



Memorandum

To: Becky Griffith, USACE

From: Ginger Croom, CDM

Cc: Sandy Swinnea and Woody Frossard, TRWD

Date: March 2, 2005

*Subject: Memorandum No. ECO-8
Fort Worth Central City Recreation Components – REVISED*

1.0 Introduction

The purpose of this memorandum is to outline key recreation components for the Fort Worth Central City project. A brief summary of additional trails proposed as part of the Trinity Uptown Plan is provided at the end of this memorandum. The Trinity Uptown Plan includes a more detailed summary of recreation components of the urban design plan.

2.0 Key Components of Recreation Plan

Key components of the Recreation Plan for the Fort Worth Central City project are classified by three major categories: enhanced trail network, water-based recreation, and open space. A separate section is dedicated to each category.

2.1 Enhanced Trail Network

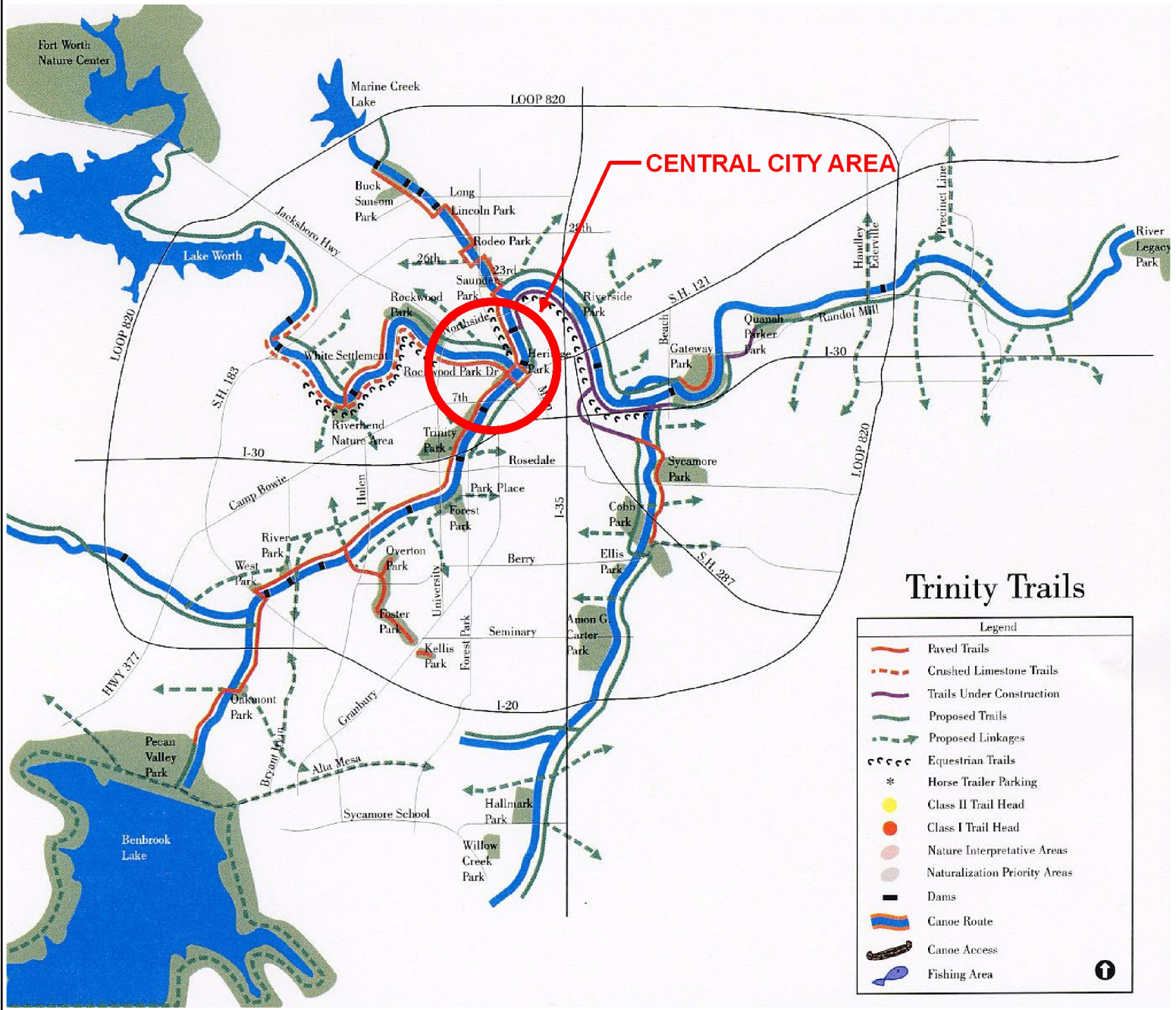
An enhanced trail network that provides connectivity to existing trails (Figure 1) and is consistent with the Trinity River Vision Master Plan is proposed as part of the Central City project. Consideration was given to the overall continuity with the regional trail system, as the bypass channel essentially intersects an important segment of existing trail which allows high-speed bicyclists to continue downstream on the west side of the existing West Fork channel adjacent to downtown.

Bicyclists traveling from either Benbrook or Lake Worth can access the trail on the west side of the bypass channel. It is anticipated that the lower level trail on the west edge of the bypass channel would be paved, and would accommodate high-speed bicycle traffic. Bicyclists would be encouraged to utilize the lower level trail on the west edge of the bypass channel, crossing over the Main Street bridge, then over the TRWD gate to access the existing

trail on the east and south banks of the West Fork (near TRWD Administration building and continuing downstream of Samuels Avenue).

An overview of the proposed trails is shown in Figure 2. The trails proposed as part of the Central City project will provide a framework for future trails proposed as part of the urban design plan (discussed further in Section 3.0).

In total, approximately 10 additional miles of trails are proposed, in two areas. The majority of trails will be provided in the Central City area, as shown in Figure 3.



Trinity Trails

Legend	
	Paved Trails
	Crushed Limestone Trails
	Trails Under Construction
	Proposed Trails
	Proposed Linkages
	Equestrian Trails
	Horse Trailer Parking
	Class II Trail Head
	Class I Trail Head
	Nature Interpretive Areas
	Naturalization Priority Areas
	Dams
	Canoe Route
	Canoe Access
	Fishing Area



FORT WORTH CENTRAL CITY
PRELIMINARY DESIGN

EXISTING TRINITY TRAILS

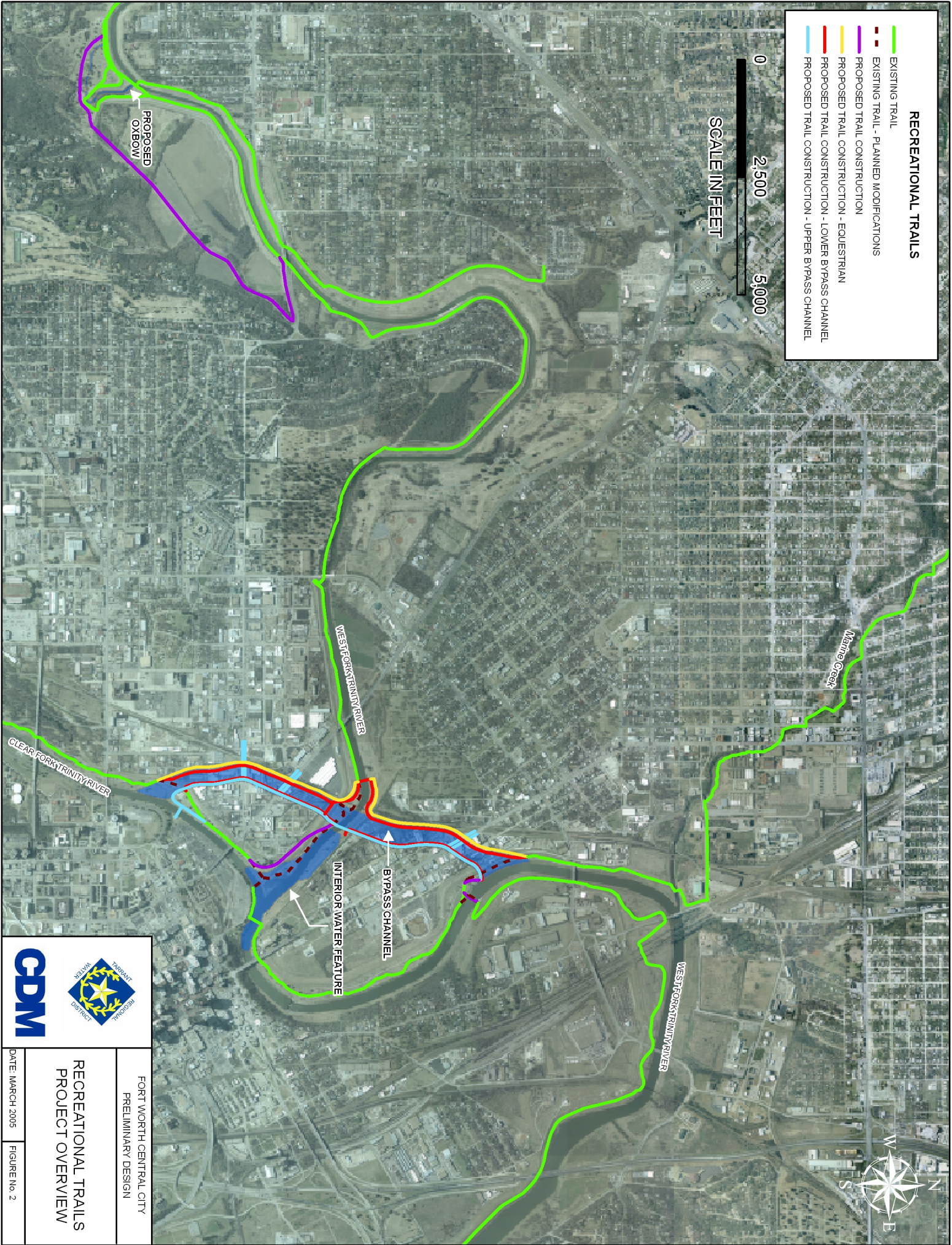
DATE: MARCH 2005

FIGURE No. 1

- RECREATIONAL TRAILS**
- EXISTING TRAIL
 - - - EXISTING TRAIL - PLANNED MODIFICATIONS
 - PROPOSED TRAIL CONSTRUCTION
 - PROPOSED TRAIL CONSTRUCTION - EQUESTRIAN
 - PROPOSED TRAIL CONSTRUCTION - LOWER BYPASS CHANNEL
 - PROPOSED TRAIL CONSTRUCTION - UPPER BYPASS CHANNEL



SCALE IN FEET

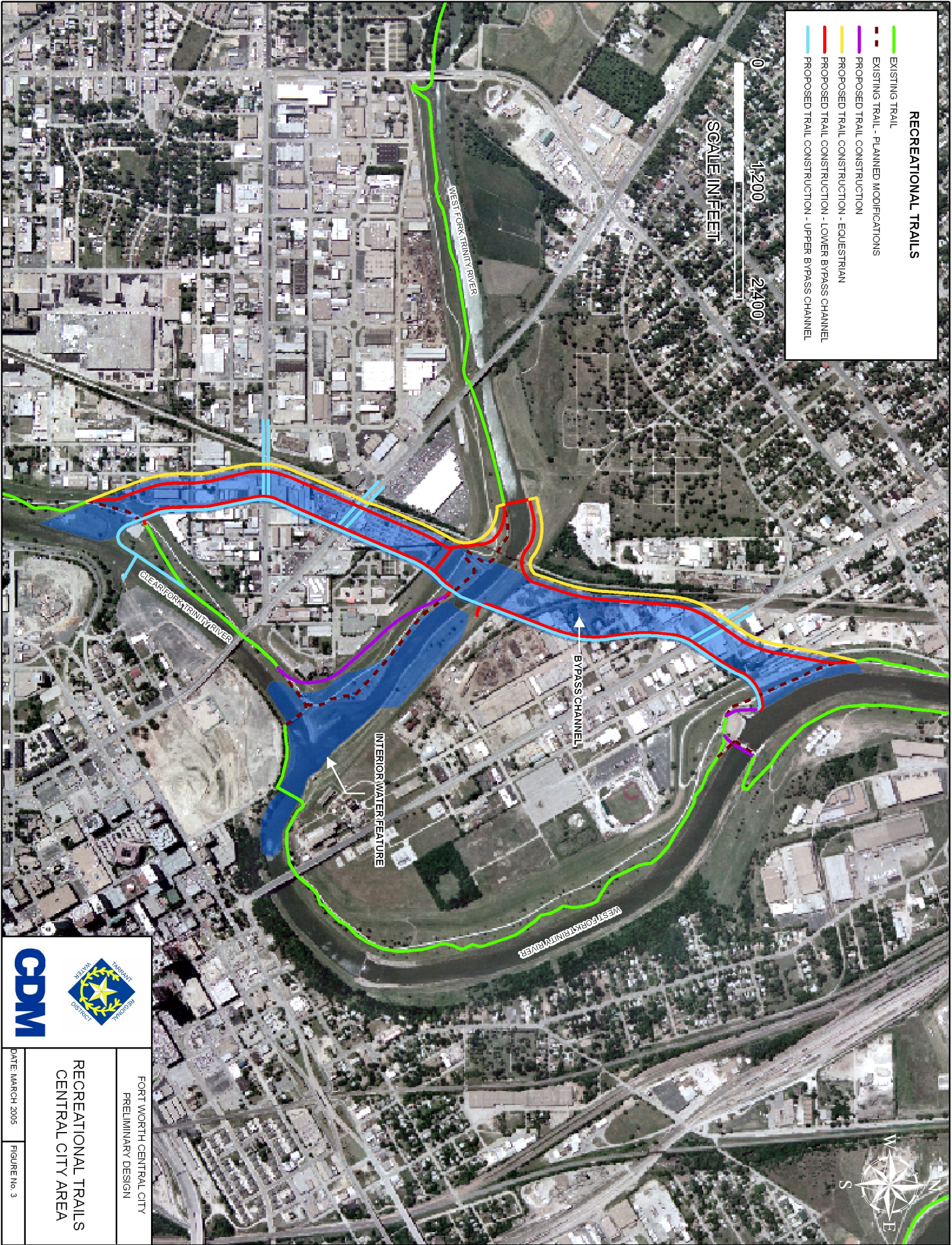


FORT WORTH CENTRAL CITY
PRELIMINARY DESIGN

**RECREATIONAL TRAILS
PROJECT OVERVIEW**

DATE: MARCH 2005
FIGURE No. 2

- RECREATIONAL TRAILS**
- EXISTING TRAIL
 - - - EXISTING TRAIL - PLANNED MODIFICATIONS
 - PROPOSED TRAIL CONSTRUCTION
 - PROPOSED TRAIL CONSTRUCTION - EQUESTRIAN
 - PROPOSED TRAIL CONSTRUCTION - LOWER BYPASS CHANNEL
 - PROPOSED TRAIL CONSTRUCTION - UPPER BYPASS CHANNEL



FORT WORTH CENTRAL CITY
PRELIMINARY DESIGN

RECREATIONAL TRAILS
CENTRAL CITY AREA

DATE: MARCH 2005

FIGURE No. 3

2.1.1 Bypass Channel Trails

Trails will be provided along both the east and west sides of the bypass channel, as follows:

- **East Edge**

Continuous trails will be provided on the east edge of the bypass channel at two distinct levels. The lower level trail will be at elevation 530 feet above sea level, approximately 5 feet higher than the normal water surface elevation of 525 feet. This trail will be approximately 10-14 feet wide. The upper level trail will be at elevations ranging from 550-555 feet above sea level and will be approximately 10 feet wide.

The lower interior retaining wall is located adjacent to the base flow channel, with a top of wall elevation of approximately 530.0. This wall will vary in height but will generally have an exposed surface height of 10 feet. Immediately adjacent and parallel to the lower interior wall will be a walkway. The lower walkway will allow pedestrian access to the "park-like" environment of the bypass channel. Along the lower walkway and interior wall, various amenities including park benches, sitting, or picnic areas will be present and surrounded by various landscaping features. The configuration and extent of these walkway and landscape areas will be further developed during the design development stage consistent with the hydraulic modeling assumptions.

Other access to this lower walkway will be provided at various entry points by means of a combination of stairs and ramps which will be ADA compliant. These access points and physical layout and geometry will be determined during the design development stage.

The remainder of the grade separation from the lower interior wall and walkway to an upper interior wall will be accomplished with a series of terraced retaining walls. The height of retaining walls on the hard edge will vary along the length of the bypass channel but will typically consist of 3 walls, each varying in height from 5-10 feet. To break up and enhance the tiered walls walkways, landscape planters and other landscaping options will be considered.

Both upper and lower trails will connect to the existing Clear Fork trail at the start of the bypass channel, approximately 1,700 feet north of Seventh Street.

A new point of access to the trail along the upstream-most east edge of the bypass channel will likely be via the Clear Fork flood isolation gate. The proposed location of this gate is approximately 1000 feet upstream of the Henderson Street bridge. The configuration of this connection will be determined during final design of the gate.

As shown on Figure 3, the trail will continue along the east edge of the bypass channel, for a distance of approximately 1.5 miles (8,200 feet) until the proposed bypass channel ties back into the existing West Fork.

At the downstream confluence of the bypass channel and the existing West Fork, the upper and lower bypass channel trails will combine to connect with the existing trail on the southwest side of the existing West Fork (across the river from the TRWD Administration Building). The trail will cross the river via the TRWD gate, a flood isolation gate proposed as part of the project.

Both the upper and lower trail will be hard surface; the trails will be constructed as part of the retaining wall for the bypass channel. Trails will accommodate a variety of activities, including walking, jogging, bicycling, and roller-blading.

A typical cross section of the bypass channel, depicting the upper and lower trails is shown in Figure 4.

SPF + 4 (VARIES 546' TO 554')

VARIES (540' TYP.)

530'

525'

10' - 14'
WALKWAY
AREA

PROPOSED ROW

PRIVATE
AREA

30'
LOWER WALKWAY
AND LANDSCAPE

15'
LANDSCAPE
MID-LEVEL

15'
UPPER
PUBLIC
WALKWAY

10' (MIN.)
SET
BACK
EASEMENT



CDM

FORT WORTH CENTRAL CITY
PRELIMINARY DESIGN

BYPASS CHANNEL
TYPICAL CROSS SECTION

DATE: MARCH 2005

FIGURE No. 4

- **West Edge**

Continuous trails will be provided on the west side of the bypass channel at two levels. The lower level trail will be at elevation 530 feet above sea level, approximately 5 feet higher than the normal water surface elevation of 525 feet. The lower level trail will be approximately 15-20 feet wide. The trail will comply with ADA requirements. A maximum cross slope of 2% and longitudinal slope of 5% or less are recommended. The upper level trail will likely be a combined recreational trail/access road, at elevations ranging from be at elevation 545-555 feet above sea level. The upper level trail/access road will be approximately 15 feet wide.

This trail will connect to the existing Clear Fork trail at the start of the bypass channel, approximately 1,000 feet north of Seventh Street. As shown on Figure 3, the trail will continue along the west edge of the bypass channel, until the new confluence of the bypass channel and the West Fork. At this point, the trail will turn sharply to the west for approximately 750 feet, and continue via a proposed pedestrian bridge over the West Fork.

The new trail will connect to the existing trail on the south side of the West Fork near the location of the proposed pedestrian bridge, as shown on Figure 3.

After the pedestrian bridge, the trail will turn sharply to the east for approximately 900 feet, continuing along the west edge of the bypass channel. The new trail will connect with the existing trail on the west side of the West Fork where the bypass channel ties back into the West Fork, approximately 1000 feet upstream of Northside Drive.

The length of new trail along the west edge of the bypass channel is approximately 1.4 miles (7,400 feet). The materials used to construct both the upper and lower level trail will be determined during final design. The west edge of the bypass channel will be designed as a park-like, natural setting, with grass levees and overbank areas. Trails will accommodate a variety of uses, including walking, jogging, bicycling, and horseback riding.

2.1.2 Interior Water Feature Trails

Trails will be provided adjacent to the Interior Water Feature (Urban Lake) as follows:

- **Southwest Edge**

A new section of trail will be provided on the southwest edge of the interior water feature (Urban Lake) depicted in purple on Figure 3. This trail will connect to the existing trail approximately midway between Henderson Street and the existing

pedestrian bridge over the West Fork. The trail and pedestrian bridge along the southwest side of the existing West Fork will be modified during excavation of the interior water feature.

The trail will extend approximately 2,050 feet northwest, along the proposed interior water feature, and will connect to the new trail along the east edge of the proposed bypass channel, as shown in Figure 3.

The trail along the southwest edge of the water feature will likely eventually continue to the northeast edge of the water feature via the proposed Trinity Point gate. The configuration of this connection will be determined during final design of the gate.

2.1.3 Pedestrian Bridges

Two new pedestrian bridges are proposed within the Central City (Trinity Uptown) area, as follows:

- **Upper Bypass Channel**

A pedestrian bridge is proposed for the upper bypass channel, approximately 1,050 feet downstream of the proposed Henderson Street bridge over the bypass channel, and approximately 500 feet upstream of the new confluence of the bypass channel and the West Fork. With a proposed normal water surface elevation of 525 feet above sea level, this pedestrian bridge will be designed to allow for approximately 12 feet of boating clearance in the main channel. The proposed width of the pedestrian bridge is 10 feet.

A key function of this pedestrian bridge will be to provide access into the Central City (Trinity Uptown) area from points west of the bypass channel, and vice versa. The pedestrian bridge will likely connect to both the upper and lower walkways on the east side of the bypass channel. The configuration and exact connectivity (ramps, stairs, etc.) of the pedestrian bridge with respect to the upper and lower trails will be determined during final design.

Additional details of this pedestrian bridge and representative cross sections are included in Appendix C.

- **West Fork**

A pedestrian bridge is proposed for the West Fork, approximately 560 feet upstream of the Fort Worth and Western (FW&W) Railroad bridge. The low chord of this pedestrian bridge will be at elevation 537 feet above sea level. With a proposed normal water surface elevation of 525 feet above sea level, this pedestrian bridge will be designed to allow for approximately 12 feet of boating clearance. The proposed width of the pedestrian bridge is 22 feet, to allow equestrian traffic in both directions simultaneously.

The pedestrian bridge will provide continuity of the proposed trail on the west edge of the bypass channel. The pedestrian bridge will also allow trail users (including equestrians coming from as far upstream as Lake Worth) to cross over the West Fork just upstream of the FW&W Railroad Bridge and to travel downstream on the west edge of the bypass channel. This provides a shorter trail route downstream than the existing configuration.

Additional details of this pedestrian bridge and representative cross sections are included in Appendix C.

2.2 Water-based Recreation

A primary goal of the urban design concept associated with the Central City (Trinity Uptown) project is to emphasize waterfront activities (pedestrian, boating and other). Several types of boating are anticipated, some of which currently exist (kayaking, canoeing, etc.). Low-clearance public excursion boats, and small passenger ferry boats, are also anticipated.

The infrastructure-related components of the Central City project are being designed in a manner to promote water-based recreation, described in the following sections.

2.2.1 Samuels Avenue Dam

The dam is being designed to provide a constant water surface elevation of approximately 525 feet above sea level. This constant water surface will provide opportunity for enhanced boating on the river in numerous locations. Once the bypass channel, isolation gates, and dam are constructed, a constant water surface elevation will be provided from the dam upstream to the following points:

- **Bypass channel**

The normal water surface throughout the bypass channel will be maintained at elevation approximately 525 feet above sea level.

- **West Fork, Adjacent to Downtown**

In this reach of the West Fork, between TRWD and Clear Fork isolation gates, the normal water surface will be maintained at elevation approximately 525 feet above sea level. Together with the bypass channel, the constant water surface in this reach of the West Fork will provide for a contiguous boating loop of approximately, 3.5 miles.

- **West Fork, Upstream of Fort Worth and Western Railroad**

In this reach of the West Fork, between the FW&W Railroad and extending upstream to the Riverbend site, normal water surface will be at elevation approximately 525 feet above sea level.

- **Clear Fork, Upstream of New Confluence with Bypass Channel (7th St)**

In this reach of the Clear Fork, from its confluence with the bypass channel upstream to 7th street, the normal water surface will be maintained at approximately 525 feet above sea level. Existing low water dams, providing whitewater features to kayakers under certain flow conditions, will be evaluated during final design. It is anticipated that these low water dams will be raised so whitewater conditions after the project is constructed are similar to existing conditions.

- **Marine Creek**

Normal water surface elevation will be increased in Marine Creek, from approximately 525 feet above sea level (at the confluence with the West Fork) to approximately 520 feet above sea level, just upstream of Exchange Avenue in the Stockyards. This increased normal water surface elevation will allow boats to travel from within the Trinity Uptown area (or upstream of the Trinity Point area on either the Clear Fork or West Forks) to the Stockyards. The approximate distances to the Stockyards, via water, from key locations are as follows: from Trinity Uptown (3 miles); from Clear Fork, upstream of 7th Street (4 miles); from Riverbend (6 miles)

Connectivity to the Stockyards via Marine Creek, is a major project component, as the Stockyards area is currently only accessible from the Trinity Uptown area, Downtown, and the Cultural District via Main Street.

2.2.2 Flood Isolation Gates

As described in various other locations in this report (detailed descriptions are included in Appendix C), three flood isolation gates are proposed. During final design, the isolation gates will be designed to allow boating clearance of approximately 10-12 feet. This is necessary to provide the contiguous boating loop of approximately 3.5 miles between the bypass channel and existing West Fork adjacent to downtown.

2.2.3 Other

Though additional boat ramps are a likely outcome of the project, no boat ramps are explicitly included in the Central City project. Opportunities to incorporate boat ramps in certain areas of the project (valley storage mitigation sites adjacent to IH-35) will be considered during final design.

2.3 Open Space

Open space will be provided in three separate areas, consistent with valley storage mitigation sites necessary for hydraulic performance of the project.

2.3.1 Riverbend

The Riverbend site is located on the West Fork, approximately 4 miles upstream of the FW&W Railroad bridge. The site is currently a proposed site for valley storage mitigation, habitat improvements, and other enhancements, as shown in Figure 5. The approximate acreage of the site is 320 acres. The key features of this site are described as follows.

The primary goal of the ecosystem restoration activities at Riverbend is to create or enhance riparian woodlands/bottomland hardwood forests. Native grasslands will also be created to intersperse among the forest resources. Enhancements to Riverbend also include the reestablishment of historic stream channels in the form of oxbows, to provide increased habitat for both aquatic and wetland dependent species. More detail on the ecosystem restoration activities associated with the Riverbend site is included in *Technical Memorandum ECO-1, Ecosystem Elements of the Fort Worth Central City Project, CDM, February 23, 2005.*

In addition to providing increased habitat for aquatic and wetland dependent species, creation of the oxbow will provide opportunities for boating (kayaking and canoeing) through a portion of the site as shown on Figure 5.

An approximately 1.8 mile trail is also proposed for this site, to connect existing trails on both the west and east boundaries of the site. The proposed trail borders the southern site boundary, as shown in Figure 6. To maintain consistency with the initial concept for the site, a gravel or similar material trail is proposed. This trail will accommodate a variety of activities (walking, jogging, bicycling and equestrian use) well as to provide a point of access through the site for those desiring to engage in passive recreation such as nature walks and bird-watching.

A portion of the site is currently owned by TRWD, though the site is partially owned by private entities. The final configuration of this site, and any recreational features and enhancements associated with the current configuration, are subject to change.

ECOSYSTEM RESTORATION

-  EMERGENT WETLANDS
-  GRASSLAND
-  LEVEE
-  RIPARIAN WOODLANDS
-  SURFACE WATER
-  UPLAND WOODLANDS



SCALE IN FEET



FORT WORTH CENTRAL CITY
PRELIMINARY DESIGN

RIVERBEND ECOSYSTEM
RESTORATION AREA

DATE: MARCH 2005

FIGURE No. 5

RECREATIONAL TRAILS

- EXISTING TRAIL
- EXISTING TRAIL - PLANNED MODIFICATIONS
- PROPOSED TRAIL CONSTRUCTION
- PROPOSED TRAIL CONSTRUCTION - EQUESTRIAN
- PROPOSED TRAIL CONSTRUCTION - LOWER BYPASS CHANNEL
- PROPOSED TRAIL CONSTRUCTION - UPPER BYPASS CHANNEL



SCALE IN FEET



FORT WORTH CENTRAL CITY
PRELIMINARY DESIGN

RECREATIONAL TRAILS
RIVERBEND ECOSYSTEM
RESTORATION AREA

DATE: MARCH 2005

FIGURE No. 6

2.3.2 Samuels Dam Sites

The valley storage mitigation sites sited in close proximity to Samuels Avenue dam are not associated with any of the projects recreational features, other than open space of approximately 95 acres, during this stage of the project.

2.3.3 IH-35 Sites

Three sites are proposed as valley storage mitigation sites, adjacent to IH-35, as shown in Figure 7. Due to the close proximity of these sites to Riverside Park, preliminary discussions are underway between TRWD and the City of Fort Worth regarding use for these sites within the project context. Early concepts include soccer fields, parking for soccer fields, and boat ramps.

The total acreage for these three sites is approximately 34 acres.



RECREATIONAL TRAILS

- EXISTING TRAIL
- VALLEY STORAGE MITIGATION SITE

SCALE IN FEET

0 1,200 2,400



FORT WORTH CENTRAL CITY
PRELIMINARY DESIGN

VALLEY STORAGE
MITIGATION SITES

DATE: MARCH 2005
FIGURE No. 7

3.0 Overview of Recreation Components of Trinity Uptown Plan

In addition to recreation components described previously in this document, a number of additional recreation components are outlined in the Trinity Uptown Plan. These additional components are likely to occur either subsequent to, or in conjunction with, some of the features of the Central City project.

Perhaps most significant of these additional recreation components is a further enhanced trail network (more extensive than the network defined in Section 2.1). The most recent trail network associated with the Trinity Uptown Plan is shown in Figure 8. The trail network associated with the Trinity Uptown Plan provides additional trails adjacent to the water feature and the interior portions of the existing West Fork.

The Trinity Uptown Plan also depicts specific areas, or zones, of parks, open space and green space. The intent of the Trinity Uptown Plan is to provide 35% of the land as open space. Future planning efforts involving project partners (TRWD, City of Fort Worth, others) are necessary to implement plans for parks and other open space within the Trinity Uptown area.

