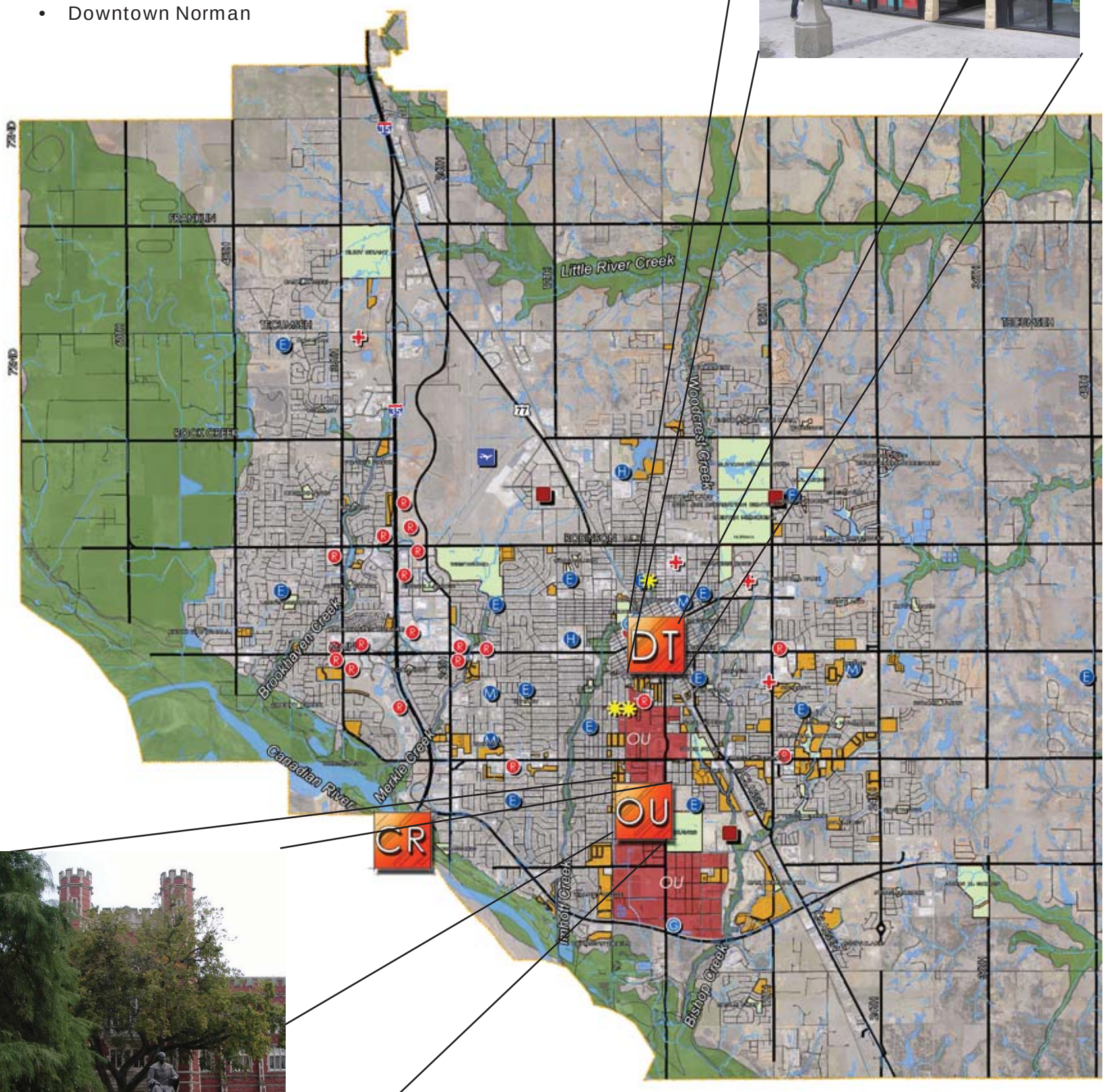


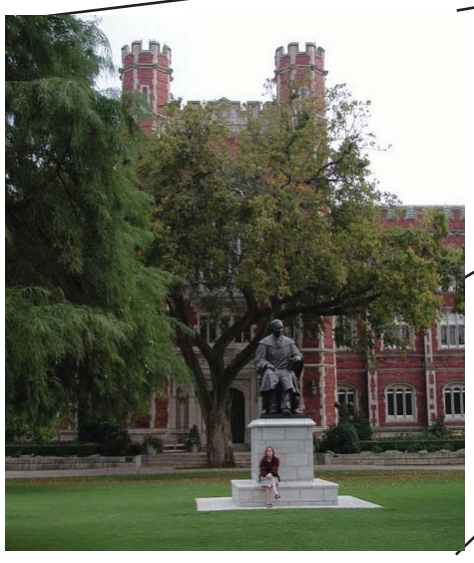
Major Citywide Destinations and Attractions

Key potential destinations throughout the city have been identified as part of the trail planning process. Connections to these destinations can promote usage of corridors, and can also enhance submissions when applying for competitive grant funding.

Key destinations included:

- Schools, particularly elementary campuses
- University of Oklahoma
- Existing parks and recreation destinations
- Key city facilities
- Major employment
- High density residential
- Major Retail areas
- Lake Thunderbird
- Canadian River Corridor
- Downtown Norman





Hog Creek
Little River Creek
Rock Creek
Little River Arm
Hog Creek Arm
Willow Branch
Dave Blue Creek
Jim Blue Creek
Clear Creek
Prairie Creek
Little River
LT Lake Thunderbird
Lake Thunderbird State Park

EVALUATION OF EXISTING TRAILS AND GREENSPACE

Kevin Gottshall Park

The Greenbelt Plan uses existing trails, parks and greenbelts as a starting point for extending the network of trails and green corridors throughout the city.

These include the following trails and corridors:

Kevin Gottshall Park Trail/Greenway:

This Greenway preserve is located in southwest Norman. This neighborhood development utilizes the drainage areas for public green space. A trail runs along the creek and a drainage pond. This corridor is a beautiful example of what future developments would provide as the city grows.

Legacy Rail-Trail/Greenway

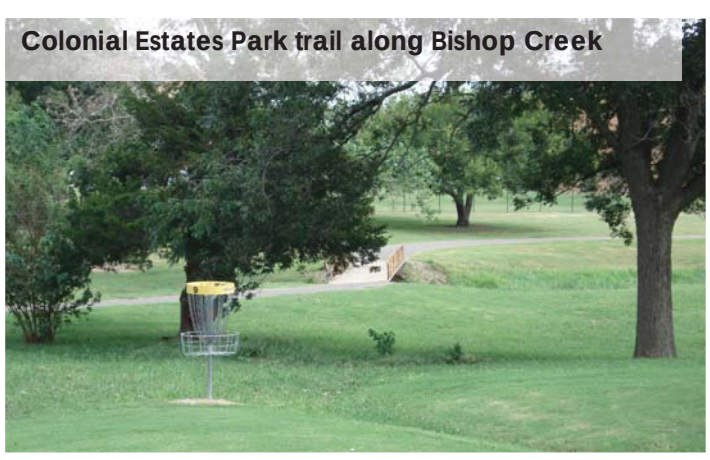
Legacy Rail-Trail/Greenway

The Legacy Rail-Trail is along an existing rail line corridor. This trail is currently about 1.5 miles in length. The trail begins just north of the University of Oklahoma campus. Future trail extension is in progress, and runs north to Robinson. A study is currently being conducted to find solutions to connect the trail to east Robinson. The trail and greenway also connects to Downtown Norman and the city's premier park Andrews Park. This is a great gateway connection which shows the great vision and determination by the city.

Legacy Trail along Robinson

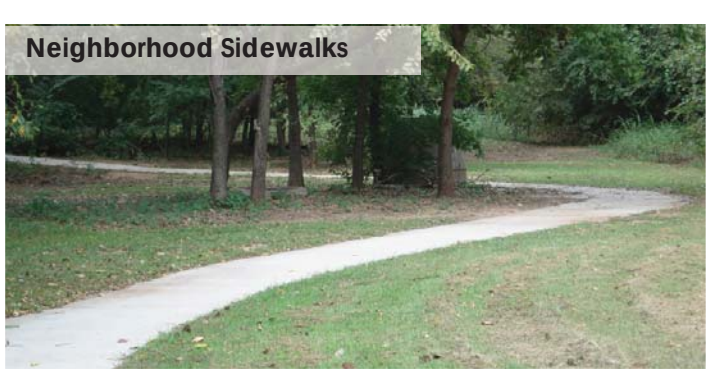
Legacy Trail along Robinson

This corridor runs parallel to Robinson Rd, and is approximately 1.5 miles in length. The trail consists of newly planted street trees and a 10 ft. wide asphalt trail. It is a great connection to the University North Park development, Downtown Norman, and University of Oklahoma. The asphalt surface has deteriorated in places and will need to be resurfaced.


Colonial Estates Park trail along Bishop Creek

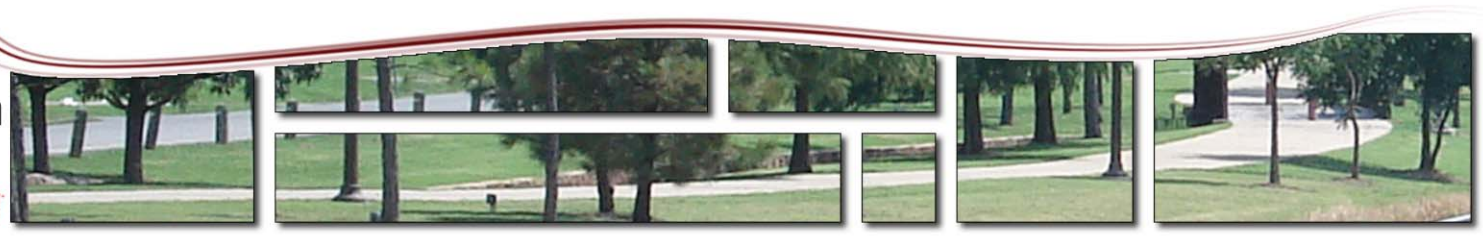
Colonial Estates Park trail along Bishop Creek

This corridor runs along an eastern branch of Bishop Creek. The trail is a 10 ft. wide asphalt trail which runs through the park. Extensions of this trail and greenway north and south have great potential to help both beautify the city as well as connect the eastern half of Norman to the urban core.


Neighborhood Sidewalks

Neighborhood Sidewalks

Norman has an extensive system of neighborhood sidewalks, especially in the older parts of the city. Newer areas should continue to provide sidewalks along residential streets in Norman.



Castle Rock Utility Easement Trail

This trail utilizes a power line easement which runs through the Castle Rock Development. This trail is a great connector to an elementary school and will also connect residents to the future Ruby Grant park development. Possible greenway extensions to the west along the easement could be incorporated in future developments.

Castle Rock Utiltity Easement

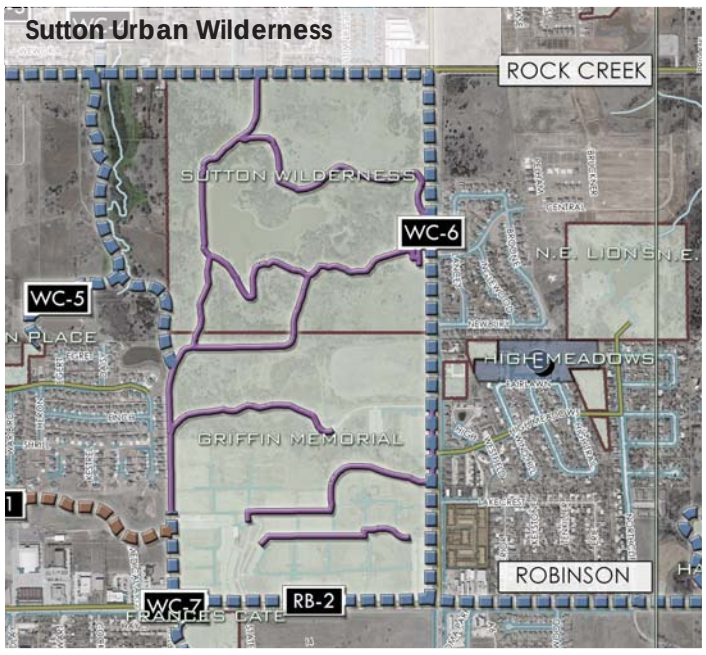
Hall Park Greenbelt

The Hall Park Greenbelt system is a great example of a development preserving open space for both public uses and drainage easements. This development preserved open space and created a green community.

Hall Park Greenbelt

Sutton Urban Wilderness

The Sutton Urban Wilderness area was preserved by the city for public open space. This greenway has been intended to be kept in its natural state. The area contains many soft surface trails for users to experience this natural area.



Sutton Urban Wilderness

Trails and Greenspace in Existing Parks

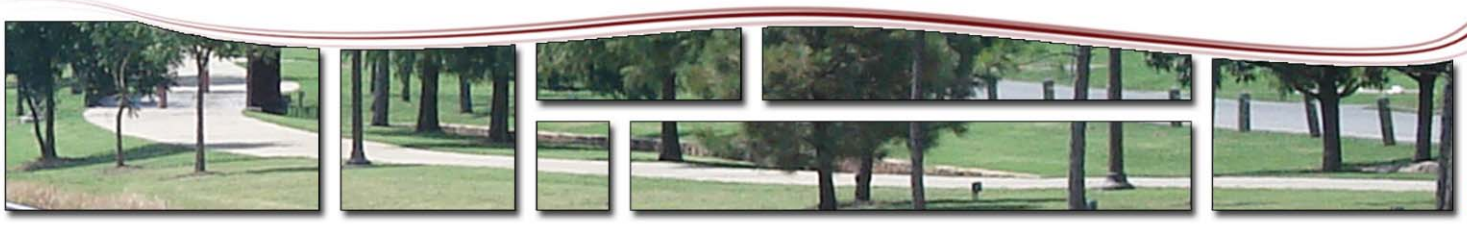
Many other trails occur in parks throughout the city. These tend to be self contained within each park.

Trails and Greenspace in Existing Parks

Planned trails for Ruby Grant Park

The trails plan for Ruby Grant Park calls for over 2 miles of trails within the park. These trails will provide a first-class cross country track facility, as well as an access point for the legacy trail.

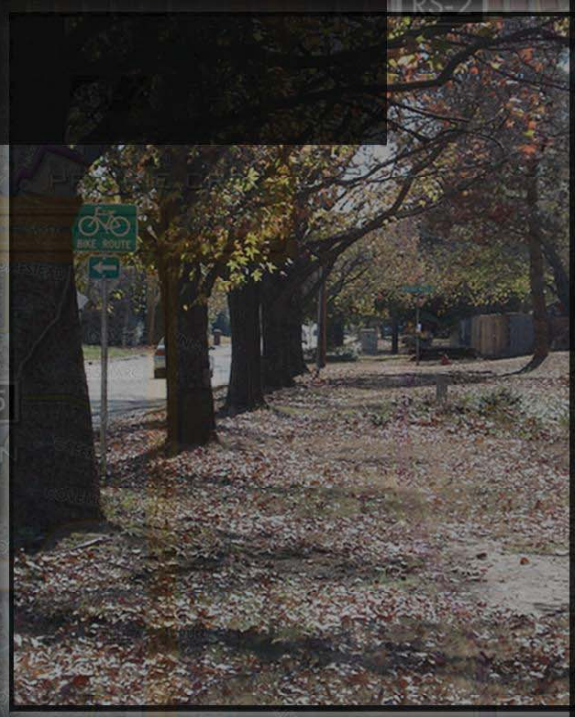
Planned trails for Ruby Grant Park



CITIZEN INPUT

CHAPTER C CONTENTS

- Public and Stakeholder Input
- Input from Previous Planning Efforts
- Comments from the 2006 Citizen Dialogue
- Citizen Input from Recent Opinion Surveys
- Greenbelt Commission Input
- Storm Water Master Plan Task Force Input
- Public Input Meetings and Presentations



City of Norman Oklahoma

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Citizen Support for Natural Areas in Norman - *Participants in the Norman Community Dialogue held in October 2006 agreed on their desire for the city to enhance park, greenbelt and recreational opportunities in neighborhoods. Participants endorsed the idea of a network of trails and recreational resources with a high degree of connectivity by foot or bicycle. They also desire more pedestrian-friendly neighborhoods.*

Public and Stakeholder Input

Public input is a critical component of any planning process. A long range plan must represent the long range goals of the citizens and residents who are going to fund the planned facilities, support them and ultimately use those planned facilities. In the case of this planning effort, public input consisted of:

- Feedback and recommendations from previous citywide planning efforts
- Citizen surveys from recent years
- Public meetings conducted during this greenbelt planning process
- Meetings with the City of Norman Greenbelt Commission and the Storm water Task Force.
- One on one stakeholder and staff meetings to discuss recommendations.

Considerations from each of those sources of input are discussed below.

Input from Previous Planning Efforts

Residents of Norman have been considering greenbelts, greenways and trails for almost ten years, and this plan builds upon the ideas, dreams and concerns that have been discussed over that period of time. The Green Dreams report in 2002, followed by the Norman 2020 Plan and the 2025 update all addressed the need for greenbelt preservation and trail development. They noted the need to keep these areas undeveloped so as to preserve drainage corridors, but also noted that the same corridors could serve a dual purpose in providing extensive recreation and non-motorized transportation corridors throughout the city.

Comments from the 2006 Citizen Dialogue

- We would like to see Norman be more pedestrian friendly.
- We would like to see the core area of Norman strengthened and restored. We also would like to promote mixed use development within dense areas.
- We would like to preserve the uniqueness or Norman.
- We encourage alternative transportation including additional bike and walking.
- We agree with conservation incentives and the need for sustainability.
- Encourage neighborhood communities – neighborhood associations, community centers (child friendly parks, community gardens, etc) within walking distance.
- City beautification/utilization: pedestrian pathways, pave the alleys and create easy access walkways between neighborhoods. Use more native/ easy care species of tress that can be used by people such as planting pecans, black walnut, peach, etc. Include running, bike, and hiking trails and keep it pet friendly.
- Think long term, don't let short term issues control Norman's direction.
- We believe we need to have responsible environmental policies.
- We believe it is important that we affirm the goals from the 2025 plan.
- We identify conservation/protection of the environment as a priority.
- We agree with conservation incentives and the need for sustainability.
- Develop multi-use trails that recreational cyclists as well as others can use and improve sidewalks so children can bike to school
- Design safer on-street cycling infrastructure that allows reasonable commuting throughout Norman, particularly central Norman such as the addition of striped bicycle lanes to existing major arterials and road signs that remind motorists of the need to "Share the Road" with bicyclists
- Create an integrated trail/biking/greenbelt system for our city. It should include on and off road cycling, be comprehensive for the entire city and encourage developers to build to complete the plan.

Citizen Input from Recent Opinion Surveys

A citizen satisfaction survey conducted in 2007 had many questions that related to the preservation of greenbelts, key needs in the City, and support for open space funding initiatives. The survey sample size was 803 completed surveys and represented a +/- 3..4% margin of error at a 95% confidence level. This means that if the survey was held 100 times, using 100 different random samples, the results would fall within the limits of error at least 95 times. Key responses from the survey related to greenbelts and trails in Norman are as follows.

- When asked which would be the most beneficial for you personally, 22% of citizens surveyed responded with more greenspace, parks and trails. The highest response.
- When asked which would be the most beneficial for the citizens of Norman, the response for more greenspace, parks, and trails was 18.5%, the second highest after an increase of police officers with 19%.
- More than 80% of citizens surveyed would be very likely or somewhat likely to support public money being used to help create more greenspace, including parks and trail.
- The second-most beneficial for the citizens of Norman response, ranking third behind an increase of police officers and an increase of fire fighters, more greenspace, parks and trails.
- When asked "why are you dissatisfied with the quality of your neighborhood", more than 4% of citizens responded with the lack of maintenance and upkeep.
- When asked "why are you dissatisfied with the quality of city parks", more than 6% responded with a reference to lack of maintenance and upkeep.
- When asked "why are you dissatisfied with the appearance of the city?", 4.9% responded that not enough green space was a major issue.
- 82% of citizens surveyed between the ages of 18-24 would be very likely to support money being used to help fund more greenspace, including parks and trails.
- The age groups are balanced with a high satisfaction of the quality of the city parks.
- 25% of respondents who think more greenspace would be the most beneficial to the citizens of Norman were between the ages of 18-24. The lowest percentage age group with 7.7% was citizens 65+.
- Almost 50% of respondents who feel that more greenspace would be the most beneficial for them personally where between the ages of 18-44 feel that more greenspace would be the most beneficial for them personally.

Greenbelt Commission Input

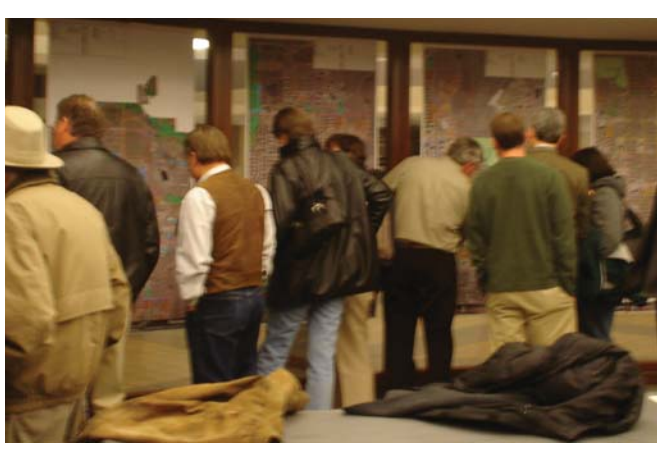
Over the 12 month planning process, a total of 6 meetings with the Greenbelt Commission were used to provide guidance. Meetings were held in November of 2007 and February, March, May, June, July and December of 2008. These meetings focused on the types of greenway and trail corridors in the city, reviews of opportunity corridors in all parts of Norman, reviews of the methodology used for both suitability evaluations and prioritization criteria, and reviews of the recommended corridors. Topics also included coordination with on-going bicycle planning both in the City and on the OU campus. Key Comments received included:

- Members expressed a strong desire for a connected network of trails and green corridors
- Members expressed the desire for looped systems that had a little of both a natural setting as well as a more urban setting. They favored the idea of a loop that circled portions of the city.
- Members suggested changes to the evaluation matrix to provide greater connectivity to key City areas like retail and University areas.
- Members suggested many potential locations for trails and greenbelt corridors, as well as others where the lack of right of way provided limited space for public access.

Storm Water Master Plan Task Force Input

Five workshop sessions were held with the Task Force to review ideas for the Greenbelt Master Plan. The task force included citizens, representatives from the development community, staff members and elected officials of Norman. These meetings were held in November of 2007, and in February, May, July and December of 2008. During those meetings, key ideas and recommendations regarding greenbelts were presented. Key comments received from Task Force members included:

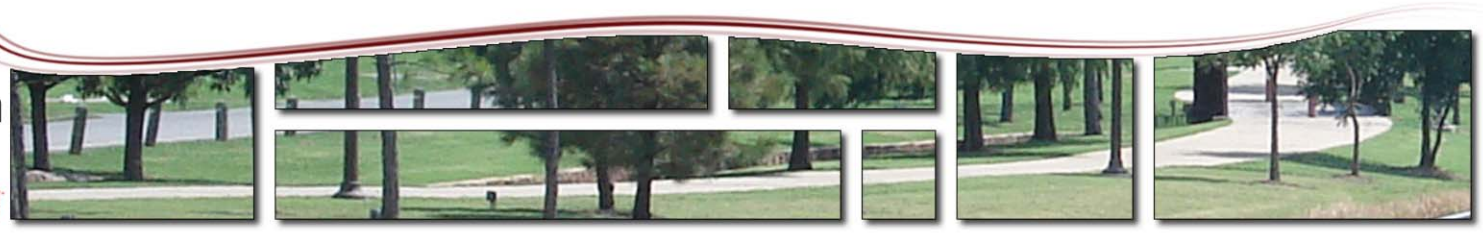
- concern over infringing on the ability of private property owners to develop their properties in a way that achieved a reasonable return was raised. The specific exclusion of any development in areas not formally designated as 100 year flood zones by FEMA, such as stream planning corridors, was opposed by some task force members.
- Requiring that trails be built by property owners as part of development was an issue of concern to some task force members.
- Trails in general were supported by the task force.
- Some task force members favored an emphasis on greenbelt preservation in undeveloped areas of the City, rather than trying to squeeze something into the urban core of the City.
- Concern by some over any changes to the City's parkland dedication ordinance to allow trails in lieu of parks.
- Task Force members were generally in favor of using a portion of any storm water utility fee as a primary funding source for trail construction and greenbelt preservation along key corridors in Norman.



Public Input Meetings and Presentations

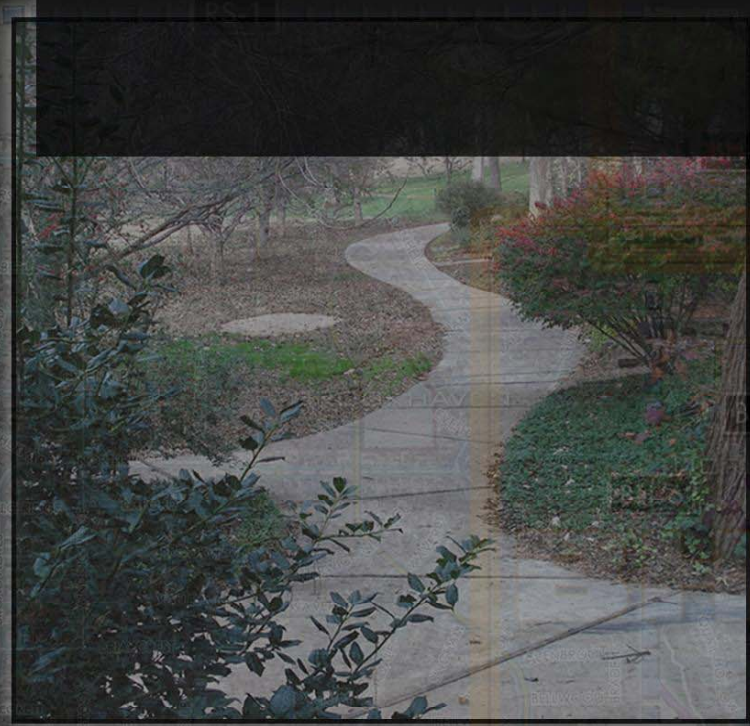
A series of public meetings were conducted over the 12 month planning period so as to provide opportunities for input. These meetings started with a basic summary of the process, and then progressed into a review of opportunities for trails and greenbelts throughout Norman. Meetings were held in September and November 2007, and in February, May and December 2008. At each of the meetings, citizens were invited to ask questions, comment or write suggestions on maps provided throughout the meeting area.

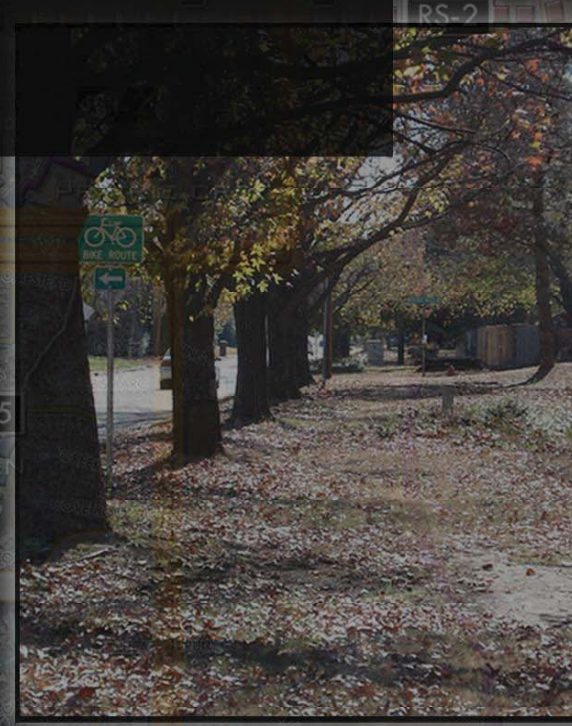
Much of the citizen feedback came in the form of comments written on maps. These comments suggested locations for trails and connections, as well as comments on areas where trails were not feasible.



CHAPTER D CONTENTS

- Trail Types for Norman
- Typical Trail Features
- Other Greenway/Trail Amenities & Considerations
- Typical Trail Type Cost Estimates
- Potential Greenway Corridors
- Greenway Design Standards
- Potential Neighborhood Greenway Corridors





DESIGN STANDARDS

City of Norman Oklahoma

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TRAIL TYPES FOR NORMAN

Trails appeal to everyone. Whether young or old, active or wanting no more than a few minutes out in a beautiful area, all of us can find something to do on a trail. This section lays the foundation for trail types to be built in Norman. By adding a layer of consistency to trail development, a clear picture of what the entire system will be like in the future can be created, and everyone can work towards putting the pieces to that picture in place.

Greenway Users

Greenways should accommodate a variety of users. Activity on a trail lends a sense of safety and comfort to a trail, and encourages others who are not as active to use the trail. In other cases, a tranquil respite from the urban area is the attraction of the greenway. Users of Greenways will include:

Walkers seeking exercise and recreation – Typically relaxed walking along a pleasant corridor; may include senior citizens, parents with children, or families. May occupy a significant portion of the trail due to walking side by side.

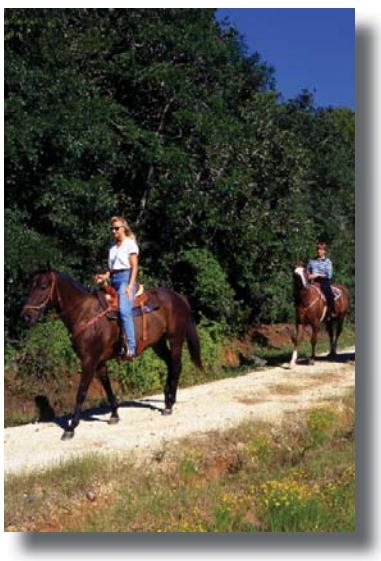
Joggers and runners – Typically use trail corridors for exercise and activity. Higher speed may conflict with slower users of the trails. Softer trail surfaces such as decomposed granite are preferred.

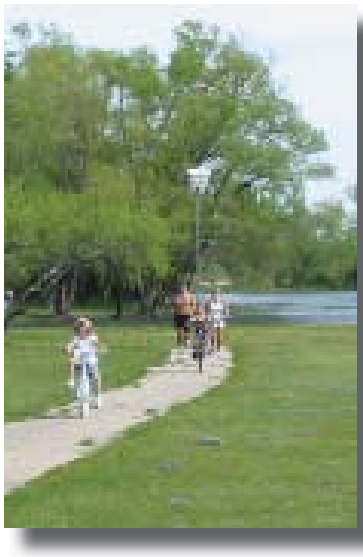
In-line skaters - Due to the swinging motion of their arms to increase momentum, skaters occupy a large cross section of a trail.

Recreational and inexperienced cyclists – Typically use trails for exercise and activity, are interested in scenic appeal and connectivity of the trail system, and prefer more interesting trail alignments, rather than trails that favor higher speeds. This group may also include children and youth going to school.

Higher speed cyclists and commuters – More experienced riders are typically more interested in higher speeds. These riders often favor roadways over off-street trails. For off-street trails, alignments with shallower curves are favored by these users. Because of the higher speeds, increased trail widths are recommended to reduce conflicts with other trail users.

Mountain biking – Users can travel on crushed rock or more natural trail surfaces, and preferred trails with challenging terrain.





Heavily wooded covered railroad corridor

8' wide neighborhood trail along a drainage channel

Nature Trail along a levee

Wide attractive pedestrian corridor

6' wide neighbordhood sidewalk

Community Wide (Regional or Arterial) Trails

Community-wide are intended to provide access from one part of the city to another. In essence, these trails become the "spine" system for the city, providing an easy route to travel longer distances.

Community wide trails typically are a high priority, since they provide the connectivity between many different parts of the city. These trails are typically at least 10' in width, but in some cases may be up to 12' in width where a significant volume of users is anticipated.

Neighborhood Trails

Neighborhood trails mimic the system of local neighborhood streets which ultimately connect to larger boulevards. The neighborhood trails provide access from each neighborhood to the larger "arterial" trails. Neighborhood trails are typically only 6' to 10' in width, and should be constructed with concrete for long range durability. Tighter curves are allowed to introduce interest into the trail segments.

As in the case of arterial trails, some neighborhood trails can have a crushed granite component for runners directly adjacent to the concrete trail; if no danger of excessive flooding occurs, neighborhood trails may also be built out of decomposed granite.

Natural Trails

These trails should be at least 8 to 10' in width, but in some cases may be 12 to 15' in width to allow for greater visibility within the understory. The trail surface will be compacted earth, and normal obstructions such as roots, rocks and understory vegetation should be cleared from the walking pathway. An additional 2 to 4' shoulder zone is desired on either side. Bridges and drainage crossings should be constructed using wood and timber materials, and should be rustic in appearance.

Greenway Corridor Natural Trails

These include natural corridors exist along some of the levee corridors in the City. In some cases, these corridors may be used as walking trails, but with only minimal improvements to address street crossings.

"Parkway" Trails and Sidewalks

Parkway trails Often times the best trail corridors are adjacent to major collector or boulevard streets. Unlike sidewalks, these trails are wider, at a minimum width of 6' but 8' wide is preferred, are constructed with concrete, and usually include amenities such as decorative light fixtures, landscaping and ground cover and varying surface treatments at intersections and crosswalks. The overall parkway width should be at least 15 to 20' in width, to allow for at least 6' of clearance between the street curb and the walkway and another 4' +/- between the walkway and the adjacent property line. In many cases additional width may be required to accommodate drainage or other utilities.

Sidewalks

Where sidewalk connections are recommended in this plan, walkways that are a minimum of 5' wide are recommended. Also, where feasible, along major roadways have a pedestrian running trail along one side of the concrete trail.

Other Specialized Types of Trails

Water Trails - For many, a casual one to two hour trip in a canoe is adequate, and it allows a much different perspective of the river. These water trails require boat ramps or landings, as well as parking for trailers and vehicles. Signs can be placed along the river to note special locations.

Equestrian Trails - Locations to ride horses are rare so close to a major city, and offer an opportunity for a unique recreational venue in Norman. Equestrian trails require additional clearance and parking for trailers is required. A close permanent stabling operation greatly increases the use of these trails.

Canoeing shows a much different perspective of the river

On Street or Striped Bike Lanes

Off street trails that are intended to accommodate bicycles are referred to as shared use paths. Most trails in Norman should be designed to readily accommodate bicycles.

On-street bicycle facilities are equally important. Neighborhood routes should be identified that permit relatively easy riding. Specific facilities for cyclists include striped bicycle lanes that are a minimum 4' (5' is preferred for inexperienced rider comfort) in width from the street edge of the gutter pan, or in some cases the use of the "sharrow" which indicates a shared use lane. The sharrow is in the final stages of approval for inclusion in the Manual of Uniform Traffic Control Devices (MUTCD), but municipalities may apply for permission to use this new symbol prior to its formal adoption.

Sharrows help bicyclist and vehicles identify a "shared use lane"

Trail Type Standards

Neighborhood Trails (Off Street)	
•Recommended minimum width 6' to 10'feet (8' preferred)	
•Surface	Concrete, asphalt, crushed granite (Concrete typical) Consider pervious surface, if feasible material
•Access points	From neighborhood streets, parks, or schools; Maximum 1/4 mile to access points.
•Minimum trail corridor width	20' width
Major Community-Wide Trails	
•Recommended minimum width 10' feet minimum, 12' for key corridors	
•Surface	Concrete or asphalt (Concrete preferred)
•Access points	Every ¼ to ½ mile (Maximum ½ mile walk or ride to access point, but 1/4 mile preferred)
•Minimum trail corridor width	Varies – 50' width minimum
•Other facilities	parking, locater maps, water fountains, shade shelters, bicycle racks, interpretive/historic signage
Regional Trails	
•Recommended minimum width 12 feet	
•Surface	Concrete
•Access points	Every 1/2 mile (Minimum ½ mile walk or ride to access point)
•Minimum corridor width	Varies - 50' width
•Other facilities	parking, locator maps, water fountains, shade shelters, bicycle racks, interpretive/historic signage
Parkway Trails (Adjacent to Streets)	
•Recommended minimum width	8' to 10' width (8' preferred)
•Surface	Concrete, crushed granite (Concrete typical)
•Access points	Adjacent to major arterials and collector streets, parks, (minimum corridor width 15', min. 6' from back of curb)

Trails should be designed to conform to standards recommended by the American Association of State Highway and Transportation Officials (AASHTO). These standards have been developed and refined over a significant period of time, and offer the most comprehensive safety standards. In some specific cases, variations from AASHTO may be acceptable to respect the character or special conditions of an area. Illustrations that follow indicate typical preferred trail section characteristics and clearances.

Figure D-1

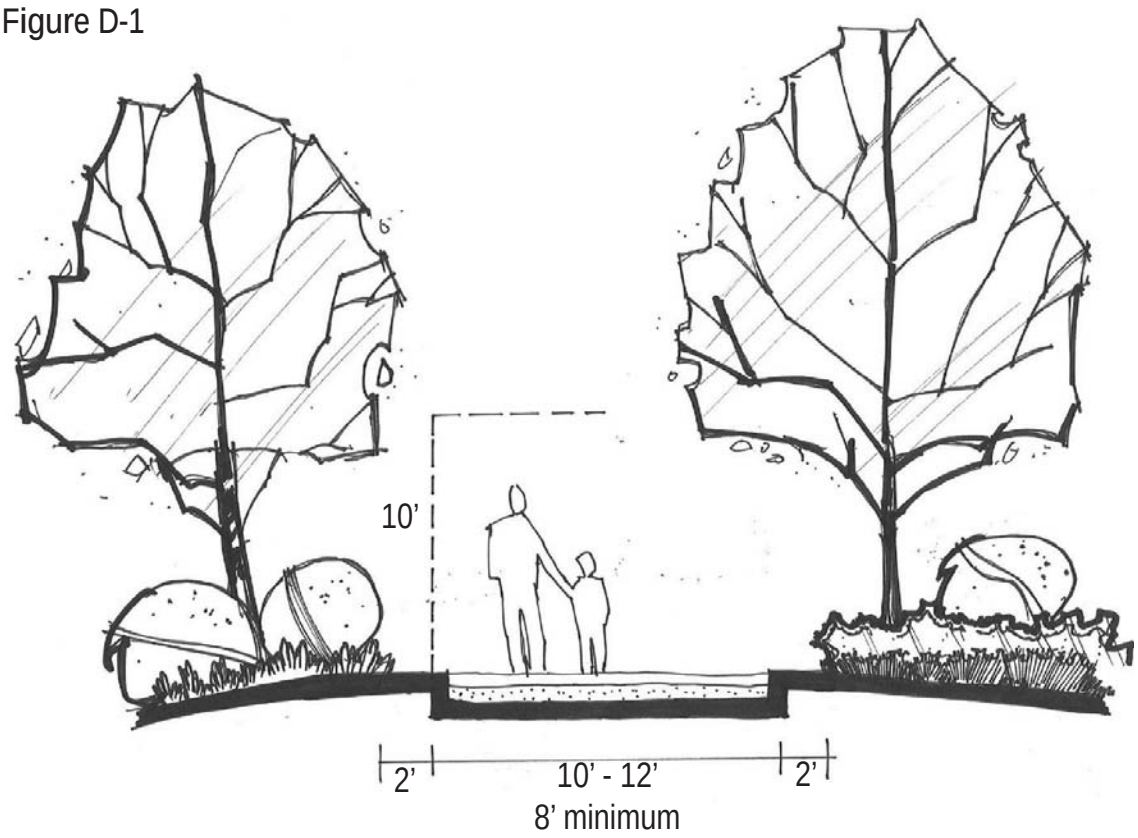
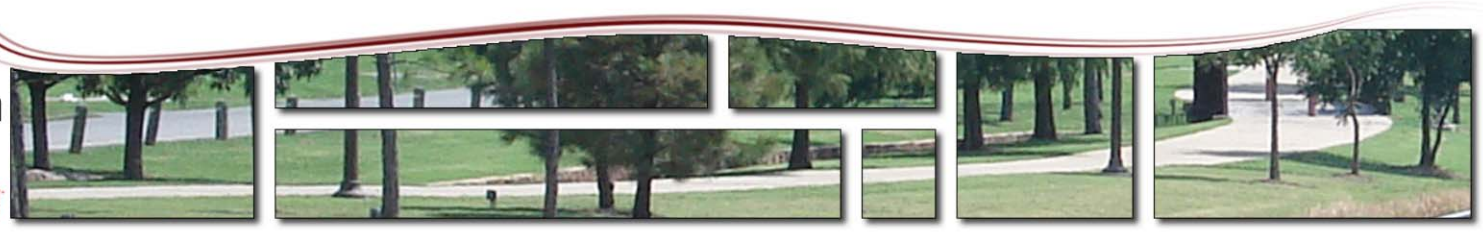


Figure D-1 illustrates a typical shared use path design that is appropriate for arterial trails. This trail is designed to accommodate two-way bicycle and pedestrian traffic, typically has its own right-of-way, and can accommodate maintenance and emergency vehicles. This type of trail is typically paved (asphalt or concrete) but can also be a surface that provides a smooth surface, as long as it meets ADA requirements. Wider soft shoulders can be provided for equestrians and runners / joggers if space allows. While vegetation is encouraged to enhance the trail experience, complete blocking out of the trail by vegetation from neighborhood view is discouraged. This results in a "tunnel" effect on the trail, creating the impression of decreased safety.



Community Trail in Sensitive Areas

For community trails that will be located in environmentally sensitive areas, as shown in Figure D-2 and D-3, several measures are recommended to lessen the impact of the trail and trail users on the area:

- The riparian setback should be as wide as possible: 30-50' are recommended
- Slope the trail away from the waterway or pre-treat trail run-off with a trail side swale
- Limit vegetation removal
- Locate the trail outside the 100-year floodplain wherever possible
- Remove invasive plant species
- Use the trail as an opportunity to restore and enhance the waterway or environmentally sensitive area.

Figure D-2

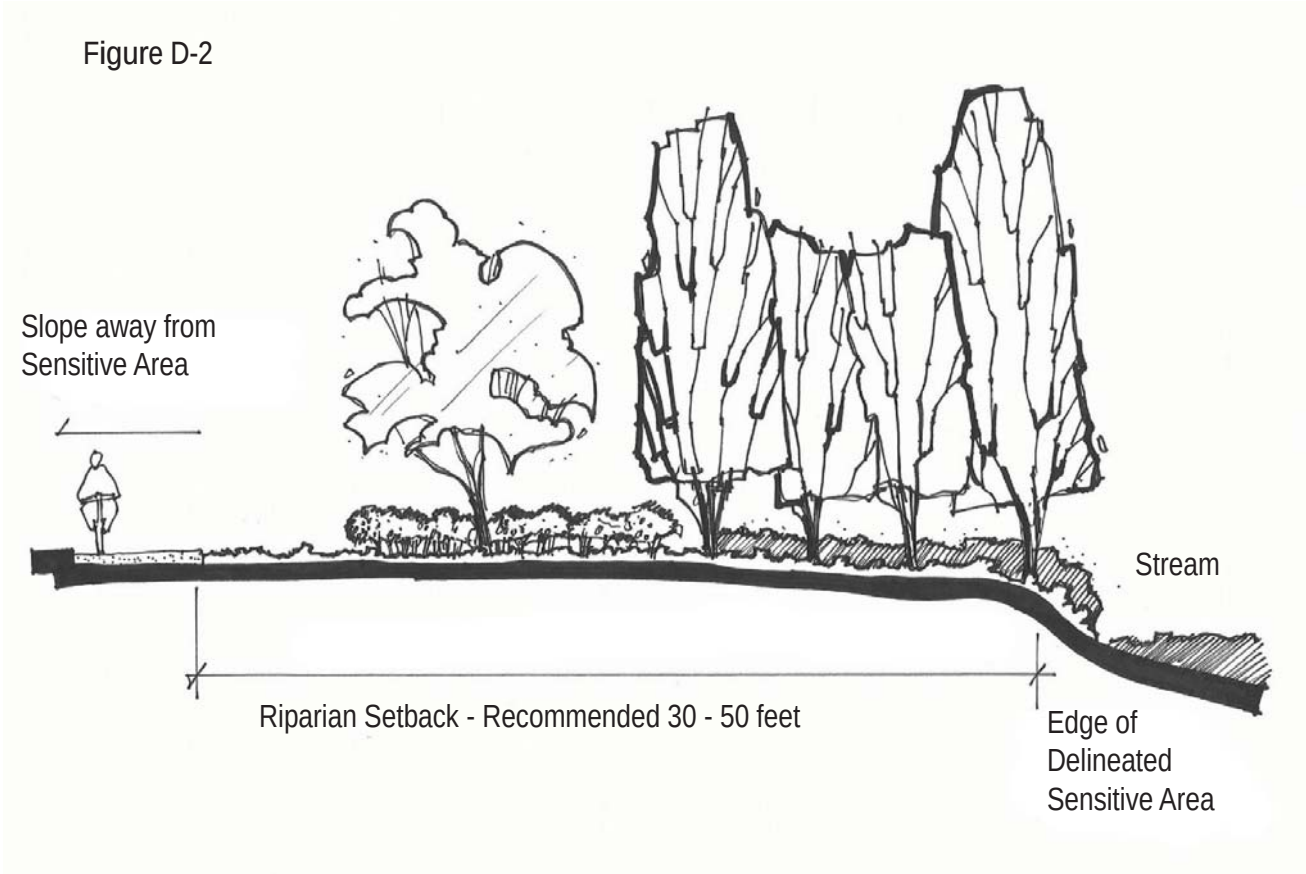
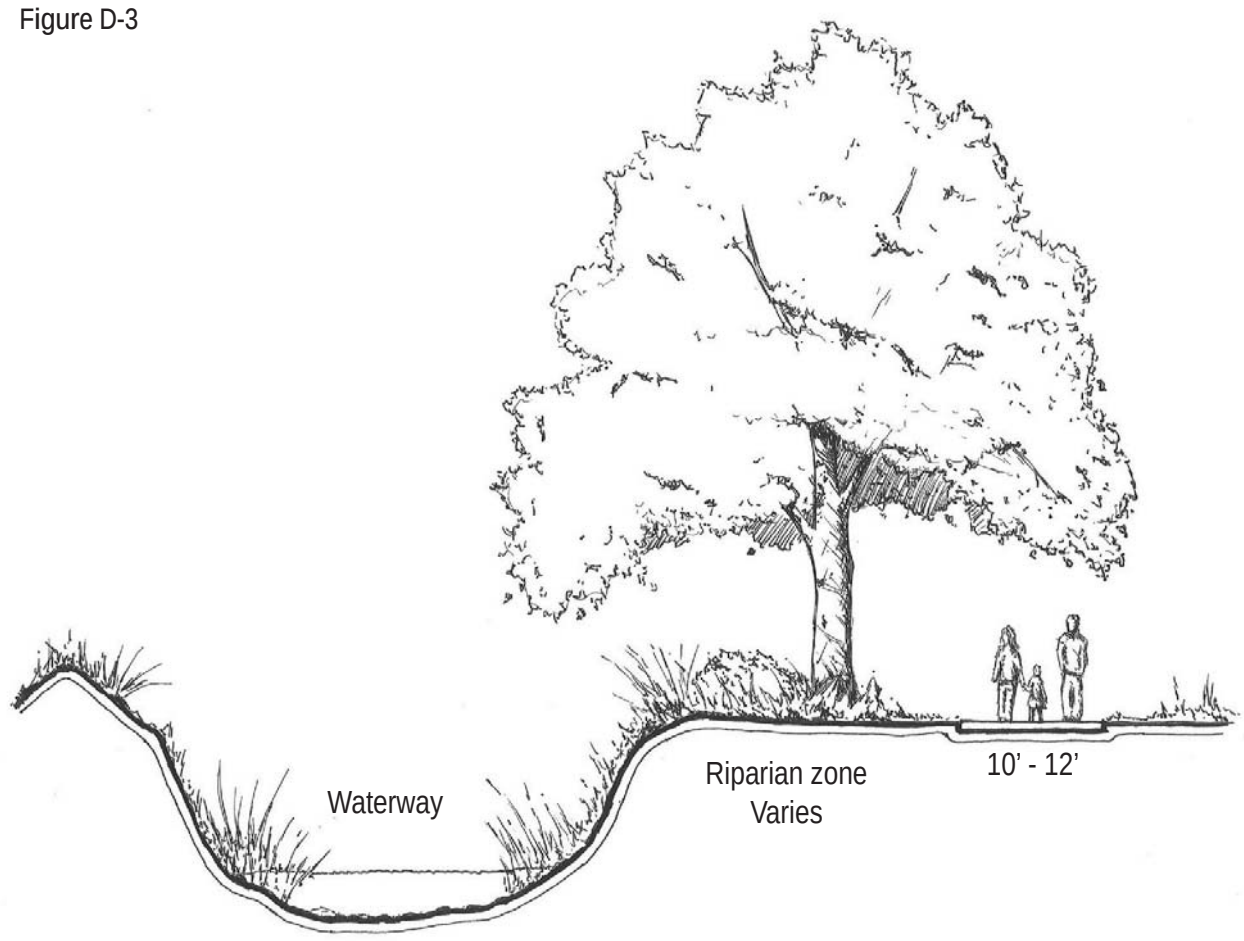
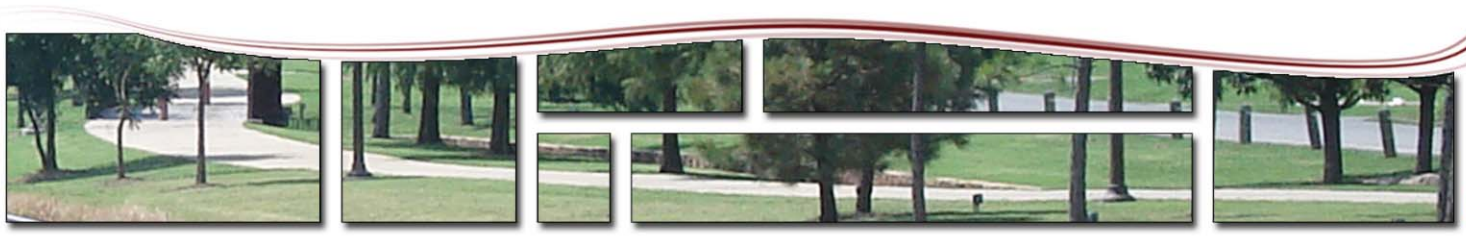
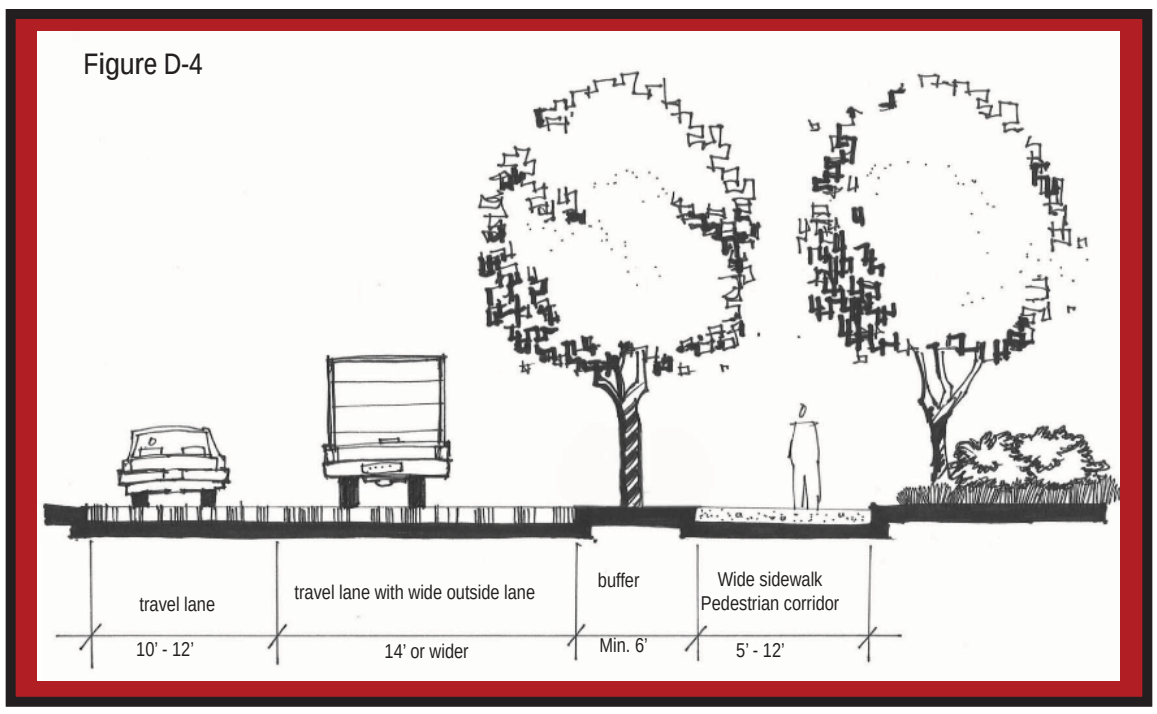


Figure D-3





WIDE PEDESTRIAN CORRIDORS ALONG ROADWAYS



Corridors along roadways can potentially become one of the most important arterial connectors of Norman

Figure D-4 illustrates a typical enhanced street design that is appropriate for trails along roadways and thoroughfares in Norman. These trails are adjacent to the roadway, and the setback from the roadway should be based on the classification of the adjacent roadway, as shown in Table 1. This type of trail is recommended along all scenic roads in Norman.

Parallel bicycle trail should be avoided on roadways with a significant number of intersections or driveways, as each intersection or driveways creates a conflict point between trail users and motor vehicles. Street enhancements are intended for pedestrians only and are designed to create connections between foot trails and the community trails, as well as to connect popular destinations throughout Norman. They will be necessary in areas where suitable greenway corridors are not available.

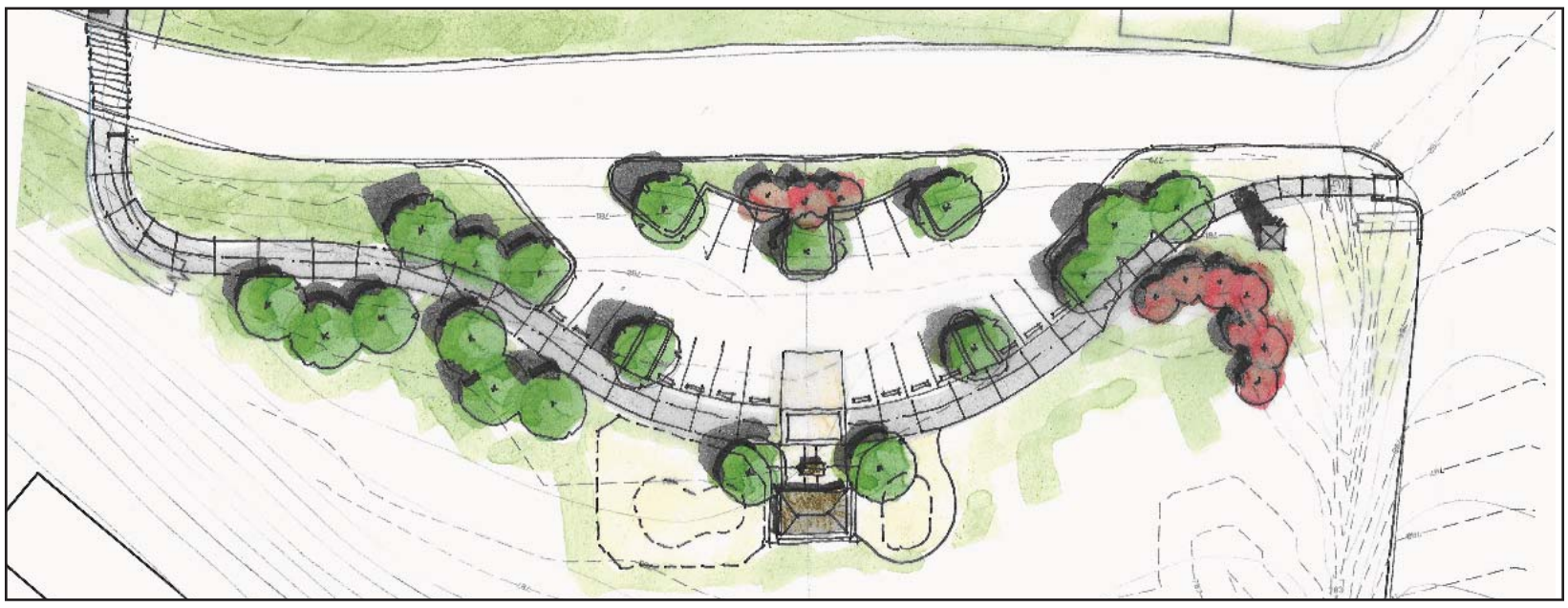
Table D - 1 Setback Recommendations

Roadway Classification	Recommended Minimum Trail Setback
Residential	**Minimum 2 Feet without Trees**
Collector	**5' minimum, 6' preferred**
Arterials and Highways	**10' minimum**

TRAIL ACCESS POINTS AND TRAIL HEADS

In the urban area of Norman, a very high level of accessibility will be desired along trail corridors. More access points increase a sense of security, since they encourage ready use of the trail by area residents. A well used access point can occur at parks. Access points should be as little as 1/8th of a mile apart for neighborhood trails, and typically no more than a 1/4 mile to a 1/2 mile for all other trail types. Two types of neighborhood trail access points include:

- Access from adjacent neighborhood streets
- Access from specific trail heads in parks



Typical Trail head

Includes:

- Parking varies from a few to as many as 10 to 20 cars at popular locations
- Small Shade Pavilion
- Drinking Fountain
- Optional Safety Call Box
- Kiosk with Trail Map and Information
- Bicycle Parking Stand
- Optional Fitness Stations or Warm-Up Stations
- Landscaping and Optional Seasonal Color
- Major Trail Identification Sign
- Optional restrooms (in park locations)

OTHER TRAIL FEATURES

In order for the trails system to be a successful community amenity, the trails should appeal to a wide variety of users. To achieve this, the trails should be designed to provide a high level of user conveniences. The demographics of the community include both elderly and young users. These groups will use the trail more often if amenities are provided. Recommended trail amenities include:

Benches: Utilize wood composites with metal detailing.

Bike racks: Staple racks are inexpensive and most effective

Milepost markers: Mileposts greatly increase use of the trail by joggers and cyclists looking for set workout distances. It is recommended to incorporate milepost markers onto fixed wood or concrete bollards. Signage should be consistent with other trail signage. 1/4 mile and 1/2 mile increments can be used to add further interest.

Trash receptacles: The trail should establish the National Park Service ethic of "pack it in, pack it out." Periodic containers at access points should be provided.

Dog Waste Pickup Stations: Dog waste pickup bag dispensers should be placed at trail heads and key neighborhood access points along the route. Signs should be placed along the trail notifying dog owners to pick up after their dogs.

Information Kiosks: Trail head stations should provide trail users with information and the rules and regulations of the trail. Involving school children, university students and civic organizations in the research, design, and construction of these kiosks would be an excellent community activity.

Directional Signage: The directional signing should impart a unique theme so trail users know which trail they are following and where it goes. The theme can be conveyed in a variety of ways: engraved stone, medallions, bollards, and mile markers. A central information installation at trail heads and major crossroads also helps users find their way and acknowledge the rules of the trail. They are also useful for interpretive education about plant and animal life, ecosystems, and local history

Restrooms: Where appropriate at major trail heads.

Materials used for amenities should receive approval from the City of Norman. For recycling and maintenance purposes, the City should use wood composite materials for amenities where wood is specified; wood composites have the aesthetic qualities of wood, but are better for park amenities.

Figure D-5

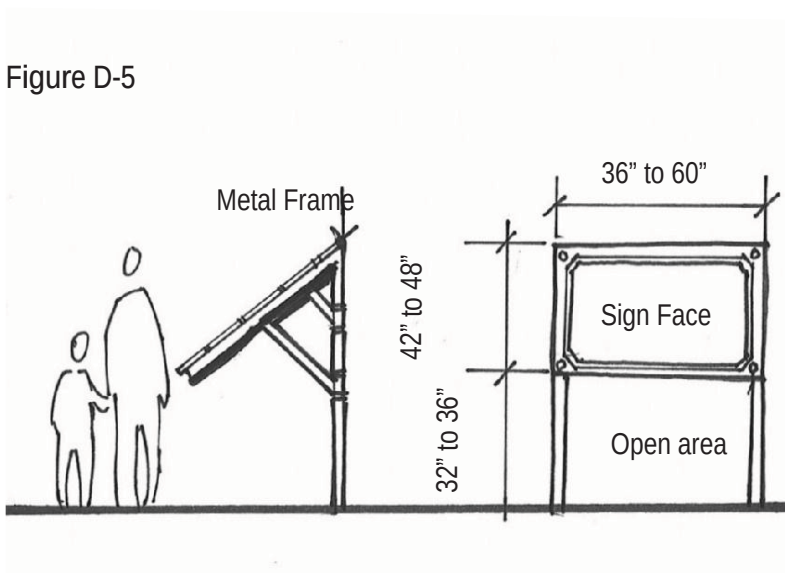
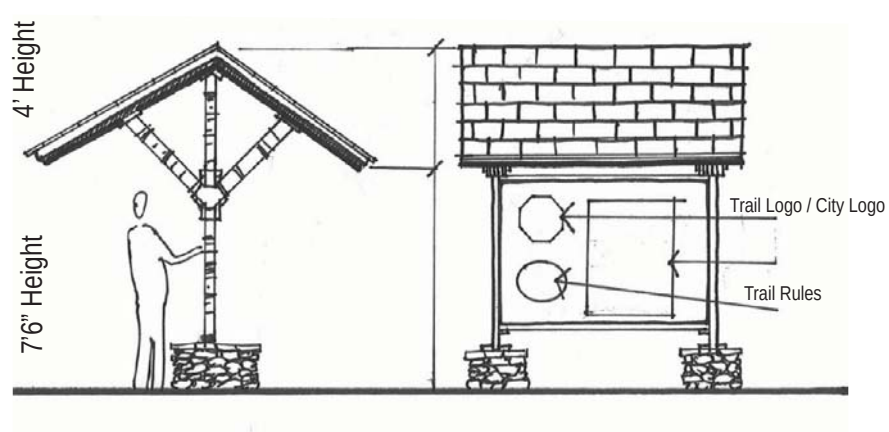
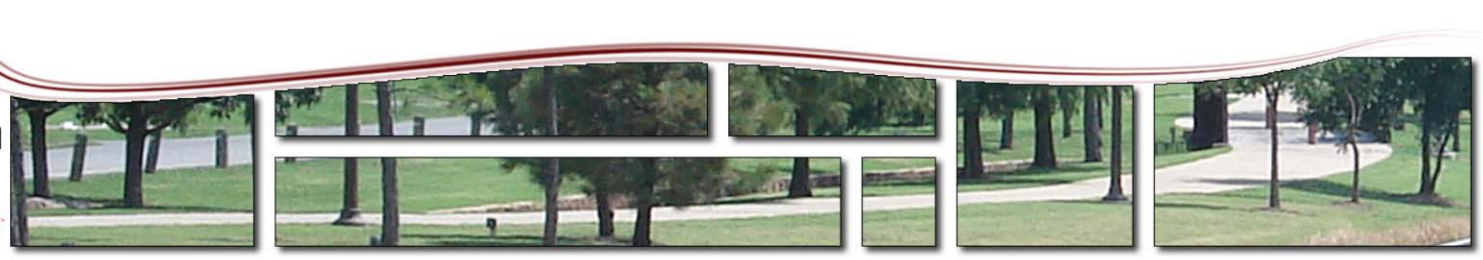


Figure D-6





OTHER TRAIL/GREENWAY AMENITIES AND CONSIDERATIONS

> They should form a framework of parks and forests connected by a series of paths and trails for general outdoor living.
>
> —Benton Mackaye, founder of the Appalachian Trail, 1879-1975

Bridges

From a user's perspective, bridges should be at least as wide as the trail; preferably one to two feet wider on each side. This is so pedestrians can stop and view the adjacent scenery without obstructing the trail. Any bridge that is specifically designated for bicycle traffic must have an appropriate rub-railing for bicyclists.

Bridges should accommodate maintenance vehicles if necessary. Bridge structures should be above the 100-year floodplain. Footings should be located on the outside of the stream channel at the top of the stream bank. The bridge should not constrict the floodway. All bridges and footings in the stream corridor will need to be designed by a registered geotechnical or structural engineer. Cost, design and environmental compatibility will dictate which structure is best for the trail corridor.

Underpasses

Underpasses provide a more direct route to go under a busy street. From the standpoint of a user, underpasses should be well lighted and attractive, and most of all project a sense of security. Where adequate clearance is available, a minimum clearance of 8' is recommended but 10' is preferred. All vehicular bridges added in Norman in the future should be designed to accommodate a "shelf" for a trail.

Water Fountains and Bicycle Parking

Water fountains provide water for people (and pets, in some cases) and bicycle racks allow trail users to safely park their bikes if they wish to stop along the way, particularly at parks and other desirable destinations.

Interpretive Installations

Interpretive installations and signs can enhance the trail experience by providing information about the history of Norman. Installations can also discuss local ecology, environmental concerns, and other educational information.

Maps and Signage

A comprehensive signing system makes a trail system stand out. Informational kiosks with maps at trail heads and other pedestrian generators can provide enough information for someone to use the trail system with little introduction – perfect for areas with high out-of-area visitation rates as well as the local citizens.

Pedestrian-Scale Lighting and Furniture

Pedestrian-scale lighting improves safety and enables the trail to be used year-round. It also enhances the aesthetic beauty of the trail. Lighting fixtures should be consistent with other light fixtures in the city, possibly emulating a historic theme. Providing benches at key rest areas and viewpoints encourages people of all ages to use the trail by ensuring that they have a place to rest along the way. Benches can be simple (e.g., wood slats) or more ornate (e.g., stone, wrought iron, concrete).

Art Installations

Local artists can be commissioned to provide art for the trail system, making it uniquely distinct. Many trail art installations are functional as well as aesthetic, as they may provide places to sit and play on.

TYPICAL TRAIL TYPE COST ESTIMATES

Typical trail costs vary based on the type of material used for the trail, the number of bridges or drainage crossings that are required, and the types of amenities that are included in each trail segment. Cost projections for a typical one mile length of trail, using different materials are shown on the following pages. Each projection also includes a contingency amount, since all trails in this plan are at a pre-design stage. Projections also include an allowance for surveying, design and construction administration associated with the design of each trail.

Corridor Trail - Concrete 10' width

Potential Development Cost

Description - Planned as major arterial trails. 10 to 12 ft. wide concrete all weather trail, centerline stripe, straight to curvilinear alignment as corridor permits. 5" to 6" thick concrete to allow for some use as maintenance track. Includes some amenities at key intersection or access point nodes. Additional amenities such as shade structures and nodes can be added in future.

	Item	Quantity	Unit	Unit Price		Amount
Base Cost						
1	Site Preparation and Grading Allowance (per linear foot)	5,280	LF	$8	$	42,240
2	Concrete Trail, 5 to 6 inch depth, 10' width, includes base material	5,280	LF	$80	$	422,400
3	Trail Striping	5,280	LF	$3	$	15,840
4	Minor Drainage Pipe (12" diam. Max. for local drainage only). Allowance for one every 500 linear feet	11	EA	$1,000	$	11,000
5	Major drainage culverts (36" box culvert, assume two every 5000 linear feet)	0	EA	$20,000	$	-
6	Trail directional/safety signs (assume 1 every 500 linear feet)	10	EA	$500	$	5,000
7	Intersection crosswalk striping (assumes 2 roadway crossing intersections per mile)	2	Each intersection	$10,000	$	20,000
8	Intersection and access point accessible ramps (assumes 8 at every intersection)	2	Each intersection	$10,000	$	20,000
9	Turf re-establishment (allowance for 10' on either side of trail corridor)	105600	SF	$0.3	$	34,848
Subtotal					**$**	**571,328**
Amenity Cost						
10	Drinking fountain (one per mile)	1	EA	$5,000	$	5,000
11	Information kiosk (assume ratio of two per mile)	2	EA	$5,000	$	10,000
12	Major trail access point sign (1 every 2500 linear feet)	2	EA	$3,000	$	6,000
13	Security lighting at access point (1 pole per access point)	4	EA	$5,000	$	20,000
14	Bench node (2 per every mile, includes bench, trash receptacle, decorative pavement)	2	EA	$3,000	$	6,000
Subtotal					**$**	**47,000**
Subtotal Construction Cost					$	618,328
Design, Testing, Administration, Misc. Costs (12.5%)					$	77,291
Contingency at Pre-Design Level (15%)					$	104,343
Escalation over Five Years 4% annually					$	752,291
Total					**$**	**799,962**
Estimated Overall Cost per Linear Foot					**$**	**152**
Estimated Base Cost per Linear Foot					**$**	**143**

Note: *Order of Magnitude Estimate only, without detailed design.*
This estimate is intended only to establish a range of potential costs for this construction effort.
Costs shown are in 2008 dollars prior to escalation factor.

Summary- Trail Cost per Linear Foot

10 to 12' wide community trail - concrete	$150 to $175 per linear foot
8' wide neighborhood trail - concrete	$125 to $140 per linear foot
8' wide parkway trail - concrete	$110 to $135 per linear foot
6' wide sidewalk	$80 to $90 per linear foot
8' wide decomposed granite trail	$70 to $140 per linear foot
8' wide nature trail	$65 to $110 per linear foot

Typical 10' to 12' wide major trail, the heart of the trail system

Corridor Trail - Concrete 12' width

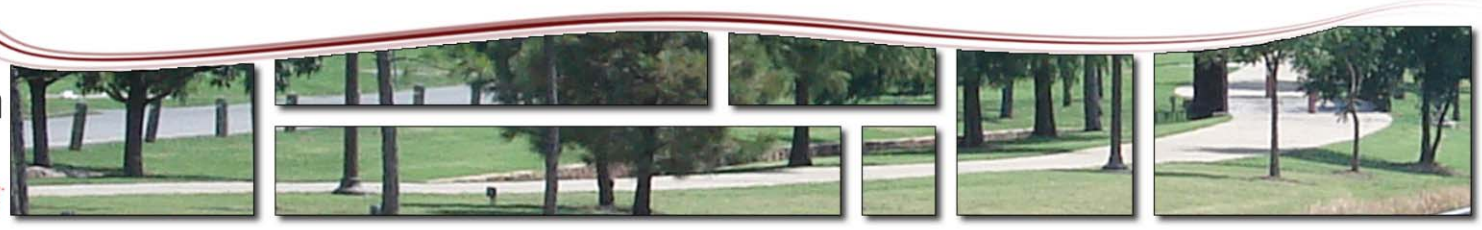
Potential Development Cost

Description - Planned as major arterial trails. 10 to 12 ft. wide concrete all weather trail, centerline stripe, straight to curvilinear alignment as corridor permits. 5" to 6" thick concrete to allow for some use as maintenance track. Includes some amenities at key intersection or access point nodes. Additional amenities such as shade structures and nodes can be added in future.

	Item	Quantity	Unit	Unit Price		Amount
Base Cost						
1	Site Preparation and Grading Allowance (per linear foot)	5,280	LF	$8	$	42,240
2	Concrete Trail, 5 to 6 inch depth, 12' width, includes base material	5,280	LF	$96	$	506,880
3	Trail Striping	5,280	LF	$3	$	15,840
4	Minor Drainage Pipe (12" diam. Max. for local drainage only). Allowance for one every 500 linear feet	11	EA	$1,000	$	11,000
5	Major drainage culverts (36" box culvert, assume two every 5000 linear feet)	0	EA	$20,000	$	-
6	Trail directional/safety signs (assume 1 every 500 linear feet)	10	EA	$500	$	5,000
7	Intersection crosswalk striping (assumes 2 roadway crossing intersections per mile)	2	Each intersection	$10,000	$	20,000
8	Intersection and access point accessible ramps (assumes 8 at every intersection)	2	Each intersection	$10,000	$	20,000
9	Turf re-establishment (allowance for 10' on either side of trail corridor)	105600	SF	$0.3	$	34,848
Subtotal					**$**	**655,808**
Amenity Cost						
10	Drinking fountain (one per mile)	1	EA	$5,000	$	5,000
11	Information kiosk (assume ratio of two per mile)	2	EA	$5,000	$	10,000
12	Major trail access point sign (1 every 2500 linear feet)	2	EA	$3,000	$	6,000
13	Security lighting at access point (1 pole per access point)	4	EA	$5,000	$	20,000
14	Bench node (2 per every mile, includes bench, trash receptacle, decorative pavement)	2	EA	$3,000	$	6,000
Subtotal					**$**	**47,000**
Subtotal Construction Cost					$	702,808
Design, Testing, Administration, Misc. Costs (14%)					$	98,393
Contingency at Pre-Design Level (15%)					$	120,180
Escalation over Five Years 4% annually					$	1,121,001
Total					**$**	**921,381**
Estimated Overall Cost per Linear Foot					**$**	**175**
Estimated Base Cost per Linear Foot					**$**	**166**

Note: *Order of Magnitude Estimate only, without detailed design. Cost will vary as detailed design occurs.*
This estimate is intended only to establish a range of potential costs for this construction effort.
Costs shown are in 2008 dollars prior to escalation factor.

Typical 12' wide major trail



Parkway Sidewalk - 10' Width

Potential Development Cost

Description - Major sidewalk connection through neighborhoods and commercial areas.

	Item	Quantity	Unit	Unit Price		Amount
Base Cost						
1	Grading Allowance (per linear foot)	5,280	LF	$8	$	42,240
2	Concrete Trail, 4 to 6 inch depth, 10' width, includes base material, windowpane joints for 25% of length	5,280	LF	$80	$	422,400
3	Trail Centerline Striping (White)	5,200	LF	$3	$	15,600
4	Culverts (12" diam. Max. for local drainage only). Allowance for one every 250 linear feet	0	EA	$1,000	$	-
5	Major drainage culverts (36" to 48" box culvert, assume two every 5000 linear feet)	0	EA	$20,000	$	-
6	Trail directional/safety signs (assume 1 every 800 linear feet)	8	EA	$500	$	4,000
7	Intersection crosswalk striping (assumes 4 intersections per mile)	4	Each intersection	$10,000	$	40,000
8	Intersection and access point accessible ramps (assumes 8 at every intersection)	4	Each intersection	$10,000	$	40,000
9	Turf re-establishment (allowance for 5' on either side of trail corridor)	52800	SF	$0.5	$	26,400
Subtotal					**$**	**590,640**
Amenity Cost						
10	Drinking fountain (one per mile)	0	EA	$5,000	$	-
11	Information kiosk (assume ratio of 2 per mile)	2	EA	$5,000	$	10,000
12	Major trail access point sign (1 every 2500 linear feet)	2	EA	$3,000	$	6,000
13	Security lighting at access point (1 pole per access point)	0	EA	$5,000	$	-
14	Bench node (2 per every mile, includes bench, trash receptacle, decorative pavement)	2	EA	$4,000	$	8,000
Subtotal					**$**	**24,000**
Subtotal Construction Cost					$	614,640
Design, Testing, Administration, Misc. Costs (14%)					$	86,050
Contingency at Pre-Design Level (15%)					$	105,103
Escalation over Five Years 4% annually					$	980,370
Total					**$**	**805,793**
Estimated Overall Cost per Linear Foot					**$**	**153**
Estimated Base Cost per Linear Foot (without amenities)					**$**	**148**

Note: *Order of Magnitude Estimate only, without detailed design.*
This estimate is intended only to establish a range of potential costs for this construction effort.
Costs shown are in 2008 dollars prior to escalation factor.

Soft Surface Trail - 10' Width

Potential Development Cost

Description - Nature trails which are built outside of the floodplain zone.

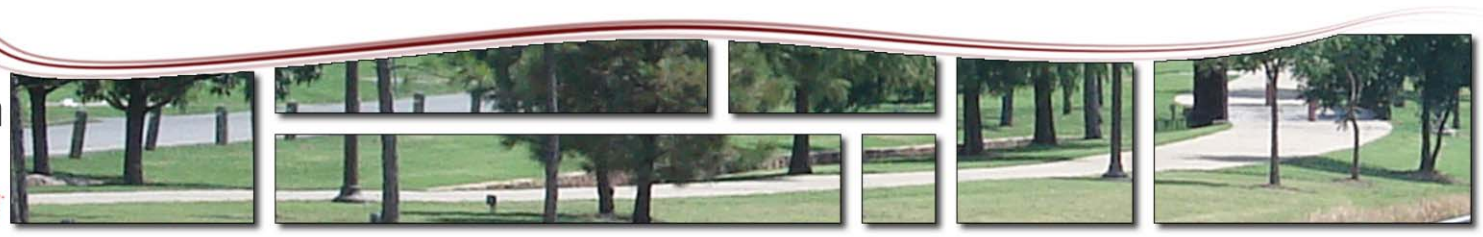
	Item	Quantity	Unit	Unit Price		Amount
Base Cost						
1	Grading Allowance (per linear foot)	5,280	LF	$8	$	42,240
2	Soft Surface Trail, 4 to 6 inch depth, 10' width, includes base material	5,280	LF	$50	$	264,000
4	Culverts (12" diam. Max. for local drainage only). Allowance for one every 250 linear feet	0	EA	$1,000	$	-
5	Major drainage culverts (36" to 48" box culvert, assume two every 5000 linear feet)	0	EA	$20,000	$	-
6	Trail directional/safety signs (assume 1 every 800 linear feet)	8	EA	$500	$	4,000
7	Intersection crosswalk striping (assumes 4 intersections per mile)	4	Each intersection	$10,000	$	40,000
8	Intersection and access point accessible ramps (assumes 8 at every intersection)	4	Each intersection	$10,000	$	40,000
9	Turf re-establishment (allowance for 5' on either side of trail corridor)	52800	SF	$0.5	$	26,400
Subtotal					**$**	**416,640**
Amenity Cost						
10	Drinking fountain (one per mile)	0	EA	$5,000	$	-
11	Information kiosk (assume ratio of 2 per mile)	2	EA	$5,000	$	10,000
12	Major trail access point sign (1 every 2500 linear feet)	2	EA	$3,000	$	6,000
13	Security lighting at access point (1 pole per access point)	0	EA	$5,000	$	-
14	Bench node (2 per every mile, includes bench, trash receptacle, decorative pavement)	2	EA	$4,000	$	8,000
Subtotal					**$**	**24,000**
Subtotal Construction Cost					$	440,640
Design, Testing, Administration, Misc. Costs (14%)					$	61,690
Contingency at Pre-Design Level (15%)					$	75,349
Escalation over Five Years 4% annually					$	702,835
Total					**$**	**577,679**
Estimated Overall Cost per Linear Foot					**$**	**109**
Estimated Base Cost per Linear Foot (without amenities)					**$**	**105**

Note: *Order of Magnitude Estimate only, without detailed design.*
This estimate is intended only to establish a range of potential costs for this construction effort.
Costs shown are in 2008 dollars prior to escalation factor.

> Greenways. A linear open space established along a corridor, such as a river or railroad right-of way, and usually developed for non-vehicular public use. Examples include the Platte River Greenway in Denver, the Capital Area Greenway in Raleigh, North Carolina, and the Willamette Greenway in Portland, Oregon.
>
> -Green Dreams Definition of a Greenway, 2002

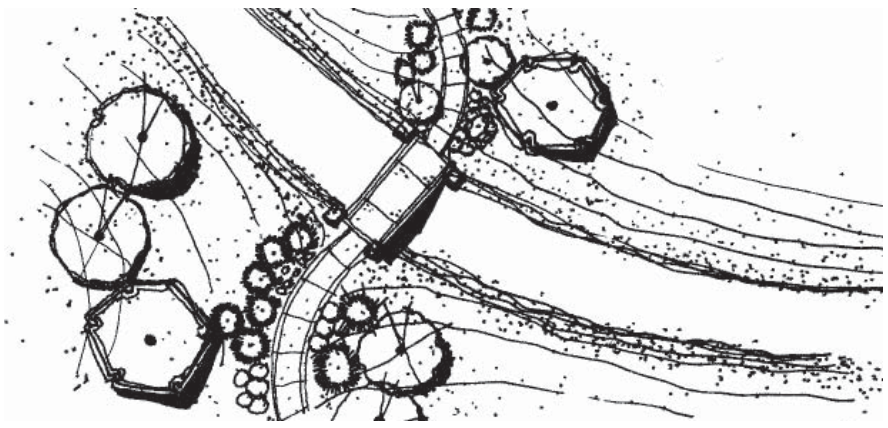
POTENTIAL GREENWAY CORRIDORS

Required preservation and free access to creek and major drainage corridors - Drainage corridors will continue to be the major trail corridors within the city, and as such should be developed with access along at least one side of the creek for small drainage tributaries and along both sides of the creek for major creeks. These corridors are largely unable to be developed and can preserve some of the remaining natural space in Norman. Steps should be taken to require that natural creek corridors be preserved and trail access be allowed. In most cases, streets paralleling the drainage or creek corridor are preferred, rather than lots that back up to the creek and that effectively seal off the creek from public view or access.



POTENTIAL NEIGHBORHOOD GREENWAY CORRIDORS

Future neighborhood developments could highlight drainage channels and open space by making the greenway more accessible to the public. Neighborhood streets could open onto the park (Figure D-7), making it accessible for the entire neighborhood instead of a backyard feature for only certain residents. The roadway could parallel the greenway so that houses will face the greenway (Figure D-8). The use of ornamental fences instead of solid wood fences should be enforced to create a more appealing space for the greenway.



In drainage situations a wider corridor width of at least 300' allows for natural drainage and the preservation of the riparian zone.

Trails on either side of the preserved corridor provide access to the natural beauty and environment of the greenway corridor. Pocket parks along the corridor create nodes of public gathering areas to increase use and aesthetics.

Figure D-7

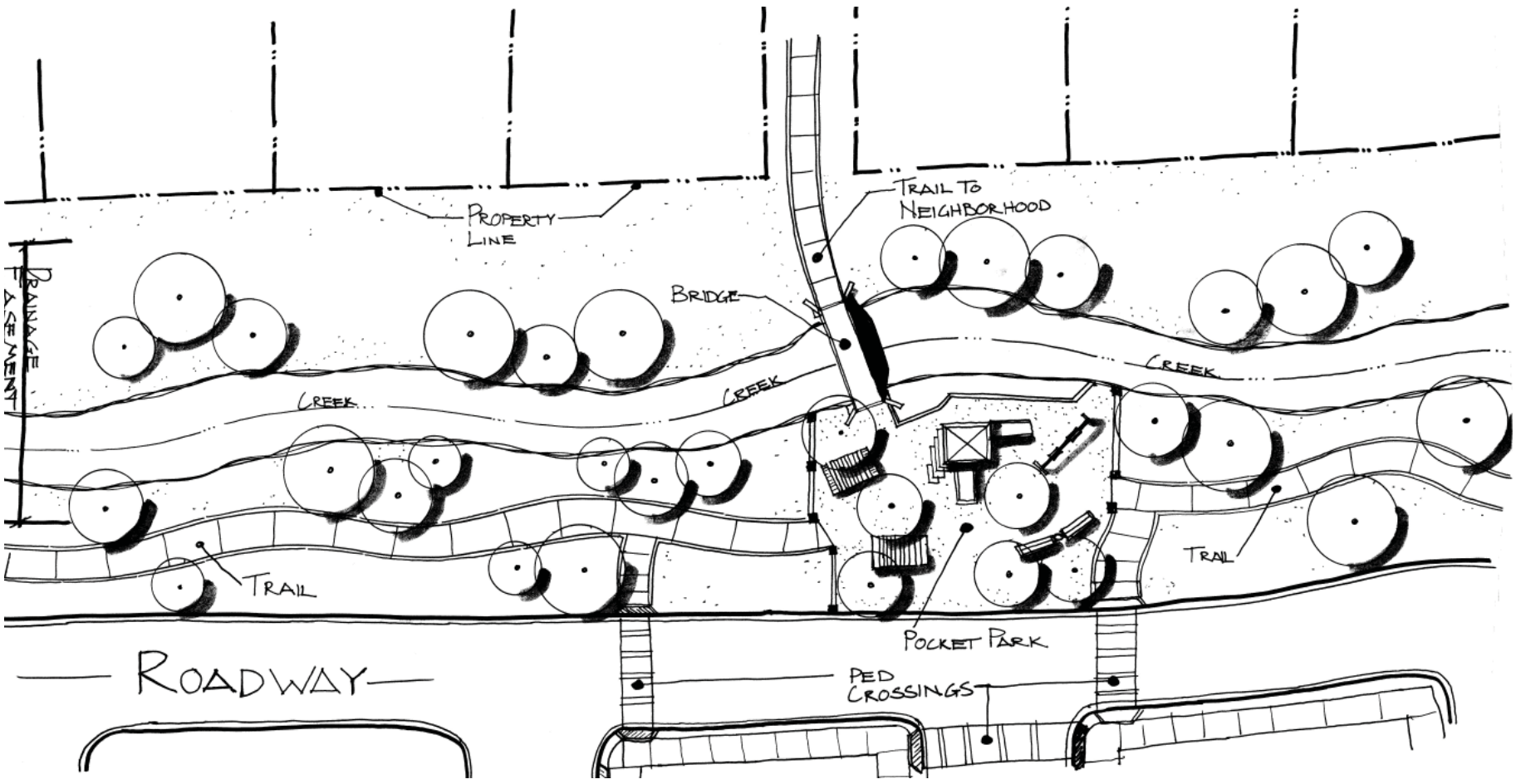
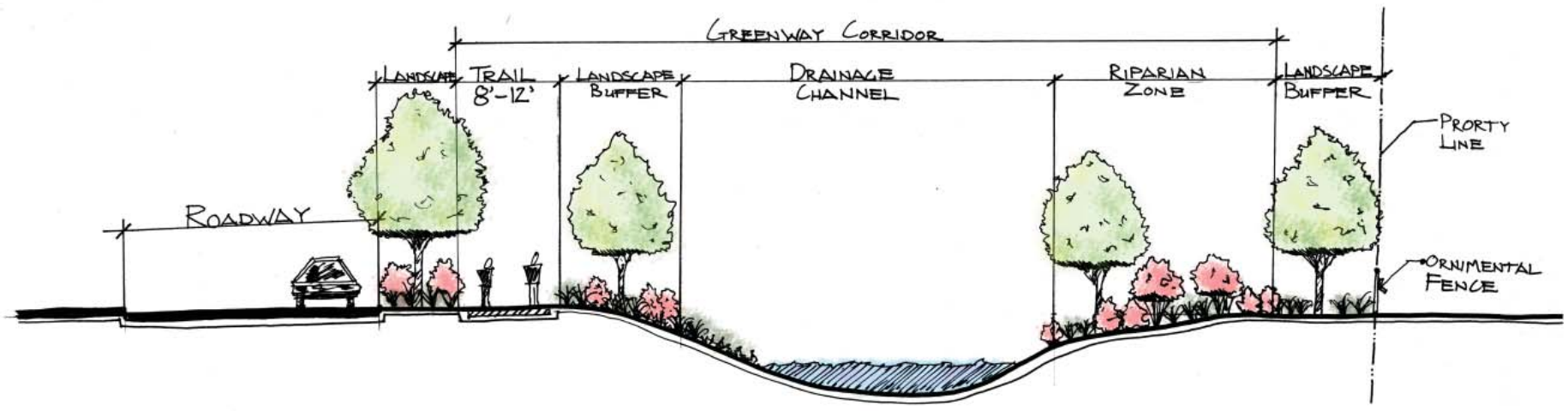
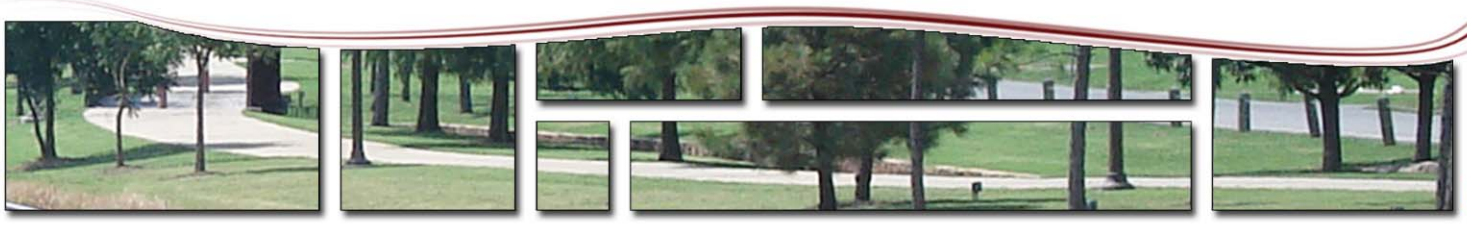


Figure D-8

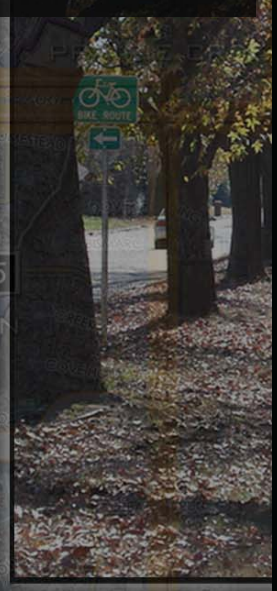




GREENWAY OPPORTUNITIES & RECOMMENDATIONS

CHAPTER E CONTENTS

- Citywide Greenway Opportunities for Norman
- Identification of Citywide Opportunities
- Corridor Suitability Evaluation
- Corridor Analysis Evaluation
- Key Greenbelt Recommendations for Norman
- Overall Recommendations
- Urban Core Recommendations
- High Priority Urban Core Recommendations
- Key Greenway Corridors
- Major High or Barrier Crossings
- Summary of Trail Cost



City of Norman Oklahoma

GREENWAY MASTER PLAN

2009

HALFF

PBS&J

> By linking open spaces we can achieve a whole that is better than the sum of the parts.
>
> - William Whyte, The Last Landscape, 1968

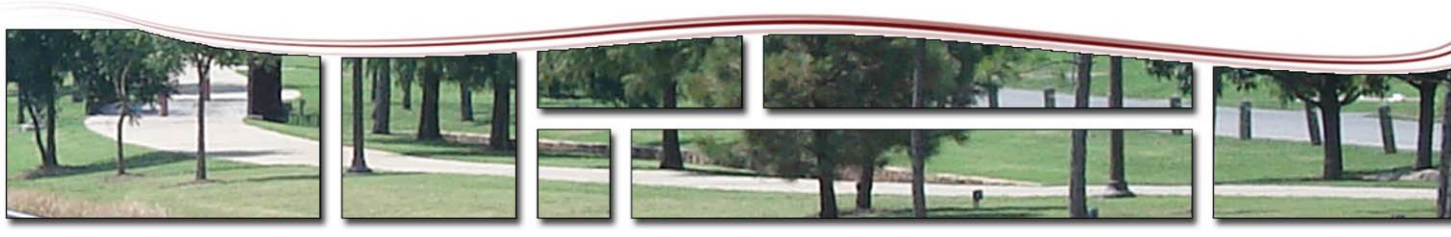
Citywide Greenway Opportunities for Norman

Norman has many opportunities for greenways and trails located throughout the city. Over the next two to three decades, it is anticipated that many of those opportunities can be preserved as greenways with the possibility of trails located within these zones. However, the city's efforts should be focused on those corridors that provide the most significant beneficial impact, and that truly begin to create a major citywide network.

This section presents a citywide network of greenways and trails, and helps represent key opportunities within the city. These corridors were then evaluated to see if the conditions were suitable to establish a greenway system. Those key areas were then divided into segment and prioritized. Cost projections were then prepared for each of the recommended segments, allowing for the preparation for greenway implementation.

These corridors were selected to meet the goals established by the planning effort, and to reflect citizen comments and desires received during the extensive public input process.

The immediate focus will be on corridors within the city limits of Norman.



IDENTIFICIATION OF CITYWIDE OPPORTUNITIES

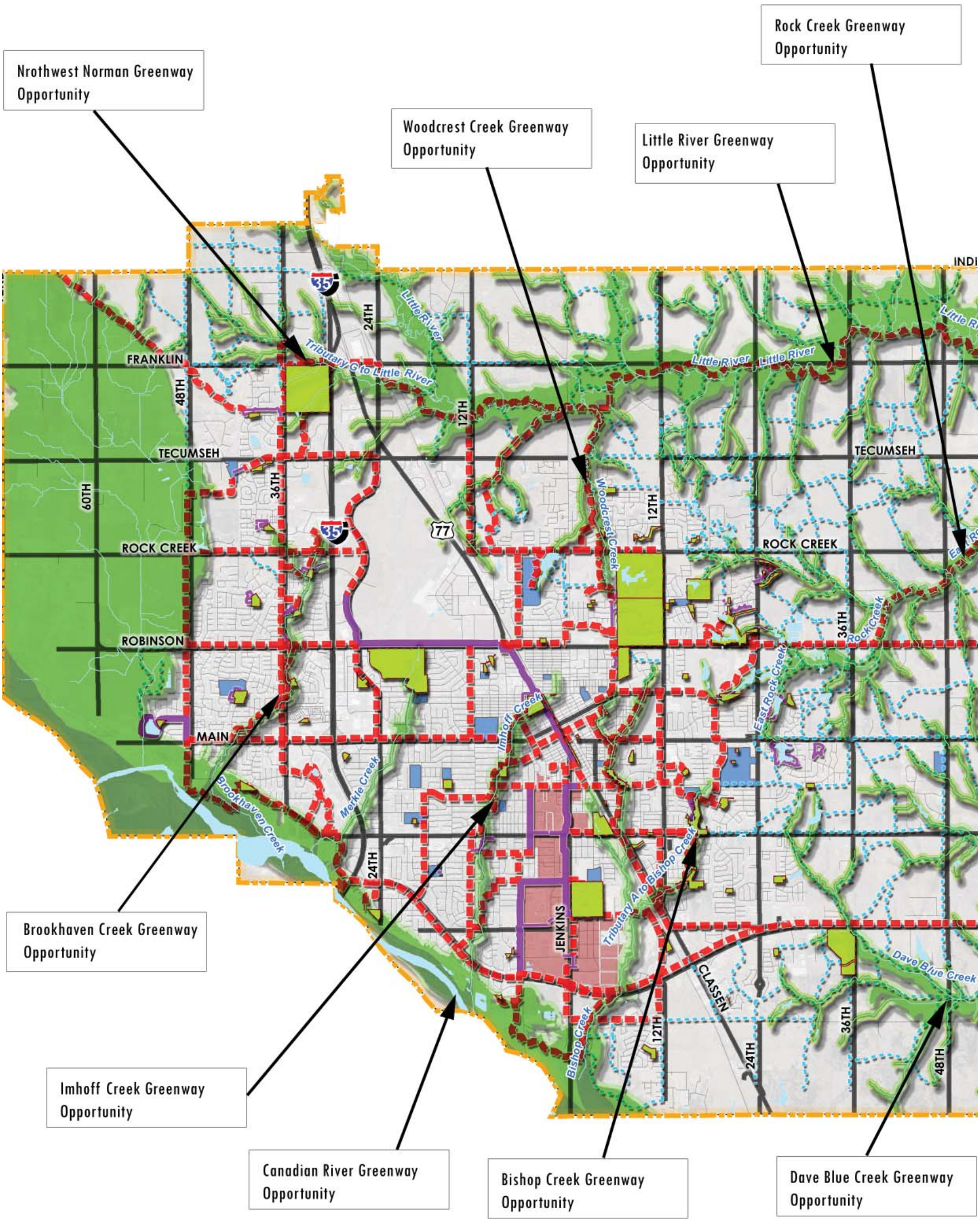
The process of identifying greenway and trail opportunities used these following steps:

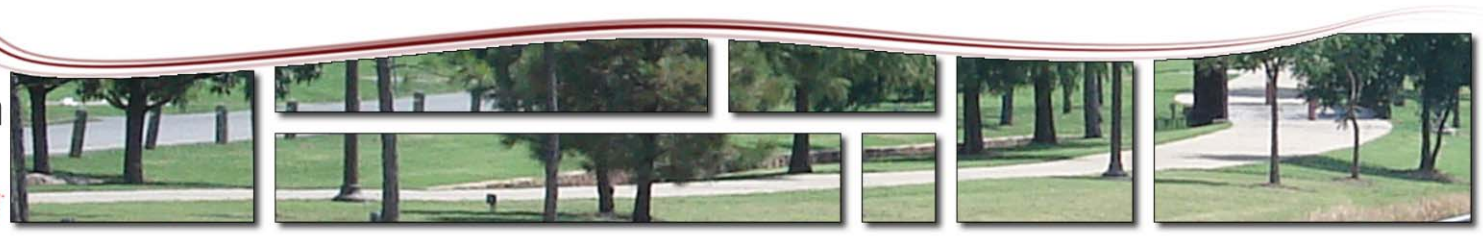
1. Inventory Collection

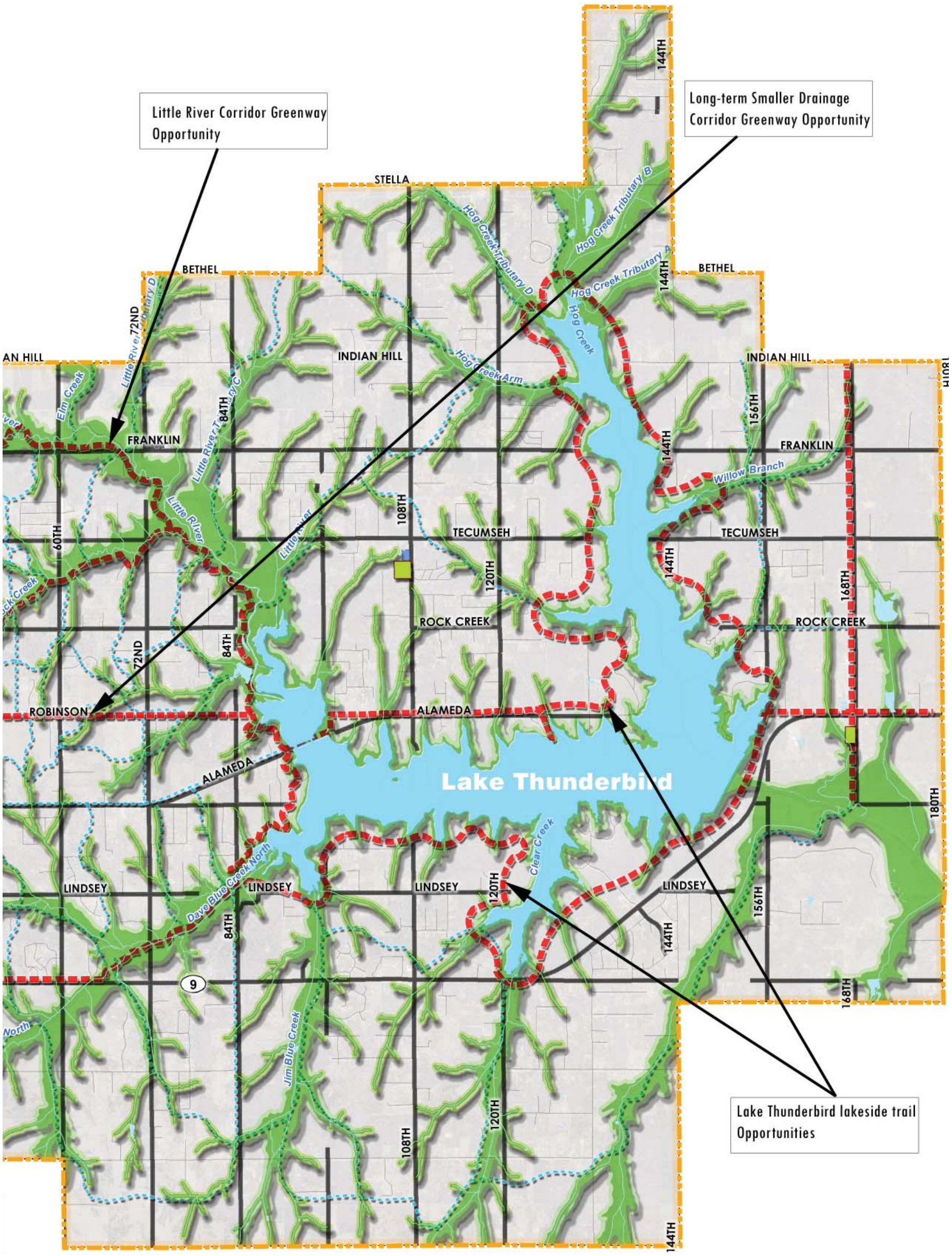
Collection of inventory included; gathering photos and collecting information of the existing conditions in Norman. Retrieving and utilizing GIS data received from the city.

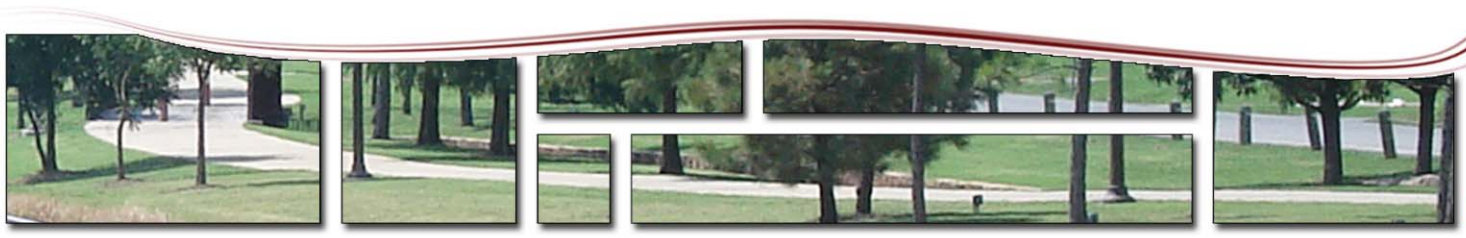
2. Corridor Suitability Analysis

Each potential corridor was evaluated for its suitability as a greenway and as a trail corridor. The conclusions of the analysis help categorize the potential greenways and trail system shown in the map below.









City of Norman
Greenway Master Plan
February 2009

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CORRIDOR SUITABILITY EVALUATION

The "suitability" of individual corridors was evaluated using a matrix developed with the oversight of the Greenbelt Commission. This greenbelt evaluation looked at connectivity, ownership of the property, compatibility with adjacent land uses, environmental and physical characteristics, and the level of public support for each corridor. *See Table*

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Little River — **Corridor Score**: 4**

Corridor Description: From Ruby Grant Park to Woodcrest Creek; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**9**
Schools	0		6	0
Trail-to-Trail	3		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	1		4	1
Connection to Park(s) & Other City Amenities	2		5	5
Major Retail Center	0		2	0
Significant Employer(s)	0		2	0
Ownership Availability		**15%**	**15**	**10**
City Owned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	0
Other Public or Semi-public Entity Owned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the City of Norman is feasible			10	10
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			10	10
Adequate buffering from adjacent residential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**15**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			10	10
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			5	5
Existing Wetlands or other unique natural or urban features			5	5
Major Barrier to use of this corridor (deduct up to 5 points)	*Crossing IH-35*		-5	-5
Only location for trail is within floodway portion of the corridor (deducts points if selected)			-5	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-5 pts)			(-5)	0
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			20	20
Total		**100%**	**100**	**69**

* Number of elements within 600 ft. radius

** Score ranges as follows - over 80 = 5, over 60 = 4, over 40 = 3, over 20 =2, 20 or less = 1

CORRIDOR PRIORITIZATION EVALUATION

SUITABILITY EVALUATION SCORE

While the suitability evaluation does not necessarily eliminate any corridor from consideration, it does indicate which corridors have the greatest potential for use as greenbelts. A score from a high of 5 points to a low of 1 point is given based on the suitability score.

LEVEL OF CONNECTIVITY

Connectivity is measured by the degree to which the project connects to existing greenways, parks, schools, libraries, historic sites, neighborhoods, shopping, or other major destination points, or to on-road bicycle or pedestrian facilities. The greater the connectivity, the higher the priority. Connectivity was ranked from 1 to 5, based on the score from the suitability evaluation, with five being the high score and 1 being the low score.

POTENTIAL LEVEL OF USAGE

Is the proposed trail in a more urban setting or surrounded with more dense development that may generate higher levels of use that other trails? Will it offer a variety of trail use experiences for a significant number of users? The anticipated usage of the facility is based on the anticipated "close to home" usage, based on the number of people residing in the vicinity of the proposed trail.

CONTRIBUTION TO THE GREENWAY/ OPEN SPACE NETWORK

Does the project preserve critical habitat or preserve greenway corridors that could protect native flora and resident and/or migratory fauna. Does the corridor preserve needed green space in that part of the city? Does the trail corridor provide a scenic trail use experience not afforded by other trail corridors? A score of 3 ranked as the high score, and a score of 1 ranked as the low score.

CRITICAL OPPORTUNITY

Does this corridor seize an opportunity to secure a corridor for a greenbelt or for a trail that may not be available in the future? Is the corridor going to be developed? Does not acquiring or developing this corridor add significant more expense in the future as adjacent properties develop or surrounding land uses change? Are there other plans for this area that can be used to expedite trail or greenbelt development? Corridors were ranked from 1 to 5, with a ranking of 5 having the most chances for a greenway opportunity.

INTEGRATION WITH STORM WATER MASTER PLAN

Greenbelt corridors that are part of the existing storm water drainage system in the city, or that are proposed to be acquired and or improved as part of recommendations of the Storm Water Master plan can be integrated into the greenbelt system in a more efficient manner. Corridors were ranked from 1 to 3, with 3 having the most overlap with the Storm Water system

LEVEL OF READINESS

Corridors where acquisition has been completed, where funding sources or partnerships have been identified, or where design, neighborhood input and permitting has occurred or is underway may be candidates for earlier preservation and development as greenbelts. Corridors were ranked from 1 to 4. If the corridor was suitable for design a maximum score of 4 was given to the corridor

CORRIDOR PRIORITIZATION

SCORING SYSTEM:

A maximum score of up to 30 points can be achieved using the criteria discussed on the previous page.

Generalized rankings were grouped as follows:

- **High Priority** – score from 21 to 30– indicates a time horizon from one to seven years in length.
- **Medium Term Priority** – score from 11 to 20 – indicates a time frame from 8 to 15 years in length.
- **Long Term or by Non-City entity** – score from 1 to 10 – generally indicates a time frame longer than 15 years, but may also indicate a corridor segment where primary development may be lead by a non-city entity or developer.

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Example Corridor

Number	Corridor		Prioritization Criteria							Total Score	Priority Category
		Length (L.F)	Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Maximum Score = 30	21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
EX-1	Example - Segment 1	1000	5	5	5	3	5	3	4	30	High
EX-2	Example - Segment 2	1000	5	5	5	3	5	3	4	30	High
		2000	5	5	5	3	5	3	4	30	High

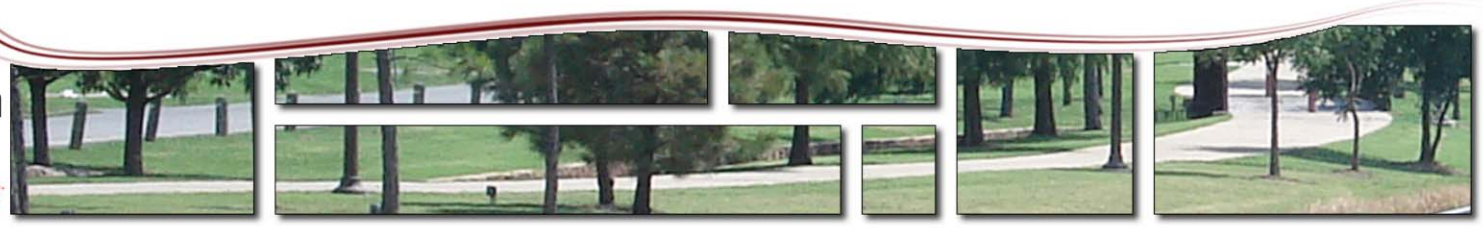
KEY GREENBELT RECOMMENDATIONS

Recommendation #1

1. Include a trail construction component in any proposals for a storm water fee – A fee amount of approximately $1.11 would generate approximately $1,000,000 per year that could be used for greenbelt preservation and/or trail development. Over a 20 year lifespan, that amount could be used to target many of the high priority trail corridors throughout the city. More importantly, that amount could be aggressively leveraged to pursue additional grant funding opportunities as those become available. This would give Norman a significant advantage in competing for meeting the require matching component of many of those grants. Most importantly, it would ensure a consistent and ongoing development of trail corridors, so that citizens could see significant progress year after year.

Recommendation #2

2. Consider bond propositions to help supplement trail development – A trail and greenbelt preservation bond item could also generate a larger amount of funds that could be quickly used to preserve lands or to develop key trail components that have higher construction costs but that are key connectivity needs. For example, these could be used to help create IH 35 crossings, the connection under the railroad corridor at Robinson, or longer segments of trails connecting to key destinations such as the OU campus, the downtown area, or the new Ruby Grant park site.



Recommendation #3

3. Work with the development community to build trail segments – The Greenbelt Plan calls for many trail corridors throughout the city, and may take a significant amount of time to be built if the City of Norman is the only entity involved in their construction. The development community can assist by building trail segments that are in their properties. These are proven to be key features that help generate sales and added value to new developments, but the key attraction may be the connectivity to other parts of the city that will begin to take place as spine trails are built and segments begin to connect. In some neighborhoods, parkland dedication could shift to greenbelt corridors or stream planning corridors, as long as some non-floodplain areas were available for building playgrounds or other major park features. Where development entities are asked to build trails, credits for other fees or requirements should be considered.

Recommendation #4

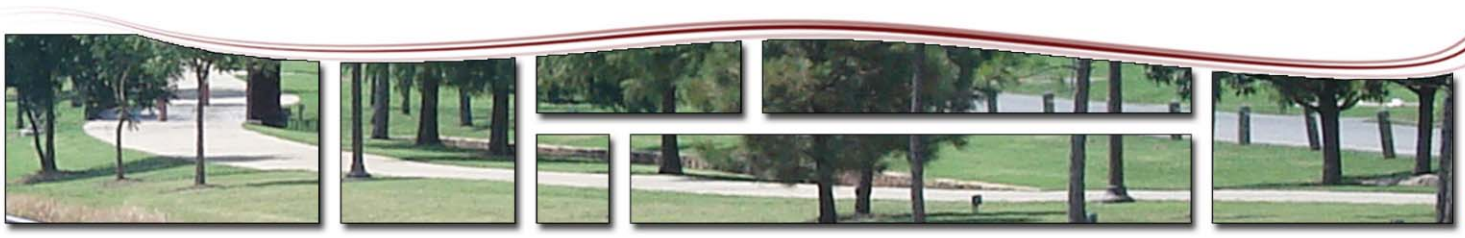
4. Emphasize the preservation of trees and natural vegetation along all greenbelts – Norman has a very healthy urban forest (that is recovering from recent ice storms), but in new developments much of that vegetation may be lost during construction. Greenbelts should be the one area where existing trees or stands of trees are preserved, whether in the drainage corridor or near to it, so that a true park-like environment is preserved.

Recommendation #5

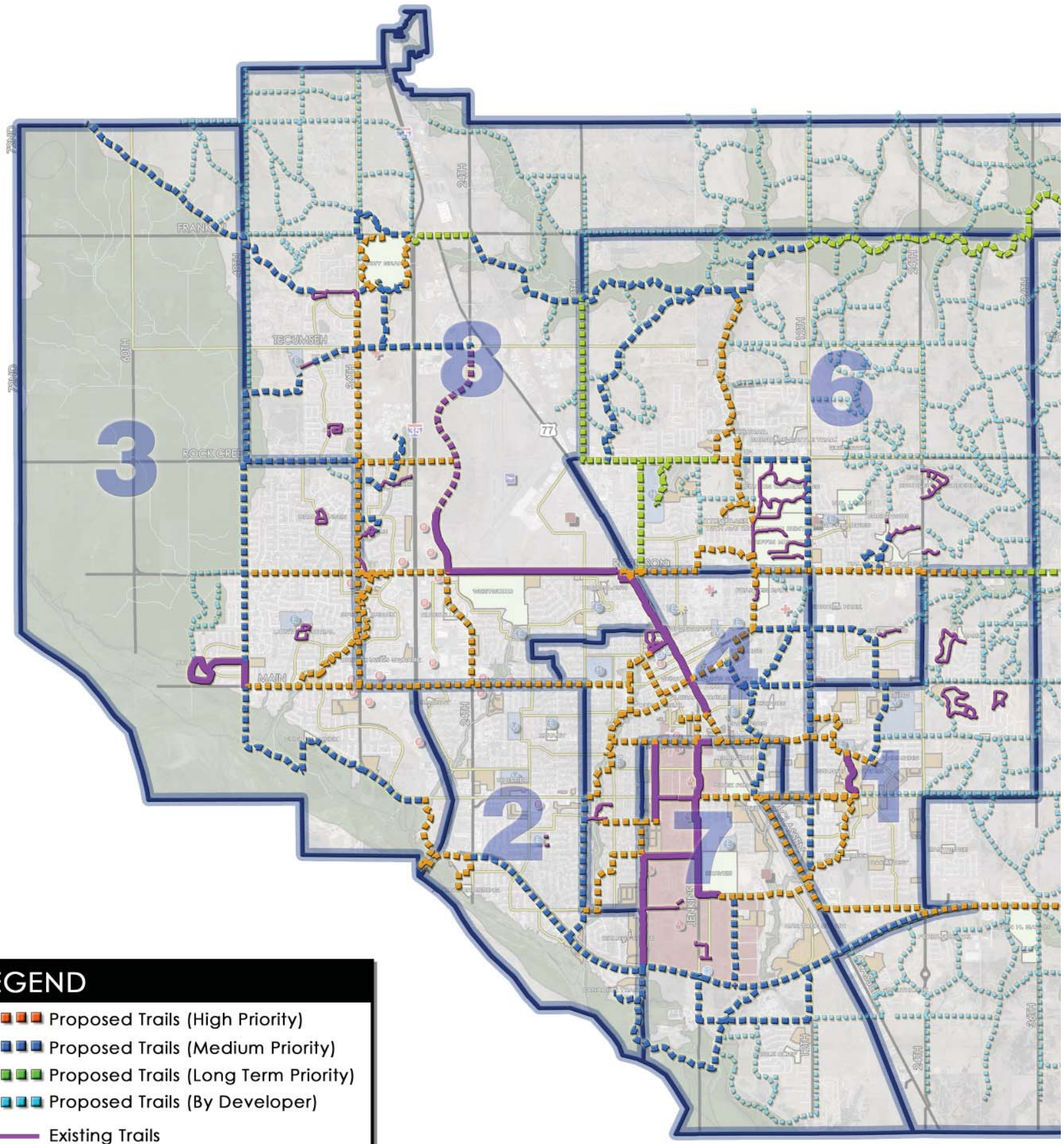
5. Keep greenbelt and trail corridors open and accessible – Almost every existing creek in Norman has been developed with limited physical and visual access to the greenbelt. Access to parks and trails is often difficult or almost impossible because lots back up to the greenbelt. Greenbelts that are designed to have public frontage on **one side** are strongly encouraged. The potential loss of value in "greenbelt" lots can be made up by the increase in value of other lots that now have much better physical and visual access to continual lengths of the greenbelt. The greenbelt park becomes a feature for the entire development, and not just the lots that back up to it.

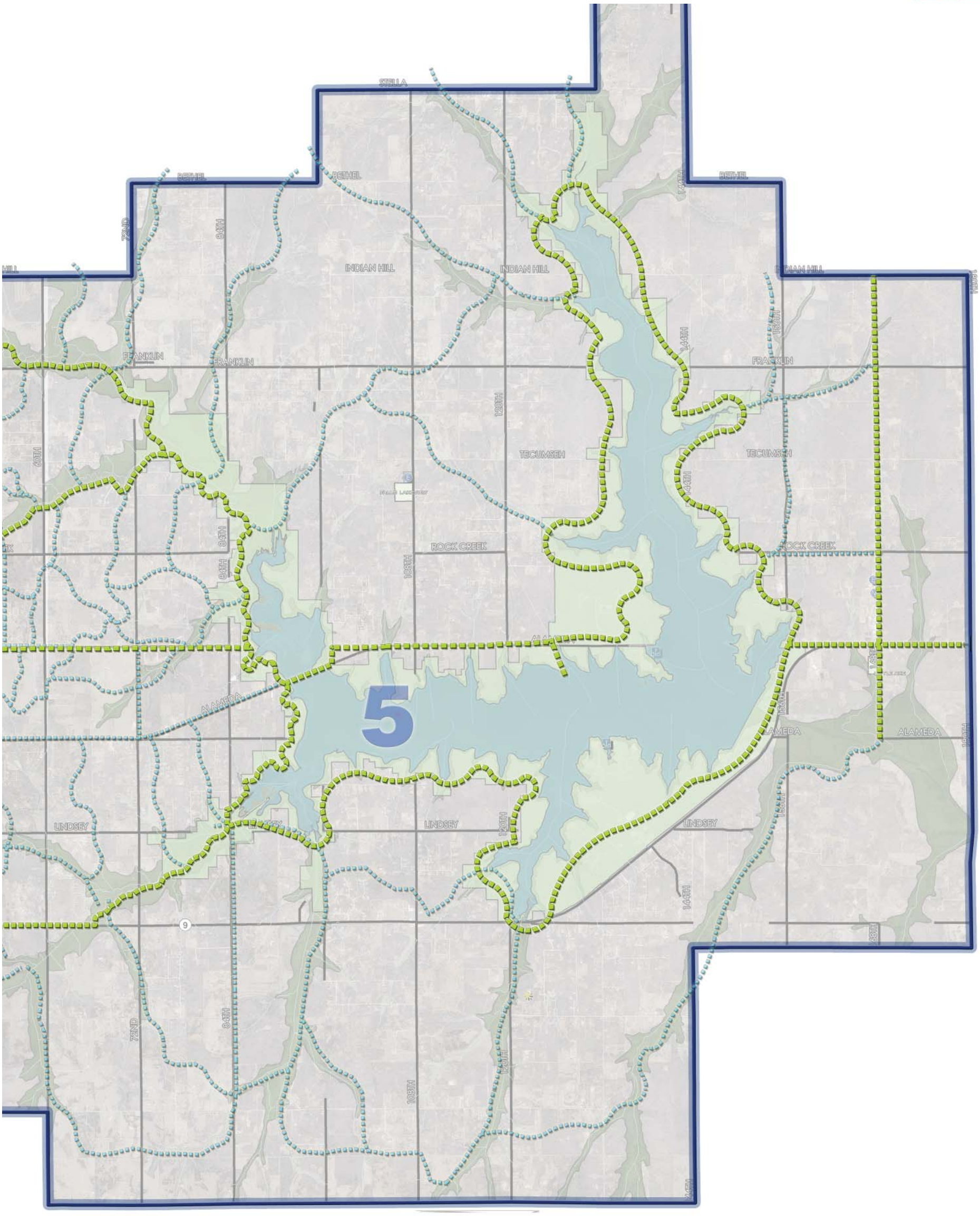
Recommendation #6

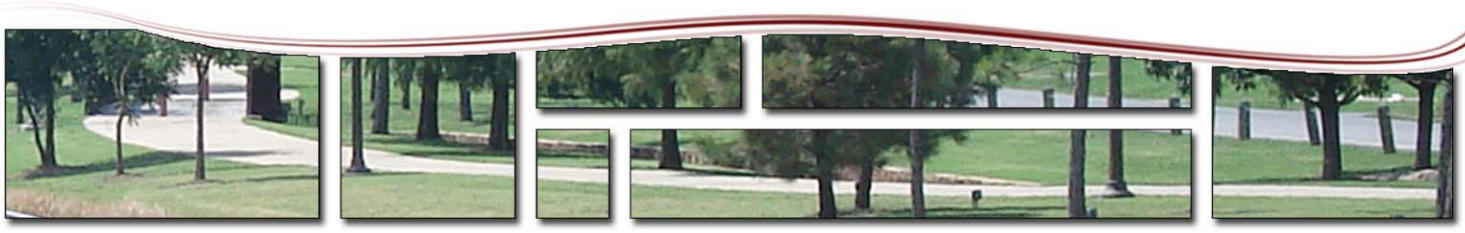
6. Seek partners – The City of Norman cannot implement this entire trail plan on its own. Multiple public and private entities must become partners in this effort. The University of Oklahoma, the Norman School District, special district areas, hospitals, and the State of Oklahoma are all necessary partners. On the private side, every development can help add small segments that can ultimately create one of the most connected cities anywhere in the United States.



CITYWIDE RECOMMENDATIONS







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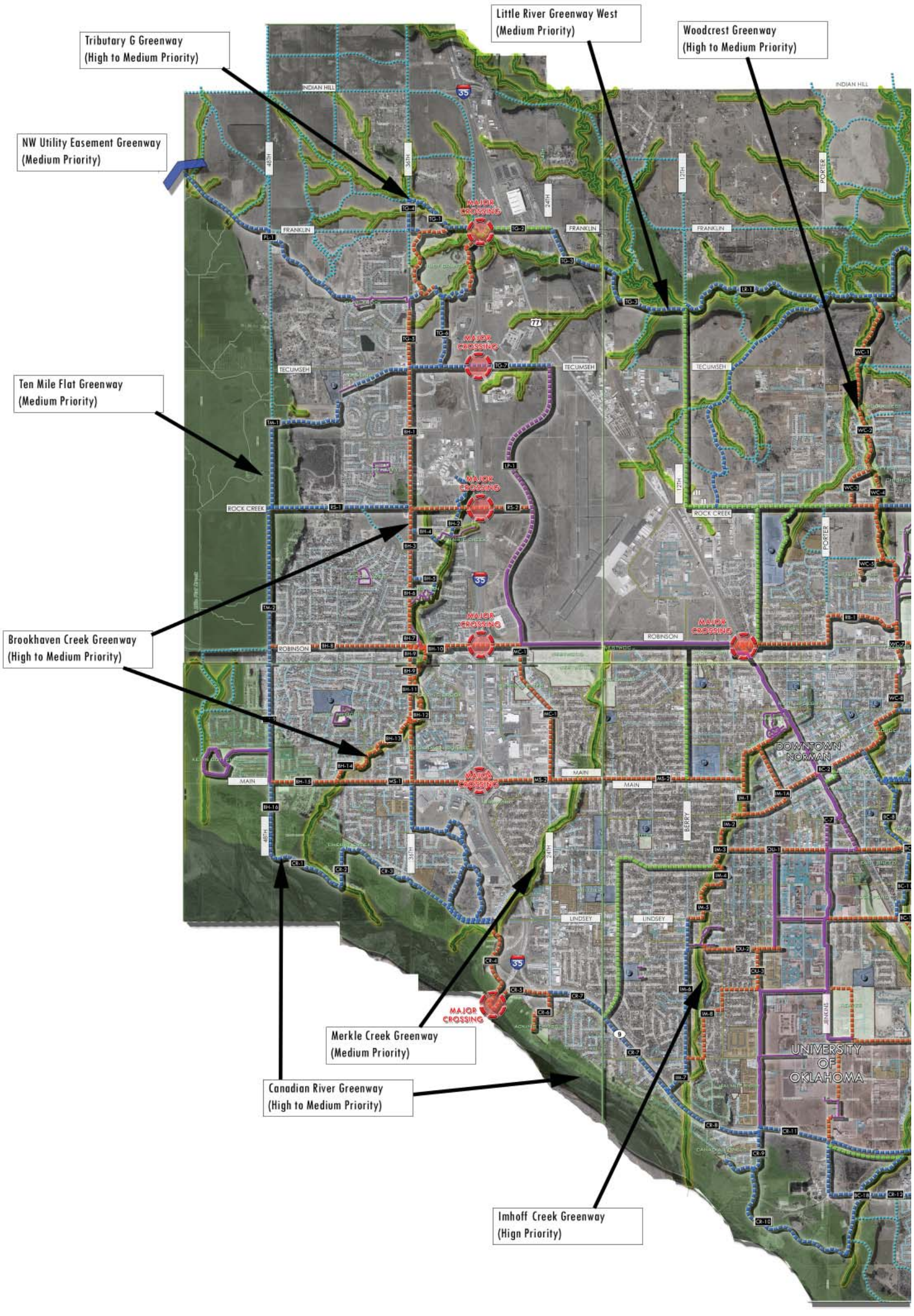
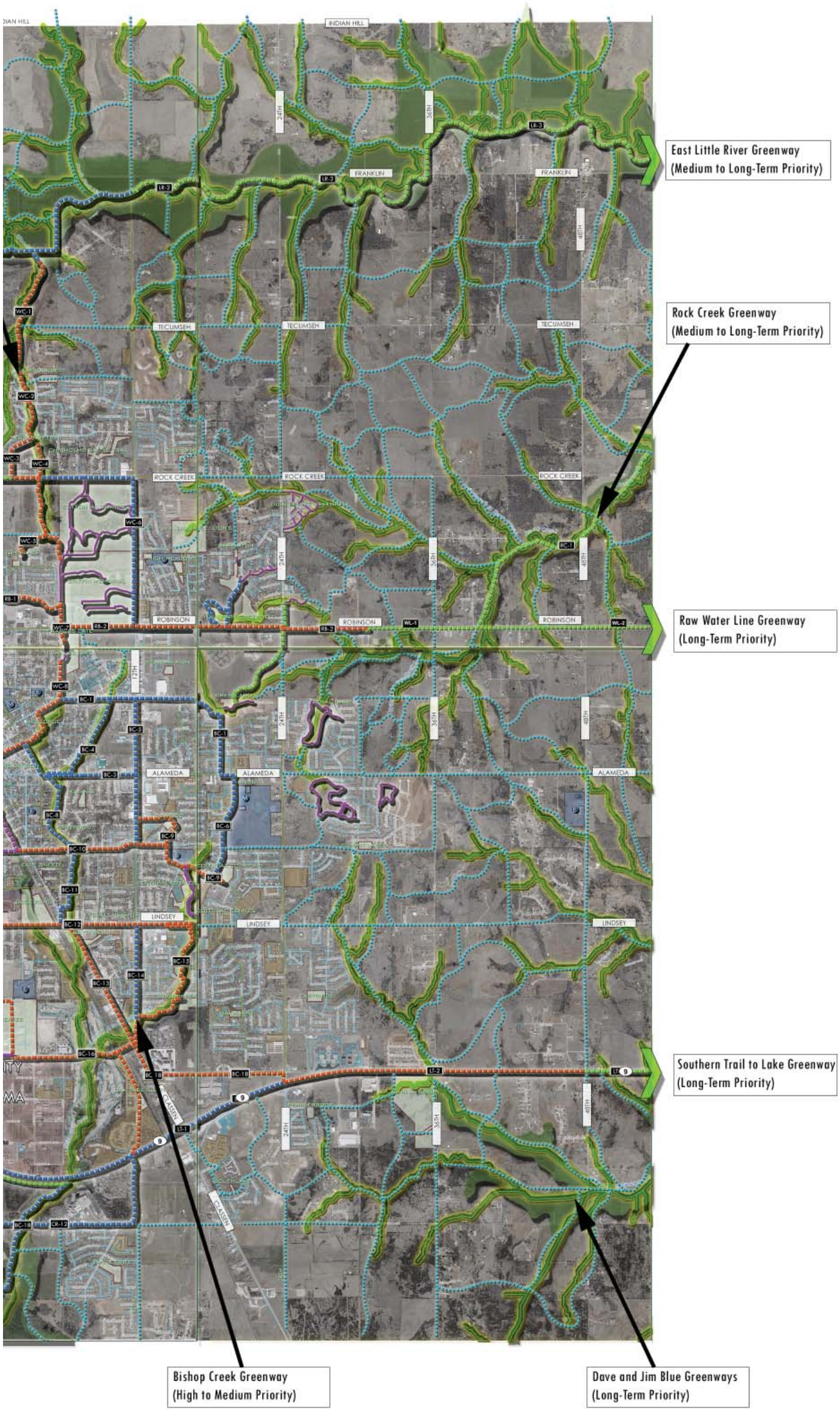
URBAN CORE RECOMMENDATIONS

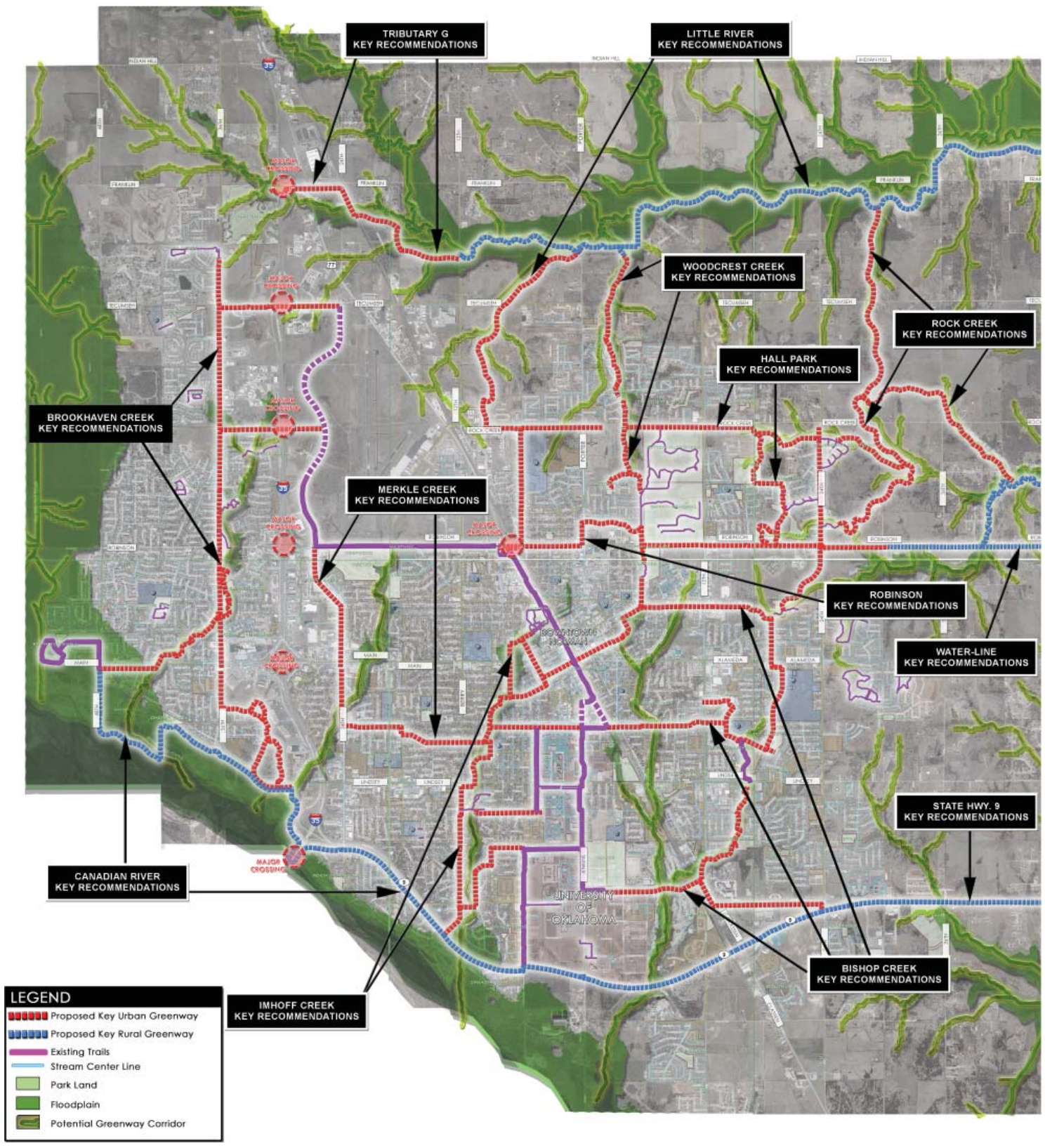


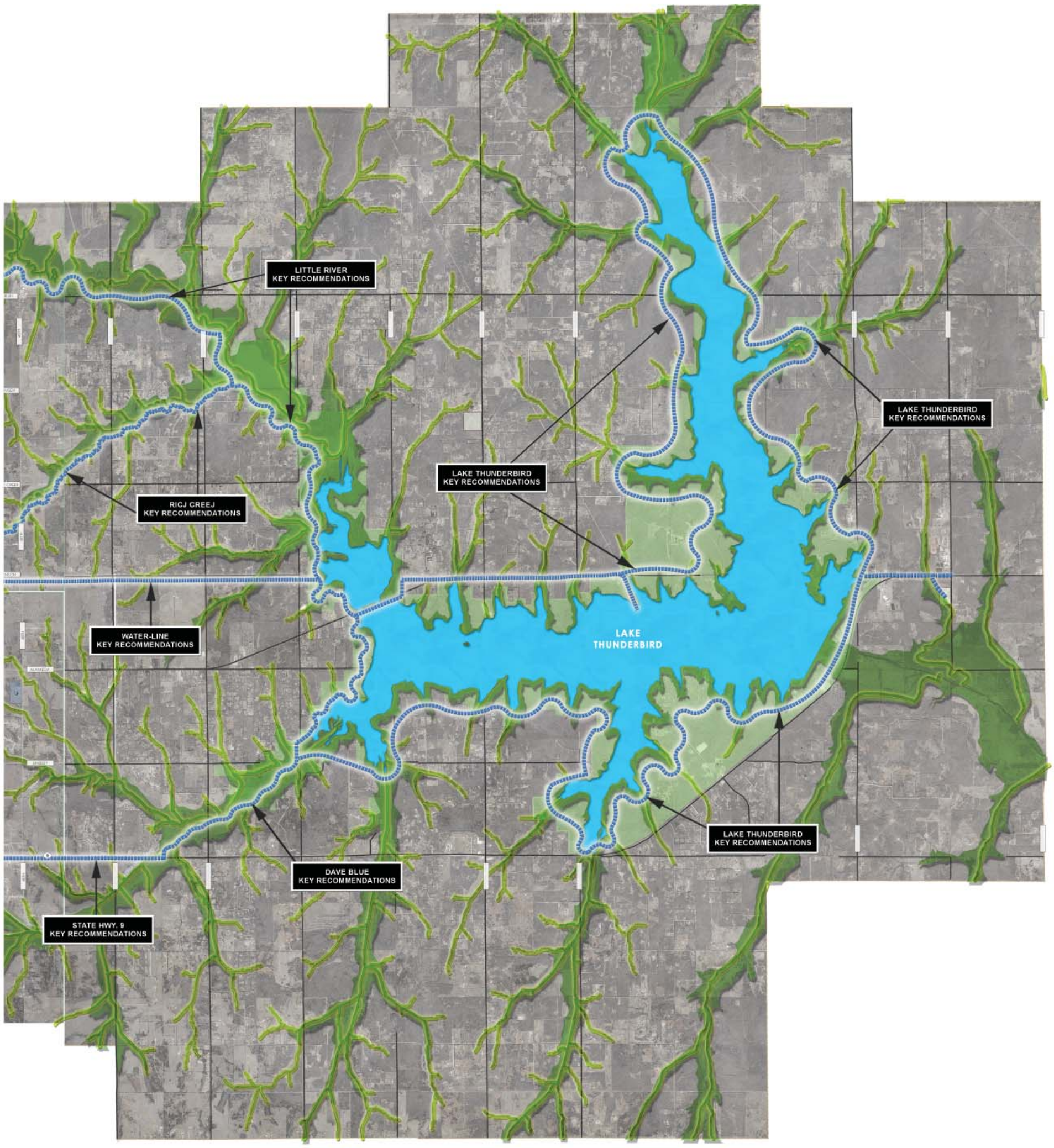

East Little River Greenway
(Medium to Long-Term Priority)
Rock Creek Greenway
(Medium to Long-Term Priority)
Raw Water Line Greenway
(Long-Term Priority)
Southern Trail to Lake Greenway
(Long-Term Priority)
Bishop Creek Greenway
(High to Medium Priority)
Dave and Jim Blue Greenways
(Long-Term Priority)
INDIAN HILL
FRANKLIN
TECUMSEH
ROCK CREEK
ROBINSON
ALAMEDA
LINDSEY
24TH
36TH
48TH

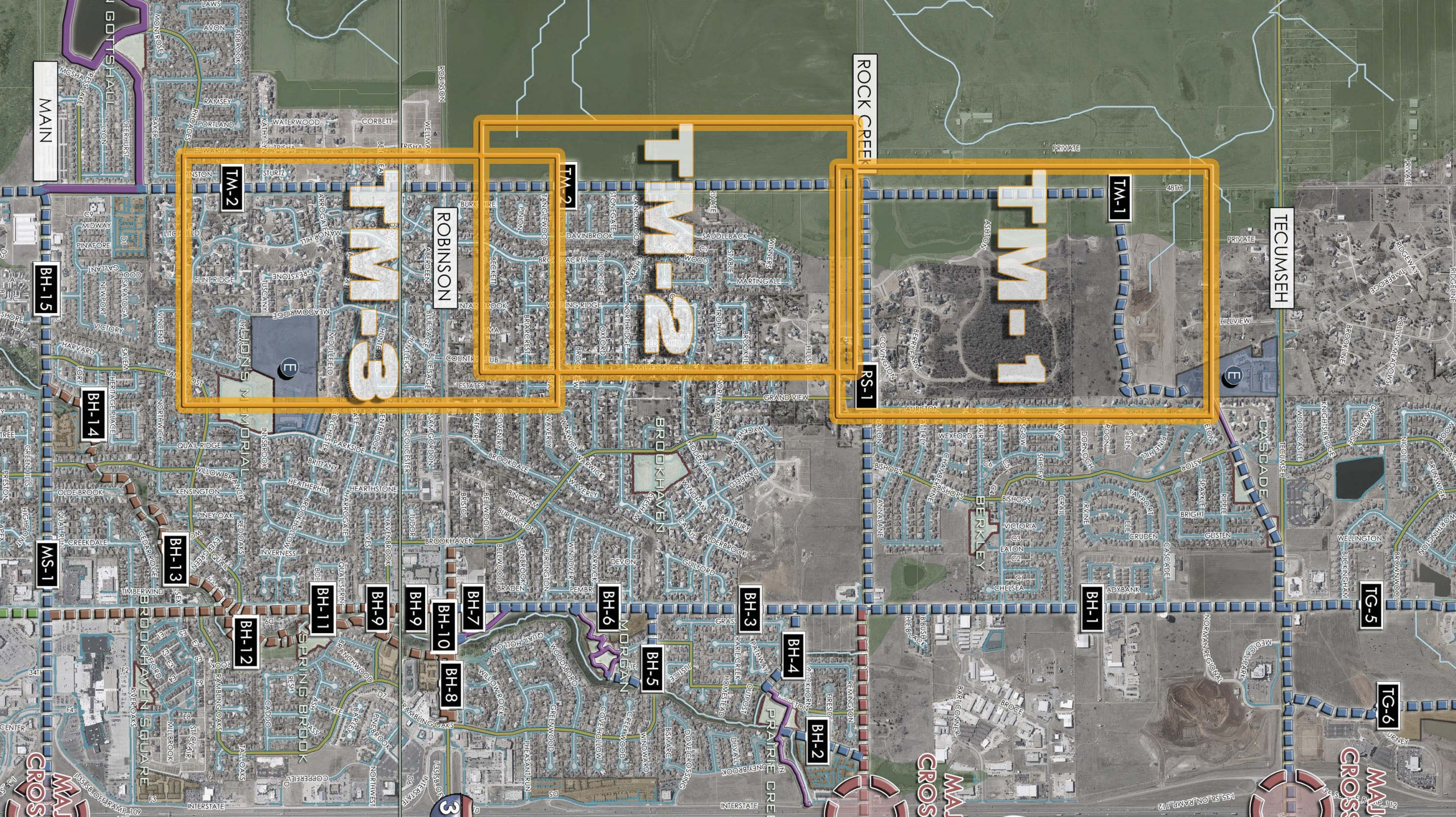
NORMAN GREENWAY CITYWIDE KEY RECOMMENDATIONS

Summary:

This section shows the greenway potential for the city of Norman for the estimated year of 2040. With the combination of new development and existing greenways, Norman has the potential to be a "green" city. With these new greenways comes the opportunity to further connect the city with these potential greenways. The following map is a diagram which represents the key recommendations for the future of Norman.




LITTLE RIVER
KEY RECOMMENDATIONS
LAKE THUNDERBIRD
KEY RECOMMENDATIONS
LAKE THUNDERBIRD
KEY RECOMMENDATIONS
RICJ CREEJ
KEY RECOMMENDATIONS
WATER-LINE
KEY RECOMMENDATIONS
LAKE
THUNDERBIRD
LAKE THUNDERBIRD
KEY RECOMMENDATIONS
DAVE BLUE
KEY RECOMMENDATIONS
STATE HWY. 9
KEY RECOMMENDATIONS


TEN MILE FLAT CREEK
TM-1
TM-2
TM-3
MAIN
ROBINSON
ROCK CREEK
TECUMSEH
BH-1
BH-2
BH-3
BH-4
BH-5
BH-6
BH-7
BH-8
BH-9
BH-9
BH-10
BH-11
BH-12
BH-13
BH-14
BH-15
MS-1
RS-1
RS-2
TG-5
TG-6
MAJOR CROSSING
MAJOR CROSSING
MAJOR CROSSING
BROOKHAVEN SQUARE
SPRING BROOK
MORGAN
PRAIRIE CREEK
BROOKHAVEN
BERKLEY
CASCADE
INTERSTATE
INTERSTATE

TEN MILE FLAT

Location: Located in W sector of the City
From: Indian Hill Rd.
To: Canadian River

Surrounding Corridors: Brookhaven Creek, Canadian River, and Tributary G to Little River

Size: 12 Sq. Miles – 7,874 Acres (Approximately: W 72nd St. to W 48th St. and Indian Hill Rd. to Canadian River)

Major Transportation/Roads:
E/W: Main St. – Robinson – Rock Creek Rd. – Tecumseh Rd. – Franklin Rd. - Indian Hill Rd.
N/S: W 72nd St. – W 60th St. – W 48th St.

Major Area Corridor(s):
10 Mile Flat Creek runs predominantly North and South. This is located predominately in a Flood Plain.
The Canadian River has a flat and densely vegetated terrain. This Corridor has the potential to be a key connector with other Greenway Opportunities.

Minor Area Sub-corridor(s):
Robinson St. has an existing Trail which runs from W 24th St. to W 12th St.
24th St. and 12th St. is the major arterial streets connectors.
Local Streets have great opportunities for parkway connections with Schools, Parks and Major Retail land uses.

Land Use Context: Much of this corridor is highly undeveloped; the predominant land use is Agriculture uses. Low density residential is scattered throughout the corridor.

Key Destinations: No Schools or Parklands are located within Corridor area, but other local schools are located within the surrounding Corridors. Destinations would be located in surround Corridor areas.

Key Opportunities:
Opportunities along Street Corridors: The use of Trails along street could be used due to the fact that much of this area is undeveloped. A majority of the routes that could be proposed in this area would be for recreational purposes not commuting.
Opportunities along Creek Corridors: A majority of the 10 Mile Flat Creek Corridor is undeveloped. Portions of the creek have areas in which a nature/scenic trail could be developed. The acquisition of land would be necessary to accomplish this goal.

Sensitive Areas: Areas located within heavily flooded zones

Potential Drainage Improvements: Drainage channel improvements located along portions of the creek

Suitability Analysis: Ten Mile Flat

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Ten Mile Flat (Segment 1) **Corridor Score**: 4**

Corridor Description: From Roosevelt Elementary to Rock Creek Rd along W. 48th Ave. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**4**
Schools	1		0	2
Trail6to6Trail	-		0	-
Connection to 3 O	-		U	-
Connection to 5 alMr Citj y estinations	-		D	-
Connection to Park(s) 4 3 ther Citj Amenities	1		U	2
5 alMr &etail Center	-		2	-
SiRnificant gmploj er(s)	-		2	-
Ownership Availability		**15%**	**15**	**10**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	1-
3 ther Public or Semi6public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			1-	
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions appli)			1-	1-
AweNuate bufferinR from awMcent resiwential properties			U	U
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 1- - j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1-	1-
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			1-	-
gxistinR' eRetationVTrees (percentaRe basis up to max. pts. proviwew)			U	U
gxistinR/ etlanws or other uniNue natural or urban features			U	U
5 alMr WArrier to use of this corriwor (wewuct up to U points)			6U	-
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			6U	-
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (6U pts)			(6U)	-
CitiBen Support for this corriwor (from citiBen committees, electew officials anw wocumentew citiBen meetinRs)			2-	2-
Total		**100%**	**100**	**69**

z %umber of elements Eithin 0- - ft. rawius
zz Score ranRes as folloEs 6over * - 8 U, over 0- 8 D, over D- 8 =, over 2- 82, 2- or less 8 1

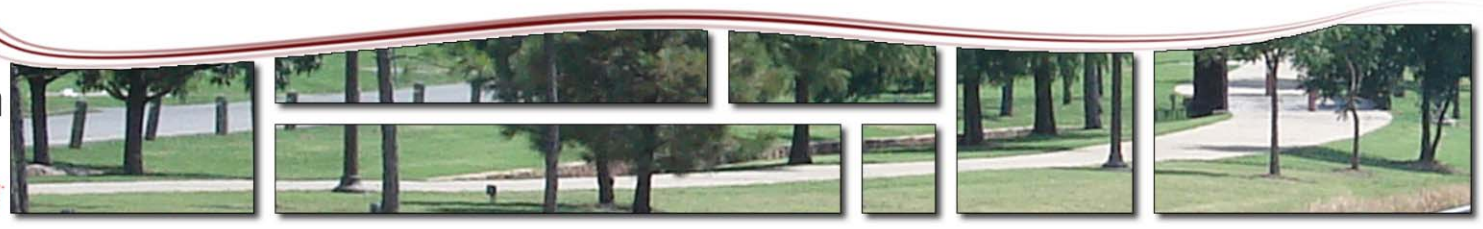
CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Ten Mile Flat (Segment 2) **Corridor Score**: 4**

Corridor Description: From Rock Creek Rd. to Main St. along W. 48th Ave. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**11**
Schools	1		0	2
Trail6to6Trail	1		0	-
Connection to 3 O	U		5	U
Connection to Major City Destinations	1		4	2
Connection to Park(s) & 3 ther City Amenities	2		5	4
Major Retail Center	U		2	U
Significant Employer(s)	U		2	U
Ownership Availability		**15%**	**15**	**15**
City 3 wned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	15
3 ther Public or Semi6public Entity 3 wned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the City of Norman is feasible			1U	
Compatibility with Adjacent Land Uses		**15%**	**15**	**10**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			1U	7
Adequate buffering from adjacent residential properties			5	-
Existing Physical Characteristics		**20%**	**20**	**14**
a) Trail corridor is in 1UU year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			1U	2
b) Along urban corridor where significant aesthetic enhancements can benefit city			1U	V
Existing / egetationVTrees (percentage basis up to max. pts. provided)			5	2
Existing B etlands or other unique natural or urban features			5	2
Major z arrier to use of this corridor (deduct up to 5 points)			65	U
3 nly location for trail is within floodway portion of the corridor (deducts points if selected)			65	U
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor 3 wnership (65 pts)			(65)	U
Citi*en Support for this corridor (from citi*en committees, elected officials and documented citi*en meetings)			2U	2U
Total		**100%**	**100**	**70**

8 Number of elements within 0UU ft. radius
88 Score ranges as follows 6over VU = 5, over 0U = 4, over 4U = - , over 2U =2, 2U or less = 1

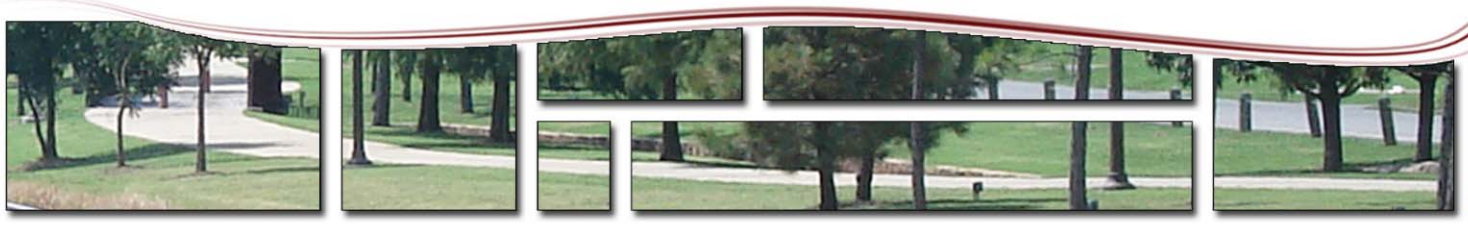


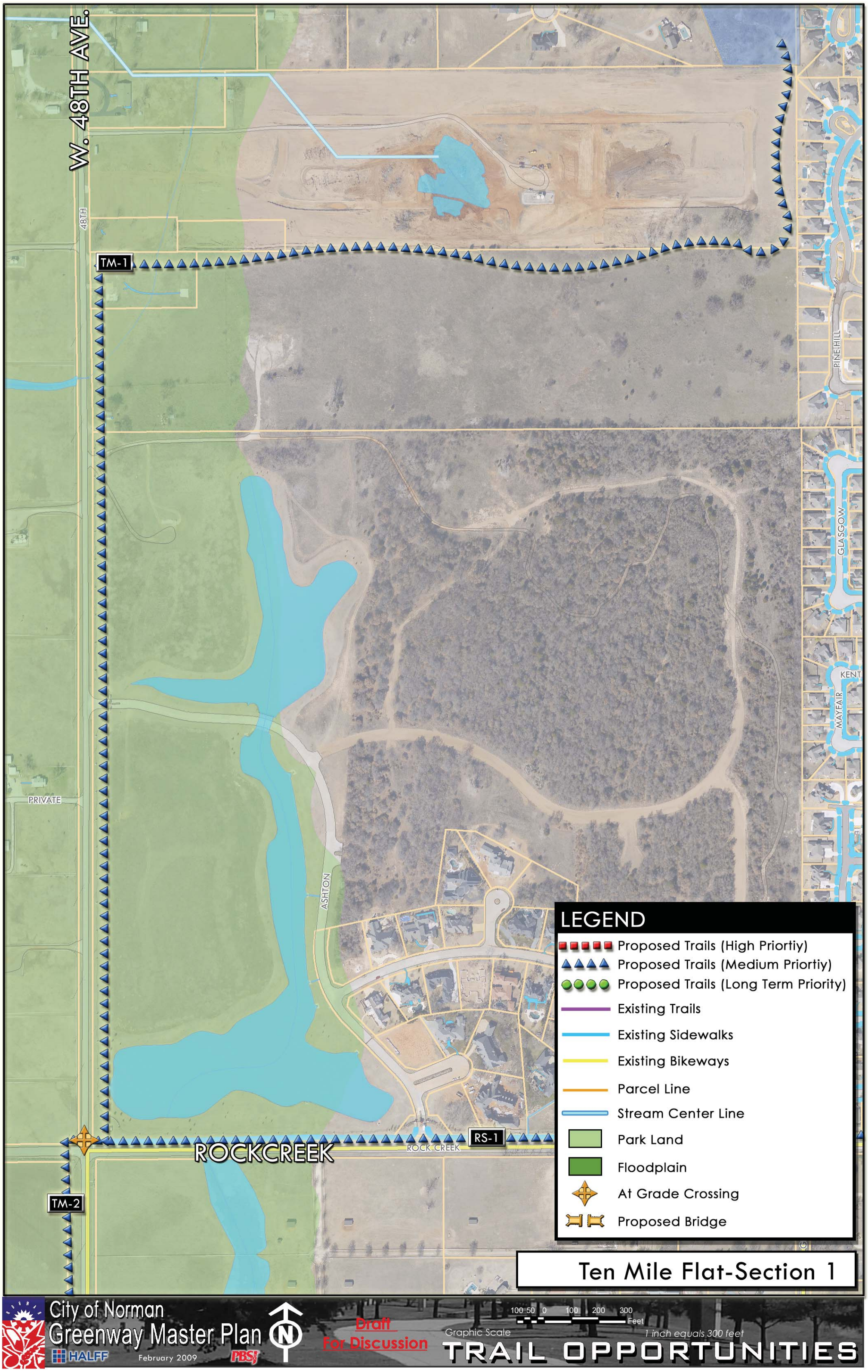
Prioritization Analysis: Ten Mile Flat

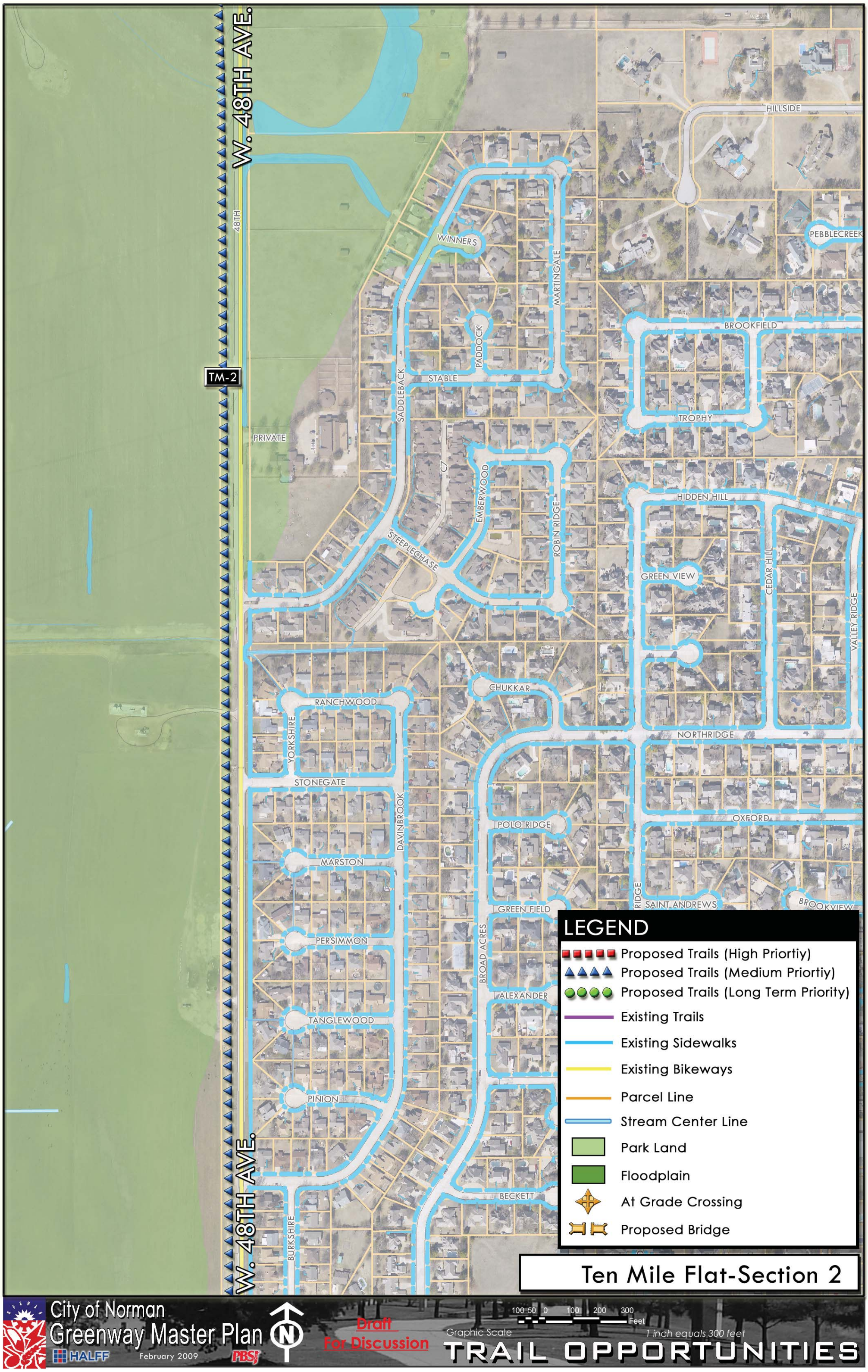
City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Ten Mile Flat

Number	Corridor		Prioritization Criteria							Total Score	Priority Category
		Length (L.F)	Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Maximum Score = 30	21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
PL-1	Powerline Easement (Castlerock Park to City limits)	14000	4	2	3	3	2	1	3	18.0	Medium
TM-1	Ten Mile Flat (Roosevelt Elem. To Rock Creek Rd) Segment 1	6600	4	0	2	2	4	1	2	15.0	Medium
TM-2	Ten Mile Flat (Rock Creek Rd. to Main St.) Segment 2	9500	4	2	3	1	3	1	3	17.0	Medium
		30100	4.0	1.3	2.7	2.0	3.0	1.0	2.7	16.7	Medium




W. 48TH AVE.
48TH
TM-1
PINE HILL
GLASGOW
KENT
MAYFAIR
PRIVATE
ASHTON
ROCKCREEK
ROCK CREEK
RS-1
TM-2
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Ten Mile Flat-Section 1
City of Norman
Greenway Master Plan
HALFF
February 2009
PBSJ
Draft
For Discussion
Graphic Scale
100 50 0 100 200 300
Feet
1 inch equals 300 feet
TRAIL OPPORTUNITIES


W. 48TH AVE.
48TH
TM-2
PRIVATE
HILLSIDE
PEBBLECREEK
WINNERS
MARTINGALE
BROOKFIELD
PADDOCK
STABLE
SADDLEBACK
TROPHY
C7
EMBERWOOD
HIDDEN HILL
ROBIN RIDGE
STEEPLECHASE
GREEN VIEW
CEDAR HILL
VALLEY RIDGE
CHUKKAR
RANCHWOOD
YORKSHIRE
NORTHRIDGE
STONEGATE
DAVINBROOK
POLO RIDGE
OXFORD
MARSTON
GREEN FIELD
SAINT ANDREWS
BROOKVIEW
PERSIMMON
BROAD ACRES
ALEXANDER
TANGLEWOOD
PINION
BECKETT
BURKSHIRE
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Ten Mile Flat-Section 2
City of Norman
Greenway Master Plan
HALFF
February 2009
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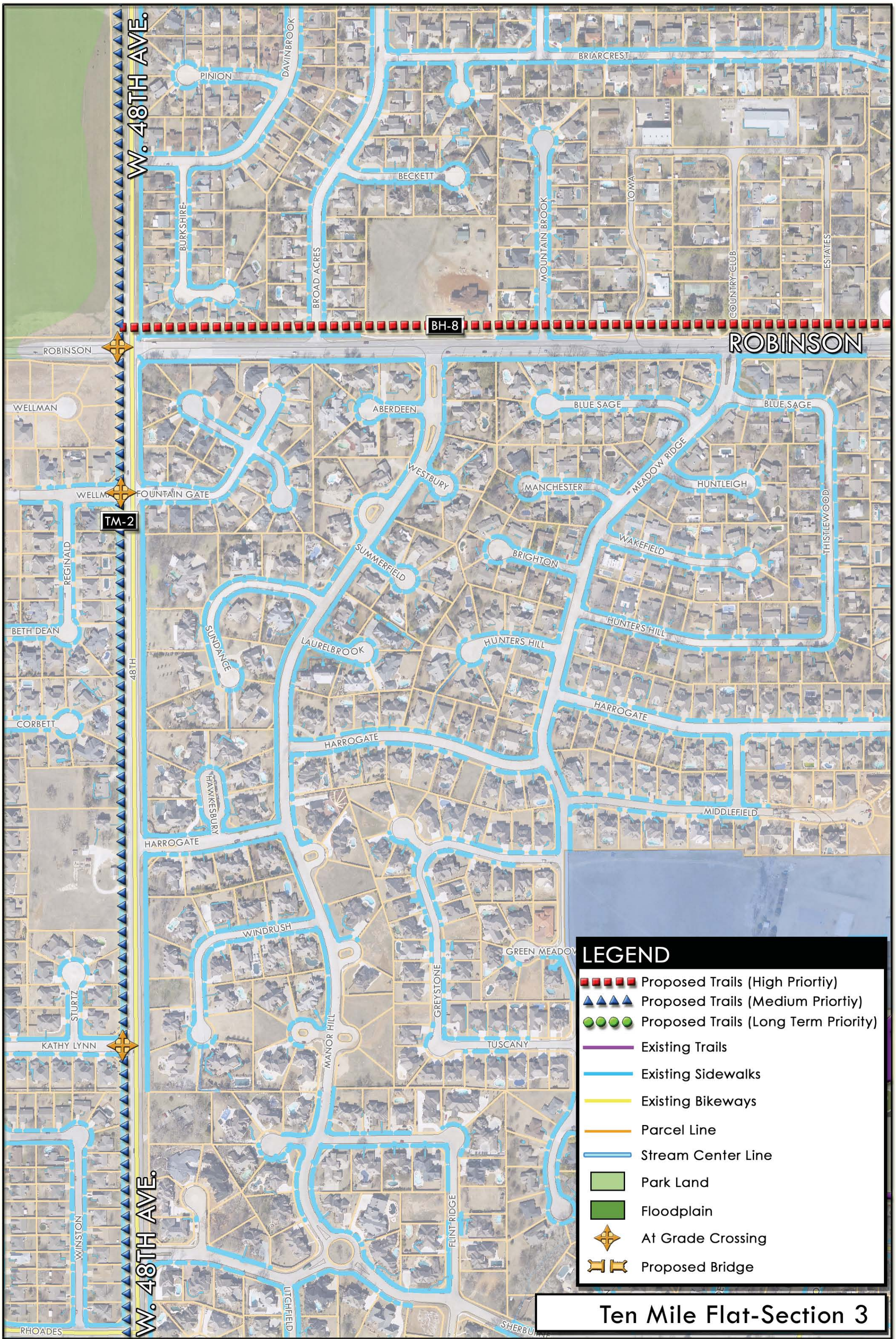
Draft
For Discussion
Graphic Scale
100 50 0 100 200 300
Feet
1 inch equals 300 feet
TRAIL OPPORTUNITIES


W. 48TH AVE.
PINION
DAVINBROOK
BRIARCREST
BECKETT
BURKSHIRE
BROAD ACRES
MOUNTAIN BROOK
LOMA
COUNTRY CLUB
ESTATES
BH-8
ROBINSON
ROBINSON
WELLMAN
ABERDEEN
BLUE SAGE
BLUE SAGE
WESTBURY
MEADOW RIDGE
MANCHESTER
HUNTLEIGH
WELLMAN
FOUNTAIN GATE
TM-2
REGINALD
SUMMERFIELD
BRIGHTON
WAKEFIELD
THISTLEWOOD
BETH DEAN
SUNDANCE
LAURELBROOK
HUNTERS HILL
HUNTERS HILL
48TH
CORBETT
HARROGATE
HARROGATE
HAWKESBURY
MIDDLEFIELD
HARROGATE
WINDRUSH
GREEN MEADOW
STURTZ
GREYSTONE
MANOR HILL
KATHY LYNN
TUSCANY
WINSTON
FLINT RIDGE
LITCHFIELD
RHOADES
SHERBURNE
W. 48TH AVE.
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TRAIL OPPORTUNITIES

TRIBUTARY G CREEK

TRIBUTARY G. CREEK

Location: Located in NW sector of the City
From: Indian Hill Rd.
To: Tecumseh Rd.

Surrounding Corridors: Brookhaven Creek, 10 Mile Flat, and Little River

Size: 5 Sq. Miles – 3,244 Acres (Approximately: W 48th St. and W 24th St. and Indian Hill Rd. to Tecumseh Rd.)

Major Transportation/Roads:
E/W: Indian Hill Rd. – Franklin Rd. – Tecumseh Rd.
N/S: W 48th St. – W 36th St. – IH-35 – W 24th St. - Highway 77/Flood St.

Major Area Corridor(s):
Tributary G to Little River Creek runs predominantly West to East. The creek does have potential for Greenway Trails along the corridor.
Proposed Legacy Trail has potential to be a major connection.
Minor Area Sub-corridor(s):
Franklin Rd. and Indian Hill Rd. are the major arterial streets connectors. Smaller Tributaries in undeveloped areas.

Land Use Context: Much of this corridor is undeveloped. Future Single Family residential will be the future predominate land use. This area also includes Medical, industrial, institutional, and Parkland uses.

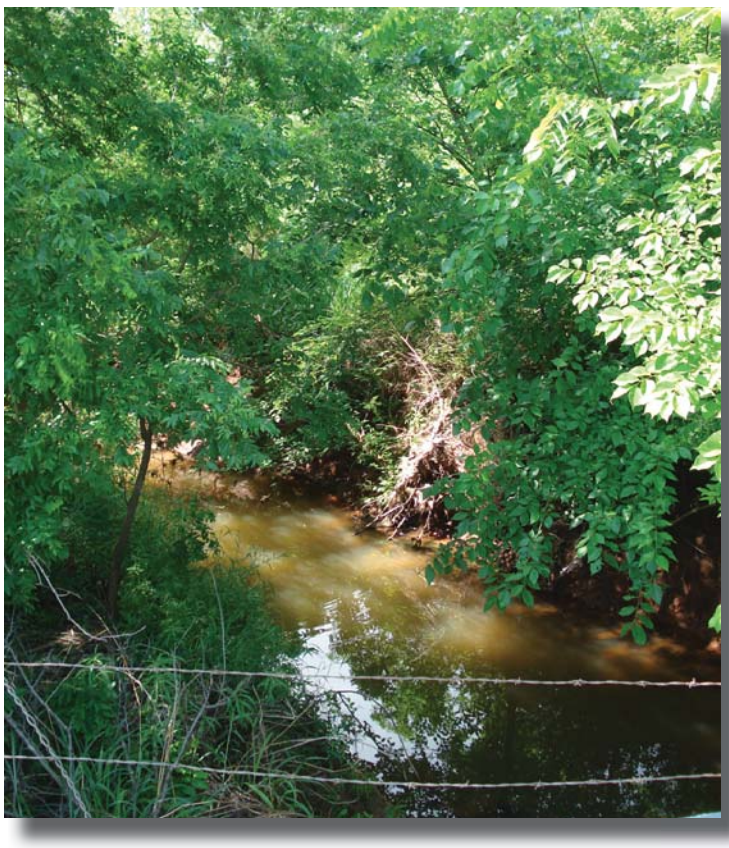
Key Destinations: One School (Roosevelt Elementary) is located within Corridor area, and other local schools are located within the surrounding Corridors. 2 Parks and the future Ruby Grant Park are located within this area. The proposed Legacy Trail section will be a key connector.

Key Opportunities:
Opportunities along Street Corridors: A key connection with the Moore-Norman Technology Center is located within this corridor. The possibility of Parkway Street Trails located along the Arterial streets such as Tecumseh Rd. and Franklin Rd. can help connect with key destinations in the area. Local Streets can be used when needed to connect with Schools, existing parks, open spaces, and major retail land uses.

Opportunities along Creek Corridors: A majority of the Tributary G Corridor is undeveloped land. This is an opportunity to propose Greenway trails along these areas with future development.

Sensitive Areas: IH-35 Corridor area and Flood St. Crossing

Potential Drainage Improvements: Road improvements along drainage channels



Suitability Analysis: Tributary G. Creek

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Tributary G (segment 1) **Corridor Score**: 4**
Corridor Description: From W. 36th Ave. to IH-35; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**5**
Schools	0		6	0
Trail-to-Trail	1		6	2
Connection to 3 O	0		U	0
Connection to 5 alldr Citj y estinations	0		D	1
Connection to Park(s) 4 3 ther Citj Amenities	1		U	2
5 alldr &etail Center	0		2	0
SiRnificant gmploj er(s)	0		2	0
Ownership Availability		**15%**	**15**	**8**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	%
3 ther Public or Semi-public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of Norman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
Awequate corriwor Eiwth for trail (min. 1U Eiwth for trail unless special conwitions applj)			10	10
Awequate bufferinR from awldcent resiwential properties			U	U
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 100 j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	10
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			10	0
gxistinR VeRetation/Trees (percentaRe basis up to max. pts. proviwew)			U	U
gxistinR Wetlanws or other unique natural or urban features			U	U
5 alldr Barrier to use of this corriwor (wewuct up to U points)			-U	0
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	0
Citizen Support for this corriwor (from citizen committees, electew officials anw wocumentew citizen meetinRs)			20	20
Total		**100%**	**100**	**68**

* Number of elements Eithin 600 ft. rawius
** Score ranRes as folloEs - over %0 8 U, over 60 8 D, over D0 8 =, over 20 82, 20 or less 8 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Tributary G (TG-2) **Corridor Score**: 3**
Corridor Description: From IH-35 to US 77; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**5**
Schools	0		6	0
Trail-to-Trail	0		6	0
Connection to 3 O	0		U	0
Connection to 5 alldr Citj y estinations	1		D	1
Connection to Park(s) 4 3 ther Citj Amenities	1		U	2
5 alldr &etail Center	0		2	0
SiRnificant gmploj er(s)	1		2	2
Ownership Availability		**15%**	**15**	**13**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	1%
3 ther Public or Semi-public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of Norman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**12**
Awequate corriwor Eiwth for trail (min. 1U Eiwth for trail unless special conwitions applj)			10	V
Awequate bufferinR from awldcent resiwential properties			U	D
Existing Physical Characteristics		**20%**	**20**	**7**
a) Trail corriwor is in 100 j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	0
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			10	10
gxistinR / eRetationVTrees (percentaRe basis up to max. pts. proviwew)			U	2
gxistinR B etlanws or other unique natural or urban features			U	0
5 alldr z arrier to use of this corriwor (wewuct up to U points)	*Crosses IH-35*		-U	-U
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	0
Citi*en Support for this corriwor (from citi*en committees, electew officials anw wocumentew citi*en meetinRs)			20	20
Total		**100%**	**100**	**57**

8 Number of elements Eithin 600 ft. rawius
88 Score ranRes as folloEs - over V0 = U, over 60 = D, over D0 = % over 20 =2, 20 or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Tributary G (TG-3) **Corridor Score**: 4**
Corridor Description: From US 77 to 12th Ave.; Location of path to be determinded after futher study

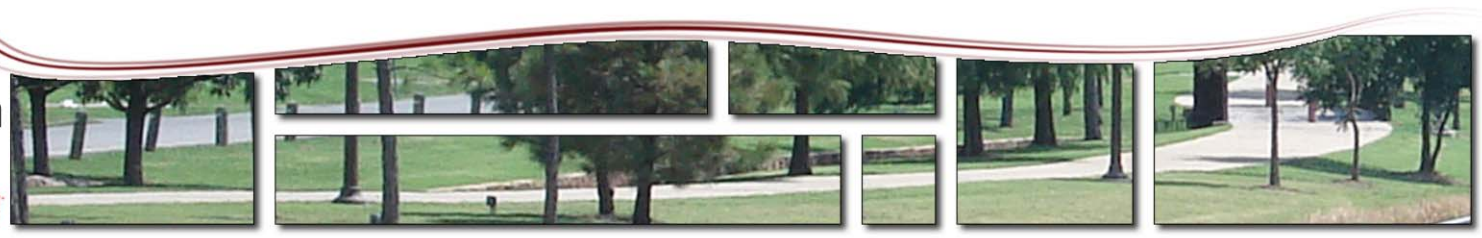
Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**3**
Schools	0		6	0
Trail-to-Trail	0		6	0
Connection to 3 O	0		U	0
Connection to 5 alldr Citj y estinations	0		D	0
Connection to Park(s) 4 3 ther Citj Amenities	1		U	2
5 alldr &etail Center	0		2	0
SiRnificant gmploj er(s)	1		2	1
Ownership Availability		**15%**	**15**	**5**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	U
3 ther Public or Semi-public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**13**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions applj)			10	10
AweNuate bufferinR from awldcent resiwential properties			U	'
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 100 j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	10
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			10	0
gxistinR VeRetation/Trees (percentaRe basis up to max. pts. proviwew)			U	U
gxistinR Wetlanws or other uniNue natural or urban features			U	U
5 alldr Barrier to use of this corriwor (wewuct up to U points)			-U	0
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	0
Citizen Support for this corriwor (from citizen committees, electew officials anw wocumentew citizen meetinRs)			20	20
Total		**100%**	**100**	**61**

* %umber of elements Eithin 600 ft. rawius
** Score ranRes as folloEs - over 80 = U, over 60 = D, over D0 = ' , over 20 =2, 20 or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Tributary G (TG 4-6) **Corridor Score**: 5**
Corridor Description: From Tributary G Creek to Tecumseh; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**29**	**12**
Schools	1		0	2
Trail@to6Trail	1		-	2
Connection to 3 O	U		-	U
Connection to 5 alldr Citj y estinations	U		D	1
Connection to Park(s) 4 3 ther Citj Amenities	&		-	-
5 alldr Retail Center	U		2	U
Significant Emploj er(s)	1		2	2
Ownership Availability		**15%**	**15**	**15**
Citj 3 wned (1 point for everj 7% public ownership of total acreage along the corridor, up to 1- pts. max.) **(or)**			1-	1-
3 ther Public or Semi@public Entitj 3 wned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the Citj of Norman is feasible			1U	U
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
Adequate corridor width for trail (min. 1- ' width for trail unless special conditions applj)			1U	1U
Adequate buffering from adldcent residential properties			-	-
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corridor is in 1UUj ear floodplain or can provide stormwater sj stem benefits (percentage basis up to max. pts. provided) **(or)**			1U	U
b) Along urban corridor where significant aesthetic enhancements can benefit citj			1U	1U
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			-	-
Existing Wetlands or other unique natural or urban features			-	-
5 alldr Barrier to use of this corridor (deduct up to - points)			6-	U
3 nlj location for trail is within floodwaj portion of the corridor (deducts points if selected)			6-	U
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor 3 wnership (6- pts)			(6-)	U
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			2U	2U
Total		**100%**	**99**	**82**

* Number of elements within 0UU ft. radius
** Score ranges as follows 6over 8U = - , over 0U = D, over DU = &, over 2U =2, 2U or less = 1

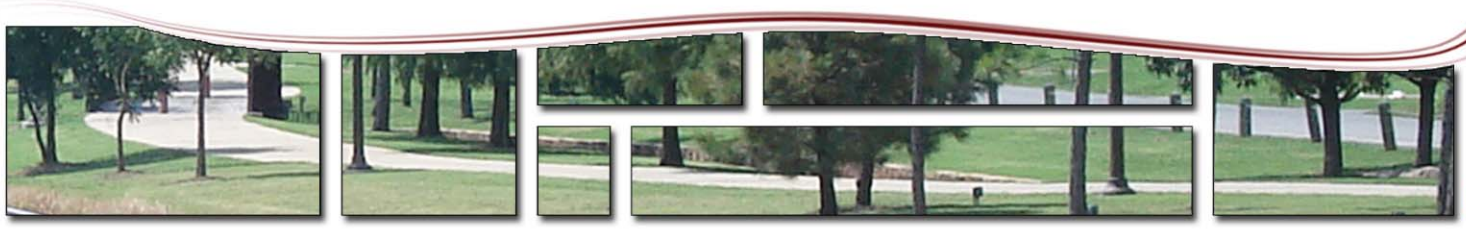


Priortization Analysis: Tributary G. Creek

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Tributary G

Number	Corridor		Prioritization Criteria							Total Score	Priority Category
		Length (L.F)	Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Maximum Score = 30	21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
TG-1	Tributary G West - Segment 1	3350	4	1	3	3	4	2	2	19	Medium
TG-2	Tributary G Central - Segment 2	3400	3	1	2	0	3	1	1	11	Medium
TG-3	Tributary G East - Segment 3	7000	4	1	3	3	3	1	1	16	Medium
TG-4-6	Tributary G South - Segments 4-6	7000	4	4	4	1	4	1	3	21	High
		20750	3.8	1.8	3.0	1.8	3.5	1.3	1.8	16.8	Medium



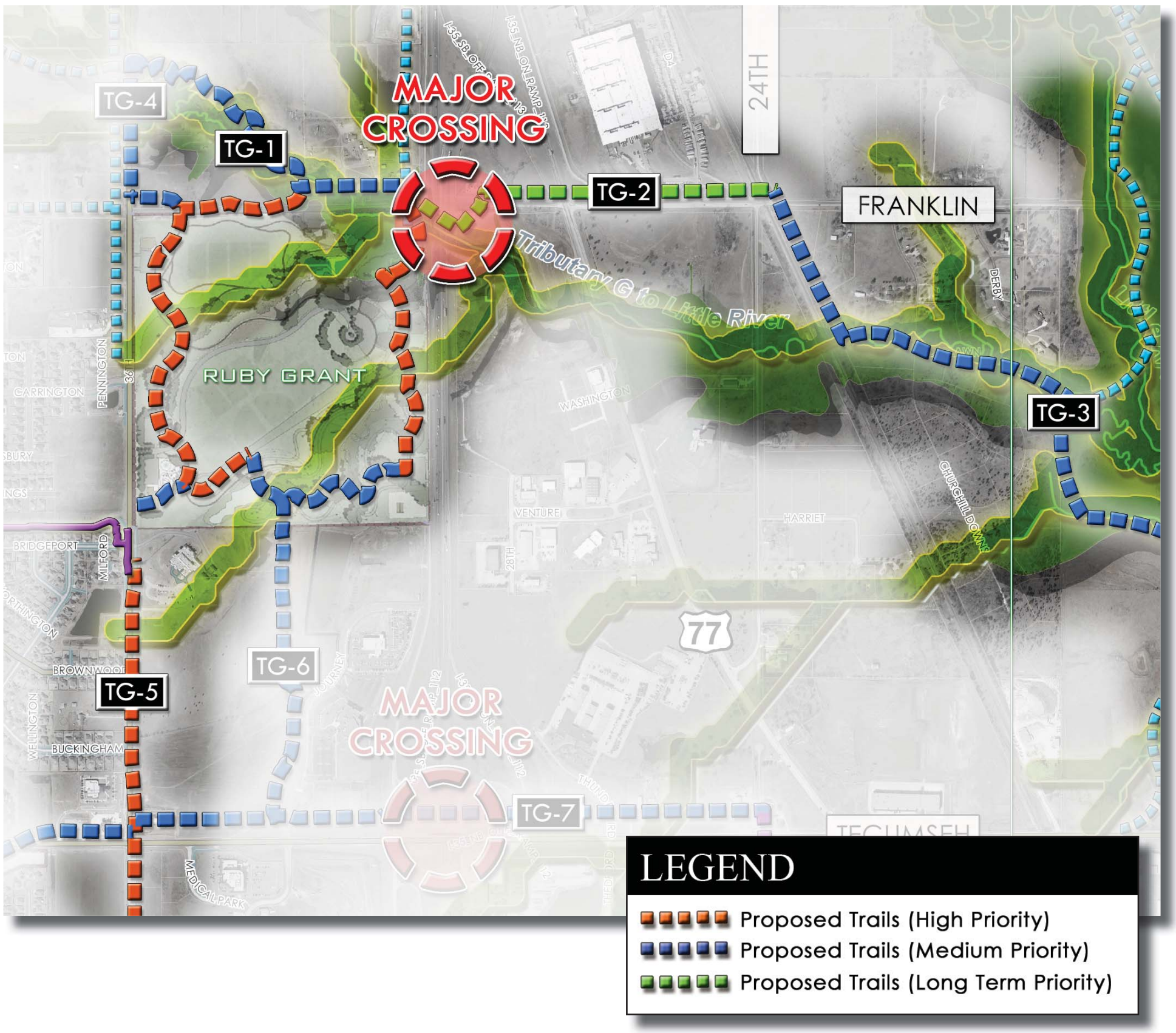
Urban Greenway System: Tributary G Key Recommendations

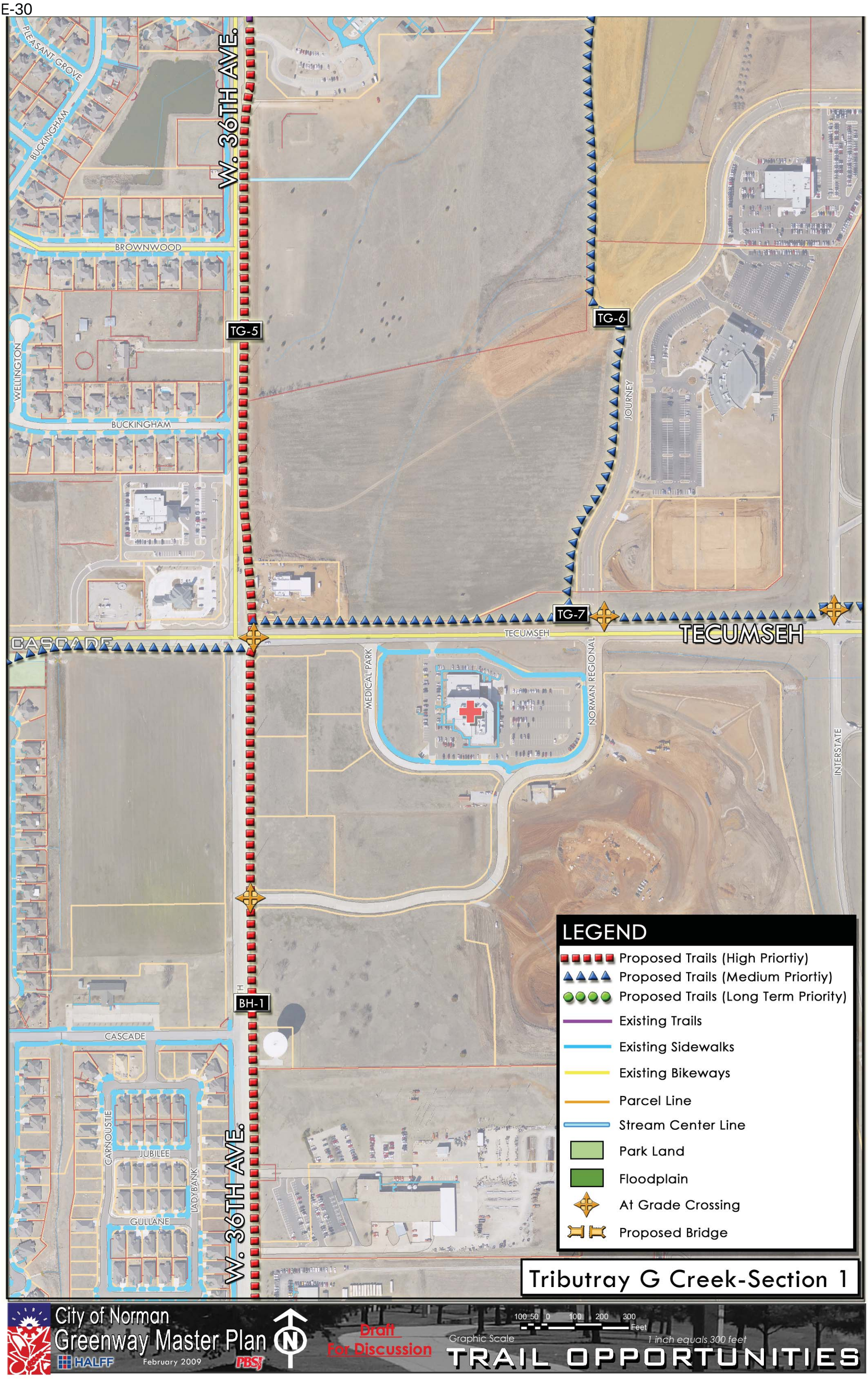
Ruby Grant Park is located in the center of this proposed greenway corridor. One recommendation will be a connection into Ruby Grant Park along W. 36th Ave. Another recommendation will be a connection from Ruby Grant Park to east of IH-35 either by creating a crossing under IH-35 by using the existing culverts or building a pedestrian crossing over IH-35. This greenway would then continue east towards Little River. Tributary G has great potential to serve a dual use for public use and drainage purposes. The estimated cost for these greenway improvements is shown below (see chart).

Norman Greenway Implementation Action Plan
Tributary G (Urban Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Tributary G	**TG-2**	IH-35	US 77	Greenway along Franklin., connects to Ruby Grant Park by crossing IH-35	5,200	$2,400,000	2015-2025
Tributary G	**TG-3**	US 77	12th Ave.	Greenway along Tributary., connects to Ruby Grant Park	7,000	$1,300,000	2015-2025
Tributary G	**TG-5**	Bridgeport	Tecumseh	Greenway along W 36th Ave., connects to Ruby Grant Park	2,600	$470,000	2015-2025
				Estimated Total	**14,800 3 Miles**	**$4,170,000**	

Tributary G Key Recommendations




PLEASANT GROVE
BUCKINGHAM
W. 36TH AVE.
BROWNWOOD
TG-5
TG-6
WELLINGTON
BUCKINGHAM
JOURNEY
TG-7
TECUMSEH
TECUMSEH
CASCADE
MEDICAL PARK
NORMAN REGIONAL
INTERSTATE
BH-1
CASCADE
CARNOUSTIE
JUBILEE
LADYBANK
GULLANE
W. 36TH AVE.
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
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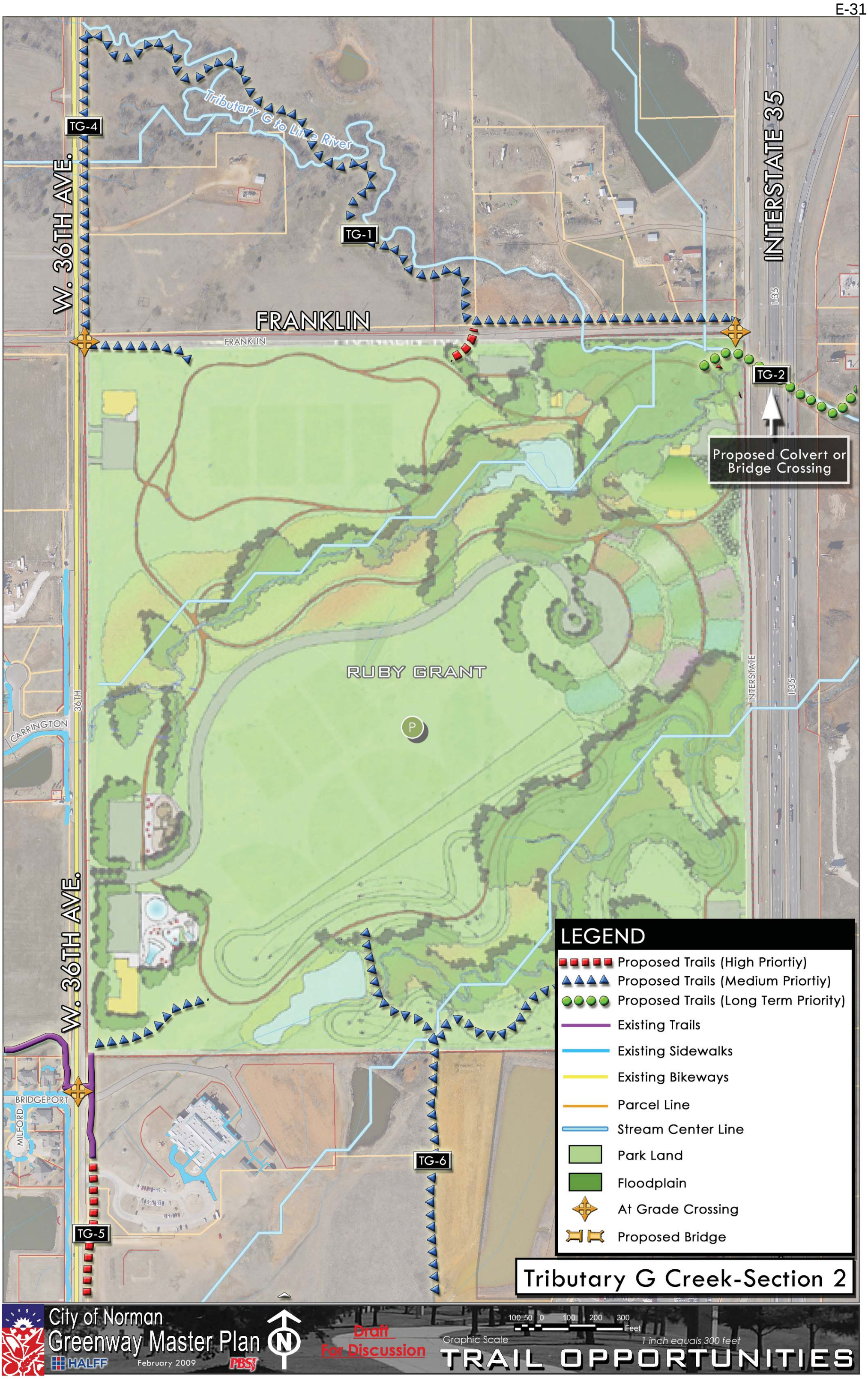
Tributary G to Little River
TG-4
TG-1
TG-2
TG-5
TG-6
W. 36TH AVE.
INTERSTATE 35
I-35
FRANKLIN
RUBY GRANT
CARRINGTON
BRIDGEPORT
MILFORD
Proposed Colvert or Bridge Crossing
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
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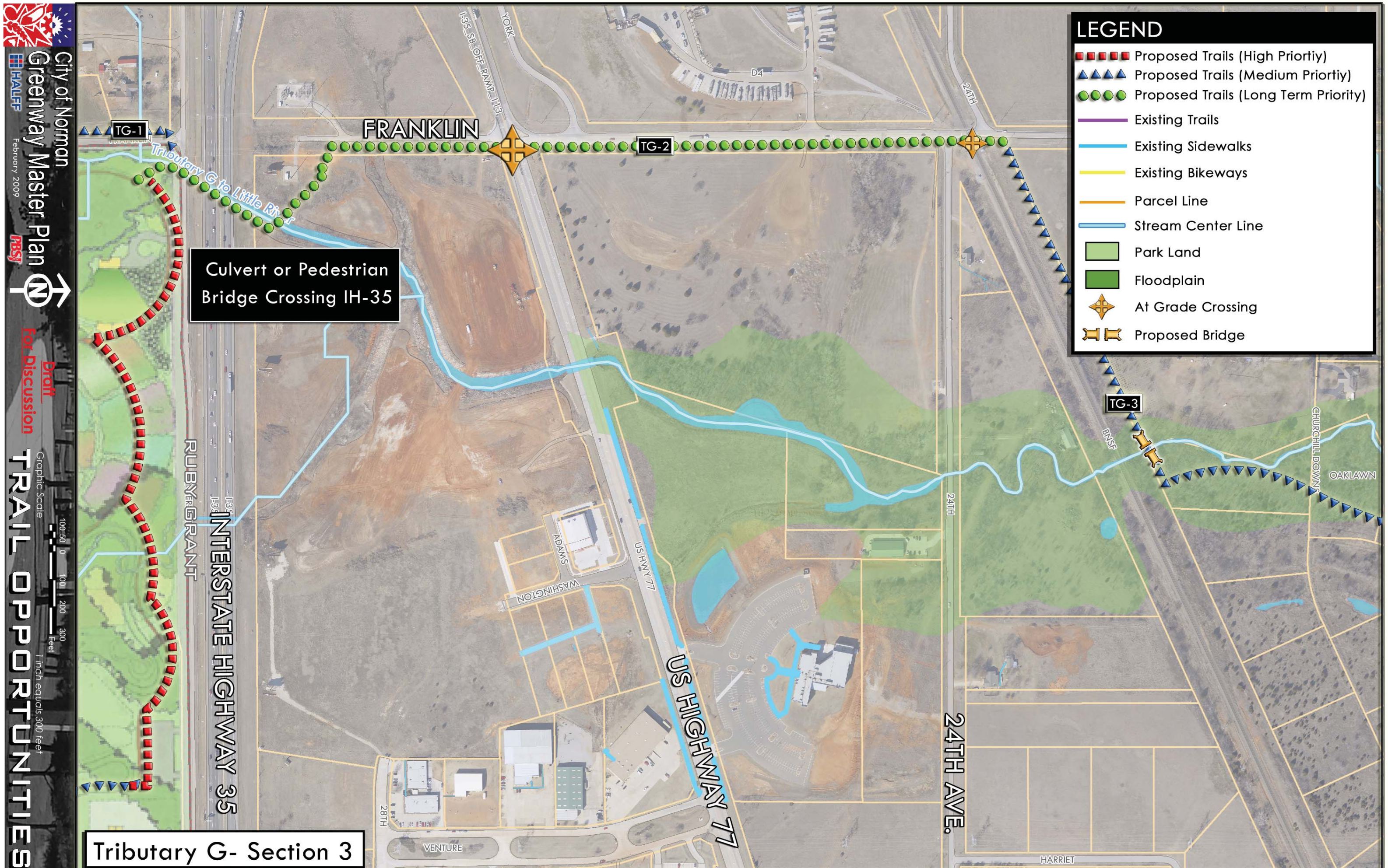
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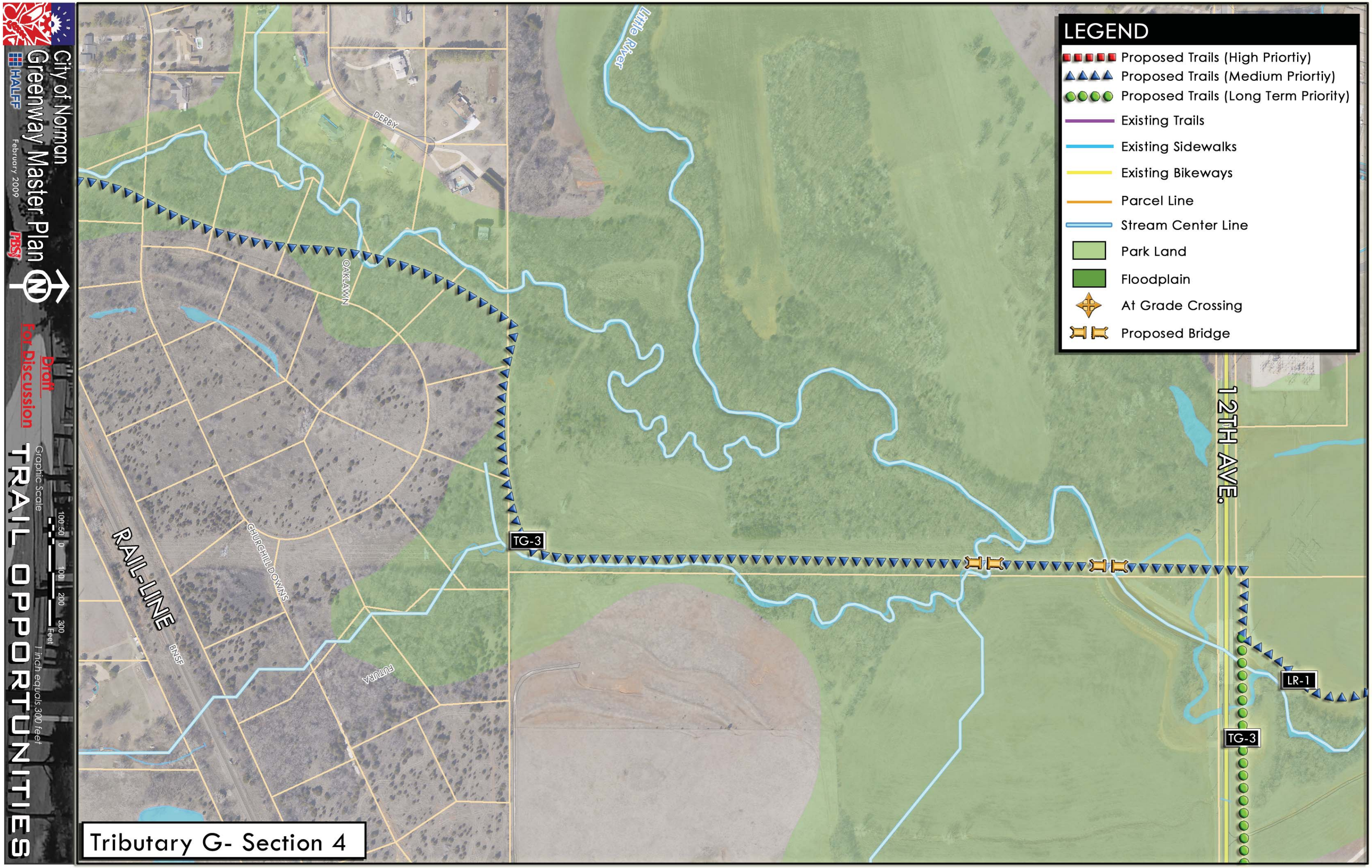
TG-1
TG-2
TG-3
FRANKLIN
Tributary G to Little River
Culvert or Pedestrian
Bridge Crossing IH-35
I-35_SB_OFF_RAMP_1113
YORK
D4
24TH
RUBY GRANT
I-35
INTERSTATE HIGHWAY 35
ADAMS
WASHINGTON
US HWY 77
US HIGHWAY 77
28TH
VENTURE
BNSF
CHURCHILL DOWNS
OAKLAWN
24TH AVE.
HARRIET
Tributary G- Section 3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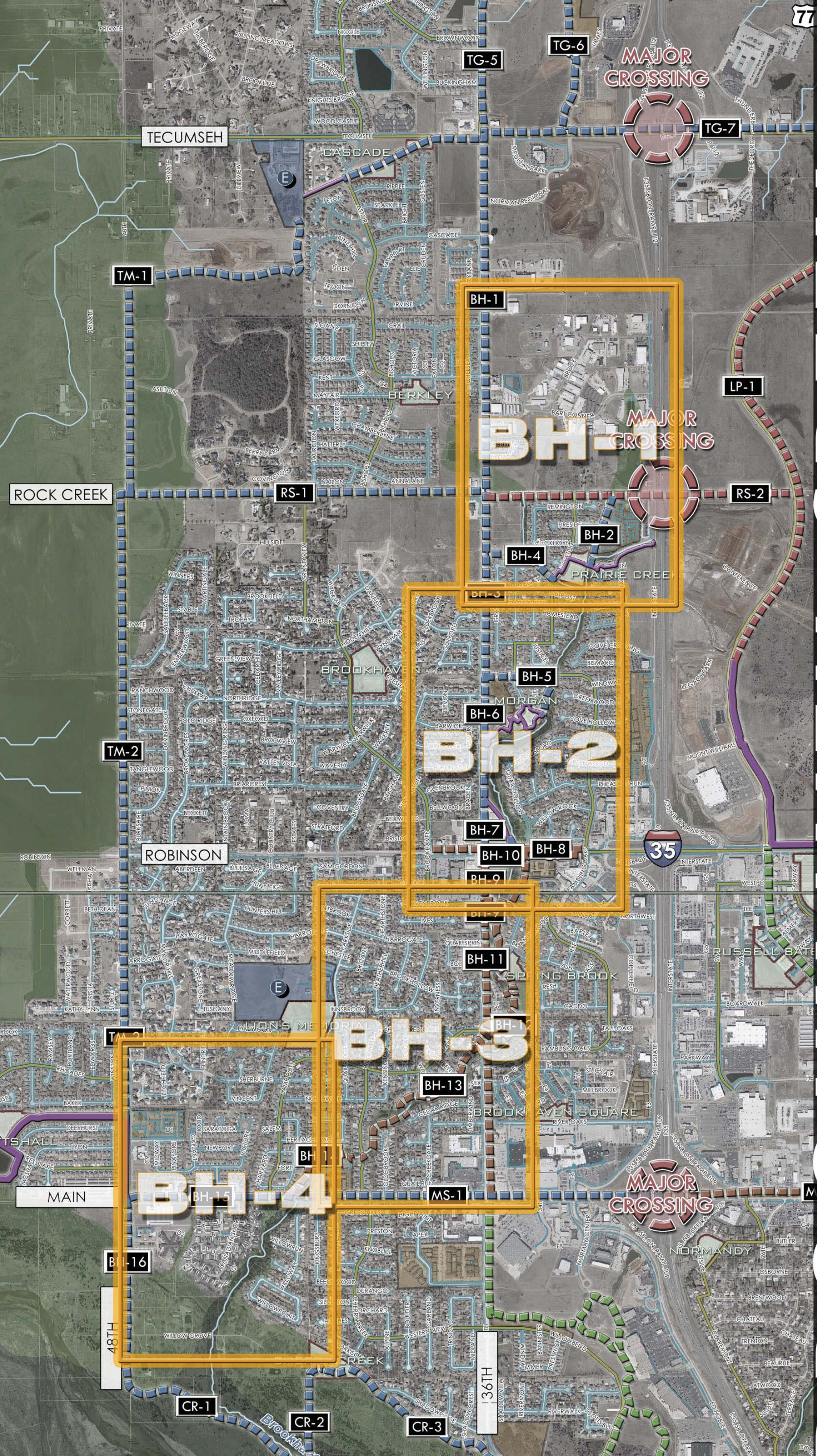
DERBY
OAKLAWN
CHURCHILL DOWNS
FUTURA
RAIL-LINE
BNSF
12TH AVE.
TG-3
TG-3
LR-1
Tributary G- Section 4

BROOKHAVEN AVENUE



BROOKHAVEN CREEK

Location: Located in SW sector of the City
From: Tecumseh Rd. west of IH-35
To: Canadian River

Surrounding Corridors: 10 Mile Flat, Tributary G, Merkel Creek

Size: 4 Sq. Miles – 2,833 Acres (Approximately: W.48th Ave. to IH-35, and Tecumseh Rd. (West of IH-35) to Canadian River)

Major Transportation/Roads:
E/W: Main St. – Robinson Rd. – Rock Creek Rd. – Tecumseh Rd.
N/S: W. 36th Ave.

Major Area Corridor(s):
Brookhaven Creek runs predominantly North and South. The creek does have some potential for Greenway Trails along the corridor, but most of the Corridor will need to be utilized with Parkway Trails due to developement.
The Canadian River has a flat and densely vegetated terrain. This Corridor has the potential to be a key connector with other Greenway Opportunities.

Minor Area Sub-corridor(s):
The Proposed Rock Creek Bridge will cross over IH-35 and has the potential to be the main pedestrian/Bike crossing the Highway IH-35.
Robinson Rd. and W. 36th Ave. are the major arterial streets connectors.
Local Streets in the area have great opportunities for parkway connections with parks and Major retail land uses.

Land Use Context: Much of this corridor is developed; the predominant land use is Residential with single family lots. The corridor area also includes: Retail, High Density Residential, Parkland, and Industrial/Commercial.

Key Destinations: No Schools are located within the Corridor area, but other local schools are located within the surrounding Corridors. Eight Parks are located within the study area. Major Retail uses include Sooner Mall, University Town Center PUD, and retail shopping centers. High Density Residential is also located within the area.

Key Opportunities:
Opportunities along Street Corridors: The proposed Rock Creek Bridge over IH-35 is an excellent connection and extension of the Legacy Trail, this new connection would help connect the residents of western Norman across IH-35 to the new University Town Center and also the OU Campus. The possibility of Parkway Street Trails located along the Arterial streets such as Robinson Rd. and W. 36th Ave. can help connect with key destinations in the area. Local Streets can be used when needed to connect with existing parks, open spaces, and major retail land uses.

Opportunities along Creek Corridors: A majority of the Brookhaven Creek Corridor is urbanized and developed with many trail construction constraints. Portions of the creek have feasible areas for a trail to help link parks located within this corridor.
Willow Branch to Spring Brook Park
Spring Brook Park to Robinson
Trails located along the Canadian River have potential for connection to major destinations and corridors.

Sensitive Areas:
Residential houses with backyards extending out to the Creek edge.
Canadian River to Willow Branch
Morgan Park to Rock Creek Rd.

Potential Drainage Improvements: Channel improvements located in the southern portions of Brookhaven creek will be needed

Brookhaven Creek Potential Corridor

Brookhaven Creek Potential Corridor

Suitability Analysis: Brookhaven Corridor

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Rockcreek Rd. (RS-1) **Corridor Score**: 4**
Corridor Description: From W. 48th Ave. to W. 36th Ave. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**9**
Schools	0		6	0
Trail-to-Trail	1		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	0		4	0
Connection to Park(s) & Other City Amenities	2		5	4
Major Retail Center	0		2	0
Significant Employer(s)	1		2	2
Ownership Availability		**15%**	**15**	**15**
City Owned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	15
Other Public or Semi-public Entity Owned, **(or)** along floodplain corridor that cannot reasonably be developed and where access trail easement or permanent dedication to the City of Norman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			10	10
Adequate buffering from adjacent residential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**13**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			10	
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	10
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			5	3
Existing Wetlands or other unique natural or urban features			5	0
Major Barrier to use of this corridor (deduct up to 5 points)			-5	0
Only location for trail is within floodway portion of the corridor (deducts points if selected)			-5	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-5 pts)			(-5)	0
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			20	20
Total		**100%**	**100**	**72**

* Number of elements within 600 ft. radius
** Score ranges as follows - over 80 = 5, over 60 = 4, over 40 = 3, over 20 =2, 20 or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Rockcreek Rd. (RS-2) **Corridor Score**: 5**
Corridor Description: From W. 36th Ave. to Legacy Trail. Potential future bridge to help cross IH-35 and connect with Legacy Trail. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**18**
Schools	0		6	0
Trail-to-Trail	3		6	O
Connection to U5	1		M	3
Connection to j ayor CitD4 estinations	1		O	2
Connection to Park(s) & Uther CitDAmenities	2		M	M
j ayor Retail Center	1		2	2
Significant EmploDer(s)	1		2	2
Ownership Availability		**15%**	**15**	**15**
CitDUwned (1 point for everD7% public ownership of total acreage along the corridor, up to 1Mpts. max.) **(or)**			1M	1M
Uther Public or Semi-public EntitDUwned, (or) along floodplain corridor that cannot reasonablDbe developed and where access trail easement or permanent dedication to the CitDof Norman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
Adequate corridor width for trail (min. 1M width for trail unless special conditions applD)			10	10
Adequate buffering from adyacent residential properties			M	M
Existing Physical Characteristics		**20%**	**20**	**13**
a) Trail corridor is in 100 Dear floodplain or can provide stormwater sDstem benefits (percentage basis up to max. pts. provided) **(or)**			10	
b) Along urban corridor where significant aesthetic enhancements can benefit citD			10	10
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			M	3
Existing Wetlands or other unique natural or urban features			M	0
j ayor Barrier to use of this corridor (deduct up to M points)			-M	0
UnlDlocation for trail is within floodwaDportion of the corridor (deducts points if selected)			-M	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Uwnership (-Mpts)			(-M)	0
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			20	20
Total		**100%**	**100**	**81**

* Number of elements within 600 ft. radius
** Score ranges as follows - over 80 = M, over 60 = O, over 00 = 3, over 20 =2, 20 or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Brookhaven Creek (BH 1-7) **Corridor Score**: 4**
Corridor Description: From Tecumseh Rd. to Robinson St. along Brookhaven Creek Corridor, Location of path to be determinded after futher study

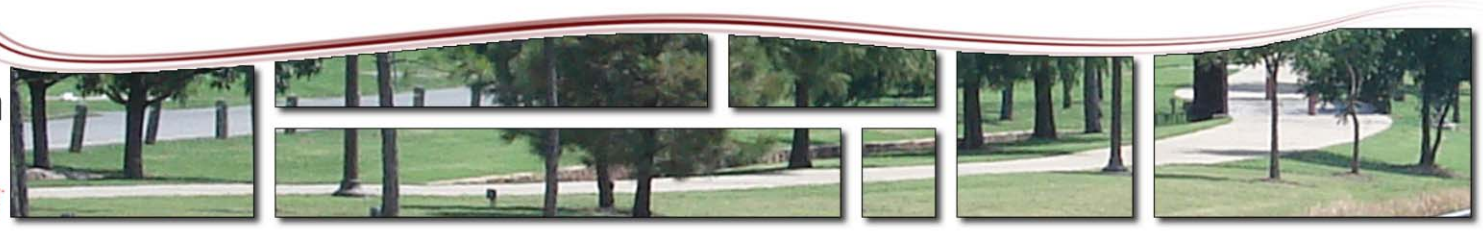
Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**13**
Schools	1		0	2
Trail6o6Trail	2		0	2
Connection to - 3	O		U	O
Connection to 5 alOr Citj y estinations	O		D	O
Connection to Park(s) 4 - ther Citj Amenities	&		U	U
5 alOr Retail Center	2		2	2
Significant Emploj er(s)	2		2	2
Ownership Availability		**15%**	**15**	**10**
Citj - wned (1 point for everj &7 public ownership of total acreage along the corridor, up to 1Upts. max.) **(or)**			1U	1O
- ther Public or Semi6public Entitj - wned, (or) along floodplain corridor that cannot reasonablj be developed and where access trail easement or permanent dedication to the Citj of %orman is feasible			1O	O
Compatibility with Adjacent Land Uses		**15%**	**15**	**11**
AdeNuate corridor width for trail (min. 1Uqwidth for trail unless special conditions applj)			1O	'
AdeNuate buffering from adMacent residential properties			U	V
Existing Physical Characteristics		**20%**	**20**	**18**
a) Trail corridor is in 1OOj ear floodplain or can provide stormwater sj stem benefits (percentage basis up to max. pts. provided) **(or)**			1O	U
b) Along urban corridor where significant aesthetic enhancements can benefit citj			1O	U
Existing / egetationVTrees (percentage basis up to max. pts. provided)			U	V
Existing B etlands or other uniNue natural or urban features			U	U
5 alOr z arrier to use of this corridor (deduct up to U points)			6J	O
- nlj location for trail is within floodwaj portion of the corridor (deducts points if selected)			6J	O
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor - wnership (6Jpts)			(6J)	O
Citi*en Support for this corridor (from citi*en committees, elected officials and documented citi*en meetings)			2O	2O
Total		**100%**	**100**	**72**

8 %umber of elements within 0OOft. radius
88 Score ranges as follows 6over ' O= U, over 0O= D, over DO= V, over 2O=2, 2Oor less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Brookhaven Creek (BH 8-14) **Corridor Score**: 4**
Corridor Description: From Robinson to Main St. along Brookhaven Creek Corridor, Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**12**
Schools	1		0	2
Trail6o6Trail	-		0	-
Connection to 3 O	U		5	U
Connection to Major City Destinations	U		4	U
Connection to Park(s) & 3 ther City Amenities	-		5	5
Major Retail Center	2		2	2
Significant Employer(s)	U		2	U
Ownership Availability		**15%**	**15**	**5**
City 3 wned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	5
3 ther Public or Semi6public Entity 3 wned, (or) along floodplain corridor that cannot reasonably be developed and where access trail easement or permanent dedication to the City of Norman is feasible			1U	U
Compatibility with Adjacent Land Uses		**15%**	**15**	**11**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			1U	V
Adequate buffering from adjacent residential properties			5	-
Existing Physical Characteristics		**20%**	**20**	**19**
a) Trail corridor is in 1UUyear floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			1U	1U
b) Along urban corridor where significant aesthetic enhancements can benefit city			1U	
Existing / egetationVTrees (percentage basis up to max. pts. provided)			5	4
Existing B etlands or other unique natural or urban features			5	5
Major z arrier to use of this corridor (deduct up to 5 points)			65	U
3 nly location for trail is within floodway portion of the corridor (deducts points if selected)			65	U
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor 3 wnership (65 pts)			(65)	U
Citi*en Support for this corridor (from citi*en committees, elected officials and documented citi*en meetings)			2U	2U
Total		**100%**	**100**	**67**

8 Number of elements within 0UUft. radius
88 Score ranges as follows 6over VU= 5, over 0U= 4, over 4U= - , over 2U=2, 2Uor less = 1



Prioritization Analysis: Brookhaven Corridor

City of Norman
Greenway Master Plan

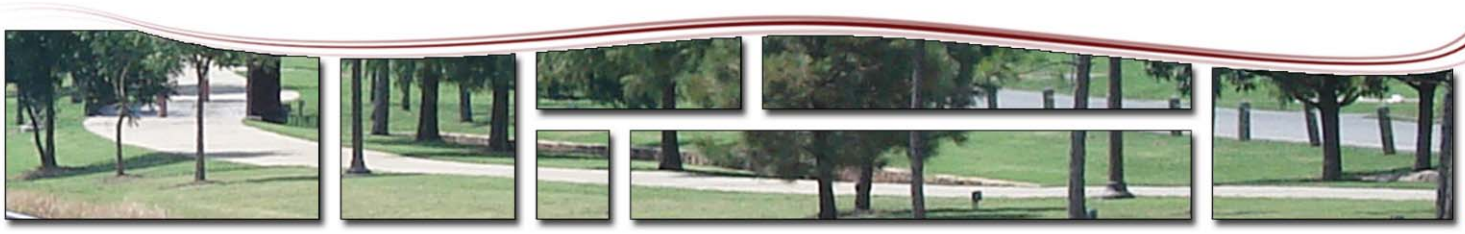
Greenway Corridor Prioritization: Brookhaven Creek

Number	Corridor	Length (L.F)	Prioritization Criteria: Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Total Score: Maximum Score = 30	Priority Category: 21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
RS-1	Rock Creek Street Segment 1 (W. 48th Ave. to W. 36th Ave.)	4500	4	1	3	1	3	1	2	15	Medium
RS-2	Rock Creek Street Segment 2 (Legacy Trail to W. 36th Ave.)	1500	5	5	5	2	5	1	3	26	High
BH 1-7	Brookhaven Creek (Tecumseh to Robinson Rd.) Segments 1-7	25000	4	3	4	2	4	1	3	21	High
BH 8-14	Brookhaven Creek (Robinson Rd. to Main St.) Segments 8-14	14000	4	3	3	3	3	2	3	21	High
BH 15-16	Brookhaven Creek (Main St. to Canadian River) Segments 15-16	4500	4	2	2	2	2	1	2	15	Medium
		49500	4.2	2.8	3.4	2	3.4	1.2	2.6	19.6	Medium

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Brookhaven Creek (BH 15-16) **Corridor Score**: 4**
Corridor Description: From Main to Canadian River along Main St. and W. 48th Ave. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**10**
Schools	0		6	0
Trail-to-Trail	1		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	1		4	3
Connection to Park(s) & Other City Amenities	2		5	4
Major Retail Center	0		2	0
Significant Employer(s)	0		2	0
Ownership Availability		**15%**	**15**	**13**
City Owned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	13
Other Public or Semi-public Entity Owned, (or) along floodplain corridor that cannot reasonably be developed and where access trail easement or permanent dedication to the City of Norman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**10**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			10	7
Adequate buffering from adjacent residential properties			5	3
Existing Physical Characteristics		**20%**	**20**	**19**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			10	5
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	5
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			5	4
Existing Wetlands or other unique natural or urban features			5	5
Major Barrier to use of this corridor (deduct up to 5 points)			-5	0
Only location for trail is within floodway portion of the corridor (deducts points if selected)			-5	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-5 pts)			(-5)	0
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			20	20
Total		**100%**	**100**	**72**

* Number of elements within 600 ft. radius
** Score ranges as follows - over 80 = 5, over 60 = 4, over 40 = 3, over 20 =2, 20 or less = 1

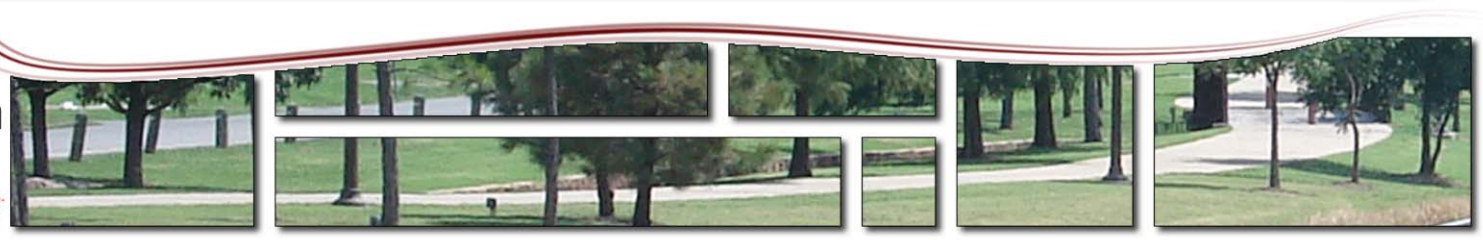


Urban Greenway System: Brookhaven Creek Key Recommendations

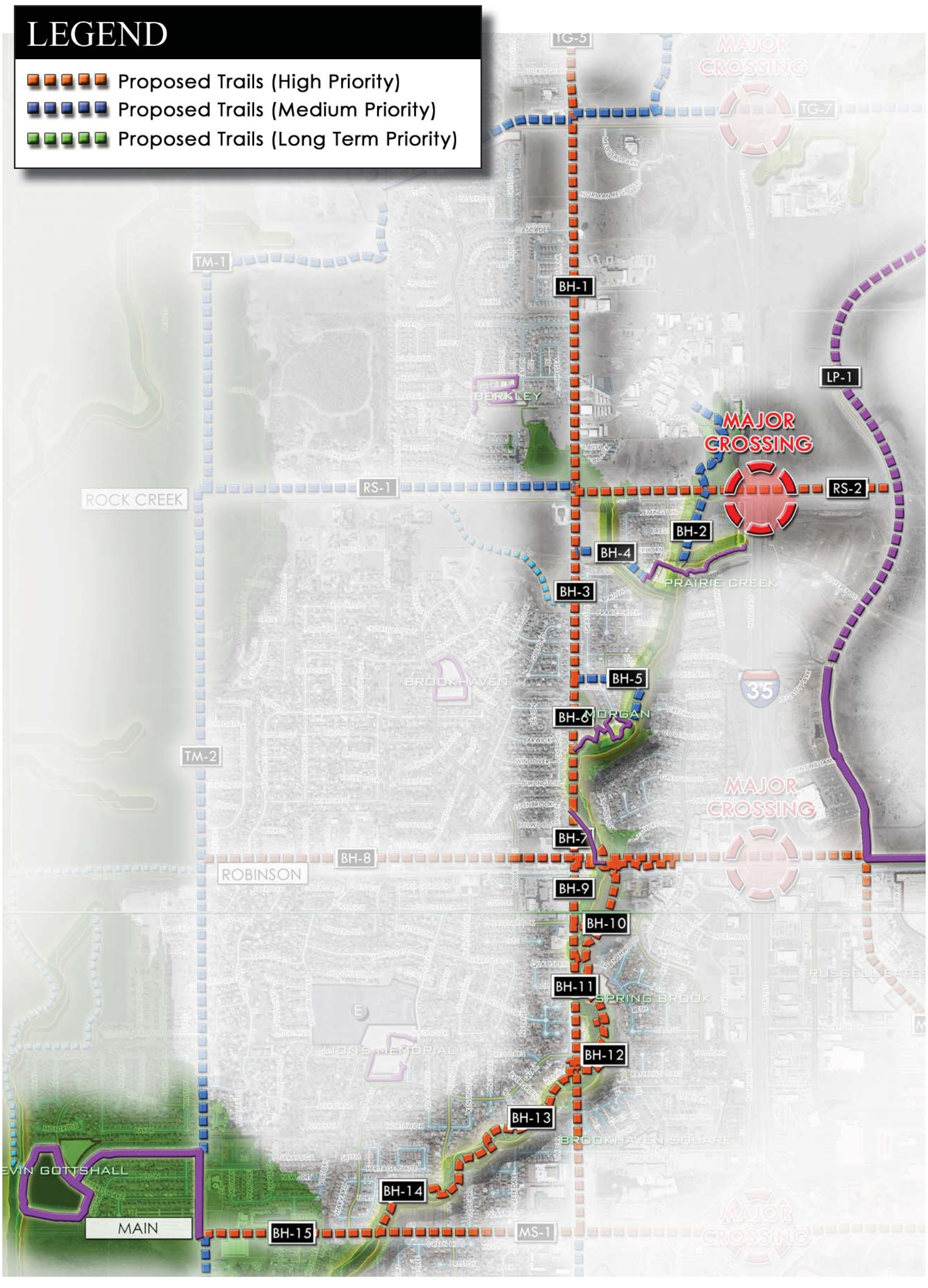
The key recommendations for this sector will be a greenway corridor which runs from Tecumseh then south to Main St. along W. 36th Ave. and Brookhaven Creek. This corridor will help connect the proposed Ruby Grant Park, Kevin Gottshall Park and the Canadian River Corridor. Another key recommendation for this area is utilizing the proposed Rock Creek Bridge extension to cross the major barrier IH-35. This will be a major connection for residents of the West side of IH-35 to reach the Legacy Trail. The estimated cost for these greenway improvements is shown below (see chart).

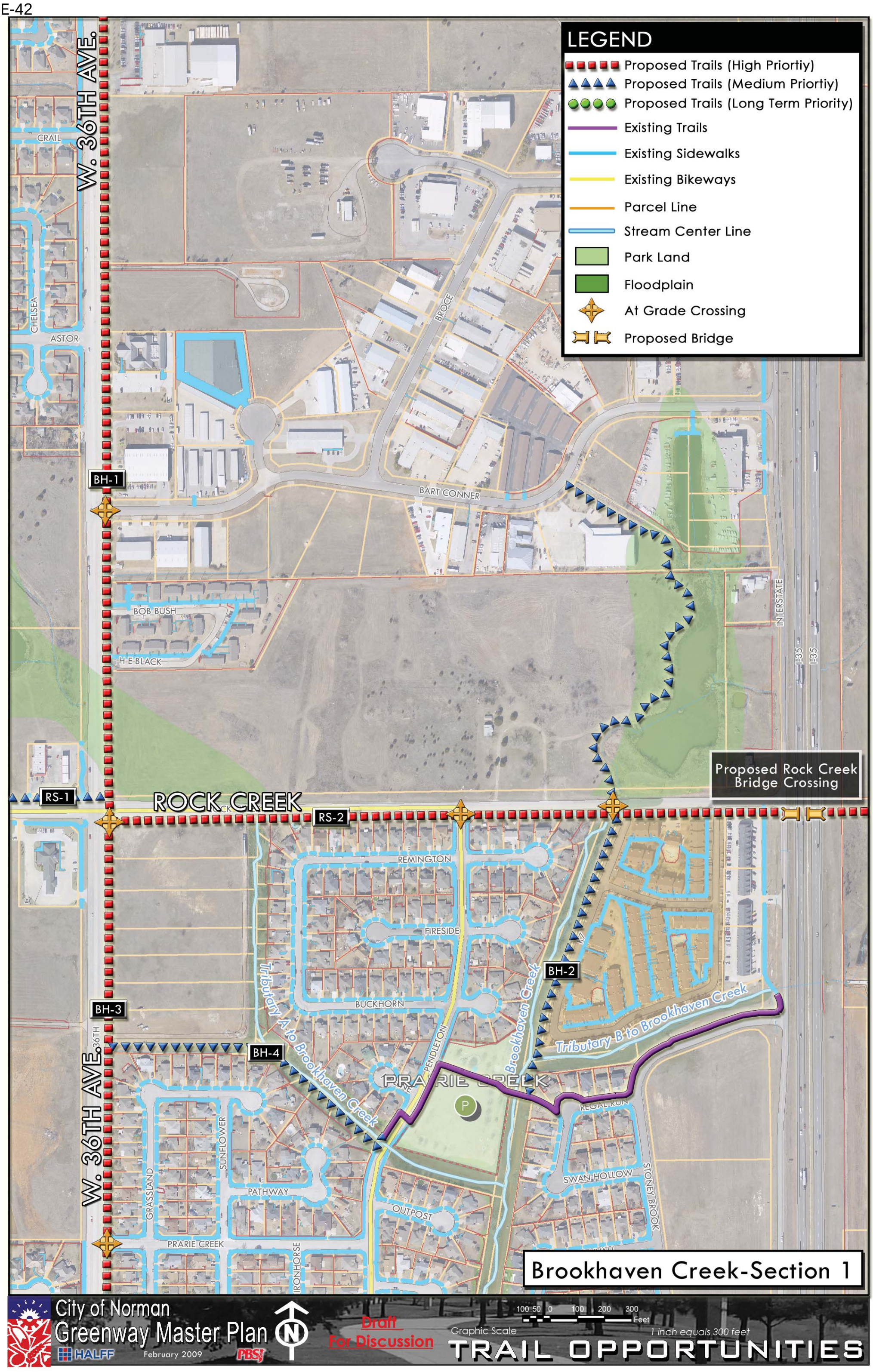
Norman Greenway Implementation Action Plan
Brookhaven Creek (Urban Greenway)

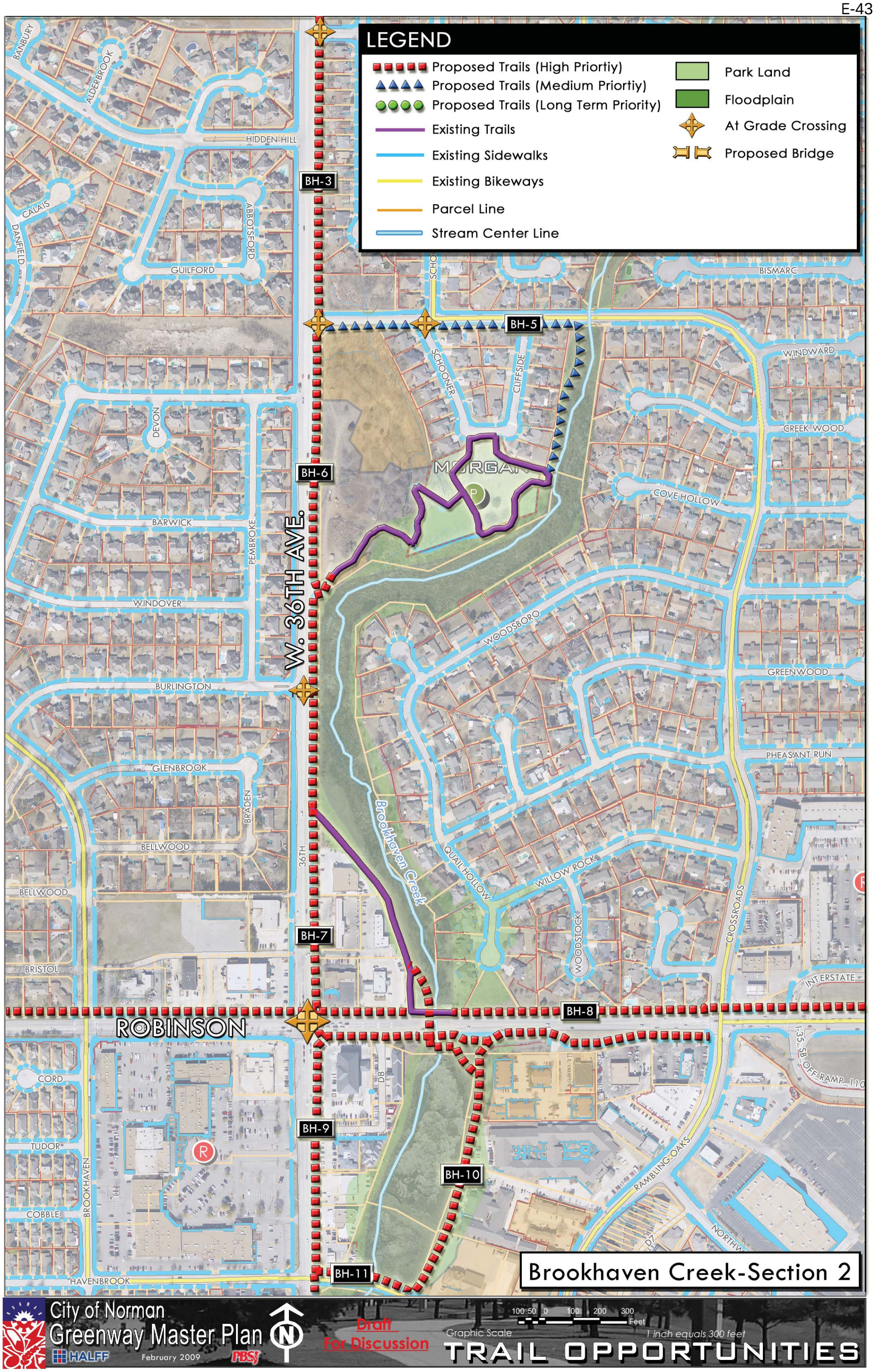
Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Brookhaven	BH-1	Tecumseh	Rock Creek Rd.	Greenway along W 36th Ave., connects to Ruby Grant Park and proposed Rock Creek Bridge	5,400	$1,000,000	2010-2020
Brookhaven	BH-3	Rock Creek Rd.	Crossroads	Greenway along W 36th Ave., connects to Ruby Grant Park and proposed Rock Creek Bridge	2,700	$510,000	2010-2020
Brookhaven	BH-6	Crossroads	Existing Sidewalk	Greenway along W 36th Ave.	1,000	$210,000	2015-2025
Brookhaven	BH-7	Existing Sidewalk	Robinson	Greenway along W 36th Ave.	1,700	$340,000	2015-2025
Brookhaven	BH-9	Robinson	Havenbrook	Greenway along W 36th Ave.	1,000	$270,000	2015-2025
Brookhaven	BH-11	Havenbrook	Quail	Greenway along W 36th Ave.	4,500	$720,000	2020-2030
Brookhaven	BH-12	Havenbrook	Quail	Greenway along Brookhaven Creek Corridor, Greenway	2,500	$470,000	2015-2025
Brookhaven	BH-13	W 36th Ave.	Willow Branch	Greenway along Brookhaven Creek Corridor, Greenway	3,000	$570,000	2020-2030
Brookhaven	BH-14	Willow Branch	Main Street	Greenway along Brookhaven Creek Corridor, Greenway	1,400	$300,000	2020-2030
Brookhaven	BH-15	Brookhaven Creek	48th St.	Greenway along Main St., connects to Kevin Gottshall Greenway	2,500	$480,000	2015-2025
Brookhaven	RS-2	W. 36th Ave.	W.24th Ave.	Greenway along Rock Creek and Rock Creek Bridge Proposal, connects Western Norman to Legacy Trail	4,500	$640,000	2009-2015
				Estimated Total	**30,200**	**$5,510,000**	
					6 Miles		



Brookhaven Creek Key Recommendations




LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
W. 36TH AVE.
CRAIL
CHELSEA
ASTOR
BROCE
BART CONNER
BOB BUSH
H E BLACK
INTERSTATE
I-35
I-35
BH-1
BH-2
BH-3
BH-4
RS-1
RS-2
ROCK CREEK
Proposed Rock Creek Bridge Crossing
REMINGTON
FIRESIDE
BUCKHORN
Tributary A to Brookhaven Creek
Brookhaven Creek
Tributary B to Brookhaven Creek
PENDLETON
PRAIRIE CREEK
REGAL RUN
SWAN HOLLOW
STONEY BROOK
SUNFLOWER
GRASSLAND
PATHWAY
OUTPOST
PRARIE CREEK
IRONHORSE
Brookhaven Creek-Section 1
City of Norman
Greenway Master Plan
HALFF
February 2009
PBSJ
Draft
For Discussion
Graphic Scale
100 50 0 100 200 300
Feet
1 inch equals 300 feet
TRAIL OPPORTUNITIES


LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
BH-3
BH-5
BH-6
BH-7
BH-8
BH-9
BH-10
BH-11
W. 36TH AVE.
ROBINSON
Brookhaven Creek
BANBURY
ALDERBROOK
HIDDEN HILL
CALAIS
DANFIELD
GUILFORD
ABBOTSFORD
BISMARC
WINDWARD
SCHOONER
CLIFFSIDE
CREEK WOOD
COVE HOLLOW
DEVON
BARWICK
PEMBROKE
WINDOVER
WOODSBORO
GREENWOOD
BURLINGTON
PHEASANT RUN
GLENBROOK
BRADEN
BELLWOOD
36TH
QUAIL HOLLOW
WILLOW ROCK
WOODSTOCK
CROSSROADS
BRISTOL
INTERSTATE
CORD
TUDOR
BROOKHAVEN
COBBLE
HAVENBROOK
RAMBLING OAKS
I-35 SB OFF RAMP 110
City of Norman
Greenway Master Plan
HALFF
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PBSJ
Draft
For Discussion
Graphic Scale
100 50 0 100 200 300
Feet
1 inch equals 300 feet
TRAIL OPPORTUNITIES
Brookhaven Creek-Section 2

LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
BH-9
BH-10
BH-11
BH-12
BH-13
BH-14
MS-1
W. 36TH AVE.
36TH ST.
MAIN ST.
COBBLE
HAVENBROOK
BROOKHAVEN
IVES
QUAIL SPRING
BOB WHITE
LANDSDOWNE
CEDAR BROOK
HEATHERHILL
BRECKINRIDGE
CHATHAM
BROOKHOLLOW
INVERNESS
SILVERWOOD
INNSBROOK
LION'S MEMORIAL
SPRING BROOK
BRANCHWOOD
RED OAKS
QUAIL RIDGE
WILLOW BRANCH
KENSINGTON
PINEY OAK
QUAIL
EVERGREEN
HAMPTON
RAMBLING OAKS
BLUESTEM
WOODBINE
SUSSEX
BROOKFORD
WINDBROOK
STONEHAVEN
NORTHWICH
STAFFORD
CEDAR RIDGE
TIMBERWIND
RIVER OAKS
POTOMAC
HERITAGE PLACE
LYNNBROOK
OLDE BROOK
CREEKDALE
BELHAVEN
QUAIL RUN
Brookhaven Creek-Section 3
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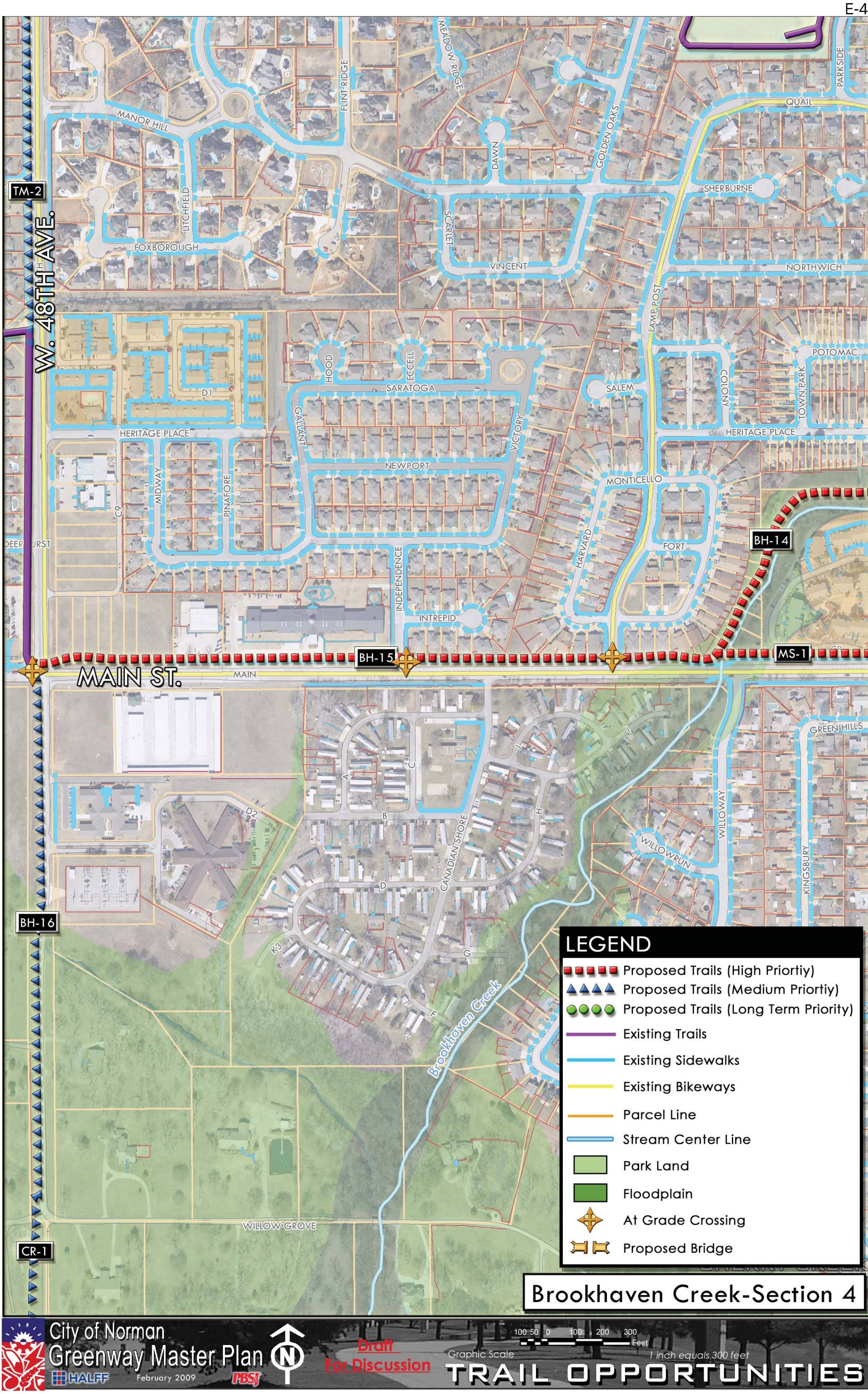
TRAIL OPPORTUNITIES


TM-2
W. 48TH AVE.
MANOR HILL
FLINT RIDGE
MEADOW RIDGE
DAWN
GOLDEN OAKS
QUAIL
PARKSIDE
SHERBURNE
LITCHFIELD
FOXBOROUGH
SCARLET
VINCENT
NORTHWICH
LAMP POST
POTOMAC
HOOD
ECCELL
SARATOGA
SALEM
COLONY
TOWN PARK
D1
GALLANT
VICTORY
HERITAGE PLACE
NEWPORT
MIDWAY
PINAFORE
C9
MONTICELLO
HARVARD
FORT
BH-14
INDEPENDENCE
INTREPID
BH-15
MS-1
MAIN ST.
MAIN
GREEN HILLS
D2
CANADIAN SHORE
WILLOWRUN
WILLOWAY
KINGSBURY
BH-16
K3
Brookhaven Creek
WILLOW GROVE
CR-1
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Brookhaven Creek-Section 4
City of Norman
Greenway Master Plan
HALFF
February 2009
PBSJ
Draft
For Discussion
100 50 0 100 200 300
Feet
Graphic Scale
1 inch equals 300 feet
TRAIL OPPORTUNITIES

MERKLE CREEK

MERKLE CREEK

Location: Located in SW sector of the City
From: Westheimer Airpark
To: Canadian River

Surrounding Corridors: Brookhaven Creek, Imhoff Creek, Canadian River, and Little River

Size: 4 Sq. Miles – 2,860 Acres (Approximately: IH-35 to W 12th Ave., and Westheimer Airpark to Canadian River)

Major Transportation/Roads:
E/W: Main St. – Robinson Rd. – Lindsey St.
N/S: W 24th Ave. – W 12th Ave. – IH-35

Major Area Corridor(s):
Merkle Creek runs predominantly North and South. The creek does have some potential for Greenway Trails along the corridor, but some areas of the Corridor will need to be utilized with Parkway Trails.
The Canadian River has a flat and densely vegetated terrain. This Corridor has the potential to be a key connector with other Greenway Opportunities.

Minor Area Sub-corridor(s):
Robinson has an existing Trail which runs from W 24th Ave. to W 12th Ave.
24th Ave. and 12th Ave.are the major arterial streets connectors.
Local Streets have great opportunities for parkway connections with Schools, Parks and Major Retail land uses.

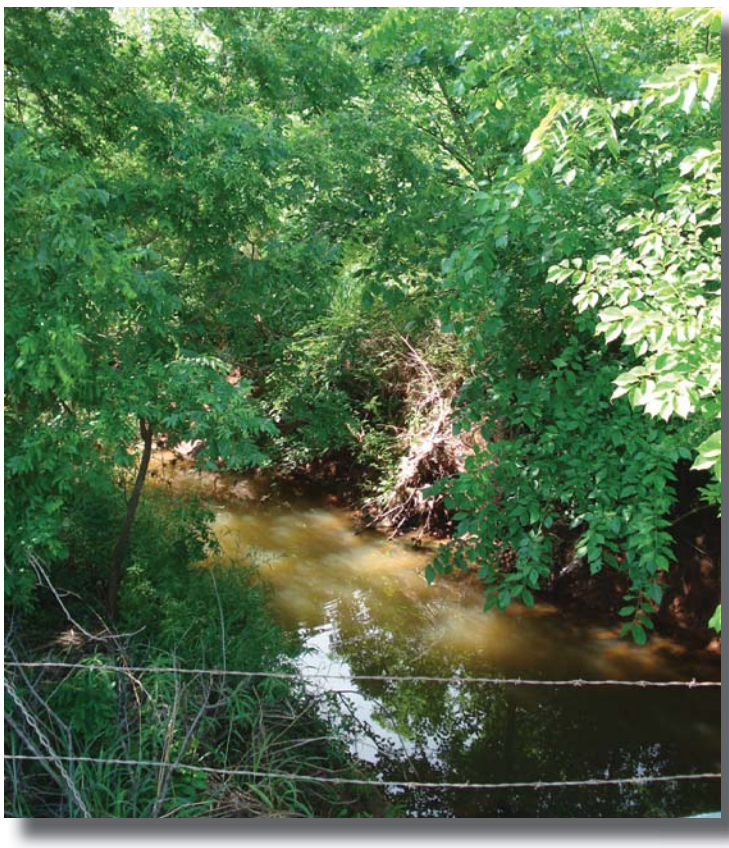
Land Use Context: Much of this corridor is developed; the predominant land use is Residential with single family lots. Commercial and Major Retail is densely located along IH-35 from Robinson St. to Main St. The corridor area also includes High Density Residential, Parkland, Institutional and Industrial Land Uses.

Key Destinations: Two Schools (Cleveland Elementary and Alcott Middle School) are located within Corridor area, and other local schools are located within the surrounding Corridors. The Cleveland County YMCA along with two Parks is also located within this area. Major Retail and Commercial uses located along IH-35. Areas with High Density Residential are excellent attractors in this corridor.

Key Opportunities:
Opportunities along Street Corridors: The existing Trail/Path that runs parallel with Robinson St. is an opportunity to connect with the new Legacy Trail. This Trail also has an opportunity to connect with the Cleveland County YMCA for Recreational Uses. The possibility of Parkway Street Trails located along the Arterial streets such as W 24th Ave. and W 12th Ave. can help connect with key destinations in the area. Local Streets can be used when needed to connect with Schools, existing parks, open spaces, and major retail land uses.
Opportunities along Creek Corridors: A majority of the Merkle Creek Corridor is urbanized and developed with many possible constraints. Portions of the creek have feasible areas for a trail to help link Single Family Residential, High Density Residential, and parks located within this corridor. Trails located along the Canadian River have potential for connection to other major destinations and corridors.

Sensitive Areas: Residential houses with backyards and property boundaries extending out to the Creek edge. Merkle Creek goes through Westwood Golf Course which creates a connection barrier; parkway trails and or sidewalks will need to be used to maneuver around this area.

Potential Drainage Improvements: Road improvements along drainage channels



Suitability Analysis: Merkle Creek

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Merkle Creek (MC-1) **Corridor Score**: 4**
Corridor Description: From Robinson to Main St. along street corridor;
Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**16**
Schools	1		0	2
Trail6o6Trail	1		0	-
Connection to 3 O	U		5	U
Connection to Major City Destinations	2		-	2
Connection to Park(s) 4 3 ther City Amenities	2		5	-
Major &etail Center	2		2	2
SiRnificant gmployer(s)	1		2	2
Ownership Availability		**15%**	**15**	**15**
City 3 Enew (1 point for every d7 public oEnership of total acreaRe alonR the corriwor, up to 15 pts. max.) **(or)**			15	15
3 ther Public or Semi6public gntity 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonably be wevelopew anw Ehere access trail easement or permanent wewication to the City of %orman is feasible			1U	U
Compatibility with Adjacent Land Uses		**15%**	**15**	**11**
AweNuate corriwor Eiwth for trail (min. 15qEiwth for trail unless special conwitions apply)			1U	'
AweNuate bufferinR from awjacent resiwential properties			5	V
Existing Physical Characteristics		**20%**	**20**	**14**
a) Trail corriwor is in 1UU year floowplain or can proviwe stormEater system benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1U	U
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit city			1U	1U
gxistinR/ eRetationWrees (percentaRe basis up to max. pts. proviwew)			5	2
gxistinR B etlanws or other uniNue natural or urban features			5	2
Major z arrier to use of this corriwor (wewuct up to 5 points)			65	U
3 nly location for trail is Eithin floowEay portion of the corriwor (wewucts points if selectew)			65	U
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (65 pts)			(65)	U
Citi*en Support for this corriwor (from citi*en committees, electew officials anw wocumentew citi*en meetinRs)			2U	2U
Total		**100%**	**100**	**76**

8 %umber of elements Eithin 0UU ft. rawius
88 Score ranRes as folloEs 6over ' U = 5, over 0U = - , over - U = V, over 2U =2, 2U or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Merkle Creek (MC-2-3) **Corridor Score**: 4**
Corridor Description: From Robinson to Main St. along street corridor;
Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**8**
Schools	2		0	2
Trail6o6Trail	-		0	-
Connection to 3 O	-		U	-
Connection to 5 alMr Citj y estinations	1		D	2
Connection to Park(s) 4 3 ther Citj Amenities	2		U	D
5 alMr &etail Center	-		2	-
SiRnificant gmploj er(s)	-		2	-
Ownership Availability		**15%**	**15**	**15**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	1U
3 ther Public or Semi6public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonablj be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			1-	-
Compatibility with Adjacent Land Uses		**15%**	**15**	**11**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions applj)			1-	'
AweNuate bufferinR from awMacent resiwential properties			U	V
Existing Physical Characteristics		**20%**	**20**	**14**
a) Trail corriwor is in 1- - j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1-	-
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			1-	1-
gxistinR/ eRetationWrees (percentaRe basis up to max. pts. proviwew)			U	2
gxistinR B etlanws or other uniNue natural or urban features			U	2
5 alMr z arrier to use of this corriwor (wewuct up to U points)			6U	-
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			6U	-
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (6U pts)			(6U)	-
Citi*en Support for this corriwor (from citi*en committees, electew officials anw wocumentew citi*en meetinRs)			2-	2-
Total		**100%**	**100**	**68**

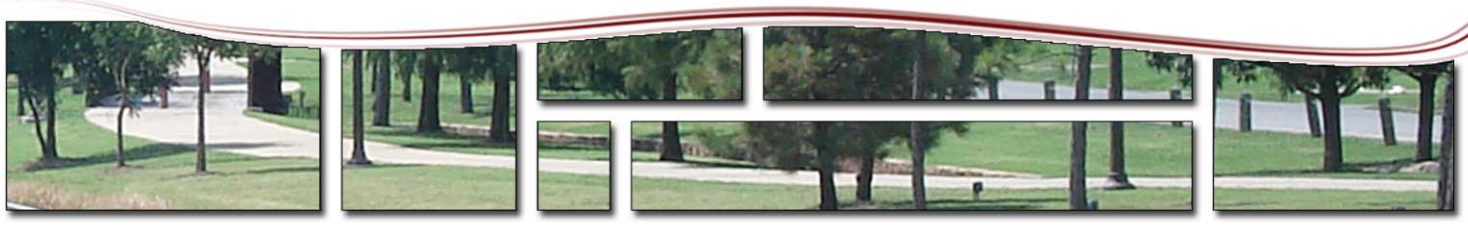
8 %umber of elements Eithin 0- - ft. rawius
88 Score ranRes as folloEs 6over ' - = U, over 0- = D, over D- = V, over 2- =2, 2- or less = 1

Priortization Analysis: Merkle Creek

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Merkle Creek

Number	Corridor		Prioritization Criteria							Total Score	Priority Category
		Length (L.F)	Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Maximum Score = 30	21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
MC-1	Merkle Creek - Segment 1	5700	4	5	5	1	3	2	2	22	Medi
MC 2-3	Merkle Creek - Segment 2	7400	4	5	4	1	2	1	2	19	u nHegh
		13100	4.0	5.0	4.5	1.0	2.5	1.5	2.0	20.5	Medi



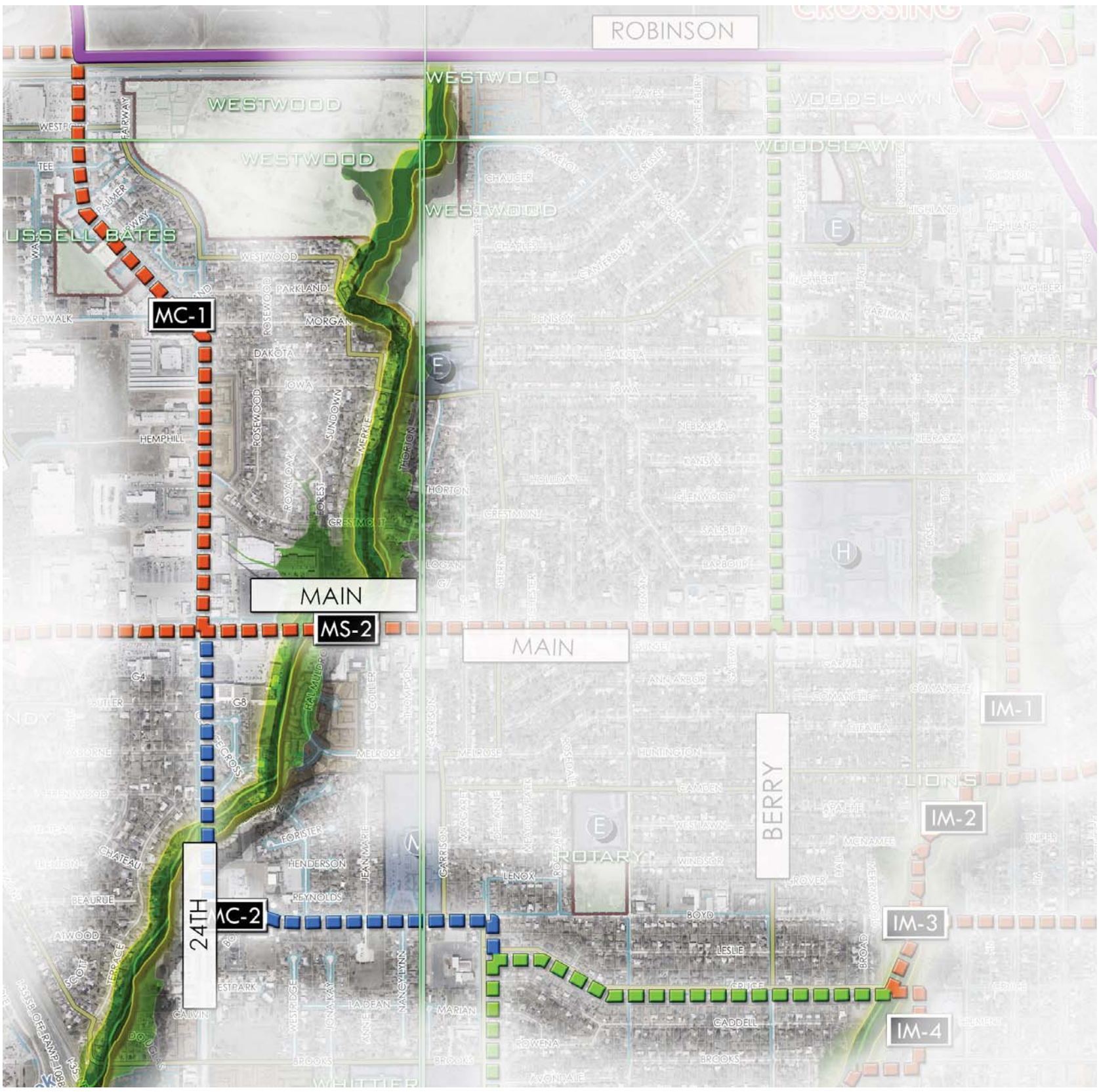
Urban Greenway System: Merkle Creek

The key recommendation for this sector is to create a greenway which connects the existing Legacy Trail at Robinson and W. 24th Ave. to the central Imhoff creek greenway system. This gives a chance for residents within the Merkle creek area to connect to the University of Oklahoma and Westwood Park recreational area. The estimated cost for these greenway improvements is shown below (see chart).

Norman Greenway Implementation Action Plan
Merkle Creek (Urban Greenway)

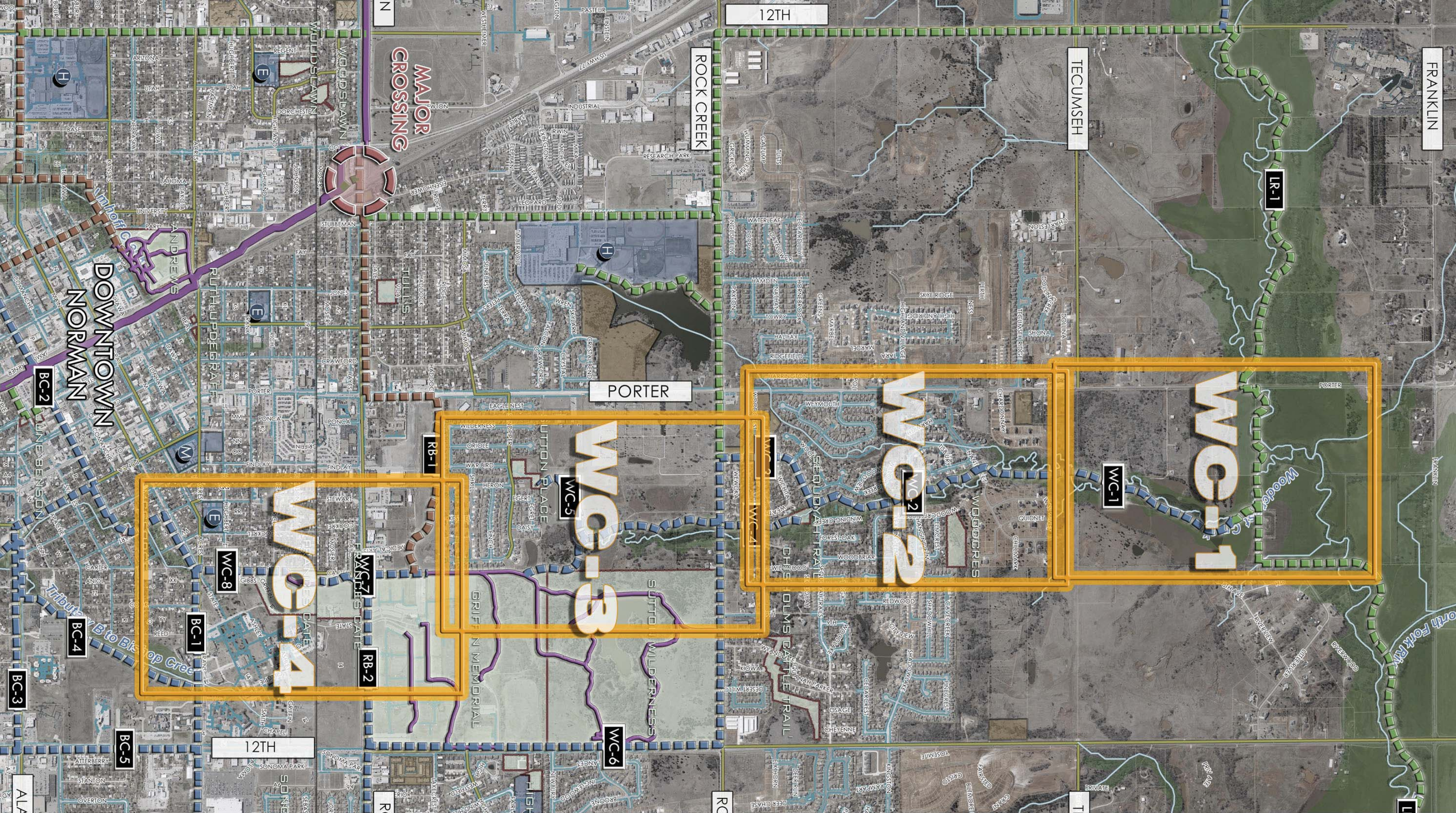
Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Merkle	**MC-1**	Main St.	Robinson	Greenway along E 24th Ave., connects to existing Legacy Trail and proposed Imhoff creek greenway	5,730	$1,100,000	2010-2025
Merkle	**MC-2**	Main St.	McGee	Greenway along E 24th Ave., connects to existing Legacy Trail	5,400	$1,000,000	2010-2025
Merkle	**MC-3**	McGee	Imhoff Creek	Greenway along E 24th Ave., connects to existing Legacy Trail	3,000	$610,000	2010-2025
				Estimated Total	**14,130**	**$2,710,000**	
					3 Miles		

Merkle Creek Key Recommendations



LEGEND

- Proposed Trails (High Priority)
- Proposed Trails (Medium Priority)
- Proposed Trails (Long Term Priority)


WOODCREST CREEK
WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
WC-7
WC-8
LR-1
LR-2
RB-1
RB-2
BC-1
BC-2
BC-3
BC-4
BC-5
MAJOR CROSSING
DOWNTOWN NORMAN
12TH
PORTER
ROCK CREEK
TECUMSEH
FRANKLIN
ALAMEDA
ROBINSON
Tributary B to Bishop Creek
Unhoff Creek
North Fork River
Woodley Creek
GRIFFIN MEMORIAL
SUTTON WILDERNESS
CHISHOLM CREEK TRAIL
WOODBRIDGE
SEQUOYAH TRAIL
ROBINSON
ANDREWS
RUTH UPDEGRAFF
WOODSDAWN
TULLIS
LLAMA ST
INDUSTRIAL
RESEARCH PARK
SUTTON PLACE
FAIRFIELD ESTATES
EAGLE NEST
WEYMOUTH
SKYE RIDGE
HIGHLAND VILLAGE
WATERLEAF
HAMDEN
HALIFAX
RIDGEFIELD
TECUMSEH RIDGE
DOLINA
SHONA
CHARLESTON
WILDERNESS
ORIOLE
WARBIRD
HERON
EGRET
DAISY
SONOMA PARK
ATTERBERRY
STANTON
OVERTON
CHEYENNE
OSAGE
YOSEMITE
GYSIO
BRIVATE
RIVERWOOD
RIVERVIEW
CLIFFSIDE
CLEAVIEW
SHADOWVALE
CEDARCREST
FIRECREST
REDWOOD
WOODBRIAR
WOODCREST
QUIDNET
CHILMARK
CHARTON
WOODCREST
WOODCREST
WOODCREST

WOODCREST CREEK

Location: Located in NC sector of the City
From: Little River Creek
To: Robinson

Surrounding Corridors: Little River, Rock Creek, Bishop Creek, Imhoff Creek, and Merkle Creek

Size: 3 Sq. Miles – 1,928 Acres (Approximately: Porter Ave. to E 24th St. and Robinson to Little River)

Major Transportation/Roads:
E/W: Tecumseh Rd. – Rock Creek Rd.
N/S: Porter Ave. – E 12th St.

Major Area Corridor(s):
Woodcrest Creek runs predominantly North and South. The creek does have some potential for Greenway Trails along the corridor, but some areas of the Corridor will need to be utilized with Parkway Trails.

Minor Area Sub-corridor(s):
Robinson St. has an existing Trail which runs from W 24th St. to W 12th St.
Porter Ave. and E 12th St. are the major arterial streets connectors. Local Streets have great opportunities for parkway connections with Schools, Parks and Major Retail land uses.

Land Use Context: Much of this corridor is developed; the predominant land use is Residential with single family lots. The corridor area also includes Parkland, High Density Residential, and Institutional.

Key Destinations: One School (Norman High School North) is located within Corridor area, and other local schools are located within the surrounding Corridors. Eight Parks including the 12th St. Recreational Center are located within study area. High Density Residential along with Sutton Wilderness will be Key connection points.

Key Opportunities:
Opportunities along Street Corridors: The existing and proposed Trail/Paths located within the OU Campus area are opportunities to tie into the OU Campus from the surrounding uses. The possibility of Parkway Street Trails located along the Arterial streets such as Rock Creek Rd. can help connect with key destinations in the area. Local Streets can be used when needed to connect with Schools, existing parks, and open spaces.

Opportunities along Creek Corridors: The northern half of Rock Creek has not yet been developed which arises the opportunity for Greenway spaces being preserved in future development. Opportunities to Connect with Sutton Wilderness Trail (Recreational): Off and On Street Trails can be used to connect to and from the Sutton Wilderness area; this is a great attractor for recreational use a connection trail should be considered.

Sensitive Areas: Residential houses with backyards extending out to the Creek edge (Rock Creek Rd. to Tecumseh Rd.).

Potential Drainage Improvements: Channel bank improvements along the central corridor of the creek. A regional detention pond is proposed to be developed upstream of Rock Creek Rd.

Suitability Analysis: Woodcrest Creek

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Wood Crest Creek (Segments 1-5) **Corridor Score**: 4**
Corridor Description: From Little River to Griffin Memorial Park along woodcrest creek.
Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**9**
Schools	0		6	0
Trail-to-Trail	1		6	2
Connection to 3 O	0		U	0
Connection to 5 alOr Citj y estinations	1		D	1
Connection to Park(s) 4 3 ther Citj Amenities	D		U	U
5 alOr &etail Center	0		2	0
SiRnificant gmploj er(s)	1		2	1
Ownership Availability		**15%**	**15**	**5**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	U
3 ther Public or Semi-public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**10**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions applj)			10	d
AweNuate bufferinR from awlacent resiwential properties			U	'
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 100 j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	10
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			10	0
gxistinR VeRetation/Trees (percentaRe basis up to max. pts. proviwew)			U	U
gxistinR Wetlanws or other uniNue natural or urban features			U	U
5 alOr Barrier to use of this corriwor (wewuct up to U points)			-U	0
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	0
Citizen Support for this corriwor (from citizen committees, electew officials anw wocumentew citizen meetinRs)			20	20
Total		**100%**	**100**	**64**

* %umber of elements Eithin 600 ft. rawius
** Score ranRes as folloEs - over 80 = U, over 60 = D, over D0 = ' , over 20 =2, 20 or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Wood Crest Creek (Segments 6-8) **Corridor Score**: 5**
Corridor Description: From Little River to Griffin Memorial Park along woodcrest creek.
Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**16**
Schools	2		0	6
Trail-to-Trail	1		0	3
Connection to OU	5		N	5
Connection to j ayor CitD4 estinations	1		6	2
Connection to Park(s) & Other CitD Amenities	6		N	M
j ayor Retail Center	5		2	5
Significant EmploDer(s)	1		2	2
Ownership Availability		**15%**	**15**	**15**
CitD Owned (1 point for everD7% public ownership of total acreage along the corridor, up to 1Mpts. max.) **(or)**			1M	1M
Other Public or Semi-public EntitD Owned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the CitD of Norman is feasible			15	5
Compatibility with Adjacent Land Uses		**15%**	**15**	**12**
Adequate corridor width for trail (min. 1M width for trail unless special conditions applD)			15	7
Adequate buffering from adyacent residential properties			M	M
Existing Physical Characteristics		**20%**	**20**	**18**
a) Trail corridor is in 155 Dear floodplain or can provide stormwater sDstem benefits (percentage basis up to max. pts. provided) **(or)**			15	5
b) Along urban corridor where significant aesthetic enhancements can benefit citD			15	15
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			M	3
Existing Wetlands or other unique natural or urban features			M	M
j ayor Barrier to use of this corridor (deduct up to M points)			-M	5
OnlD location for trail is within floodwaD portion of the corridor (deducts points if selected)			-M	5
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-Mpts)			(-M)	5
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			25	25
Total		**100%**	**100**	**81**

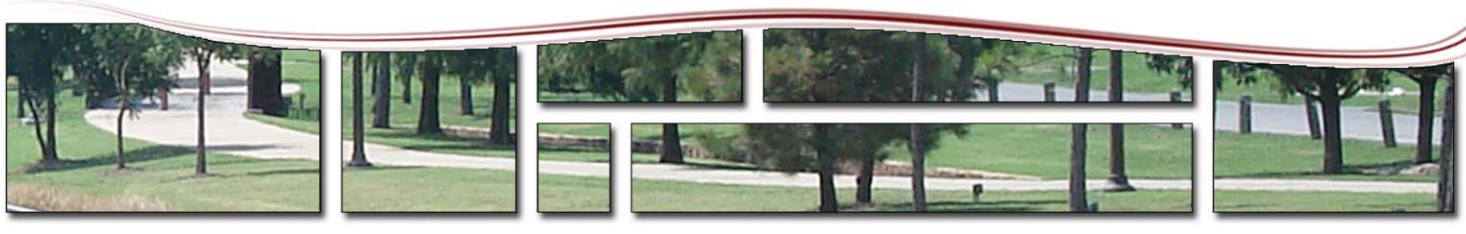
* Number of elements within 055 ft. radius
** Score ranges as follows - over 85 = M, over 05 = 6, over 65 = 3, over 25 =2, 25 or less = 1

Prioritization Analysis: Woodcrest Creek

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Woodcrest Creek

Number	Corridor		Prioritization Criteria							Total Score	Priority Categor
		Length (L.F)	Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Maximum Score = 30	21 to 30 = High 1 to 20 = Medium 0 to 11 = Long Tern
WC - 1-5	Wood Crest Creek North (Tecumseh to Griffin Memorial Park) Segments 1-5	15600	4	2	3	3	3	3	3	21	High
WC - 6-8	Wood Crest Creek South (Griffin Memorial to Main St.) Segments 6-8	11600	5	3	3	2	3	2	3	21	High
		27200	4.5	2.5	3	2.5	3	2.5	3	21	High



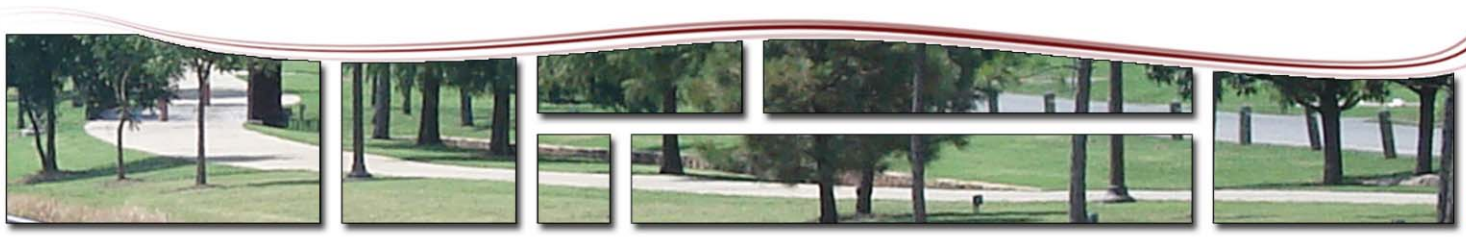
Urban Greenway System: Woodcrest Creek Key Recommendations

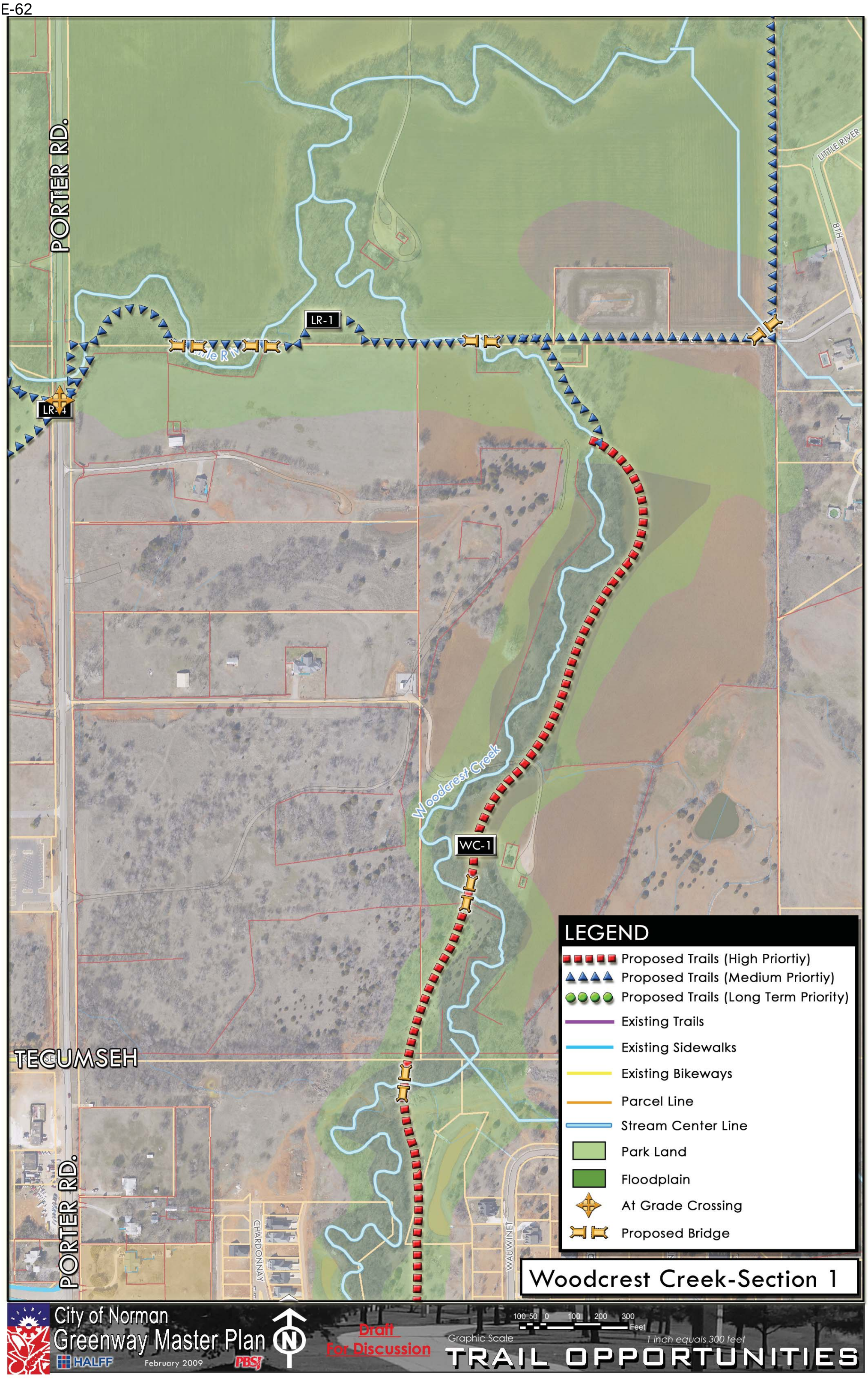
The Woodcrest creek greenway recommendations will run from Little River south to Robinson. This greenway has both rural and urban characteristics which will make this a unique greenway. The greenway will be used for drainage improvements along with opportunities for trail connections. The greenway will connect Little River to Sutton Wilderness area and Griffin Memorial Park. The estimated cost for these greenway improvements is shown below (see chart).

Norman Greenway Implementation Action Plan
Woodcrest Creek (Urban Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Woodcrest	**WC-1**	Little River Creek	Nantucket St.	Greenway along Woodcrest creek, connects to proposed Little River scenic greenway and Sutton wilderness area	4,100	$720,000	2010-2020
Woodcrest	**WC-2**	Nantucket St.	Sequoyah Trails	Greenway along Woodcrest creek, connects to proposed Little River scenic greenway and Sutton wilderness area	2,700	$490,000	2010-2020
Woodcrest	**WC-4**	Sequoyah Trail Park	Rock Creek	Greenway along Woodcrest creek, connects to proposed Little River scenic greenway and Sutton wilderness area	1,200	$300,000	2015-2025
Woodcrest	**WC-5**	Rock Creek	Robinson Rd.	Greenway along Woodcrest creek, connects to proposed Little River scenic greenway and Sutton wilderness area	4,700	$900,000	2015-2025
Woodcrest	**WC-6**	Woodcrest Creek	W. 12th Ave.	Greenway along Woodcrest creek, connects to proposed Little River scenic greenway and Sutton wilderness area	3,300	$650,000	2015-2025
Woodcrest	**WC-7**	Robinson Rd.	Frances Cate Park	Greenway along Woodcrest creek, connects to proposed Little River scenic greenway and Sutton wilderness area	1,800	$350,000	2020-2030
Woodcrest	**WC-8**	Frances Cate Park	Main Street	Greenway along Carter St., connects to downtown Norman and Griffin Memorial Park	1,300	$300,000	2015-2025
				Estimated Total	**19,100 4 Miles**	**$3,710,000**	

Woodcrest Creek Key Recommendations




PORTER RD.
LITTLE RIVER
8TH
LR-1
LR-4
Little River
Woodcrest Creek
WC-1
TECUMSEH
PORTER RD.
CHARDONNAY
WAUWINET
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Woodcrest Creek-Section 1
City of Norman
Greenway Master Plan
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Feet
Graphic Scale
1 inch equals 300 feet
TRAIL OPPORTUNITIES

Woodcrest Creek-Section 2

LEGEND

- Proposed Trails (High Priortiy)
- Proposed Trails (Medium Priortiy)
- Proposed Trails (Long Term Priority)
- Existing Trails
- Existing Sidewalks
- Existing Bikeways
- Parcel Line
- Stream Center Line
- Park Land
- Floodplain
- At Grade Crossing
- Proposed Bridge

WC-1
WC-2
WC-3
WC-4
WC-5
WC-6
LR-5

CHARDONNAY
WAUWINET
NANTUCK
POCASSET
MILLBURY
HARWICH
TISBURY
PORTER RD.
PORTER
HANGING ELM
WOODCREST CREEK
LEANING ELM
CRIPPLE CREEK
WILLOW CREEK
WOODVIEW
Woodcrest Creek
WEYMOUTH
NAPOLI
WINDING CREEK
FOREST OAK
WOODBRIAR
TIOGA
SEQUOYAH TRAILS
WOODSIDE
HALIFAX
CHISHOLM TRAIL
SEQUOYAH TRAIL
SEQUOYAH
WICHITA
WOODCREST
WEATHERFORD
WILDWOOD
WEWOKA
ROCK CREEK
SUTTON DERNESS

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For Discussion

Graphic Scale
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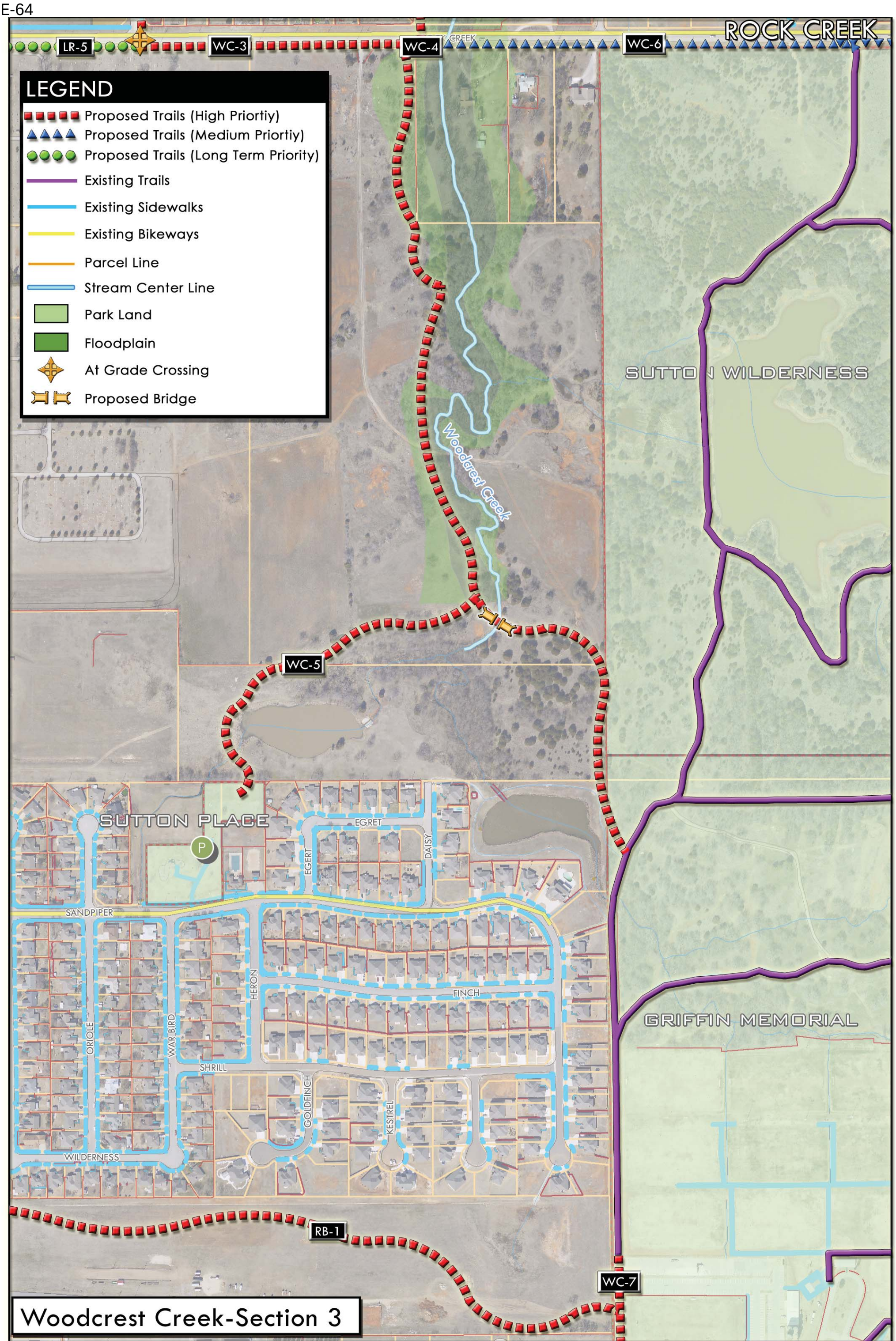
TRAIL OPPORTUNITIES


ROCK CREEK
LR-5
WC-3
WC-4
WC-6
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
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Proposed Bridge
SUTTON WILDERNESS
Woodcrest Creek
WC-5
SUTTON PLACE
EGRET
DAISY
SANDPIPER
HERON
FINCH
ORIOLE
WAR BIRD
SHRILL
GOLDFINCH
KESTREL
WILDERNESS
GRIFFIN MEMORIAL
RB-1
WC-7
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RB-1
RB-2
WC-7
WC-8
BC-1
BC-2
BC-4
GRIFFIN MEMORIAL
NORMAN
ROBINSON RD.
ROBINSON
FRANCES GATE
GRIFFIN
OLIVER
COCKREL
TIFFIN
JOHNSON
RICH
FRANK
HUGHBERT
CARTER
GIBBS
ASHLEY
POST
GILLISPIE
HOPE HALL
HIGHTOWER
STATE
MAIN ST.
ACRES
GRAY
MAIN
COOK
REED
Bishop Creek
Tributary B to Bishop Creek
FINDLAY
COMANCHE
EUFAULA
MCGEORGE
Woodcrest Creek-Section 4
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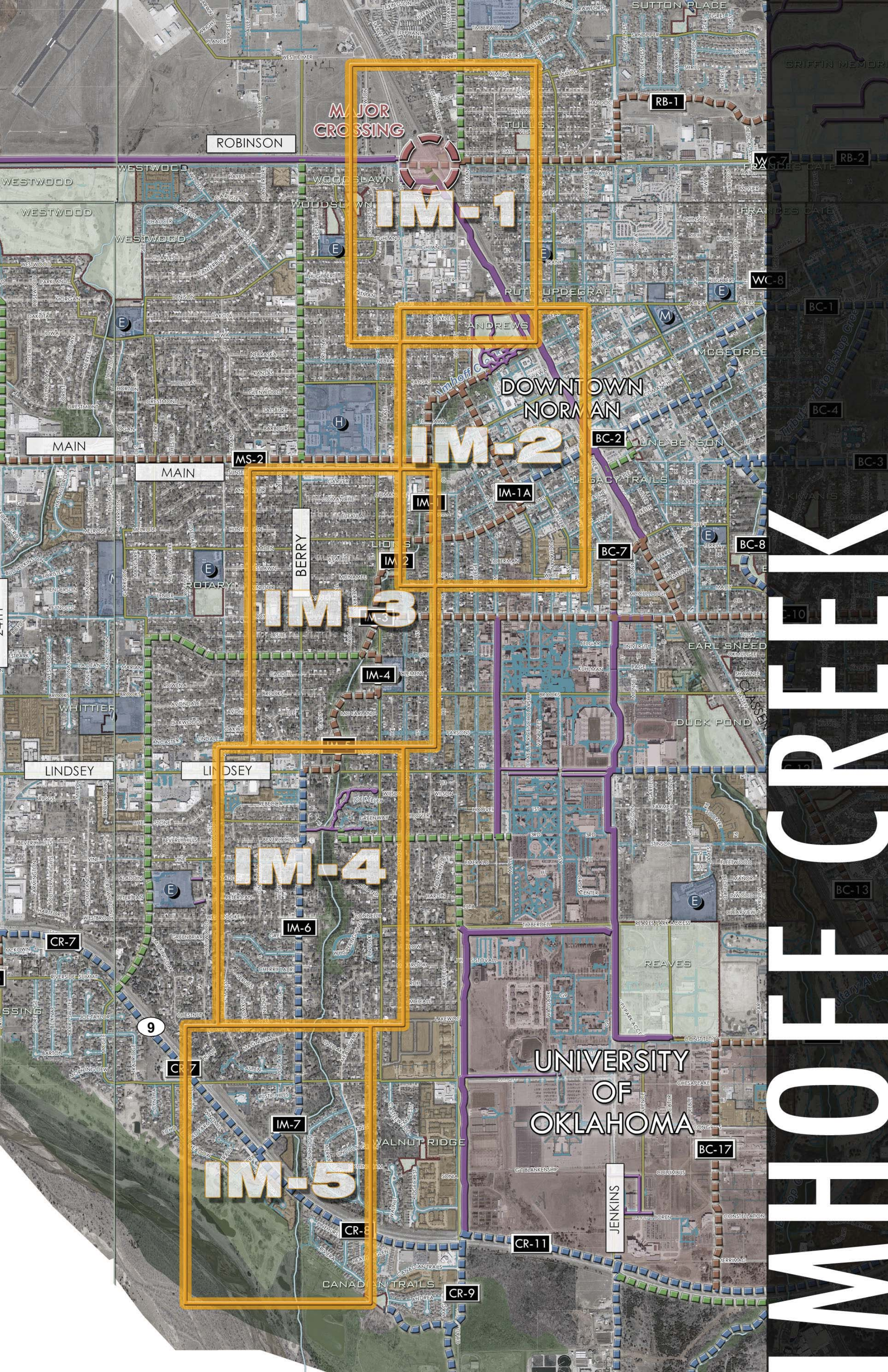

MIDTOWN CREEK
MAJOR CROSSING
IM-1
DOWNTOWN NORMAN
IM-2
IM-3
IM-4
IM-5
UNIVERSITY OF OKLAHOMA
ROBINSON
WESTWOOD
MAIN
BERRY
LINDSEY
JENKINS
RB-1
RB-2
WC-7
WC-8
BC-1
BC-2
BC-3
BC-4
BC-7
BC-8
BC-10
BC-13
BC-17
IM-1A
IM-2
IM-3
IM-4
IM-5
IM-6
IM-7
MS-2
CR-7
CR-8
CR-9
CR-11
WOODSLAWN
RUTH UPDEGRAFF
ANDREWS
MCGEORGE
JUNE BENSON
LEGACY TRAILS
KIWANIS
ROTARY
EARL SNEED
DUCK POND
WHITTIER
WALNUT RIDGE
CANADIAN TRAILS
REAVES
FRANCES GATE
GRIFFIN MEMORIAL

IMHOFF CREEK

Location: Located in South Central sector of the City
From: Robinson St.
To: Canadian River

Surrounding Corridors: Merkle Creek, Bishop Creek, and Woodcrest Creek

Size: 3 Sq. Miles – 2,167 Acres (Approximately: W 24th Ave. to OU Campus., and Robinson Rd. to Canadian River)

Major Transportation/Roads:
E/W: State Highway 9 - Main St. – Robinson Rd. – Lindsey St. – Imhoff Rd.
N/S: . W 12th Ave.

Major Area Corridor(s):
Imhoff Creek runs predominantly North and South. The creek does have some potential for Greenway Trails along the corridor, but some areas of the Corridor will need to be utilized with Parkway Trails.
The Canadian River has a flat and densely vegetated terrain. This Corridor has the potential to be a key connector with other Greenway Opportunities.

Minor Area Sub-corridor(s):
24th Ave. and 12th Ave. are the major arterial streets connectors.
Berry Rd. and Brooks are key collector street connectors.
Local Streets have great opportunities for parkway connections with OU Campus, Schools, Parks and Major Retail land uses.
Legacy Rail Trail is an existing Trail Corridor located at the northern edge of the corridor.

Land Use Context:
A majority of this corridor is densely developed; the predominant land use is Residential with single family lots. Downtown is located within this existing corridor zone. The OU Campus is located directly to the East, and also includes High Density Residential, Parkland, Institutional and Industrial Land Uses.

Key Destinations:
The OU Campus is a key destination for users in this Corridor. Six Schools (Adams Elementary, McKinley Elementary, Jackson Elementary, Whittier Middle School, and Norman High School.) are located within Corridor area, and other local schools are located within the surrounding Corridors. Seven Parks are located within study area. Major Retail and Commercial uses located along IH-35. Areas with High Density Residential are excellent attractors in this corridor.

Key Opportunities:
Opportunities along Street Corridors: The existing Rail Trail path of the Legacy Trail is a great opportunity for this corridor to connect into. This Trail is a key connector into the OU Campus. The possibility of using Berry Rd. as a parallel route to Imhoff creek is an opportunity to create a North to South spine route in this corridor. The opportunity to make an aesthetically pleasing trail is possible. Local Streets such as Brooks can be used when needed to connect with OU Campus, Schools, existing parks, open spaces, and major retail land uses.

Opportunities along Creek Corridors: A majority of the Imhoff Creek Corridor is urbanized and developed with many possible constraints. Portions of the creek, from Lindsey heading north to Symmes, have feasible areas for a trail to help link Single Family Residential, High Density Residential, and parks located within this corridor. Where the trail has constraints the use of Parkway Street Corridors will be necessary. At the far southern end of this corridor is the possibility of connecting into the proposed Canadian River trail corridor.

Sensitive Areas: A majority of this trail corridor is residential housing with the property line extending to the creek, which creates future land acquisition problems. The WPA channels located along the northern portions of Imhoff Creek carry great historic value to the City of Norman, and should be preserved.

Potential Drainage Improvements: Channel bank stabilization will be needed along the southern portions of the creek. Storm sewer improvements at Lindsey and McGee will be incorporated; along with road crossing improvements and channel coneyance.

Suitability Analysis: Imhoff Creek

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Imhoff Creek (Segments 1-5) **Corridor Score**: 4**

Corridor Description: From Lindsey to Symmes; east on Symmes to University; north on Webster To Andrews Park. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**25**
Schools	0		6	6
Trail-to-Trail	6		6	6
Connection to 3 O	1		U	U
Connection to 5 alldr Citj y estinations	2		D	2
Connection to Park(s) 4 3 ther Citj Amenities	2		U	D
5 alldr &etail Center	1		2	1
SiRnificant gmploj er(s)	1		2	1
Ownership Availability		**15%**	**15**	**10**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	1%
3 ther Public or Semi-public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of Norman is feasible			1%	
Compatibility with Adjacent Land Uses		**15%**	**15**	**8**
Awequate corriwor Eiwth for trail (min. 1U Eiwth for trail unless special conwitions applj)			1%	U
Awequate bufferinR from awldcent resiwential properties			U	0
Existing Physical Characteristics		**20%**	**20**	**17**
a) Trail corriwor is in 1%%oj ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1%	1%
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			1%	
gxistinR VeRetation/Trees (percentaRe basis up to max. pts. proviwew)			U	D
gxistinR Wetlanws or other unique natural or urban features			U	0
5 alldr Barrier to use of this corriwor (wewuct up to U points)			-U	%
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	%
Level of Public Support		**20%**	**20**	**15**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	-U
Citizen Support for this corriwor (from citizen committees, electew officials anw wocumentew citizen meetinRs)			2%	2%
Total		**100%**	**100**	**75**

* Number of elements Eithin 6%%ft. rawius

** Score ranRes as folloEs - over 8%= U, over 6%= D, over D%= 0, over 2%=2, 2%or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

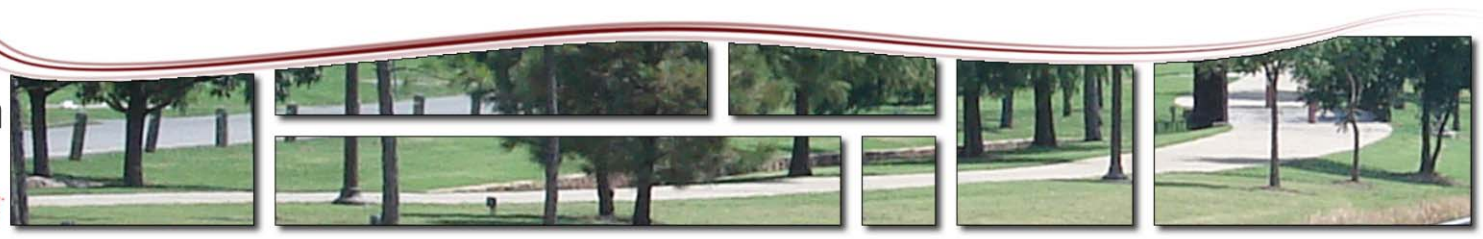
Corridor Name: Imhoff Creek (Segments 6 - 8) **Corridor Score**: 4**

Corridor Description: From State Highway 9 to Lindsey, Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**17**
Schools	2		0	6
Trail-to-Trail	3		0	3
Connection to OU	1		5	3
Connection to Major City Destinations	1		6	1
Connection to Park(s) 4 Other City Amenities	3		5	5
Major &etail Center	1		2	1
SiRnificant gmployer(s)	E		2	E
Ownership Availability		**15%**	**15**	**15**
City Owned (1 point for every 7% public ownership of total acreaRe alonR the corridor, up to 15 pts. max.) **(or)**			15	15
Other Public or Semi-public gntity Owned, **(or)** alonR floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the City of Norman is feasible			1E	E
Compatibility with Adjacent Land Uses		**15%**	**15**	**12**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			1E	V
Adequate bufferinR from adjacent residential properties			5	6
Existing Physical Characteristics		**20%**	**20**	**15**
a) Trail corridor is in 1EE year floodplain or can provide stormwater system benefits (percentaRe basis up to max. pts. provided) **(or)**			1E	E
b) AlonR urban corridor where siRnificant aesthetic enhancements can benefit city			1E	1E
gxistinR/ eRetationVTrees (percentaRe basis up to max. pts. provided)			5	5
gxistinR B etlands or other unique natural or urban features			5	E
Major z arrier to use of this corridor (deduct up to 5 points)			-5	E
Only location for trail is within floodway portion of the corridor (deducts points if selected)			-5	E
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-5 pts)			(-5)	E
Citi* en Support for this corridor (from citi* en committees, elected officials and documented citi* en meetinRs)			2E	2E
Total		**100%**	**100**	**79**

8 Number of elements within 0EE ft. radius

88 Score ranRes as follows - over VE = 5, over 0E = 6, over 6E = 3, over 2E =2, 2E or less = 1

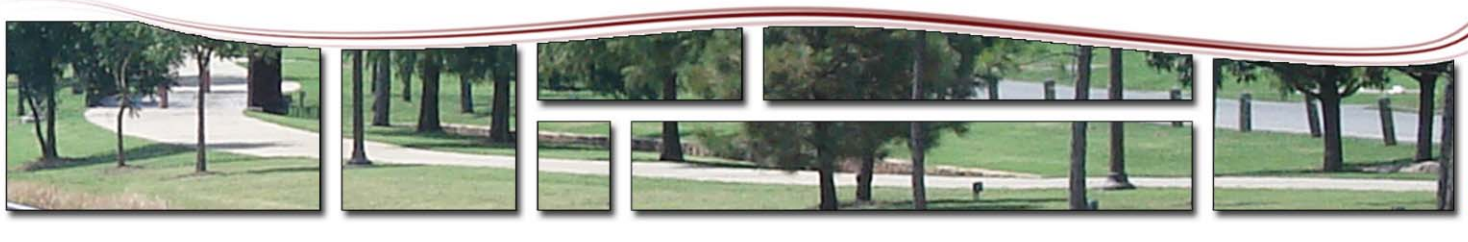


Prioritization Analysis: Imhoff Creek

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Imhoff Creek Corridor

Number	Corridor		Prioritization Criteria							Total Score	Priority Category
		Length (L.F)	Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Maximum Score = 30	21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
IM - 1-5	Imhoff Creek - North Segments 1-5	14000	4	5	4	2	2	3	2	22	Medi
IM - 6-8	Imhoff Creek - South Segments 6-7	12000	4	3	3	1	2	1	3	17	u nHigh
		26000	4	4	3.5	1.5	2	2	2.5	19.5	u nHigh

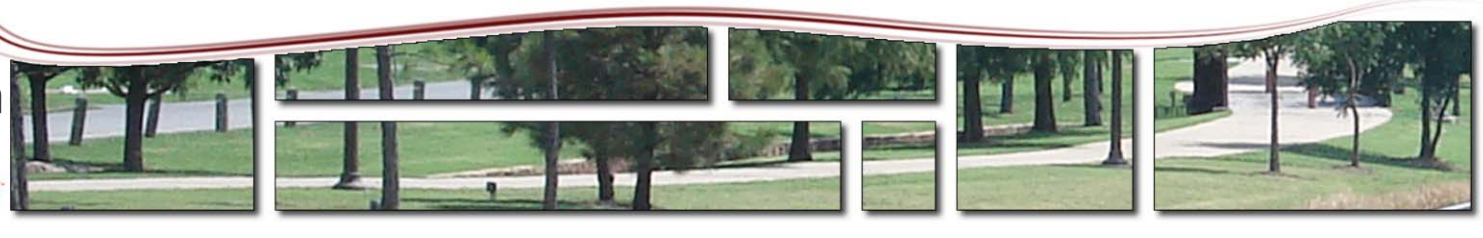


Urban Greenway System: Imhoff Creek

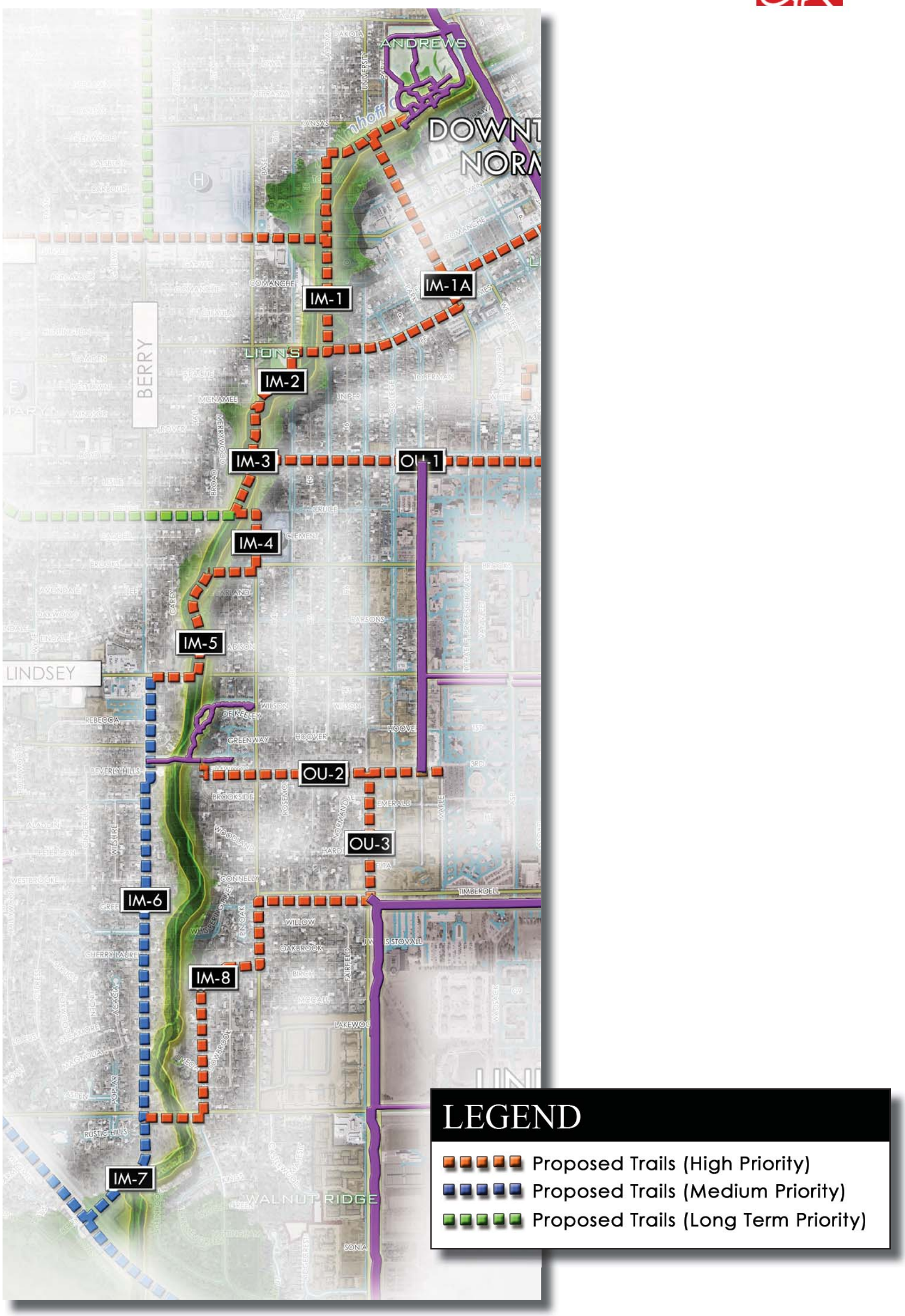
This greenway is located in the central core of the city and has importance due to the connection with Andrews Park, Downtown, and Oklahoma University. The recommended greenway system will connect these areas by utilizing creek and street corridors. With improvements to Imhoff creek brings opportunities to create greenway for this portion of Norman. The connection to Oklahoma University is a key recommendation due to the number of users this greenway could produce. The estimated cost for these greenway improvements is shown below (see chart).

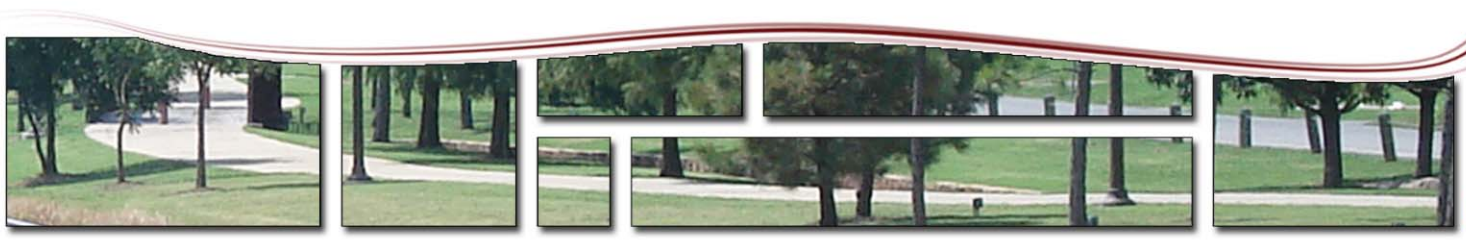
Norman Greenway Implementation Action Plan
Imhoff Creek (Urban Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Imhoff	**IM-1**	Andrews Park	Lion's Park	Greenway along surrounding road corridors, connects to Imhoff creek, Andrews Park and downtown Norman	4,100	$820,000	2010-2020
Imhoff	**IM-1A**	Andrews Park	Lion's Park	Greenway along surrounding road corridors, connects to Imhoff creek, Andrews Park and downtown Norman	4,000	$680,000	2010-2020
Imhoff	**IM-2**	Lion's Park	McNamee	Greenway along Imhoff creek through Lion's Park	800	$200,000	2015-2025
Imhoff	**IM-3**	McNamee	Cruce	Greenway along Imhoff creek	1,400	$400,000	2015-2025
Imhoff	**IM-4**	Cruce	Brooks Ave.	Greenway along Pickard St.	1,550	$350,000	2015-2025
Imhoff	**IM-5**	Brooks Ave.	Lindsey St.	Greenway along Imhoff creek	1,900	$390,000	2020-2030
Imhoff	**IM-6**	Lindsey St.	Imhoff Rd.		5,400	$1,100,000	2010-2020
Imhoff	**IM-8**	Berry Rd.	Chautauqua	Greenway along Imhoff creek	5,200	$1,000,000	2015-2025
Imhoff	**OU-1**	Imhoff Creek	Classen	Greenway along Boyd, connects greenway to OU campus	4,700	$1,100,000	2020-2030
Imhoff	**OU-2**	Imhoff Creek	Maple (OU Campus)	Greenway along Boyd, connects greenway to OU campus	3,100	$720,000	2020-2030
Imhoff	**RB-1**	Flood	Griffin Memorial Park	Greenway along Robinson, key connection to existing Legacy trail, Griffin Memorial Park, and Andrews Park	7,700	$1,400,000	2015-2025
Imhoff	**RB-2**	Griffin Memorial Park	Water Treatment Area	Greenway along Robinson, key connection, Griffin Memorial Park and connects to the proposed water-line greenway	11,000	$1,900,000	2015-2026
				Estimated Total	**50,850 10 Miles**	**$10,060,000**	



Imhoff Creek Key Recommendations





STUBBEMAN
TERRY
SUNBURST
AMERICANA
MIMOSA
RIDGE
HADDOCK
VIDA
DALE
LR-6
TULL'S
FAY
PETERS
US HWY 77
BNSF
EISENHOWER
Proposed Future
Bridge Crossing
RB-1
ROBINSON RD.
HAYES
A2
MOSIER
J8
HIMES
J9
JOHNSON
K1
K2
K3
K4
RICH
JULIA
FRANK
HUGHBERT
JONES
LEGACY RAIL-TRAIL
JAMES GARNER
UNIVERSITY
H8
ANDREWS
PARK
BEAL
LEGACY TRAILS
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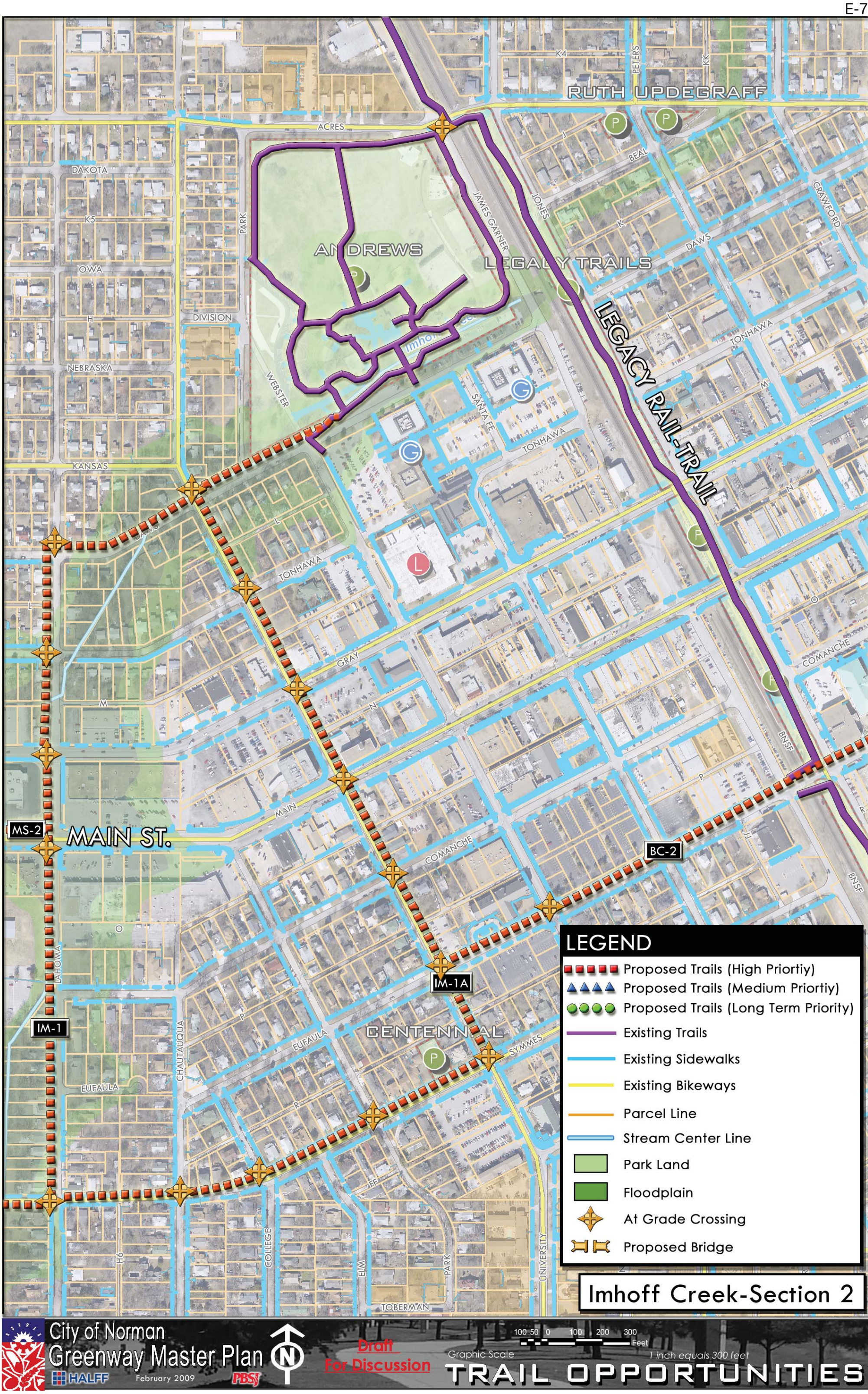
RUTH UPDEGRAFF
ACRES
DAKOTA
K5
IOWA
H
NEBRASKA
KANSAS
PARK
DIVISION
WEBSTER
ANDREWS
JAMES GARNER
JONES
BEAL
DAWS
CRAWFORD
LEGACY TRAILS
LEGACY RAIL-TRAIL
TONHAWA
SANTA FE
GRAY
MAIN
COMANCHE
BNSF
MS-2
MAIN ST.
BC-2
IM-1A
IM-1
CENTENNIAL
EUFAULA
CHAUTAUQUA
SYMMES
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ELM
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MS-2
MAIN
MAIN ST.
BERRY RD.
SUNSET
GATEWOOD
GARVER
ANN ARBOR
COMANCHE
MELROSE
EUFAULA
HUNTINGTON
SYMMES
CAMDEN
APACHE
WESTLAWN
MCNAMEE
WINDSOR
HALL
GROVER
MERRYWOOD
BOYD
LESLIE
BROAD
CADDELL
BROOKS
CAREY
LEE
MC FARLAND
BERRY
Imhoff Creek
IM-1
IM-1A
IM-2
IM-3
IM-4
IM-5
OU-1
MC-3
LION'S
FLOOD
JUNIPER
LAHOMA
H5
H6
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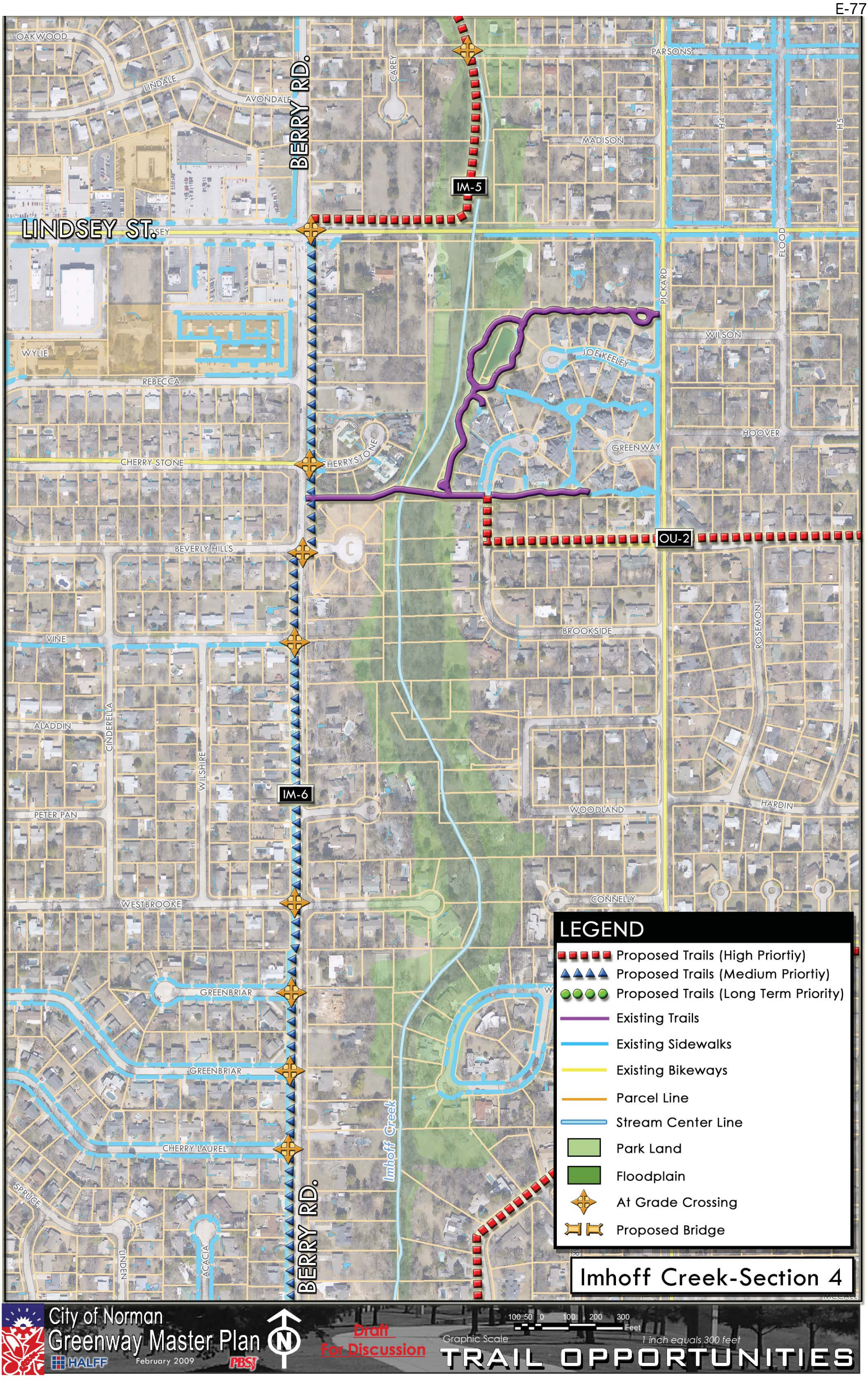
OAKWOOD
LINDALE
AVONDALE
BERRY RD.
CAREY
PARSONS
MADISON
H4
H5
IM-5
LINDSEY ST.
FLOOD
PICKARD
WILSON
WYLIE
REBECCA
JOE KEELEY
HOOVER
GREENWAY
CHERRY STONE
CHERRYSTONE
OU-2
BEVERLY HILLS
BROOKSIDE
ROSEMONT
VINE
ALADDIN
CINDERELLA
WILSHIRE
IM-6
PETER PAN
WOODLAND
HARDIN
WESTBROOKE
CONNELLY
GREENBRIAR
GREENBRIAR
CHERRY LAUREL
Imhoff Creek
SPRUCE
LINDEN
ACACIA
BERRY RD.
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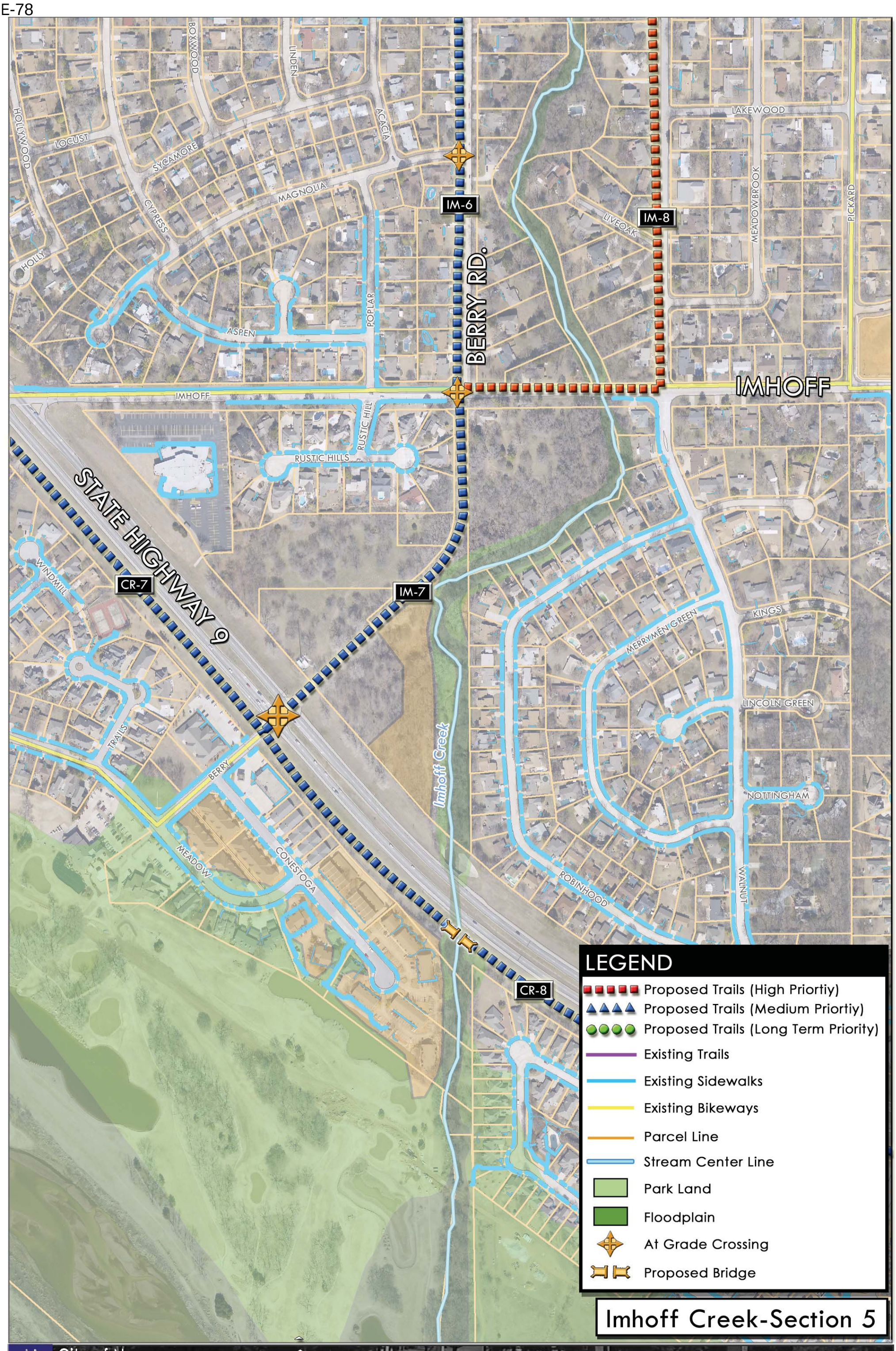
BOXWOOD
LINDEN
HOLLYWOOD
LOCUST
SYCAMORE
ACACIA
MAGNOLIA
CYPRESS
HOLLY
ASPEN
POPLAR
IM-6
BERRY RD.
IM-8
LIVEOAK
LAKEWOOD
MEADOWBROOK
PICKARD
IMHOFF
RUSTIC HILL
RUSTIC HILLS
STATE HIGHWAY 9
WINDMILL
CR-7
IM-7
KINGS
MERRYMEN GREEN
LINCOLN GREEN
TRAILS
BERRY
Imhoff Creek
NOTTINGHAM
MEADOW
CONESTOGA
ROBINHOOD
WALNUT
CR-8
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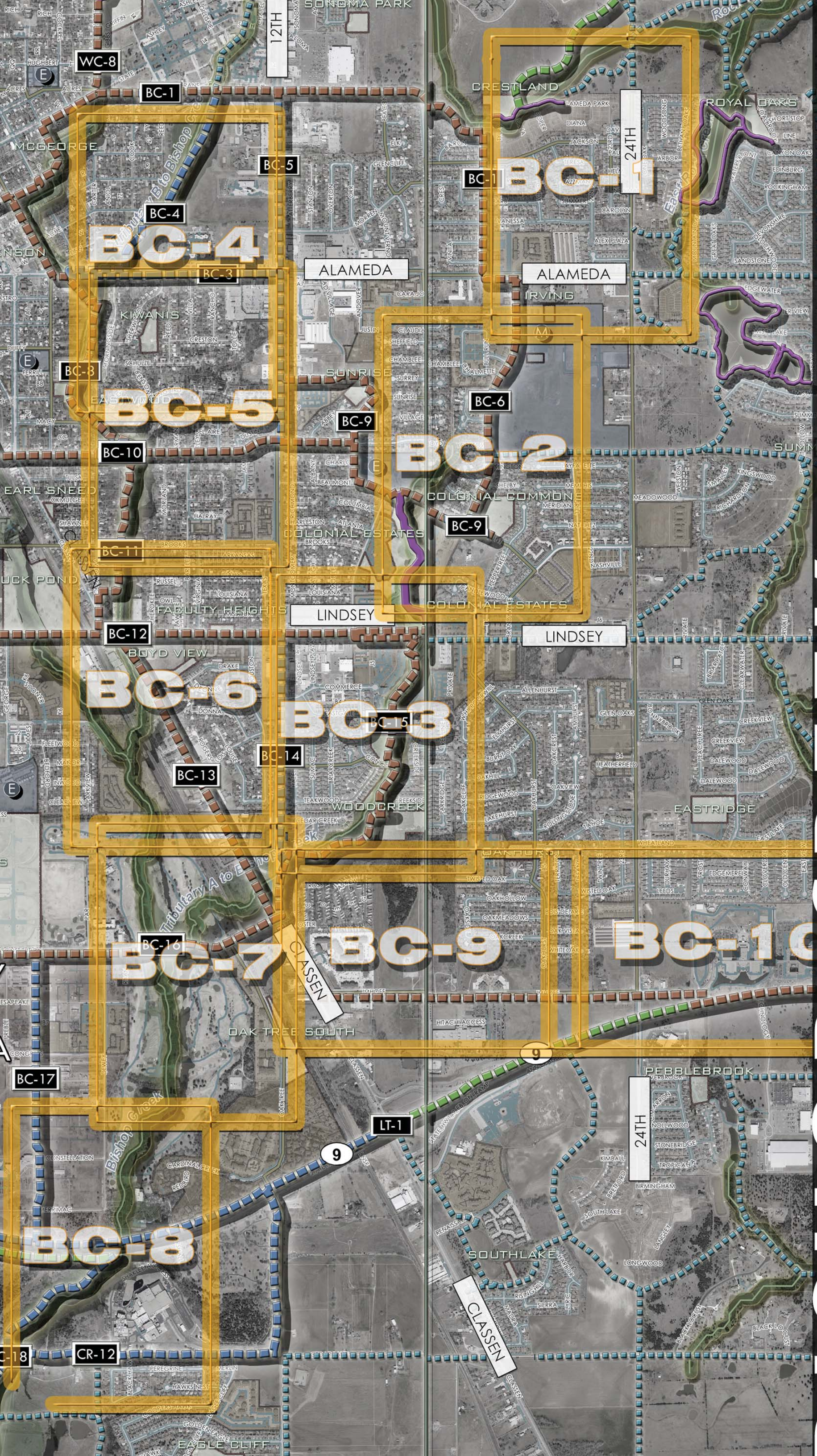
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Imhoff Creek-Section 5
City of Norman
Greenway Master Plan
HALFF
February 2009
PBSJ
N
Draft
For Discussion
100 50 0 100 200 300
Feet
Graphic Scale
1 inch equals 300 feet
TRAIL OPPORTUNITIES

BISHOP CREEK



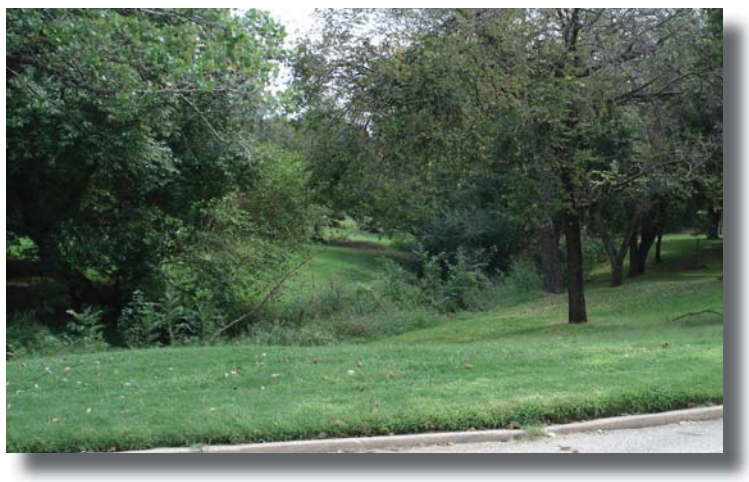
BISHOP CREEK

Location: Located in SC sector of the City
From: Robinson
To: Canadian River

Surrounding Corridors:
Rock Creek, Imhoff Creek, Canadian River, and Little River

Size: 10 Sq. Miles – 6,326 Acres (Approximately: Porter Ave. to E 24th St. and Robinson to Canadian River)

Major Transportation/Roads:
E/W: Main St. – Robinson – Alameda St. - Lindsey St. – Imhoff Rd. - State Highway 9
N/S: Porter Ave. – E 12th St. – E 24th St.



Major Area Corridor(s):
Bishop Creek runs predominantly North and South. The creek does have some potential for Greenway Trails along the corridor, but some areas of the Corridor will need to be utilized with Parkway Trails.
OU Campus is a major area Connector.
The Canadian River has a flat and densely vegetated terrain. This Corridor has the potential to be a key connector with other Greenway Opportunities.

Minor Area Sub-corridor(s):
Robinson St. has an existing Trail which runs from W 24th St. to W 12th St.
24th St. and 12th St. is the major arterial streets connectors.
Local Streets have great opportunities for parkway connections with Schools, Parks and Major Retail land uses.

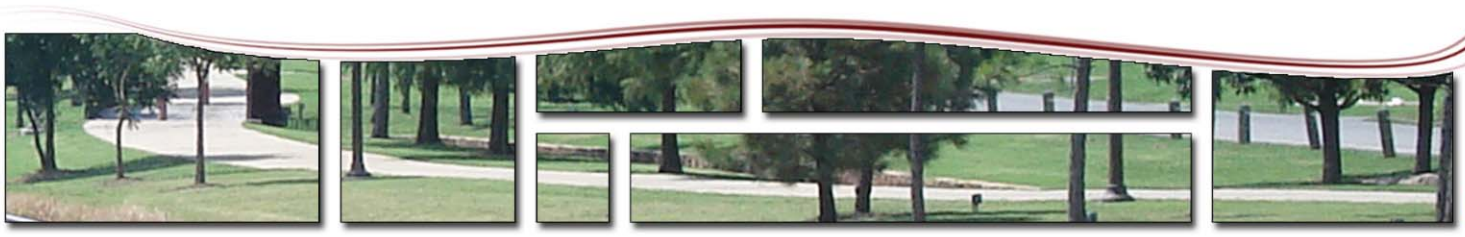
Land Use Context:
Much of this corridor is developed; the predominant land use is Residential with single family lots. The OU Campus is a Major Land Use. High Density Residential is a key use due to student living for OU. The corridor area also includes Parkland, Institutional and Industrial uses.

Key Destinations:
OU Campus is located within the Corridor Area. Six Schools (Jefferson Elementary, Kennedy Elementary, Madison Elementary, Lincoln Elementary, Irving Middle School, and Longfellow Middle School) are located within Corridor area, and other local schools are located within the surrounding Corridors. Downtown is located within this corridor area. 18 Parks are located within study area. High Density Residential along with Major Retail zones will be key attractors in this Corridor.

Key Opportunities:
Opportunities along Street Corridors: The existing and proposed Trail/Paths located within the OU Campus area are opportunities to tie into the OU Campus from the surrounding uses. The possibility of Parkway Street Trails located along the Arterial streets such as Lindsey St. can help connect with key destinations in the area. Local Streets can be used when needed to connect with OU Campus, Schools, existing parks, open spaces, and major retail land uses.
Opportunities along Creek Corridors: A majority of the Bishop Creek Corridor is urbanized and developed with many possible constraints. Portions of the creek have feasible areas for a trail to help link Single Family Residential, High Density Residential, and parks located within this corridor.

Sensitive Areas:
Residential houses properties extend out to the Creek edge. Bishop Creek runs through the OU Golf Course which creates a connection barrier; a rail trail could be used to move around this area.

Potential Drainage Improvements: Channel and bank stabilization along many portions of the creek



Suitability Analysis: Bishop Creek

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bishop Creek (Segments 1-3) **Corridor Score**: 4**
Corridor Description: From University to E. 12th Ave., Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**22**
Schools	2		0	6
Trail-to-Trail	1		0	6
Connection to 3 O	1		U	6
Connection to 5 alkdr Citj y estinations	1		6	2
Connection to Park(s) D 3 ther Citj Amenities	6		U	U
5 alkdr 4 etail Center	1		2	1
Si&nificant Rmploj er(s)	1		2	2
Ownership Availability		**15%**	**15**	**13**
Citj 3 g neE (1 point for everj wd public og nership of total acrea&e alon& the corriEor, up to 1U pts. max.) **(or)**			1U	17
3 ther Public or Semi-public Rntitj 3 g neE, **(or)** alon& flooEplain corriEor that cannot reasonable be EevelopeE anE g here access trail easement or permanent EeEication to the Citj of %orman is feasible			1N	N
Compatibility with Adjacent Land Uses		**15%**	**15**	**9**
AEequate corriEor g iEth for trail (min. 1U g iEth for trail unless special conEitions appli)			1N	0
AEequate bufferin& from aEkdacent resiEential properties			U	7
Existing Physical Characteristics		**20%**	**20**	**15**
a) Trail corriEor is in 1NN j ear flooEplain or can proviEe stormg ater sj stem benefits (percenta&e basis up to max. pts. proviEeE) **(or)**			1N	6
b) Alon& urban corriEor g here si&nificant aesthetic enhancements can benefit citj			1N	0
Rxistin& Ve&etation/Trees (percenta&e basis up to max. pts. proviEeE)			U	7
Rxistin& WetlanEs or other unique natural or urban features			U	2
5 alkdr Barrier to use of this corriEor (EeEuct up to U points)			-U	N
3 nlj location for trail is g ithin flooEg aj portion of the corriEor (EeEucts points if selecteE)			-U	N
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current CorriEor 3 g nership (-U pts)			(-U)	N
Citizen Support for this corriEor (from citizen committees, electeE officials anE EocumenteE citizen meetin&s)			2N	2N
Total		**100%**	**100**	**79**

* %umber of elements g ithin 0NN ft. raEius
** Score ran&es as follog s - over 8N = U, over 0N = 6, over 6N = 7, over 2N =2, 2N or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bishop Creek (Segments 4-6) **Corridor Score**: 4**
Corridor Description: From, Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**10**
Schools	1		0	2
Trail6to6Trail	-		0	-
Connection to 3 O	-		U	-
Connection to 5 alkdr Citj y estinations	-		D	-
Connection to Park(s) 4 3 ther Citj Amenities	&		U	U
5 alkdr Retail Center	1		2	1
Significant Emploj er(s)	1		2	2
Ownership Availability		**15%**	**15**	**15**
Citj 3 wned (1 point for everj 7% public ownership of total acreage along the corridor, up to 1U pts. max.) **(or)**			1U	1U
3 ther Public or Semi6public Entitj 3 wned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the Citj of Norman is feasible			1-	-
Compatibility with Adjacent Land Uses		**15%**	**15**	**10**
Adequate corridor width for trail (min. 1U width for trail unless special conditions applj)			1-	7
Adequate buffering from adkdacent residential properties			U	&
Existing Physical Characteristics		**20%**	**20**	**17**
a) Trail corridor is in 1- - j ear floodplain or can provide stormwater sj stem benefits (percentage basis up to max. pts. provided) **(or)**			1-	-
b) Along urban corridor where significant aesthetic enhancements can benefit citj			1-	1-
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			U	2
Existing Wetlands or other unique natural or urban features			U	U
5 alkdr Barrier to use of this corridor (deduct up to U points)			6U	-
3 nlj location for trail is within floodwaj portion of the corridor (deducts points if selected)			6U	-
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor 3 wnership (6U pts)			(6U)	-
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			2-	2-
Total		**100%**	**100**	**72**

* Number of elements within 0- - ft. radius
** Score ranges as follows 6over 8- = U, over 0- = D, over D- = &, over 2- =2, 2- or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bishop Creek (Segment 7) **Corridor Score**: 5**
Corridor Description: From Legacy Trail Extension to OU Campus Segments 7, Location of path to be determinded after futher study

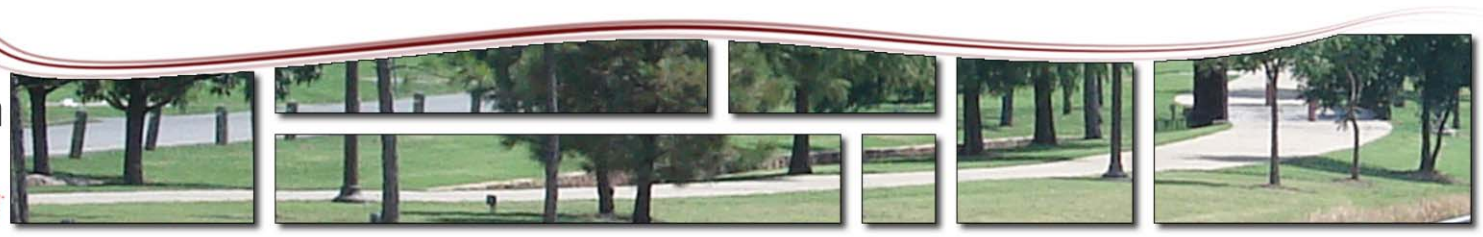
Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**18**
Schools	1		0	2
Trail6to6Trail	2		0	0
Connection to - 3	1		C	C
Connection to Ua5or CitMj estinations	1		y	2
Connection to Park(s) D - ther CitMAmenities	4		C	4
Ua5or &etail Center	1		2	1
SiRnificant gmploMer(s)	1		2	2
Ownership Availability		**15%**	**15**	**10**
CitM- Enew (1 point for everMd7 public oEnership of total acreaRe alonR the corriwor, up to 1O pts. max.) **(or)**			1O	14
- ther Public or Semi6public gntitM- Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the CitMof %orman is feasible			14	O
Compatibility with Adjacent Land Uses		**15%**	**15**	**13**
AweNuate corriwor Eiwth for trail (min. 1O qEiwth for trail unless special conwitions applM)			14	'
AweNuate bufferinR from aw5acent resiwential properties			O	O
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 144 Mear flowplain or can proviwe stormEater sMstem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			14	4
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citM			14	14
gxistinR VeRetation/Trees (percentaRe basis up to max. pts. proviwew)			O	O
gxistinR Wetlanws or other uniNue natural or urban features			O	O
Ua5or Barrier to use of this corriwor (wewuct up to O points)			6O	4
- nlMlocation for trail is Eithin flowEaMportion of the corriwor (wewucts points if selectew)			6O	4
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor - Enership (6O pts)			(6O)	4
Citizen Support for this corriwor (from citizen committees, electew officials anw wocumentew citizen meetinRs)			24	24
Total		**100%**	**100**	**81**

* %umber of elements Eithin 044 ft. rawius
** Score ranRes as folloEs 6over ' 4 8 Q over 04 8 y, over y4 8 =, over 24 82, 24 or less 8 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bishop Creek (Segments 8,9, & 11) **Corridor Score**: 4**
Corridor Description: From Alameda to Lindsey, Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**10**
Schools	1		0	2
Trail6to6Trail	-		0	-
Connection to 3 O	1		U	5
Connection to Major City Destinations	-		4	-
Connection to Park(s) & 3 ther City Amenities	5		U	U
Major Retail Center	-		2	-
Significant Employer(s)	-		2	-
Ownership Availability		**15%**	**15**	**5**
City 3 wned (1 point for every 7% public ownership of total acreage along the corridor, up to 1U pts. max.) **(or)**			1U	U
3 ther Public or Semi6public Entity 3 wned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the City of Norman is feasible			1-	-
Compatibility with Adjacent Land Uses		**15%**	**15**	**11**
Adequate corridor width for trail (min. 1U width for trail unless special conditions apply)			1-	V
Adequate buffering from adjacent residential properties			U	5
Existing Physical Characteristics		**20%**	**20**	**18**
a) Trail corridor is in 1- - year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			1-	1-
b) Along urban corridor where significant aesthetic enhancements can benefit city			1-	-
Existing / egetationWrees (percentage basis up to max. pts. provided)			U	U
Existing B etlands or other unique natural or urban features			U	5
Major z arrier to use of this corridor (deduct up to U points)			6U	-
3 nly location for trail is within floodway portion of the corridor (deducts points if selected)			6U	-
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor 3 wnership (6U pts)			(6U)	-
Citi*en Support for this corridor (from citi*en committees, elected officials and documented citi*en meetings)			2-	2-
Total		**100%**	**100**	**64**

8 Number of elements within 0- - ft. radius
88 Score ranges as follows 6over V- = U, over 0- = 4, over 4- = 5, over 2- =2, 2- or less = 1



Suitability Analysis: Bishop Creek

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bishop Creek (Segment 10) **Corridor Score**: 5**
Corridor Description: From 12th Ave. to Jenkins along Boyd., Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**20**
Schools	1		0	2
Trail6o6Trail	1		0	-
Connection to 3 O	1		U	U
Connection to 5 alVdr Citj y estinations	1		D	2
Connection to Park(s) 4 3 ther Citj Amenities	-		U	U
5 alVdr &etail Center	1		2	1
SiRnificant gmploj er(s)	1		2	2
Ownership Availability		**15%**	**15**	**10**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	1%
3 ther Public or Semi6public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of Norman is feasible			1%	%
Compatibility with Adjacent Land Uses		**15%**	**15**	**13**
Awequate corriwor Eiwth for trail (min. 1U Eiwth for trail unless special conwitions applj)			1%	V
Awequate bufferinR from awVdcent resiwential properties			U	U
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 1%%j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1%	1%
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			1%	%
gxistinR/ eRetationVTrees (percentaRe basis up to max. pts. proviwew)			U	U
gxistinR B etlanws or other unique natural or urban features			U	U
5 alVdr z arrier to use of this corriwor (wewuct up to U points)			6U	%
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			6U	%
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (6U pts)			(6U)	%
Citi*en Support for this corriwor (from citi*en committees, electew officials anw wocumentew citi*en meetinRs)			2%	2%
Total		**100%**	**100**	**83**

8 Number of elements Eithin 0%%ft. rawius
88 Score ranRes as folloEs 6over V%= U, over 0%= D, over D%= - , over 2%=2, 2%or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bishop Creek (Segment 12) **Corridor Score**: 4**
Corridor Description: From Jenkins to Colonial Estates Park, Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**21**
Schools	2		0	6
Trail-to-Trail	2		0	6
Connection to 3 O	1		U	U
Connection to 5 alVdr Citj y estinations	D		6	D
Connection to Park(s) 4 3 ther Citj Amenities	6		U	U
5 alVdr &etail Center	1		2	1
SiRnificant gmploj er(s)	1		2	2
Ownership Availability		**15%**	**15**	**15**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	1U
3 ther Public or Semi-public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			1D	D
Compatibility with Adjacent Land Uses		**15%**	**15**	**9**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions applj)			1D	0
AweNuate bufferinR from awVdcent resiwential properties			U	'
Existing Physical Characteristics		**20%**	**20**	**14**
a) Trail corriwor is in 1DDj ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1D	D
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			1D	1D
gxistinR VeRetation/Trees (percentaRe basis up to max. pts. proviwew)			U	2
gxistinR Wetlanws or other uniNue natural or urban features			U	2
5 alVdr Barrier to use of this corriwor (wewuct up to U points)			-U	D
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	D
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	D
Citizen Support for this corriwor (from citizen committees, electew officials anw wocumentew citizen meetinRs)			2D	2D
Total		**100%**	**100**	**79**

* %umber of elements Eithin 0DD ft. rawius
** Score ranRes as folloEs - over 8D= U, over 0D= 6, over 6D= ' , over 2D=2, 2D or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bishop Creek (Segments 13-15) **Corridor Score**: 5**
Corridor Description: From Classen to Lindsey, Location of path to be determinded after futher study

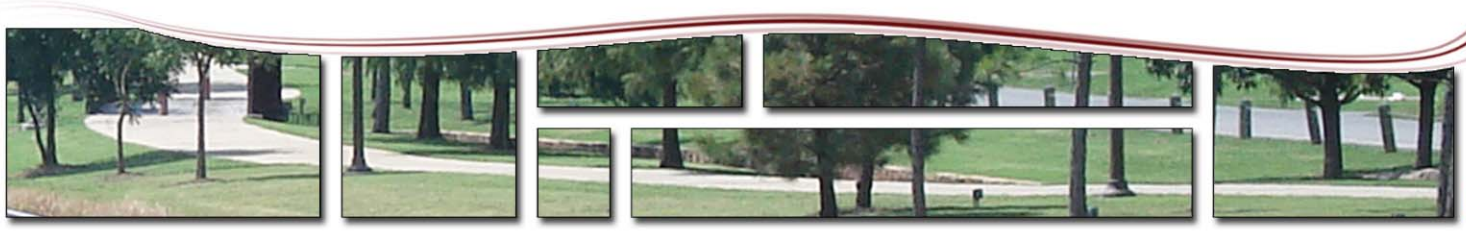
Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**13**
Schools	1		0	2
Trail6o6Trail	2		0	-
Connection to 3 O	1		U	2
Connection to 5 alVdr Citj y estinations	D		-	D
Connection to Park(s) 4 3 ther Citj Amenities	2		U	-
5 alVdr &etail Center	1		2	1
SiRnificant gmploj er(s)	D		2	D
Ownership Availability		**15%**	**15**	**15**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	1U
3 ther Public or Semi6public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			1D	D
Compatibility with Adjacent Land Uses		**15%**	**15**	**13**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions applj)			1D	'
AweNuate bufferinR from awVdcent resiwential properties			U	U
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 1DDj ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1D	U
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			1D	U
gxistinR VeRetation/Trees (percentaRe basis up to max. pts. proviwew)			U	U
gxistinR Wetlanws or other uniNue natural or urban features			U	U
5 alVdr Barrier to use of this corriwor (wewuct up to U points)			6U	D
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			6U	D
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (6U pts)			(6U)	D
Citizen Support for this corriwor (from citizen committees, electew officials anw wocumentew citizen meetinRs)			2D	2D
Total		**100%**	**100**	**81**

* %umber of elements Eithin 0DD ft. rawius
** Score ranRes as folloEs 6over ' D 8 U, over 0D 8 - , over - D 8 =, over 2D 82, 2D or less 8 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bikhov Creen (SeHme81k 4) -4c* **Corridor SPorett: I**
Corridor DekPriv1io8: 7rom S1a1e Fw#. 2 1o Cgakke8 ago8H Co8k1i191io8., LoPa1io8 of va1h 1o be de1ermi8ded af1er f91her k19d#

Selection Criterion		Importance	Total Pts. Available	Points
so1e81iagfor I8Preaki8H Co88eP1iyi1# (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**p of Egeme81kt a8d DekPriv1io8 of Egeme81k**	**30%**	**30**	**42**
Schools	0		6	0
Trail-to-Trail	2		6	6
Connection to 3 O	1		U	U
Connection to 5 alVdr Citj y estinations	0		D	0
Connection to Park(s) 4 3 ther Citj Amenities	2		U	D
5 alVdr &etail Center	2		2	2
SiRnificant gmploj er(s)	2		2	2
Ow8erkhiv Ayaigabig1#		**4I %**	**4I**	**4I**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or***			1U	1U
3 ther Public or Semi-public gntitj 3 Enew, **(or*** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			10	0
Comva1ibig1# wi1h Ad5aPe81La8d Ukek		**4I %**	**4I**	**44**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions applj)			10	6
AweNuate bufferinR from awVdcent resiwential properties			U	U
Ej ik118H sh#kiPagCharaP1erik1iPk		**x0%**	**x0**	**42**
a) Trail corriwor is in 100 j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or***			10	0
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			10	10
gxistinR' eRetationVTrees (percentaRe basis up to max. pts. proviwew)			U	D
gxistinR/ etlanws or other uniNue natural or urban features			U	U
5 alVdr Warrier to use of this corriwor (wewuct up to U points)			-U	0
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	0
Leyegof s9bgP S9vvor1		**x0%**	**x0**	**x0**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	0
CitiBen Support for this corriwor (from citiBen committees, electew officials anw wocumentew citiBen meetinRs)			20	20
To1ag		**400%**	**400**	**u6**

z %umber of elements Eithin 600 ft. rawius
zz Score ranRes as folloEs - over * 0 8 U, over 60 8 D, over D0 8 =, over 20 82, 20 or less 8 1



Suitability Analysis: Bishop Creek

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Bikhov Creen (SeHme81k 4) c **Corridor S* oreFP: t**
Corridor Dek* riv1io8: 6rom Ca8adia8 Riger 1o S1a1e 7 2 yF. , Lo* a1io8 of va1h
1o we de1ermi8ded af1er f91her k19dy

Selection Criterion		Importance	Total Pts. Available	Points
I o1e81asfor I8* reaki8H Co88e* 1igi1y (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Eseme81kPa8d Dek* riv1io8 of Eseme81k**	**p30**	**p3**	**%**
Schools	0		6	0
Trail-to-Trail	0		6	0
Connection to 3 O	1		U	5
Connection to Major City Destinations	1		4	2
Connection to Park(s) & 3 ther City Amenities	0		U	0
Major Retail Center	0		2	0
Significant Employer(s)	1		2	2
O2 8erkhiv Agaisewisi1y		**4b0**	**4b**	**3**
City 3 wned (1 point for every 7% public ownership of total acreage along the corridor, up to 1U pts. max.) **(orc**			1U	0
3 ther Public or Semi-public Entity 3 wned, **(orc** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the City of Norman is feasible			10	0
Comva1iwisi1y 2 i1h Ad5a* e81La8d Ukek		**4b0**	**4b**	**4b**
Adequate corridor width for trail (min. 1U width for trail unless special conditions apply)			10	10
Adequate buffering from adjacent residential properties			U	U
Ej ik18H I hyki* asChara* 1erik1i* k		**x30**	**x3**	**x3**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(orc**			10	10
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	0
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			U	U
Existing Wetlands or other unique natural or urban features			U	U
Major Barrier to use of this corridor (deduct up to U points)			-U	0
3 nly location for trail is within floodway portion of the corridor (deducts points if selected)			-U	0
Legesof I 9wsi* S9vvor1		**x30**	**x3**	**x3**
Potential for Concern from Current Corridor 3 wnership (-U pts)			(-U)	0
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			20	20
To1as		**4330**	**433**	**ux**

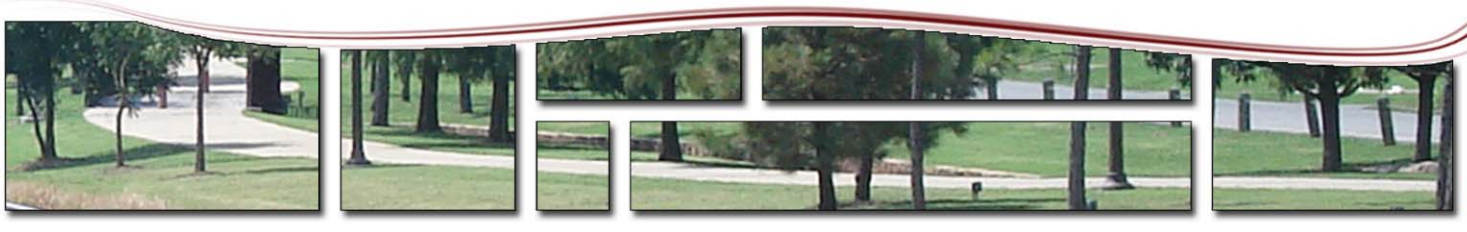
* Number of elements within 600 ft. radius
** Score ranges as follows - over 80 = U, over 60 = 4, over 40 = 5, over 20 =2, 20 or less = 1

Prioritization Analysis: Bishop Creek

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Bishop Creek

Number	Corridor	Length (L.F)	Prioritization Criteria: Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Total Score: Maximum Score = 30	Priority Category: 21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
BC-1-3	Bishop Creek North - Segments 1 - 3	19400	5	4	4	1	3	1	3	21	Medi
BC-4-6	Bishop Creek North - Segments 4 - 6	13000	4	2	3	0	3	1	2	15	u m-Hegh
BC-7	Bishop Creek North - Segment 7	3200	5	4	4	1	3	1	3	21	Medi
BC-8,9,11	Bishop Creek Central - Segments 8,11	11700	4	2	3	3	3	1	2	18	u m-Hegh
BC-9	Bishop Creek Central - Segment 9		4	5	5	1	3	0	3	21	Medi
BC-10	Bishop Creek Central - Segment 10	4700	4	5	5	1	3	0	3	21	Medi
BC-12	Bishop Creek Central - Segment 12	8600	4	4	5	1	3	1	3	21	Medi
BC-13-15	Bishop Creek Central - Segments 13 - 15	13900	5	3	4	3	3	1	2	21	Medi
BC-16	Bishop Creek South - Segments 16	7900	5	4	4	1	3	1	3	21	Medi
BC-17	Bishop Creek South - Segments 17	7900	4	4	4	1	3	1	3	20	u m-Hegh
BC-18	Bishop Creek South - Segment 18	4600	4	1	2	3	3	2	1	16	u m-Hegh
		94900	4.4	3.5	3.9	1.5	3.0	0.9	2.5	19.6	u m-Hegh

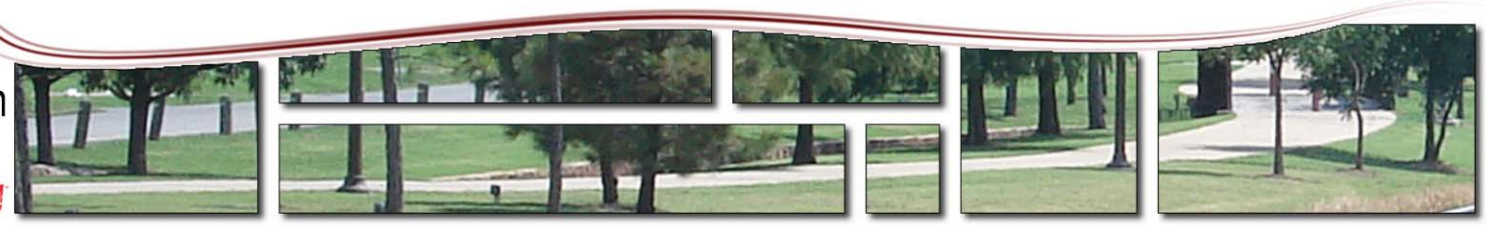


Urban Greenway System: Bishop Creek Key Recommendations

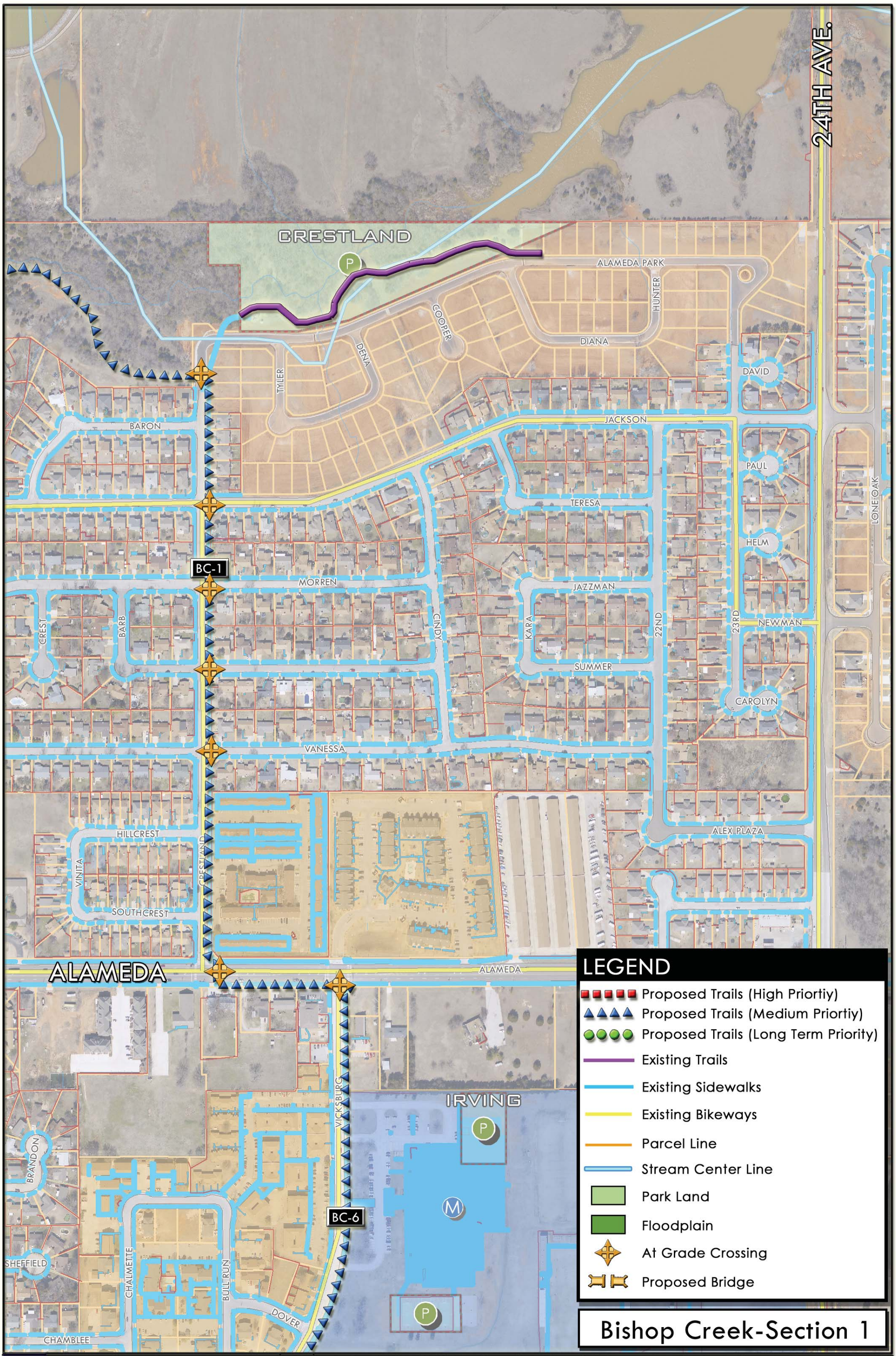
The key greenway recommendations for this corridor are intended to connect eastern urban area to the central core of Norman and Oklahoma University. A key recommendation will be continuing the Colonial Estates Trail to both the Northern and southern portions of Oklahoma University. The northern connection will be located along the Boyd St. corridor. The southern recommendation is a highly needed greenway connection into campus. The greenway will run south along Bishop Creek until Classen. The greenway corridor will then utilize Constitution into campus. Another recommendation will be connecting the Bishop Creek greenway to State Hwy. 9 along Imhoff St, which will connect to the Lake Thunderbird Greenway. The estimated cost for these greenway improvements is shown below (see chart).

Norman Greenway Implementation Action Plan
Bishop Creek (Urban Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Bishop	**BC-2**	University	Carter	Greenway along Eufaula and Main St., Connects to downtown Norman	6,000	$1,100,000	2010-2020
Bishop	**BC-9**	12th Ave.	Vicksburg	Greenway along Boyd, connects to OU campus	5,300	$920,000	2010-2020
Bishop	**BC-10**	Trout	12th Ave.	Greenway along surrounding road corridors, connects to OU campus	4,700	$830,000	2015-2025
Bishop	**BC-15**	Lindsey	Classen	Greenway along Bishop Creek, connects with existing Colonial Estates greenway	5,800	$1,100,000	2015-2025
Bishop	**BC-16**	Monitor	Classen	Greenway along Constitution, key greenway connection to OU Campus	3,700	$750,000	2010-2015
Bishop	**BC-18**	State Hwy 9	Bishop Creek	Greenway along Bishop Creek	4,600	$790,000	2020-2030
				Estimated Total	**30,100 6 Miles**	**$5,490,000**	



Bishop Creek Key Recommendations


24TH AVE.
CRESTLAND
ALAMEDA PARK
HUNTER
COOPER
DENA
DIANA
DAVID
TYLER
BARON
JACKSON
PAUL
TERESA
HELM
LONE OAK
BC-1
MORREN
JAZZMAN
CREST
BARB
CINDY
KARA
22ND
23RD
NEWMAN
SUMMER
CAROLYN
VANESSA
HILLCREST
ALEX PLAZA
VINITA
CRESTLAND
SOUTHCREST
ALAMEDA
ALAMEDA
IRVING
VICKSBURG
BRANDON
BC-6
SHEFFIELD
CHALMETTE
BULL RUN
DOVER
CHAMBLEE
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 1
City of Norman
Greenway Master Plan
HALFF
February 2009
PBSJ
Draft
For Discussion
Graphic Scale
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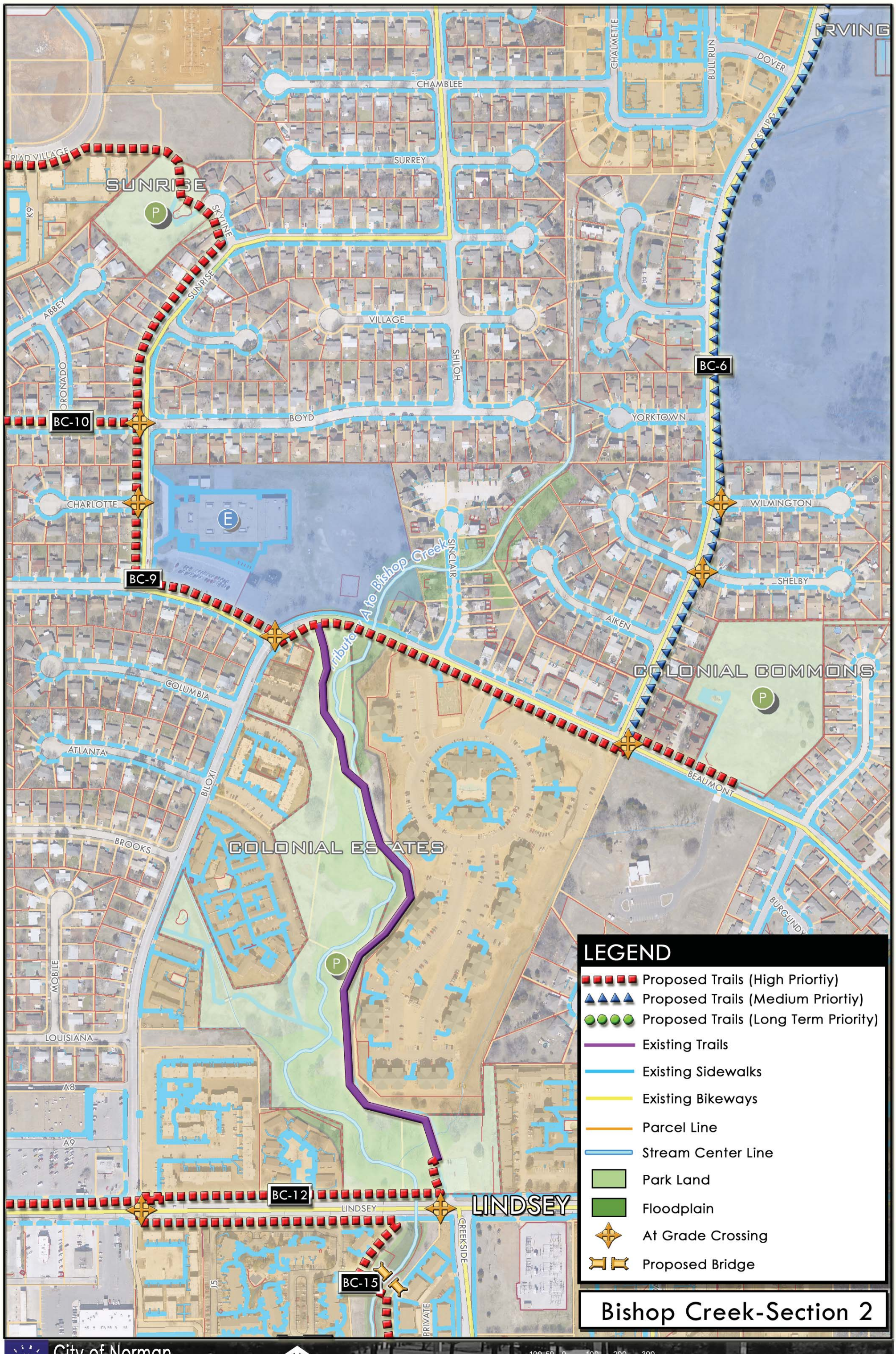
Feet
1 inch equals 300 feet
TRAIL OPPORTUNITIES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CHAMBLEE
CHALMETTE
BULL RUN
DOVER
CASTLE
SURREY
TRIAD VILLAGE
SUNRISE
K9
SKYLINE
SUNRISE
ABBEY
CORONADO
VILLAGE
HOLLIS
BC-6
BC-10
BOYD
YORKTOWN
CHARLOTTE
WILMINGTON
BC-9
SINCLAIR
Tributary A to Bishop Creek
SHELBY
AIKEN
COLONIAL COMMONS
COLUMBIA
ATLANTA
BILOXI
BEAUMONT
BROOKS
COLONIAL ESTATES
BURGUNDY
MOBILE
LOUISIANA
A8
A9
BC-12
LINDSEY
LINDSEY
GREEKSIDE
BC-15
PRIVATE
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 2
City of Norman
Greenway Master Plan
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For Discussion
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Feet
Graphic Scale
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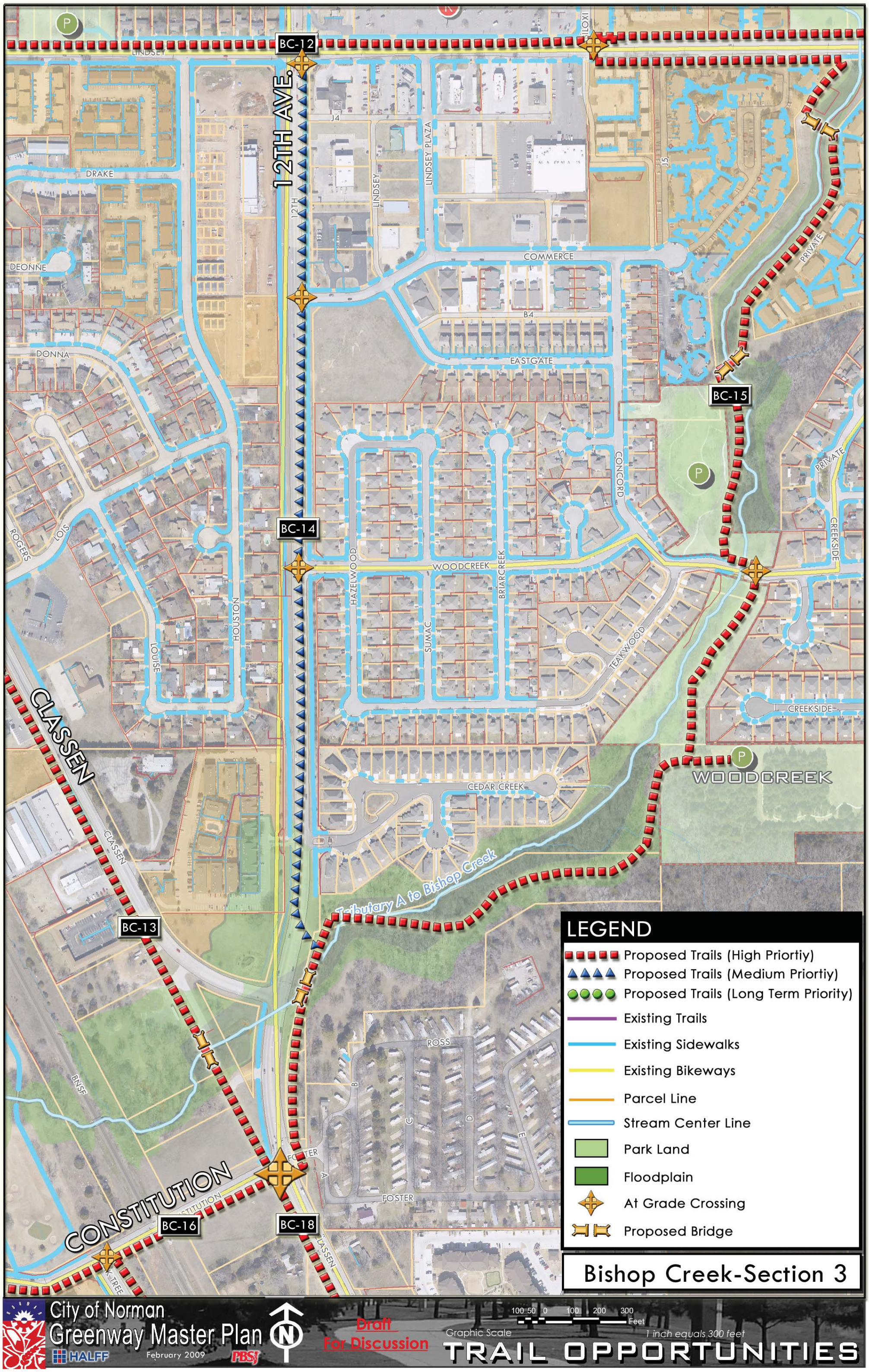
TRAIL OPPORTUNITIES


BC-12
BC-13
BC-14
BC-15
BC-16
BC-18
12TH AVE.
CLASSEN
CONSTITUTION
LINDSEY
DRAKE
DEONNE
DONNA
ROGERS
LOIS
LOUISE
HOUSTON
HAZELWOOD
SUMAC
BRIARCREEK
WOODCREEK
CONCORD
TEAKWOOD
CREEKSIDE
PRIVATE
COMMERCE
EASTGATE
LINDSEY PLAZA
CEDAR CREEK
Tributary A to Bishop Creek
WOODCREEK
ROSS
FOSTER
BNSF
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 3
City of Norman
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TRAIL OPPORTUNITIES

Bishop Creek
MAIN
COCKREL
CARTER
COMANCHE
STEVART
MCGEORGE
BC-2
EUFAULA
FINDLAY
COOK
SYMMES
REED
ANIOL
APACHE
BC-4
Tributary B to Bishop Creek
PORTER
LINN
ALAMEDA
BC-3
MORNINGSIDE
CASTRO
KEITH
SHERWOOD
KIWANIS
VILLA
CRESTON
DUFFY
PONCA
FERRILL
BC-8
EASTWOOD
OKLAHOMA
LONG
MILLER
EMELYN
MACY
CLASSEN
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 4
City of Norman
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100 50 0 100 200 300
Feet
Graphic Scale
1 inch equals 300 feet
TRAIL OPPORTUNITIES

CASTRO
KEITH
DUFFY
FERRILL
EMELYN
MACY
BOYD
TULSA
OKMULGEE
SHAWNEE
CHICKASHA
ENID
CLASSEN
PONCA
MILLER
PAGE
BNSF
OKLAHOMA
MORNINGSIDE
SHERWOOD
KIWANIS
REED
VILLA
RANCHO
CRESTON
SCHULZE
BENSON
LONG
MOCKINGBIRD
BARKLEY
BEL-AIRE
TARMAN
MELISA
MORLAND
HALRAY
EAST WOOD
EARL SNEED
DUCK POND
Bishop Creek
BC-8
BC-10
BC-11
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 5
City of Norman
Greenway Master Plan
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For Discussion
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Feet
Graphic Scale
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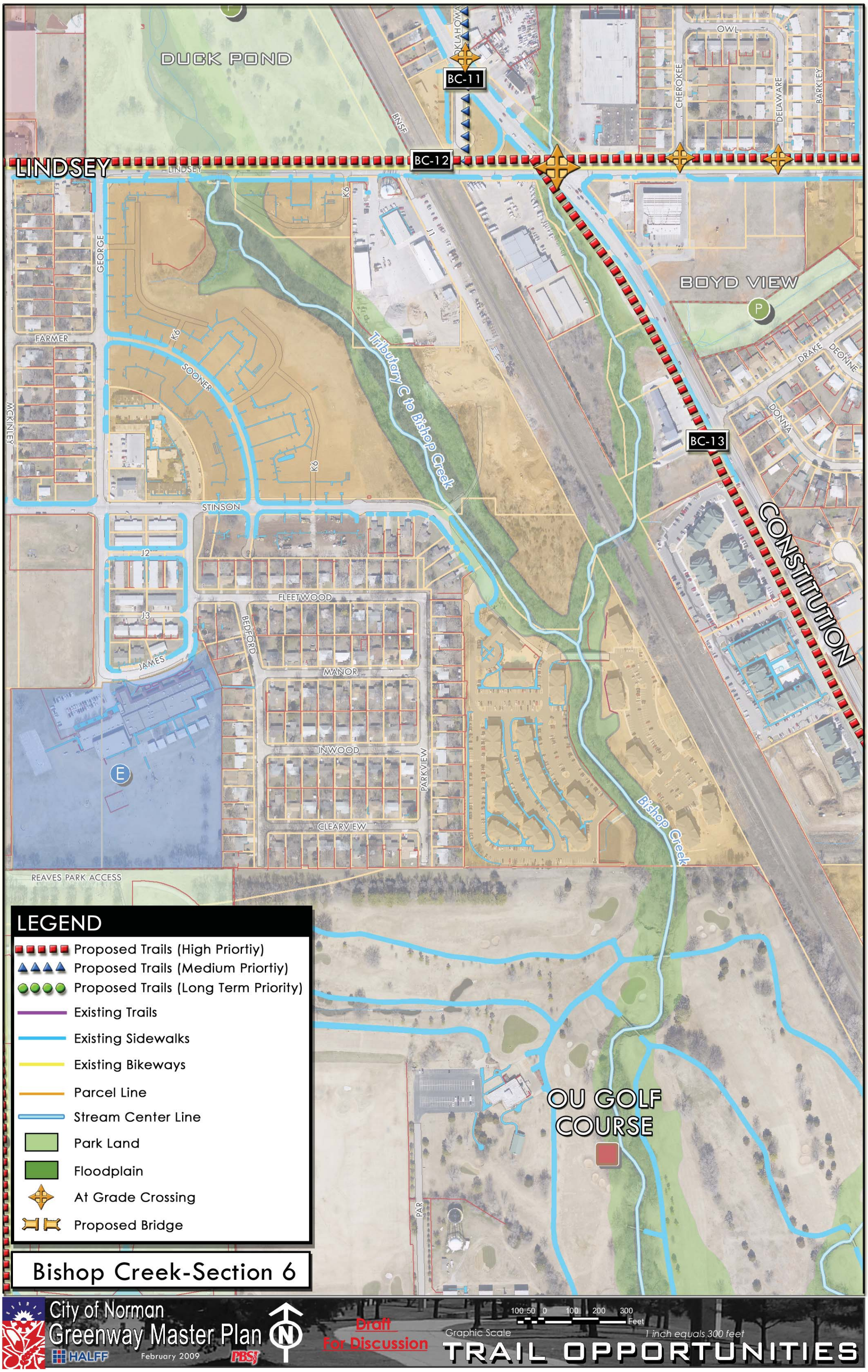
TRAIL OPPORTUNITIES


DUCK POND
BC-11
BC-12
LINDSEY
BNSF
OWL
CHEROKEE
DELAWARE
BARKLEY
GEORGE
FARMER
MCKINLEY
SOONER
K6
J1
BOYD VIEW
DRAKE
DEONNE
DONNA
Tributary C to Bishop Creek
BC-13
CONSTITUTION
STINSON
J2
J3
JAMES
FLEETWOOD
BEDFORD
MANOR
INWOOD
PARKVIEW
CLEARVIEW
Bishop Creek
REAVES PARK ACCESS
OU GOLF COURSE
PAR
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 6
City of Norman
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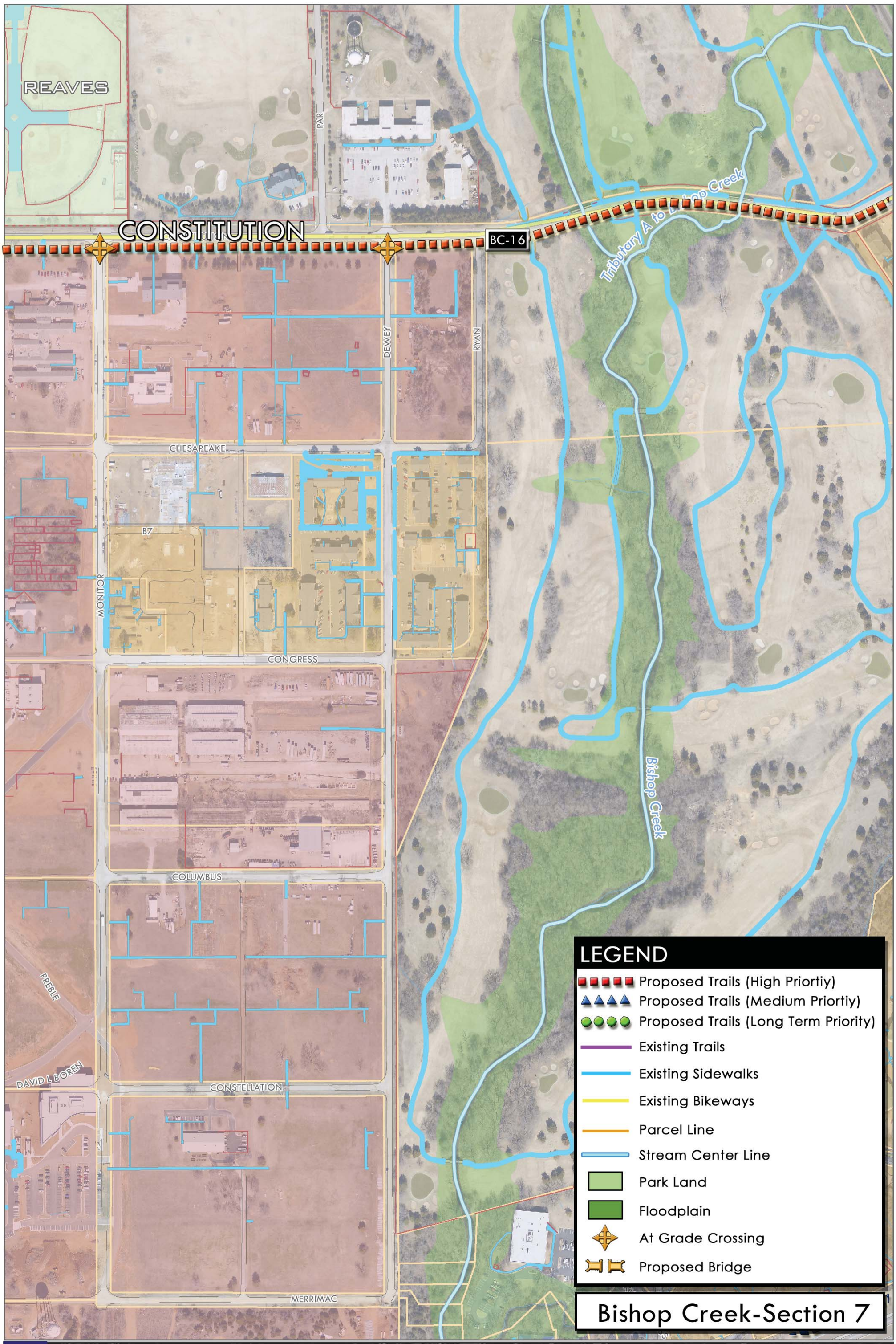
TRAIL OPPORTUNITIES


REAVES
CONSTITUTION
BC-16
PAR
DEWEY
RYAN
CHESAPEAKE
B7
MONITOR
CONGRESS
COLUMBUS
PREBLE
DAVID L BOREN
CONSTELLATION
MERRIMAC
Tributary A to Bishop Creek
Bishop Creek
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 7
City of Norman
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Feet
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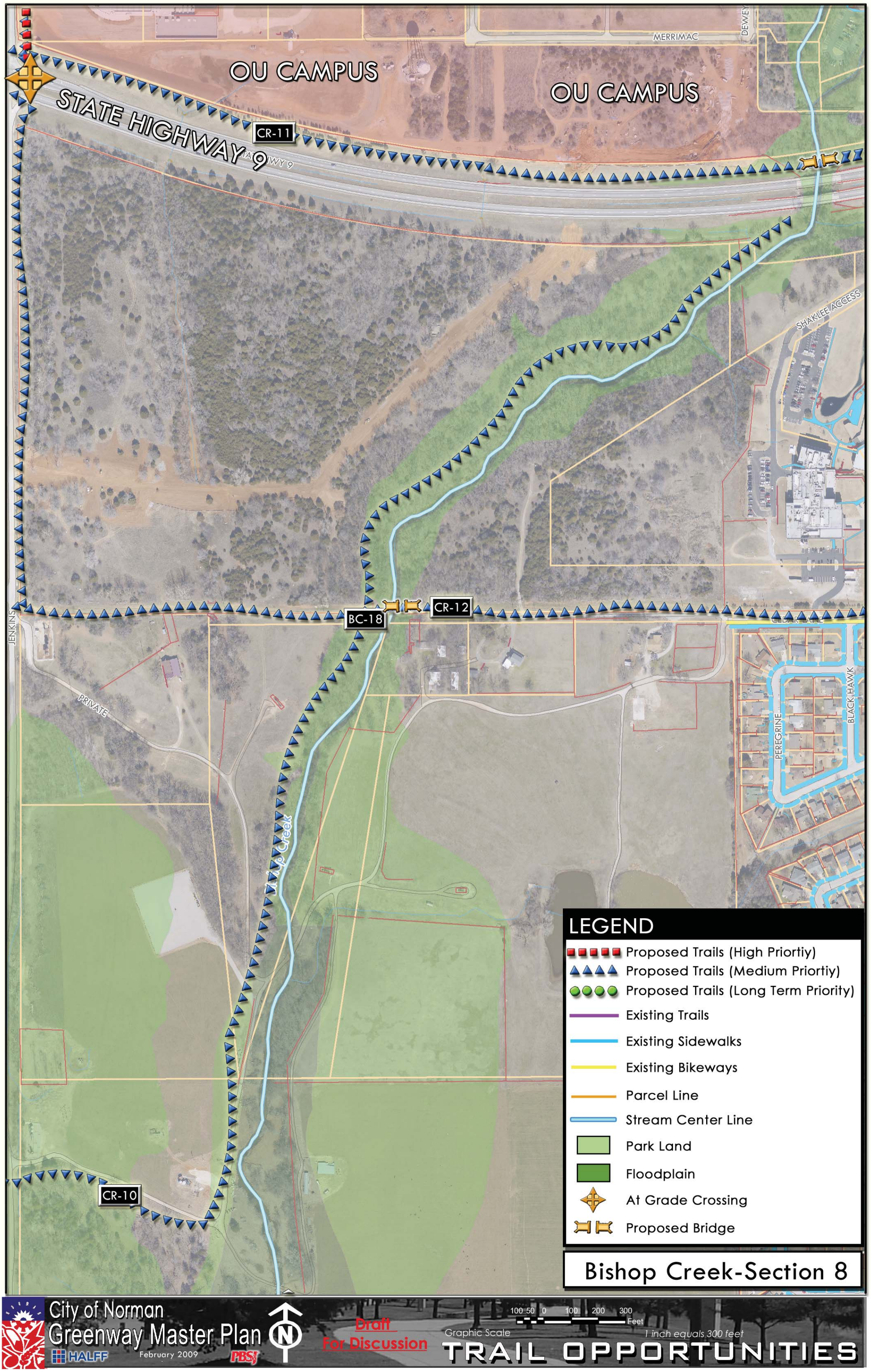
TRAIL OPPORTUNITIES


OU CAMPUS
OU CAMPUS
STATE HIGHWAY 9
CR-11
MERRIMAC
DEWEY
SHAKLEE ACCESS
BC-18
CR-12
JENKINS
PRIVATE
PEREGRINE
BLACK HAWK
Bishop Creek
CR-10
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 8
City of Norman
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Feet
Graphic Scale
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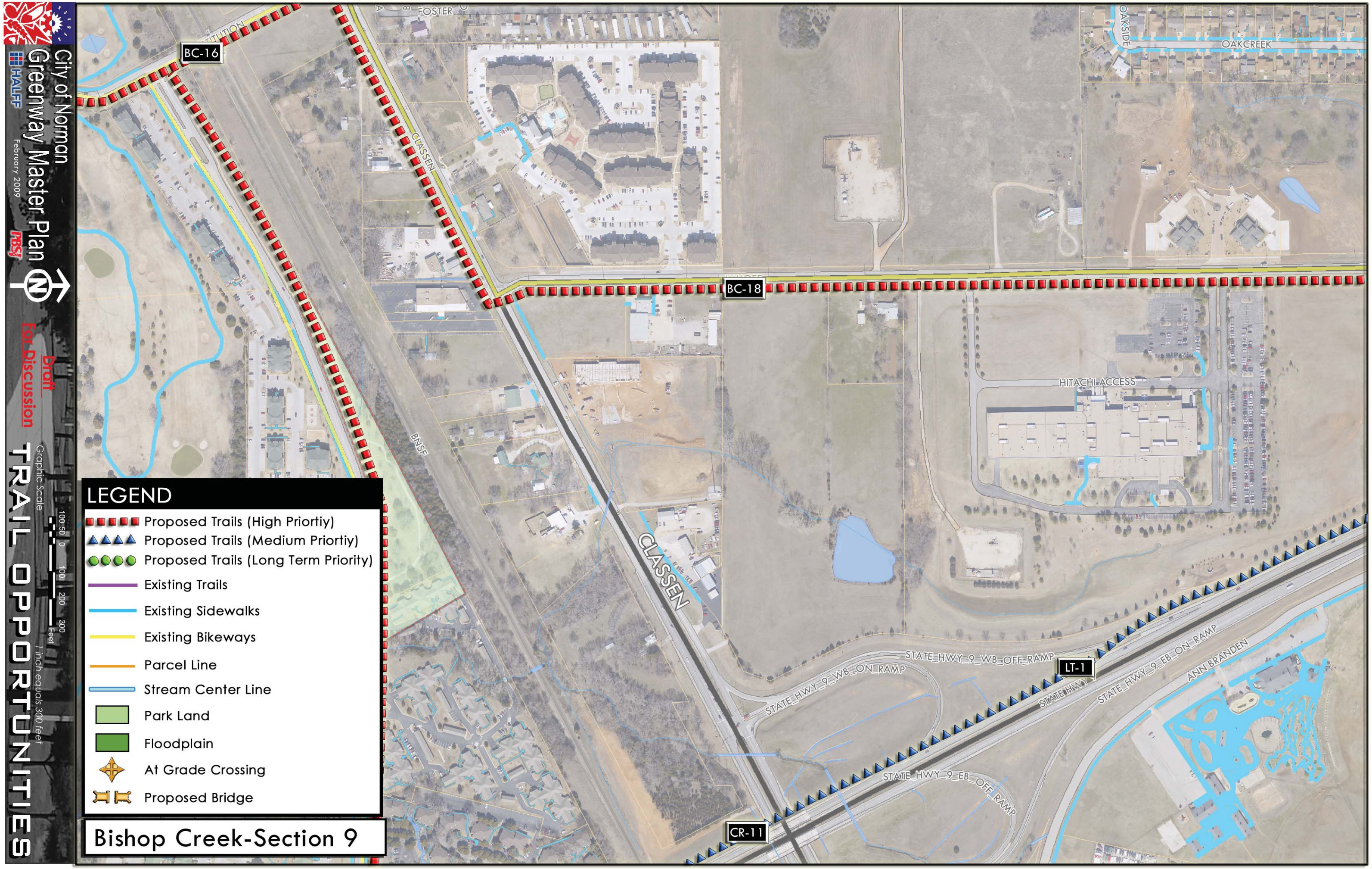
TRAIL OPPORTUNITIES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For Discussion
TRAIL OPPORTUNITIES
Graphic Scale
100 50 0 100 200 300
Feet
1 inch equals 300 feet
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Bishop Creek-Section 9
BC-16
BC-18
LT-1
CR-11
FOSTER
CLASSEN
BNSF
OAKSIDE
OAKCREEK
HITACHI ACCESS
STATE_HWY_9_WB_OFF_RAMP
STATE_HWY_9_WB_ON_RAMP
STATE_HWY_9_EB_OFF_RAMP
STATE_HWY_9_EB_ON_RAMP
ANN BRANDEN

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TRAIL OPPORTUNITIES

Graphic Scale
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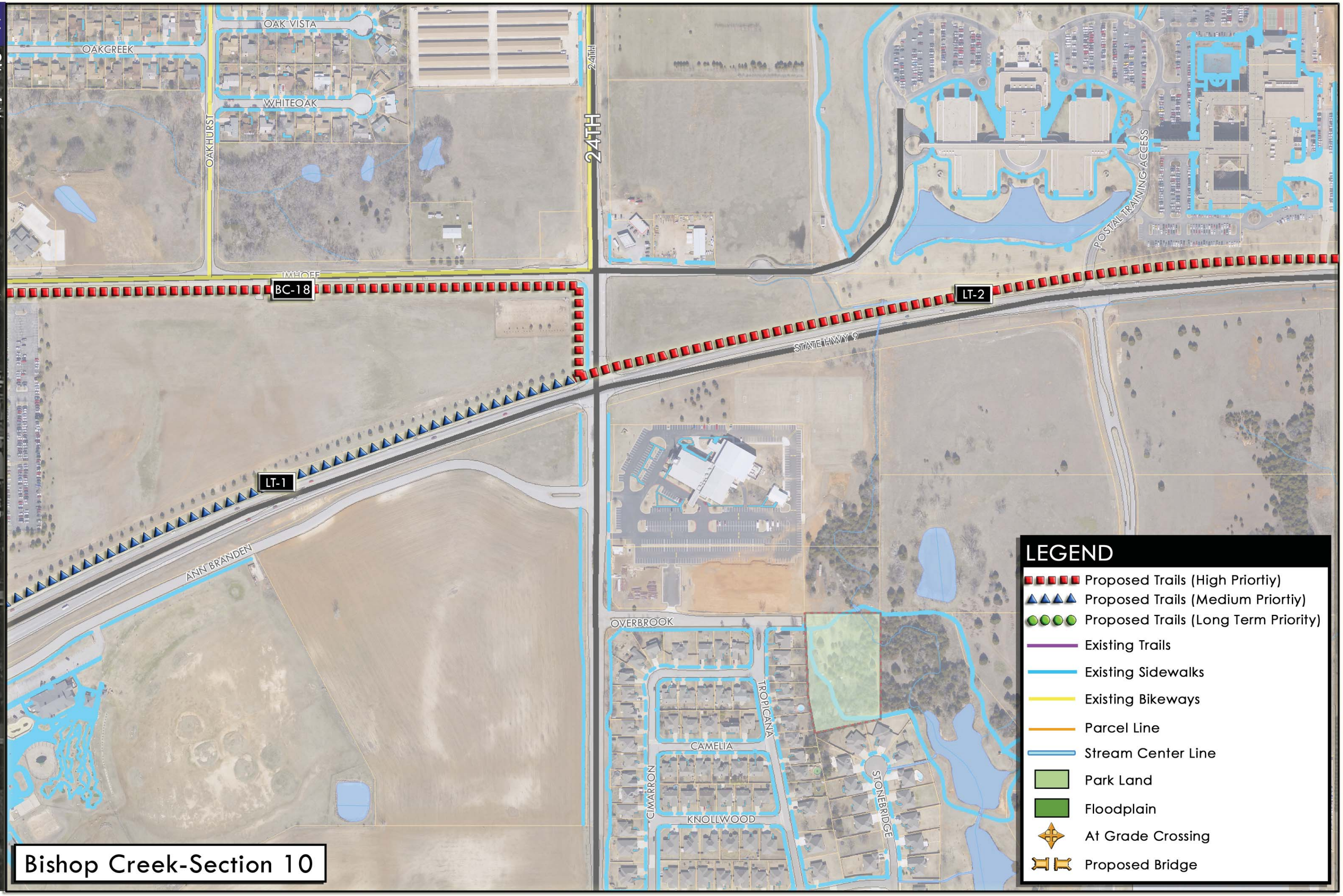
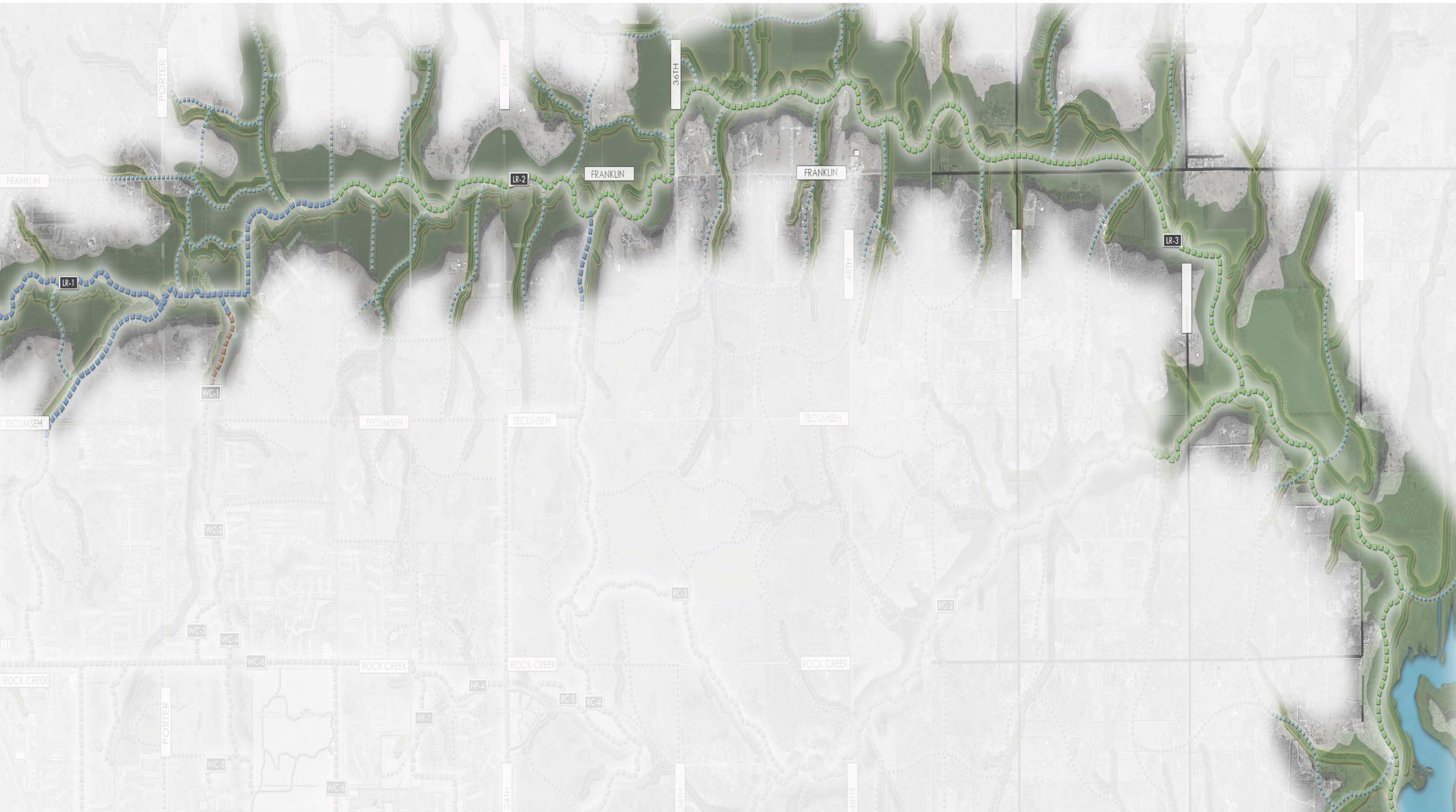


Bishop Creek-Section 10



LITTLE RIVER

LITTLE RIVER CORRIDOR

Location: Located in NC sector of the City
From: W 24th Ave.
To: Lake Thunderbird.

Surrounding Corridors: Tributary G to Little River, Brookhaven Creek, Merkle Creek, Woodcrest Creek and Lake Thunderbird

Size: 8 Sq. Miles – 5,704 Acres (Approximately: W 24th to Lake Thunderbird and Indian Hill Rd. to Rock Creek Rd.)

Major Transportation/Roads:
E/W: Indian Hill – Franklin Rd. – Tecumseh Rd. – Rock Creek Rd.
N/S: Porter Ave. – W 24th Ave. through E 84th Ave.

Major Area Corridor(s):
Little River Creek runs predominantly West to East. The creek does have some potential for Greenway Trails along the corridor, but some areas of the Corridor will need to be utilized with Parkway Trails.
Proposed Legacy Trail has potential to be a major connection.

Minor Area Sub-corridor(s):
Robinson St. has an existing Trail which runs from W 24th Ave. to W 12th St.
Local Streets have some potential opportunities for parkway connections with the addition of sidewalks.

Land Use Context: Much of this corridor is undeveloped; the predominant land use is Low Density Residential. Future Single Family Residential will occur in this area. Agriculture land is prevalent in this corridor as well.

Key Destinations: No Schools are located within Corridor area, but other local schools are located within the surrounding Corridors. No Parks are located within study area. Future Land use developments will create new destinations in this area.

Key Opportunities:
Opportunities along Street Corridors: The possibility of Parkway Street Trails located along the Arterial streets such as Tecumseh can help connect with key destinations in the surrounding areas.

Opportunities along Creek Corridors: A majority of the Little River Corridor is undeveloped agriculture land which has opportunities for acquisition by the city for public Greenway space along the Creek Corridor. This Greenway Trail could lead users from the proposed Legacy Trail out to Lake Thunderbird. This has the potential to be a signature facility in Norman.

Sensitive Areas: Flood prone areas along creek and agriculture lands.

Potential Drainage Improvements: Bank stabiliation will be required along portions of Little River Corridor.

Suitability Analysis: Little River Corridor

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Little River — **Corridor Score**: 4**
Corridor Description: From Ruby Grant Park to Woodcrest Creek; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**9**
Schools	0		6	0
Trail-to-Trail	3		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	1		4	1
Connection to Park(s) & Other City Amenities	2		5	5
Major Retail Center	0		2	0
Significant Employer(s)	0		2	0
Ownership Availability		**15%**	**15**	**10**
City Owned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	0
Other Public or Semi-public Entity Owned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the City of Norman is feasible			10	10
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			10	10
Adequate buffering from adjacent residential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**15**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			10	10
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			5	5
Existing Wetlands or other unique natural or urban features			5	5
Major Barrier to use of this corridor (deduct up to 5 points)	*Crossing IH-35*		-5	-5
Only location for trail is within floodway portion of the corridor (deducts points if selected)			-5	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-5 pts)			(-5)	0
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			20	20
Total		**100%**	**100**	**69**

* Number of elements within 600 ft. radius
** Score ranges as follows - over 80 = 5, over 60 = 4, over 40 = 3, over 20 =2, 20 or less = 1

Prioritization Analysis: Little River Corridor

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Main St. Corridor

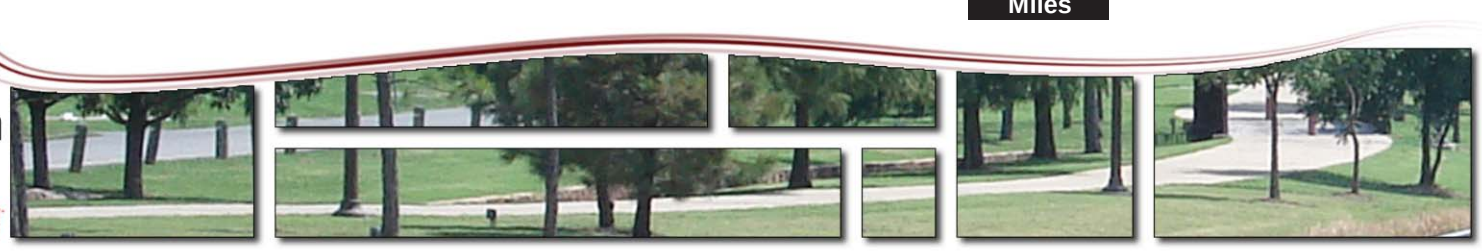
Number	Corridor	Length (L.F)	Prioritization Criteria: Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Total Score: Maximum Score = 30	Priority Category: 21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
LR 1-3	Little River Corridor - E. 12th St. to Lake Thunderbird		4	2	2	3	3	2	3	19	Medium
			4	2	2	3	3	2	3	19	Medium

Urban Greenway System: Little River Key Recommendations

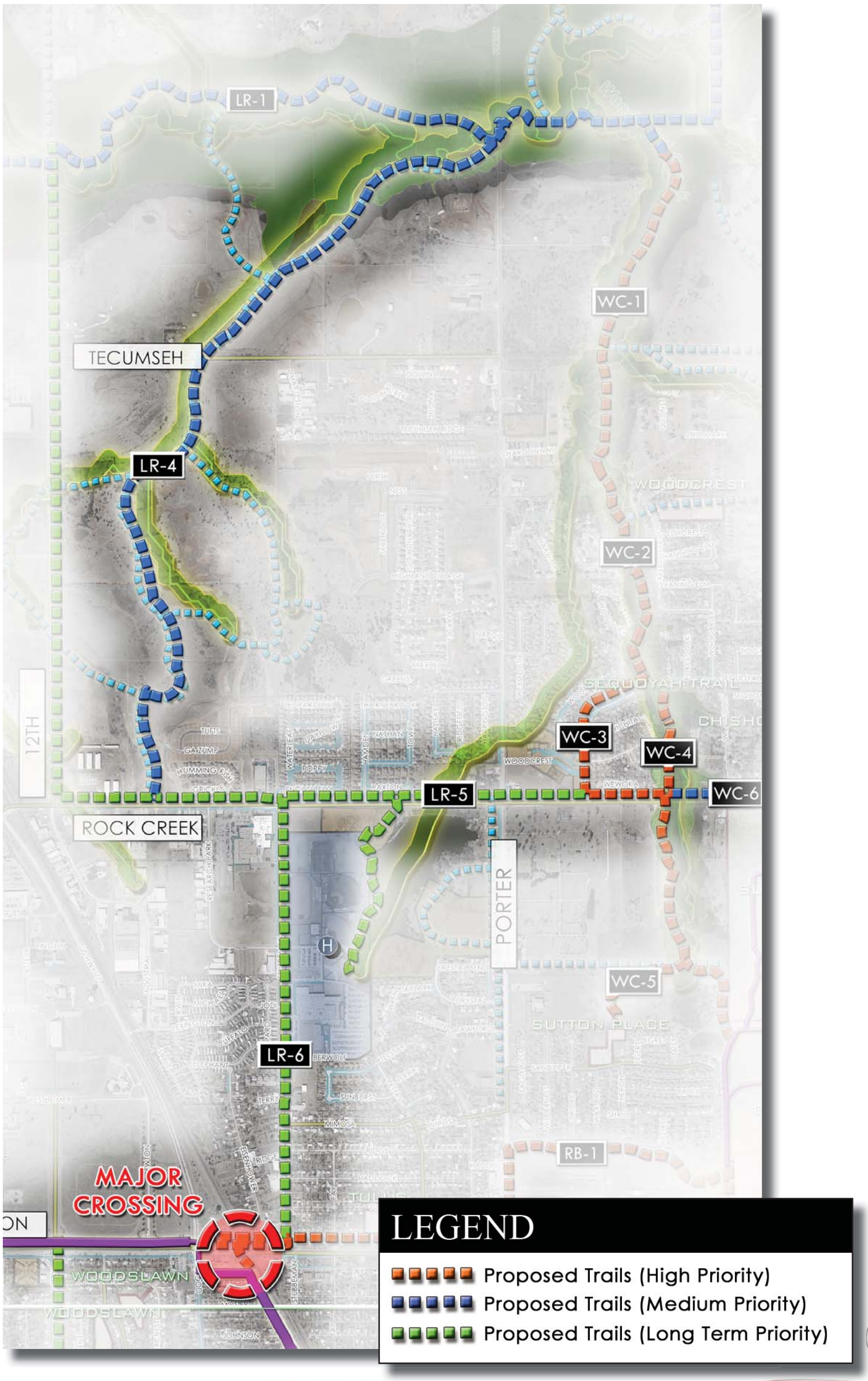
This greenway recommendation runs from W. 12th Ave. to Woodcrest Creek. This proposed area will be a great opportunity for a scenic greenway to connect users from western Norman to north central Norman. The estimated cost for these greenway improvements is shown below (see chart).

Norman Greenway Implementation Action Plan
Little River (Urban Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Little River	LR-4	Little River	Rock Creek Rd	Greenway along drainage corridor, Connects Legacy trail to Little River	11,100	$1,900,000	2020-2030
Little River	LR-5	W 12th Ave.	Woodcrest Creek	Greenway along Rock Creek Rd., Connects Little River and Sutton Wilderness	5,100	$930,000	2015-2025
Little River	LR-6	Rock Creek Rd.	Robinson	Greenway along Stubbman Rd., Connects Little River,Sutton Wilderness and Legacy trail	5,200	$980,000	2010-2020
				Estimated Total	**21,400 4 Miles**	**$3,810,000**	



Little River Key Urban Recommendations

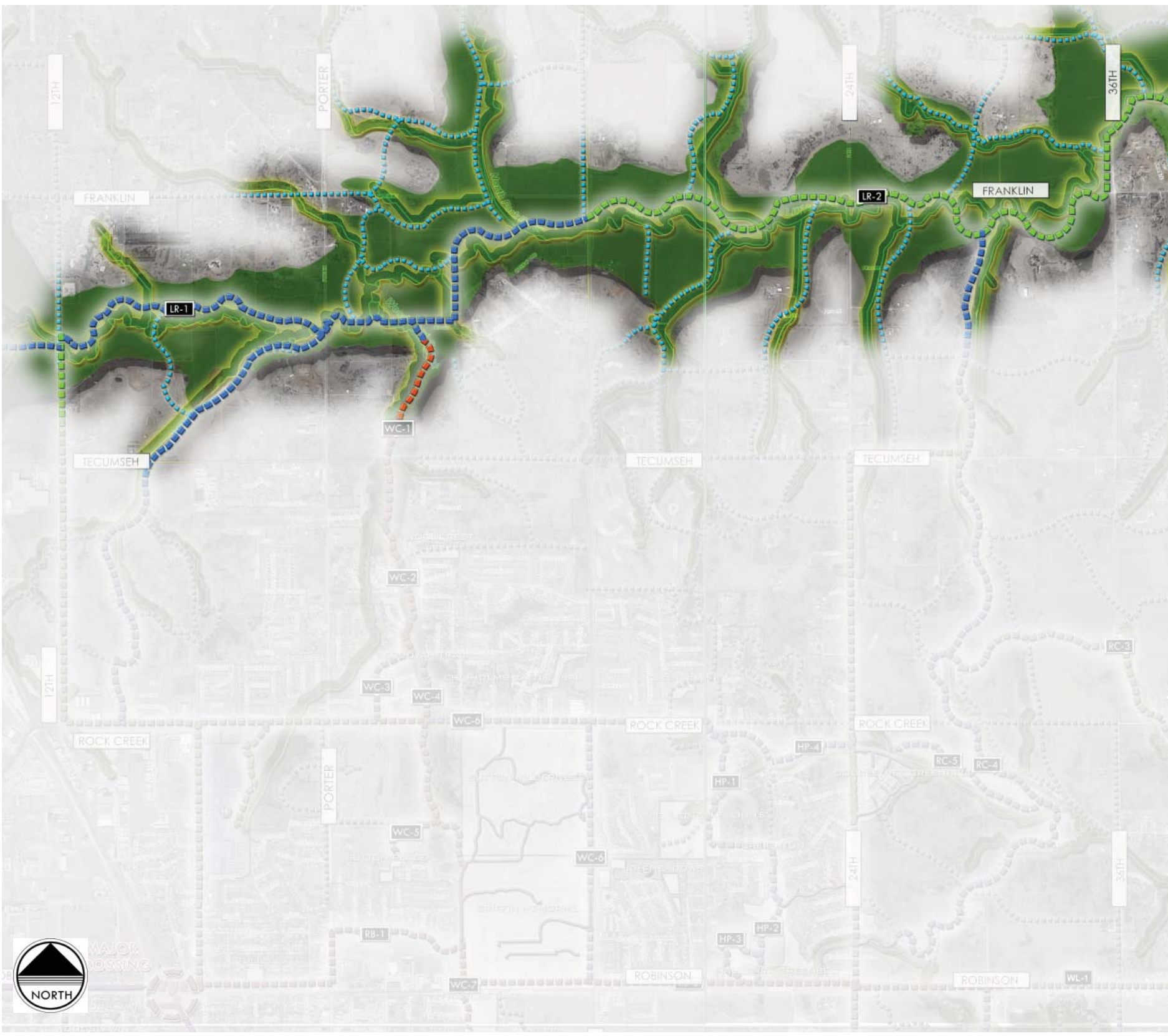


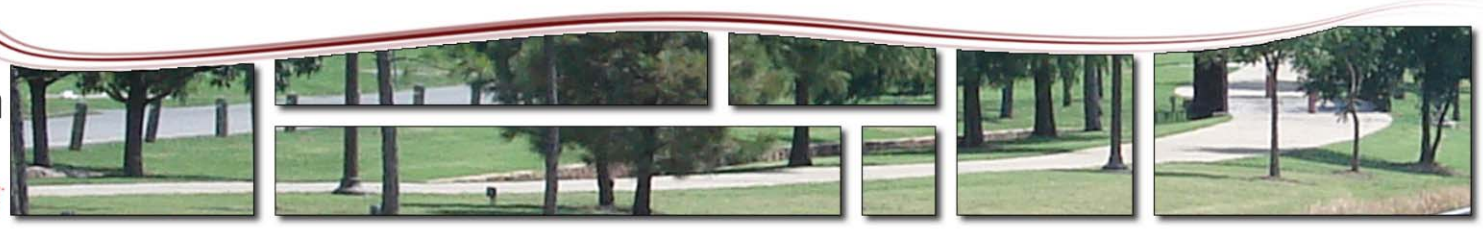
Scenic Rural Greenway System: Little River to Lake Thunderbird

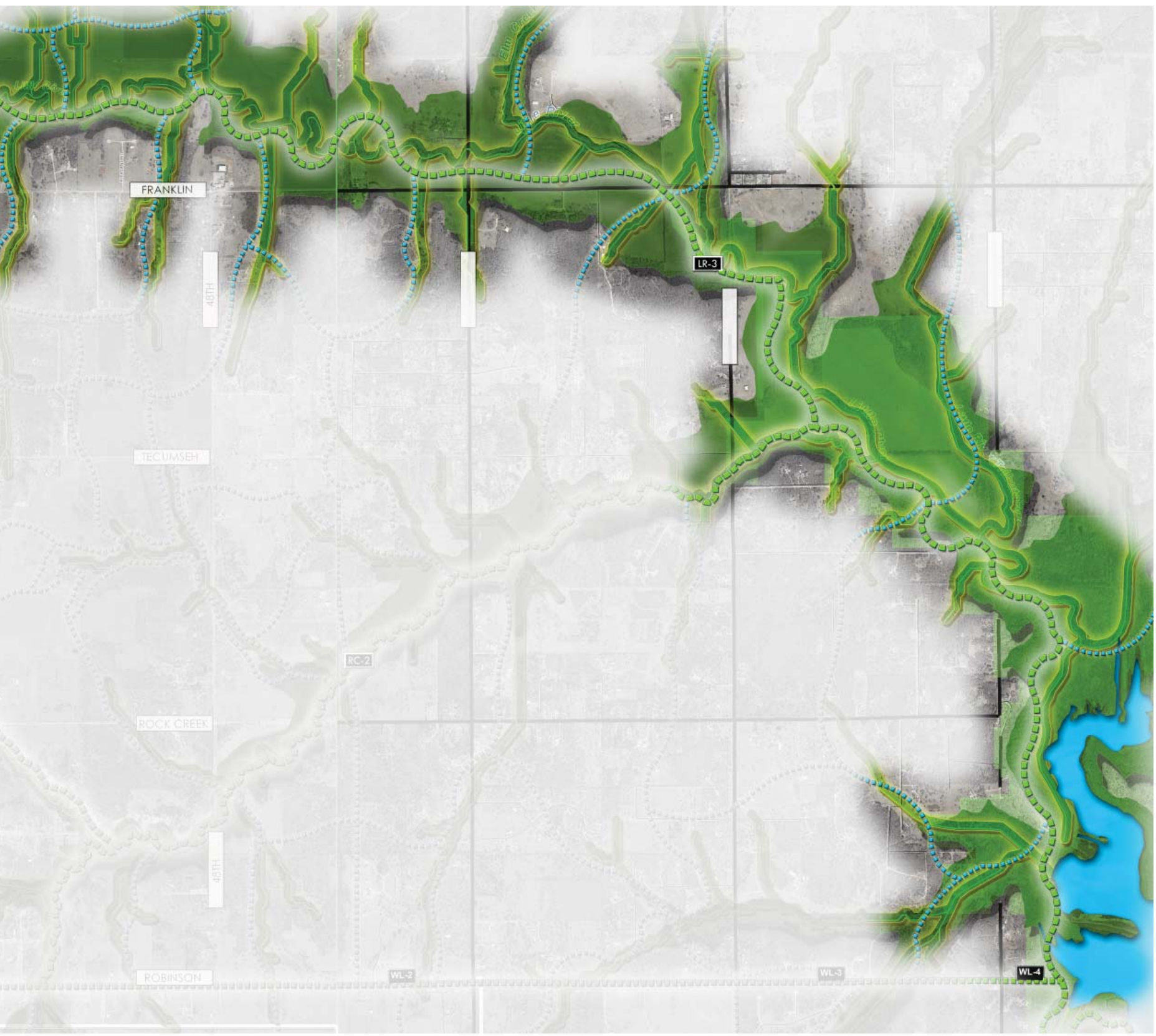
This greenway corridor is proposed to run from East to West along Little River in northern Norman. This greenway will preserve open space for public and drainage uses. The greenway is also proposed to include a crushed material scenic trail to Lake Thunderbird. This is a great opportunity for recreation and educational uses for the citizens of Norman. The estimated cost for these greenway improvements is shown below (see chart).

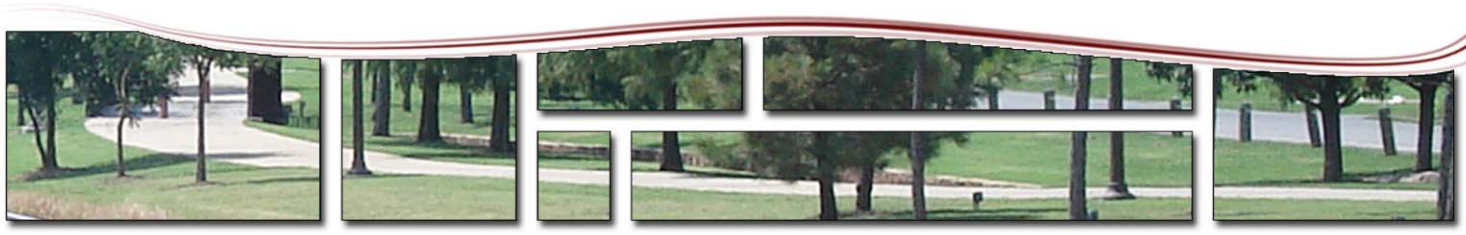
Norman Greenway Implementation Action Plan
Little River to Lake (Scenic Greenway)

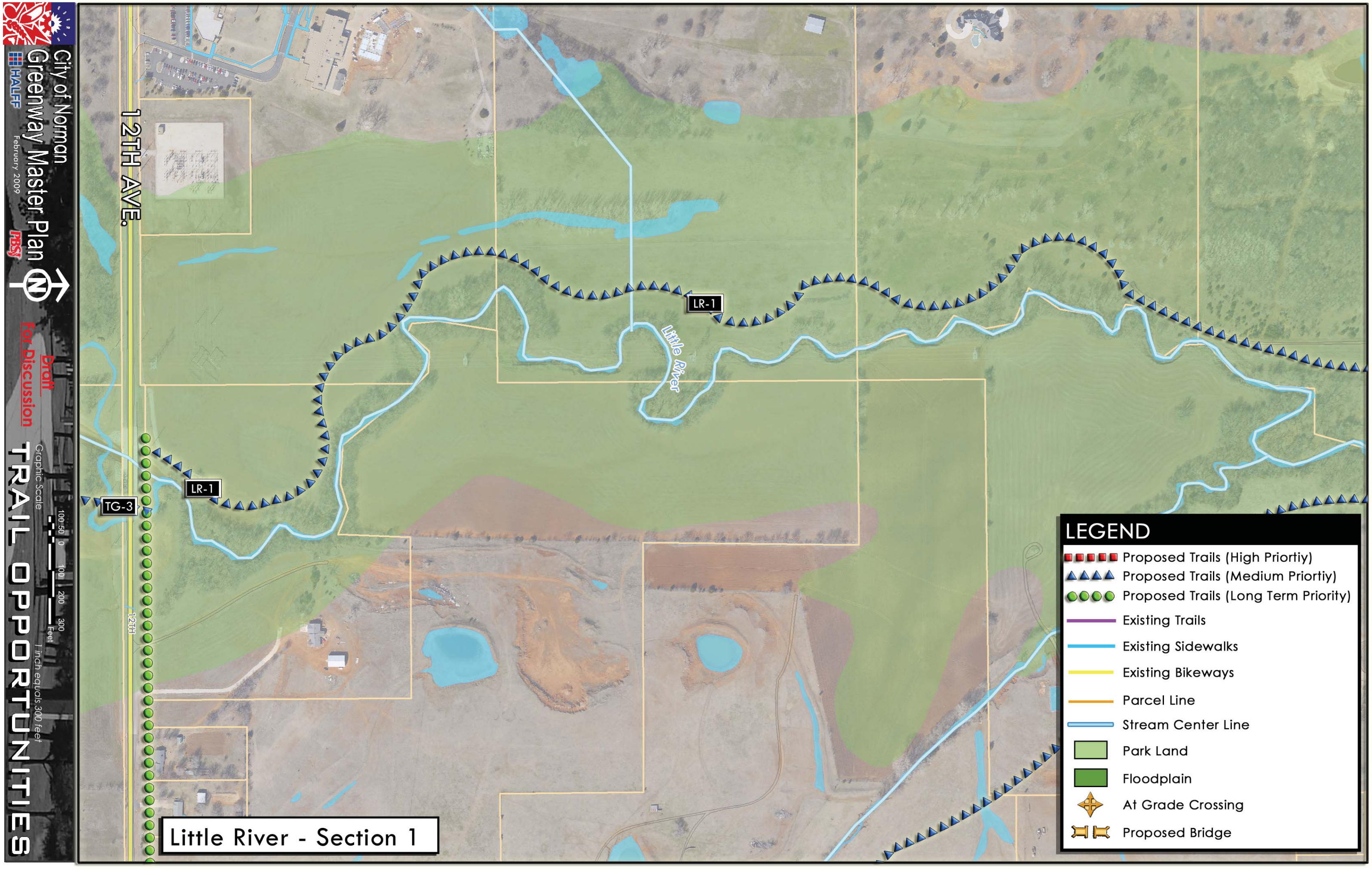
Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Little River	LR-1	W. 12th Ave.	E. 12th Ave.	Greenway along Little River Corridor, connects to Lake Thunderbird (Natural Surface Trail)	14,400	$1,100,000	2010-2020
Little River	LR-2	E. 12th Ave.	E. 36th Ave.	Greenway along Little River Corridor, connects to Lake Thunderbird (Natural Surface Trail)	13,200	$990,000	2015-2025
Little River	LR-3	E. 36th Ave.	Lake Thunderbird	Greenway along Little River Corridor, connects to Lake Thunderbird (Natural Surface Trail)	40,400	$3,000,000	2020-2040
				Estimated Total	68,000 13 Miles	$5,090,000	

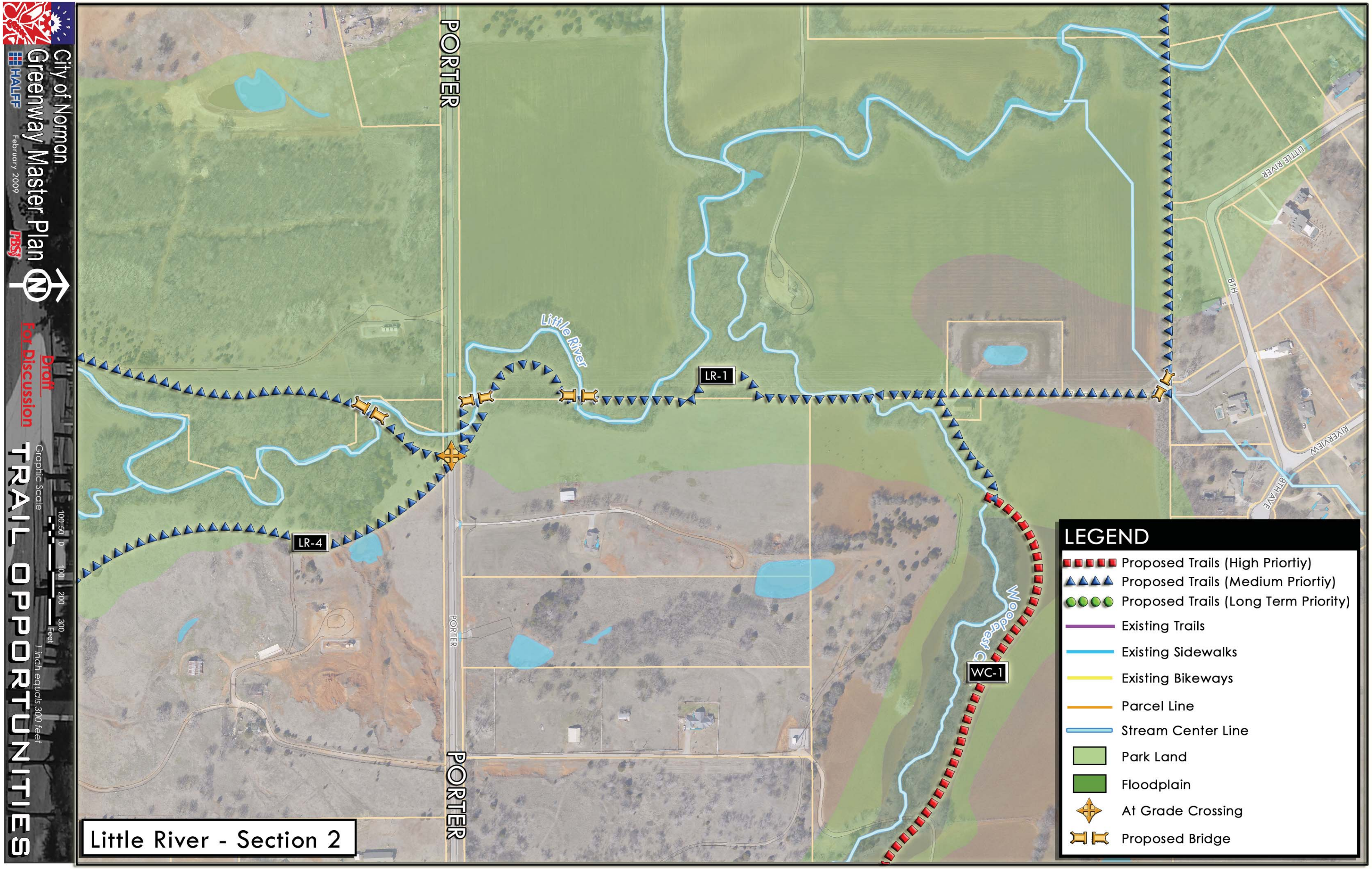





FRANKLIN
48TH
LR-3
TECUMSEH
RC-2
ROCK CREEK
48TH
ROBINSON
WL-2
WL-3
WL-4




City of Norman
Greenway Master Plan
February 2009
HALFF
PBSJ
Draft
For Discussion
TRAIL OPPORTUNITIES
Graphic Scale
100 50 0 100 200 300
Feet
1 inch equals 300 feet
12TH AVE.
12TH
TG-3
LR-1
LR-1
Little River
Little River - Section 1
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge


City of Norman
Greenway Master Plan
HALFF
February 2009
PBSJ
Draft
For Discussion
TRAIL OPPORTUNITIES
Graphic Scale
100 50 0 100 200 300
Feet
1 inch equals 300 feet
Little River - Section 2
PORTER
PORTER
PORTER
Little River
LR-1
LR-4
WC-1
Woodard Creek
LITTLE RIVER
8TH
RIVERVIEW
8TH AVE
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge

HP-2
HP-4
24TH
ROCK CREEK
TECUMSEH
RC-1
RC-5
RC-4
ROBINSON
WL-1
RC-3
36TH

ROCK CREEK

ROCK CREEK

Location: Located in Central sector of the City
From: Rock Creek Rd.
To: Alameda St.

Surrounding Corridors: Woodcrest Creek, Bishop Creek, Dave Blue, Little River, and Lake Thunderbird

Size: 7 Sq. Miles – 4,283 Acres (Approximately: E 24th Ave. to E 60th Ave. and Rock Creek Rd. to Alameda St.)

Major Transportation/Roads:
E/W: Robinson – Rock Creek Rd. - Alameda
N/S: E 24th Ave. – E 36th Ave. – E 48th Ave. – E 60th Ave.

Major Area Corridor(s):
Rock Creek runs predominantly East and West. The creek does have potential for great scenic greenway corridors, which would have uses for the public and drainage improvements. Future development in this area will also provide opportunities for greenway developments.

Minor Area Sub-corridor(s):
Robinson St. Is the major arterial streets connector.
Local Streets have great opportunities for parkway connections with Schools, Parks and Major Retail land uses.

Land Use Context: Much of this corridor is undeveloped; the predominant future land use will be Rural Residential development. The corridor area also includes Parkland, High Density Residential, and Institutional.

Key Destinations: No Schools are located within Corridor area, but other local schools are located within the surrounding Corridors. Eight Parks are located within study area. This corridor has the potential to connect the Doubletree Greenbelt and the Hall Park Greenbelt systems to Lake Thunderbird and to the west the more urbanized area of Norman.

Key Opportunities: Opportunities along Street Corridors: Local Streets can be used when needed to connect with Schools, existing parks, and open spaces.
Opportunities along Creek Corridors: Most of the Drainage corridors for Rock Creek have yet to be developed; these areas are excellent opportunities to preserve spaces for Greenways. This corridor has the opportunity to be a scenic greenway and add great value to the city of Norman. The Hall Park and Double Tree communities are located within this corridor. A key opportunity is to connect the urban core of the city and these developments through greenways. This corridor is one of the most aesthetically visual areas in Norman. The greenway could be connected with the urban areas with greenways along Robinson. It also connects with the proposed raw water line trail and the Little River greenway, which both connect to Lake Thunderbird.

Sensitive Areas: Existing developed areas along the creek corridor

Brookhaven Creek Potential Corridor

Brookhaven Creek Potential Corridor

Suitability Analysis: Rock Creek Corridor

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Rock Creek (RC-1) — **Corridor Score**: 4**

Corridor Description: From Robinson to Royal Oaks Park, along creek corridor; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**7**
Schools	0		6	0
Trail-to-Trail	1		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	1		4	2
Connection to Park(s) & Other City Amenities	1		5	2
Major Retail Center	0		2	0
Significant Employer(s)	0		2	0
Ownership Availability		**15%**	**15**	**10**
City Owned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	0
Other Public or Semi-public Entity Owned, **(or)** along floodplain corridor that cannot reasonably be developed and where access trail easement or permanent dedication to the City of Norman is feasible			10	10
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			10	10
Adequate buffering from adjacent residential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**19**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			10	10
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	0
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			5	5
Existing Wetlands or other unique natural or urban features			5	4
Major Barrier to use of this corridor (deduct up to 5 points)			-5	0
Only location for trail is within floodway portion of the corridor (deducts points if selected)			-5	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-5 pts)			(-5)	0
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			20	20
Total		**100%**	**100**	**71**

* Number of elements within 600 ft. radius
** Score ranges as follows - over 80 = 5, over 60 = 4, over 40 = 3, over 20 =2, 20 or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Rock Creek (RC-1) — **Corridor Score**: 4**

Corridor Description: From Robinson to Lake Th9nderbird, along creek corridor; Location of path to be determinded after f9ther st9dy

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**7**
Schools	0		6	0
Trail-to-Trail	1		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	1		3	1
Connection to Park(s) 4 Other City Amenities	2		5	3
Major &etail Center	0		2	0
SiRnificant gmployer(s)	0		2	0
Ownership Availability		**5j %**	**5j**	**50**
City OEnew (1 point for every d7 public oEnership of total acreaRe alonR the corriwor, up to 15 pts. max.) **(or)**			15	0
Other Public or Semi-public gntity OEnew, **(or)** alonR floowplain corriwor that cannot reasonably be wevelopew anw Ehere access trail easement or permanent wewication to the City of %orman is feasible			10	10
Compatibility with Adxacent Land Uses		**5j %**	**5j**	**5j**
AweNuate corriwor Eiwth for trail (min. 15qEiwth for trail unless special conwitions apply)			10	10
AweNuate bufferinR from awjacent resiwential properties			5	5
E2isting Physical Characteristics		**10%**	**10**	**57**
a) Trail corriwor is in 100 year floowplain or can proviwe stormEater system benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	10
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit city			10	0
gxistinR' eRetationVTrees (percentaRe basis up to max. pts. proviwew)			5	3
gxistinR/ etlanws or other uniNue natural or urban features			5	5
Major Warrier to use of this corriwor (wewuct up to 5 points)			-5	0
Only location for trail is Eithin floowEay portion of the corriwor (wewucts points if selectew)			-5	0
Level of P9blic S9pport		**10%**	**10**	**10**
Potential for Concern from Current Corriwor OEnership (-5 pts)			(-5)	0
CitiBen Support for this corriwor (from citiBen committees, electew officials anw wocumentew citiBen meetinRs)			20	20
Total		**500%**	**500**	**u3**

z %umber of elements Eithin 600 ft. rawius
zz Score ranRes as folloEs - over *0 8 5, over 60 8 3, over 30 8 =, over 20 82, 20 or less 8 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Rock Creek (RC-3) — **Corridor Score**: 4**

Corridor Description: From Proposed RC-4 to Rock Creek Tributary D, along creek corridor; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**5**
Schools	0		6	0
Trail-to-Trail	1		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	0		4	0
Connection to Park(s) & Other City Amenities	1		5	2
Major Retail Center	0		2	0
Significant Employer(s)	0		2	0
Ownership Availability		**15%**	**15**	**10**
City Owned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	0
Other Public or Semi-public Entity Owned, **(or)** along floodplain corridor that cannot reasonably be developed and where access trail easement or permanent dedication to the City of Norman is feasible			10	10
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			10	10
Adequate buffering from adjacent residential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**19**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			10	10
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	0
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			5	4
Existing Wetlands or other unique natural or urban features			5	5
Major Barrier to use of this corridor (deduct up to 5 points)			-5	0
Only location for trail is within floodway portion of the corridor (deducts points if selected)			-5	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-5 pts)			(-5)	0
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			20	20
Total		**100%**	**100**	**69**

* Number of elements within 600 ft. radius
** Score ranges as follows - over 80 = 5, over 60 = 4, over 40 = 3, over 20 =2, 20 or less = 1

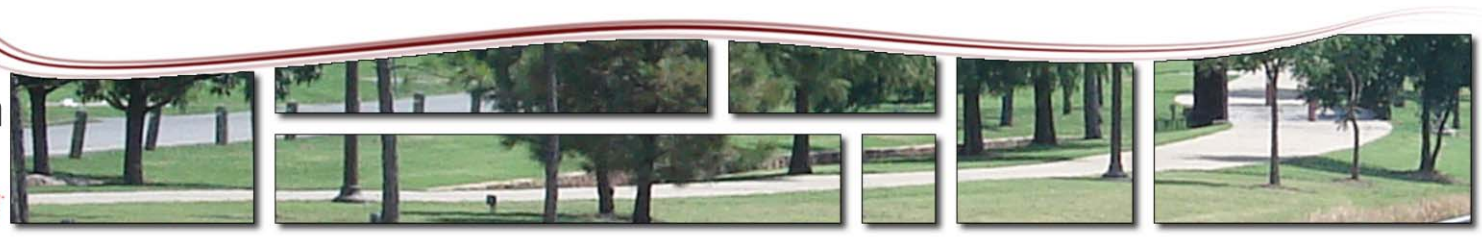
CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Rock Creek (RC-4) — **Corridor Score**: 4**

Corridor Description: From Little River to E. 24th Ave., along creek corridor; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**9**
Schools	0		6	0
Trail-to-Trail	1		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	1		3	1
Connection to Park(s) 4 Other City Amenities	2		5	3
Major &etail Center	0		2	0
SiRnificant gmployer(s)	0		2	0
Ownership Availability		**15%**	**15**	**10**
City OEnew (1 point for every d7 public oEnership of total acreaRe alonR the corriwor, up to 15 pts. max.) **(or)**			15	0
Other Public or Semi-public gntity OEnew, **(or)** alonR floowplain corriwor that cannot reasonably be wevelopew anw Ehere access trail easement or permanent wewication to the City of %orman is feasible			10	10
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
AweNuate corriwor Eiwth for trail (min. 15qEiwth for trail unless special conwitions apply)			10	10
AweNuate bufferinR from awjacent resiwential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**19**
a) Trail corriwor is in 100 year floowplain or can proviwe stormEater system benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	10
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit city			10	0
gxistinR' eRetationVTrees (percentaRe basis up to max. pts. proviwew)			5	3
gxistinR/ etlanws or other uniNue natural or urban features			5	5
Major Warrier to use of this corriwor (wewuct up to 5 points)			-5	0
Only location for trail is Eithin floowEay portion of the corriwor (wewucts points if selectew)			-5	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor OEnership (-5 pts)			(-5)	0
CitiBen Support for this corriwor (from citiBen committees, electew officials anw wocumentew citiBen meetinRs)			20	20
Total		**100%**	**100**	**73**

z %umber of elements Eithin 600 ft. rawius
zz Score ranRes as folloEs - over *0 8 5, over 60 8 3, over 30 8 =, over 20 82, 20 or less 8 1



Prioritization Analysis: Rock Creek Corridor

City of Norman
Greenway Master Plan

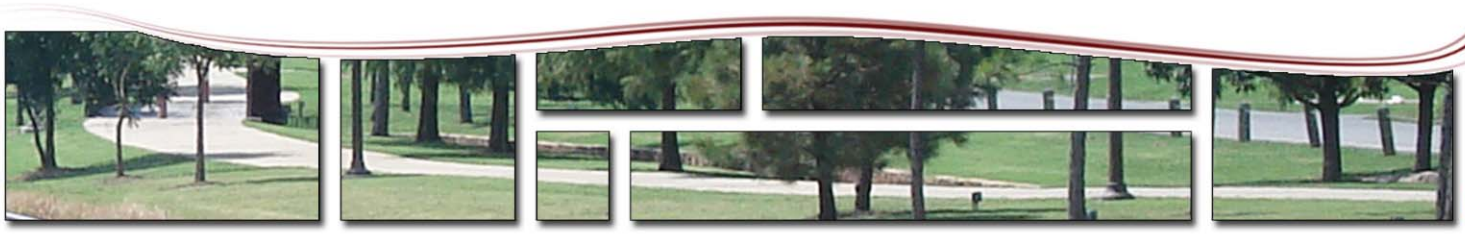
Greenway Corridor Prioritization: Rock Creek

Number	Corridor		Prioritization Criteria							Total Score	Priority Category
		Length (L.F)	Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Maximum Score = 30	21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
RC-1	Rock Creek - Segment 1	3300	4	4	3	3	2	1	2	19	Medium
RC-2	Rock Creek - Segment 2	24700	4	5	3	3	2	1	2	20	Medium
RC-3	Rock Creek - Segment 3	9426	4	2	2	3	3	1	2	17	Medium
RC 4-5	Rock Creek - Segments 4-5	23000	4	4	3	3	3	1	R	18	Medium
		60426	4.0	3.8	2.8	3.0	2.5	1.0	2.0	19.0	Medium

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Rock Creek (RC-1) **Corridor Score**:** **4**
Corridor Description: From Do9ble Tree Greenbelt to RC-4, along creek corridor; Location of path to be determinded after f9ther st9dy

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**7**
Schools	0		6	0
Trail-to-Trail	1		6	3
Connection to OU	0		5	0
Connection to Major City Destinations	1		3	1
Connection to Park(s) 4 Other City Amenities	2		5	3
Major &etail Center	0		2	0
SiRnificant gmployer(s)	0		2	0
Ownership Availability		**51%**	**51**	**50**
City OEnew (1 point for every d7 public oEnership of total acreaRe alonR the corriwor, up to 15 pts. max.) **(or)**			15	0
Other Public or Semi-public gntity OEnew, **(or)** alonR floowplain corriwor that cannot reasonably be wevelopew anw Ehere access trail easement or permanent wewication to the City of %orman is feasible			10	10
Compatibility with Adjacent Land Uses		**51%**	**51**	**51**
AweNuate corriwor Eiwth for trail (min. 15qEiwth for trail unless special conwitions apply)			10	10
AweNuate bufferinR from awjacent resiwential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**57**
a) Trail corriwor is in 100 year floowplain or can proviwe stormEater system benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	10
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit city			10	0
gxistinR' eRetationVTrees (percentaRe basis up to max. pts. proviwew)			5	3
gxistinR/ etlanws or other uniNue natural or urban features			5	5
Major Warrier to use of this corriwor (wewuct up to 5 points)			-5	0
Only location for trail is Eithin floowEay portion of the corriwor (wewucts points if selectew)			-5	0
Level of P9blic S9pport		**20%**	**20**	**20**
Potential for Concern from Current Corriwor OEnership (-5 pts)			(-5)	0
CitiBen Support for this corriwor (from citiBen committees, electew officials anw wocumentew citiBen meetinRs)			20	20
Total		**500%**	**500**	**u3**

z %umber of elements Eithin 600 ft. rawius
zz Score ranRes as folloEs - over * 0 8 5, over 60 8 3, over 30 8 =, over 20 82, 20 or less 8 1



Suitability Analysis: Rock Creek - Hall Park Corridor

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Hall Park (HP 1 and 4) **Corridor Score**: 4**

Corridor Description: From N.E. Lions Park to E. 24th Ave., along creek corridor; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**9**
Schools	1		0	2
Trail6o6Trail	2		0	2
Connection to - 3	C		U	C
Connection to 5 alvdr Citj y estinations	1		D	1
Connection to Park(s) 4 - ther Citj Amenities	2		U	D
5 alvdr &etail Center	C		2	C
SiRnificant gmploj er(s)	C		2	C
Ownership Availability		**15%**	**15**	**10**
Citj - Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	O
- ther Public or Semi6public gntitj - Enew, **(or)** alonR floowplain corriwor that cannot reasonablj be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			1O	1O
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions appli)			1O	1O
AweNuate bufferinR from awvdcent resiwential properties			U	U
Existing Physical Characteristics		**20%**	**20**	**19**
a) Trail corriwor is in 1OOj ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1O	1O
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			1O	O
gxistinR' eRetationVTrees (percentaRe basis up to max. pts. proviwew)			U	D
gxistinR/ etlanws or other uniNue natural or urban features			U	U
5 alvdr Warrier to use of this corriwor (wewuct up to U points)			6U	O
- nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			6U	O
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor - Enership (6U pts)			(6U)	O
CitiBen Support for this corriwor (from citiBen committees, electew officials anw wocumentew citiBen meetinRs)			2O	2O
Total		**100%**	**100**	**73**

z %umber of elements Eithin 0OO ft. rawius
zz Score ranRes as folloEs 6over * O8 U, over 0O8 D, over DO8 =, over 2O82, 2Oor less 8 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS

Corridor Name: Hall Park (HP 2-3) **Corridor Score**: 4**

Corridor Description: From Hall Park to Robinson., through Hall Park development; Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**12**
Schools	1		0	2
Trail6o6Trail	2		0	-
Connection to 3 O	U		5	U
Connection to Major City Destinations	1		-	1
Connection to Park(s) 4 3 ther City Amenities	-		5	5
Major &etail Center	U		2	U
SiRnificant gmployer(s)	U		2	U
Ownership Availability		**15%**	**15**	**10**
City 3 Enew (1 point for every d7 public oEnership of total acreaRe alonR the corriwor, up to 15 pts. max.) **(or)**			15	U
3 ther Public or Semi6public gntity 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonably be wevelopew anw Ehere access trail easement or permanent wewication to the City of %orman is feasible			1U	1U
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
AweNuate corriwor Eiwth for trail (min. 15qEiwth for trail unless special conwitions apply)			1U	1U
AweNuate bufferinR from awjacent resiwential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**19**
a) Trail corriwor is in 1UU year floowplain or can proviwe stormEater system benefits (percentaRe basis up to max. pts. proviwew) **(or)**			1U	1U
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit city			1U	U
gxistinR' eRetationVTrees (percentaRe basis up to max. pts. proviwew)			5	-
gxistinR/ etlanws or other uniNue natural or urban features			5	5
Major Warrier to use of this corriwor (wewuct up to 5 points)			65	U
3 nly location for trail is Eithin floowEay portion of the corriwor (wewucts points if selectew)			65	U
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (65 pts)			(65)	U
CitiBen Support for this corriwor (from citiBen committees, electew officials anw wocumentew citiBen meetinRs)			2U	2U
Total		**100%**	**100**	**76**

z %umber of elements Eithin 0UU ft. rawius
zz Score ranRes as folloEs 6over * U8 5, over 0U8 - , over - U8 =, over 2U82, 2Uor less 8 1

Prioritization Analysis: Rock Creek - Hall Park Corridor

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Rock Creek (Hall Park)

Number	Corridor		Prioritization Criteria							Total Score	Priority Category
		Length (L.F)	Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Maximum Score = 30	21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
HP 1&4	Rock Creek - Segment 1	10700	4	4	5	3	3	1	2	22	High
HP 2-3	Rock Creek - Segment 2	3700	4	4	5	3	3	1	3	23	High
		14400	4.0	4.0	5.0	3.0	3.0	1.0	2.5	22.5	High

Urban Greenway System: Rock Creek Key Recommendations

The Rock creek greenway will continue to grow with future development. The key recommendations for this corridor will connect the central urban greenways to the potential scenic rural greenway corridors. Improvements to the Hall Park greenway are included in these recommendations. These improvements will connect to the Sutton Wilderness and to downtown Norman. The estimated cost for these greenway improvements is shown below (see chart).

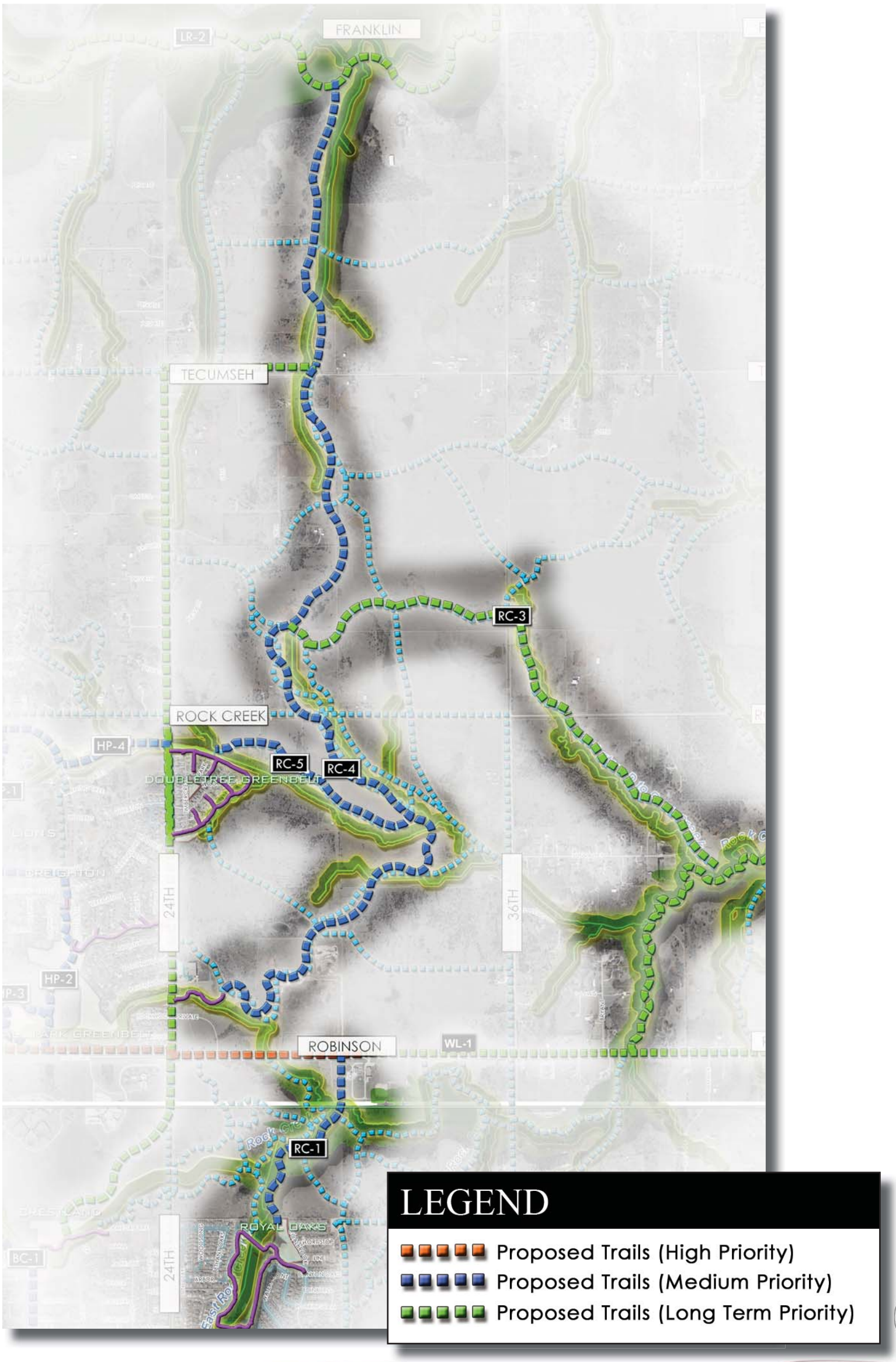
Norman Greenway Implementation Action Plan
Rock Creek (Urban Greenway)

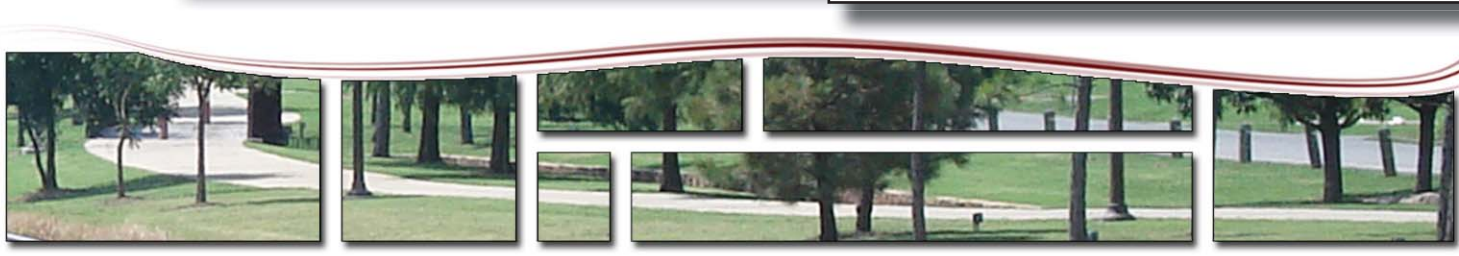
Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Rock Creek	**RC-1**	Robinson	Little River	Greenway along Rock Corridor, connects to Lake Thunderbird (Natural Surface Trail)	3,300	$350,000	2010-2030
Rock Creek	**RC-4**	Little River	Hall Park	Greenway along Rock Creek Corridor (Natural Surface Trail)	19,500	$1,700,000	2020-2040
Rock Creek	**RC-5**	Double Tree Greenbelt	Proposed Greenway	Greenway along Rock Creek Corridor, (Natural Surface Trail)	3,600	$400,000	2015-2025
				Estimated Total	**23,100 4 Miles**	**$2,100,000**	

Norman Greenway Implementation Action Plan
Hall Park (Urban Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Rock Creek	**HP-1**	W. 12th Ave.	Hall Park	Greenway within Hall Park Greenway	7,600	$1,300,000	2015-2025
Rock Creek	**HP-2**	Hall Park	Hall Park	Greenway within Hall Park Greenway	1,200	$260,000	2015-2025
Rock Creek	**HP-3**	Hall Park	Robinson	Greenway within Hall Park Greenway, connects to proposed Robinson greenway	2,500	$510,000	2015-2025
Rock Creek	**HP-4**	Rock Creek Rd.	E. 24th Ave.	Greenway within Hall Park Greenway, connects to proposed Robinson greenway	3,100	$620,000	2015-2025
				Estimated Total	**14,400 3 Miles**	**$2,690,000**	

Rock Creek Key Recommendations



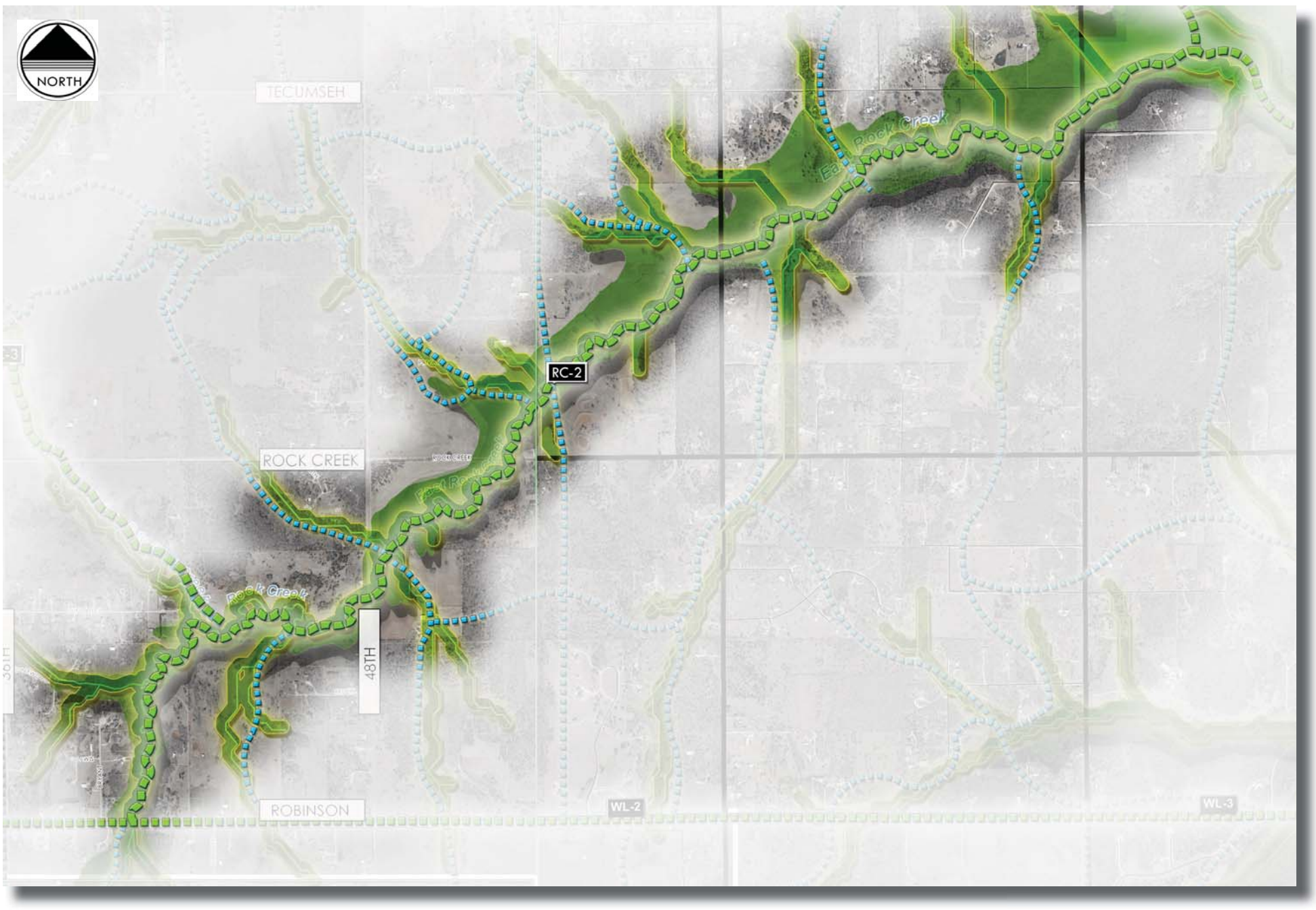


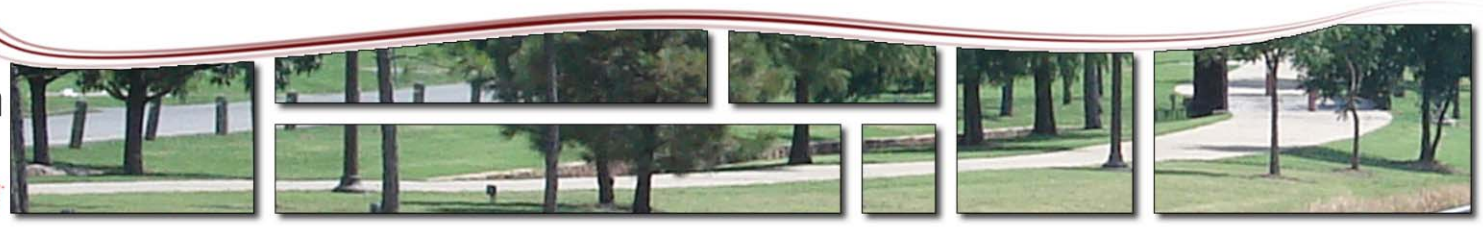
Scenic Rural Greenway System: Rock Creek

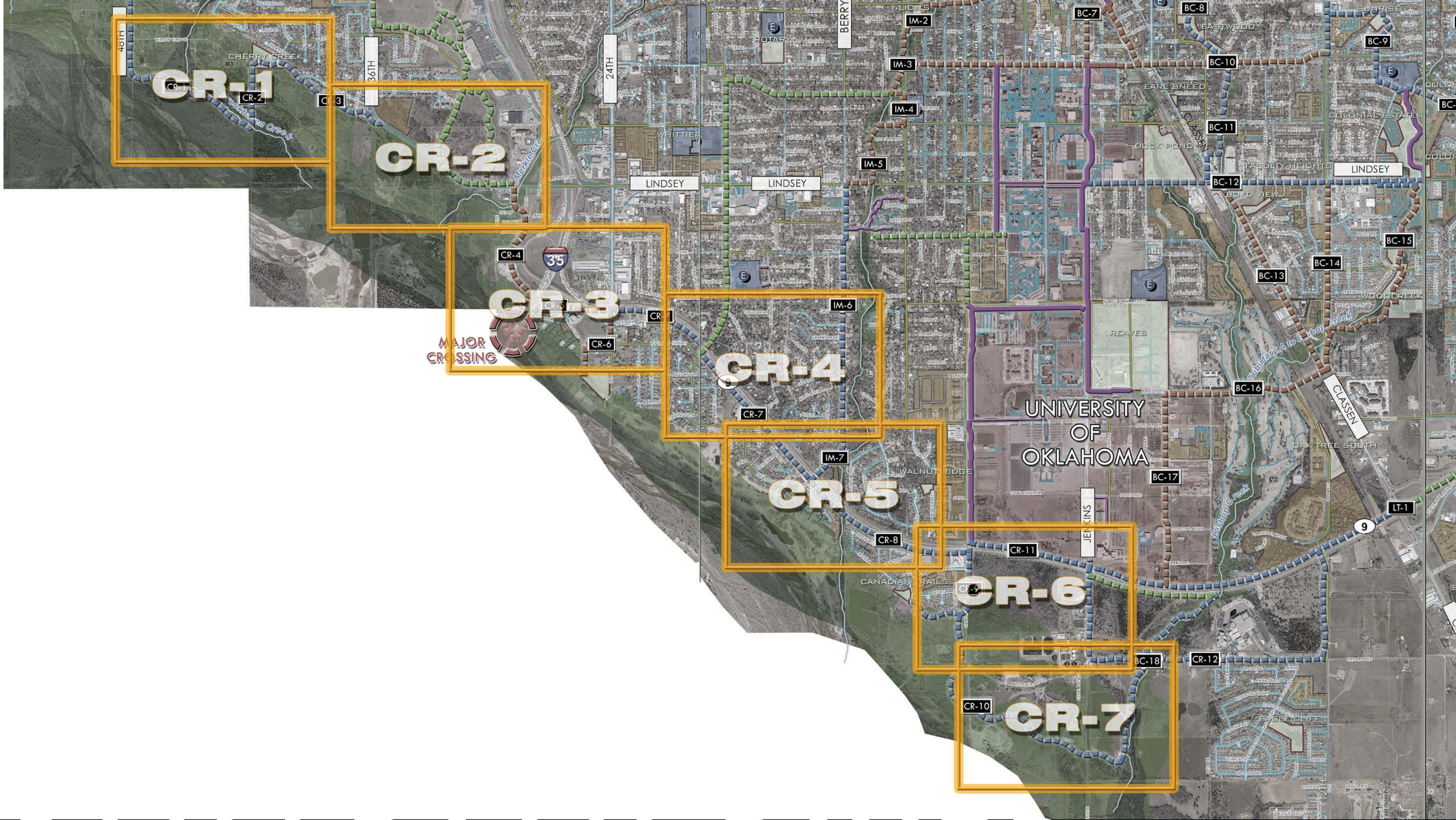
The recommendations for this corridor will be a continuous greenway from Little River to the proposed Waterline Greenway along Rock Creek. This greenway also has the opportunity for trail to be located within the greenway along Rock Creek. The scenic trail will be constructed with crushed materials. The estimated cost for these greenway improvements is shown below (see chart).

Norman Greenway Implementation Action Plan
Rock Creek (Scenic Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Rock Creek	RC-2	Creek Tributary	Rock Creek	Greenway along Rock Corridor, connects to Lake Thunderbird (Natural Surface Trail)	24,700	$3,000,000	2010-2030
Rock Creek	RC-3	Robinson	Little River	Greenway along Rock Corridor, connects to Lake Thunderbird (Natural Surface Trail)	9,400	$1,500,000	2010-2030
				Estimated Total	34,100 6 Miles	$1,500,000	







CANADIAN RIVER

CANADIAN RIVER CORRIDOR

Creek Corridor Analysis

Location: Located in Southern sector of the City
From: Western City Limits of City.
To: Canadian Trails Park

Surrounding Corridors: Ten Mile Flat, Brookhaven, Merkel, Imhoff

Size: 3.5 Sq. Miles – 2,100 Acres

Major Transportation/Roads:
E/W: – Lindsey St. and State Hwy. 9
N/S: W. 36th St. – IH-35

Major Area Corridor(s):
Canadian River runs predominately west to East and is the final drainage point for many of the major corridors in Norman.

Minor Area Sub-corridor(s):
State Hwy. 9 is the major arterial streets connectors.
This area has great potential for natural scenic trails to meander though-out this corridor.

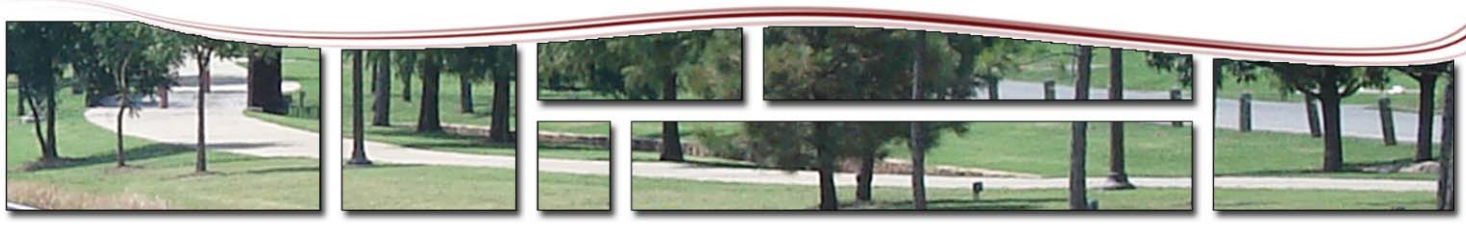
Land Use Context: Much of this corridor is undeveloped. The conditions in most of this corridor make it difficult for development. This is an environmentally sensitive zone.

Key Destinations: No Schools are located within Corridor area, but other local schools are located within the surrounding Corridors.

Key Opportunities:
Nature Trails: Nature Trails would be a great opportunity for wildlife observation and scenic trails. The opportunity for education uses is an opportunity as well for groups of all ages to see what different types of environments are located within the greenway.

Sensitive Areas: If any greenways are located in this area the design will need to take into consideration the surrounding natural environment.

Potential Canadian River Greenway



Suitability Analysis: Canadian River Corridor

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Canadian River Trail (Segments 1-3) **Corridor Score**: 4**
Corridor Description: From W 48th Ave. to Lindsey along Canadian River Corridor. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**6**
Schools	0		6	0
Trail-to-Trail	1		6	2
Connection to 3 O	0		U	0
Connection to 5 aldr Citj y estinations	1		D	2
Connection to Park(s) 4 3 ther Citj Amenities	1		U	2
5 aldr &etail Center	0		2	0
SiRnificant gmploj er(s)	0		2	0
Ownership Availability		**15%**	**15**	**5**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	U
3 ther Public or Semi-public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions appli)			10	10
AweNuate bufferinR from awldcent resiwential properties			U	U
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 100 j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	10
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			10	0
gxistinR' eRetation\Trees (percentaRe basis up to max. pts. proviwew)			U	U
gxistinR/ etlanws or other uniNue natural or urban features			U	U
5 aldr Warrier to use of this corriwor (wewuct up to U points)			-U	0
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	-1
CitiBen Support for this corriwor (from citiBen committees, electew officials anw wocumentew citiBen meetinRs)			20	20
Total		**100%**	**100**	**66**

z %umber of elements Eithin 600 ft. rawius
zz Score ranRes as folloEs - over *0 8 U, over 60 8 D, over D0 8 =, over 20 82, 20 or less 8 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Canadian River Trail (Segments 4-6) **Corridor Score**: 4**
Corridor Description: From Lindsey to Adkin's Crossing Park along Canadian River Corridor. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**5**
Schools	0		6	0
Trail-to-Trail	0		6	0
Connection to 3 O	0		U	0
Connection to 5 aldr Citj y estinations	1		D	2
Connection to Park(s) 4 3 ther Citj Amenities	1		U	2
5 aldr &etail Center	1		2	1
SiRnificant gmploj er(s)	0		2	0
Ownership Availability		**15%**	**15**	**15**
Citj 3 Enew (1 point for everj d7 public oEnership of total acreaRe alonR the corriwor, up to 1U pts. max.) **(or)**			1U	1U
3 ther Public or Semi-public gntitj 3 Enew, **(or)** alonR floowplain corriwor that cannot reasonable be wevelopew anw Ehere access trail easement or permanent wewication to the Citj of %orman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**15**
AweNuate corriwor Eiwth for trail (min. 1UqEiwth for trail unless special conwitions appli)			10	10
AweNuate bufferinR from awldcent resiwential properties			U	U
Existing Physical Characteristics		**20%**	**20**	**20**
a) Trail corriwor is in 100 j ear floowplain or can proviwe stormEater sj stem benefits (percentaRe basis up to max. pts. proviwew) **(or)**			10	'
b) AlonR urban corriwor Ehere siRnificant aesthetic enhancements can benefit citj			10	2
gxistinR VeRetation/Trees (percentaRe basis up to max. pts. proviwew)			U	U
gxistinR Wetlanws or other uniNue natural or urban features			U	U
5 aldr Barrier to use of this corriwor (wewuct up to U points)			-U	0
3 nlj location for trail is Eithin floowEaj portion of the corriwor (wewucts points if selectew)			-U	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corriwor 3 Enership (-U pts)			(-U)	0
Citizen Support for this corriwor (from citizen committees, electew officials anw wocumentew citizen meetinRs)			20	20
Total		**100%**	**100**	**75**

* %umber of elements Eithin 600 ft. rawius
** Score ranRes as folloEs - over ' 0 8 U, over 60 8 D, over D0 8 =, over 20 82, 20 or less 8 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Canadian River Trail (Segments 7-8) **Corridor Score**: 4**
Corridor Description: From W. 24th Ave. to Chautauqua along Canadian River Corridor. Location of path to be determinded after futher study

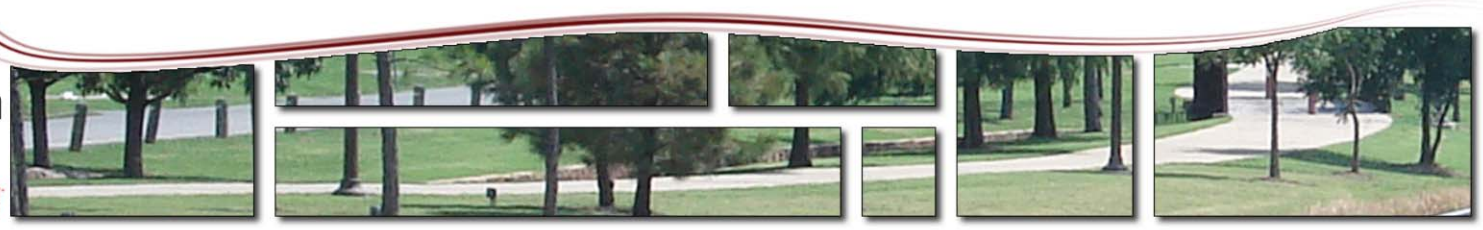
Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**15**
Schools	1		0	2
Trail6to6Trail	1		0	-
Connection to 3 O	1		U	U
Connection to 5 aldr Citj y estinations	D		4	D
Connection to Park(s) & 3 ther Citj Amenities	2		U	4
5 aldr Retail Center	D		2	D
Significant Emploj er(s)	1		2	1
Ownership Availability		**15%**	**15**	**15**
Citj 3 wned (1 point for everj 7% public ownership of total acreage along the corridor, up to 1U pts. max.) **(or)**			1U	1U
3 ther Public or Semi6public Entitj 3 wned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the Citj of Norman is feasible			1D	D
Compatibility with Adjacent Land Uses		**15%**	**15**	**12**
Adequate corridor width for trail (min. 1U width for trail unless special conditions appli)			1D	7
Adequate buffering from adlldcent residential properties			U	U
Existing Physical Characteristics		**20%**	**20**	**14**
a) Trail corridor is in 1DDj ear floodplain or can provide stormwater sj stem benefits (percentage basis up to max. pts. provided) **(or)**			1D	D
b) Along urban corridor where significant aesthetic enhancements can benefit citj			1D	1D
Existing Vegetation/Trees (percentage basis up to max. pts. provided)			U	2
Existing Wetlands or other unique natural or urban features			U	2
5 aldr Barrier to use of this corridor (deduct up to U points)			6U	D
3 nlj location for trail is within floodwaj portion of the corridor (deducts points if selected)			6U	D
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor 3 wnership (6U pts)			(6U)	D
Citizen Support for this corridor (from citizen committees, elected officials and documented citizen meetings)			2D	2D
Total		**100%**	**100**	**76**

* Number of elements within 0DD ft. radius
** Score ranges as follows 6over 8D = U, over 0D = 4, over 4D = - , over 2D =2, 2D or less = 1

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Canadian River Trail (Segments 11) **Corridor Score**: 4**
Corridor Description: From Chautauqua to US 77 along Canadian River Corridor. Location of path to be determinded after futher study

Selection Criterion		Importance	Total Pts. Available	Points
Potential for Increasing Connectivity (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of Elements* and Description of Elements**	**30%**	**30**	**14**
Schools	0		6	0
Trail-to-Trail	1		6	3
Connection to OU	1		5	5
Connection to Major City Destinations	0		4	0
Connection to Park(s) & Other City Amenities	2		5	4
Major Retail Center	0		2	0
Significant Employer(s)	1		2	2
Ownership Availability		**15%**	**15**	**15**
City Owned (1 point for every 7% public ownership of total acreage along the corridor, up to 15 pts. max.) **(or)**			15	15
Other Public or Semi-public Entity Owned, **(or)** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the City of Norman is feasible			10	0
Compatibility with Adjacent Land Uses		**15%**	**15**	**13**
Adequate corridor width for trail (min. 15' width for trail unless special conditions apply)			10	V
Adequate buffering from adjacent residential properties			5	5
Existing Physical Characteristics		**20%**	**20**	**15**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **(or)**			10	0
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	10
Existing / egetationVTrees (percentage basis up to max. pts. provided)			5	3
Existing B etlands or other unique natural or urban features			5	2
Major z arrier to use of this corridor (deduct up to 5 points)			-5	0
Only location for trail is within floodway portion of the corridor (deducts points if selected)			-5	0
Level of Public Support		**20%**	**20**	**20**
Potential for Concern from Current Corridor Ownership (-5 pts)			(-5)	0
Citi*en Support for this corridor (from citi*en committees, elected officials and documented citi*en meetings)			20	20
Total		**100%**	**100**	**77**

8 Number of elements within 600 ft. radius
88 Score ranges as follows - over V0 = 5, over 60 = 4, over 40 = 3, over 20 =2, 20 or less = 1



Suitability Analysis: Canadian River Corridor

CITY of NORMAN - CORRIDOR SUITABILITY EVALUATION for GREENBELT CORRIDORS
Corridor Name: Cakadiak Riher TraivrSe(mekH8 14) c4) *P **Corridor St orell: s**
Corridor De8t ripHok: 7rom Cakadiak TraivgarF H0 SHHe . %y, 1 avok(
Cakadiak Riher Corridor, Lot alHok of pal2 H0 we deHermikded afHer f9H2er
8H9rdv

Selection Criterion		Importance	Total Pts. Available	Points
goHekHavfor lkt rea8ik(Cokket HhiHy (2 pts. For each school or park, 1 pt. for other features up to maximum number of points)	**# of EvemekH8l akd De8t ripHok of EvemekH8**	**3c0**	**3c**	**) 3**
Schools	0		6	0
Trail-to-Trail	1		6	2
Connection to 3 O	1		U	5
Connection to Major City Destinations	1		4	2
Connection to Park(s) & 3 ther City Amenities	2		U	4
Major Retail Center	0		2	0
Significant Employer(s)	1		2	2
O%ker82ip AhaiawiHy		**) b0**	**) b**	**5**
City 3 wned (1 point for every 7% public ownership of total acreage along the corridor, up to 1U pts. max.) **rorP**			1U	N
3 ther Public or Semi-public Entity 3 wned, **rorP** along floodplain corridor that cannot reasonable be developed and where access trail easement or permanent dedication to the City of q orman is feasible			10	0
CompaHwiHy %iH2 Adjat ekHLakd U8e8		**) b0**	**) b**	**) b**
Ade' uate corridor width for trail (min. 1U width for trail unless special conditions apply)			10	10
Ade' uate buffering from adjacent residential properties			U	U
Exi8Hk(g2y8it avC2arat Heri8Ht 8		***c0**	***c**	***c**
a) Trail corridor is in 100 year floodplain or can provide stormwater system benefits (percentage basis up to max. pts. provided) **rorF**			10	10
b) Along urban corridor where significant aesthetic enhancements can benefit city			10	0
Existing / egetation Trees (percentage basis up to max. pts. provided)			U	U
Existing B etlands or other uni' ue natural or urban features			U	U
Major z arrier to use of this corridor (deduct up to U points)			-U	0
3 nly location for trail is within floodway portion of the corridor (deducts points if selected)			-U	0
Lehevof g9wit S9pporH		***c0**	***c**	***c**
Potential for Concern from Current Corridor 3 wnership (-U pts)			(-U)	0
Citi*en Support for this corridor (from citi*en committees, elected officials and documented citi*en meetings)			20	20
ToHav		**) cc0**	**) cc**	**u6**

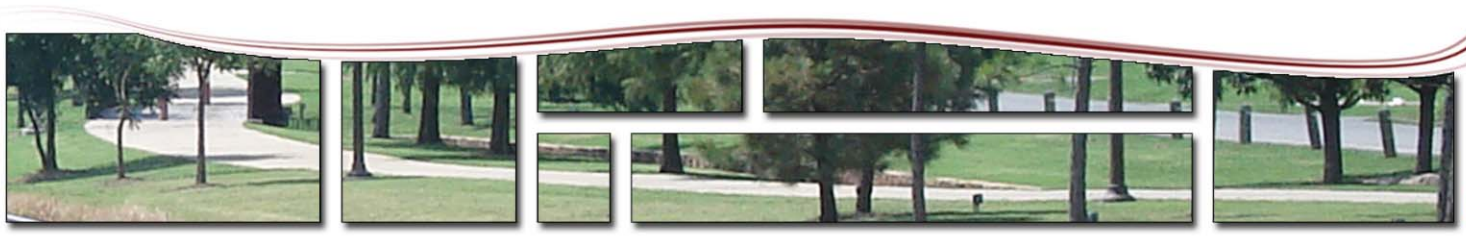
8 q umber of elements within 600 ft. radius
88 Score ranges as follows - over N0 = U, over 60 = 4, over 40 = 5, over 20 =2, 20 or less = 1

Prioritization Analysis: Canadian River Corridor

City of Norman
Greenway Master Plan

Greenway Corridor Prioritization: Canadian River Corridor

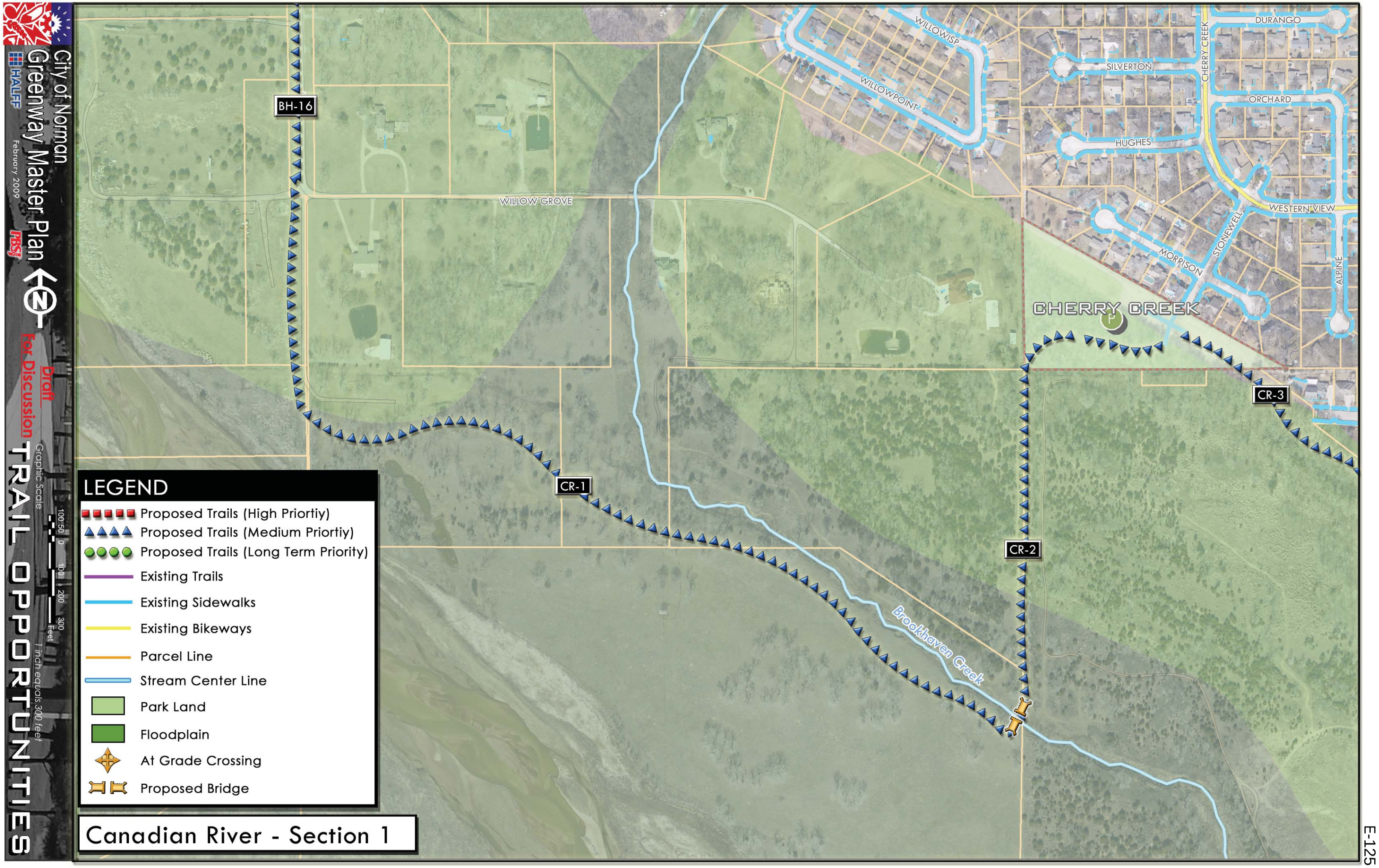
Number	Corridor	Length (L.F)	Prioritization Criteria: Suitability Evaluation Score (1 to 5)	Level of Connectivity (1 to 5)	Potential Level of Use (1= low, 5 = high)	Key Contribution to Greenway and Open Space Network (1 to 3)	Critical Opportunity (1-5)	Integration with Stormwater Plan/Facilities (1 to 3)	Level of Readiness (1 to 4)	Total Score: Maximum Score = 30	Priority Category: 21 to 30 = High 11 to 20 = Medium 0 to 11 = Long Term
CR 1-3	Canadian River Trail West Segments 1-3	8300	4	1	3	3	2	1	2	16	Medium
CR 4-6	Canadian River Trail West (Crosses under IH-35) 4-6	8700	4	4	3	3	3	1	3	21	High
CR 7-8	Canadian River Trail Central Segments 7-8	10500	4	3	3	1	2	1	2	16	Medium
CR 9-10,12	Canadian River Trail East Segments 9,10,12	18800	4	2	2	3	3	1	2	17	Medium
CR 11	Canadian River Trail East Segments 11	10100	4	2	3	1	2	1	2	15	Medium
		56400	4	2.4	2.8	2.2	2.4	1	2.2	17	Medium



Scenic Greenway System: Canadian River Key Recommendations

Norman Greenway Implementation Action Plan
Canadian River (Scenic Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Canadian	**CR-1**	W 48th Ave.	Brookhaven Creek	Greenway along Canadian River Corridor, connects Brookhaven greenway (Natural Surface Trail)	3,900	$670,000	2010-2020
Canadian	**CR-2**	Brookhaven Creek	Cherry Creek Park	Greenway along Canadian River Corridor, connects Brookhaven greenway (Natural Surface Trail)	1,600	$340,000	2020-2040
Canadian	**CR-3**	Cherry Creek Park	Lindsey Street	Greenway along Canadian River Corridor, connects Brookhaven greenway (Natural Surface Trail)	2,800	$500,000	2020-2040
Canadian	**CR-4**	Lindsey Street	IH-35	Greenway along Canadian River Corridor, connects under IH-35 to Merkle and Imhoff Greenways (Natural Surface Trail)	4,100	$760,000	2010-2020
				Greenway along Canadian River Corridor, connects			


City of Norman
Greenway Master Plan
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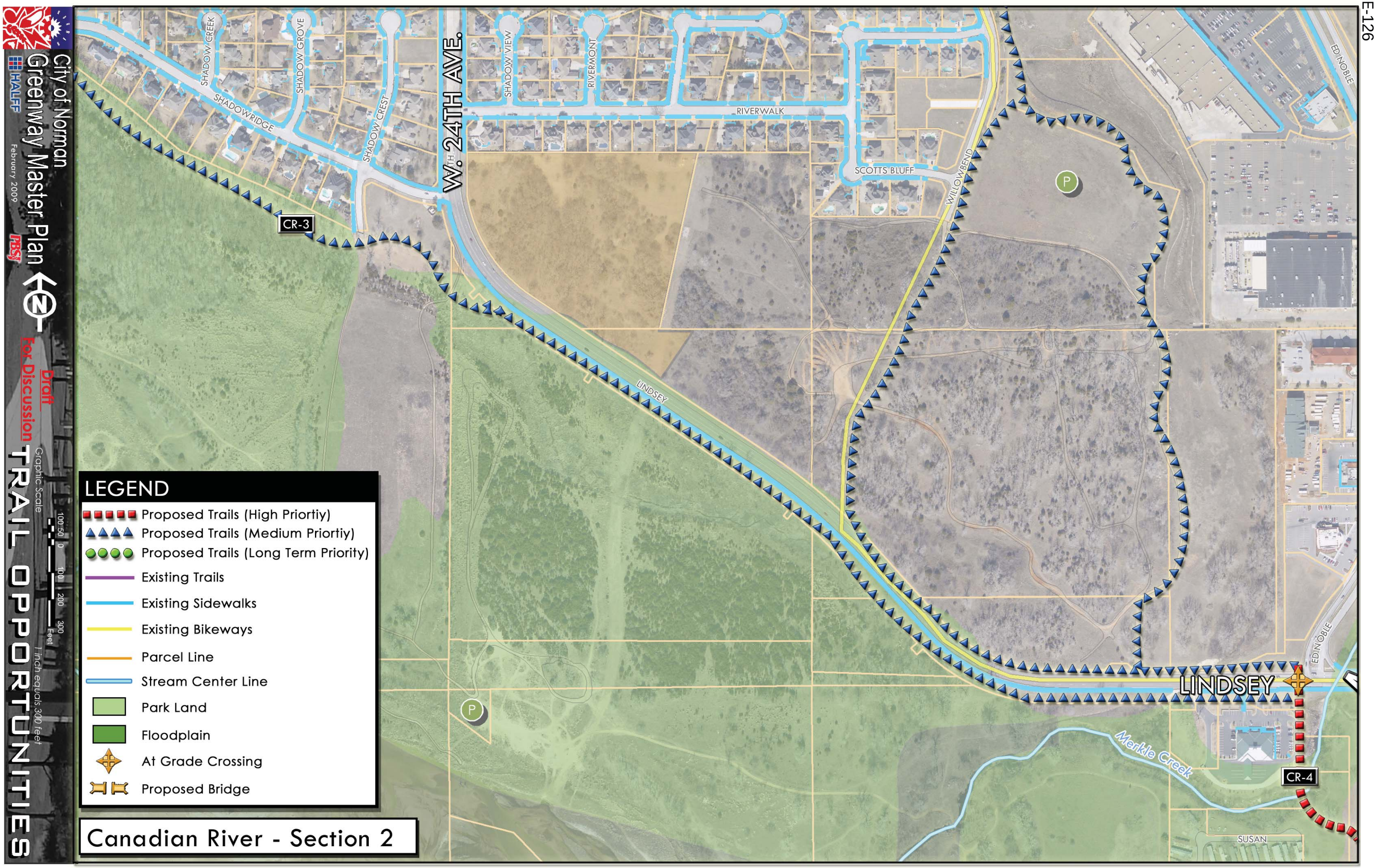
TRAIL OPPORTUNITIES
Graphic Scale
100 50 0 100 200 300 Feet
1 inch equals 300 feet
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Canadian River - Section 1
BH-16
WILLOW GROVE
CR-1
CR-2
CR-3
Brookhaven Creek
CHERRY CREEK
WILLOWISP
WILLOWPOINT
SILVERTON
HUGHES
DURANGO
ORCHARD
CHERRY CREEK
WESTERN VIEW
STONEWELL
MORRISON
ALPINE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Feet
1 inch equals 300 feet
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Canadian River - Section 2
W. 24TH AVE.
SHADOW CREEK
SHADOW GROVE
SHADOWRIDGE
SHADOW CREST
SHADOW VIEW
RIVERMONT
RIVERWALK
SCOTTS BLUFF
WILLOWBEND
ED NOBLE
LINDSEY
CR-3
CR-4
Merkle Creek
SUSAN

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TRAIL OPPORTUNITIES

Graphic Scale
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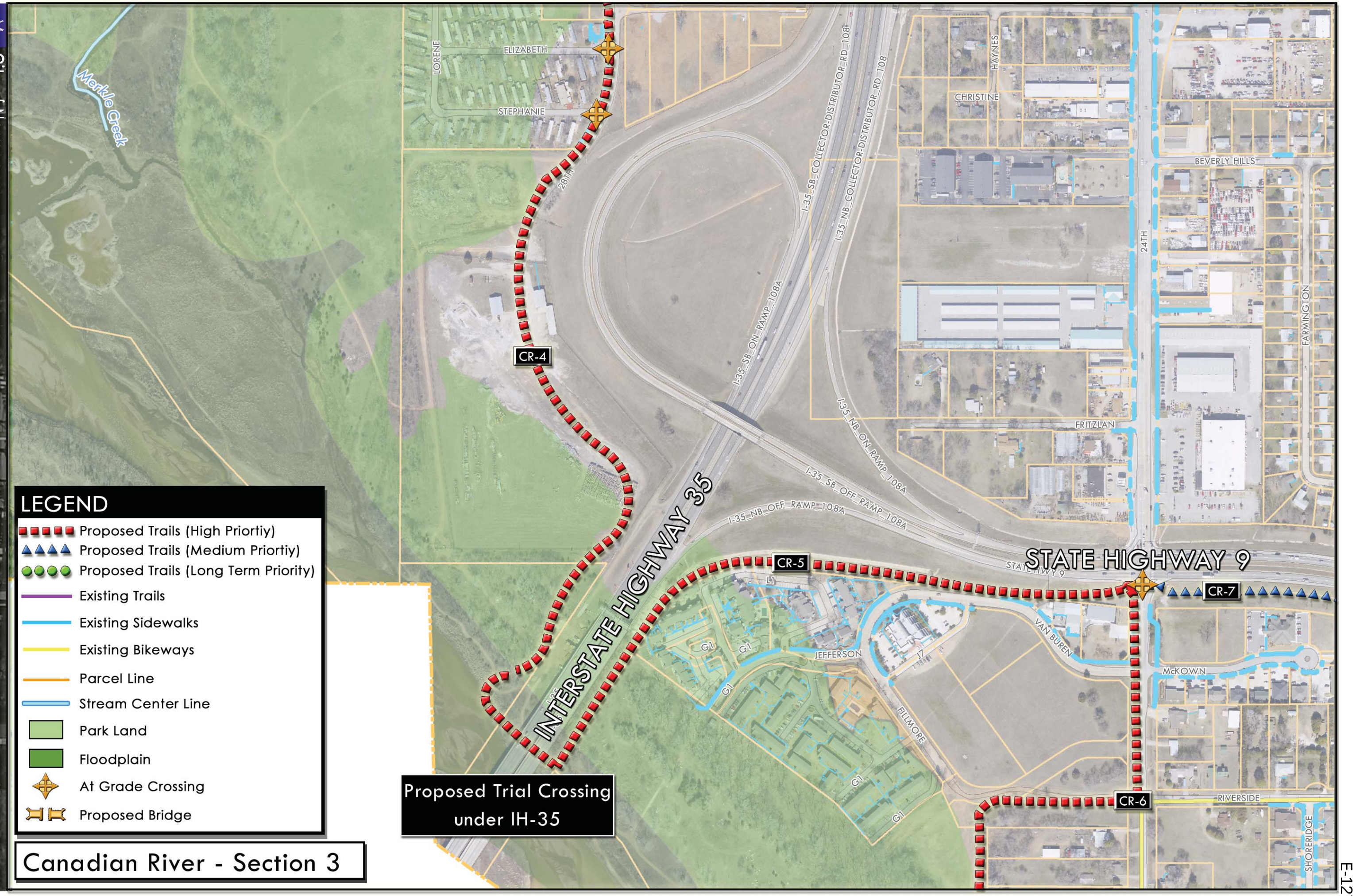

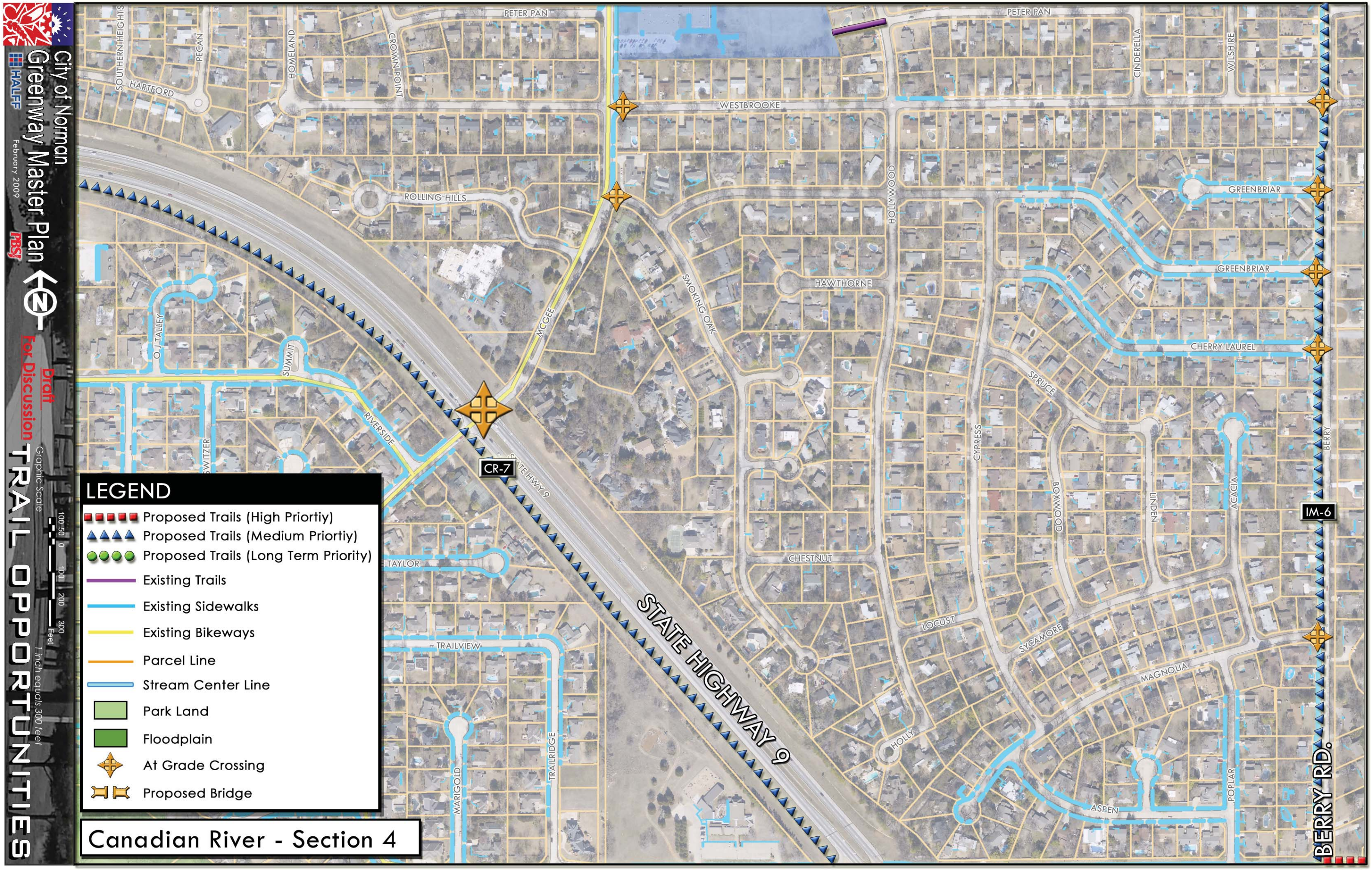
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TRAIL OPPORTUNITIES
Graphic Scale
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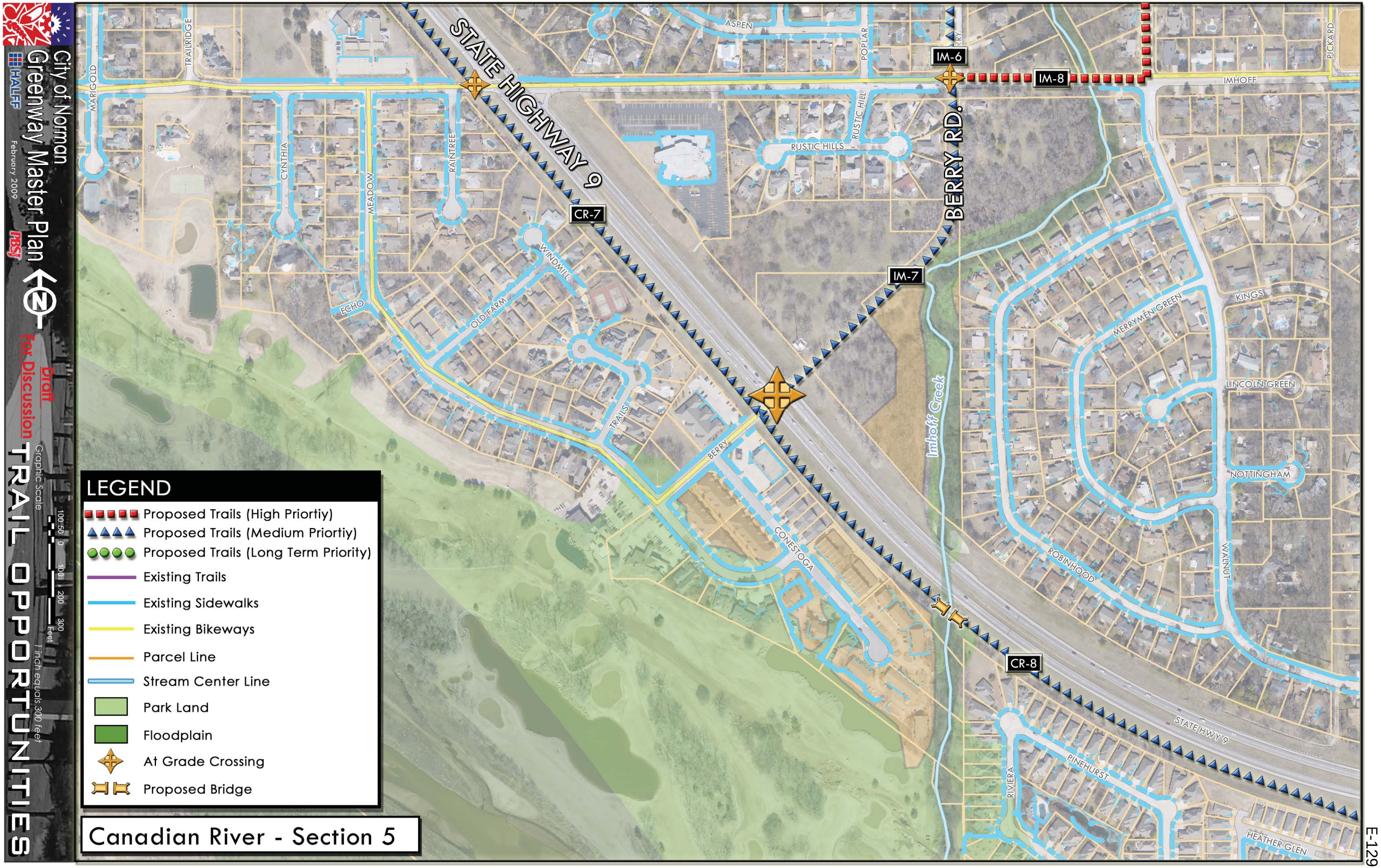
1 inch equals 300 feet
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Canadian River - Section 4
PETER PAN
SOUTHERN HEIGHTS
PECAN
HARTFORD
HOMELAND
CROWN POINT
WESTBROOKE
ROLLING HILLS
HOLLYWOOD
CINDERELLA
WILSHIRE
GREENBRIAR
HAWTHORNE
SMOKING OAK
MCGEE
O.J. TALLEY
SUMMIT
RIVERSIDE
SWITZER
CR-7
STATE HWY 9
STATE HIGHWAY 9
CHERRY LAUREL
SPRUCE
CYPRESS
BOXWOOD
LINDEN
ACACIA
BERRY
IM-6
BERRY RD.
CHESTNUT
LOCUST
SYCAMORE
MAGNOLIA
HOLLY
ASPEN
POPLAR
TAYLOR
TRAILVIEW
MARIGOLD
TRAILRIDGE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TRAIL OPPORTUNITIES
Graphic Scale
100 50 0 100 200 300 Feet
1 inch equals 300 feet
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Canadian River - Section 5
STATE HIGHWAY 9
BERRY RD.
IMHOFF
PICKARD
ASPEN
POPLAR
RUSTIC HILL
RUSTIC HILLS
MARIGOLD
TRAILRIDGE
CYNTHIA
MEADOW
RAINTREE
WINDMILL
OLD FARM
ECHO
TRAILS
BERRY
CONESTOGA
Imhoff Creek
MERRYMEN GREEN
KINGS
LINCOLN GREEN
NOTTINGHAM
WALNUT
ROBINHOOD
PINEHURST
RIVIERA
HEATHER GLEN
IM-6
IM-8
IM-7
CR-7
CR-8

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TRAIL OPPORTUNITIES

Graphic Scale
100 50 0 100 200 300 Feet
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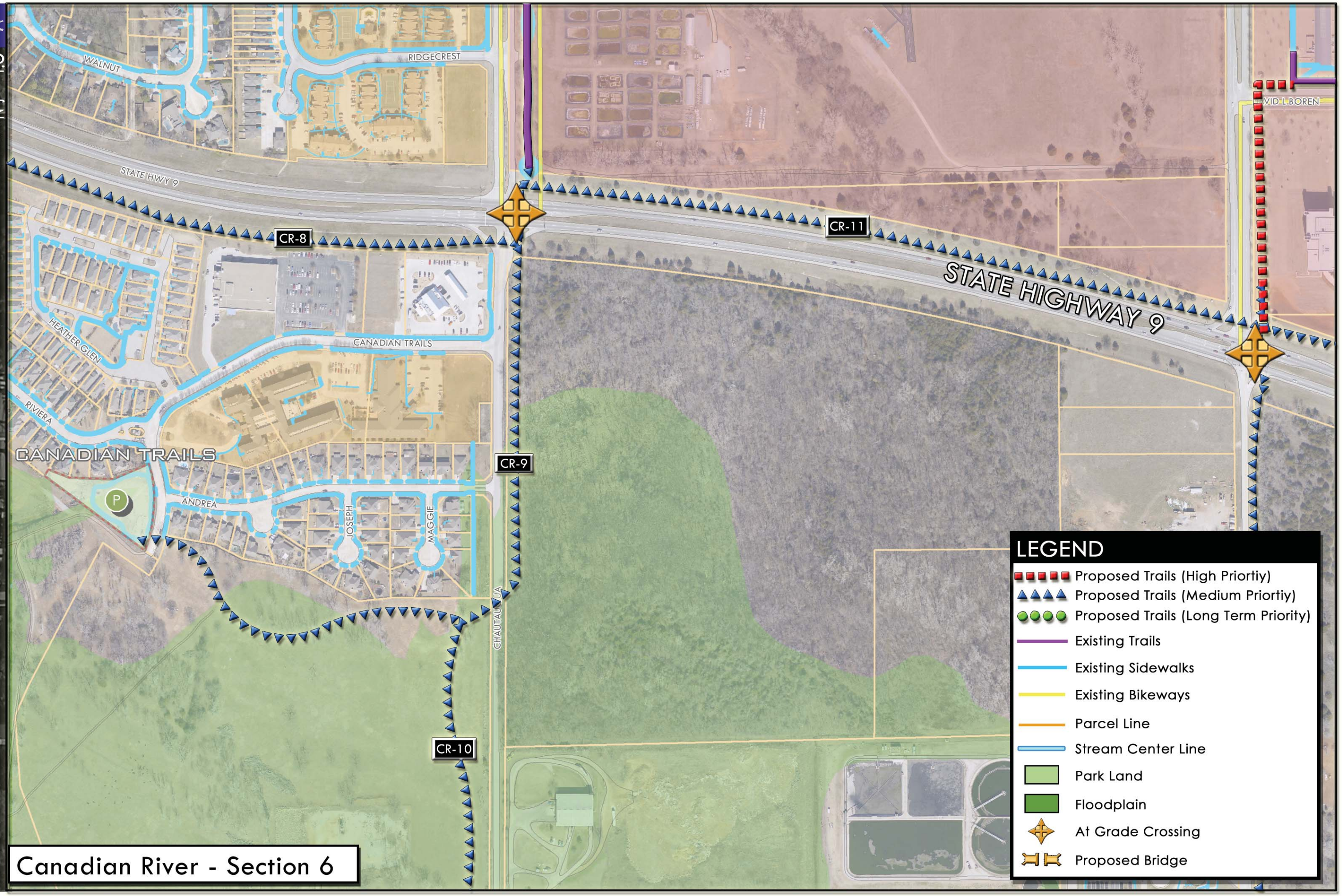
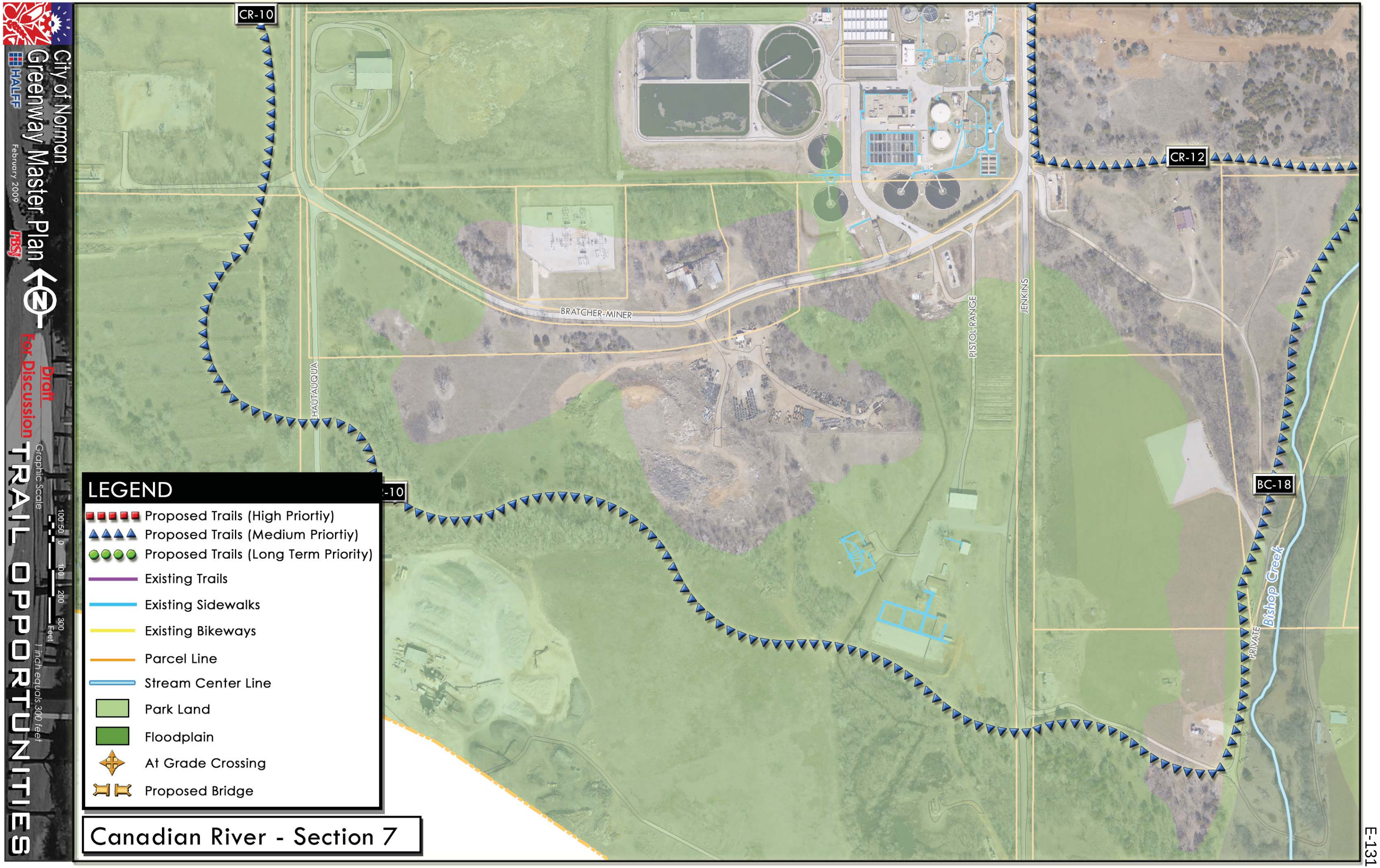


Canadian River - Section 6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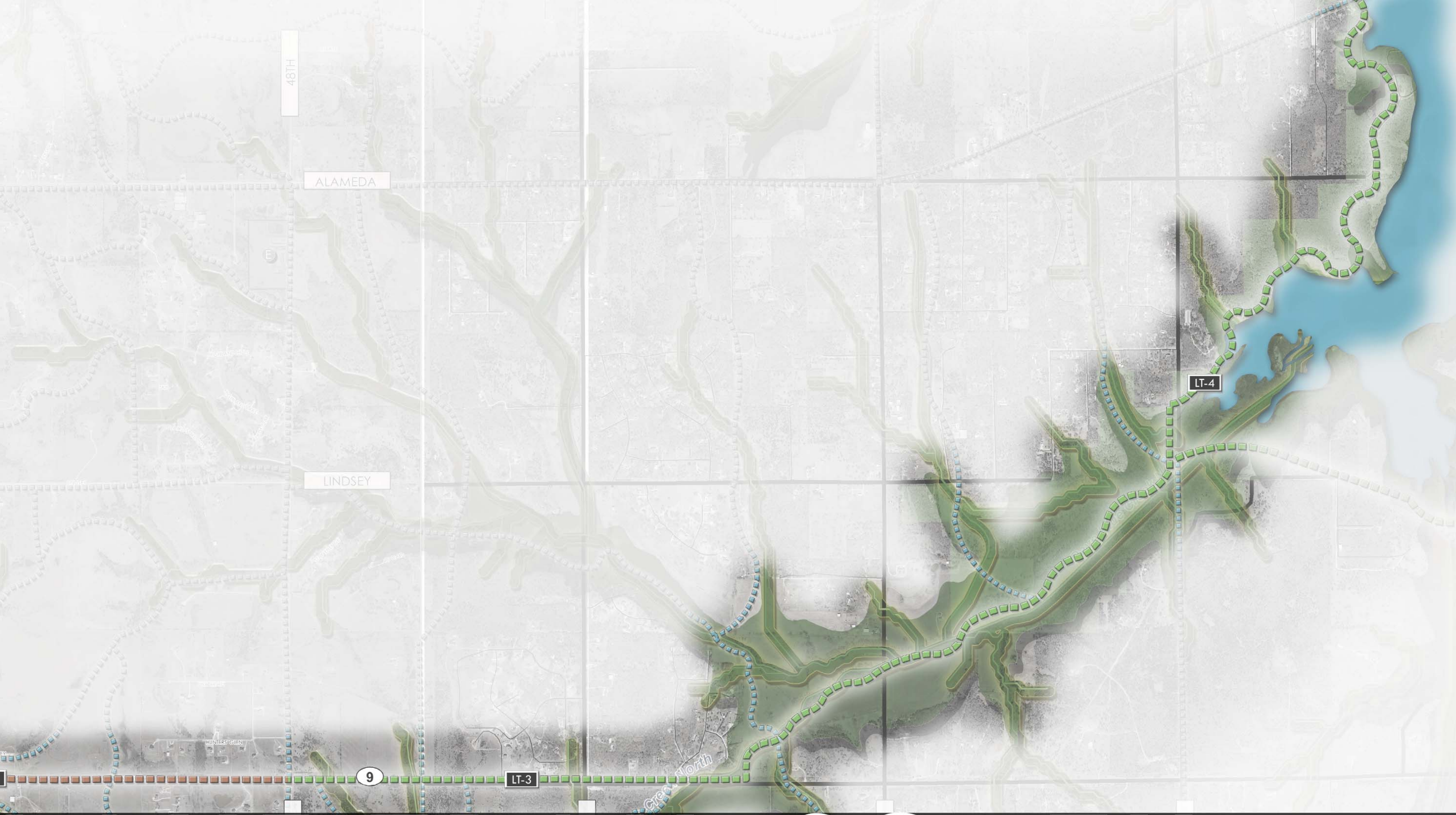
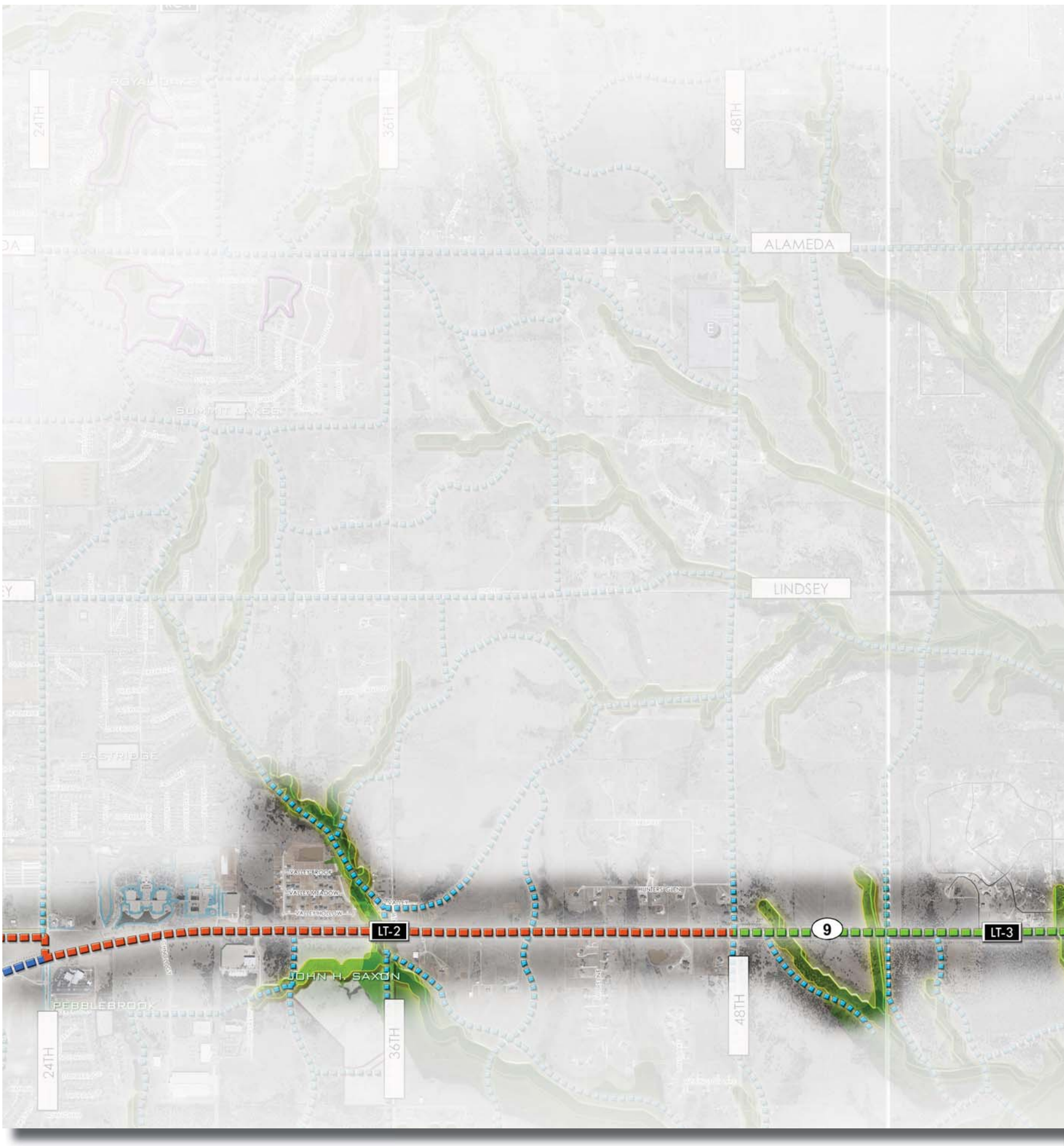
For Discussion
TRAIL OPPORTUNITIES
Graphic Scale
100 50 0 100 200 300 Feet
1 inch equals 300 feet
CR-10
CR-12
BC-18
BRATCHER-MINER
YAUKAUWOKA
PISTOL RANGE
JENKINS
PRIVATE
Bishop Creek
LEGEND
Proposed Trails (High Priortiy)
Proposed Trails (Medium Priortiy)
Proposed Trails (Long Term Priority)
Existing Trails
Existing Sidewalks
Existing Bikeways
Parcel Line
Stream Center Line
Park Land
Floodplain
At Grade Crossing
Proposed Bridge
Canadian River - Section 7



LAKE TRAIL SOUTH

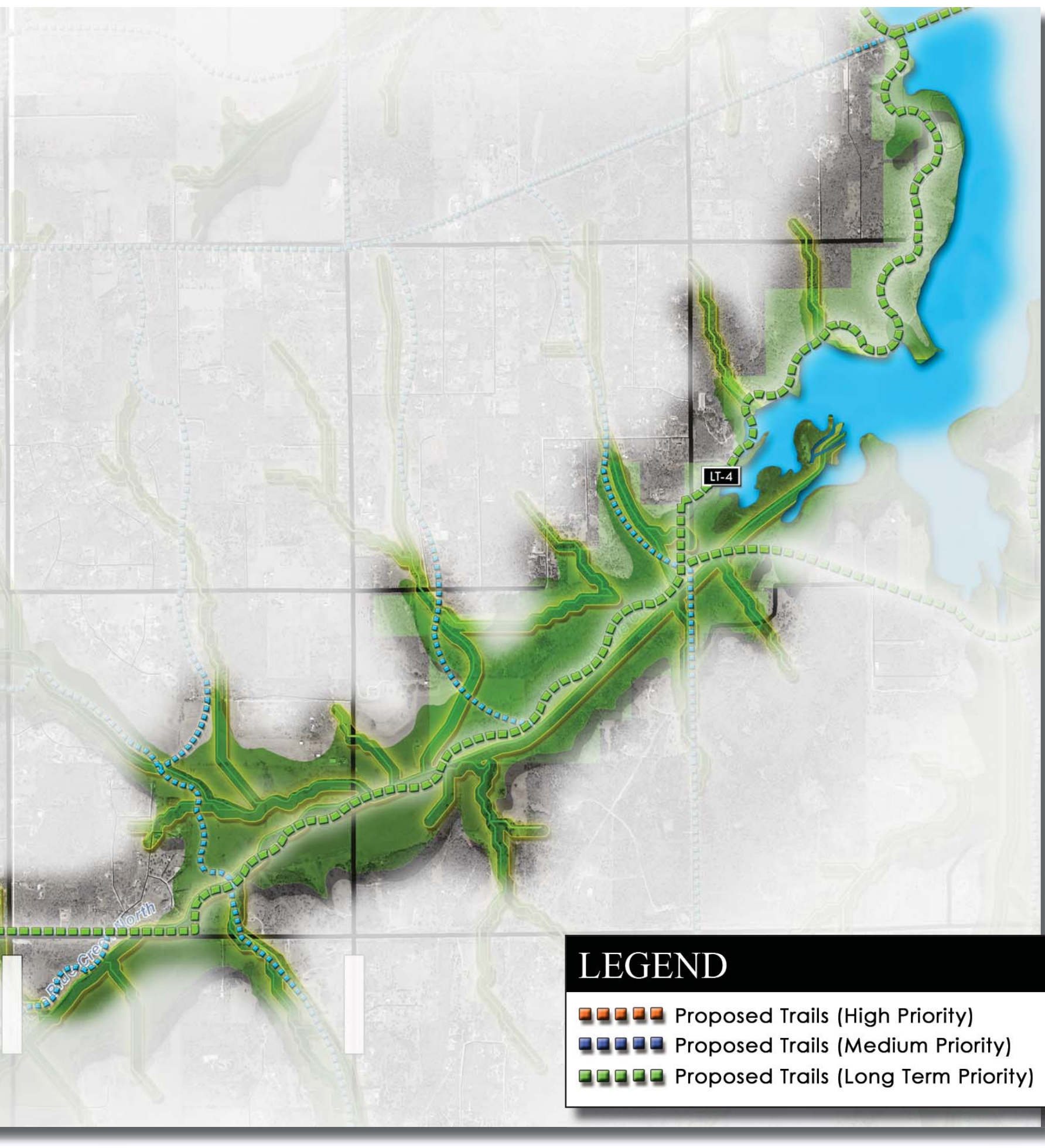
Scenic Greenway System: Lake Trail South Key Recommendations

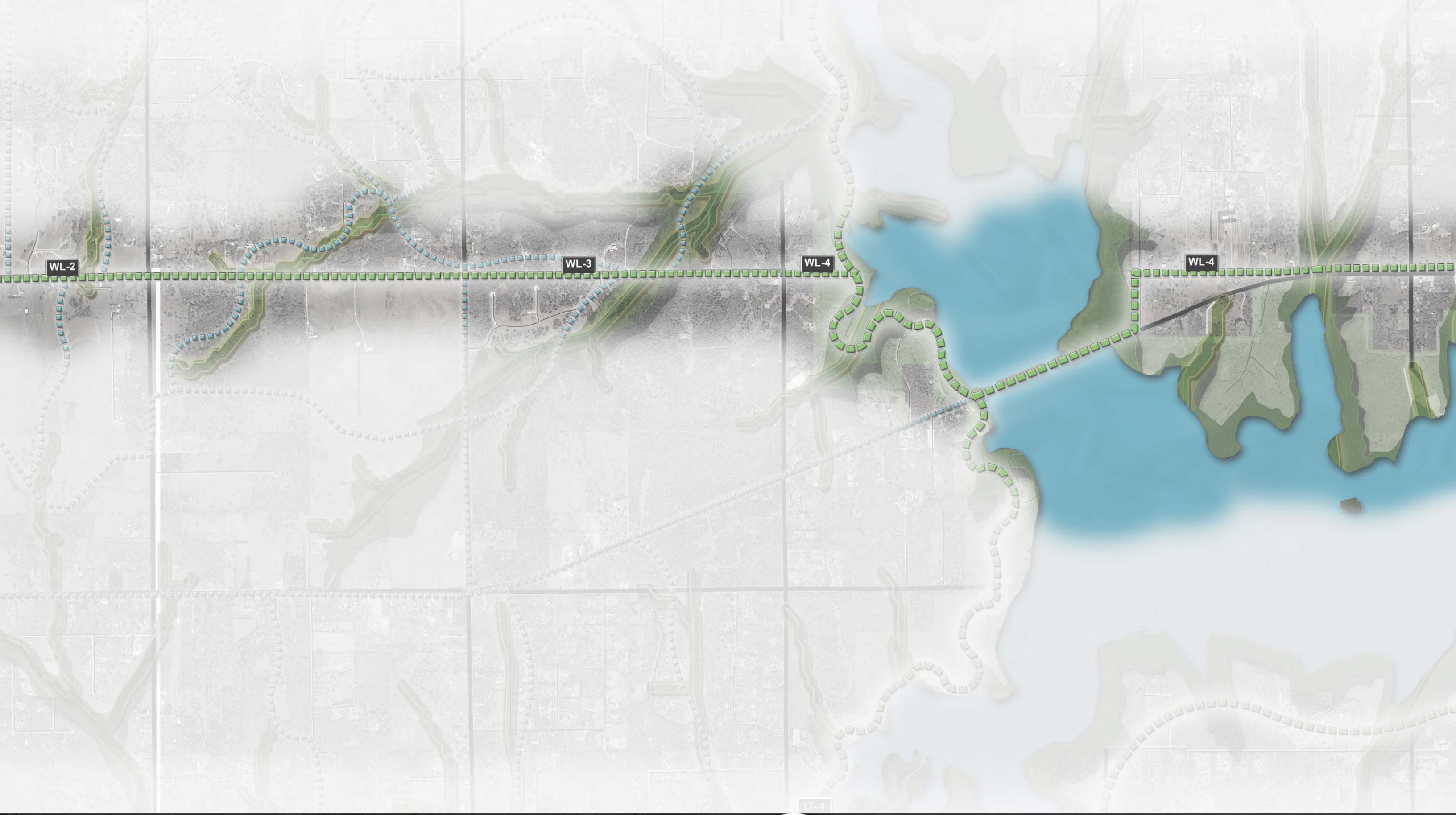
This greenway recommendation utilizes the State Highway 9 corridor along with the Dave Blue Greenway. This greenway would connect southern Norman to Lake Thunderbird. The potential greenway has the opportunity to be a signature greenway system that many will recognize Norman. The estimated cost for these greenway improvements is shown below (see chart).



Norman Greenway Implementation Action Plan
Greenway to Lake Greenway South - State Hwy. 9 and Dave Blue Creek (Scenic Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Dave Blue	LT-2	E. 24th Ave.	E. 48th Ave.	Greenway along State Hwy 9 corridor, connects to Lake Thunderbird (Natural Surface Trail)	10,600	$960,000	2010-2020
Dave Blue	LT-3	E. 48th Ave.	Dave Blue Creek	Greenway along State Hwy 9 corridor, connects to Lake Thunderbird (Natural Surface Trail)	8,000	$1,255,000	2015-2025
Dave Blue	LT-4	State Hwy. 9	Alameda	Greenway along Dave Blue Creek, connects to Lake Thunderbird (Natural Surface Trail)	23,800	$2,120,000	2020-2040
				Estimated Total	**42,400 8 Miles**	**$4,335,000**	





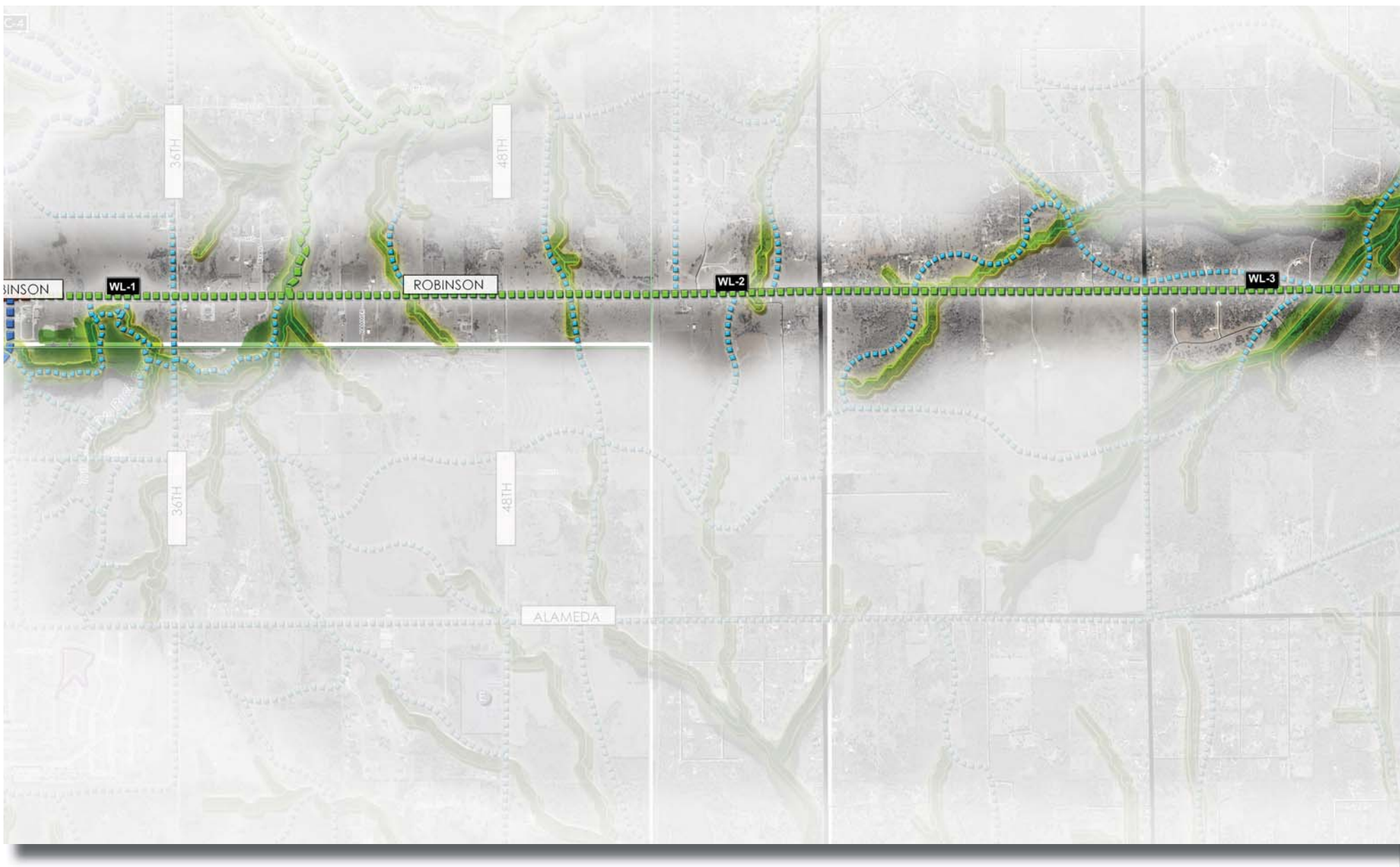
WATERLINE GREENWAY

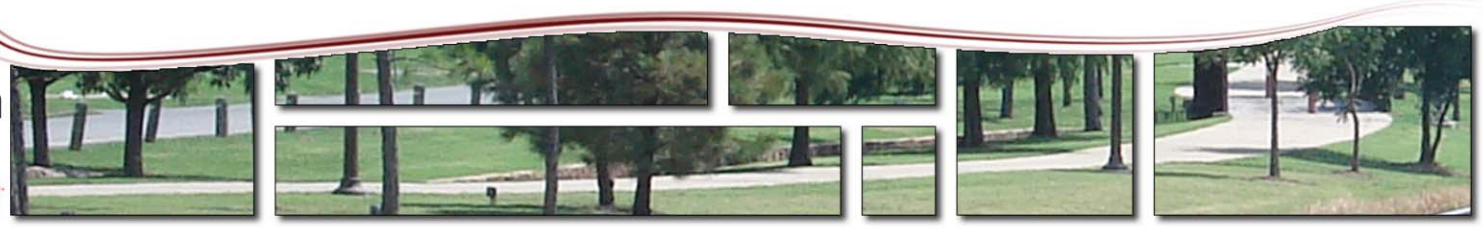
Scenic Greenway System: Water-Line Greenway Key Recommendations

The waterline greenway is an opportunity for the city to take advantage of land that is already owned by the city through a waterline easement. This greenway would run parallel to Robinson then Alameda until it reaches Lake Thunderbird. This greenway would connect central Norman to the Lake recreational area. The estimated cost for these greenway improvements is shown below (see chart).

Norman Greenway Implementation Action Plan
Water-line (Scenic Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Waterline	**WL-1**	Water Treatment Plan	E 48th Ave.	Greenway along water-line easement, connects to Lake Thunderbird (Natural Surface Trail)	7,700	$730,000	2010-2020
Waterline	**WL-2**	E 48th Ave.	E 60th Ave.	Greenway along water-line easement, connects to Lake Thunderbird (Natural Surface Trail)	5,200	$550,000	2010-2020
Waterline	**WL-3**	E 60th Ave.	E 84th Ave.	Greenway along water-line easement, connects to Lake Thunderbird (Natural Surface Trail)	11,600	$1,000,000	2015-2025
Waterline	**WL-4**	E 96th Ave.	Lake Thunderbird	Greenway along water-line easement, connects to Lake Thunderbird (Natural Surface Trail)	14,600	$1,300,000	2015-2025
				Estimated Total	**39,1007**	**$3,580,000**	





WL-4
WL-4
WL-5
LAKE
THUNDERBIRD
LEGEND
Proposed Trails (High Priority)
Proposed Trails (Medium Priority)
Proposed Trails (Long Term Priority)
NORTH

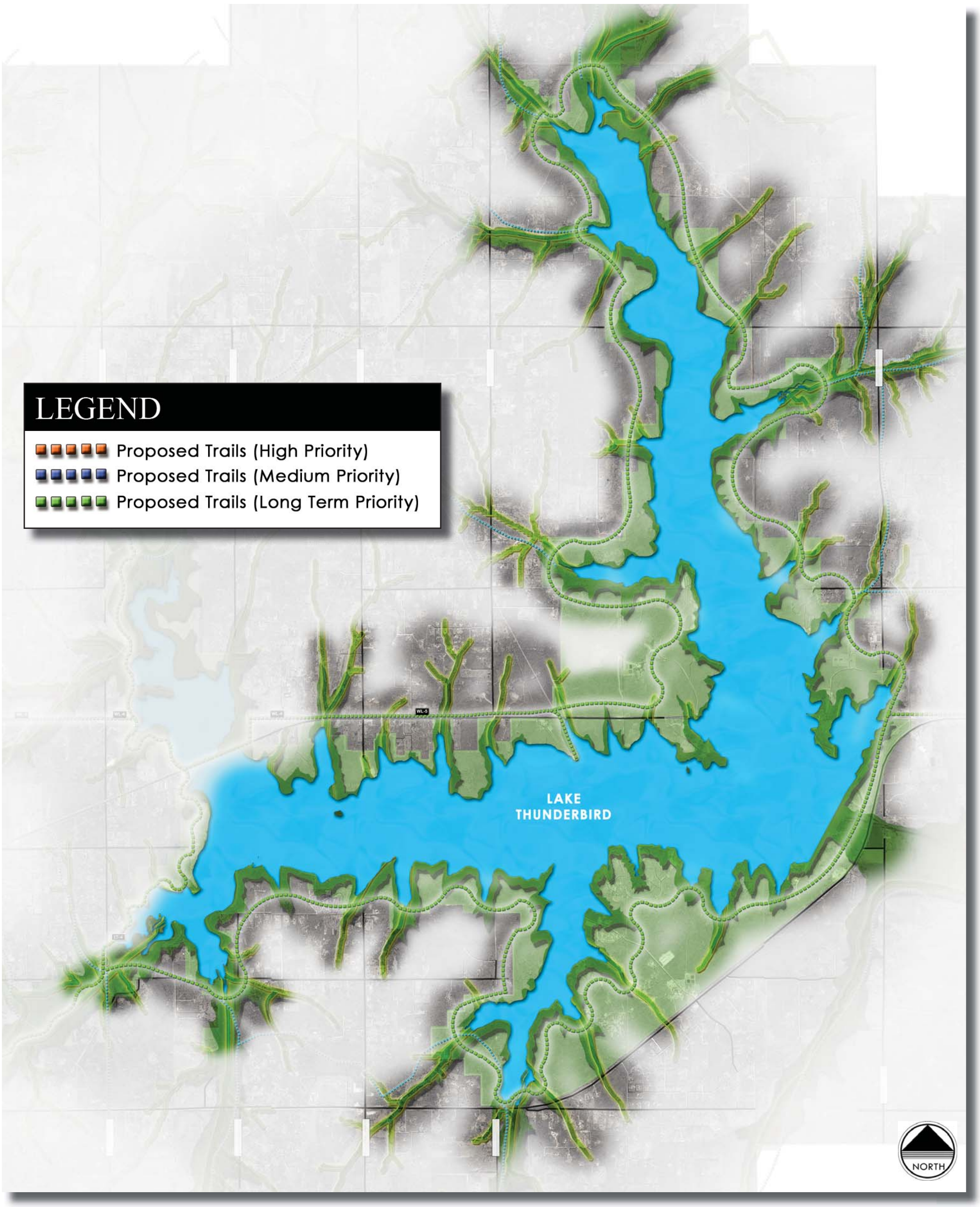
LAKE THUNDERBIRD

Scenic Greenway System: Lake Thunderbird Greenway Key Recommendations

The recommendations for the Lake Thunderbird area would be to create a greenway which looped around Lake Thunderbird. This recommendation has the potential to be one of the key greenways for Norman. The proposed greenway could also be used for education purposes. The estimated cost for these greenway improvements is shown below (see chart).

Norman Greenway Implementation Action Plan
Lake Thunderbird (Scenic Greenway)

Watershed	Segment	Segment Start	Segment End	Proposed Action	Length (feet)	Potential Cost	Potential Timeframe
Lake Thunderbird	TH-1	Alameda	Alameda	Greenway corridor around Lake Thunderbird (Natural Surface Trail)	144,300	$16,000,000	2010-2040
				Estimated Total	144,300 27 Miles	$16,000,000	


LEGEND
Proposed Trails (High Priority)
Proposed Trails (Medium Priority)
Proposed Trails (Long Term Priority)
LAKE
THUNDERBIRD
NORTH

Greenway Cost Analysis

The process folowing the greenway opportunities and recommendations was to figure the costs of implementing the greenway systems through-out the city of Norman. The following cost estimates were broken down by watershed areas and divided into costs by Ward districts.

Key recommendations were then divided into the urban core recommendations and the rural recommendations.

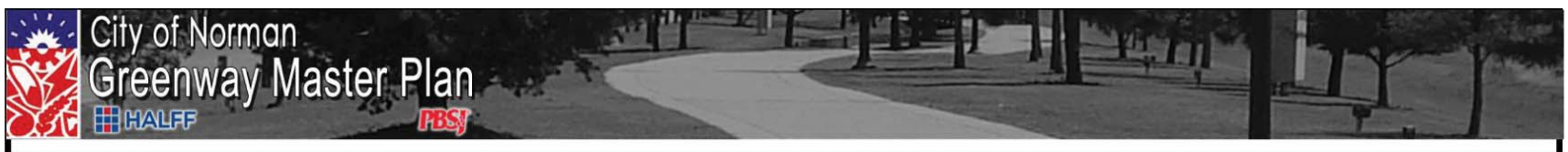
The following charts represent the estimated cost for citywide greenway implementation.

Overall Cost Breakdown

Overall Potential Trail Corridors (by Ward)

	High Priority	Medium Priority	Long Term Priority	Overall
Ward #	**Potential Cost**	**Potential Cost**	**Potential Cost**	**Potential Cost**
1	$5,500,000	$1,300,000	$0	**$6,800,000**
2	$2,400,000	$5,200,000	$0	**$7,600,000**
3	$900,000	$7,800,000	$0	**$8,700,000**
4	$8,900,000	$2,300,000	$0	**$11,200,000**
5	$1,800,000	$1,900,000	$22,000,000	**$25,700,000**
6	$7,600,000	$4,700,000	$3,200,000	**$15,500,000**
7	$1,300,000	$6,800,000	$0	**$8,100,000**
8	$8,700,000	$6,200,000	$0	**$14,900,000**
Total	**$37,100,000**	**$36,200,000**	**$25,200,000**	**$98,500,000**

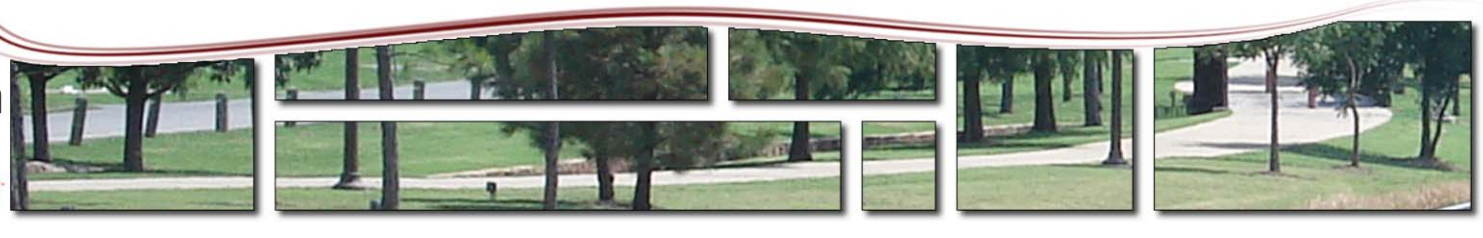
Preliminary Cost Projection for review and comment. Prioritization and costs may vary as detailed study takes place.



Overall Potential Trail Corridors (by Watershed)

	High Priority	Medium Priority	Long Term Priority	Overall
Watershed	**Potential Cost**	**Potential Cost**	**Potential Cost**	**Potential Cost**
Ten Mile Flat	$0	$4,700,000	$0	**$4,700,000**
Brookhaven	$5,400,000	$4,100,000	$0	**$9,500,000**
Tributary G	$4,200,000	$2,900,000	$0	**$7,100,000**
Canadian River	$0	$10,400,000	$0	**$10,400,000**
Woodcrest	$3,000,000	$1,900,000	$0	**$4,900,000**
Imhoff	$9,000,000	$3,600,000	$0	**$12,600,000**
Bishop	$10,200,000	$6,700,000	$0	**$16,900,000**
Lake Trail South	$1,800,000	$1,900,000	$5,700,000	**$9,400,000**
Waterline	$0	$0	$7,400,000	**$7,400,000**
Little River	$3,500,000	$0	$12,100,000	**$15,600,000**
Total	**$37,100,000**	**$36,200,000**	**$25,200,000**	**$98,500,000**

Preliminary Cost Projection for review and comment. Prioritization and costs may vary as detailed study takes place.

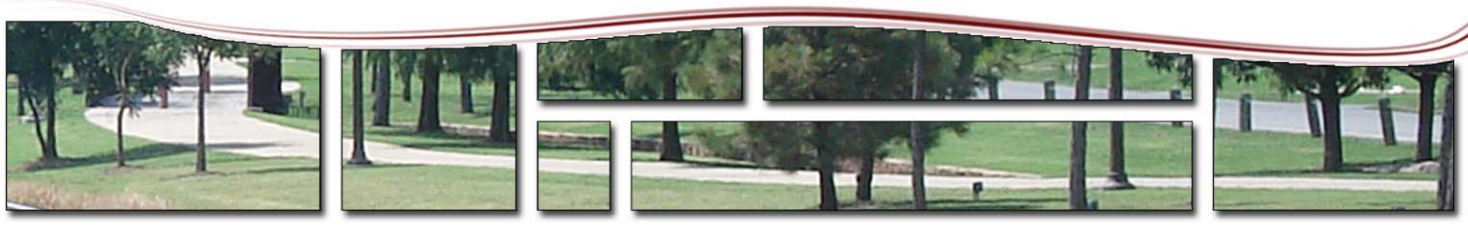


Potential Greenways with Drainage Improvments

Areas through-out Norman have been identified for storm water drainage improvements. Some of these potential improvement areas are also areas for recommended greenways. These specific greenways have the potential of being implemented quickly and possibly funded with money from the storm water improvement funds.

Norman Greenway Implementation Action Plan
Recommended Greenways with Drainage Improvements

Segment	Watershed	Ward	Segment Start	Segment End	Trail Corridor Along	Potential Prioritization	Length (in linear feet)	Overall Potential Development Cost per Segment
BH-4	Brookhaven	8	W 36th Ave.	Prairie Creek Park	Tributary A Brookhaven Creek	Medium	1,200	$280,000
BH-10	Brookhaven	8	Robinson	W 36th Ave.	Brookhaven Creek	High	2,100	$470,000
BH-13	Brookhaven	3	W 36th Ave.	Willow Branch	Brookhaven Creek	High	3,000	$570,000
BH-14	Brookhaven	3	Willow Branch	Main Street	Brookhaven Creek	High	1,400	$300,000
RS-2	Brookhaven	8	W. 36th Ave.	W.24th Ave.	Rock Creek Rd.	High	4,500	$640,000
TG-1	Tributary G	8	Ruby Grant Park	IH-35	Tributary G Creek	Medium	4,500	$800,000
WC-2	Woodcrest	6	Nantucket St.	Sequoyah Trails	Woodcrest Creek	High	2,700	$490,000
WC-5	Woodcrest	6	Rock Creek	Robinson Rd.	Griffin Memorial Park	High	4,700	$900,000
MC-2	Merkle	8	Main St.	McGee	W. 24th Ave./Boyd	Medium	5,400	$1,000,000
IM-1	Imhoff	4	Andrews Park	Lion's Park	Road Corridor	High	4,100	$820,000
IM-2	Imhoff	4	Lion's Park	McNamee	Lion's Park	High	800	$200,000
IM-3	Imhoff	4	McNamee	Cruce	Imhoff Creek	High	1,400	$400,000
IM-5	Imhoff	4	Brooks Ave.	Lindsey St.	Imhoff Creek	High	1,900	$390,000
BC-8	Bishop	4	Alameda	Boyd	Bishop Creek	Medium	3,400	$660,000
BC-9	Bishop	1	12th Ave.	Vicksburg	Street Corridor	High	5,300	$920,000
BC-16	Bishop	7	Monitor	Classen	Constitution	High	3,700	$750,000
						Total	50,100	$9,590,000
							9 Miles	



Urban Greenway Key Recommendations Costs

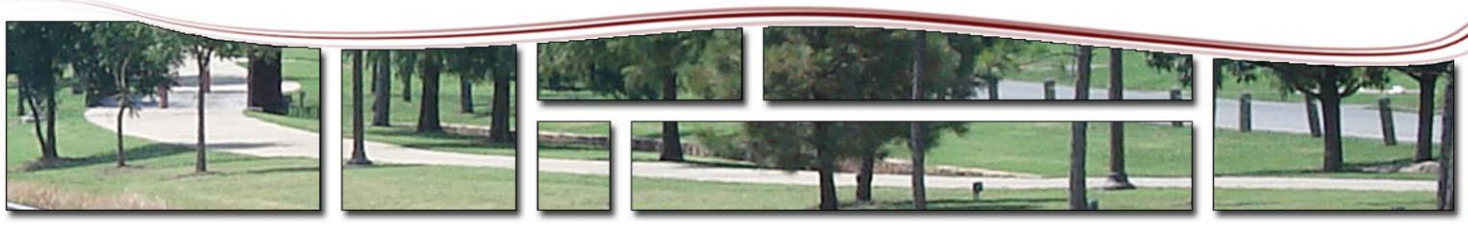
Norman Greenway Implementation Action Plan
Key Recommendations (Urban Greenways)

Segment	Watershed	Ward	Segment Start	Segment End	Trail Corridor Along	Potential Prioritization	Potential Drainage Improvements	Length (in linear feet)	Overall Potential Cost per Segment
	Brookhaven								
BH-1	**Brookhaven**	**8**	Tecumseh	Rock Creek Rd.	W 36th Ave.	**High**		5,400	$1,000,000
BH-3	**Brookhaven**	**8**	Rock Creek Rd.	Crossroads	W 36th Ave.	**High**		2,700	$510,000
BH-6	**Brookhaven**	**8**	Crossroads	Existing Sidewalk	W 36th Ave.	**High**		1,000	$210,000
BH-7	**Brookhaven**	**8**	Existing Sidewalk	Robinson	W 36th Ave.	**Medium**		1,700	$340,000
BH-9	**Brookhaven**	**8**	Robinson	Havenbrook	W 36th Ave.	**Medium**		1,000	$270,000
BH-11	**Brookhaven**	**8**	Havenbrook	Quail	W 36th Ave.	**Medium**		4,500	$720,000
BH-12	**Brookhaven**	**8**	Havenbrook	Quail	Brookhaven Creek	**High**		2,500	$470,000
BH-13	**Brookhaven**	**3**	W 36th Ave.	Willow Branch	Brookhaven Creek	**High**	**Yes**	3,000	$570,000
BH-14	**Brookhaven**	**3**	Willow Branch	Main Street	Brookhaven Creek	**High**	**Yes**	1,400	$300,000
BH-15	**Brookhaven**	**3**	Brookhaven Creek	48th St.	Main St.	**Medium**		2,500	$480,000
RS-2	**Brookhaven**	**8**	W. 36th Ave.	W.24th Ave.	Rock Creek Rd.	**High**	**Yes**	4,500	$640,000
	Tributary G						**Total**	**30,200**	**$5,510,000**
TG-2	**Tributary G**	**8**	IH-35	US 77	Franklin	**High**		5,200	$2,400,000
TG-3	**Tributary G**	**8**	US 77	12th Ave.	Tributary G Creek	**High**		7,000	$1,300,000
TG-5	**Tributary G**	**8**	Bridgeport	Tecumseh	W 36th Ave.	**High**		2,600	$470,000
	Little River						**Total**	**14,800**	**$4,170,000**
LR-4	**Little River**	**6**	Little River	Rock Creek Rd	Drainage creeks	**Long Term**		11,100	$1,900,000
LR-5	**Little River**	**6**	W 12th Ave.	Woodcrest Creek	Rock Creek Rd.	**Long Term**		5,100	$930,000
LR-6	**Little River**	**6**	Rock Creek Rd.	Robinson	Stubbeman	**Medium**		5,200	$980,000
	Merkle						**Total**	**21,400**	**$3,810,000**
MC-1	**Merkle**	**8**	Main St.	Robinson	W. 24th Ave.	**High**		5,730	$1,100,000
MC-2	**Merkle**	**8**	Main St.	McGee	W. 24th Ave./Boyd	**Medium**	**Yes**	5,400	$1,000,000
MC-3	**Merkle**	**8**	McGee	Imhoff Creek	Brooks	**Medium**		3,000	$610,000
	Woodcrest						**Total**	**5,730**	**$2,710,000**
WC-1	**Woodcrest**	**6**	Little River Creek	Nantucket St.	Woodcrest Creek	**High**		4,100	$720,000
WC-2	**Woodcrest**	**6**	Nantucket St.	Sequoyah Trails	Woodcrest Creek	**High**	**Yes**	2,700	$490,000
WC-4	**Woodcrest**	**6**	Sequoyah Trail Park	Rock Creek	Woodcrest Creek	**High**		1,200	$300,000
WC-5	**Woodcrest**	**6**	Rock Creek	Robinson Rd.	Griffin Memorial Park	**High**	**Yes**	4,700	$900,000
WC-6	**Woodcrest**	**6**	Woodcrest Creek	W. 12th Ave.	Rock Creek Rd.	**Medium**		3,300	$650,000
WC-7	**Woodcrest**	**6**	Robinson Rd.	Frances Cate Park	Frances Cate Park	**High**		1,800	$350,000
WC-8	**Woodcrest**	**4**	Frances Cate Park	Main Street	Carter St.	**High**		1,300	$300,000
	Imhoff						**Total**	**19,100**	**$3,710,000**
IM-1	**Imhoff**	**4**	Andrews Park	Lion's Park	Road Corridor	**High**	**Yes**	4,100	$820,000
IM-1A	**Imhoff**	**4**	Andrews Park	Lion's Park	University	**High**		4,000	$680,000
IM-2	**Imhoff**	**4**	Lion's Park	McNamee	Lion's Park	**High**	**Yes**	800	$200,000
IM-3	**Imhoff**	**4**	McNamee	Cruce	Imhoff Creek	**High**	**Yes**	1,400	$400,000
IM-4	**Imhoff**	**4**	Cruce	Brooks Ave.	Pickard St.	**High**		1,550	$350,000
IM-5	**Imhoff**	**4**	Brooks Ave.	Lindsey St.	Imhoff Creek	**High**	**Yes**	1,900	$390,000
IM-6	**Imhoff**	**4**	Lindsey St.	Imhoff Rd.	Berry Rd.	**High**		5,400	$1,100,000
IM-8	**Imhoff**	**4**	Berry Rd.	Chautauqua	Road Corridor	**High**		5,200	$1,000,000
OU-1	**Imhoff**	**4**	Imhoff Creek	Classen	Boyd	**High**		4,700	$1,100,000
OU-2	**Imhoff**	**4**	Imhoff Creek	Maple (OU Campus)	3rd St.	**High**		3,100	$720,000
RB-1	**Imhoff**	**6**	Flood	Griffin Memorial Park	Robinson	**High**		7,700	$1,400,000
RB-2	**Imhoff**	**6**	Griffin Memorial Park	Water Treatment Area	Robinson	**Medium**		11,000	$1,900,000
	Bishop						**Total**	**50,850**	**$10,060,000**
BC-2	**Bishop**	**4**	University	Carter	Eufaula/Main St.	**High**		6,000	$1,100,000
BC-9	**Bishop**	**1**	12th Ave.	Vicksburg	Street Corridor	**High**	**Yes**	5,300	$920,000
BC-10	**Bishop**	**4**	Trout	12th Ave.	Boyd	**High**		4,700	$830,000
BC-15	**Bishop**	**1**	Lindsey	Classen	Bishop Creek Tributary A	**High**		5,800	$1,100,000
BC-16	**Bishop**	**7**	Monitor	Classen	Constitution	**High**	**Yes**	3,700	$750,000
BC-18	**Bishop**	**7**	State Hwy 9	Bishop Creek	Bishop Creek	**Medium**		4,600	$790,000
	Rock Creek						**Total**	**30,100**	**$5,490,000**
HP-1	**Rock Creek**	**6**	W. 12th Ave.	Hall Park	Hall Park	**Medium**		7,600	$1,300,000
HP-2	**Rock Creek**	**6**	Hall Park	Hall Park	Hall Park	**Medium**		1,200	$260,000
HP-3	**Rock Creek**	**6**	Hall Park	Robinson	Hall Park	**Medium**		2,500	$510,000
HP-4	**Rock Creek**	**6**	Rock Creek Rd.	E. 24th Ave.	Hall Park	**Medium**		3,100	$620,000
							Total	**14,400**	**$2,690,000**
							Overall Total	**171,780 33 Miles**	**$38,150,000**

Rural Scenic Greenway Key Recommendations Costs

Key Recommendations (Scenic Greenways)

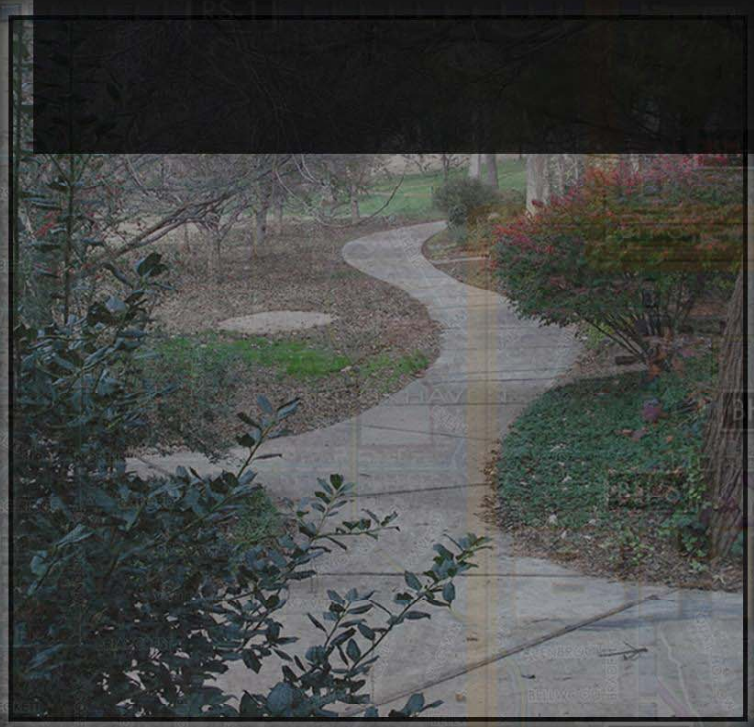
Segment	Watershed	Ward	Segment Start	Segment End	Trail Corridor Along	Potential Prioritization	Potential Drainage Improvements	Length (in linear feet)	Overall Potential Cost per Segment
	Waterline Greenway								
WL-1	**Waterline**	**5**	Water Treatment Plan	E 48th Ave.	Robinson	**Long Term**	No	7,700	$730,000
WL-2	**Waterline**	**5**	E 48th Ave.	E 60th Ave.	Robinson	**Long Term**	No	5,200	$550,000
WL-3	**Waterline**	**5**	E 60th Ave.	E 84th Ave.	Alameda	**Long Term**	No	11,600	$1,000,000
WL-4	**Waterline**	**5**	E 96th Ave.	Lake Thunderbird	Alameda	**Long Term**	No	14,600	$1,300,000
	Greenway to Lake South						**Total**	**39,100**	**$3,580,000**
LT-2	**Dave Blue**	**5**	E. 24th Ave.	E. 48th Ave.	State Hwy. 9	**High**	No	10,600	$960,000
LT-3	**Dave Blue**	**5**	E. 48th Ave.	Dave Blue Creek	State Hwy. 9	**Long Term**	No	8,000	$1,255,000
LT-4	**Dave Blue**	**5**	State Hwy. 9	Alameda	Dave Blue Creek	**Long Term**	No	23,800	$2,120,000
	Little River to Lake						**Total**	**42,400**	**$1,100,000**
LR-1	**Little River**	**6**	W. 12th Ave.	E. 12th Ave.	Little River Corridor	**Long Term**	No	14,400	$1,100,000
LR-2	**Little River**	**6**	E. 12th Ave.	E. 36th Ave.	Little River Corridor	**Long Term**	No	13,200	$990,000
LR-3	**Little River**	**6**	E. 36th Ave.	Lake Thunderbird	Little River Corridor	**Long Term**	No	40,400	$3,000,000
	Rock Creek						**Total**	**68,000**	**$5,090,000**
RC-2	**Rock Creek**	**5**	Robinson	Little River	Rock Creek	**Long Term**	No	24,700	$3,000,000
RC-4	**Rock Creek**	**5**	Little River	Hall Park	Drainage creeks	**Long Term**	No	19,500	$1,700,000
RC-5	**Rock Creek**	**5**	Double Tree Greenbelt	Proposed Greenway	Drainage creeks	**Long Term**	No	3,600	$400,000
	Canadian River						**Total**	**47,800**	**$5,100,000**
CR-1	**Canadian**	**3**	W 48th Ave.	Brookhaven Creek	Canadian River	**Medium**	No	3,900	$670,000
CR-2	**Canadian**	**3**	Brookhaven Creek	Cherry Creek Park	Canadian River	**Medium**	No	1,600	$340,000
CR-3	**Canadian**	**3**	Cherry Creek Park	Lindsey Street	Canadian River	**Medium**	No	2,800	$500,000
CR-4	**Canadian**	**3**	Lindsey Street	IH-35	Canadian River	**Medium**	No	4,100	$760,000
CR-5	**Canadian**	**2**	IH-35	24th Ave.	Canadian River	**Medium**	No	2,500	$460,000
CR-6	**Canadian**	**2**	State Hwy 9	Adkin's Crossing Park	24th Ave.	**Medium**	No	2,100	$440,000
CR-7	**Canadian**	**2**	24th Ave.	Berry Rd.	State Hwy. 9	**Medium**	No	6,200	$1,100,000
BH-16	**Brookhaven**	**3**	Main St.	Canadian River Trail	W 48th Ave.	**Medium**	No	2,000	$380,000
	Lake Thunderbird						**Total**	**17,000**	**$3,170,000**
TH-1	**Lake Thunderbird**	**5**	Alameda	Alameda	Lake Thunderbird	**Long Term**	No	144,300	$16,000,000
							Total	**144,300**	**$16,000,000**
							Overall Total	**358,600 68 Miles**	**$34,040,000**

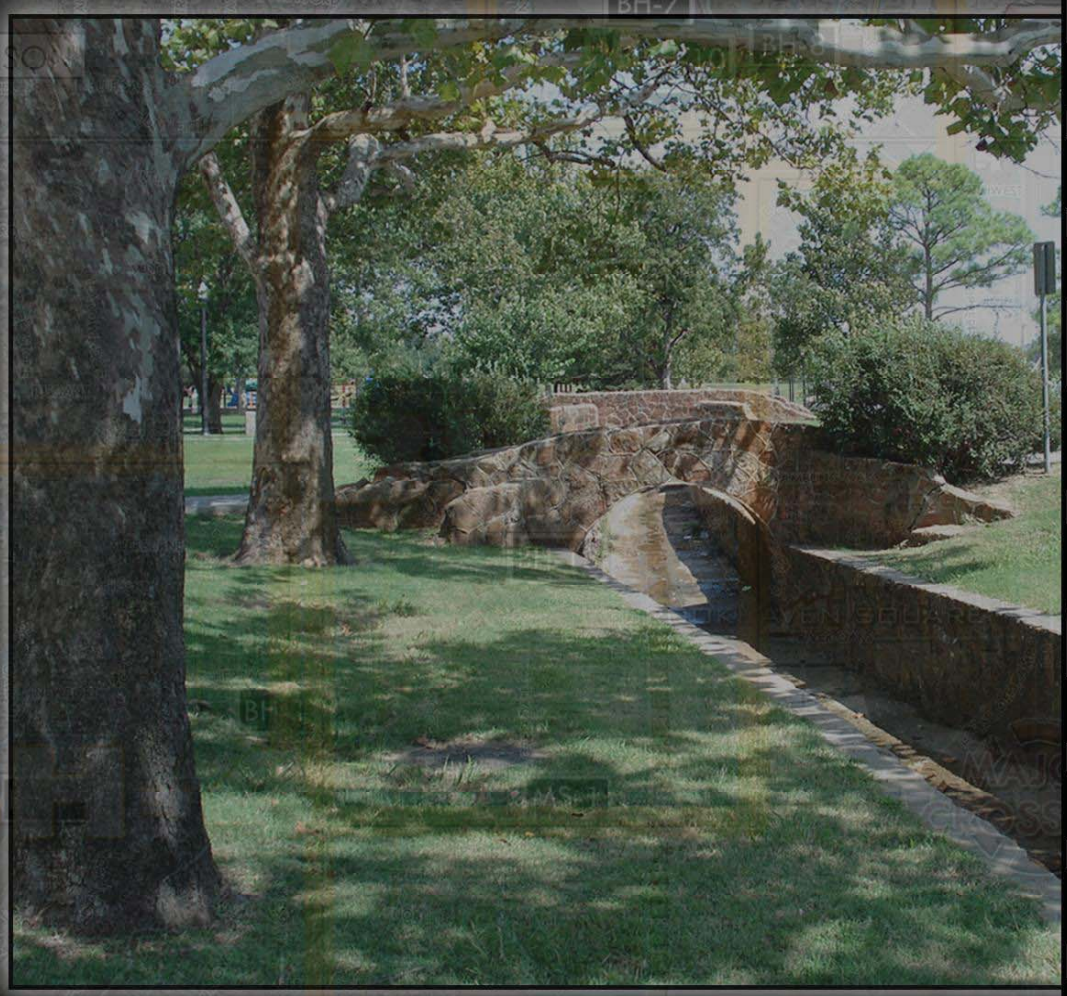


IMPLEMENTATION STRATEGIES

CHAPTER F CONTENTS

- Greenway Implementation Process
- Funding Sources
- Implementation Strategies for Development Funded Segments
- Maintenance of Greenway Corridors
- Implementation Timeframe





City of Norman Oklahoma

GREENWAY MASTER PLAN

2009

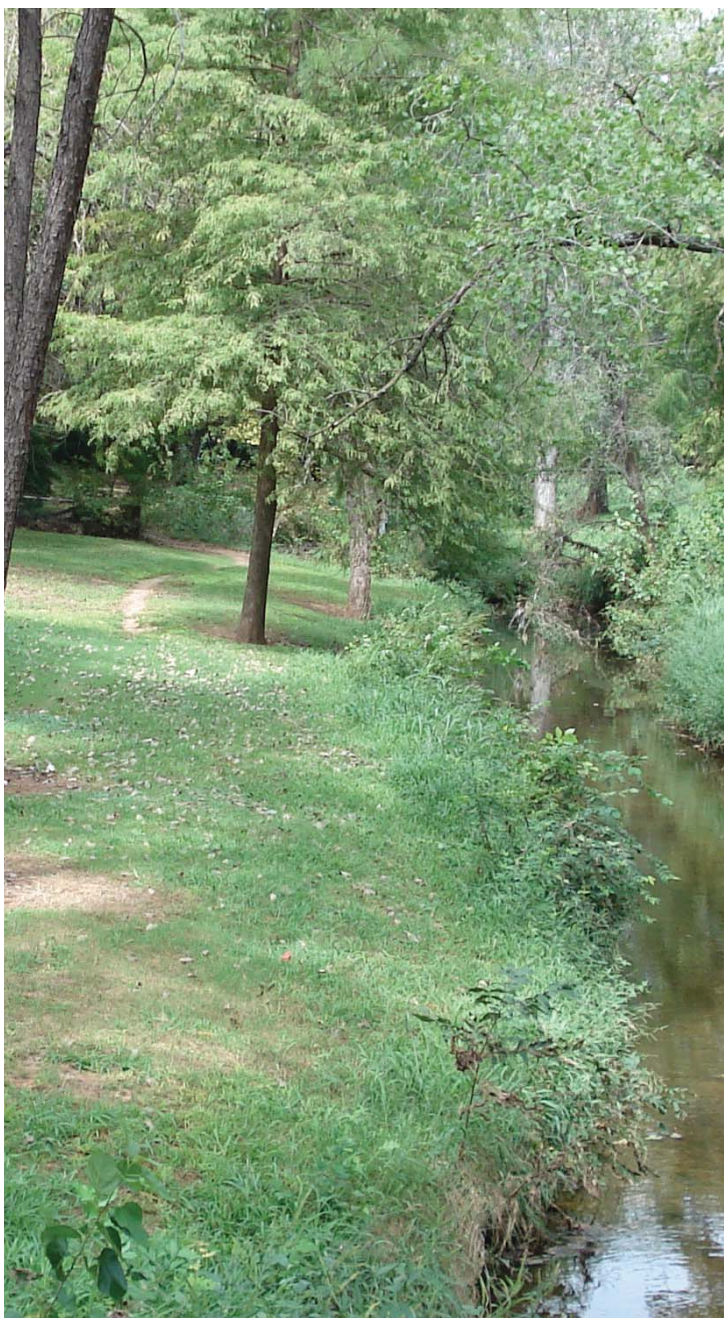
HALFF

PBSJ

Greenway Implementation

Greenway development in Norman has many benefits. It can set the City apart, it reinforces a committment to quality of life, it can help provide alternative routes for transportation, and it can provide health benefits. Greenways are also among the most desired and requested features by Norman's citizens. Therefore, a consistent and active program to implement the priority corridors identified in this report should be undertaken by the City of Norman and other partner entities.

This section lays out a process for acquiring greenway corridors, for funding the development of trails, and for operating and maintaining those trail corridors over time. The end result should be a readily apparent and visible, year by year movement towards connecting all of Norman together.



Greenbelts preserve special places in Norman for all time.

The Greenway Implementation Process

The City of Norman should continue to coordinate all of these following steps for implementation. Oversight should be provided by the Greenbelt Commission, the Board of Parks Commissioners and the Norman City Council.

1. Corridor Acquisition: Determine current ownership, determine intent of the corridor, determine general width and length needed to fulfill that purpose, project potential land acquisition cost, determine method of acquisition (fee simple, easement, acquisition of development rights) acquire corridor.

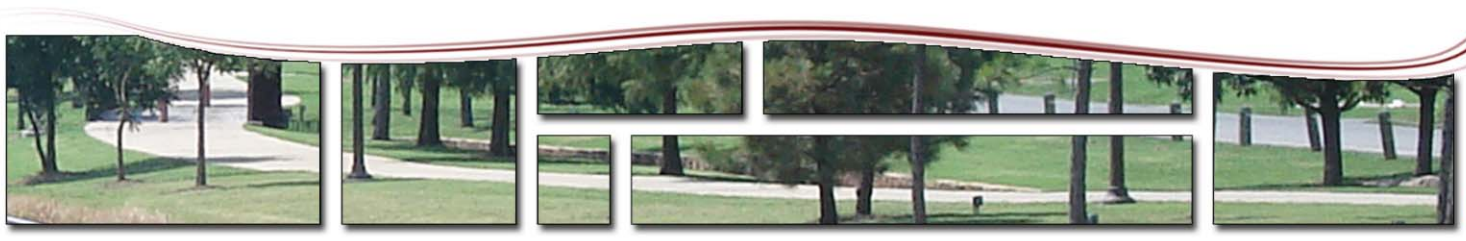
2. Preliminary Items: Environmental analysis, primary design, possible feasibility study, allocation of general construction budget – should be obtained before proceeding.

3. Permits: By City Council, possibly Cleveland County, by all involved greenway corridor owners, e.g. ODOT, MUD's, utility and pipeline companies. Responsibility for the project construction lies primarily with the City of Norman.

4. Funding: Research for necessary grant qualifications, Council approval for grants or other funding sources, and R.O.W. issues should be settled at this point.

5. Design: Preparation of construction documents, specifications and cost estimates; followed by bid documents and bidding procedures after permits and funding are clarified.

5. Physical construction of the project can now take place.



Greenway Corridor Acquisition and/or Preservation Strategies

The permanent preservation of greenway corridors is the highest priority of this plan. Green areas must be preserved so that they can help absorb, contain and convey storm water, and so that the natural features of those corridors can be retained. However, preservation by virtue of the purchase of lands by the City of Norman cannot be the only or even the most frequently used method of preservation. All property owners, development entities, homebuyers, and other governmental entities in the area must be actively engaged in preserving key green areas. Now that aerial photographs and precise mapping is readily available and updated every few years, it will be easy to see what is retained and what is lost. It is vital that years from now, we do not look back and regret what was not preserved.

Before a preservation method is identified, the ultimate goal of the greenway corridor should be identified.

a. Preservation only - if the intent is to preserve the natural qualities of the corridor, or to use it for drainage conveyance where frequent public access is not a consideration, then simple preservation of the greenway, along with much of its existing vegetation may be all that is needed. In this case, easements or the purchase of development rights may be sufficient. Note that occasion access by City staff will be needed for maintenance and inspection purposes. In these cases, a high level of visibility of the corridor is still needed.

(or)

b. Preservation and use as an accessible trail corridor - in cases where general public access is contemplated along with preservation of the corridor, outright acquisition is preferred. In these cases, the land can be donated by the property owner as part of the development process or can be purchased by the City of Norman if funding is available.

The following mechanisms should be considered for the preservation of greenway corridors.

1. **Through council action, move for permanent preservation of critical open space assets that are already City owned.** Lands now owned by the City but not permanently designated as greenway corridors/parkland could be so designated by action of the Norman City Council.

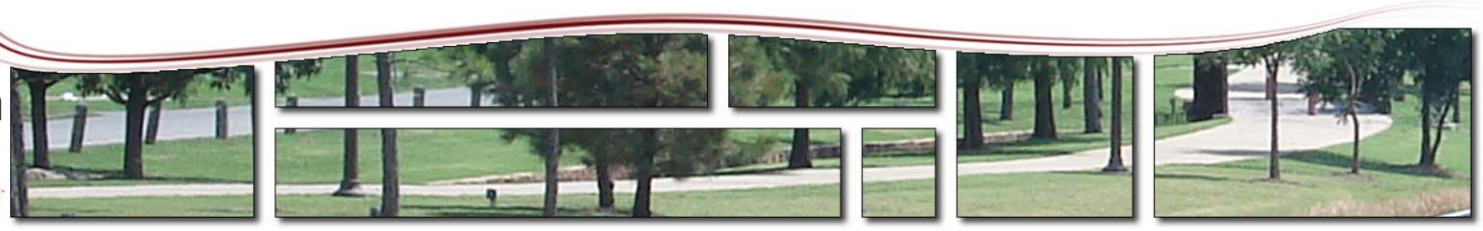
   Required Action – designate specific properties that should be preserved and pursue approval by the City Council.
   Recommended Timeframe – within six months to twelve months.

2. **Acquisition via Purchase by the City of Norman** - Where funding is available, corridors can be purchased by the City of Norman. The high cost of land and the scarcity of available funding makes this option feasible only in a few and extraordinary cases. Appraisals should be conducted by an agreed upon third party.

   Required Action – review current policies regarding acquisition, and adjust if necessary.
   Recommended Timeframe – within six to twelve months.

3. **Acquisition via Donation as part of the development process -** Lands may be acquired by outright donation during the development process. To truly create significant greenway corridors in Norman, this must become the norm in terms of drainage corridors.The governmental entities role in this is to govern stormwater conveyance or absorbtion,and to maintain the dedicated green corridors.

   In other cases, density bonuses may be traded for the preservation of some open space. In general, all lands within the 100 year flood zone, whether on Federal government maps or on stream planning corridors should be used as a



starting point for preservation. Where significant trees are not present, consideration can be given to adjustments to the floodplain in exchange for the preservation of other more valuable areas. Detailed flood plain studies by proeprty owners, where accepted by City staff, may also be considered as a means to adjust the edges of the 100-year flood plain.

Required Action – planning during the development process to ensure that proposed donations are appropriate; acceptance as part of the zoning and platting process.
Recommended Timeframe – ongoing as development occurs. Ensure that city staff are trained to recognize potential open space opportunities.

4. **Acquisition via Trade for other City Owned Lands** - In some cases, lands that are considered extremely valuable open space assets could be acquired by trading them for other city owned lands. In particular, unassigned lands could be used for this purpose, if authorized by City Council. This may be a last resort methodology, but could help to preserve truly valuable areas of land. Trade suggestions should be initiated by staff or Council only, and not by the property owner.

   Required Action – designate staff to respond to potential trade opportunities.
   Recommended Timeframe – within six months.

5. **Acquisition through purchase by other entities -** Local, state and national land trusts can raise funds to acquire open space, and then manage the lands or pass them on to the City of Norman.

   Required Action – policy to establish conditions under which the City would accept lands acquired in such a fashion.
   Recommended Timeframe – within six months.

6. **Preservation by private homeowner associations -** The acquisition of greenways for area residents may be considered as an alternative. Deed restrictions that permanently designate the acquisition as open space should be established. Where City funds are involved, public access to the land via trails should be provided.

7. **Acquisition by Private Sources for Private Use** - Private groups may also acquire open space with their own funding. Deed restrictions that permanently designate the acquisition as open space should be established. Where acquisition is funded in this manner, the land may be maintained by the private source and access restrictions may be imposed. However, the open space should remain visible from publicly accessed roads, and in some case where key linkages must go through the property, trails should be considered. Greenbelt lands in some recent developments in Norman are good examples of this technique.

   Required Action – no immediate action, establish policy and criteria for accessibilty if necessary
   Recommended Timeframe – no immediate action.

8. **Acquisition by Cleveland County -** Some open space lands should be acquired by Cleveland County. Once acquired, these lands can be turned over to the City of Norman to maintain as open space preserves.

   Required Action – agreement with Cleveland County, requires County to designate funding.
   Recommended Timeframe – as opportunities arise.

Incentives to Preserve Open Space

Allow trading of density for preservation of open space.
Higher densities may be allowed through special ordinances in exchange for the preservation of open spaces over and above what is already required.
Required Action – policy change to Zoning Ordinance if necessary, approval by City Council
Recommended Timeframe – within six months.

Allow cluster development to preserve open space - Allow development to be clustered at higher densities so as to preserve open space in other parts of the development.

Required Action – policy change to Zoning Ordinance if necessary, approval by City Council
Recommended Timeframe – within six months.

Allow the waivering of development fees - In exchange for open space, development fees may be waived on a case by case basis. While the value of this incentive is relatively small, it may still allow additional smaller pieces of open space to be preserved.

Required Action – policy change to Subdivision Regulations
Recommended Timeframe – within six months.

Conservation Easements

The use of conservation easements exploded in the 1990's, and it is estimated that over 9 million acres of privately owned lands have been preserved nationwide. Conservation easements may well replace outright acquisition as the primary tool for preservation.

The major selling point of conservation easements is their price. The cost of easements varies, but can generally cost about half as much as fee simple acquisition. The reduction in the cost of long–term management is a further benefit. Parks require annual funding for a long period of time, whereas easements are maintained by the owner who remains in place. A park is a public expense for generations to come; on an easement property, the owner bears the bulk of the maintenance costs. In particular, conservation easements have proved to be an exceptional tool in the protection of agricultural landscapes.

Acquire development rights to key properties - Prevent key properties from being developed by acquiring the development rights to each property. Conservation easements may also be used to preserve property. This technique is recommended for the preservation of farmland in key areas. Funding to acquire development rights must be identified.

Required Action – identify funding source for conservation easements, and identify possible properties for acquisition via conservation easement.
Recommended Timeframe – ongoing, no immediate timeframe.

FUNDING SOURCES

Funding for greenway corridor development in Norman can come from a variety of sources, generated both locally and from State of Oklahoma and federal sources. Private development of greenways will also aid in the establishment of much of the future corridors throughout the city.

Each corridor will have unique funding opportunities, based on the neighborhoods around the areas and the specific characteristics of the corridor. Key issues associated with funding are as follows:

If possible, funding should be continuous and steady. Annual designations of funds for development will result in a steady growth in the city's greenway system, and allow the citizens of Norman to see the continuous flow of new corridors every year, rather than in sporadic bursts.

Construction of major corridors should be the focus of public expenditures. Major "spine" segments that connect neighborhood to neighborhood should be the primary focus of public expenditures. Greenways within and primarily serving private developments and individual neighborhoods should be paid for with private sector funds.

From an overall standpoint, the following sources of funding should serve as the primary tools for greenway development in the city:

Recommended Funding Sources

Stormwater Fee Percentage For Greenway Implentation - A $1 per month set aside from a proposed stormwater fee - could generate approximately $1,000,000 per year in revenue for greenway implementation. This amount could support a $10,000,000 bond fund to accelerate the development of trails.

Future capital improvement or bond funds - An annual set-aside in the city's Capital Improvement Program (CIP) could be used to fund greenway development. These funds could be leveraged annually.

Private residential or commercial development - The majority of the greenways noted in this master plan are located within residential communities or adjacent to commercial or business areas. As such, corridors associated with either existing or new development, can be partially or entirely built by the private development community. Specific mechanisms to require greenway development which can be adopted by the City Council are further discussed in this chapter.

Grants from a variety of sources - Grants that can be used for trail development are available from a variety of sources. The existing remaining bond funds provide an ideal match for grant applications. Given the compelling local issues of traffic congestion and air quality, as well as a large local population that supports alternative transportation methods, local pursuit of grants could be successful and should be aggressively pursued. Major grant types include:

Federal Enhancement funds - Federal transportation dollars specifically allocated to pay for transportation enhancements, and have become the primary funding source for trail development in the State of Oklahoma. These funds are administered by the Okalhoma Department of Transportation, and as such must conform to federal guidelines for safety and for construction procurement. The locally required match is a minimum of 20%, but communities may overmatch to increase their competitive position. Funds must be reauthorized periodically by the United States Congress.

Cleveland County park and greenway development funds - For greenway corridors that have regional benefits, Cleveland County may be a future partner in developing trails.

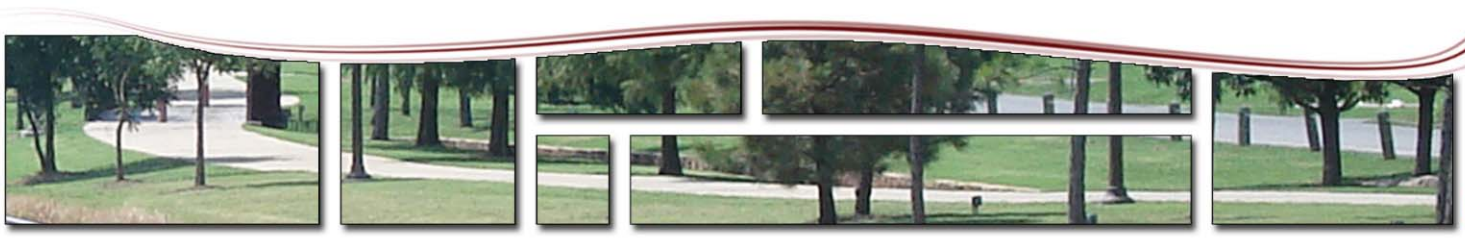
Congestion Mitigation and Air Quality (CMAQ) grant funds - Federal dollars that assist in relieving traffic mitigation may also be used to develop trail corridors that can carry commuters to work or serve as an alternative transportation route to recreation or commercial areas.

Foundation and Company Grants - Some assist in direct funding for trail projects, and some support efforts of non-profit or citizen organizations. Further info can be found at "The Foundation Directory" and at "The Foundation Grants Index": www.fdncenter.org.

"Grants for Greenways" is a national listing that provides descriptions and links to groups who provide technical and financial support for greenway interests.

Partnering - Partnering with regional volunteer groups can also be helpful when constructing new greenway projects. Their efforts can be used as part of the required match for some grants. Partnerships with Utility Companies can often be established for the proposed utility and pipeline easement trails.

Norman volunteer programs, for example through schools or community groups, may substantially reduce the cost of implementing some of the proposed corridor segments. Local construction companies might donate or offer discounted services, or local corporations might adopt bikeways.



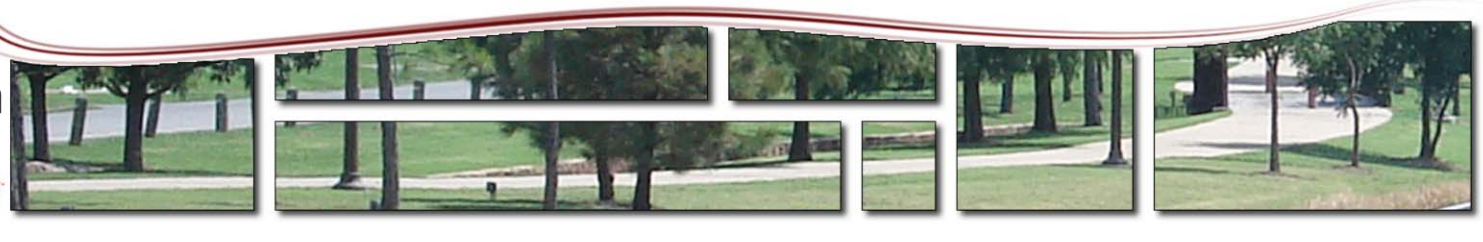
Implementation Strategies for Development Funded Segments

The Master Plan identifies numerous greenway corridors within both existing and future neighborhoods. These trail segments are extremely important as the final links from neighborhoods to the citywide greenway system. Public responsibility should apply to the major greenway corridors, but the implementation of much of the greenway system requires the assistance, whether voluntary or mandated by ordinance, of the development community in Norman. The opportunity to create a true system of greenways that connects almost every neighborhood in the city can create enormous value for property and businesses in Norman, but only if it is truly citywide.

Many new communities being built in Norman today include internal trail systems as an integral part of their developments. Communities such as the Hall Park and Lake Summit neighborhoods all have extensive greenways and trails that add to the value of those communities. These can be used as a starting model for other parts of the city.

Requirements for greenways in new communities, even developments with lower cost homes, can be a key factor in speeding up the development of a citywide greenway system. These requirements can either be voluntary, with the hope that all developments will include adequate space for public open space, drainage corridors, and trails, or mandatory and governed by city ordinances requiring greenway development.

Develop Greenway "Cost Sharing" ordinance revisions that allow developer participation in greenway development - An alternative type of ordinance can be patterned after sidewalk requirements, in which adjacent property owners fund a portion of the trail installation costs, with the City of Norman covering the remainder of the cost. The alternative ordinance model, used in Allen, Texas, requires complete developer construction of key trail segments that fall within their property limits, without city participation. City funding in the second alternative is used for other regional greenway development.



> There are all sorts of opportunities to link separated [open] spaces together, and while plenty of money is needed to do it, ingenuity can accomplish a great deal. Our metropolitan areas are crisscrossed with connective strips. Many are no longer used... but they are there if we only look
>
> —William Whyte, The Last Landscape, 1968

MAINTENANCE OF GREENWAY CORRIDORS

Operational costs per mile of trail range from $15,000 to $25,000 per mile of trail, and depend on the level of use, amount of area to be mowed adjacent to the trail, and whether the trail is lighted for night-time use and. This cost is only for trail related maintenance, and does not include maintenance associates with drainage requirements, such as channel mowing.

Over the next 20 years, if 20 to 30 miles of additional trails are added, the operational impact could be expected to range from $300,000 to $750,000. Additional one-time equipment costs should be considered, such as the purchase of mowing equipment and smaller "gator" type vehicles that can access more difficult terrain.

In most cases, trails should be designed to be accessed by a typical regular sized pickup truck. Operational costs will be balanced by potentially higher property values along trail corridors and the added quality of life benefits received by the citizens of Norman.

- A high standard of maintenance is an effective advertisement to promote the trail as a regional and state recreational resource.
- Good maintenance can be an effective deterrent to vandalism, litter, and encroachments.
- Good maintenance is necessary to preserve positive public relations between the adjacent land owners and managing agency.
- Good maintenance can make enforcement of regulations on the trail more efficient. Local clubs and interest groups will take pride in "their" trail and will be more apt to assist in protection of the trail.
- A proactive maintenance policy will help improve safety along the trail.

Vegetation:

In more rural environments the maintenance of the Greenbelt can be minimal if any up keep at all, some areas will remain as natural as possible for drainage purposes.

In a case where a trail is present and users will be using the trails activity, plantings should be placed far enough apart to maintain good visibility and avoid creating the feeling of an enclosed space. This will also give trail users good, clear views of their surroundings, which enhances the aesthetic experience of the trail. Under-story vegetation within most trail rights-of-way should not be allowed to grow higher than 36 inches, except in cases where the under-story vegetation is natural, desirable, and part of the habitat required for wildlife. Trees species selection and placement should be made that minimizes vegetative litter on the trail and root uplifting of pavement. Vertical clearance along the trail should be periodically checked, and any overhanging branches over the trail should be pruned to a minimum vertical clearance of 10 feet.

Surfacing

Where concrete is the recommended surface material, cracks, ruts, and water damage will need to repaired periodically.

Where drainage problems exist along the trail, ditches and drainage structures will need to be kept clear of debris to prevent washouts along the trail and maintain positive drainage flow. Checks for erosion along the trail should be made during the wet season, and immediately after any storm that brings flooding to the local area. The use of trails with natural soft surfaces should be minimized and/or prohibited during wet conditions.

The trail surface should be kept free of debris, especially broken glass and other sharp objects, loose gravel, leaves, and stray branches. Trail surfaces should be swept periodically. Soft shoulders should be well maintained to maximize their usability.

Litter and Illegal Dumping

Staff or volunteers should remove litter along the trail. Litter receptacles should be placed at access points such as trailheads

Illegal dumping should be controlled by vehicle barriers, regulatory signage and fines as much as possible. When it does occur, it should be removed as soon as possible in order to prevent further dumping. Neighborhood volunteers, friends groups, alternative community service crews, and inmate labor should be considered in addition to maintenance staff.

Signage

Signage should be replaced along the trail on an as-needed basis.

MAINTENANCE OF GREENWAY CORRIDORS

Table G - 3 Potential Annual Trail Maintenance Costs		
Maintenance Item	**Frequency**	
Concrete Trail Maintenance		**$12,000**
Pavement Sweeping	Bi-weekly / as needed	
Shoulder and grass mowing / weed control	Weekly / Monthly as needed	
Trash disposal	Weekly / as needed	
Watering	Weekly / as needed	
Plant trimming	Monthly / as needed	
Drainage cleaning	Yearly	
Lighting repair	Yearly	
Furnishing repair	Yearly	
Telephone, Drinking fountain, irrigation repair	Yearly	
Sign replacement	1 - 3 years	
Pruning	1 - 4 years	
Pavement repairs	5 -15 years	
Special maintenance: mud removal, fallen trees, debris, graffiti removal	As needed (assumes average of three time yearly)	
Trail replacement (anticipated)	Concrete 15 to 30 year replacement cycle	
Asphalt Trail Maintenance		**$20,000**
Debris Removal	Weekly / as needed	
Shoulder and grass mowing / weed control	Weekly / monthly as needed	
Trash disposal	Weekly / as needed	
Watering	Weekly / as needed	
Plant trimming	Monthly / as needed	
Drainage cleaning	Yearly / as needed	
Lighting repair	Yearly	
Furnishing repair	Yearly	
Sign Replacement	1 - 3 years	
Pruning	1 - 4 years	
Surfacing patching / rolling	monthly	
Special maintenance: mud removal, fallen trees, debris, graffiti removal	As needed	
Trail replacement (anticipated)	Asphalt 5 to 10 year replacement cycle	

Table G - 2 Life Cycle Comparison	
Type of Trail Surface	**Projected Trail Replacment Cycle**
Concrete Surface (5" minimum thickness)	15 to 30 year life span with proper base and protection from drainage and vegetation
Asphalt Surface (2" overlay)	5 to 10 year life span with proper base, but requires considerable patching and periodic rolling. Water penetration can cause quick deterioration
Crushed Granite Surface	2 to 5 year replacement on a continuous basis through replenishment of the crushed granite. Quick repair of eroded areas is critical to slow deterioration of the trail.

Table G - 3 Continued Potential Annual Trail Maintenance Costs		
Maintenance Item	**Frequency**	
Soft Surface Trail Maintenance	**Annually**	**$30,000**
Debris removal	Weekly / as needed	
Shoulder and grass mowing / weed control	Weekly / monthly as needed	
Trash disposal	Weekly / as needed	
Watering	Weekly / as needed	
Shrub trimming	Monthly / as needed	
Drainage cleaning	Yearly / as needed	
Lighting repair	Yearly	
Furnishing repair	Yearly	
Sign replacement	1 - 3 years	
Pruning	1 - 4 years	
Erosion patching / trail ranking	Monthly	
Special maintenance: mud removal, fallen trees, flood debris	As needed	
Trail material enrichment (anticipated)	Crushed rock 2 to 5 year replacement cycle	
Bridge and Tunnel Inspection	**Annually**	**$25,000**
Trash disposal	Weekly / as needed	
Sweeping / debris removal	Weekly / as needed	
Drainage cleaning	Yearly / as needed	
Lighting repair	Yearly	
Emergency phone repair	Yearly	
Safety Education	**Annually**	**$16,000**
School / adult education programs	$15,000 every year	
Brochures + update	$5,000 every 5 years	
Community Programs	**Annually**	**$50,000**
Community awareness programs	$5,000 per year	
Bicycle events	$5,000 per year	
Trails coordinator	$40,000 per year	

Implementation Timeframe 2009-2030

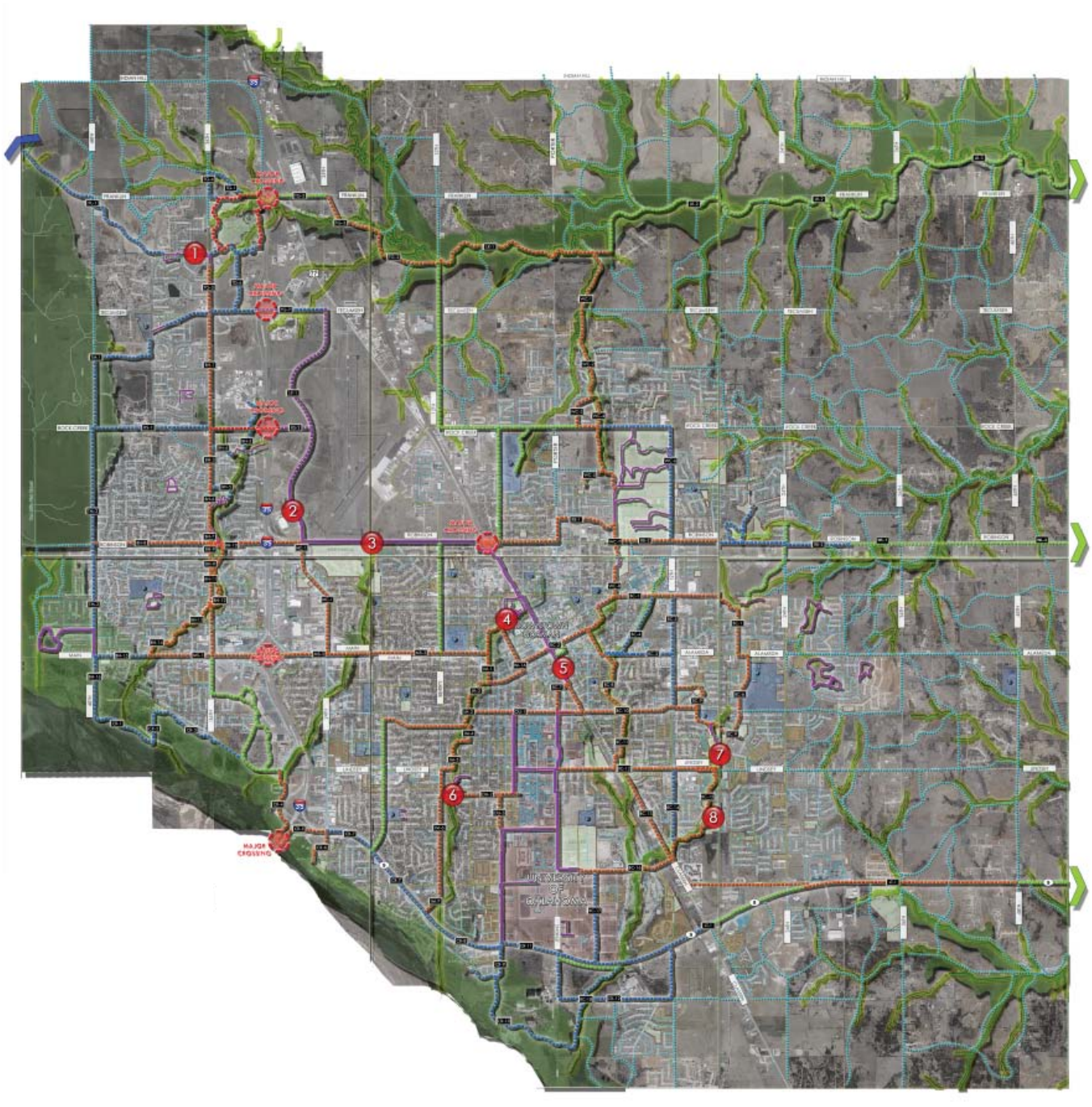
The overall recommendations of this Greenways Master Plan are estimated to take up to 20 plus years to complete. The following sequence or hierarchy of actions is recommended to implement the Citywide Greenways Master Plan.

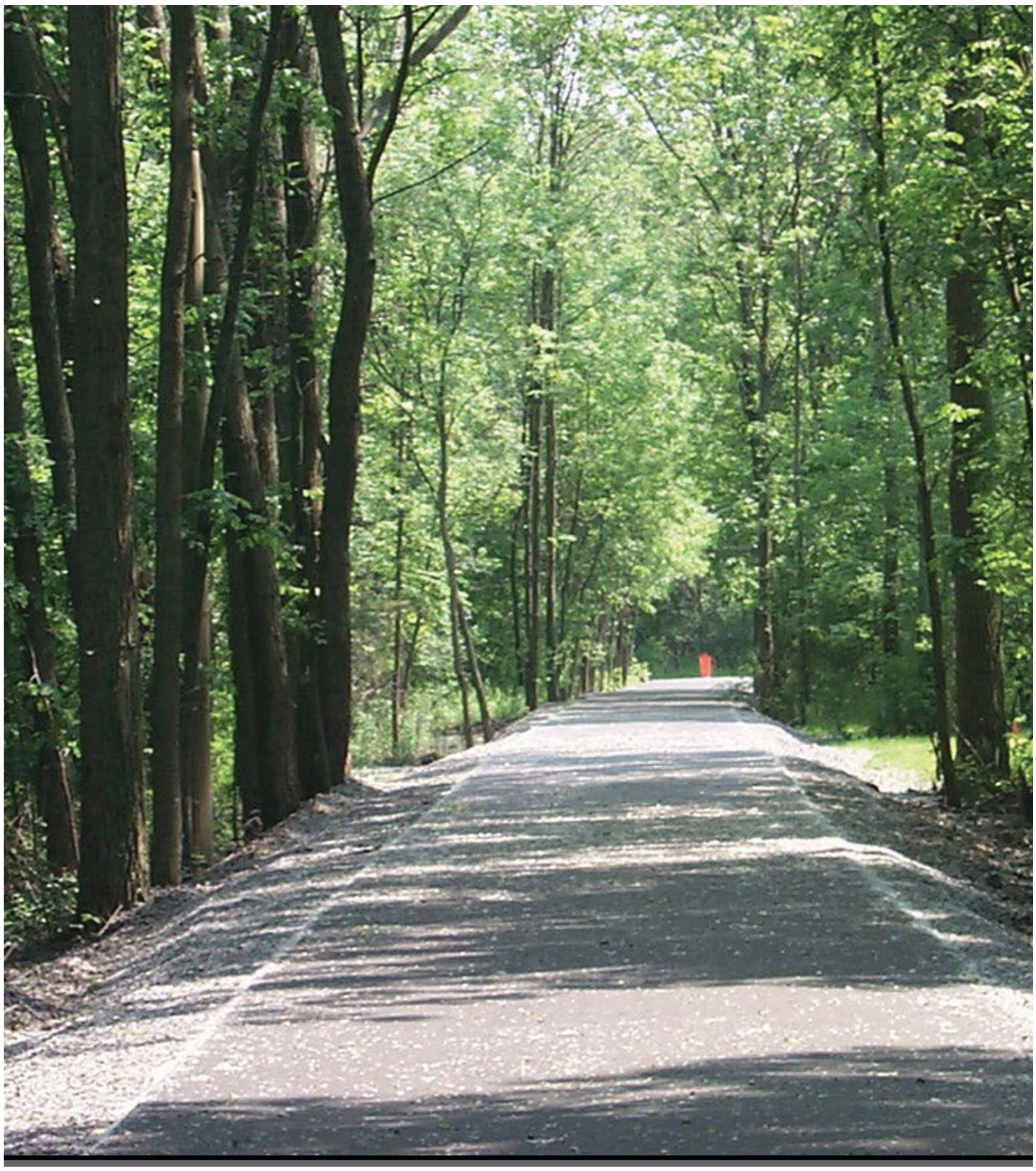
Consider acquisition of greenway corridors as the highest priority - Connectivity across the city remains the highest priority of the greenways plan, and to accomplish that access greenway corridors must be acquired. Creek corridors can be acquired through outright purchase or through access easements. Once a tract of land is developed, it is extraordinarily difficult to acquire land or easements for greenway corridors.

Consider embarking on an extensive trail development schedule over the next 10 years - Norman continues to grow at a steady rate, and demand for quality of life features such as greenways and trails will only grow. It is while the city is growing that it becomes the easiest time in which to build trails.

Develop strategies to work with private sector development - Voluntary and mandatory processes to work with private development should be put in place immediately, so as to not miss any opportunities to implement segments of trail.

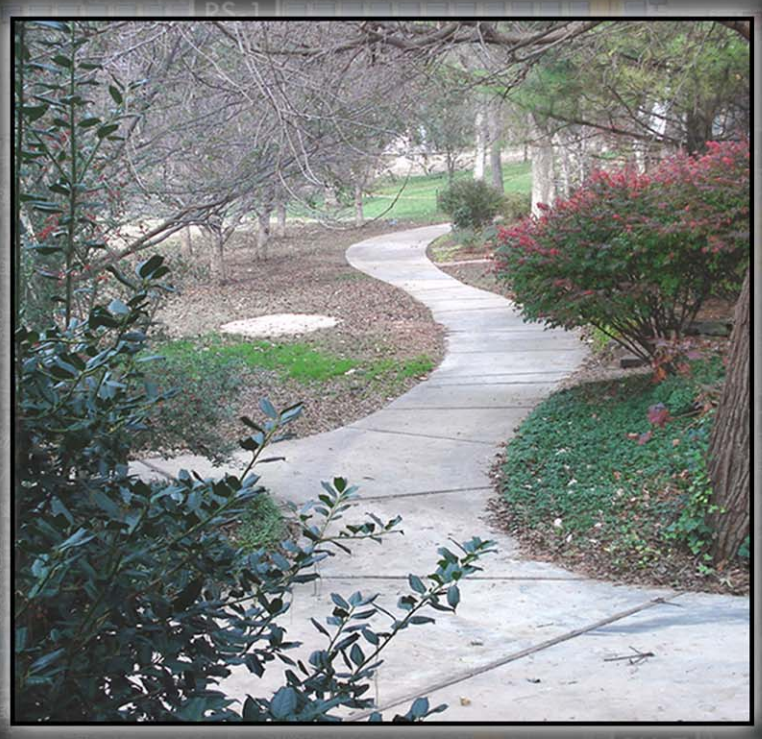
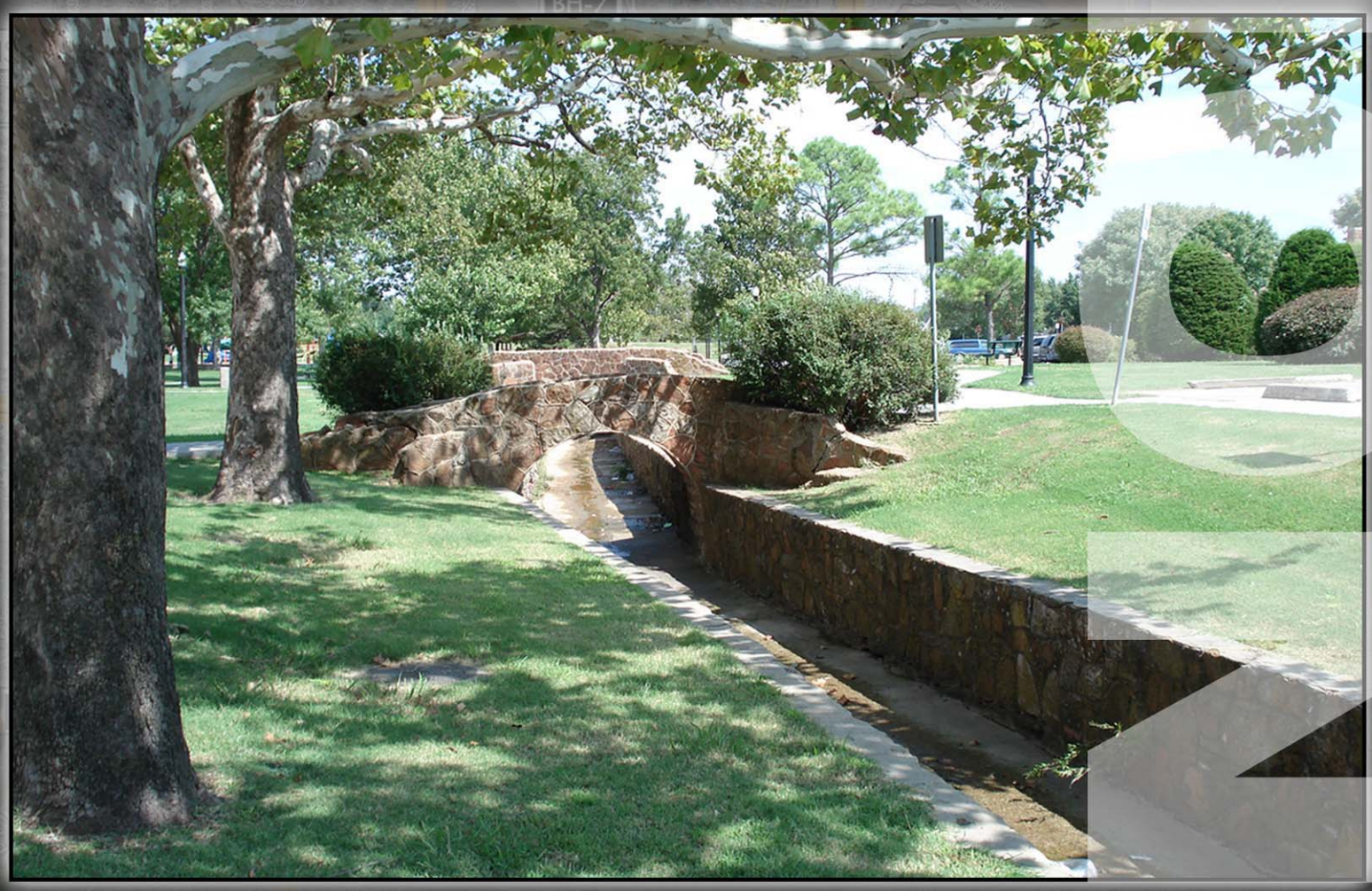
Review and Update the Citywide Greenways Plan annually - This Citywide Greenways Master Plan is a living document, and should be reviewed and updated annually. This review should occur at the same time that the overall Parks, Recreation, and Open Space Master Plan are being reviewed, so that continuity between the two plans is maintained.





Successful greenways grow out of the grassroots. They depend on local enthusiasm, local money, local leaders, local priorities, local agreements and local governments. They depend on highly motivated volunteers including individuals, groups and businesses. They are dependent, in short, on a strong sense of community responsibility and on the willingness of each community to link its destiny to that of its neighbors.

–David Burwell, President, Rails-to-Trails Conservancy, 1996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