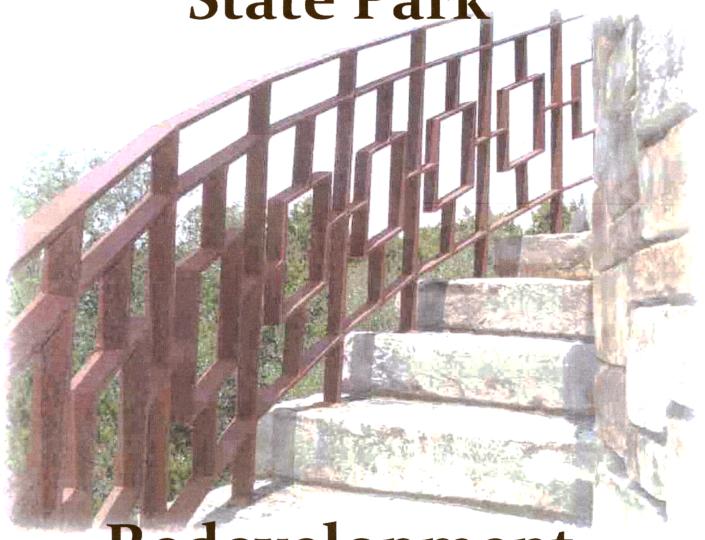
Mother Neff State Park



Redevelopment Plan

Texas Parks and Wildlife Department February 2011 "Nothing is more conducive to the happiness and contentment of a people than for them to go 'back to nature', where the bees hum, the birds sing, the brooks ripple, the breezes blow, the flowers bloom and the bass bite."

Pat M. Neff, Governor of Texas found in *Guided with a Steady Hand*

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Introduction

o **Executive Summary**

This master plan is meant to characterize public use zones and to program the facilities and infrastructure to support public use and operation at Mother Neff State Park. The effort includes site landscape analysis and environmental assessment of future facilities.

Mother Neff State Park has provided high quality outdoor recreation opportunities since the mid 1930's. However, existing facilities are showing their age from the wear and tear of eighty years of use and periodic flooding.

The programming and facility enhancements described in this plan reflect the need to develop safer camping opportunities and park facilities that can be enjoyed regardless of bottomland flooding. The programmed facilities herein are consistent with TPWD's efforts to provide high quality recreational opportunities and protect and conserve the cultural and natural resources of the state. This facility development reflects the expressed desire of the public while enhancing the recreation opportunities at the site.

A new headquarters, group recreation hall, multi-use campsites, cabins, restrooms, and habitat protection are integral components of this plan. The implementation of the plan will recover lost recreation opportunities for the public, improve the experience available at the site and conserve resources that make the park attractive and unique.

Site Description

Mother Neff State Park (MNSP) is located in the most eastern corner of Coryell County. Situated in the Blackland Prairie natural region of Texas, the park is a narrow slice of land starting from the Leon River and gaining over 200 feet in elevation to the upper prairie. At only 259 acres, this small 'piano key' of a park tunes significant notes of both cultural and natural resources, and provides a rich setting for meaningful outdoor recreation.

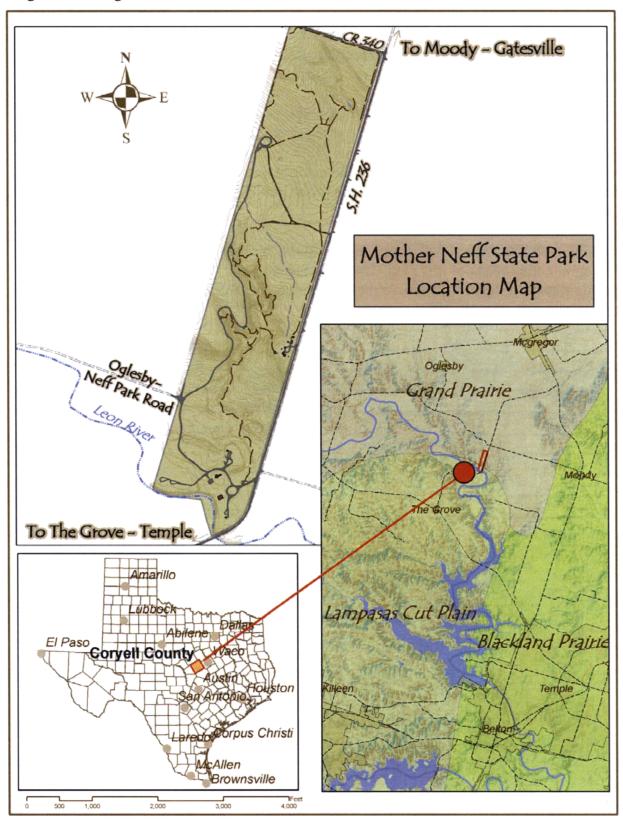


Figure 1- Location Map

o Park Development Chronology

Mother Neff State Park was one of the first acquisitions to the State Park system in 1934, due to its significance as a traditional gathering spot. The riverine grove shaded by oak and pecan trees was a community gathering place long before the State Parks system came into existence. This gathering area is now the Leon River terrace within sight of the rock tabernacle and group recreation hall. There was also a historic river crossing close to the S.H. 236 (Texas 236 Highway) bridge known as the Halbert's crossing.

The original park of six acres was donated to the public by Mrs. Isabella Eleanor Neff, the mother of Texas Governor Pat M. Neff, who served as Governor from 1921 to 1925. After the death of his mother in 1921, Governor Neff created the Mother Neff Memorial Park, which later became the nucleus of the Texas State Park system. In 1935, Pat Neff enlarged the original 6 acres by 250 acres.

The Civilian Conservation Corps (CCC) developed the site from 1934 to 1938. An excavation at this time unearthed three Native American graves and many artifacts.

The completion of Belton Dam in 1954 began to affect changes in the flooding pattern during severe events. Rather than flood waters running south, water now backs up into the site to depths as much as 19-20 feet (See Figure 2). In 1957, the park experienced approximately 10 feet of flood water.

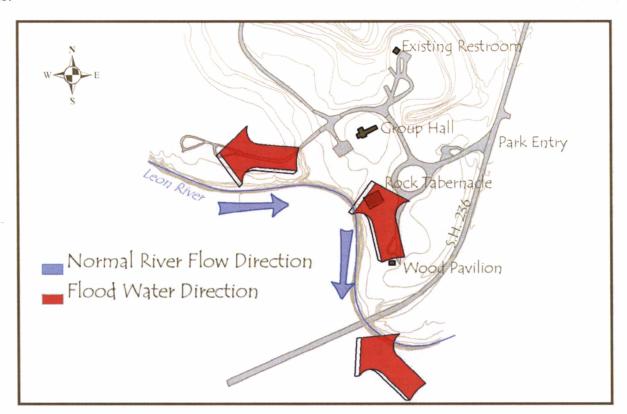


Figure 2- Flood Water Direction

In 1966, the State Building Commission approved engineering plans to drill a new water well just north of the existing water tower and install pump equipment at the site. The original water well in the north end of the site was plugged and the existing pumphouse was moved to the new well site.

In 1967, TPWD internal memoranda reported the need to create a screened storage area out of view of the highway near the existing residence. This probably became the maintenance shed, and was in line with the CCC's descriptions for the area of the caretaker's cottage. The need for 'modern restrooms' was also noted at this time.

In 1971, a fire lane and maintenance path was cleared around the perimeter of the park and an aerial survey of the park was completed. Bulldozing work caused concern from faculty at Baylor University due to concern for possible damage to natural features which were being studied at the time.

In 1974, utilities were added to the tent campsites at the park.

In 1976, requests started coming in for more camping sites with utilities. Requests were repeated in 1979 and 1985. Some request letters came with numerous signatures from the community.

In 1977 a restroom replacement project was approved and the current restroom now in the lower area of the park was constructed in 1980.

In 1979, the Department was offered an additional 175 acres of land located south of the park and across the river. The offer was declined because of its limited size and location as well as departmental priorities and funding capabilities. Another tract of 172 acres on the western border of the park was offered the following year (May, 1979 Commission Action). This action was predicated on having the county road closed, which was unsuccessful.

By 1984, the 20-year old water well at the park began to fail, and a new 3" water line was connected to the Elm Creek Water Supply Corporation system. The water line also connected the residence and the restroom.

On December 20, 1991, the area was inundated by heavy rainfall and floodgates on Lake Belton were closed. The Leon River swelled out of its banks and 23 feet of water backed up into the park, to elevation 634.36 FT. The flood waters stayed until June of 1992. A Flood Task Force issued a report to determine appropriate levels of repair and apply the newly developed agency flood design criteria to the situation. The same year, the site became listed on the National Register of Historic Places.

A disastrous flood came again in 1993. FEMA funding was obtained to assist with repairs and the losses. The park headquarters was moved out of the CCC Concession Building and into a temporary building. The consensus at this time was that the county road going through the park would likely not be closed.

In 1995, a new master plan was started. In 1998, TPWD prepared a conceptual use plan which relocated new use areas in the upper portion of the site, but was contingent on new park land acquisition.

Severe floods started becoming a regular occurrence, as they came again in 1998, 2002, 2005 and 2007.

In 2002, ADA renovations were made throughout the park to campsites, improving accessibility to picnic tables and the rock tabernacle.

In 2004, a new on-site sewage field was completed, which consolidated all of the park's wastewater systems into one manageable field.

In 2009, the Texas Legislature created designated funding for new park development, as part of the 2010 Proposition 4 General Obligation Bond Funding for repairs to weather-related damages as directed in Rider 31 of the General Appropriations Act of the 81st Legislature, which in turn precipitated this planning effort. This effort recognizes the need to locate park facilities that function regardless of flooding. The new facilities are also contained within the current boundary of the site, as land acquisitions, although always probable, are not guaranteed at this time.

o Organizational Alliances

City & County Governments

Mother Neff State Park is located in and served by Coryell County. Roads leading to the park are maintained by Coryell County. As part of the Park's Emergency Management Plan, County offenders assist with severe weather clean up and repair. This rehabilitation alliance serves both the park and the people.

State & Federal Elected Officials

At the State capitol in Austin, the park is represented by a State Senator (Senate District #22) and a State Representative (House District #59). In Washington DC, the park is represented by U. S. Congressional District #31 and two U.S. Senators who represent the state at large.

River Authorities & Water Districts

Mother Neff State Park currently purchases water from the Elm Creek Water Supply Corporation. The US Army Corps of Engineers monitors flood water rise on the Leon River, which is under the purview of the Brazos River Authority for water quality monitoring.

State Agencies/Universities

Other state agencies which work with MNSP are the Texas Commission on Environmental Quality (TCEQ). TCEQ regulates the quality of the water and disposition of wastewater at the park. Texas A&M University partners with the park for fauna research and its extension, the Texas Forest Service conducts field fuel moisture surveys. TPWD also partners with the Texas Historical Commission in regards to the historical preservation of architectural, archaeological and cultural landmarks at the site. Baylor University instructors conduct outdoor classrooms, lead public tours; students do graduate research projects (e.g. prairie fires), entomology and vegetation studies. University of Mary Hardin-Baylor is in close proximity and has great partnering potential.

Federal Agencies

Federal Agencies which interact with MNSP include the Department of the Army (due to the closeness of Fort Hood), the US Department of Interior (due to the site being listed on the Federal Register of Historic Sites) and the U.S. Environmental Protection Agency and the US Fish and Wildlife Service due to the site having habitat for Threatened and Endangered species.

Private Conservation & Recreation Organizations

A variety of other organizations such as the Boy Scouts of America (Cub Scouts) use the park, as do various local day camps and clubs. Some of the regularly visiting organizations include:

- Waco Wild West Century Bike Ride
- Tour De Temple Bike Ride
- McGregor Independent School District
- Baylor University Outdoor Recreation Class
- Temple Parks and Recreation Camp Heatwave (COOP Grant)
- Texas State Guard GPS Training
- Heart of Texas Search and Rescue Training
- Heart of Texas Master Naturalist
- Bell County Master Naturalist
- YMCA Indian Princess Program
- The Nature Conservancy

Statement of Intent

This planning document establishes the guiding philosophy and intent of facility development for Mother Neff State Park. Two tenets fundamental to the park's philosophy and intent are its purpose and significance.

o Purpose

Since 1934, the site has been a public gathering spot, but also had a larger goal to allow public access to sites in Texas, encourage outdoor recreational opportunities and draw additional visitors. Today, the park continues to function as a community and family gathering spot, serves as a setting for special occasions, and provides an outdoor venue for natural science studies with area schools and universities.

o Significance

The preservation and interpretation of both cultural and natural resources has contributed to the significance of this site. On August 24, 1992 Curtis Tunnel, State Historic Preservation Officer, Texas Historical Commission signed the National Register of Historic Places registration form nominating Mother Neff State Park and the Old River Road Historic District for inclusion in the National Register of Historic Places. This nomination was accepted by the United States Department of the Interior, National Park Service and the site was entered in the National Register on October 2, 1992. The nomination was made on the basis of Criterion A, that the property is associated with events that have made a significant contribution to the broad patterns of our history; and Criterion C, that the property embodies the distinctive characteristics of a type, period, or method of construction or represents the work of a master, or possess high artistic values, or represents a significant and distinguishable entity whose components lack individual distinction. The areas of significance are listed as Politics/Government, Architecture and Landscape Architecture and the Period of Significance is 1934-1939.

Thirteen resources are contributing to the National Register District; they are:

the Entrance Wall the Bell the Picnic Shelter
the Tabernacle the Clubhouse the Foot Trail
the Picnic Table the Water Tower the Caretaker's House
the Well Pump House the CCC Camp Site the Park Drive Road

and the Old River Road (F.A.S. 21-B), which is not located within the park boundaries but is an integral part of the overall park design.

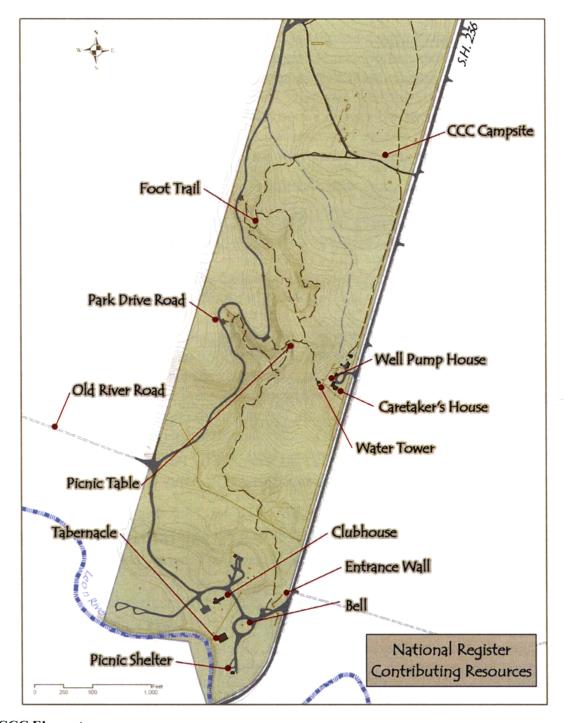


Figure 3- CCC Elements

MNSP also has the potential to be recognized as part of the Chisholm Trail corridor, as a branch of the Trail passed through Coryell County and along the Leon River during its short, yet legendary, history.

Objectives

Since 2005, the Park Management goals and objectives have been to enhance the visitor experience, improve facilities and infrastructure, continue the ongoing restoration of bottomlands, conduct visual and scientific baseline surveys to document changes in flora and fauna activity through the park, and to create a maintenance schedule for all standing historic structures. A full listing of the goals and objectives can be found in the 2005 Site Abstract.

o Germane Laws, Regulations & Policies

Potentially applicable laws, regulations and policies that may affect the development and implementation of this master plan include the TPWD Land and Water Resources Conservation and Recreation Plan and the following:

Federal Requirements

American with Disabilities Act of 1990, Public Law 101-336 including revised regulations to eliminate architectural barriers for park visitors with disabilities.

Archeological Resources Protection Act of 1979, 16 U.S.C. 470aa-470mm, Public Law 96-95 and amendments, Chapter 1b, relates to the preservation of archeological resources on public lands.

Clean Water Act of 1977, 33 U.S.C. 1251 et seq., Section 404, relating to dredging and fill in U.S. waters.

Endangered Species Act of 1973, 16 U.S.C. 1531 et seq., protects listed threatened or endangered species and their habitat.

National Historic Preservation Act of 1966, 16 U.S.C. 470 et seq., Section 106, relates to affect on historic properties, generally applicable only in projects involving Federal funds.

Rivers and Harbors Act of 1899, 33 U.S.C. Chapter 425, as amended by P.L. 97-332, October 15, 1982, and P.L. 97-449, 33 U.S.C. Sub Sec. 401-403, establishing U.S. Army Corps of Engineers regulatory authority over U.S. navigable waters.

Native American Graves Protection and Repatriation Act, 32 U.S.C., P.L. 101-601, November 16, 1990, provides for the protection of Native American human remains, funerary objects, sacred objects and objects of cultural patrimony.

State Requirements

Texas Accessibility Standards, Vernon's Texas Civil Statutes, article 9102 relating to the elimination of architectural barriers for park visitors with disabilities.

Texas Natural Resources Code of 1977, Title 9, Chapter 191 (referred to as Texas Antiquities Code), relates to the protection of archeological and historical resources such as historic buildings, shipwrecks and aboriginal campsites.

State Outdoor Burning Rule, Title 30, Texas Administrative Code, Sections 111.201 through 111.221 and the Texas Commission on Environmental Quality (T.C.E.Q.) guidance, RG-049 dated August 2007 (Outdoor Burning in Texas).

Texas Commission on Environmental Quality –TAC Title 30, Chapter 290 regulations for public water systems and Chapter 285 regulations for On-Site Sewage Facilities.

Texas Parks and Wildlife Code – Chapter 43, Subchapter C, and Chapters 67 and 68, relates to the protection of listed threatened and endangered species and other non-game species.

Landscape Analysis

The purpose of this section of the Master Plan is to locate and describe sensitive natural and human environments that should not be damaged through park development, and to determine areas within the park that favor human activity. As the topography of the park changes, so does the geology. The geology change leads to a difference in soil types; soils also determine the types of plants that live in certain areas. Of course, certain animals prefer certain plants. So there is a distinct, yet natural, connectivity and balance in all areas. Although not always as evident, linkages to the cultural landscape also have temporal connection. This is why park development plans must be based on the analysis of our natural historical past.

Physical Landscape

The park consists of an upper portion of prairie land sloping into an area of rugged limestone hills overlooking the rich bottomlands of the Leon River. The hills are covered with dense thickets of mature cedar and oak which envelop the park loop road in deep shadows. The bottomlands contain huge pecan, cottonwood, sycamore and several species of oak.

The park's location is significant in that it is at the convergence of the Cut Plains, Grand Prairie (Washita) and Blackland Prairie. The upper prairie of the site is considered a remnant of the Grand Prairie, and the lower woodlands are the start of the cut plains. The Washita Prairie, at the eastern portion of the Lampasas Cut Plain, is a rolling landscape representing a remnant of the original surface, most of which eventually eroded away to form the highly dissected main portion of the Lampasas Cut Plain to the west (Hayward et al 1992). This eastern undissected area, while somewhat different topographically, is thus clearly related to the rest of the Lampasas Cut Plain. (Shinner & Mahler, P. 51).

The site generally slopes towards the Leon River valley. Elevation ranges from about 610 feet (MSL) along the river to 790 feet (MSL) in the northern uplands.

Soils | Surficial Geology

The park consists of wooded river bottom land, slope forest and grassy prairie. The river and some ravines are bordered at points by 50 foot bluffs of Fredericksburg limestone. Many interesting fossil remains may be found in this formation.

The site's geology, from north to south, is as follows: Fort Worth and Duck Creek Limestone and the Denton clay members of the Georgetown Formation (on the upland tallgrass prairies), Edwards Limestone (on the upland Liveoak savanna & juniper), Comanche Peak Limestone (on the canyon slopes), and upper Walnut Clay (shale) may be entirely covered by Pleistocene terrace deposits.

According to the USDA Natural Resource Conservation Service, there are six types of soil map units found in the park. As is expected, the soils in the steeply sloped areas are not conducive to facility and road development. NRCS data recommends keeping camp area development out of the

ravines. The majority of the park soils were classified as 'Not Limited' for trail development. As expected, picnic area construction is recommended in the southern portion of the site, as the soils in picnic areas must be able to support heavy foot traffic, and allow rainfall to absorb readily, yet remain firm, and not be dusty when dry. Playground development was actually listed as 'somewhat limited' and 'very limited' for the majority of the site, indicating future constructability issues and careful site consideration that will need to be addressed.

The majority of the park soils are classified as 'very limited' and 'somewhat limited' for septic tank absorption fields. The 'very limited' rating indicates that the soils have one or more very limiting features that can only be overcome with special planning, major soil modification, special design or significant management practices.

Topographic | Viewshed

The northern end prairie area slopes southward at 1-6% toward the Leon River basin. The landform then starts sloping at generally 13% and becomes even steeper in the ravines, with some points actually becoming vertical cliffs. Once in the bottomland, the terrain levels off again to approximately 3% to 8% grades. The following map(s) shows the site's slope conditions with prominent viewpoints.

Proposed development is generally kept to the more gently sloped areas, but it behooves park planners to design with the existing slopes and not try to avoid them completely. Steep slopes often lend a quality to the site that gives it a unique sense of place.

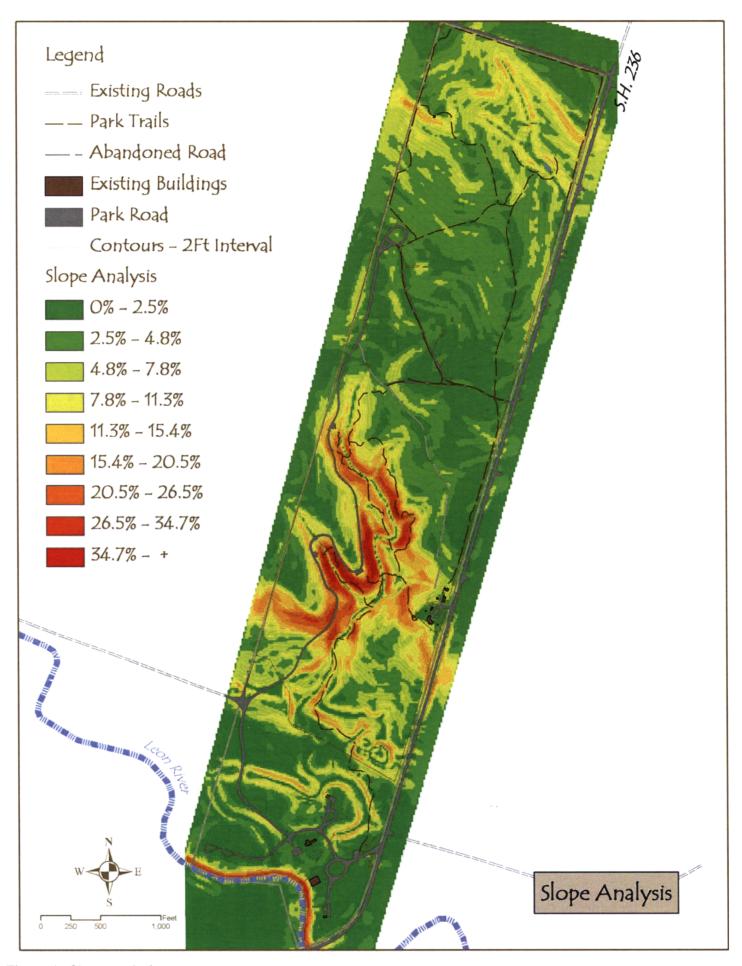


Figure 4 - Slope Analysis

Hydrological | Watershed

Coryell County enjoys a temperate climate with an average of 32 inches of rainfall per year, mostly occurring in the spring. According to the NRCS, in two years out of ten, the rainfall in April through September is less than 13 inches.

The frontage along the Leon River was always subject to flooding. In 1935, CCC design staff notated the highest water level occurring at 616 feet in 1908. They were aware of the potential problems and thus added several feet of fill to

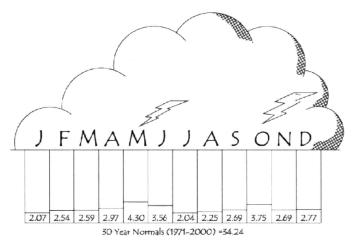


Figure 5 0 Rainfall Data

create a higher finished floor elevation for the group recreation building and rock tabernacle. The Lake Belton Dam, finished in 1954, had its conservation pool elevation set at 594 feet. By 1957, floodwater exceeded the 1908 mark with an elevation of 620.45 feet.

The 100 year flood elevation is now calculated at 628 feet, which inundates approximately 60 acres of the southern end of the park. This '100 year event' has occurred three times since 1991. During a 10-year flood frequency (at elevation 610 feet), the main access to the Park from FM236 is closed from the South (at the Leon River bridge).

The nearest USGS flood gauge is upstream in Gatesville, in central Coryell County. Park staff can usually get a 24-hour warning from the flood gauge data to evacuate campers. However, surrounding development over the years has shortened the flood warning time. Additionally, since the floodwaters back up into the site, even a relatively small rainfall of 1 ½ -inches elsewhere in the watershed can cause conditions to deteriorate between midnight and 7:30 am, leading to unsafe conditions with very little warning.

The 'blessing in disguise' is that the floodwaters are not rushing, and have not pushed the rock tabernacle and group hall off their foundations or further downstream. General consensus from TPWD historic sites architects and structural engineers is that these buildings weather the periodic inundations very well; damage is often more severe to the living vegetation than to the structures.

Flooding, as demonstrated, is a severe problem in the lower portion of the site. But the upper prairie and woodlands also have the potential for a major rainwater runoff. Drainage of any new park facility must take into account the resource-sensitive ravines that it may drain into.

There are two existing man-made water tanks in the upper portion of the site, although at present, neither tank holds their full capacity due to leaks. Water erosion potential, as related to soil types is very high for the rock outcroppings of the center steep ravines. The rest of the soil types in the park have a generally lower potential water erosion rating.

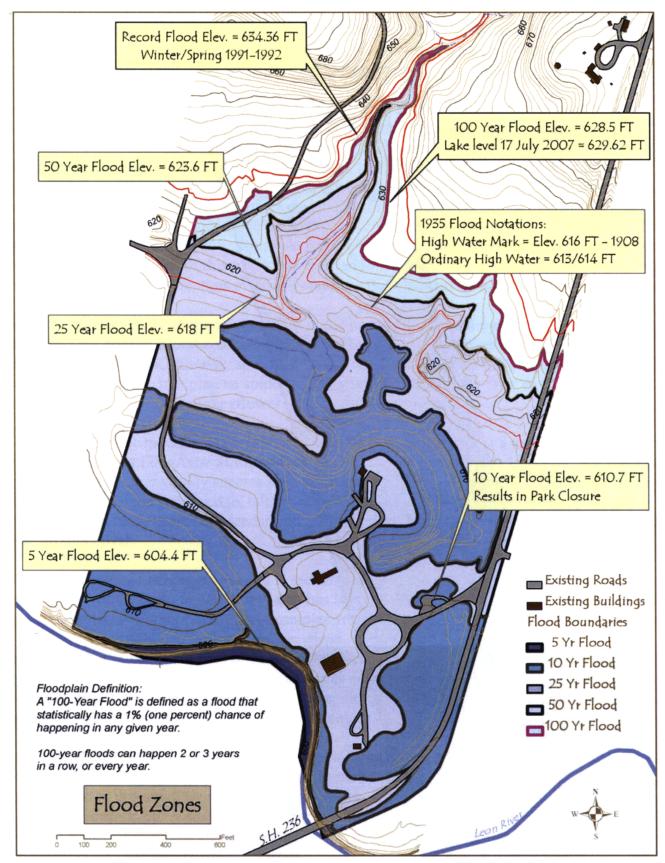


Figure 5 - Flood Zones

The foundation slabs and construction types of the new facilities will affect the hydrological systems at the site, and thus the very foundation of the buildings must be considered from the beginning of design.

o Biological Landscape

Floral Component

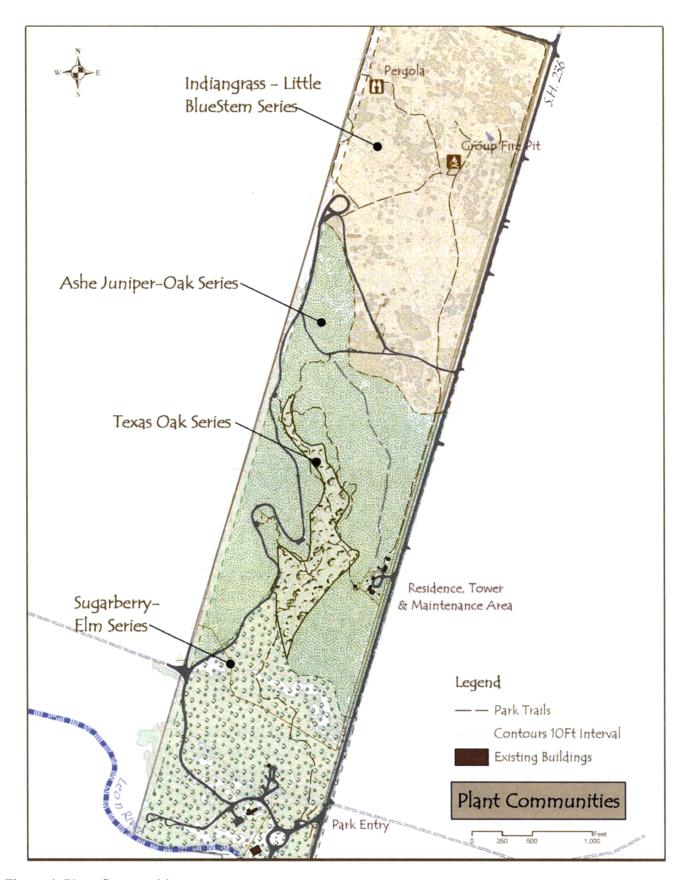


Figure 6- Plant Communities

Per the 1935 Narrative Report, the CCC roughly divided the park property to 25% river bottom, 40% cedar brakes and 35% prairie. In 1990, TPWD summarized the actual plant community types, and a preliminary listing of the plant communities and species was made. From that study, four general habitat/plant community types are now recognized within the park.

The bottomland hardwood forest of the **Sugarberry-Elm Series** is the area of deep soils on the river terraces. Plants here include the bur oak and eastern cottonwood, many with diameters in excess of 3 feet. The forest canopy in some portions of this area is nearly closed at roughly 60 to 70 feet. Other trees in this series include pecan, American elm, cedar elm, sugarberry and boxelder maple. Shrubs include thickets of elderberry and wahoo, which is a shrub frequently found in east Texas, and may be near the most southwestern limit of its typical distribution. Various perennial grasses and forb species, including the notable green dragon are included in the floral survey. Of note for this series is that in 1968, a bur oak at the site was declared a state champion by the Texas Forest Service. The acorns of this tree were reported to reach the size of lemons. Champion trees are measured every 10 years, thus eventually another Bur Oak was named.

The shallow loamy soils on the lower slopes in the narrow ravine in the center of the park support the **Texas Oak Series**. Floral components include Texas oak, cedar elm and sugarberry. Shrubs include the ashe juniper, shin oak, spicebush, rusty blackhaw viburnum, Eve's necklace, redbud and Mexican buckeye. The rare plateau spiderwort is also found here, with false dayflower, ravine water starwort and yellow monkeyflower.

The clay soils on the moderate to gentle (and drier) upper slopes support a mostly evergreen low forest or shrubland of the **Ashe Juniper-Oak Series.** Vegetation includes Live Oak, Ashe juniper and shin oak, and other woody species such as elbowbush, fragrant sumac and cedar elm saplings. Ground covers include cedar sedge, tall dropseed, and forbs such as yellow stonecrop. This community is in many respects a 'cedar brake' and is notable for comparatively mature juniper and dense ground cover.

The **little bluestem-Indiangrass series** is the remainder of the gently rolling uplands in the northern third of the park, although this area has been invaded to some extent by juniper and other brush. Currently, the best prairie grass examples are on the slopes above the existing water tanks.

Generally, the plant communities of Mother Neff State Park are of moderate to high regional significance. The three southernmost communities contain high quality representatives of their respective plant communities; the prairie portion, although not of the highest quality at this time, does have significance to the TPWD system inventory.

In summary, the botanical resources of Mother Neff State Park are among the Department's major assets in central Texas, but the significance of these resources is compromised by the small size of the Park. Due to this small size, any expansion of the development within present boundaries must be seriously scrutinized. A study to determine the higher quality areas of the tallgrass prairie and to map such areas for management is necessary.

The general development in this plan is intended to minimize the loss of grassland area. Facilities proposed in the mature oak-juniper woodland are planned to minimize tree canopy disturbance. In the river terrace, young trees are now encouraged to grow so they will be able to eventually replace the existing mature trees.

Faunal Component

As stated in the CCC's 1935 Narrative Report, in a park of this size it has not been possible to set aside any specific area as wildlife preserve. Dove hunting is permitted in the park (on the prairie portion), as is fishing in the Leon River. Other than localized fire ant control, no insect, pests or disease control measures are in use at this time. A Field Checklist of Birds of Mother Neff State Park was published by the TPWD in 2005 and a species list was prepared in 1996 by the Borderlands Archeological Research Unit of the University of Texas.

Threatened & Endangered Species

Although there have yet to be confirmed nests or sightings of the Golden-cheeked Warbler (GCWA), the park site is known to have mature oak/juniper woodlands habitat for the species. As of 2007, three detections by GCWA researchers have been made. Two at the southern location, one at the northern location.

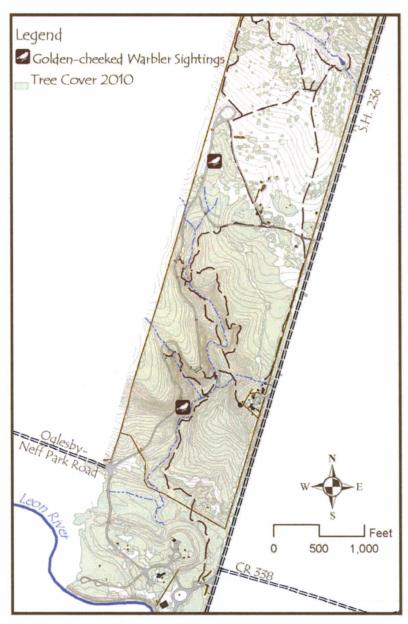


Figure 8 - Golden-cheeked Warbler Areas

As is typical of all park development projects within 300 feet of any GCWA habitat, work must be constrained to the non-nesting period of September 1 through February 29 of each year. Narrow linear openings, such as fences, will not harm Goldencheeked Warblers if the openings (at breast height) are no greater than 16 feet in width. This width is large enough to allow for maintenance, while permitting the hardwood tree canopy to grow over the gap. Selective removal of small juniper less than 15 feet in height and 5 inches dbh (diameter at breast height) within habitat is not a problem as long as the tree canopy is not disturbed. The canopy is measured at the dripline of the trees that are greater than 10 feet in height. When Ashe juniper is abundant, more trees could be removed, but always in a balance with hardwoods.

Generally, the idea should always be to provide a mix of juniper and hardwoods.

Rare, Threatened or Endangered Species are listed in a specialized database by the TPWD Wildlife Division, Diversity and Habitat Assessment Program in the Texas Natural Diversity Database. Species that potentially may occur in the park include:

Taxon	Common Name	Scientific Name	Federal	State Status
	a la fina de la companya de la comp		Status	Status
Birds	Golden-cheeked Warbler	Dendroica chrysoparia	LE	Е
Birds	Peregrine Falcon	Falco peregrinus	DL	T
Birds	Whooping Crane	Grus americana	LE	Е
Birds	Bald Eagle	Haliaeetus leucocephalus	DL	T
Birds	Black-capped Vireo	Vireo atricapilla	LE	Е
Mammals	nmals Cave myotis bat Myotis velifer		-	-
Mammals	Plains spotted skunk	Spilogale putorius interrupta	-	-
Mollusks	Smooth pimpleback	Quadrula houstonensis	-	T
Mollusks	False spike mussel	Quadrula mitchelli	-	T
	_	Croton alabamensis var		
Plants	Texabama croton	texensis	-	-
	Timber/Canebrake			
Reptiles	eptiles rattlesnake Crotalus horridus		-	T
Reptiles	Reptiles Texas horned lizard Phrynosoma cornutum		-	T
Reptiles	Texas garter snake	Thamnophis sirtalis annectens	-	-

LE= Federally Listed Endangered/Threatened

E or T= State Listed Endangered/Threatened

DL = Federally Delisted

Cultural Landscape

Archeological Component

Archeological studies by the University of Texas at Austin, Borderlands Archeological Research Unit (1994) and Texas Parks and Wildlife Department resource specialists, with assistance of Baylor University volunteer students (1993-1995) have revealed extensive prehistoric and historic cultural deposits in many areas of the park. Twelve prehistoric and three historic sites were recorded by the 1994 survey (Utley et al. 1996). A pedestrian survey, shovel tests, and backhoe trenches were used to identify and define sites over 100% of the park.

There are seventeen recorded archeological sites within the boundaries of Mother Neff State Park, fourteen of which date to the prehistoric period and three to the historic period. The most famous prehistoric site is Tonkawa Cave which was recorded by R.L. Stephenson in 1949 as part of the National Park Service River Basin Survey. However, by the time he recorded the site there was very little left of it since the cave was completely excavated by the CCC in 1934 while they were constructing the park.

Generally, prehistoric sites in the lower area of the park are buried quite deep, due to the CCC fill work, thus these sites are probably protected from construction and casual collection. Prehistoric sites on the woodland ridge are expected to be surficial.

^{&#}x27;-' = rare, but with no regulatory listing status

<u>Historical Component(s)</u>

As mentioned previously, the CCC encampment created the iconic rock tabernacle, group recreation hall, the stone water tower and residence. Lesser known may be the river terracing, drainage system improvements and foot trail work. These items also contribute to the historical record of the park.

Existing Conditions

Roads

The Park is bifurcated by Park Road 14, which was a notable engineering feat at the time of its construction and is a contributing element to the National Register nomination. The road winds 2 miles from the lower, southern end of the site with two hairpin curves and numerous CCC-constructed culverts. The road grade reaches 11% and gains over 110 feet in elevation. The road makes for a remarkable driving experience and provides and exciting venue for annual bicycle races.

Structures

The existing structures at the site are well documented in the 2008 Freeman report. A brief listing would include the Group Recreation Hall, the Rock Tabernacle, the Wood Pavilion, the Caretaker's Residence, the Water Tower, the Maintenance Barn, the park's temporary HQ (currently a prefabricated building) and a portable Fee Booth.

Utilities

The park is currently served with electricity from Heart of Texas Electrical Company for the top portion of the park including the residence. The day-use area is serviced by Oncor. Potable water (arriving already treated) from Elm Creek Water Supply. The park treats its sewage waste with an on-site septic system. The park also relies on chemical toilets in the day-use area serviced weekly by B&S Port-o-Jons of Waco, TX. Often the park must have the service come out extra for peak weekends and events at the site. Telephone service is from AT&T, with data satellite connections via Hughes. Cell phone service is quite good in most areas of the park. Currently WiFi is not offered at the site. Solid waste is removed by IESI Waco.

Deed Restrictions

Deed restrictions in the 1934 deed (signed on Mothers Day) noted that the land gift was for park purposes only, but reserved mineral rights, grazing rights, and family access for the purpose of gathering "pecans, grapes, plums and other like production". A clause regarding the grazing rights provided that the pasturage would remain as long as it shall not interfere with recreation or be hurtful to the land.

Easements

At present, the only known easement on the property is a flowage easement from the U.S. Army Corps of Engineers in the lower portion of the Park. This easement restricts any structures for human habitation and requires prior written approval from the District Engineer to place or construct any other structure or appurtenances to existing structures. The flowage easement generally follows the 645-foot elevation contour and totals approximately 76 acres.

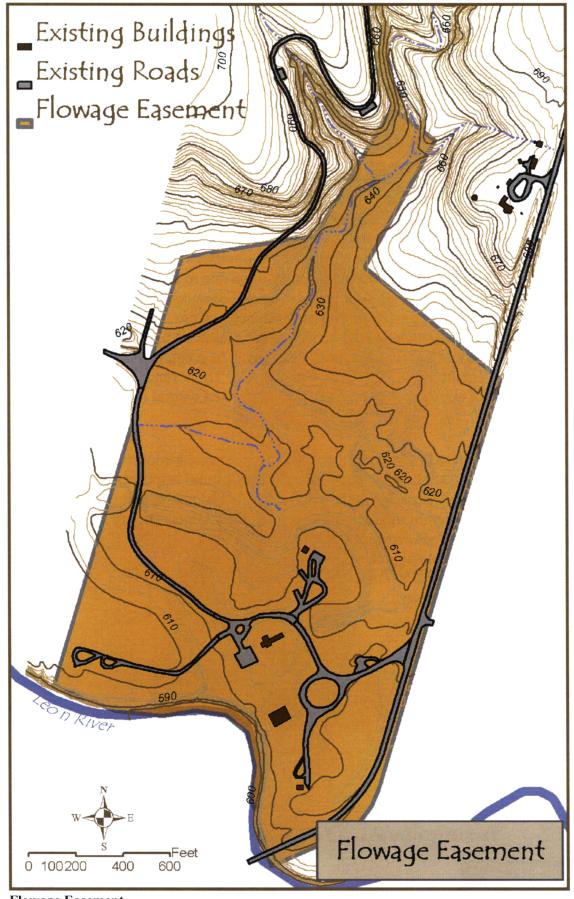


Figure 9 - Flowage Easement

Non-compatible Adjacent Activities

The rumble of artillery practice from Fort Hood can be heard throughout the site. The pattern is reported to increase in the evenings. At least one instance of campers quickly leaving during the night because they thought they heard a thunderstorm coming has been a popular anecdote at the site. Traffic noise is always present from S.H. 236. If the traffic could be slowed, this noise would noticeably lessen.

Night Sky Conditions

The skies above MNSP are reported to be fairly good in terms of light pollution. According to the International Dark-Sky Association Dark Sky Finder tool (available online at http://www.darksky.org/page/DSDcstinations) the skies are rated with a 'Zenithal Limiting Magnitude' of 6.4 to 6.6, described as "where the Milky Way is obvious and some detail of it can be glimpsed. But there is still noticeable skyglow along the horizon due to distant towns and cities." As most of the difficulty in observing the night sky is due to poorly designed lighting fixtures, it is important to ensure that all facilities follow the most practical tenets, i.e., to use light only when and where it is needed, to use only as much light as needed, and to shine all lights down, not up. Since 1999, any state-funded outdoor lighting fixture in Texas must be a cutoff luminaire as required by the State of Texas Health and Safety Code Chapter 425. These fundamental actions will help the agency to protect one of our most inspirational, yet overlooked natural resources.

o Land Use Zones

In developing a site for resource-based recreation, it is necessary to create a conservation series with layers of specific site data. Theses layers identify natural and cultural resources to be protected from development. Built from scientific data and analysis with staff and public input, these layers are then overlaid to allow visualization of the sites resources and constraints. The layers include: FEMA 100-year floodplains -+ 100-foot avoidance buffer National Wetlands Inventory + 100-foot avoidance buffer Archeological sites known by TPWD + 100-foot avoidance buffer Tree Cover – based on 2010 aerial imagery

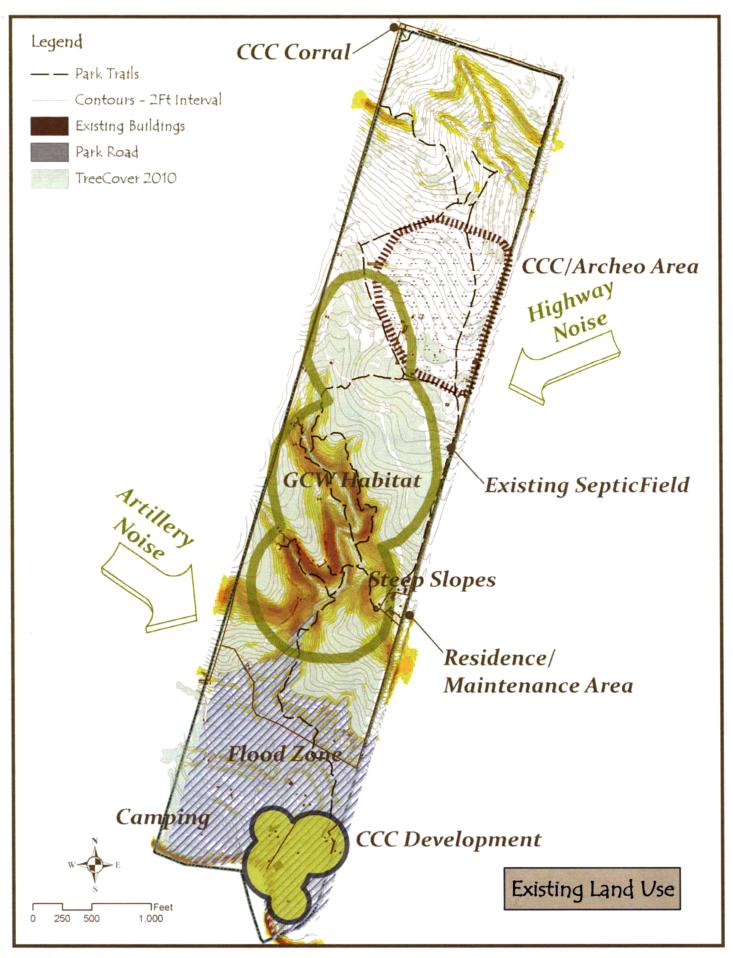


Figure 10- Land Use

Facility Development Plan

Disclaimer of Obligation

This facility program describes the preferred and recommended park facility intent, types, counts and locations. The contents of the program do not constitute a Texas Parks & Wildlife Department obligation or mandate to construct or expend public fund to develop the facilities depicted herein.

Generally, the facilities proposed herein are intended to create a usable park for traditional and new audiences regardless of the flooding conditions.

o Facility Roles & Purpose

The intended visitor sequence consists of enticing visitors to leave the highway, enter the park at a slower rate of speed in order to enjoy the view and catch a glimpse of their destination. The visitor is then delivered to a park staff at a single contact point and given the instruction and information they need to make the most of their visit. After this initial contact, the visitors are then divided into day-use and overnight groups. As is typical of many sites, the intent of the new park layout is to have controlled access and keep the groups separated for privacy and safety concerns.

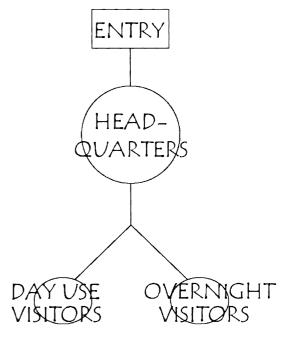
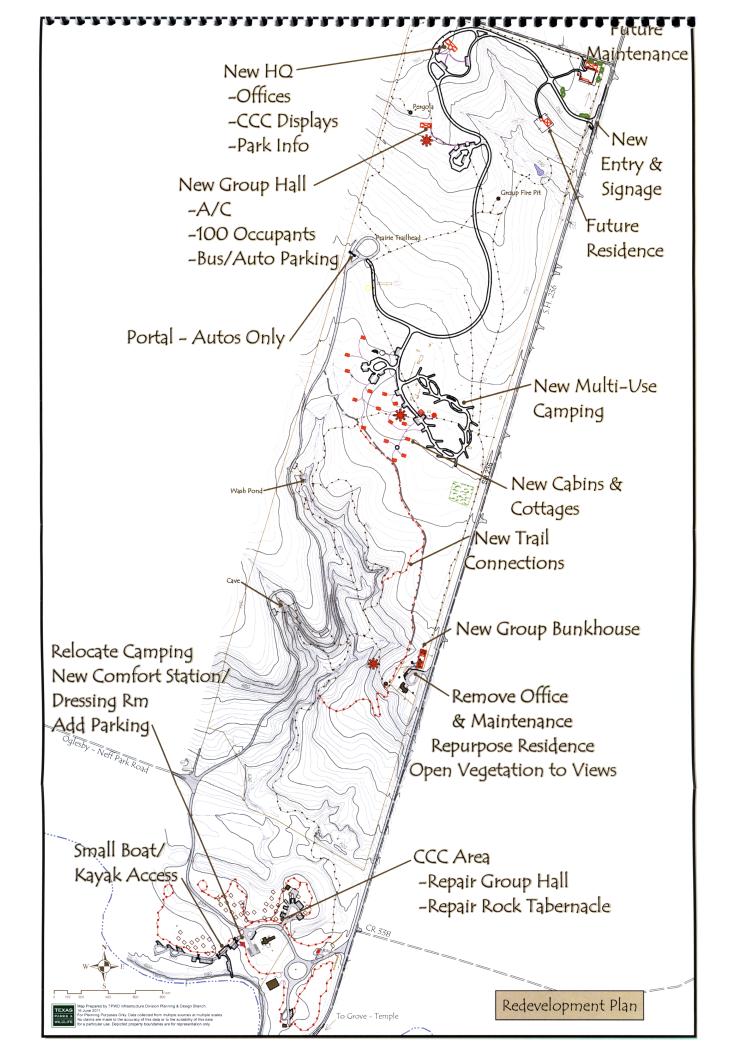


Figure 11- Visitor Sequencing



Existing Facility Proposals

Existing facilities, namely the Recreation Hall and the Rock Tabernacle, have historic significance and should be repaired in place. These buildings should be interpreted to explain their planning and location origin, which is an important component of the park's history. All historic hardware or features should be removed for curation or re-use in the future development of the park. The CCC buildings should have their hardware or features replaced with facsimiles (in so far as is necessary or practicable, and be designated as facsimiles). The removed features and hardware should be re-used in the new building(s) where feasible, and interpreted as historic components in the new facilities. The historic hardware and features such as doors and windows, and light fixtures should not be subject to such flooding again.

The Rock Tabernacle should have the side pergolas restored, per the original design. Reinforcing for the stone columns and fasteners must be chosen carefully in consideration of future flooding. The damaged wood roof components must also be repaired.

The CCC era culvert in the floodplain between the slough and the existing bathroom and day-use area should be cleaned out, repaired and maintained as a feature to alleviate flooding during smaller rain events.

The Recreation Hall should be fitted with a portable air conditioning unit rather than a full HVAC system. Site staff can easily move the equipment out before flood events as part of the Park's Operational Plan. With fewer building systems, the Recreation Hall can be more quickly put into use once flood waters recede.

By 1935, 2 miles of scenic park road was completed. It was originally unpaved, with 6 inches of road gravel. Road slopes were reported to be "graded and extended to the extent that the road blends into the natural scenic surroundings." (CCC 1935 Narrative Report). The road was intended to be multi-purpose, in that it provided a means of access for the public and for the park personnel to access non-public service areas, as well as providing a scenic experience to points of interest. Park Road 14 will remain in use for autos only, with the improvement of re-striping at trailheads to allow for angled parking if the perpendicular spaces are not at least 20 feet long. Bollards may be required at the front of the spaces to prevent tires from encroaching into the trailhead. A new portal for the road will be installed at the top of the existing turn-around to keep large campers and trailers from traveling south on the steep winding park road. The portal shall be in keeping with the site's unified architectural theme.

The existing campsites in the lower portion of the park shall be removed and replaced by the proposed camping loop. This will improve the safety of park visitors. The campsites shall then be repurposed as new picnic sites and parking, which is sympathetic to the original CCC intentions as shown in the 1934 development plan.

An existing portable fee booth will continue occasional use for busy periods in the lower portion of the park. The portable fee booth is constructed on a trailer, for ease of evacuation for flood events. The fee booth is a pre-fabricated building, but has been modified to incorporate accessibility improvements and CCC nuances. The building has similar CCC overhangs and siding, as well as the same interior and exterior finish colors the CCC typified on their buildings.

Existing Residence

Although the existing residence at the park is in good and serviceable condition, the 72 year old structure is better re-purposed as a public facility, and a new residence that can meet modern family living standards should be located within the park.

The TPWD Facility Management Information System (FMIS) contains approximately 240 records of residential structures. The average age of these structures is 47 years, which is 2 years beyond the age that initiates TPWD's Project Review Procedures and ultimately interfaces with the Department's Memoranda of Understanding (MOU) and Memoranda of Agreement (MOA) with THC for treating structures as historic. TPWD residences are generally 15 years older than the average age of owner-occupied housing units in the United States, according to the U.S. Census Bureau.

The existing residence should be carefully adapted to serve as meeting space for the Group Bunkhouse visitors or be rentable as a day-use only meeting space. The charms of the structure are not only its design, but the hand-crafted construction that should remain visible to the public. Views southward that were delineated on the original CCC drawings should once again be revealed through judicious landscape pruning.

Although the new use will not be residential, it will be prudent to keep in mind S.B. 1 Regular Session (General Appropriates Act) of 2009, which directs TPWD to inform the Legislative Budget Board (LBB) and Governor in advance if the Department is going to spend over \$25,000 on repairing a residence.

Planned Facility Proposals

Interpretation Discussion:

The planning of new park facilities should fully embrace the historic buildings and the CCC design elements. Development of new park facilities on higher ground can be used to interpret the intent of the original development. The new facilities can also be used to highlight and interpret aspects of the CCC camp life and the birth of the Texas State Park system.

Design Character:

Any new facilities should use an architectural approach similar to the CCC's, while creating modern conveniences for the visitor. Early 20th century builders did not have the luxury of reliable electricity, gas or treated water. Thus their buildings were not wasteful of these types of resources.

The character of the facilities shall be in close harmony with the natural surroundings. Careful study will be necessary to arrive at a theme compatible with the native beauty of the park. It is most desirable to carry out a total design theme throughout the park encompassing any physical improvement from the largest structure to the smallest signpost. All site planning should be carefully studied to fit each building and campsite to the existing environment with the least amount of visual and environmental impact. A creative approach to the design of these park facilities is desired and will be encouraged. Topography, climate, geology, cultural background, plant and animal life are all items which bear on climate-responsive design. The expression of any or all of these will always result in enhancement of the overall park experience.

Resource Conservation Design/Energy Use:

All buildings and facilities shall be designed and constructed with a holistic approach to resource conservation. Major factors in energy conservation are the maximum use of existing shade and plantings, placement of operable windows and louvers, and facility orientation in respect to sun angles and prevailing breezes. Passive solar design features should be incorporated where effective. Buildings should comply with the Energy Conservation Design Standard for New State Buildings, which will provide a means to engage the visitor to know how much energy and water a particular facility uses and to be mindful of their impacts they make while at the park and then, at home.

The park has the opportunity to be a net-zero approach for the 21st century. With the 2009 signing of Presidential Executive Order 13514, the Federal Leadership in Environmental, Energy, and Economic Performance, federal building's energy use must be reduced by 25 percent by 2020 and all federal buildings must become net-zero by 2030. Buildings must also improve water efficiency by 26 percent and reduce carbon emissions by 28 percent by 2020. State buildings will likely follow suit with federal regulations, and to do so the TPWD should apply the Sustainable Sites Initiative (SITESTM) and LEEDTM (Leadership in Energy and Environmental Design) initiatives to the design and construction methodology for park development.

LEED is an internationally recognized green building certification system, which provides third-party verification that a building was designed and constructed using strategies aimed at improving performance across metrics such as energy savings, water efficiency, carbon emissions reduction, improved indoor environmental quality and stewardship of resources and sensitivity to their impacts. SITES is a sustainable landscape rating system that may soon be rolled into LEED; it creates voluntary guidelines and performance benchmarks for sustainable land design, construction and maintenance practices including building placement, water-efficient retrofits of existing parks and facilities; and integrating building and landscape systems to maximize water and energy efficiency gains. To achieve net-zero buildings the Department can apply SITES to ensure "zero environmental impact".

It is recommended that the buildings proposed in this plan be formally certified under a third party registration process, such as LEED or SITES. This will ensure that an independent entity can verify that the Department's Land and Water Plan goals are actually achieved. Much like having a professional engineer, architect or landscape architect's seal on construction plans, the LEED certification lends measurement and credibility to any casual claims of sustainability and conservation.

Maintenance:

All facilities must be designed to save labor, reduce operating expenses and decrease the frequency of capital replacement. Selection of materials should be made with care, anticipating heavy usage by the public and possible periods of neglect due to over-extended maintenance cycles. Maintenance is a continuing responsibility for every facility constructed. Operational costs and the useful life of facilities and equipment are directly related to the type and level of maintenance provided. Materials and equipment selection embodying low maintenance, proven dependability and ease of cleaning are preferable. Design detailing and material selection should reflect the function and maintenance requirements of each facility as it is utilized by visitors and staff.

Materials for fire resistance must also be considered, not only for buildings, but in the types of fencing used (T-posts and metal bracing, not wood) and vegetative screening chosen, such as live oak, not juniper or cedar elm.

Recreation Facilities Program

Recreational Activities

Recreational activities at the site currently include camping, hiking, bicycle riding and picnicking. In 1979, the 5 most popular activities in the region were fishing, picnicking, swimming, hunting and camping. It was noted even then that if the park facilities were expanded, it would be better able to accommodate these activities. Today, popular activities at the site include the above recreational activities plus weddings, family reunions, church revivals, group gatherings and a weekly variety of Park Ranger-led activities such as lectures and guided nature walks and Chatauqua style public programming.

Day-Use Facilities

Picnic Sites

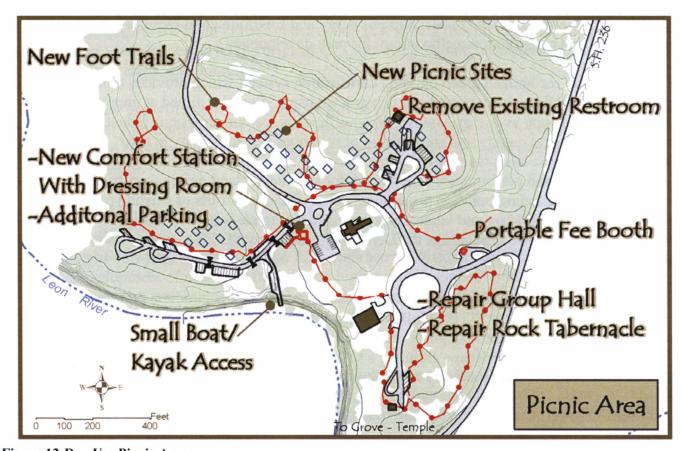


Figure 12-Day Use Picnic Area

Additional picnic sites shall be located where the existing overnight camping occurs. The existing 20 campsites will be replaced with 42 picnic sites in various sizes. Parking for an additional 42 autos will be created in small groupings as shown, in order to fit within the existing trees. The existing parking is sized for 14 autos. Water spigots will be shared between sites. It is the intent to create more sites that are spaced far enough apart to keep parties distinct, but within eyesight of the new walking paths. A variety of table groupings will be used -single, double and triple, in order to accommodate various-sized family groups who come to enjoy the park. All the picnic sites will be within the 600-foot service radius of the new comfort station per the TPWD Recreation Facility Guidelines.

Group Dining Hall

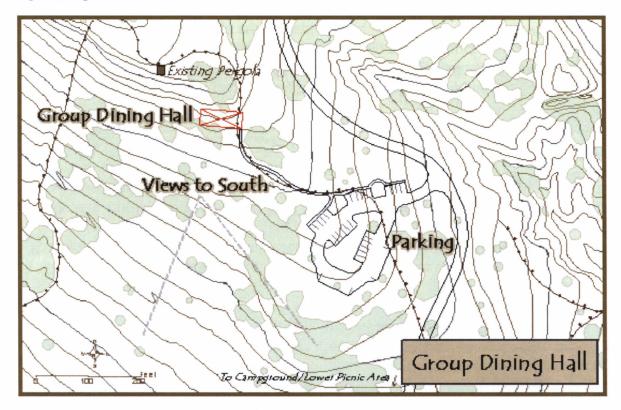


Figure 13- Group Dining Hall

A new Group Dining Hall is recommended for the park. This rentable venue will create opportunities for group activities and recreation in a way that is more applicable to modern recreational patterns than offered by the CCC-built recreation hall and rock tabernacle. The facility will be highly visible and accessible. Nestling the dining hall on the mid-slope will yield a brilliant view southward showcasing the park environs. The horizon and mid-ground should be visible from the main interior of the facility.

The Group Dining Hall should consist of a multi-purpose area, a caterer's kitchen, including an ice machine, and two separate restrooms open to the outside. In total, the programmed size of the structure is +/-2,500 SF to allow for groups of 100 people at maximum. Flexibility is central to the design of this building. The building should be usable in all seasons, so heating and air conditioning should be included to insure year-round use. A masonry fireplace will add thermal delight to the ambience and make the experience richer by creating a delightful flickering on cool evenings. Furniture must also be flexible, and reconfigurable, and a space to store unused furniture during events must be built into the floorplan from the beginning of schematic design.

Additionally, to take advantage of the setting, the building should possess generous amounts of windows and have large operable (and screened) openings that transform the structure's feel to that of an open-air facility. A large sheltered patio should extend the useable space into the outdoors. A parking lot supporting this facility will have approximately 26 autos arranged in small groupings, with 2 accessible spaces and 2 RV/ bus spaces. The parking area will be approximately 150 feet away from the building, again, to allow people to get away from their autos and to create a more natural setting for the structure. A discreet drive/sidewalk combination to the building shall create easy service for maintenance vehicles, unloading and caterer's trucks.

The observation pergola will stay at its present location within close walking distance; it will remain a scenic destination on the park's existing trail system. The opportunity to slip away from day-long business meetings and office retreats will be provided by the close proximity of the two structures. The existing structure will need to be modified to fit the scale of the new Group Dining Hall. It will be important for the new building design not to block the scenic view from the pergola. A low roof profile and fitting the building's foundation into the slope will be important design considerations.

Playground

The proposed Dining Hall shall have a small nature based playscape in the vicinity. Shade and water are key to a playground, and the close proximity of the Dining Hall will allow for more children to enjoy an age-appropriate activity simultaneous to their family reunion. Unlike municipal parks, TPWD sites must group ages together for a generalized play experience. This is acceptable as the playgrounds are intended to be merely auxillary components in State Parks. Brightly colored equipment should be avoided, as to avoid impacting the views to and around the area.

• Observation Platforms | Towers

A recurring theme in the original CCC designs for the site included observation points. An observation deck on top of the Recreation Hall in the south end of the site was proposed but never realized. The rock Water Tower provided the best views from the middle of the site. As a wonderful view is available from the pergola at the north end of the site, it will be important to link the new facilities with observation platforms or towers when possible.

• Open Play Fields

The CCC was known to have a baseball field at their camp. Open playfields can provide the function of casual baseball games, volleyball, horseshoes and washers with very little landscape modification. These activities can occur both in the vicinity of the Group Dining Hall and the lower day use portion of the site, as desired by the visitors.

• Fishing Platform

A fishing platform shall be provided along the river near the kayak launch. An accessible platform or deck will allow recreational fishing for visitors of all ages and abilities.

Kayak/Jon Boat Launch

A small boat launch and parking for 3 trailers will be provided as shown.

Overnight Facilities

Campsites

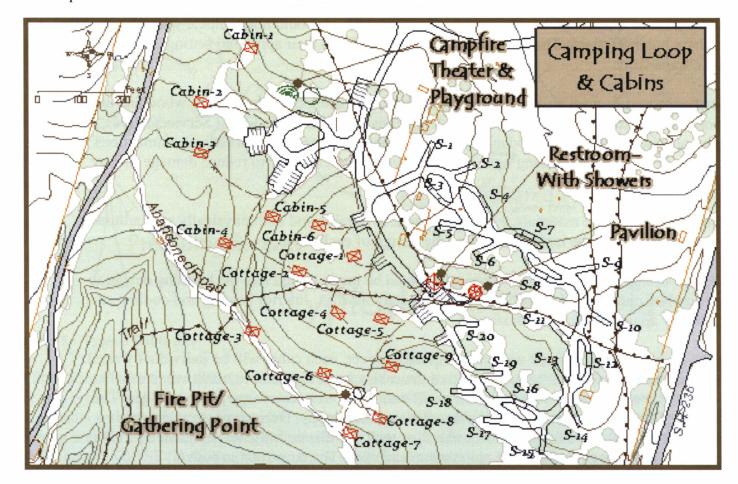


Figure 14- Camping Loop and Cabins

There will be 20 multi-use sites for both RV and tent campers. The campground will be situated in the CCC camp area to allow for the interaction and appreciation of the tangible components left from the CCC period, as opposed to keeping the CCC components behind a 'velvet rope'. Coordination with the State Historic Preservation Officer (SHPO) will be necessary from the beginning, as well as a complete archeological testing and recording before construction.

The multi-use loop will be a mixture of pull-thru and back-in sites. All sites will have water, 50 amp electrical service and sewer connections. The advantage of having all sites with sewer connections is that in such a small loop, each site becomes a premium price point, and a large dump station is no longer necessary.

One site shall be designated for a park host; it will have a small lockable shed for firewood storage and extra permeable surfaced parking for a golf cart or park gator. Wi-Fi will be made available through antennae on the roof of the campground restroom. In the wooded areas slated for development, minimal clearing will be done to create room for tent pads, picnic tables and fire rings. Clearing beyond the use zone of each site will not be done in order to preserve the natural vegetative environment. This undergrowth, in turn, will provide future trees as the existing trees mature and die.

• Cabins and Cottages

Cabins shall be provided for park visitors desiring a more traditional form of overnight lodging. The nature of the park setting should be emphasized throughout the design of the cabin while offering the convenience and comfort of modern lodging. The manner in which the buildings are designed should be unique, as the experience offered by TPWD should not compete with or mimic typical chain hotel offerings. The cabins must be made idyllic in their spirit and setting, but within a pragmatic framework.

Fire resistant materials must also be considered as the cabins are located in existing woodland and the canopy will be kept closed. Design recommendations from the Texas Forest Service include having no open wooden decks, wooden fences should not be connected to structures, foundations should be skirted, and soffit venting must be carefully designed in order to reduce damage risk by wildfire.

Environmentally aesthetic materials, e.g. rugged, honest, durable and both physically and culturally native to the area, should be incorporated into the design of each cabin.

Passive solar design and daylighting techniques should be incorporated into the building design to enhance ambient comfort and create long-term monetary savings. Interior heating and cooling shall be supplied by appropriately sized systems.

Due to the degree of ground slope and local vegetative cover, each cabin will be individually sited. To minimize site impact, it is recommended that the cabins be designed to minimize their areal extent and utilize a foundation structure which will easily accommodate large grade changes. The construction of the cabins should not break the existing tree canopy. During construction, tree protection measures must be faithfully adhered to, as well as utilizing only the designated travel path to get construction equipment and materials to each site. The construction path is recommended to be the same as the cabin's utility corridor, as future repairs can occur without future impacts.

Additionally, the cabin design should embrace new approaches or innovations, while still finding a "balance between traditioned charm and reasoned practicability" as described in the NPS- CCC book 'Park Architecture' (1938). The cabin design should orient the interior views outside whenever possible for anyone in the cabin, be it toddlers, persons using wheelchairs or able-bodied visitors. The low window sills should have enough depth to provide occasional seating.

The cabins are not meant to be completely isolated, as their purpose is to promote the enjoyment of the entire park rather than offer an isolation experience. The placement of the cabins is intended to allow for the enjoyment of the woodland setting.

An attached screened-in porch with an all-weather ceiling fan shall adjoin each cabin to promote the usability and allow for quiet listening to bird calls and woodland animals or additional sleeping room. The screened porch should be wide and deep enough for movement around chairs, no less than 96 net square feet. Interior furnishing such as bunk beds and appliances will be supplied to meet the common needs of the overnight visitor.

Outside each cabin will be a picnic table, fire ring and lantern hanger, sited for prevailing breezes.

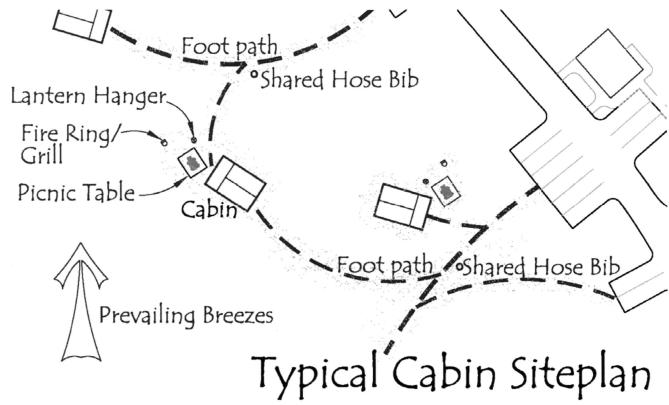


Figure 15 – Typical Cabin Site

Of the 15 total cabins, 6 will have water and wastewater service (Cabins), and 9 will not (Cottages). The two types will allow construction in an environmentally sensitive setting and afford a variety of price points and experiences. Each cabin with plumbing shall contain a bathroom, a separated sleeping area for two to six persons, a dining/living area with a fireplace, and should total approximately 600 SF (including the porch). A small food preparation area, rather than a full kitchen, shall be accommodated with a small refrigerator and microwave, as campfire cooking shall be done outside, in the traditional camping manner. Open wire frame cabinets, not traditional kitchen cabinets, are recommended for ease of cleaning and to prevent offering a hiding place to rodents.

The cottages (without plumbing) will be planned as a single room, akin to a hard shell tent, but will still have air conditioning (delivered quietly), a fireplace, and a small food preparation area. These cabins will be somewhat smaller than the plumbed cabins. They should not be adapted in the future for plumbing due to impact concerns and the desired variety in visitor experience.

Approximately 2.5 parking spaces shall be provided for each cabin. The parking is intended to be within 300 feet of the cabins, to allow for easy travel, but it is the desire to get the visitor away from the car the entire weekend, thus the parking and cabins are separated by a good distance. For ease of cleaning between visitor rentals, an eight foot wide pathway will be routed through the setting to allow a gator-type of lightweight vehicle to drive directly up to each cabin for cleaning and servicing. The gator operator must follow the designated route to avoid damage to the landscape. If operationally feasible, wooden garden carts can be provided at the parking areas to make it easier for park visitors to carry their luggage from the autos through the woods to each cabin. The luggage carts can be stored in designated shelters at the parking lot.

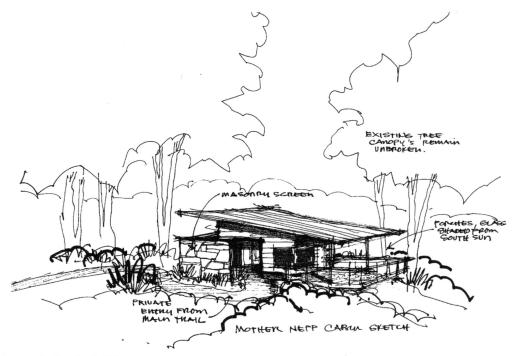


Figure 16-Schematic Park Cabin

The cabins will share a gathering area or outdoor fire pit near the center of the grouping of cottages 6, 7 and 8. This communal gathering spot will provide a place for the overnight population of the park to gather and enjoy evening camaraderie and park events.

• Campfire Theater

A small campfire theater will be located near the cabins, but closer to the parking area. This venue should be modeled after typical CCC plans for open air, uncovered seating for approximately 50 people. The layout should include accessible seating, a firepit and a screen or backboard for presentations. The campfire theater will provide a starting point for interpretive events.

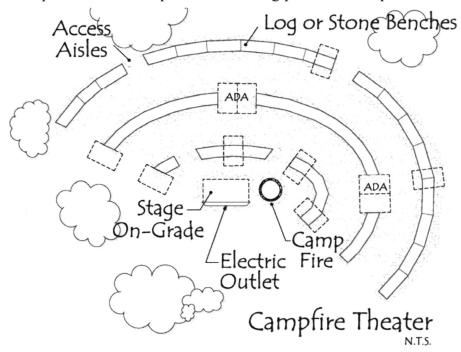


Figure 77 - Campfire Theater

• Bunkhouse

A bunkhouse shall be provided for group use. It will be located in the area of the existing maintenance and park residence. The bunk house should be built in two enclosures separated by a breezeway. The facility could then be used by groups who might care to separate men and women. There will be no kitchen in the bunkhouse, although it will have toilets and showers. Groups who rent the bunkhouse will be able to use the residence for communal cooking and meeting space. An outdoor cooking area and a screened porch or deck will enhance the group's experience.

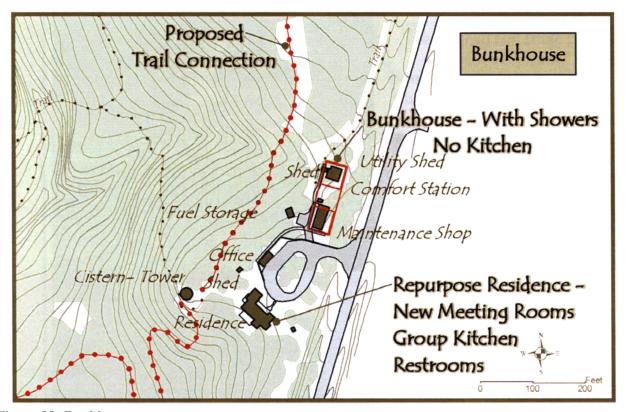


Figure 88- Bunkhouse

Summary Table of Planned Recreation Facilities

Day Use Facilities	Existing	Proposed	Total
Picnic Sites	24	42	66
Group Dining Hall	1	1	2
Playground	1	1	1
Observation Towers	1	2	3
Fishing Platform/Kayak Launch	0	1	1
Comfort Station	0	1	1
Overnight Facilities			
Multi-Use Campsites	28	20	20
Cabins - Plumbing	0	6	6
Cottages- No Plumbing	0	9	9
Restroom - Showers	1	1	1
Bunkhouse	0	1	1
Campfire Theater	0	1	1
Dump Station	1	0	0

Trail System

• Nature | Interpretive Trails

Leisure walking trails will be provided at the lower portion of the site in connecting ¼ mile segments. Rather than designate a central playground, which may ultimately fall out of fashion or decline in its appearance, several natural play areas shall be incorporated into these nature trails.

• Hiking Trails

The 1935 Narrative report noted that two miles of foot trails were complete, which give access to picnic areas, parking areas and all points of interest. New trails shall be made to connect the upper and lower portions of the site. As prescribed by the CCC, hand-work tools only should be used, no clearing, only selective pruning in occasional stretches shall be performed to obtain overhead clearance.

(Photos courtesy Chris Lorenz)





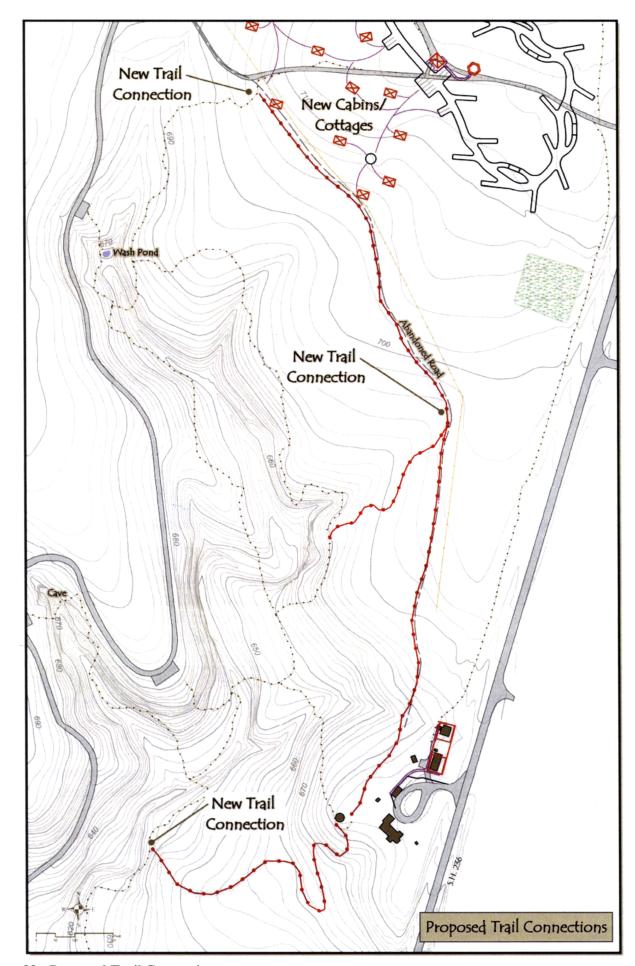


Figure 99 - Proposed Trail Connections

o Support Facilities Program

Headquarters | Visitors Center

The headquarters building is the 'depot' of arrivals, it will serve as a control point at the park entrance from where questions will be answered, literature dispensed, fees will be collected, and will serve as a base for the park's over-all operations.

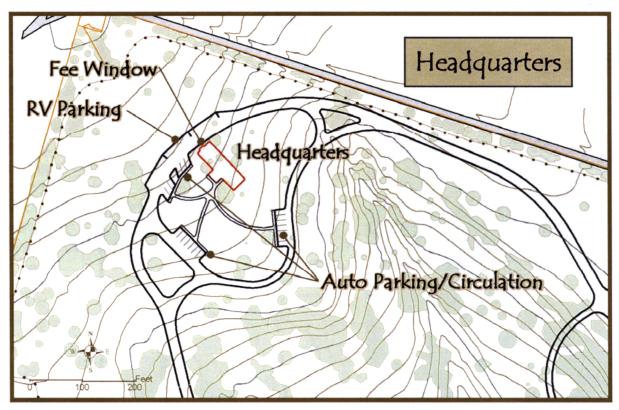


Figure 20- Headquarters

The headquarters building should contain approximately 4,000 square feet of interior floor space. It will have a public lobby, one regular staff office and one manager's office with an evidence locker. There will be a general office area separated from the lobby by a long counter. It is at this counter where visitors initially learn what the entire park has to offer during their visit, and several groups of visitors will potentially be at the counter at the same time. The headquarters shall also have a Park Store space and an Interpretive Area (exhibits, videos, audio, touch table, etc). There will also be an area for CCC oral history tape storage and a station in which to listen to the recordings.

The building should also have a staff breakroom/conference space for 12 at a table, with microwave/fridge/sink/ice machine. There should be a unisex staff restroom. Space for office supply storage with an SAO-approved (State Auditor's Office) safe and typical business machines will be provided.

Public restrooms that are open to the exterior shall be provided as well as a separate mechanical room.

Generally the building should have very clear visuals to incoming traffic, and thru the building. The visitors' approach to the building should include walking though an open area; parking should not be flush against the structure. Opportunity to enjoy the views and surroundings shall be provided with a semi-covered porch adjacent to the structure.

An exterior place to incorporate a national CCC statue shall be designated, and cleared through the TPWD commemorative works policy process. The statue should be planned as part of the building from the beginning, and not installed as an after thought. More information on the commemorative statue program can be found at: http://www.ccclegacy.org/statue_program.htm.

Automobile Circulation and Parking: A schematic plan for circulation and parking is indicated for the Headquarters. The island surrounding the building is purposefully large, so as to not squeeze the building into place too tightly. The incoming circulation pattern should provide for two lanes, one lane passing by the fee collection window and one lane outside. Outgoing traffic should be provided with one wide lane. Parking for several vehicles on the entry side and a few vehicles on the exit side will be provided. In addition, three 65-foot parallel parking units on the incoming side will be provided for motor coaches and auto/trailer combinations. All of the parking for incoming automobiles will be located on the fee collection side of the building. This will allow visitors to be greeted first and if there are more questions or a stop is required, they can proceed to a parking area.

Park Entrance: An attractive entrance to the park which is appropriate and well integrated with the surrounding landscape should be designed in the location shown. This is an important feature in that it gives the visitor their first impression of the character and quality of the park. A car counter must be incorporated near the entry in order to collect accurate data about park visitation.

Public Convenience(s)

• Comfort Station

A new comfort station is proposed in the lower portion of the park to replace the existing restroom. Showers will no longer be required, as the area the facility serves will no longer be an overnight function. The comfort station should have 4 water closets on the women's side and 3 water closets plus 2 urinals on the men's side, with 2 lavatories on both sides. A dressing room must be provided in order to facilitate events at the Rock Tabernacle, Wood Tabernacle and Group Recreation Hall. The comfort station should be elevated above the 10 year floodplain. Once again, the materials and design of the building must take into account the certain inundations in the future.

Restroom

A restroom will serve the multi-use camping sites and cabins with 3 toilets on the women's side and 2 toilets plus 1 urinal on the men's side; then 2 showers and 2 lavatories on both sides. The restroom will have adjacent parking and an exterior service sink.

Maintenance Building

The maintenance yard must be fenced completely for security. The building will be sited to catch prevailing summer breezes and will have deep overhangs to provide passive solar shading.

The site is located near C.R. 340 to provide room for large tractor-trailer rigs that occasionally must be unloaded, and for the maintenance staff to access the Park's perimeter fire road.

The building will total approximately 3,000 SF, encompassing three bays with 12-foot high roll up doors and a solid poured concrete floor including a drain/grease trap. The building should have high windows to aid in natural lighting (in addition to work lighting). One conditioned office space with 2 computer stations and filing will be provided. There should also be space for lockable power tool storage. There should be a welding station and space for a table saw with 220 amp hook up. There

will be one safety wash station-shower and a washer/dryer hook up, along with ample electrical outlets to preclude the need for multiple extension cords. One toilet (unisex/ADA) will be provided. The maintenance building shall have phone and internet communications capability, with a loudspeaker outside.

The maintenance yard will have low level night lighting to avoid night sky pollution. There will be a covered picnic table/ break area outside. A security system with motion detectors will be required. A concrete slab that can be used to wash vehicles and equipment will be provided, either adjacent to building or part of the fuel slab.

There will be an approximately 120 SF Volatile Storage Building, set apart from the main building. There will also be bulk fuel storage station with a berm that has drainage outlet meeting standard criteria.

Open air sheds will be located in the maintenance yard to provide protection for outdoor equipment.

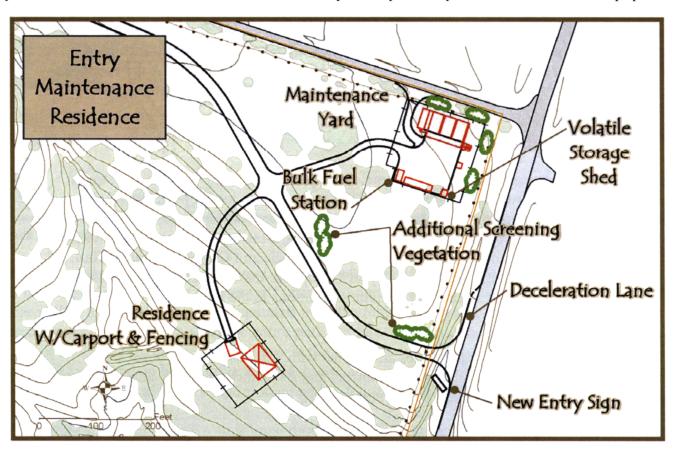


Figure 21 - Maintenance/Residence

Residence

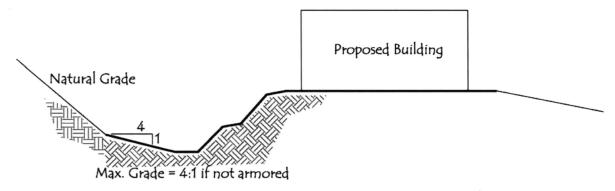
Residences are provided for security whenever a park has overnight camping offered or significant resources that need round-the-clock eyes and ears for protection. Due to the age of the existing residence, and its historical characteristics that are better re-purposed for the public to enjoy, a new residence should be provided.

The proposed residence should have approximately 1,800 SF of living area and should be provided with a double carport and exterior storage area. It should contain three bedrooms, two baths, kitchen, living room/dining area and ample storage and closet space. The residence shall be air

conditioned, and it shall be plumbed for a washer and dryer. The residence shall be fenced with a 6-foot privacy fence to encompass approximately a ¼ acre lot. Again, sustainable design and construction practices must be adhered to in order to create a healthy long-term living space for key site personnel and their family members.

The residence should meet Fair Housing codes in regards to accessibility, such as having extra blocking in shower stalls, 'T-head' turnarounds and counter height adaptability for any future accessibility needs that may arise.

Drainage issues at the site must be addressed, as there is a slope on the north side of the building. It is recommended that the site design should include a natural vegetated swale to divert the water around the structure.



Typical Drainage Section

Figure 22- Typical Drainage Section

o Infrastructure Program

Transportation Systems

Roads

Design – new roads designed for the park are to provide safe access to the various areas within the park while fitting into the existing landform, and be located to take maximum advantage of vistas and scenic areas while disturbing as little vegetation wherever feasible.

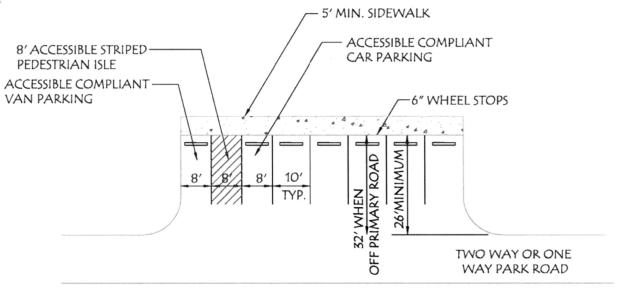
Park roads, unlike highways, are a chance to create a feeling, to set the stage for a visitor's experience. For some park visitors a drive on a park road defines their experience and park visit. For others the road is simply the way to get where they're going. It falls to TPWD to create roads that are different than the everyday. Descending into Palo Duro Canyon, or motoring through the Ottine swamp, or wiggling ones way down a road to the day-use trailhead at Pedernales Falls, or 26 miles of dirt road at Big Bend Ranch, are the quirky extraordinary unique drives that set the stage to create memories for visitors. The tree canopies reaching out over the road at Goose Island SP define the first impression of the park. They define the visitor's experience as they move and flow through the landscape, they establish that this is not a highway to somewhere; this is the somewhere, a place different than the everyday where beauty and nature are held in higher regard. People's understanding and mental map of the world around them is defined by how they got there, which is most often the road.

Three basic road width designs will be used in the park as indicated on the Park Master Plan map. The primary park roads will provide a driving surface twenty feet wide and be reasonably free of sharp curves or steep grades. The second design width is the secondary roads which will have a driving surface eighteen feet wide. This type may have more severe curves and grades than the primary roads although safety remains an important factor. The third design width is the access roads which will have a driving surface twelve feet wide. Road construction should meet the Texas Parks and Wildlife Department Design Standards for Roads and Parking (2006).

Vegetative filters, detention ponds and bio-swales will be important elements to use in order to prevent excess run off from new pavement from impacting the sensitive ravines in the midsection of the site.

Parking

The careful observer may realize that parking spaces adjacent to circulation roads in state parks are much longer than parking spaces inside parking lots. This is to allow a safe area for visitors to unload their bicycles, supplies and other equipment without interfering with the auto circulation pattern.



STANDARD ACCESSIBLE PARKING

Figure 10 - Parking Adjacent to Roadways

Utility Systems

Considerations should be made for alternative energy systems such as propane, solar (photovoltaic) including solar water heating, geo-thermal and wind generation (mindful of migratory paths). The infrastructure required from these types of systems can not only be used to deliver power, but as an interpretive tool to impart knowledge about the impacts that our living patterns can make on the environment.

Electrical

The Park will continue to be served by the Heart of Texas Electrical Company and Oncor. New primary and secondary service shall be underground to create a natural setting and reduce visual impact. Primary service lines usually remain the property of the electric provider and must stay in

an easement. Service is anticipated to come only from the east edge of the park, as no service is currently available along the northern side of the property.

The planning of primary and secondary service shall be sufficient in scope to provide all proposed development areas with the required amount of electrical service. Electrical systems should be afforded a degree of redundancy by looping the power lines, so that service can come from more than one direction. All electrical systems shall be designed and constructed in accordance with the proper edition of the National Electrical Code, per TPWD's Design and Construction Minimum Standard Requirements Policy.

Water

A water supply and distribution system, consistent with the requirements of the present development and the future development, shall be provided. Currently, a Utility Plant Operator (UPO) monitors the water that the park purchases. There is a possibility that in the future each park may have to become a Public Water System, which will impact costs and operations. The park's water system shall be designed to provide a safe, dependable water supply with a minimum of operational and maintenance duties required of park personnel. Rainwater collection and treatment should be incorporated to serve the new facilities wherever feasible, in addition to reusing grey water. The water system plans must be reviewed by the Texas Commission on Environmental Quality (TCEQ). The water delivery systems in camp areas should also be looped in order to keep water pressure constant. Circulating water is an advantage over single run pipes, which often develop water quality issues. Isolation valves shall be installed so that a line break in one area can be addressed while water service continues in the rest of the park. Multiple water meters may be needed for optimal use and phased facility implementation.

• Gas System: (Liquid propane)

Natural gas for hot water and heating systems shall be provided for the following buildings:

Restroom and comfort station

Superintendent's residence

Headquarters building

Maintenance building

Group Dining Hall

The gas system will be provided through buried gas storage tanks and shall be constructed in accordance with local ordinances and the current state regulations.

Wastewater

The wastewater collection system will consist of a separate central collection system with both gravity flow and forced mains. It is anticipated that at least one or two new septic fields will be needed, plus the possibility of enlarging the current field. Alternative methods of treating wastewater should be explored for the types of uses, but regardless, On-Site Sewage facility (OSSF) permitting is overseen by Coryell County Health Department and approval for discharge of the effluent must be obtained from the TCEQ.

Communications

o Telephone/Data

All new telephone and data lines will be underground. Telephone and internet service should be available at the Headquarters, the maintenance building, the group dining hall and the residence. Pay phones are no longer deemed necessary due to the ubiquity of personal cell phones.

o Radio

Radio communications should be available at the Headquarters building and the maintenance building.

o WiFi (Wireless Fidelity)

WiFi service should be provided to create open internet access in the public areas of the park, namely the camping loop, cabin area, campfire theater, Headquarters and Group Dining Hall.

Environmental Quality Systems

Solid Waste

Solid waste removal can continue in its current operational pattern, as on site collection is through the use of strategically placed dumpsters in the park. However, more efforts to reduce, recycle and compost waste must be incorporated into each building and facility.

Environmental Assessment

Description of Proposed Action

The proposed facility plan will provide standard facilities for park administration, camping, picnicking, and various land based outdoor resource recreation activities. Redevelopment and construction of facilities will include the following:

-Roads -Administrative Structures

-Campgrounds -Cabins -Day-Use areas -Trails

-Site Utility Expansion

Environmental Impacts & Mitigation

Implementation of the proposed actions will subject approximately 15.5 acres to direct and indirect impact. The impact includes land directly affected by permanent facilities and immediately peripheral areas that will be subjected to impact either during construction or during utilization of the facilities by the public follow opening of the developed areas. The impacted acreage, resulting from the complete implementation of the plan, represents 5.9% of the total park acreage. Existing vegetation and soil integrity will experience changes of varying degrees depending upon the facility involved, previous land use and local conditions. The most visible change in the environment will be associated with construction of the campground, headquarters, and parking lots. Other facilities, e.g. trails and campfire theater, will result in moderate to minor initial impact but present the potential for additional impact with subsequent public use. Construction of the campground will account for the majority of new acreage affected by the implementation of this plan.

Evaluated Development Scenarios

Alternatives examined through the planning process involved the type of location of various recreational facilities, Recreation facility types and quantities were determined by the existing uses and the desire to enable visitor access to additional portions of the park. Different locations, configuration and facility count were evaluated for the placement of the:

-Campground -Cabins

-Group Dining Hall -Headquarters

-Roads

Final location was established through assessment and analysis of viewsheds, topography, flood regimes, appropriateness, relationship to other facilities, existing and potential use conflicts, location of existing infrastructure and management considerations.

Scenario Analysis

Adoption of the no-action alternative would require the park to continue operating with the existing undersized and flood prone facilities. Changes in recreational activities, park revenue and visitor expectations would not be addressed.

Alternate locations would result in the crowding of facilities and an increased cost of development.

Less than that proposed would result in the alteration of less acreage, but land use patterns would not stay static, and the economy of scale would not be achieved for an efficiently run site.

Appendix

Fiscal Estimates

Construction Cost Budgeting

The following estimated construction budget is based on conceptual programming utilizing 2010 dollars. Construction plans, specifications and escalation will affect these figures. The contents of the budget estimate do not constitute a Texas Parks & Wildlife Department obligation or mandate to construct or expend public funds to develop the facilities depicted herein.

Prepared: 02/15/2011

Estimated Implementation Cost

Location						
Description	Quantity Unit Unit Cost		TPWD \$	TxDOT \$		
A. Proposed Park Entry						
Entry Sign	1	LS	\$13,000	\$13,000		
Road -Entry to MU loop	1.29	MI	\$520,904		\$669,875	
					Subtotal	\$682,875
B. Proposed Headquarters						
Headquarters Building	4000	SF	\$238	\$952,000		
Interpretive Exhibits, Sales Fixtures	1500	SF	\$370	\$555,000		
Site Work (sidewalks, landscaping)	1	LS	\$15,000	\$15,000		
HQ Parking (By TxDOT) - 4,000 SF	444	SY	\$65		\$28,889	
					Subtotal	\$1,550,889
C. Proposed Group Dining Hall						
North End - New Group Hall	2600	SF	\$234	\$608,400		
Site Work (sidewalks, landscaping)	1	LS	\$15,000	\$15,000		
Group Rec Hall Parking	889	SY	\$65		\$57,778	
Pergola Upgrades	1	LS	\$10,000	\$10,000		
					Subtotal	\$691,178
D. Proposed Multi-Use Camping Loop						
Multi-Use Camping Loop Road	0.82	MI	\$520,904		\$429,487	
Multi-Use Camping Loop - sites & utilities	20	EA	\$6,440	\$128,800		
Central Bathhouse in Multi-Use Loop	1200	SF	\$150	\$180,000		
Playground - relocation	1	LS	\$25,000	\$25,000		
Multi-use Loop Pavilion (triple)	900	SF	\$95	\$85,500		
Portal at CCC road	1	LS	\$15,000	\$15,000		
North End - Campfire Theater	1	EA	\$13,000	\$13,000		
Site Topo & CCC Feature Location Survey	1	LS	\$6,000	\$6,000		
Archeo Sites - Coordination -Clearing	1	LS	\$20,000	\$20,000		
Site Archeological Survey	1	LS	\$20,000	\$20,000		
					Subtotal	\$922,787

E.	Proposed Cabins						
	Cabin Road	0.20	МІ	\$520,904		\$102,602	
	Cabin Parking	1631	SY	\$65		\$106,022	
	Wagon Shelters at Parking	3	EA	\$2,000	\$6,000		
	Cottages - no plumbing	9	EA	\$56,000	\$504,000		
	Cabins -with plumbing	6	EA	\$96,000	\$576,000		
	Trails - North End	2950	LF	\$5	\$14,957		
	Utilities and Site Work	1	LS	\$50,000	\$50,000		
	Standes and Site Work	'		Ψ00,000	400,000	Subtotal	\$1,359,581
F.	Proposed Group Bunk House					July Co Liq.	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
	Bunkhouse	3600	SF	\$150	\$540,000		
	Furniture - bunk beds, mattresses	1	LS	\$75,000	\$75,000	1	
	Demolition of Existing Maintenance	1	LS	\$125,000	\$125,000	1	
	Existing Park Residence Repairs	1	LS	\$297,840	\$297,840	1	
	Water Tank- Observation Tower Repairs	1	LS	\$11,920	\$11,920	I	
	Pump House Repairs	1	LS	\$4,760	\$4,760		
	The same traperty	·		4 1,1 00	¥ 1,1 00	Subtotal	\$1,054,520
G	. Future Maintenance Area						
Ë	Maintenance Building	3000	SF	\$72	\$216,000		
	Fencing - Security, 7' Tall	260	LF	\$49	\$12,610		
	Road - 18' Wide by 313 LF	0.06	MI	\$520,904	, -, -, -	\$30,879	
	Parking	480	SY	\$65		\$31,200	
		100	0.	ΨΟΟ		Subtotal	\$290,689
Н	ı Proposed Residence					Juntorqi	7200,000
H	Manager's Residence	1800	SF	\$160	\$288,000		
	Fencing - Privacy-wood	416	LF	\$23	\$9,568		
	Screen Plantings	1	LS	\$4,000	\$4,000		
	Road -12' wide x 228 LF	0.04	MI	\$520,904	, .,	\$22,494	
				, , , , , , , , , , , , , , , , , , ,		Subtotal	\$324,062
1.	CCC Area - Lower Day Use						
Г	Comfort Station	1200	SF	\$275	\$330,000		
	Picnic Sites - conversion from camping	42	EA	\$2,800	\$117,600		
	Footpath in Southern Day Use Area	5002	LF	\$12	\$60,024		
	Play Stations along footpath	3	EA	\$7,500	\$22,500		
	Parking in South End	6763	SY	\$65	, , , , , , , , , , , , , , , , , , , ,	\$439,566	
	Boat/Kayak access, 4 trailer spots	1	LS	\$206,000		\$206,000	
	Fishing Pier/Overlook on river	120	SF	\$65	\$7,800		
	Birding Blinds	3	EA	\$6,000	\$18,000		
	Add elevation to road to alleviate flooding	0.09	MI	\$520,904	\$49,328		
	Entrance Portal Repairs	1	LS	\$30,080	\$30,080		
	Park Road 14 - striping trailheads	1	LS	\$30,080	\$30,080		
	Park Road 14 - clean culverts & headwalls	1	LS	\$57,300	\$57,300		
	Concession Building	1	LS	\$527,593	\$527,593		
	Rock Tabernacle Repairs	1	LS	\$147,216	\$327,393 \$147,216		
	CCC Drinking Fountain Repairs (5)	1	LS	\$3,730	\$147,210		
	CCC Trail & Table repairs	1	LS	\$196,400	\$3,730 \$196,400		
	1000 ITALI & TADIC ICPALIS		LO	J 130,400	w 1 3 U . 4 U U		
	'			,	, , , , , , , , , , , , , , , , , , ,	Subtotal	\$2,243,217

J. General						
Wastewater Treatment Improvements	1	LS	\$500,000	\$500,000		
Vegetation Management Plan	1	LS	\$20,000	\$20,000		
Habitat Assessment and Mapping	1	LS	\$6,000	\$6,000		
Interpretive Plan	1	LS	\$30,000	\$30,000		
					Subtotal	\$556,000
						\$9,675,798
Construction Contingency			10%			\$967,580
Construction Subtotal						\$10,643,378
K. Project Costs						
A/E Consultant Services - New Construction + R	epairs		12%	\$906,121		
A/E Consultant Reimbursables - 2%			2%	\$150,760		
Survey & Testing			2%	\$150,760		
Cultural Resource Management			3%	\$226,140		
TPWD Project Management & Design Reviews			7%	\$527,660		
TPWD Inspection - 2 Years			5%	\$329,300		
					Subtotal	\$2,290,742
Project Contingency			10%			\$229,074
				Projec	ct Costs Total	\$2,519,816
				Total		\$13,163,193

Parametric Planning Range (-20% to +30%)

LOW	HIGH
\$10,531,000	\$17,113,000

Recommended Phasing Implementation

Priority	Description	TPWD \$	Accumulated TPWD Total	TxDOT \$	Accumulated Total
1	Headquarters	\$1,522,000	\$1,522,000	\$28,889	\$1,550,889
2	Wastewater Treatment Improvement	\$500,000	\$2,022,000	\$20,000	\$2,050,889
3	Park Road	V 0 0 0,0 0 0	\$2,022,000	\$669,875	\$2,720,764
4	Entry Sign	\$13,000	\$2,035,000	*	\$2,733,764
	Habitat Assessment and Mapping	\$6,000	\$2,041,000		\$2,739,764
	Archeological Study	\$20,000	\$2,061,000		\$2,759,764
5	Multi-Use Camping Loop Road		\$2,061,000	\$429,487	\$3,163,251
6	Multi-Use Camping Loop Sites	\$128,800	\$2,189,800		\$3,292,051
7	Central Bathhouse in Multi-Use Loop		\$2,369,800		\$3,472,051
8	Cabins - with plumbing (6)	\$576,000	\$2,945,800	\$208,625	\$4,256,675
9	Comfort Station (dressing room)	\$330,000	\$3,275,800		\$4,586,675
10	Multi-use Loop Pavilion (triple)	\$85,500	\$3,361,300		\$4,672,175
11	Parking in South End		\$3,361,300	\$439,566	\$5,111,74
12	Cottages -no plumbing - (9)	\$504,000	\$3,865,300		\$5,615,74
13	Portal/ Signage	\$15,000	\$3,880,300		\$5,630,74
14	Maintenance Yard	\$228,610	\$4,108,910	\$62,079	
			Ph	ase 1 Total	\$5,921,431
Phase .	2				
15	North End - Group Hall	\$633,400	\$4,742,310		\$6,554,83
16	North End -Group Hall Parking			\$57,778	\$6,612,609
17	Trails - North End	\$14,957	\$4,757,267		\$6,627,56
18	Manager's Residence + Road	\$324,062		\$22,494	\$6,974,120
19	Vegetation Management Plan	\$20,000			\$6,994,120
20	Bunkhouse	\$1,054,520	\$6,155,848		\$8,048,640
21	Repairs to Concession Building	\$527,593			\$8,576,233
22	Repairs to Rock Tabernacle	\$147,216			\$8,723,449
23	Footpaths in Southern Day Use Area				\$8,783,473
24	Play stations along footpath	\$22,500			\$8,805,973
25	Fishing Pier/Overlook	\$7,800			\$8,813,773
26	North End - Trailhead Kiosk	\$13,000		`	\$8,826,773
27	North End - Campfire Theater	\$13,000			\$8,839,773
28	Boat/Kayak access	\$206,000			\$9,045,773
29	Birding Blinds (3)	\$18,000			\$9,063,773
30	Playground - relocation	\$25,000			\$9,088,773
31	River Gauge - USGS	\$0			

Coarse Revenue Estimates

In the 1970's, TPWD noted that this park receives a relatively significant amount of use based on the number of overnight units available. A 1977 utilization analysis based on 6 electric sites and 15 non-electric sites showed that weekend occupancy for the electric sites ranged from 71% to 106% (greater than 100% was probably due to the usage of overflow sites). Sites without electricity ranged from 37% to 91%. On 27 occasions during the 6-month peak season, utilization of both types of campsites was greater than 100 percent. Normally, 34% is considered a 'good' weekly occupancy rate for multi-use sites, as 3 weekend days are usually above 90% and 4 weekdays are usually around 5%. Additionally, it was noted that "the campsites and supporting facilities available at Mother Neff are unextravagant compared to similar type units in the system." (TPWD, 1979).

Revenue for the years 1997 through 2001 averaged \$35,000. Prior to the 2007 flood, revenue was on a steady incline, with an average of about \$47,000 annually.

Past Park Revenue	
2004	\$44,000
2005	\$46,000
2006	\$52,000

With the addition of 15 cabins at a projected 43% occupancy rate, park income should increase by \$27,400 per year. The new Group Dining Hall fees are projected to total approximately \$11,400. Although the campsite facility count will not appreciably increase, the improved amenities of the campsites will allow for a higher fee. At a conservative 34% occupancy rate, yearly income generated from the campsites will be approximately \$3,700. Thus, the additional income for the park (not including day use fees), is expected to total approximately \$42,500 when all the facilities become available.

More important than revenue generated within the park proper is the economic impact on the surrounding community. According to the 1998 Texas A&M University report, MNSP generates an estimated annual economic impact on sales of \$531,844 (Crompton, pg. 126).

Coarse Visitation Estimates

Current visitation data for the site is sporadic due to the number of times the park has been closed by flooding. A record of visitation to Mother Neff State Park for the fiscal years 1994--2001 shows a steady average of just over 100,000 people per year. These visitation figures used a day use total that is based on the number of vehicles entering the park and applying an average vehicle occupancy multiplier, so the totals may be exaggerated. However, the trend line shows accurately that peak visitation occurs during the months of March, April, May and June, and again during September and October.

Year	Total	
FY1994	132,537	
FY1995	123,817	
FY1996	129,662	
FY1997	102,249	

Source: CDM report

Visitation data from 2001 Land &Water Resources Conservation and Recreation Plan shows the same trend, until he park was closed due to major flooding in 2001:

Year	Total
1997	102,249
1998	105,364
1999	105,682
2000	106,270
2001	94,095

The recently implemented TxPARKS system is now yielding more data about visitors throughout the state and counts actual visitors, not vehicles. The system has been in place since May 2010, and already it has shown that visitors come from a wide variety of locals. Campers who came from May through November of 2010 included visitors from 19 different states (other than Texas) and five international locations. The TxPARKS breakdown of day-use and overnight visitation for the first 5 months of data is as follows:

	Day	Overnight
June	487	137
July	663	107
August	303	75
September	679	173
October	617	411
November	600	447

Similar parks (CCC-built parks, limited water recreation and a small number of overnight facilities) that are sensibly compared with MNSP are Meridian State Park, Bonham State Park and Mission Tejas State Park. Using averages from these parks, one could project that if Mother Neff could stay open during flooding episodes, the expected number of visitors would range between 15,000 to 20,000 per year. New audiences at the Park are anticipated to be larger family groups, coming from urban and sub-urban areas, especially from the fast-growing Killeen and Waco areas. According to the 2008 TPWD Park System Study (Pros Consulting/Fisher Heck) over 2 million people live in urban areas within a 2-hour drive of the park (pg 60).

Operational Cost Estimates

Staff

Park improvements and development of additional facilities have been shown to increase visitation and revenue. Therefore, additional staff will also be required to operate the park. Current staffing levels are at 4 Full Time Employees (FTE's):

- 1 Superintendent
- 1 Office Manager
- 1 Lead Ranger
- 1 Park Ranger II

The amount of additional facilities and the layout of the redevelopment will require man-hours for the following areas: Facility repair and cleaning, mowing/ grounds/ landscaping in previously undeveloped areas, revenue/reporting management, fiscal control, educational and visitor services.

The Zero-Based Budget exercise of 2008 indicated that the staff complement for Mother Neff should be at 7.3 FTE for a high quality park with facilities as they were at that time. This did not

consider the added amenities of this master plan. To accommodate the needed man-hours for the master plan, it could easily require additionally:

- 1 Park Specialist I (resource/education/trails)
- 1 Park Ranger II (facilities/grounds/equipment)
- 1 Clerk III (admin/revenue/reporting/fiscal control)
- .75 FTE (temporary hourly help for the busy spring and summer).

This would be a total staff complement of 7.75 at a high quality level for the re-developed Mother Neff SP, which is comparable with staffing patterns of similarly sized state parks such as Meridian SP and Bonham SP.

Energy Consumption

Almost any new facility at the park will undoubtedly increase energy consumption at the site. However, it is the intent of this plan to ensure that new facilities can generate their own power through solar, wind or geo-thermal systems.

• Water Consumption

Although the park is already served by a water utility, it will be important to re-use grey water and collect rainwater from every new roof at the site. Increases in facilities and visitation will naturally lead to increases in demand, but the demand can be mitigated by low-flow fixtures (which are required per TPWD standards) and on-site water reuse.

Climate Summary

According to the National Climatic Center, Coryell County is hot in the summer and in winter, occasional surges of cold air cause a sharp drop in otherwise mild temperatures. Rainfall is evenly distributed at 34 inches per year, with a slight peak in spring. Thunderstorms occur on about 45 days each year, mostly during the summer. Average seasonal snowfall is 2 inches. Average relative humidity in midafternoon is about 55 percent, and gets higher at night reaching an average of 80 percent at dawn. Photovoltaic equipment can rely on sunshine 75 percent of the time in summer and 50 percent in winter.

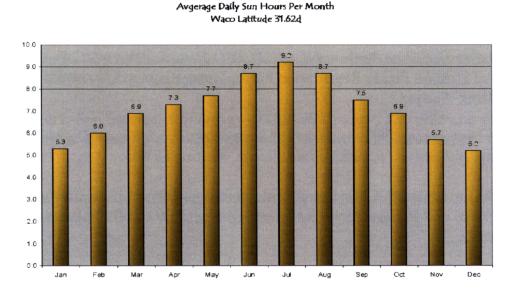


Figure 24- Average Daily Sun Hours

Dual Axis Tracker

Prevailing winds are from the south. According to the U.S. Dept. of Commerce, the area weather has considerable variation during the year, and results in a climate which is conducive to good health and stimulating outdoor activities (1967).

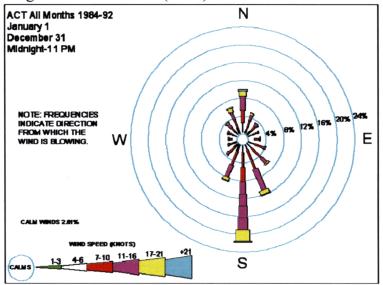


Figure 25- Wind Rose Diagram

o Public Comment Summary

A public meeting was held in Moody, Texas on October 5th, 2010. Approximately 20 persons attended. The variety of comments covered such topics such as the need for improved trail head parking, the need for additional staff if the proposed facilities are developed, a request for a small boat/kayak launch and fishing pier, controlling traffic speed and noise on the highway, and the importance of getting family groups back to the site before they forget their traditions of using the Park.

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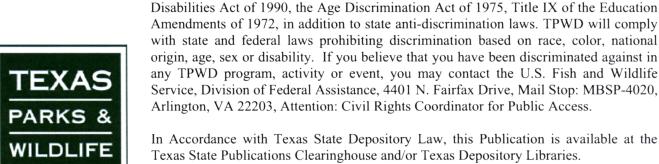
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