

ELM FORK HIKING & EQUESTRIAN TRAILS

CHALLENGE COST-SHARING AGREEMENT
PROJECT PLAN

LEWISVILLE LAKE

City of Corinth

Town of Hickory Creek

Town of Copper Canyon

U.S. Army Corps of Engineers

CC-SA PROJECT PLAN
HIKING & EQUESTRIAN TRAILS AT LEWISVILLE LAKE

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CC-SA PROJECT PLAN

HIKING & EQUESTRIAN TRAILS AT LEWISVILLE LAKE

Section I. Challenge Cost-Sharing Agreement

The Challenge Cost-Sharing Agreement was entered into by the U.S. Army Corps of Engineers, the Towns of Hickory Creek and Copper Canyon and the City of Corinth in September 2002 to facilitate the planning, construction and maintenance of public recreational Hiking and Equestrian trails at Lewisville Lake on Government lands. Specifically to build new trail north of Hickory Creek and connect the existing Pilot Knoll Trails, under easement to the Town of Copper Canyon, east to Sycamore Bend Park in the Town of Hickory Creek via the historical Old Alton Bridge.

Under the agreement each municipality and the Corps operate and maintain the trails within their respective jurisdictions according to a plan approved by the CC-SA partners. The long-term objective to create a unified trails system operated and maintained consistently as it transverses one jurisdiction to the next. (See Appendix A-Challenge Cost-Sharing Agreement including Exhibit A: Conceptual Map)

Section II. Trail Layout

The Government shall provide and update at reasonable intervals GIS data maps of the trails system on aerial views with streets and city limits identified. (See Appendix A attached Exhibit A Approved Map).

Section III. Architectural Theme & Materials

The architectural theme is rustic western. Materials should be chosen for durability, vandal resistance, availability, and cost effectiveness. Structures and signage placed along the trails are intended to be harmonious and consistent with the natural, native surroundings. Whenever possible, the natural color scheme of the Cross-Timbers forest is to be used with varying shades of grays, browns, and greens predominant.

Structures, amenities and improvements should conform to the rustic western theme and the Project Plan. Materials used for construction, should be of the same or similar type and in similar style and appearance to existing buildings, pavilions and other amenities already found at Sycamore Bend Park, Pilot Knoll Park and along the Pilot Knoll Trail system including the historical Old Alton Bridge.

Section IV. Hiking & Equestrian Trail Standards & Guidelines

The Trail Standards & Guidelines are based on currently available references and recommended standards for hiking and equestrian trails; and current maintenance and operations practices on existing trails on Government lands in the Elm Fork Project. (See Section XI. Appendix C: Bibliography)

Basic trail installations are those essential to the establishment and use of the trail system; including elements that define boundaries, are necessary for trail tread construction to permit water flow or prevent erosion, provide for crossings at roads or rivers/streams, or are necessary for public safety and use. These are included in the Trail Standards & Guidelines. An improvement is an amenity that is desirable and will enhance the user experience but is non-essential and is addressed separately.

A. Location

The trail shall follow a designated route as GIS mapped and approved by the Partners and Government on Government lands.

B. Trail Corridor (Area)

A 25-ft. minimum corridor width is recommended. The existing Pilot Knoll Trail corridor easement width is 40 ft. The corridor should be of sufficient width to allow room for relocation of the trail within the corridor to facilitate drainage, minimize erosion and provide screening to adjacent private landowners.

C. Trail Width

A 10-ft. standard for trail width is recommended to allow sufficient clearance for use by maintenance and emergency vehicles. In the event of non-conforming areas created by circumstance of topography, utilities or some other unalterable barrier, establish the trail in the location providing the greatest width available, preferably greater than 8-ft. and no less than 6-ft. Nonconforming trail should only be allowed when no alternative is available.

D. Trail Tread (Footing)

The tread is the surface of the trail (footing). The preferred surfaces are naturally occurring soils, grasses and dirt (primary) and granular stone (secondary with improvements such as culverts, hardening at crossings or drainage).

E. Turning Radius/Switchbacks

A 5-ft. minimum and 10 ft. maximum turning radius is recommended. For switchbacks, the radius should be adequate to prevent a rider or hiker "cutting the corner" and eroding the turn. A switchback intended for maintenance and emergency vehicle use should be 10- ft. radius and reinforced sufficiently to support the weight of intended vehicular use.

F. Gradient

The trail should follow the contour of the land where possible and be located above the 532 ft. elevation contour for trails at Lewisville Lake whenever possible.

G. Ascent

The trail should be constructed so any grade of the trail shall increase gradually. The trail should be aligned to transverse the face of a slope horizontally at a modest grade, less than 3:1 making use of switchbacks on larger slopes, as opposed to ascending the slope in a vertical route from the base of the slope to the crest at a steeper grade.

H. Slope and Backslope

Backslope is the cutting into and filling on the face of a slope to construct trail. The trail tread shall be cut at an angle with outsloping sufficient to ensure drainage away from the face of the hill and allowing for compaction and wear, providing a stable condition with minimum maintenance.

I. Steps

Should be avoided in equestrian trails.

J. Footpaths

A secondary path of stepping stones may be used, clearly separate from the equestrian route and marked for "hikers only" at low water crossings and in areas where the ground is suitable for equestrians but less so for hikers.

K. Drainage

Allow whenever possible for natural drainage. Avoid locating the trail in boggy and wet areas whenever possible. Transverse low or drainage areas perpendicular to the route of drainage and water flow to minimize erosion. Install low water crossings where possible. Install drainage modifications to correct wet areas, with installation of culverts reserved for use in areas of significant flow or erosion potential. Outslope cutting the inner edge of trail along a hillside higher than the outer edge so water is shed across and off the trail instead of collecting and running downhill on the trail. Shallow dips of 3" from hill face to edge filled with gravel or other permeable material may be used to channel flow.

L. Fences

The Government uses a standard unpainted metal pipe rail fence along Government property boundaries, around parking areas, for gates and walk in access areas. Some remote boundary and secondary interior fences are constructed of T-posts and wire. Gates are typically hinged, welded pipe metal construction hung on pipe metal H-braces that swings open fully both directions. Gates routinely remain closed and locked with padlocks issued by the Government. All fencing should be verified as to ownership before alteration or removal, and replaced and constructed according to Government specifications at the time of installation.

Where barbwire fence is present, whenever possible the wire should be replaced with smooth (slick) fence wire using H-braces of wood or metal. Smooth wire fencing is safer for trail users, tightens more easily for maintenance, and blends well visually into surrounding vegetation.

In addition to fencing it is often desirable to keep users within the designated trail corridor. Fallen trees and brush piles may be used to create natural barriers while enhancing wildlife habitat. Plantings of native trees and tall grasses can also be used to create visual barriers to residential areas and businesses near the trail.

M. Access Points

1. Parking Areas

Parking areas should be of sufficient size to accommodate horse trailers pulling in and out and parking with sufficient room to extend the rear doors or ramp to load/unload a horse. The parking lot should be designed with spaces to drive through, in such a manner the trailer should never be required to back up. Adequate parking spaces should be provided to prevent vehicles parking in front of or otherwise blocking access points. Access points should be clearly marked.

The surface of the parking area should be constructed of well packed road base at a depth sufficient to handle the weight of loaded horse trailer rigs. The surface should be topped preferably with smooth gravel or rock of 1/2" diameter or less to prevent injury to horses feet. The surface should be resurfaced and topped with materials as needed to maintain the area free of potholes and ruts. Paved surfaces are less desirable due to the tendency of these surfaces to be slick in particular for iron shod horses. Where concrete is used, rough surface is preferable to smooth.

The Government uses unpainted single rail metal pipe fence to surround parking areas. This fence is most effective in preventing illegal access by motor vehicles and ATV's. In areas adjacent to a roadway, a double rail fence of at least 48" height is desirable to prevent a horse gaining access to a road. The pipe metal fence allows for the installation of stepover bars for equestrian access and pedestrian Y-walk in turns as part of the fence line. Proper access for emergency and maintenance equipment such as pipe metal slide bars or gates should be installed and incorporated into the metal pipe rail fence to allow access. All metal pipe rail fencing, gates, access stepover bars, pedestrian walk in Y's etc. should be approved and built in accordance with Government specifications at the time of installation.

2. Equestrian Step Over Bar

Pipe rail step over bars should be provided at locations intended for equestrian access. Step over bars should be incorporated into pipe rail fencing. The bar being of the same diameter pipe as the fence rail and set at a maximum height at the top of the bar of 14" with a minimum height at the top of the bar 12" (1 foot). Improved footing under and on the approaches is recommended to prevent wear down at the bar. All step over bars and pipe fencing should be built according to Government specifications and standards.

3. Pedestrian Walk In Y

Pedestrian Walk in Y access should be provided at locations intended only for hiker and pedestrian access. Walk in Y should be incorporated into pipe rail fencing. The Walk In Y being constructed of the same diameter pipe as the fence rail and set at a maximum height equal to the height of the pipe fence. All pedestrian access should be built according to Government specifications and standards.

4. Gates & Slide Bars

Access gates or slide bars should be incorporated into pipe rail fencing and constructed of same or similar materials as the fencing. Gates and slide bars should be of sufficient width to permit access of maintenance and emergency equipment. Existing gates and slide bars are 14 ft-16 ft. wide. Gates are typically hinged, welded pipe metal construction hung on pipe metal H-braces that swing open fully both directions. Gates routinely remain closed and locked with padlocks issued by the Government.

N. Crossings

1. Low Water Crossings

Low water crossings are preferable to bridges. Use natural crossings where possible for low-flow or intermittent streams. All plans for construction of low water crossings should provide for adequate hardening of the streambed and embankments.

2. Culverts

Culverts and fords should be of sufficient diameter and height to carry normal water flow with rains. Culverts should intersect the trail so the trail crosses near the midpoint of the culvert at as close to a 90-degree angle as possible to the lengthwise lie of the culvert. Metal or plastic tin horns should be of sufficient diameter and wall strength to permit normal water flow with rains and hold the weight of vehicles and horses. Culverts should be laid on a bed of and surrounded by packed water-resistant materials such as clay, gravel mixes or crushed recycled concrete. The culvert should be topped with a minimum of 12 inches of packed gravel or crushed rock or other similar material and then covered with an additional 6-8" minimum of soil or other appropriate footing. Headwalls may be stacked to create a curb to contain the materials on top of the culvert at proper depth and to prevent washing out. Design should include consideration of outflow to prevent concentration or acceleration of water flow and erosion. Design should allow for any anticipated flooding that would submerge the culvert and the culvert constructed to retain its integrity during such an event. Culvert headwall materials should not be permeable to water flow. Stacked stone headwalls should be mortared to prevent erosion and loss of stability. All plans shall require the express approval of the Government.

3. Stepping Stones/Hikers

Hiker stepping-stones may be placed to provide a crossing for hikers upstream, adjacent and parallel to the equestrian crossing. Hiker stepping-stones should be placed so as not to impede the flow of water and no more than 24" apart. Stepping stones should not be made of wood, should have a rough surface at least 12" diameter and placed so they extend above normal water level 6". Stepping-stones should be secured into the streambed to prevent their loosening or washing away.

4. Roads & Bridges

Crossing signs should be posted at designated road crossings in conjunction with crosswalks painted onto the pavement. Signs should be posted at Railroad crossings if applicable. Crosswalks should be painted white or yellow in compliance with and according to all local, State and Federal rules, regulations and laws governing public crosswalks on public roadways. Signs notifying motor vehicles should be posted a sufficient distance from the crosswalk in both directions in compliance with and as required by local, State and Federal rules, regulations and laws.

Right of Way signs should be posted at bridge crossings shared with pedestrians indicating "Hikers/ Pedestrians yield Right-of -Way to Horses/Riders". Right of Way should be posted in addition to signage encouraging riders to dismount and walk the horse across the bridge.

O. Bridges (existing)

The trail should be at least the same width as the bridge. Railings should be a minimum of 5 ft. in height and comply with all state, local and federal safety regulations. Existing bridges not in compliance with current railing standards should be posted to encourage riders to dismount and walk horses across the bridge. Treated timber planks are preferred for use as bridge decking over concrete or asphalt.

P. Underpasses

Underpasses should be of sufficient height and width for passage of a mounted horse and rider, emergency and maintenance vehicles and equipment. The minimum height of the underpass should be 12 ft. and the minimum width of the underpass 20-ft. The tread should be at or above the 532 ft. elevation and drainage built in to prevent standing water.

Q. Other Structures

Structures may occasionally be required for areas where no alternative trail route is available. These may include retaining walls or other artificial structures. The materials used should be in accordance with the architectural theme and blend into the surroundings as much as possible. Switchbacks may be required for example on a steep slope to prevent erosion, or an elevated trail surface with sub-tread drainage may be necessary to construct in wet areas. Plans and designs should be submitted to the Government for approval before installation. All structures should be considered in terms of what is the least intrusive method of modification for the given location.

R. Utility Easements

Determine the location of all utilities prior to installation of trail or improvements. Preserve access to utilities, avoiding utilities whenever possible. Seek authorization and approval for installations within an easement and coordinate installation with the utility or easement holder if no other locations outside the utility easement are possible.

S. Signage

Various sign types and methods of installation shall be used. A master sign plan should be made a part of the Project Plan. Following is a brief summary of the signs:

1. Trail Location Markers

Brown Carsonite two-sided trail signposts are used for trail location markers. Markers are installed each quarter mile with additional directional and reassurance markers placed as needed. The posts are a brown composite with vandal resistant properties and flex if a horse and rider hit them making them safe adjacent the trail. Posts are ordered from Carsonite with pre-attached metal anchors, which resist pulling out of the ground best in the soils around Lewisville Lake. The plastic anchors are insufficient.

The posts are labeled with stickers ordered from Carsonite with a brown background and white reflective lettering or symbols. They adhere well and are vandal and weather resistant. The posts are labeled with international symbols for authorized uses (hiker, equestrian), rules (pets on leash), directional arrows and trail location identification; the trail designated by alphabetical letter, the location on that trail by number. Prohibited use symbols may be added which have the red circle with a slash. "No Bicycles" and "No ATV" are used. A wide variety of symbols are available. A strip of white reflective tape is affixed across the top of each post to increase visibility of the marker especially for mowers.

A Government logo or Partner logo sticker may also be affixed. The Town of Copper Canyon uses a 3" X 3" logo sticker affixed near the base of the posts. Each entity may do the same in their jurisdiction. In unincorporated areas the Government Corps Castle sticker is available from Carsonite for use. A single overall trail logo design might be considered to use throughout the entire trail system, these designs are then available through Carsonite printed on stickers and various types of signs.

2. Hunting Boundary Markers

Yellow Carsonite posts may be used to post "No Hunting Within 600 feet of Boundary" Government hunting regulation as needed.

3. Trail Name Signs

The trail name signs are larger signs located at trailheads and entrances and should be placed where they are readily visible. The signs should be constructed of wood of a design approved by the Government. The lettering may be routed into the wood and painted for visibility. Existing signs are unpainted with yellow painted lettering. Signposts are anchored in cement. Use of rustproof hardware is recommended.

Information may include the trail name, total distance, elevation and directional arrows. (Refer to Section XII. Appendix, A. for photo)

4. Metal Information & Notice Signs

Metal signs may be used for information and notices. Metal signs have a brown background color with white reflective lettering. Metal signs are inexpensive and easily replaced.

- a. "No Bicycles or Motorized Vehicles Allowed". Smaller signs are bolted on a 6-ft. metal T-posts or similar post.
- b. "Ride Aware Residential Area Ahead". Larger signs bolted on metal street signposts or similar metal posts anchored in cement.

All signs should be approved for use prior to posting. Metal signs should be located off to the side of the trail where visible, but not an obstruction for maintenance or emergency vehicles and located so as not to pose a hazard to a rider. Refer to Section XII. Appendix, A. for photo of "Ride Aware" sign.

5. Caution & Closure Signs

Some cautionary signs and trail closure signs (and gates) may be required in certain areas. Elevation would be a good initial indicator for determining anticipated areas that may flood occasionally and be subject to high water or closure due to flooding.

6. Crossing Signs

Signs should be posted at designated road crossings in conjunction with crosswalks painted onto the pavement. Signs should be posted at Railroad crossings. Right of Way signs should be posted at bridge crossings shared with pedestrians indicating "Hikers Yield to Horses". Carsonite has a sign of this type with the universal symbols available. This should be posted in addition to signage encouraging riders to dismount and walk the horse across the bridge.

T. User Safety

1. Search Rescue & Recovery Plan (S R & R)

Each Partner and the Government shall provide Search Rescue and Recovery Plans for the trails within their jurisdiction according to the CC-SA.

2. Trail Closure

Trail closure policies and procedures should be established and implemented as approved by the Partners and government as necessary for public safety

The existing trails are open at all times as there is one high ground trail route that remains above flood most years. There has been no official closure of the trails due flooding on the Pilot Knoll Trails. "Do not ride wet trails" is included as posted public notice in bulletin boards and trail rules. The new trails pass through the Hickory Creek floodplain and adjacent to areas where the Old Alton Road has gates to close the road when flooding

occurs. Areas with flooding potential should be determined and plans made including appropriate signs indicating caution signs for high water and high ground route signs.

U. Public Information

1. Trail Rules

A set of trail rules should be approved and posted at trailheads, on signs and bulletin boards.

2. Distribution of Information

Internet: Post rules, information and official trail map on Partner and Government web sites with links to appropriate Government sites for Parks, Lake Levels, etc.

Brochures: Provide brochures including an official trail map approved by the Partners and Government, trail rules and information on parking, camping, etc. at area parks. Brochures to be available at Government offices, City and Town Halls and Parks.

Section V. Trail Maintenance Standard

The following are minimum standards for trail maintenance.

(See Trail Maintenance Inspection Checklist, Section X. Form CCSA-5)

A. Mowing

Trails should be mowed a minimum of twice a year, typically in late May following wildflower display and again in mid to late September; with additional mowing done as required particularly in drought to prevent fires and wet years due to excess growth.

B. Trash & Debris

Trash collection at trailheads is determined by need, a minimum collection typically done once a month for parking areas. On the trails away from trailheads, trash is less frequently a problem and is done on an as needed basis. Trash should be picked up before mowing. Removal of fallen limbs, dead trees or drift debris on shoreline trails is on an as needed basis and done prior to mowing.

C. Trail Inspection Including Signs and Amenities

Inspect culverts and installations regularly for damage or wear and replace or repair as needed.

D. Culvert Maintenance

Clear debris and obstructions a minimum of twice yearly and as needed; re-check for debris after heavy storms. Keep areas around culverts mowed or trimmed and graded sufficiently to direct water flow.

E. Fence Maintenance

Check fencing, gates and access points for damage or missing locks, repair as needed.

F. Parking & Access Areas

Maintain surface of parking area, grade and add materials as needed. Keep area surrounding parking lots mowed shorter and pick up debris and trash every 1-2 weeks or as needed.

G. Erosion Control

Maintain trails surface (tread) by leveling, back-filling and packing or surface hardening any ruts. A front-end loader or bobcat is normally sufficient for this task. In heavily treed areas, watch for exposed tree roots and keep these covered to prevent trip hazard. In areas where runoff creates a persistent wet area, modify drainage and tread. In areas with persistent flow at one location, install a culvert with headwalls sufficient to permit flow and the trail to cross the culvert perpendicular to the placement of the tinhorn. Identify low water crossings or other features with erosion potential and construct to minimize erosion.

Section VI. Standardized Forms (See Section X. Appendix D. Forms)

- A. Trail Individual/Group Volunteer Service Hours Log (Form CCSA-1)
- B. Agreement for Individual Volunteer Service (Form CCSA-2)*
- C. Agreement for Individual Volunteer Service Parental Approval Form (Form CCSA-3)*
- D. Agreement for Group Volunteer Services For Single Activity or Event (Form CCSA-4)*
- E. Trail Maintenance Inspection Checklist (Form CCSA-5)
- F. Trail Incident Report (Form CCSA-6)

***Letterhead, municipal information specific to each Partner**

Section VII. Existing Improvements and Amenities

A complete inventory of existing improvements and amenities should be included as part of the Project Plan.

A. Town of Copper Canyon, Pilot Knoll Trail, Bishop Lane Parking Area

The Bishop Lane parking area is located at a dead end. The parking lot is designed for horse trailer and car parking. There is a single rail pipe fence surrounding the parking area with two built in stepover bars and a pedestrian Y-walk in for user access. A 16-ft. slide bar for maintenance and emergency access, kept closed and padlocked is constructed into the pipe fence. The Parking lot has an improved rock surface. There is a bulletin board, trail name signs, metal prohibition signs, and trail location markers.

B. Old Alton Bridge & Old Alton Park, Denton County

Old Alton Bridge Park has a small parking area designated for car parking only, a two rail metal pipe fence with a 16" pipe gate and two Y-walk through access points for pedestrians at the parking area. Horses do not have access from the car parking area.

Benches and a gravel path to the bridge are present. Access to the trail is at the foot of the bridge: A Pedestrian Walk in Y and combination stepover bar/gate for horses, emergency and maintenance access. Future improvements may include historical signage, informational signage, a bulletin board, hitching posts, a water trough, interpretive signs and other historical displays.

C. Sycamore Bend Park

There is a parking facility, vault restrooms, boat ramp and picnic tables at Sycamore Bend Park. Possible improvements would include horse trailer parking area, running potable water, additional picnic tables, benches, hitching posts, bulletin boards, informational signage, corrals, tie-outs, equestrian camping facilities, full restrooms with showers, ride in access points, locked gate or slide bar for maintenance and emergency access, water troughs.

Section VIII. Optional Trail Improvements and Amenities

One ongoing aspect of the Project Plan will be the location and installation of improvements and amenities. Amenities are elements that enhance the trail user experience but are non-essential to the basic trail.. A complete inventory of existing and planned improvements and amenities should be made a part of the Project Plan.

A. Bulletin Boards

Bulletin boards should be located near entrance points or points of convergence or where amenities are located. Vandalism near parking areas can be significantly reduced by locating the bulletin board just up the trail 100-200 feet, out of sight of the parking area.

Bulletin boards may be constructed of wood or metal of a design approved by the Government, preferably with a peaked roof of sufficient size to shelter the information board. Covering the roof with shingles extends the life of the structure. Bulletin boards may be painted (at Pilot Knoll the color used is brown) or left unpainted to weather naturally (if located on the trails outside a formal setting). The bulletin board legs should be anchored in cement and braced per design.

Bulletin boards may have an optional cover made of Plexiglas of sufficient thickness to prevent flexing and cracking. Framing the Plexiglas with wood strengthens the cover and deters vandalism. The cover is hinged at the top to lift up to open for access and when closed has one or two latches at the bottom and is padlocked through each latch. Covers are not necessary if information is laminated.

Locate utilities in the area before installation and consider the direction of prevailing winds (in this area north/south) when facing the bulletin board. An east/west facing presents a lower profile to prevailing winds. (Refer to Section XI. Appendix A for photo)

B. Hitching Posts

Hitching posts may be constructed of 4" minimum wood posts with the cross bar secured with heavy duty lag bolts to the uprights, or constructed of unpainted welded pipe metal. Pipe metal should be built and finished to Government specifications for pipe fencing. Hitching posts should be 48" in height, 8ft. in length with finished ends for wood, capped for metal. Upright posts are anchored in cement.

C. Mounting Blocks

Locate mounting blocks where an equestrian would be required to or routinely mount or dismount their horse, such as parking areas, rest areas, bridge approaches.

D. Benches

Benches may be standard Government approved park style benches or other styles as approved for use by the Government for a specific location. Bench legs should be bolted into concrete anchors.

E. Picnic Tables

Picnic tables may be standard Government approved park style picnic tables or other styles as approved for use by the Government for a specific location. Picnic tables shall be bolted into concrete anchors.

F. Corrals

Corrals may be constructed of wood, with the preferred material pipe rail. Corrals should be a minimum size of 12 ft. x 12 ft. and consist of a fence 48" tall and of two rails minimum, the top rail at 48", the lower rail at 24" height and with a latching gate that swings open fully in both directions. The latch should be horse proof design. Construction and installation should be according to the current Government specifications for welded pipe metal fencing.

G. Tie-Out Posts

Tie-out posts are used when a corral or hitching post is not available. A free standing pipe metal post capped at the top, a minimum of 6-ft.height with a ring welded at the top secured in a cement footing is sufficient to tie a horse in locations a rider may need to dismount and secure the horse. These posts are often provided at equestrian camping sites and in parking locations where a horse is being loaded or unloaded from a trailer and saddled or unsaddled.

H. Water & Water Troughs

Water availability may be limited. In locations where a source is available and a water line may be installed; using a back flow prevention check valve and freeze drain line; a concrete self-filling basin style trough would be most desirable. A provider for the water source and cost would be required. In equestrian campsites, a water spigot is often provided for running water.

I. Signs

1. Interpretive Use Signs

Interpretive signage and displays may be desirable at various locations featuring identification information of plant, trees, grasses, wildflowers, etc. Various organizations and educational institutions may be interested in participating in this type of project.

2. "You are Here" Trail Map Sign

A large sign placed at various locations on the trails away from locations with bulletin boards already posted with the same information. The "You Are Here" sign may contain: a map indicating the location of the user and identifying closest exit points, amenities, and trail marker locations, Hunting areas indicated for cautionary purposes if applicable, high water areas indicated with quick exit routes, Trail system emblem and trail partner logos, instructional information for emergencies such as "Dial 911" or "Please call and report illegal dumping...", Ranger or Game Warden contact numbers, maintenance contact information to report trail hazards, trail etiquette reminders or rules.

J. Information Kiosks

Kiosks are information booths. A kiosk may be appropriate at a high traffic location such as a park or an interpretive education site. Kiosks should be designed and constructed in accordance with the theme. There are kiosks at Lake Grapevine.

K. Screening & Visual Enhancements

Native plants and trees should be considered for areas where visual screening is needed, such as near residential areas. Use of native plants and grasses can also stabilize disturbed soils and slow erosion, particularly on slopes and where vegetation has been stripped by past development or runoff. Open spaces may be enhanced by removal of brush and invasive, alien plants and replanted with native grasses and wildflowers to re-establish lost native habitat. This type of project may be of interest to local volunteer groups and organizations.

Section IX. Initial Five Year Plan for Hiking & Equestrian Trails

- A. Definitions
- B. Initial Five Year Plan

Section X. Appendix

A. Challenge Cost Sharing Agreement and Exhibit A: Conceptual Map

Section X. Appendix

B. Photographs of Signs and Improvements

Section X. Appendix

C. Bibliography

The trail standards and guidelines in this document are a compilation of information taken in part from the from the following sources:

“EM 1110-2-410 Design of Recreation Areas and Facilities- Access and Circulation”
US Army Corps of Engineers, 1982.

“Trail Construction and Maintenance Notebook” USDA Forest Service, 2000.

“Trinity Trails Management Guide”, North Texas Council of Governments, 1998.

“The Complete Guide To Trail Building and Maintenance” Appalachian Mountain Club, 1998.

Volunteer agreements, volunteer forms, logs and information on Hiking and Equestrian Trail operation, maintenance and management practices provided courtesy of the Town of Copper Canyon.

D. CC-SA Forms

Trail Individual/Group Volunteer Service Hours Log (Form CCSA-1)

Agreement for Individual Volunteer Service (Form CCSA-2)*

Agreement for Individual Volunteer Service Parental Approval Form (Form CCSA-3)*

Agreement for Group Volunteer Services For Single Activity or Event (Form CCSA-4)*

Trail Maintenance Inspection Checklist (Form CCSA-5)

Trail Incident Report (Form CCSA-6)

* Letterhead, municipal information specific to each Partner

IN WITNESS WHEREOF, the signatures hereunto indicate the approval of this Challenge Cost-Sharing Agreement Project Plan becoming effective on October 8, 2003 by the unanimous vote of the Challenge Cost-Sharing Committee for the Elm Fork Hiking & Equestrian Trails at Lewisville Lake.

The Department of the Army

BY: _____
Tim MacAllister, Recreation Specialist
Corps of Engineers
DATE:

BY: _____
Ranger Emily Gross
Corps of Engineers
DATE:

The Town of Hickory Creek

BY: _____
Judy Rentfro
Parks & Recreation Board
DATE:

The City of Corinth

BY: _____
Paul Leslie
Parks Director
DATE:

BY: _____
Elihu Gillespie
Parks Department

BY: _____
Phil Shelp, Trail Committee
DATE:

The Town of Copper Canyon

BY: _____
Mayor Pro Tem Joe Chiles
DATE:

BY: _____
Karen Mangum, Park Committee
DATE:

BY: _____
Sylva Cohen, Park Committee
DATE: