APPENDIX D

CROSSTIMBERS ENVIRONMENTAL MANAGEMENT PLAN


Cross Timbers
Resort and Golf Course

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PART I

Old Growth Tree Inventory

CrossTimbers Resort (Phase I)

Skiatook Lake, OK

Prepared by
EMP Development Team

November 17, 2003

Old Growth Tree Inventory
CrossTimbers Resort (Phase I)
Skiatook Lake, OK

1. Purpose. To identify and map candidate old growth trees within the CrossTimbers Resort Recreation Lease, Skiatook Lake, OK.

2. Background.

A condition of the Environmental Assessment (EA) for CrossTimbers Resort requires old growth forest to be mapped and incorporated in the Environmental Management Plan (EMP).

The CrossTimbers lease area is primarily composed of upland woods interspersed with native tall-grass prairie. Post Oak and Blackjack Oak, and others tree and shrub species grow on rocky land. Understory vegetation consist of small annuals or succulent perennials with very short tap roots, or shallow spreading roots. Sandstone or limestone caps are prevalent on many of the hills in this region. Soils associated with these caps are mostly thin sandy soils. The terrain varies from flat to very steep slopes (40%) with rocky outcrops.

The project area contains a unique habitat type, the Cross Timbers. This vegetation type is dominated by Blackjack Oak, Post oak and Black Hickory *(Carya texana),* with an understory dominated by little bluestem. Subdominants include big bluestem, side-oats grama, hairy grama *(Bouteloua hirsuta),* purple lovegrass *(Eragrostis spectabilis),* sand lovegrass *(E. trichodes),* Scribner's panicum, Indian-grass, longleaf dropseed and Texas needlegrass *(Nasella leucotricha) (Stipaleucotricha)* as understory, and hackberry *(Celtis* spp.) as an overstory species.

One component of this habitat type is "old growth" or ancient Cross Timbers. Tree ring investigations indicate that the ancient cross timber community has remained relatively unchanged following the last glacial period some 6,000 years ago (Stahle et.al., 2000). Due to the rapidly declining trends in this habitat type the value and function of the old growth Cross Timbers is of special importance. It has been estimated that portions of the project area have a 77 % chance of containing old growth Cross Timbers (Therrell and Stahle 1998).

3. Survey Procedures

EMP Development Team Members:

Dr. John Lamberton	Environmental Management Consultant
Dustin Huff	State Source
Blu Hulsey	Town of Skiatook (SEDA)
Jeff London	Consultant, Registered Forester
Greg Bersche	Corps of Engineers
Jim Harris	Corps of Engineers

The lease area on the southeast side of the lake was mapped first. This area contains the camping area, village, and the marina (Project Development Phase I). Skiatook Point and the area south of Tall Chief Cove road will not be mapped until such time that the development of that part of the lease area is more imminent.

The mapping project started in the campground area near the John Zink Ranch and proceeded northeastward to the Spillway. The survey methods varied depending on forest density and size. In dense forested areas, parallel transect lines ranging from 100 to 150 feet wide were used to ensure sufficient coverage. In low density or narrow strips where visual contact could be maintained by team members, the distances were adjusted to maintain coverage.

The field surveys started on Thursday, September 25 and completed on October 30, 2003. The procedures for the mapping project were jointly planned and agreed upon by the CrossTimbers EMP Development Team and the USACE. Survey zones were established to identify the extent of daily survey progress and do not necessarily represent a specific forest type or site condition.

The USACE team members, Jim Harris and Greg Bersche, reviewed and monitored the Ancient Timber mapping process on a continuous basis during the exercise. Due to the continuous participation by the USACE team, a survey zone was considered adequately mapped at the end of each day by mutual agreement of the CrossTimbers EMP Development Team and the USACE team.

For the purpose of this survey Old Growth or Ancient Timber are defined as those Post Oak trees over 200 years old. The Ancient Cross Timbers Consortium describes the Ancient Cross Timbers forest type (Post Oak and Blackjack Oak) as a forest type that tends to dominate dry, rocky positions, and includes Post Oak trees 200- to 500-years old. It includes dense forest, open woodland, glades, and savannas. Although there is some variation in the literature defining the age range of “Ancient Timber”, this survey used a conservative estimate of 200 years.

In this survey, candidate Ancient Trees are defined as those trees displaying physical characteristics common to Ancient Timber. Characteristics of candidate trees include but are not limited to diameter in relation to soil quality; nubs or scars from branch loss; and treetops that are gone or partially gone. Information including the nutrient conditions and the topography of the area immediately surrounding a tree (such as the presence and quantity of sandstone or limestone rocks) contributed to the determination that a tree is an Ancient Timber candidate. Selected candidate trees were cored to determine age and estimated growth rates for a specific site. Remaining candidate trees were not aged as part of this survey. If there is a conflict between known candidate trees

and the project's land use plan, additional cores will be used to determine if it qualifies as an "Ancient Tree".

No dead trees were mapped.

4. Survey Collection

GPS Equipment. A hand held Global Positioning System (GPS) unit, eTrex Vista manufactured by Garmin, was used to obtain the approximate locations of individual candidate trees. The level of accuracy varied depending on the clear view of the sky with satellite reception. The Wide Area Augmentation System (WAAS) was enabled to receive data for correcting differentials in the GPS satellite signals. The manufacture cautions the user that it is not to be used for precise measurements.

Individual Tree Collection Data

* Diameter Breast Height (DBH). Individual tree diameter was taken at 4.5 ft above ground and measured to the nearest inch.

* Height. Individual tree height was estimated to the nearest 5 ft.

* Growth Rate. Non-destructive core samples, 5mm diameter, were extracted from selected old trees to determine the total age of a tree and establish a growth rate for different sites.

* Tree and Site Characteristics. Visual observation of the trees characteristics was used to identify candidate trees. Typical tree and site characteristics included but were not limited to diameter in relation to soil quality; presence of nubs or scars from branch loss; large trunk scars, and tree tops that were gone or partially gone.

Note: There was an abundance of broken tops that resulted from tornados in the late 1980's and severe drought in the 1950's.

* Digital Photographs. Digital photographs were taken of selected trees that exhibited unique and common characteristics of Old Growth trees. Each photo was identified according to the individual tree identification number.

Mapping Software. ArcView GIS Programs (versions 8.1 and 3.2) software was used to plot various tree locations, identify lease boundaries, survey zones and land use plans. All map projections are based on UTM NAD 83 Zone 14N in feet.

5. Survey Results

General Results. There were a total of 783 Post Oak trees surveyed in the area scheduled for initial development. This survey report

covers approximately 30% of the lease area. Based on average tree growth rates for specific areas, tree age was estimated by multiplying the growth rate by the tree radius (Rate * DBH/2). Growth rates were selected based on core samples and site location. Core samples were taken from approximately 21 trees (3%). Intact core samples could not always be extracted due to heart rot and the outer rings were used as a basis for estimating growth. Core samples were identified and retained by the Corps of Engineers, Skiatook Lake Office.

Candidate Tree Selection Criteria. During the inventory process it became apparent that site conditions and rates of growth varied through out the survey area. Factors noted during the survey that seemed to influence growth rate included slope aspect (north-facing vs. south-facing), soil type and depth, underlying bedrock type and depth, proximity to exposed surface rock, slope of the terrain, density of surrounding vegetation, and the overall condition of the tree related to its ability to procure and process soil nutrients. As the survey progressed, diameter selection criteria were modified as a result of these factors. Example: a 14″ DBH tree growing on steep, rocky, north facing slope was considered to be a candidate tree because it had a slower growth rate and estimated to be over 200 years old. Conversely, a similar size tree in better growing conditions would have a faster growth rate and therefore be approximately 140 years old.

Growth rates and diameter were not the only factors in identifying candidate trees. Trees that exhibited other physical characteristics typical of old growth timbers were also included as criteria as previously discussed.

Survey Zone 1 – Area 1 is approximately 47 acres located south of Tall Chief Cove campground. The terrain is gradual sloping with open grassland and isolated stands of trees. Most of the trees are located along shoreline or drainage areas. Lower stands of timber have been subject to inundation as part of the projects flood control operations. A total of 32 trees were inventoried in this area ranging from 12 – 26 inches DBH and a mean of 17.1″ DBH. One tree was aged in this area and the growth rate for this area is approximately 20 years per inch.

Survey Zone 2 & 3 – These areas include approximately 62 acres located from the swimming beach and boat ramp to the southern boundary line. This area is scheduled to be developed for the Village area and will include a conference center, store and cabins. The terrain varies from gentle sloping to very steep along the shoreline with some open grassland. Most of the area is mix hardwood forest type. Density varied from light to heavy with several open stands and savannahs. A total of 64 trees were inventoried in this area ranging from 10″ to 28″ DBH and a mean of 17.6″ DBH. Three (3) trees were aged in this area and the growth rate for this area varied from 16 to 25 years per inch depending on

the site location. The mean growth rates for this area are 16 and 20 years per inch. The 16 yr/inch growth rate is for trees located on flat to gentle sloping terrain and 20 yrs/inch growth rate for steep, rocky slopes. The 20 yrs/in growth rate is comparable to those rates found in adjacent zones with similar slopes and growing conditions.

Survey Zone 4 – This area is a relative narrow strip of land between the proposed Village area and the Marina. Planned development for this area is cabin sites along the north shore and the marina development in the cove (Tornado Cove) to the north. It is approximately 39 acres with terrain that varies from relative flat to very steep along the shoreline. There are small points on the north shore that have gentle slopes while the remaining area is steep and rocky. The area in the marina cove is typically steep and rocky. Most of the tree cover in this area consists of Post Oak – Blackjack Oak forest type that varies from heavy to moderate density. A small portion is an old field with invading wood species. A total of 33 trees were inventories in this area with diameters ranging from 15″ to 26″ DBH and a mean of 19.5″ DBH. Five (5) trees were cored in this area and rates ranged from 15 - 25 years per inch. The mean growth rate for this area is 20 years per inch.

Survey Zone 5 – This area is a narrow strip of land located on the north shore of the marina cove. This area is planned as part of the marina development. It is approximately 14 acres with steep and rocky terrain. Forest cover consists of dense Post Oak and Blackjack Oak with few openings. Total trees inventoried are 82 in this area with diameters ranging from 11″ to 21″ in DBH and a mean of 14.2″ DBH. Four trees were cored and growth rates ranged from 20 to 26 years per inch. The mean growth rate for this area is 25 years per inch.

Survey Zone 6 & 7 These areas consist of a narrow strip of land located between the marina cove and Skiatook Spillway. This area is planned for low density development such as nature trails. It is approximately 32 acres with steep and rocky terrain. Forest cover consists of dense Post Oak and Blackjack Oak with few openings. Total trees inventoried are 220 in this area with diameters ranging from 12″ to 28″ DBH and a mean of 15.9 DBH. Four trees were cored and growth rates ranged from 20 to 26 years per inch. The mean growth rate for this area is 25 years per inch.

Survey Zone 8 - This area consist of a narrow strip of land located south of Skiatook Spillway. This area is planned for low density development such as nature trails. It is approximately 34 acres and varies from steep and rocky terrain along the shoreline to relative flat on top. Forest cover consists of dense Post Oak and Blackjack Oak with few openings on steep slopes to open savannahs on top. Total trees inventoried are 352 in this area with diameters ranging from 12″ to 23″ in DBH and a mean of 15.2″ DBH. Four trees were

cored and growth rates ranged from 20 to 30 years per inch. The mean growth rate for this area is 25 years per inch on steep slopes and 16 on top.

Appendix A
Tables

Survey Summary

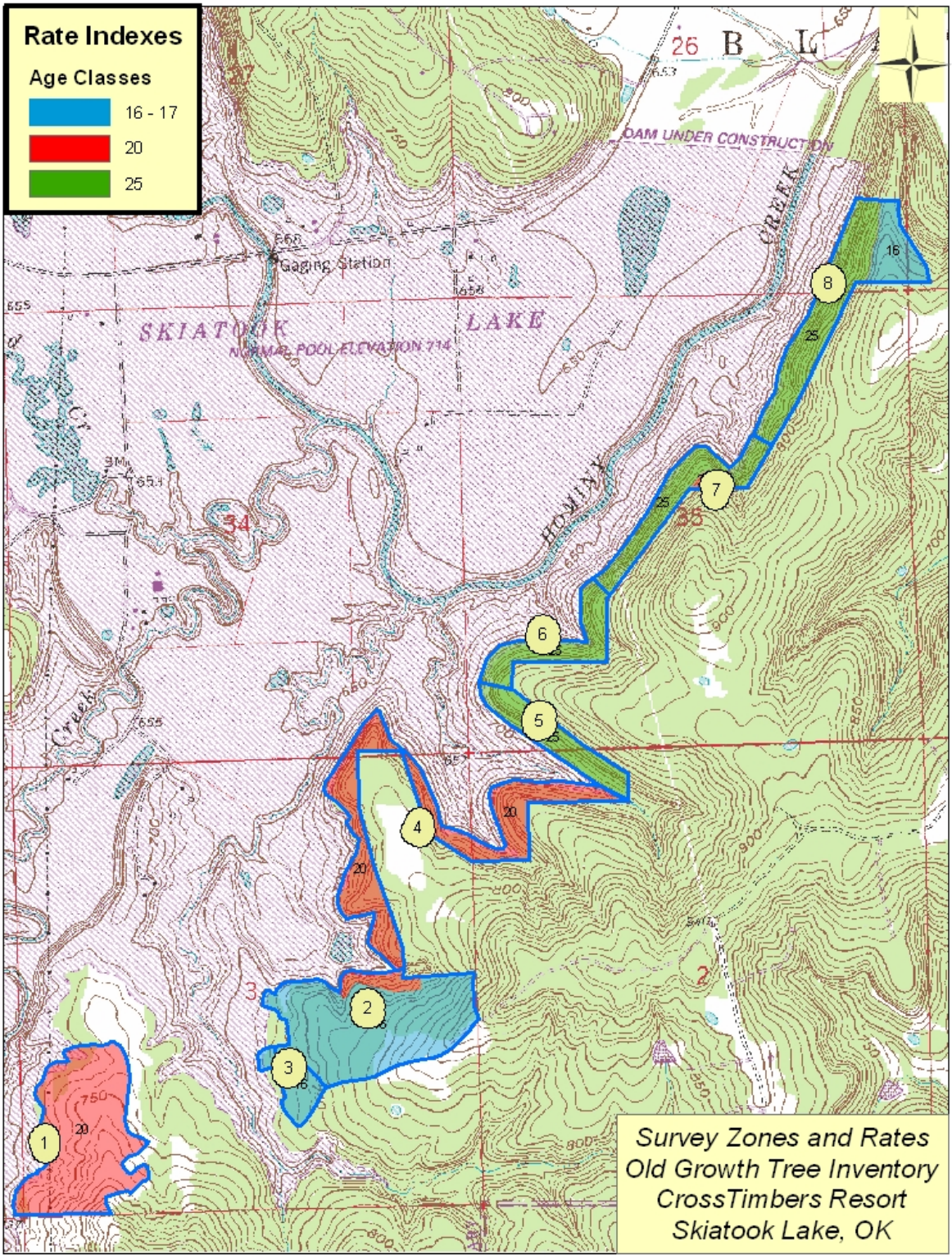
Survey Zones	Number of Trees	Acres	Min Growth Rate	Max Growth Rate	Mean Growth Rate	Age Index	Trees => 200 Yrs. Old
Zone 1	32	47	20	20	20	20	7
Zone 2	63	55	16	25	19	16 & 20	4
Zone 3	1	7				16	1
Zone 4	33	39	15	25	20	20	13
Zone 5	82	14	20	25	23	25	22
Zone 6	72	14	22	26	24	25	42
Zone 7	148	18	23	23	23	20 & 25	62
Zone 8	352	34	16	30	17 & 25	17 & 25	83
Total	783	328	-			-	234

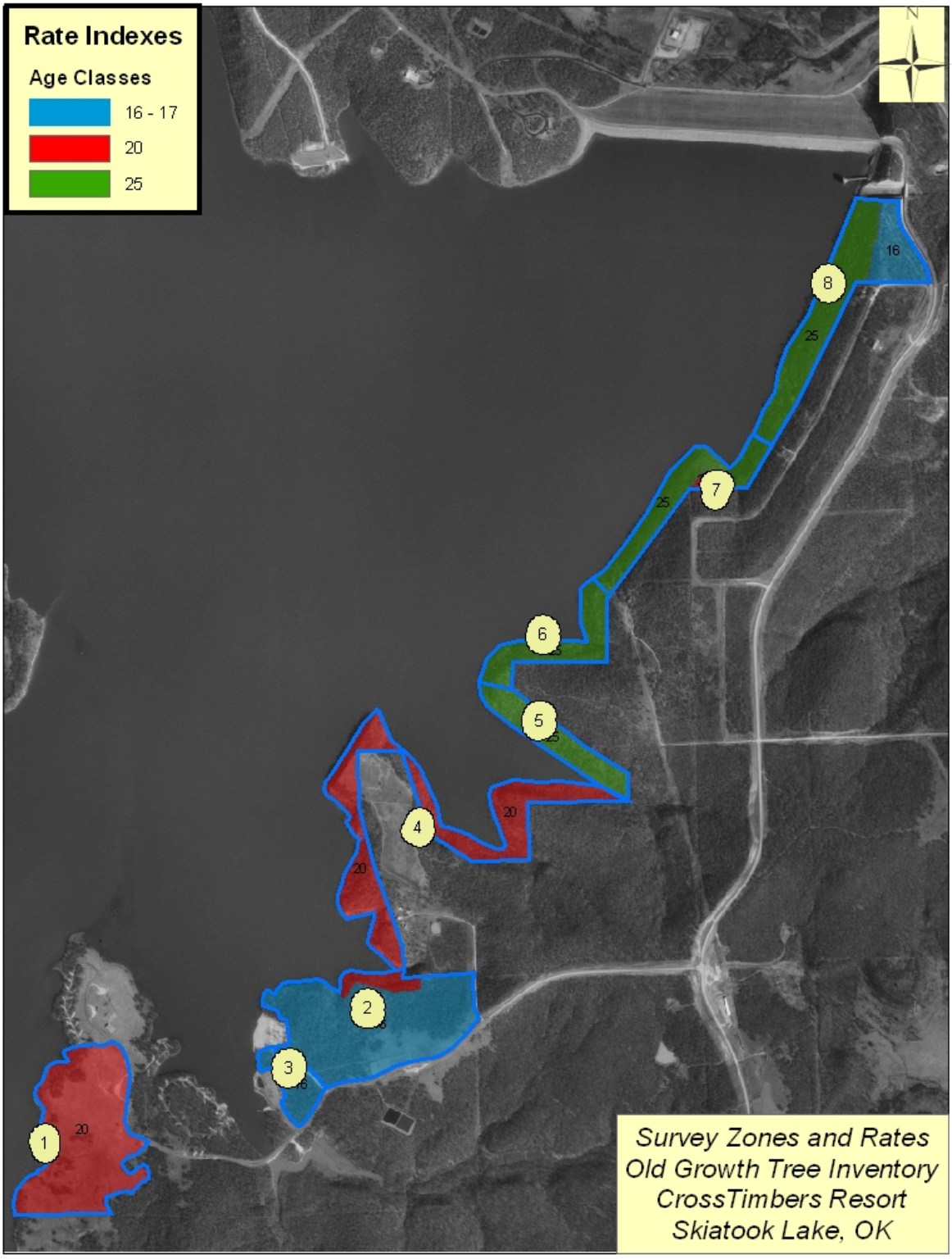
Note: Multiple Age Indexes used in some areas due to different site conditions. Age Index 25 used for portions of Zones 6, 7 and 8 located along steep slopes.

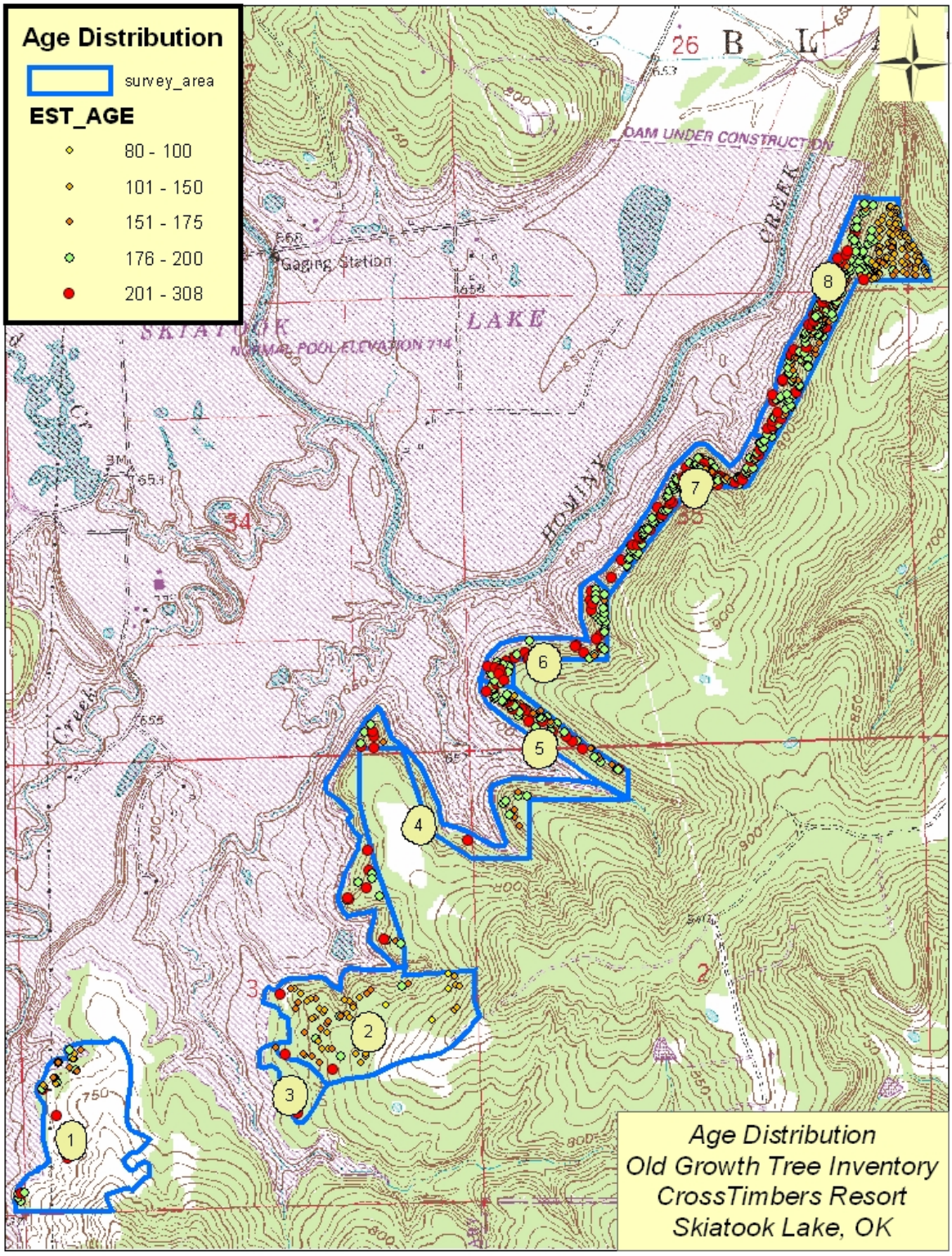
Trees Per Survey Zone

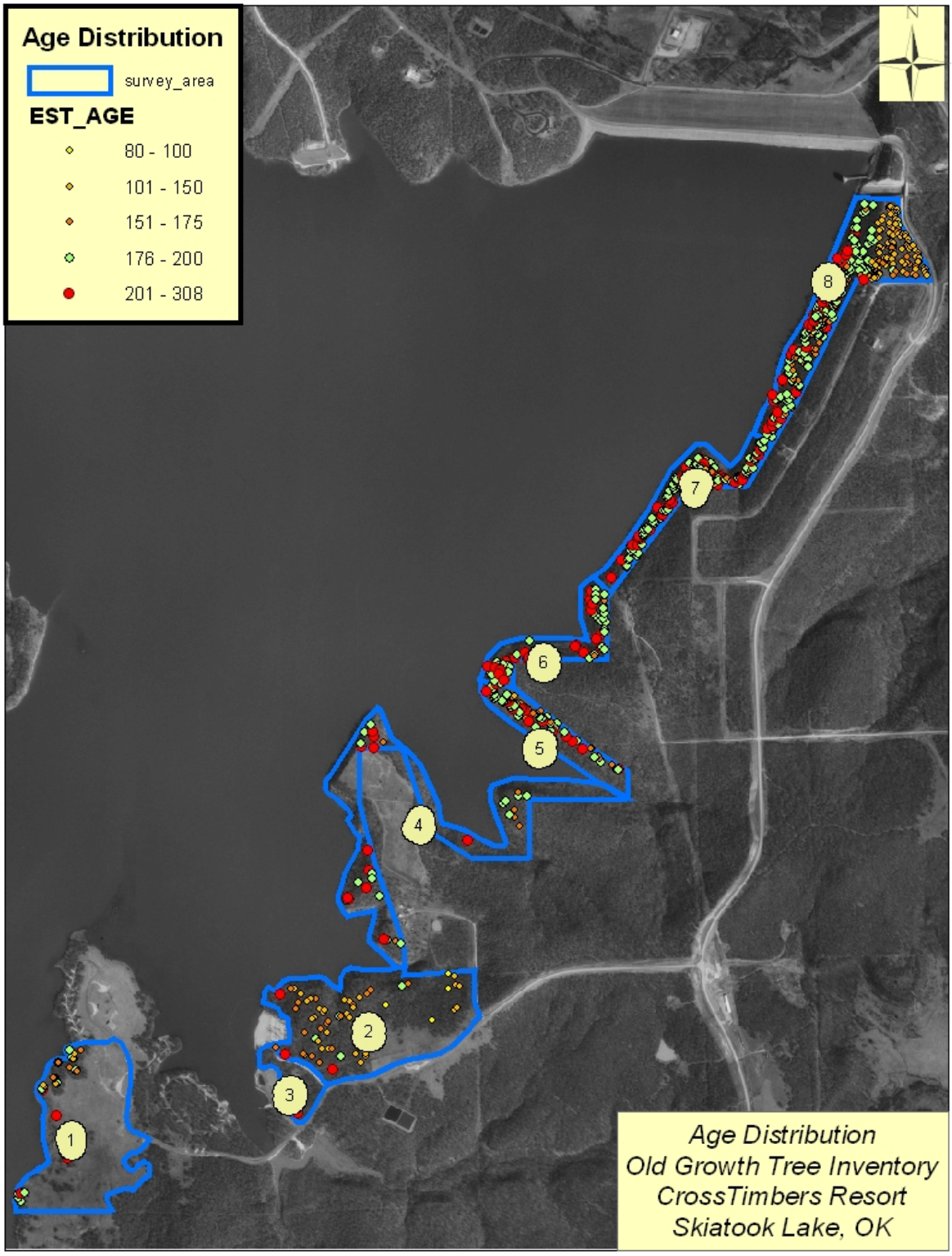
DBH	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7	Zone 8			Total Trees
10	0	1	0	0	0	0	0	0			11
11	0	0	0	0	4	0	0	0			15
12	2	3	0	0	10	0	1	16			44
13	3	1	0	0	16	3	10	50			96
14	3	8	0	0	18	11	44	91			189
15	0	0	0	2	12	16	26	51			122
16	6	11	0	4	7	11	34	74			163
17	4	3	0	2	7	11	9	27			80
18	7	13	0	3	5	8	14	24			92
19	0	4	0	8	2	3	5	10			51
20	3	13	0	3	0	1	2	4			46
21	0	0	0	2	1	1	1	3			29
22	3	3	0	4	0	5	1	1			39
23	0	0	0	2	0	1	1	1			28
24	0	0	0	2	0	0	0	0			26
25	0	0	0	0	0	0	0	0			25
26	1	3	0	1	0	0	0	0			31
27	0	0	0	0	0	0	0	0			27
28	0	0	1	0	0	1	0	0			30
Total	32	63	1	33	82	72	148	352			783

Appendix B
Survey Maps


Rate Indexes
Age Classes
16 - 17
20
25
DAM UNDER CONSTRUCTION
Gaging Station
SKIATOOK LAKE
NORMAL POOL ELEVATION 714
HOMINY CREEK
Survey Zones and Rates
Old Growth Tree Inventory
CrossTimbers Resort
Skiatook Lake, OK

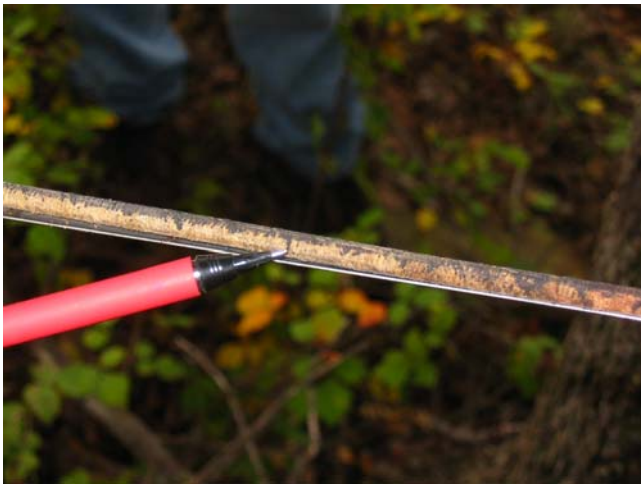

Rate Indexes
Age Classes
16 - 17
20
25
N
1
2
3
4
5
6
7
8
Survey Zones and Rates
Old Growth Tree Inventory
CrossTimbers Resort
Skiatook Lake, OK


Age Distribution
survey_area
EST_AGE
80 - 100
101 - 150
151 - 175
176 - 200
201 - 308
DAM UNDER CONSTRUCTION
Gaging Station
LAKE
SKIATOOK
NORMAL POOL ELEVATION 714
HOMINY
CREEK
1
2
3
4
5
6
7
8
Age Distribution
Old Growth Tree Inventory
CrossTimbers Resort
Skiatook Lake, OK


Age Distribution
survey_area
EST_AGE
80 - 100
101 - 150
151 - 175
176 - 200
201 - 308
N
1
2
3
4
5
6
7
8
Age Distribution
Old Growth Tree Inventory
CrossTimbers Resort
Skiatook Lake, OK

Appendix C
Photographs

Core Sampling



Characteristics of Old Growth Trees

Old “Nubs” indicated old limb scar healing

PART II

Inadvertent Discovery of Cultural Resources Plan

Purpose:

Project construction and operation may lead to the inadvertent discovery of cultural resources within project boundaries. Protecting cultural resources is a priority during the development and operation of the CrossTimbers Resort and Golf Course and is embodied in the project policy regarding cultural resources:

> "To be effective stewards of cultural resources located on CrossTimbers Resort and Golf Course grounds, by proactively establishing guidance and procedures for the management of cultural resources, developing relationships with interested stakeholders, and providing support to contractors concerning cultural resource awareness and policy compliance."

Scope:

The CrossTimbers Cultural Resource Inadvertent Discovery Plan contains criteria to ensure proper protection and management of cultural resources inadvertently discovered on the CrossTimbers Resort and Golf Course grounds. It incorporates actions necessary to comply with the law, identification of reporting requirements for "inadvertent discoveries", and training required to ensure contractors and project staff understand responsibilities and foster a stewardship ethic within the CrossTimbers Resort and Golf Course.

Cultural Resources:

"Cultural resources" are buildings, structures, archeological resources, sites, districts, objects, traditional cultural properties, and other evidence of past human life ways.

Cultural Resources Management Team:

The CrossTimbers Environmental Management Planning Team will manage the CrossTimbers Inadvertent Discovery of Cultural Resources Plan. Concerns about the Plan should be directed to Dr. John Lamberton or Dustin Huff. The EMP Team will have the following responsibilities concerning the inadvertent discovery of cultural resources during the construction and operation of the project:

a. Conduct training to assure that contractors are aware of the Inadvertent Discovery Plan;

b. Ensure that all construction activities are in compliance with applicable cultural resource regulations and laws;
c. Implement provision steps for inadvertent discoveries of cultural resources;
d. Coordinate consultation with the USACOE in the event of an inadvertent discovery of cultural resources.

Policy

In the event that cultural resources are encountered during any construction or excavation activities, the activity must stop and a member of the CrossTimbers EMP Team must be notified in person or by phone. Failure to report discovery of cultural resources may result in the violation of federal laws and regulations, which may lead to project delays and individual fines and penalties.

Procedures

CrossTimbers staff, contractors, and sub-contractors conducting work on the CrossTimbers project will be made aware of their responsibilities concerning the inadvertent discovery of cultural resources during construction and implementation of other ground-disturbing activities related to CrossTimbers development and operation.

A. Any construction or ground-disturbing activity, as noted above, shall be halted immediately in the event of any of the following:

- Discovery of items such as pottery, bottles, arrowheads, stone flakes, bullets, structures or portions of structures (including foundations), bones of any type, or any portion or piece of any of the foregoing items.
- Discovery of evidence of past fill operations, dumping, or trash disposal which may include materials such as metal, wooden objects, glass, ceramics, etc., of historic age.

B. In the event that any of the foregoing items are encountered, activities affecting those items shall be halted immediately and a member of the CrossTimbers EMP Team shall be contacted promptly for appropriate guidance. Current members of the CrossTimbers EMP Team members are:

- Dr. John Lamberton, EMP Team Leader, 918.382.9650
- Dustin Huff, Project Manager / StateSource, L.L.C., 918.607.1886

TRAINING

It is the policy of the CrossTimbers Resort and Golf Course that cultural resource training will be provided to all direct contractors of StateSource, L.L.C. and employees who carry out some or all of CrossTimbers' cultural resource compliance

responsibilities. The purpose of this training is to increase awareness and knowledge of CrossTimbers' cultural resource stewardship responsibilities. Completion of this training will be a requirement for all direct contractors and employees of StateSource, L.L.C

Upon completion of this training, participants will be able to:

- Recognize a potential cultural resource.
- Understand CrossTimbers' policy and procedures for identifying and protecting cultural resources.
- Locate and receive assistance from CrossTimbers EMP Team members.
- Document and safeguard potential cultural resource locations.
- Describe steps to be taken when cultural resources are encountered.

The CrossTimbers EMP Team, following guidance provided by USACOE cultural resource professionals, will provide Cultural Resource Training. The training will include cultural resource identification and proper provisions for handling inadvertent discoveries of cultural resources.

Contractors, Subcontractors, and Project Staff:

Please read the Inadvertent Discovery of Cultural Resources Plan and sign this statement:

I hereby certify that I have read the CrossTimbers Inadvertent Discovery Of Cultural Resources Plan. I have completed the Training Program for the Plan and completely understand my duties and responsibilities under this Plan while I am involved in the construction, operation, and maintenance of the CrossTimbers Project on Skiatook Lake.

Signed: _____

Company: _____

Date: _____

Part III

Aquatic & Terrestrial Mitigation Plan for the CrossTimbers Resort & Golf Course on Skiatook Lake

Introduction

Historically, the USACE (Corps) has created lakes for various uses including flood control, water supply, water quality, navigation, fish and wildlife management, power, and recreation. Although Skiatook Lake was created for several of the aforementioned uses, recreational use was a major component of the master plan for the Lake. Recreational development was contemplated through land use allocations assigned to Corps property when Skiatook Lake was created. These land use allocations are classified as wildlife management, recreation lands, recreation low density, recreation intensive, and project operations.

The CrossTimbers Development

The CrossTimbers Resort and Golf Course is located on approximately 700 acres of Corps property on Skiatook Lake. There are four land use allocations within the CrossTimbers leased property: recreation low-density, recreation lands, recreation intensive, and project operations. Under the land use allocation criteria detailed in the Skiatook Lake Master Plan, all of the CrossTimbers development meets the land use criteria except for the Marina and cabins slated for the leased property running north from the Tall Chief Cove area, through Tornado Cove, including the land on the point at the northwest entrance to the Cove, herein referred to as the "Tornado Cove Area". The Marina and cabins constitute a more intense recreation activity than is contemplated by the recreation low density land use allocated to the Tornado Cove Area. Thus, the proposed development in the CrossTimbers land plan exceeds the land use allocation for the Tornado Cove Area. The exceedance applies to approximately 40 land acres and 20 lake acres that comprise the anticipated footprint for the Marina. The exceedance for the Tornado Cove Area will be mitigated.

There is also an undefined difference between the recreational activities planned for Skiatook Point and the project operations land use allocated for approximately 75 acres of the leased premises on Skiatook Point. There may be an

interpretative exceedance between the recreational activities planned for Skiatook Point and the criteria for recreational activities contemplated by the project operation land use allocation. Although the exceedance is vague and may not actually exist, the CrossTimbers project stipulates that the exceedances, whether real or interpreted, will be mitigated.

Mitigation

Mitigation for the loss of wildlife habitat due to anticipated recreational development occurred at the time Skiatook Lake was created. Mitigation compensation was “banked” or “credited” in the form of land use criteria allocated on Corps property. Since most of the CrossTimbers development is designed within the criteria for land use on Corps property, mitigation compensation is achieved through banked mitigation credits. Additional mitigation compensation applies to instances in which proposed recreation activities exceed the land use allocations included in the Skiatook Lake Master Plan. The only exceedance in the CrossTimbers development from any land use allocation criteria in the leased premises occurs within the Tornado Cove Area and impacts approximately 60 acres of proposed development. Mitigation compensation will occur by exchanging 60 acres in the Tornado Cove Area with 60 acres reallocated to recreation low density use on a portion of Corps property allocated for recreation intensive use, i.e., Gouin Point, Twin Points, etc.

In order to abate any future confusion regarding the usage of approximately 75 acres of leased premises allocated for project operations on Skiatook Point, the project operations acreage will be added to the 60 acres in the Tornado Cove Area for which mitigation compensation will occur. At a mitigation ratio of one to one, approximately 135 acres impacted by land use exceedances in the CrossTimbers leased premises will be exchanged for 135 reallocated acres on another part of CORPS property on Skiatook Lake. Should more than 135 acres be reallocated as part of this mitigation compensation, each acre over 135 will be “banked” for any future mitigation compensation needs of the CrossTimbers development on Skiatook Lake.

The CrossTimbers Aquatic & Terrestrial Mitigation Plan will compensate for project impacts by replacing or providing substitute resources or environments in the following ways:

Terrestrial Mitigation

1. Reallocate a minimum of 135 acres with similar habitat value on Skiatook Lake from recreation intensive usage to recreation low intensity usage such as Gouin Point, Twin Points, etc.

Aquatic Mitigation - It is anticipated that there will be an increase in the aquatic habitat value of Tornado Cove through the following mitigation compensation measures:

1. Chain over timber in Tornado Cove to increase the area of lake bottom covered by timber.
2. Establish fish attractors that may include the following:
   - Christmas trees solicited from the Skiatook community on a voluntary basis for three years.
   - Oak trees and understory from project construction.
   - The structure of the Marina.

CrossTimbers EMP Best Management Practices

In addition to the in-kind mitigation compensation outlined earlier in this document, the best management practices and procedures outlined in the CrossTimbers Environmental Management Plan naturally promote continuous mitigation of developmental impacts through numerous out-of-kind mitigation alternatives. These alternatives may include designing the project to protect fish and wildlife resources and promoting public access to these resources; locating structures and infrastructure in the least environmentally damaging sites; and selectively clearing trees or other habitat manipulation. They may include seeding, fertilizing and treating areas as necessary to restore fish and wildlife resources; planting shrubs and trees and other vegetation to speed recovery; controlling polluted spoil areas; restocking fish and wildlife resources in repaired areas; and by returning areas within the lease to native conditions through management activities, which may include thinning of trees, controlled burn, etc. They may also include periodic monitoring of the development to assure continuous environmental stewardship and proper training of project personnel in the construction and operations of the facility to preserve fish and wildlife resources. They may further include environmental management planning and certification programs including but not limited to LEEDS, Fire Safety Programming, and Clean Marina designation.

Banked Mitigation

The CrossTimbers development intends to bank mitigation credits through the execution of its Environmental Management Plan for future project needs upon Corps approval. Banking of habitat value for the express purpose of compensation for unavoidable future losses will be considered to be an additional mitigation measure.

Project Number: 1

EMP Project Title: Ancient Timbers Mapping (Old Growth Tree Inventory).

Associated Environmental Aspect: Construction Activities.

Target/Goal: To map the Ancient Timbers (Old Growth Tree Inventory) on the leased property. The inventory will provide a guide for CrossTimbers land planning so that the final project footprint will minimally impact Old Growth trees in the leased area. The land planners will superimpose the Old Growth Tree Inventory maps over the proposed land plan such that project components, i.e., conference center, Marina, retail stores, restaurants, golf course, etc., will be located in those areas which minimally impact the Ancient Timbers to the extent practicable and feasible.

Scope: Entire Development.

Reference Documents: CrossTimbers Environmental Assessment and SEDA/StateSource Lease with USACOE.

Definitions: Old Growth Trees (Ancient Timbers): Although there appears to be little agreement on just how old an Ancient Timber should be to be classified as Ancient, the Ancient Cross Timbers Consortium describes the Ancient Cross Timbers forest type (Post Oak and Blackjack Oak) as a forest type that tends to dominate dry, rocky positions, and includes Post Oak trees 200 to 500-years old.

Primary Stakeholder Responsibilities:

- SEDA/StateSource – project review.
- USACOE – project review.
- CrossTimbers Environmental Management Team – conduct a phased Old Growth Tree inventory on the leased property prior to construction.

Procedure: See Appendix 1, Old Growth Tree Inventory, CrossTimbers Resort, (Phase I).

Time Frame: The Ancient Timbers Mapping will occur in three phases.

Phase I: Completed September – October, 2003.

Work Instructions

The work instructions were developed and agreed upon by the USACOE and the CrossTimbers EMP Development Team.

Date: 10.15.03 - 2nd Amendment to the Document submitted on 9.08.03.

To: Mr. Jim Harris

From: The CrossTimbers EMP Development Team
Mr. Blu Hulsey, SEDA
Mr. Dustin Huff, StateSource
Dr. John Lamberton, EMP Consultant and Team Leader
Mr. Jeff London, Professional Forester

We are pleased that we will begin officially mapping the Ancient Timbers as required in the SEDA lease. As a part of the information and language that will comprise sections of the CrossTimbers EMP, we are reconfirming the following work instructions upon which we agreed for the first three preliminary mapping exercises:

a. The Ancient Timbers mapping project begins the data collection phase of the first of four components required by the USACE in the CrossTimbers EMP. The CrossTimbers EMP component development process began on September 1, 2003 with a completion timetable of approximately December 1, 2003.

b. The mapping project will begin on Thursday, September 25, at 9:30 a.m. at the Corps office on Skiatook Lake. The procedures for the mapping project were jointly planned and agreed upon by the CrossTimbers EMP Development Team and the USACE after thoroughly vetting the work procedures outlined in this memo during three preliminary mapping exercises involving you, Greg Bersche, Dustin Huff, Jeff London, and Dr. John Lamberton.

c. The CrossTimbers Development Team consisting of Blu Hulsey, Jeff London, John Lamberton, and Dustin Huff, will survey candidate Ancient Timbers. Jeff London, a registered professional forester, will map candidate Ancient Timbers with a state-of-the-art GPS unit that will be used to collect the mapping data for the CrossTimbers EMP.

d. As an exercise of the policy approved by the USACE concerning the mutual cooperation necessarily inherent in the public/private relationship that forms the basis for the Demonstration Lake Project on Skiatook Lake, a USACE team of Jim Harris and Greg Bersche will review the Ancient Timber mapping exercise on a continuous basis during the exercise. Due to the continuous review process by the USACE team, a lease area will be considered adequately mapped at the end of each day by mutual agreement of the CrossTimbers EMP Development Team and the USACE team.

- Ancient Timbers will be defined as those Post Oak trees over 200 years old. Candidate Ancient Timber will be defined as those trees displaying characteristics that may qualify them to be Ancient Timber. Characteristics of candidate trees include but are not limited to diameter in relation to soil quality; nubs or scars from branch loss; and treetops that are gone or partially gone. Information including the nutrient conditions and the topography of the area immediately

surrounding a tree (such as the presence and quantity of sandstone or limestone rocks) will contribute to the determination that the tree is an Ancient Timber candidate. Candidate trees will be cored to determine which trees actually qualify as Ancient Timber at future times deemed appropriate and necessary by the mapping team.

e. No dead trees will be mapped.

f. The mapping project will begin in the campground area near the John Zink Ranch and will move northeastward in 100-foot increments unless the terrain dictates otherwise. The 100-foot measurement increments may be increased and/or decreased depending upon the terrain of the lease area.

g. The lease area on the southeast side of the lake that will contain the camping area, village, and the marina (Project Development Phase I) will be mapped first. Skiatook Point will not be mapped until such time that the development of that part of the lease area is more imminent.

h. Candidate Ancient Timbers will not be cored to determine their age until a conflict develops between the final CrossTimbers land plan and the actual location of candidate Ancient Timbers.

Phase II: Will begin December 2003 and completed during the subsequent 180-day period.

a. Initial Schedule: 9 a.m. Thursday, December 18, 2003, and 9 a.m. Friday, December 19, 2003

b. Meet at the Skiatook Lake Corps office.

c. Greg Bersche, Jeff London, and John Lamberton will map on Thursday. Jim Harris, Dustin Huff, Jeff London, and John Lamberton will map on Friday. Blu Hulsey will join the team as his schedule allows.

d. The leased area south of Tall Chief Cove Road will be mapped. Jeff London estimates that the Phase II map area is slightly over 100 acres in size. He has also estimated that at 200 ft. transit widths, it will require 15 to 16 transits to complete Phase II. His estimate to complete Phase II is two full days of mapping.

Phase III: Initiated and completed during 2004.

Expenses: $25,000.

Environmental Benefit: The environmental benefit will be the preservation of the Ancient Timber natural resources on leased property.

Project Number: 3

EMP Project Title: Aquatic and Terrestrial Mitigation Plan

Associated Environmental Aspect: Construction

Target/Goal: Mitigate for the aquatic and terrestrial footprint of the CrossTimbers project on the acres that exceed the existing land use allocations.

Process:

Terrestrial Mitigation

Terrestrial mitigation will occur by compensating for 135 acres of the CrossTimbers development that exceeds the land use allocations for the leased property on Skiatook Lake. The compensation transaction will involve reallocating a minimum of 135 acres with similar habitat value on Skiatook Lake from recreation intensive usage to recreation low intensity usage such as Gouin Point, Twin Points, etc.

Aquatic Mitigation

The aquatic habitat of Tornado Cove will increase in value by utilizing the following mitigation compensation measures:

- Chaining over timber in Tornado Cove to increase the area of lake bottom covered by timber.
- Establishing a minimum of two fish attractors that may include the following: Christmas trees solicited from the Skiatook community on a voluntary basis for three years; and Oak trees and understory from project construction.
- Utilizing the structure of the Marina to provide additional aquatic habitat.

Expenses: $10,000

Environmental Benefit: Compensate for the aquatic and terrestrial footprint of the CrossTimbers project on the acres that exceed the existing land use allocations.