



MOZINGO LAKE
RECREATION PARK



Mozingo Lake Recreation Park **Master Plan 2014**

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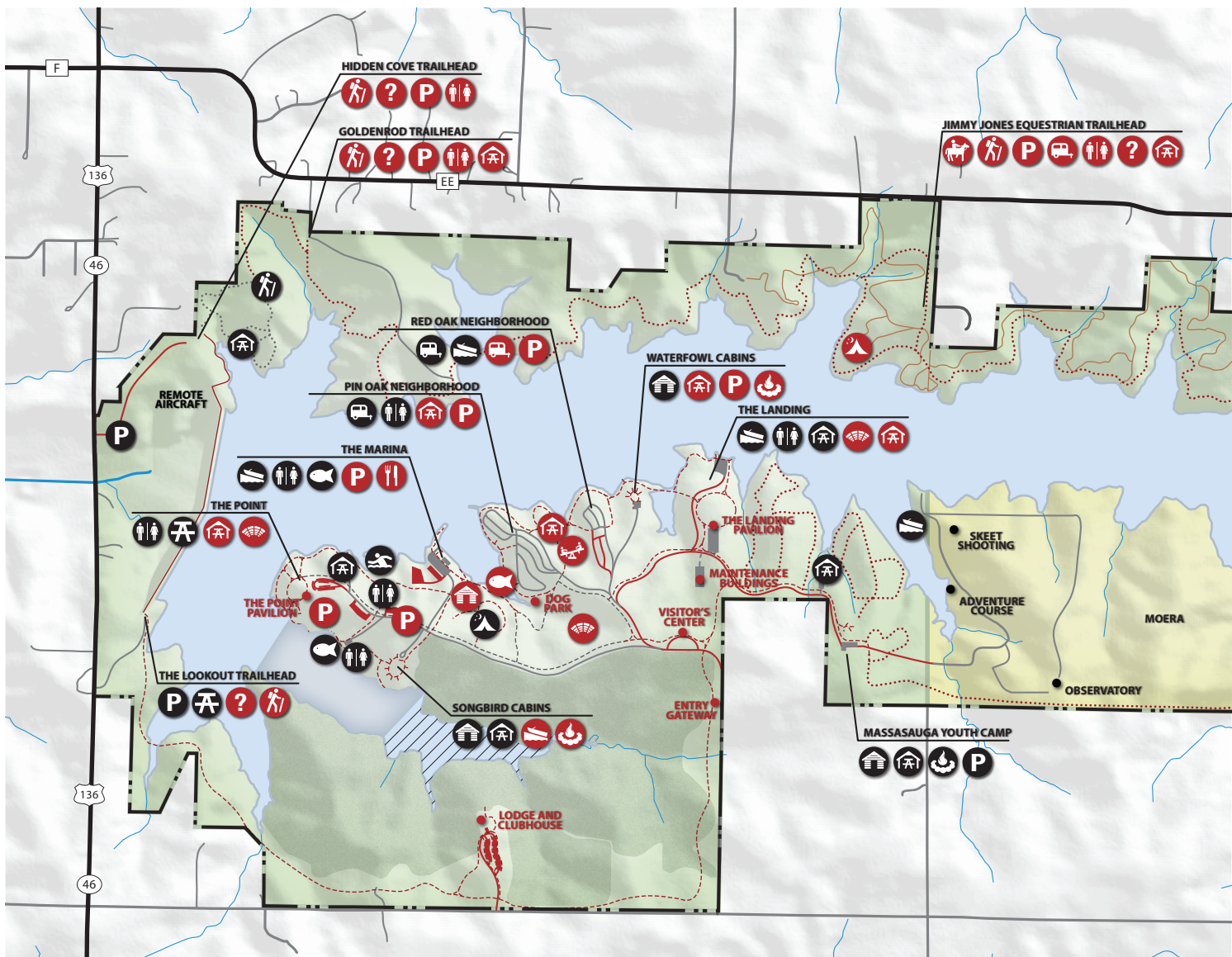
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Executive Summary

EXECUTIVE SUMMARY

The Mozingo Lake Recreation Park Master Plan provides a clear development strategy for the 3,000-acre park. The six month planning process began in the Spring of 2014 and has involved several boards, groups, and committees coming together through public workshops, working sessions, and ongoing meetings.

Mozingo Lake Recreation Park is a relatively new concept, with its formation only coming in the past twenty years. Thanks to a group of concerned citizens and the City management, the land that would become Mozingo Lake Recreation Park was purchased in the 1980's and 1990's. The Mozingo Dam, which was finished in the fall of 1994, rapidly brought forth Mozingo Lake, thanks to unexpected rains that flooded the area. While one of the principal reasons for building the dam was to provide a new water source for the citizens in and around Maryville, the 1,000-acre lake that was formed is now one of the preeminent recreation destinations in the region.

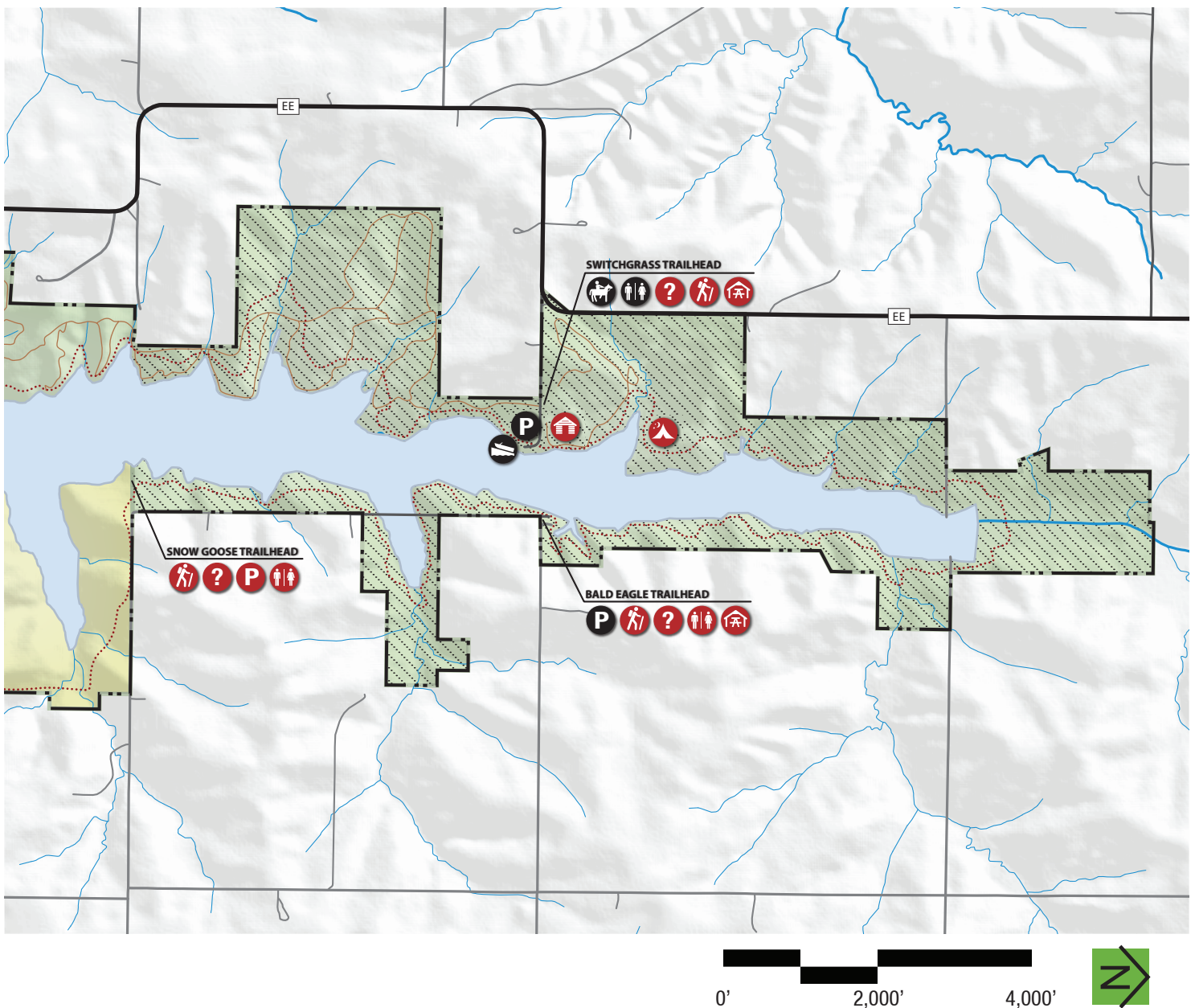


Mozingo Lake Recreation Park: Improvement Diagram - For more information see Chapter 4: Evaluation of Needs

During the fall and winter of 2013, the City of Maryville and Mozingo Advisory Board identified a need for an updated park master plan. The only previous master plan was completed in 1995 and was largely implemented as prescribed. As the popularity and use of Mozingo was on the rise, a new master plan was needed to chart the course of park development for the next twenty years.

Several improvements are recommended in the master plan. The most significant improvements come in the form of new structures – principally a new visitor’s center/administration building and park lodge. The Visitor’s Center will transform how the park is run on an organizational level. The Mozingo Lodge will offer new lodging accommodations and provide much needed rental space for events. New iconic park structures are proposed to help bring a visual identity to the park while new roads will connect the park as a whole, not as separate park parcels.

The result is an aggressive and bold vision for Mozingo; one that will undoubtedly be instituted in a similar aggressive and bold fashion by the City of Maryville and her citizens.



Ch 1: Introduction

PURPOSE

The Mozingo Lake Recreation Park Master Plan provides a clear development plan for Mozingo Lake Recreation Park, including the best uses of the park and strategies for managing the park's natural and human resources. The Mozingo Lake Recreation Park Master Plan serves as a general guide for appropriate future park uses and their approximate location and adjacency within the park. The Plan will provide a long-range vision (10-20 year time frame) for future development and programming. The Plan is conceptual in nature and is not intended to address detailed issues related to site planning, facility designs, park operations, or facility/amenity names. Each of the projects identified will require additional design, planning, and policy decisions.

PROCESS

The Mozingo Lake Recreation Park Master Plan process was initiated in March of 2014. An initial kick-off meeting in Maryville set the course of the master plan project. In April, two days of stakeholder meetings were held in Maryville to discuss goals and aspirations for the park and to assess the resources that the park holds. The stakeholder groups included the Mozingo Advisory Board, local economic development groups, park users, park staff, and Northwest Missouri State University representatives. Some of the most important comments to come out of those meetings were that the Park was a valued resource to the community, yet only a handful of people knew all the resources and amenities that the park had to offer.

After the stakeholder meetings, a three-day charette was held in May of 2014 to immerse the Design Team and key stakeholders in the park. The first day of the charette entailed a day-long site visit where all aspects of the park were explored to identify what was working in the park and what needed improving. The second day was spent developing ideas and concepts for how the park could work as a whole. The third day brought those ideas together into an afternoon open house where ideas could be suggested and critiqued. The end result of the charette was a clear and precise course of action that came from the community.

After the charette, several internal meetings were held between key park staff and the Design Team to further refine the course the park should take. This Master Plan is the result of all of that work.





GOALS

Preliminary goals were identified to guide the planning process. These goals were based on concerns and opportunities identified by the Mozingo Park stakeholders, Advisory Board, and staff. The goals can be summarized as:

- Chart a course for a world-class park that will be the envy of the surrounding region
- Simplify the organizational structure of the park
- Provide a clear public vision of the park
- Improve the quality of the existing amenities
- Incorporate a new lodge into the existing park fabric
- Accommodate the park's diverse user groups and improve all of their experiences
- Protect the lake as a drinking water source for the City of Maryville and Nodaway County



Ch 2: Park Overview

HISTORY

Mozingo Lake Recreation Park was initially created with the goal of being both a flood control structure for Mazingo Creek and a new water source for Maryville and the surrounding areas. The land around the new body of water was initially chartered to be a state park that would be managed by the Missouri Recreation Department (now Missouri Department of Natural Resources).

Starting in 1982, the City began the first steps to creating the park by drafting a seven year mitigation plan to revegetate the Mazingo Lake basin with the Soil and Water Conservation Service. The mitigation plan charted the course for what was then deemed the Mazingo Creek Watershed Project. Property acquisition began in 1988, after the limits of the new body of water were established. However, in January of 1989, the Missouri Recreation Department decided to withdraw their support for the project. At that point, the City decided to go forward with the park plan as scheduled and manage the park on their own. In May of 1989, what amounted to the first recreation master plan was created that laid out the initial goals for the future park.

Property acquisition continued until 1992. During that time, portions of the park site were cleared in preparation for the new dam and body of water. In the spring of 1993, the first phase of dam construction began by the Soil and Water Conservation Service. The 77 foot high, 2,750 foot long dam was completed in the fall of 1994. At the time of completion, it was expected to take two to three years to fully fill the lake, though a series of heavy rainstorms in the spring of 1995 filled most of Mazingo Lake years ahead of schedule.

In 1993, while the dam was being built, the 18-hole Mazingo Lake Golf Course was being designed. The plan for the golf course was completed by the team of landscape architects Oschner Hare & Hare and golf course designers Sechrest Golf, both of Kansas City, Missouri. The golf course plan included the first detailed plan of what is now the core portion of the park. The Mazingo Lake Golf Course finished construction in the spring of 1994, before the dam was completed or the lake full of water.

In August of 1995, the second master plan was created for the park – this time based on the actuality of the park and its unique landscape. In the time since the last master plan was created, the City staff have implemented most of the plan's recommendations.

CULTURAL RESOURCES

Mazingo Lake is roughly four miles long yet has over 25 miles of shoreline. This abundance of "edge" leads to numerous ecosystems and microclimates. Anecdotal evidence points to thousands of waterfowl using the lake in the winter time, while the summers bring thousands of boaters on the same body of water. The mitigation plan that was developed and installed has created a series of ecotypes around the lake, ranging from tall grass prairie to managed forests. Combined, the 3,000 acre park offers a broad range of natural resources that beg to be explored.





RECREATIONAL AMENITIES

The recreational amenities Mozingo Lake Recreation Park offers are above and beyond almost all other parks in the area, let alone the fact that it is a City park. The lake offers recreational boating, waterskiing, sailing, fishing, and hunting opportunities. The sheer quantity of different coves and fingers throughout the lake make it one of the best fishing lakes in the state of Missouri. In fact, the lake was named as one of the top 100 best bass fishing lakes by Bassmaster Magazine in 2014.

Off of the water, park visitors have several options for recreation. The Mozingo Lake Golf Course is known as one of the best and most challenging courses in the region. The main core of the park also offers a beach for swimming and sunbathing, three playgrounds, dozens of open air shelters, and a couple miles of paved walking trails. Around the rest of the site, several miles of hiking and equestrian trails are available to the public – primarily on the west side of the lake.

In terms of overnight accommodations, the park offers two RV parks which are routinely filled to capacity throughout the summer months. Tent camping is available, as are seven “luxury” cabins all on lake-front property.

Mozingo also offers a lot in terms of outdoor education. A high quality youth camp is already built that offers cabins for lodging as well as a fully heated and cooled multi-purpose room. Next door to the Youth Camp is home to the Mozingo Outdoor Education and Recreation Area (MOERA). The 320-acre parcel of land is leased and run by Northwest Missouri State University and offers a challenge/climbing course, archery grounds, trap shooting, an observatory, boat launch, and outdoor classroom.



Ch 3: Public Involvement

PUBLIC INVOLVEMENT

Mozingo Lake Recreation Park is a very large site which is valued by a wide variety of users. Collecting and understanding the wishes and views of all users was mandatory to ensure that the park would move forward in the right way. The following summarizes the public involvement activities that made this master plan a success.

STAKEHOLDER MEETINGS

Stakeholder input and involvement in developing the Mazingo Lake Recreation Park Master Plan was an essential and important aspect of the master plan process. The Design Team aimed to meet with the representatives of as many users as possible to better understand how each group uses the site and how they envisioned the park moving forward. In the end, the stakeholder representatives were selected by the City of Maryville staff and then placed into one of five groups: the Mazingo Advisory Board, economic development stakeholders, park users, park maintenance staff, and Northwest Missouri State University representatives.

Each group met with the Design Team in April of 2014 to have a discussion about their likes, dislikes, and wishes for the future of the park. The stakeholder representatives led the discussion during the stakeholder meetings while the Design Team listened and took notes. The Design Team then categorized and cataloged the stakeholder representative recommendations, identifying areas where their wishes overlapped and where their wishes contradicted each other. The full notes of these meetings can be reviewed in the Appendix of this document.

THREE-DAY CHARETTE

The next step in the process was to immerse the Design Team into the site to understand how the park has been developed and utilized. Over three days in May of 2014, the Team held a design charette which included as many stakeholders, Advisory Board members, and City staff as possible. The first day of the charette was spent understanding the site. The Team was driven through all areas of the park by park maintenance and security staff that were familiar with how various users use and sometimes abuse the site.



After understanding and viewing the site, the Design Team spent two days developing a draft diagram. The ideas gathered from the stakeholder meetings were cataloged into program improvement cards which could be moved around to identify the best placement on the site. Periodically, staff from the City of Maryville and Mozingo Park would stop by to view progress and answer questions.

OPEN HOUSE

On the third day of the charette, the Design Team and City of Maryville hosted an open house at the Mozingo Lake Golf Course clubhouse to share the preliminary conceptual design of the park master plan. Around forty people came to review the plans and share their thoughts on the process, many of which added needed information that tweaked the overall direction of the master plan. At the end of the meeting, the Design Team had the information and direction needed to develop the final direction for the 2014 park master plan.



Ch 4: Evaluation of Needs

EVALUATION OF CURRENT AND FUTURE PARK NEEDS

The process of identifying the current and future needs of Mozingo Lake Recreation Park involved a synthesis of the information received throughout the master planning process. This information was gathered through stakeholder meetings, input through City and Park staff, natural resource assessments, and previous master plans and documents obtained by the consultants. The needs of the park can be organized into eight categories:

Land Uses

- Break down barriers between different park use zones to create one cohesive park

Natural Resources

- Improve water quality in Mozingo Lake
- Stabilize shoreline of Mozingo Lake to improve water quality and protect habitat
- Reduce the quantity of managed turf grass in favor of native plantings
- Protect and enhance wildlife habitat to ensure robust hunting opportunities
- Improve health of existing native ecosystems
- Expand native ecosystems into more of the site

Vehicular Circulations

- Connect primary core of park to Youth Camp & MOERA with new roadways
- Limit vehicular circulation in certain areas to promote pedestrian-only exploration
- Provide additional parking at RV campgrounds
- Simplify park entrance experience by changing road alignment at the front entry
- Provide safe turning opportunities on US-46 on both park entries

Trail Circulation

- Expand trail network to encompass the lake
- Develop zones of use to identify trail surface material
- Create a series of trail loops to accommodate a wide range of users
- Provide accessible walkways around the primary core of the site

Wayfinding

- Increase wayfinding on park loop road to clarify access points
- Increase internal vehicular wayfinding signage through road and destination signage
- Name locations around the site to increase wayfinding
- Increase pedestrian wayfinding signage to encourage site exploration

Recreation Facilities

- Expand RV campground
- Identify locations for festival bowl, marina, and new playgrounds
- Identify locations for expanded cabin facilities
- Improve existing beach facilities
- Improve amenities for fishing tournaments
- Identify location for new golf course clubhouse and cart storage

Public Facilities

- Identify locations for two pavilions and a lodge
- Identify improvements to increase use of existing public buildings
- Identify locations for storm shelters

Administration Facilities

- Relocate maintenance facilities to an area with less public value
- Develop new park administration facility to centralize all park management agencies

LEGEND

 MOZINGO LAKE	 U.S. HIGHWAY	 INFORMATION KIOSK	 FISHING DOCK
 STREAMS	 STATE HIGHWAY	 BUILDING	 BOAT ACCESS / RAMP
 MOZINGO LAKE RECREATIONAL PARK	 COUNTY ROAD	 CABINS	 PLAYGROUND
 PARK AREA	 PARK ROAD	 RV CAMPING	 CAMPFIRE
 MOERA	 PAVED TRAIL	 TENT CAMPING	 DINING FACILITY
 MOZINGO LAKE GOLF COURSE	 UNPAVED TRAIL	 PICNIC SHELTER	 AMPHITHEATER
 SWIMMING AREA / BOATS OFF ZONE	 EQUESTRIAN TRAILHEAD	 PICNIC TABLES	 BLACK SYMBOLS ARE EXISTING
 NO SWIMMING OR BOATING ZONE	 HIKING TRAILHEAD	 RESTROOMS	 RED SYMBOLS ARE PROPOSED
 PROPOSED HUNTING AREA	 PARKING	 SWIMMING AREA	

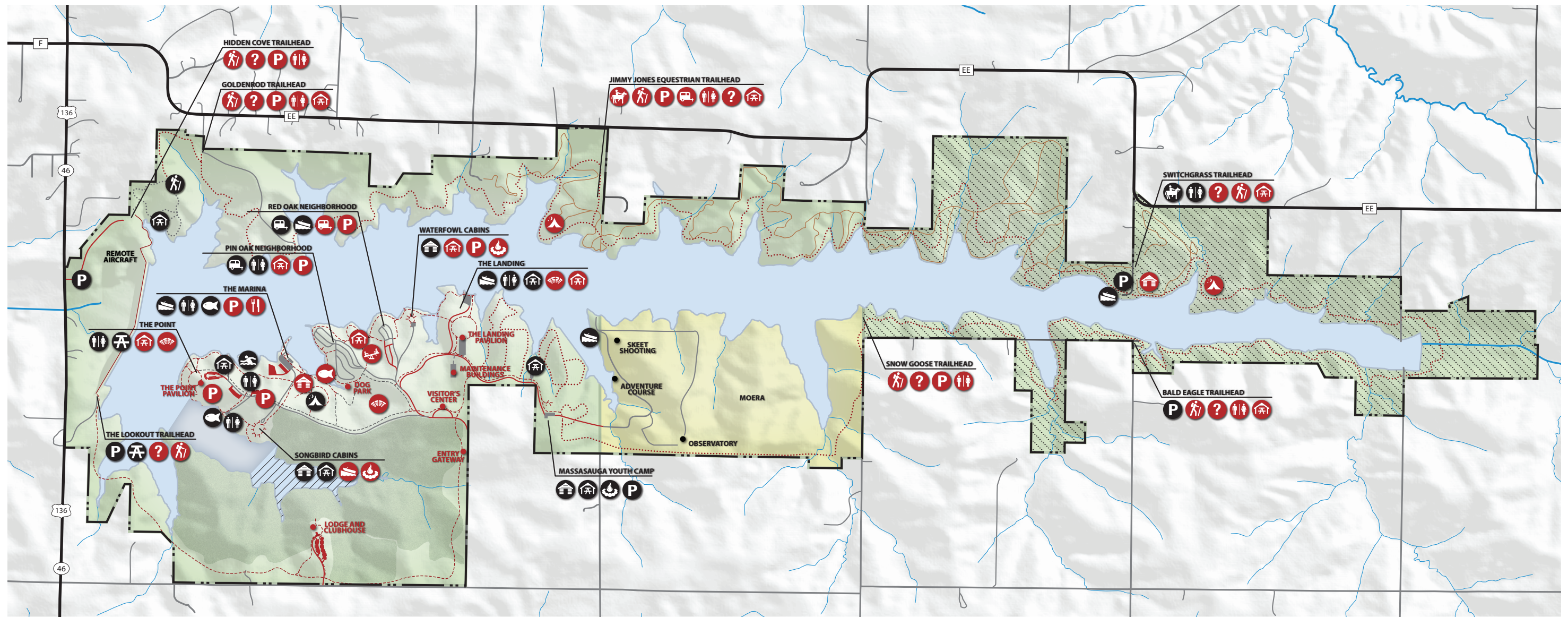
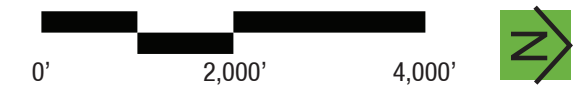


Figure 4.1: Mazingo Lake Recreation Park Improvement Diagram



Ch 5: General Recommendations

GENERAL RECOMMENDATIONS

This chapter addresses broad improvements that often span the entire scope of the park. These recommendations look at how the park functions as a whole, rather than how the individual park elements can be relocated or improved. Additionally, this chapter addresses park management and policy improvements that will ensure the park runs efficiently and progressively into the future.



GENERAL LANDSCAPE IMPROVEMENTS

Mozingo Lake Recreation Park is full of stunning views and intimate coves, all of which are framed within informal reminders of the site's agrarian past. Tree lines, hedge rows, and county roads crisscross the site with a regularity that is only broken by the wild Mozingo Lake. This unique collection of landforms will be respected in the future to ensure that the blend of agricultural past and recreation present are maintained.

As each area of the park is developed, special attention must be paid to the increased planting of trees to help create spaces, frame views, and provide additional shade. While trees are recommended to be native, a broad range of tree species is recommended in order to ensure long term success against potential unforeseen diseases and insects.

Over time, all hayed lands that are being rented by neighboring farmers should be transformed into native areas. While these lands are currently generating revenue that is benefiting park finances, their use as a monoculture for agricultural purposes means increased soil erosion and chemical use that may be detrimental to the quality of the water in Mozingo Lake. Further, transforming these agricultural lands to native tall grass prairie and savanna stands will visually tie the park together, reinforcing the boundaries of the park as a whole.

Unprogrammed park areas, even within the core of the park, will be restored to a native savanna ecotype as well. This will increase the biodiversity of the site, will add unique natural beauty, and will reduce the number of acres that need routine turf maintenance. In higher use areas where turf grass is necessary, native trees will continue to be placed to increase the amount of shade and slow down the winds that are coming off of the lake.



ORNAMENTAL PLANTINGS

Ornamental shrub and perennial plant beds will be limited to areas which work as a “front yard” to the park: entry gateway monuments, visitor’s center entrance, pavilion entrances, and key directional signage throughout the park. This will keep the focus on the natural beauty of the site and ensure that the park maintenance staff is not overburdened.

LANDSCAPE BUFFERS

Vegetated landscape buffers will be planted in areas that are incongruous to the aesthetic goal of the park. These areas include space around park maintenance facilities, aesthetically displeasing adjacent land uses, and in areas prone to high winds in the summer and winter.













MOZINGO LAKE & WATERSHED MANAGEMENT

Mozingo Lake will continue to be managed to promote world-class fishing and recreation opportunities, while ensuring that high water quality standards are met. To accomplish this, it is recommended the City of Maryville hire a design consultant to create a watershed management plan that will ensure the future quality of Mozingo Lake, both as a destination for the park and as a source of drinking water. The watershed management plan will pay special attention to stormwater that enters the watershed and runs into the lake. This water is largely treatable, which would mean that most pollutants could be removed from the water before it enters the lake. The plan will focus on one and two year storm events, which convey the bulk of the pollutants via stormwater. The management plan will also ensure that all new development receives appropriate BMP’s to treat the stormwater resulting from a two-year storm event. Other stormwater BMP’s will be retrofitted into previously developed areas.

To aid in this discussion, the map to the right has been developed to identify key areas where watershed improvements may take place. The dark blue areas, noted as conservation easement zones are areas where future projects may be undertaken to improve the quality of water in the park. These areas are also pieces of land that may be acquired by the park in order to make key improvements to the park property. These acquisitions are not mandatory and should only be addressed if the land comes up for sale.



LEGEND

- | | |
|--|---|
|  MOZINGO LAKE |  CONSERVATION EASEMENT ZONES |
|  STREAMS |  WATERSHED BOUNDARY |
|  MOZINGO LAKE RECREATIONAL PARK |  U.S. HIGHWAY |
|  PARK AREA |  STATE HIGHWAY |
|  PRAIRIE RESTORATION ZONES |  COUNTY ROAD |
|  WOODLANDS |  PARK ROAD |

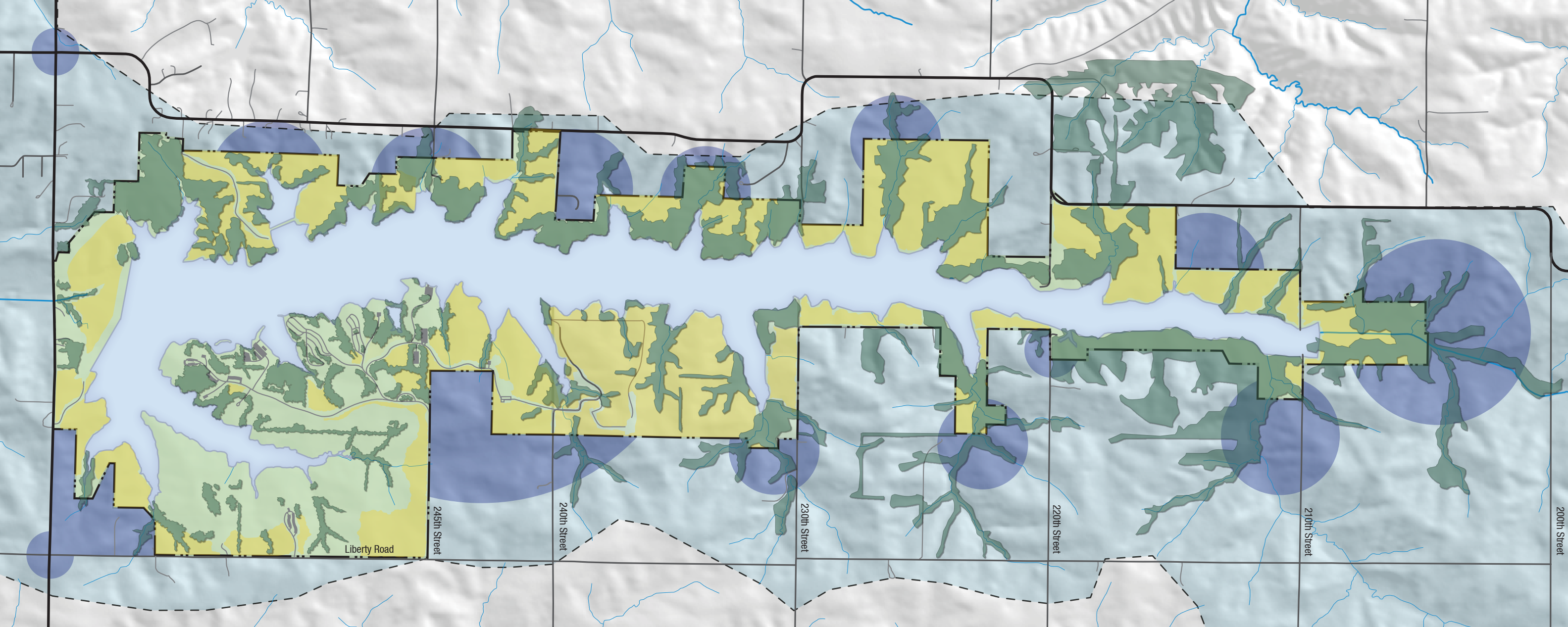


Figure 5.1: Mozingo Lake Recreation Park Watershed Management Plan

DESIGN GUIDELINES

Moving forward, Mozingo Lake Recreation Park will develop design guidelines to ensure that all new park components carry a consistent and beautiful architectural aesthetic. This document will ensure that everything from the lodge architecture down to the shelters, site furniture, and signage all share the same theme and vision, tying the park together as a whole. The design guidelines should allow for changes to the visual theme, based on the zone and use of the park. To accomplish this task, it is recommended the City of Maryville hire a design consultant to create a document that prescribes the form, scale, materials, and design vocabulary of all future design projects.

Needed Design Guidelines:

- Architectural structures: Visitor’s Center, pavilions, Mozingo Lodge, Clubhouse, cabins
- Park structures: gazebos, shelters, restrooms
- Sign Packages: gateway markers, regulatory signs, road signs, building signs, kiosks, interpretive signs, directional signs, site and trail maps
- Site furniture: benches, litter and recycling receptacles, tables, chairs, grills, fire pits
- Surfacing: paved trails, aggregate trails, parking lots
- Landscape plantings

The Park is encouraged to continue efforts in finding a developer for the Lodge. This amenity will bring a series of broad new amenities to the park that will benefit the both park and City of Maryville. While this document suggests a location for the Lodge, the developer should be given the latitude to properly site their facility.

ART INTEGRATION

It is imperative that a world-class destination park such as Mozingo include world-class art integration to elevate the experience of its users and interpret the landscape in unexpected ways. Therefore, all future structures, including entry signs, shelters, and buildings, will include art integration. This art integration will come in many forms and will utilize both local and regional artists.



SITE ACCESS IMPROVEMENTS

One of the most frequent comments received by the Design Team throughout the information gathering process regarded the need for improved site access and wayfinding. These recommendations chart general growth standards for improved site access across the park for a wide array of park users.

For the purposes of this master plan, the site has been divided into three zones based on the expected level of use. The Primary Use Area is the core of the park, where the most activity is located. This area will receive the most improvements and will require the most maintenance. Trails in this area will be paved and handicap accessible. The boundaries of the Primary Use Area are the Lookout Trailhead on the south and the valley south of The Landing on the north end.

Outside this area is the Secondary Use Area; it will receive fewer users, but may see regular walkers, runners, and cyclists. This use area also includes all of MOERA, which has the potential to accommodate a large numbers of visitors in the future. Most trails in this use area will be paved with limestone screenings in order to provide a stable but lower maintenance trail experience. This area is bounded in the southwest corner of the site in the valley south of the Goldenrod Trailhead and on the north at the Snow Goose Trailhead.

The rest of the park is designated as the Tertiary Use Area. Most trails in this area will be mown to keep maintenance to a minimum and keep the experience as natural as possible. This use are includes all of the public hunting ground and equestrian trails.

ROADS AND ROAD NETWORKS

A road hierarchy is needed to help with wayfinding throughout the site. While this will start with naming the roads (see the Wayfinding section in this chapter), delineating primary and secondary roads will remind people the best and easiest way to get around the site.

The Mozingo Loop Road is a new wayfinding network that uses the existing county roads and highways to create a continuous access loop around the park. Over time, this loop road will be upgraded to a fully paved roadway. This small change will reinforce the idea of consistent park access. The paved Mozingo Loop Road will follow county paved road standards.

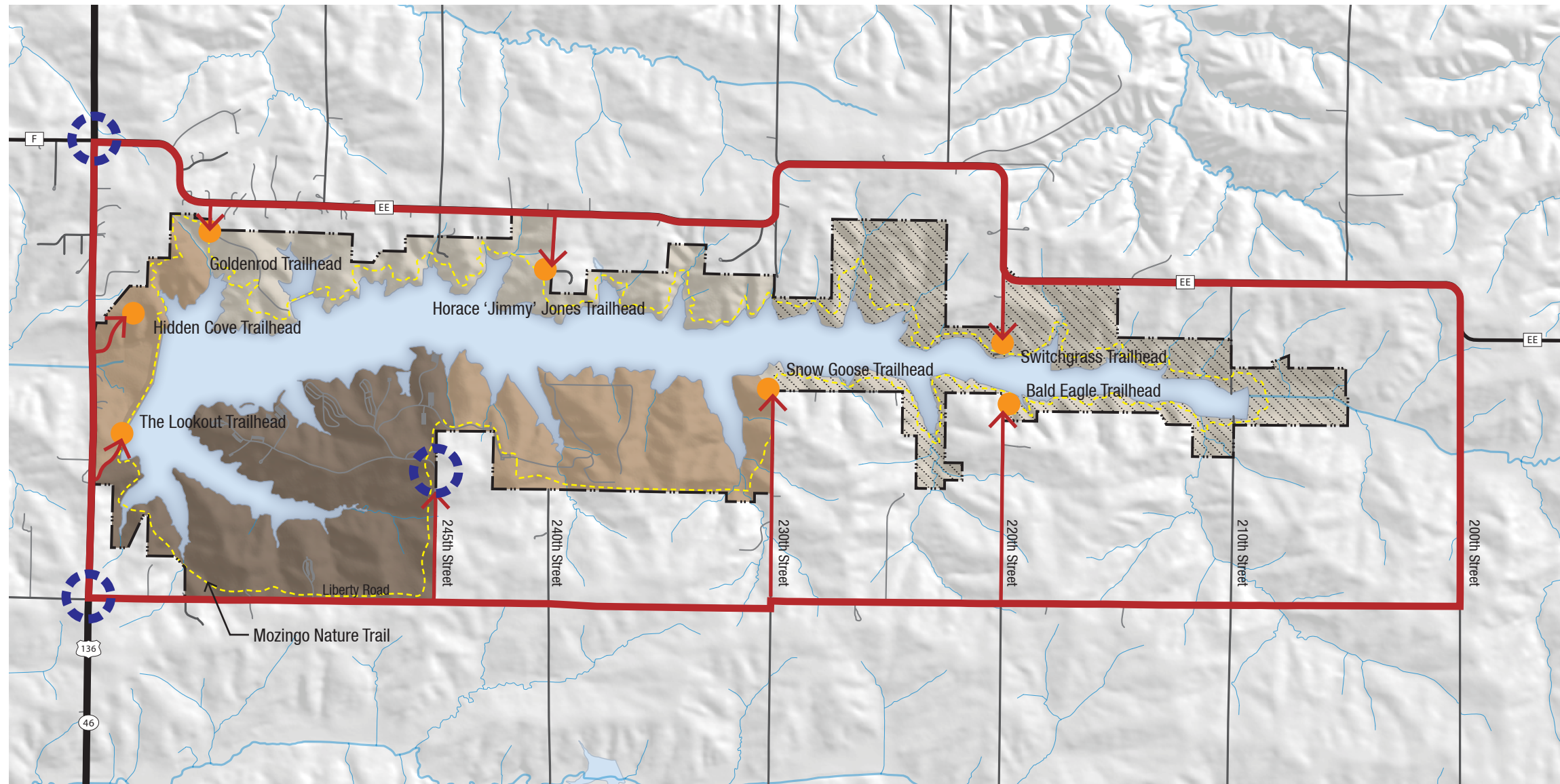
Access roads are the existing county roads that connect people from the Mozingo Loop Road to the various trailheads around the site. Most of these access roads are paved with gravel now, which should be maintained in the future. By keeping most access roads as gravel, it reinforces the idea that the visitor is visiting a place “off the beaten path.”

Primary roads are arterial park roads that connect people to key areas in the primary core of the park. These roadways will be made out of hot mixed asphalt and will be a minimum of twenty-four feet wide. A center line will be painted to help reduce road speeds. Pedestrian crossings and stop bars will be painted to encourage safe pedestrian travel.

Secondary roads are roadways that lead drivers from the arterial road to the individual program uses and parking lots. These roadways will be made out of hot mixed asphalt and will be a minimum of twenty-four feet wide to accommodate two-way vehicular traffic. Secondary roadways will not have shoulder striping to encourage shared road use between vehicles and cyclists. Secondary roads will not have a painted center line. All pedestrian crossings and stop bars will be painted.

All roads will be reconfigured at intersections to ensure that drivers are only met with two direction choices at any given time. Currently, there are a number of intersections that are so close as to make wayfinding a challenge. By ensuring that drivers have a simple “A or B” choice at each intersection, wayfinding will be much easier around the site.

It is recommended that all new parking lots in the primary core of Mozingo Lake Recreation Park will be made out of concrete. This material choice is lighter in color and will therefore retain less heat during hot sunny days, leading to less plant maintenance around the parking lot and cooler vehicle temperatures. Parking lots in all other areas of the site will be graveled to reduce maintenance.



- LEGEND**
- MOZINGO LAKE
 - STREAMS
 - MOZINGO LAKE RECREATIONAL PARK
 - PRIMARY USE AREA
 - SECONDARY USE AREA
 - TERTIARY USE AREA
 - MOZINGO NATURE TRAIL
 - PROPOSED HUNTING AREA
 - U.S. HIGHWAY
 - STATE HIGHWAY
 - COUNTY ROAD
 - PARK ROAD
 - MOZINGO LOOP ROAD
 - MOZINGO TRAILHEAD
 - PARK GATEWAY MONUMENTS

Figure 5.2: Mozingo Lake Recreation Park Overall Circulation Plan



Existing Mozingo sign on US Highway 136



Intersection of State Highway EE and US Highway 136



Intersection of Liberty Road and US Highway 136



Typical existing street signs along Mozingo Loop Road

WALKING AND HIKING TRAILS

Similar to the hierarchy of roads, the trail network has a hierarchy as well to subtly indicate where you are on the site and how you can easily get around the site.

In the Primary Use Area (see Figure 5.2), all walkways will be paved concrete. These trails, all eight-to-ten feet wide, will offer numerous loops for users to take. Trails will only cross roads where necessary to allow for safe access to users of all ages. All trail and roadway intersections will have clear painted crosswalk striping and warning signage for both vehicles and pedestrians.

In the Secondary Use Area, the trail networks will transform to a limestone aggregate trail material. These trails will be six-to-eight feet wide with three foot mown shoulders to accommodate emergency vehicles. See the accompanying map to see the proposed limits of the limestone aggregate walking trails.

All other trails around the site – including both pedestrian and equestrian trails – will be mown pathways or simply just worn hiking trails. The trail width and level of maintenance will vary based on where the trail is located and its level of use.



MOZINGO NATURE TRAIL

There will be one primary signed Mozingo Nature Trail that efficiently loops the full site (see Figure 5.2). This trail, even in the “wild” areas on the north and west side of the site, will be mown and pruned to ensure that emergency and security all-terrain vehicles can access the full trail. The Mozingo Trail will also have mile markers for users to reference when there is an emergency. All pedestrian bridges will be a minimum of six feet wide to accommodate these vehicles.

TRAILHEADS

In specific areas around the site, new trailheads will be created to provide easy access to the lake and trail network. Each trailhead has a unique and specific name to distinguish it from others. At a minimum, each trailhead will include vehicular parking for six cars, access to the looping Mozingo Trail, interpretive and directional signage, and a restroom option. For most areas, these restrooms need only be a portable restroom in an enclosure to protect it from damage.

Two trailheads are designated as equestrian trailheads in order to provide a start and end point for equestrian riders. These trailheads will be designed with parking areas large enough to accommodate trucks with horse trailers – typically fifty feet in length. These trailheads will also have a small cul-de-sac so the truck/trailer can turn around without backing into traffic.



WAYFINDING

Wayfinding was identified as one of the items that is most in need of improvement at Mozingo. Current park users are met with a wide variety of sign shapes and materials which only confuse the intent and direction of the site. To remedy this, Mozingo Lake Recreation Park will develop and adopt a Wayfinding and Signage Master Plan. As a partner to this document, the Wayfinding and Signage Master Plan will prescribe the design, materials, and colors of all new park signage including directional, destination, information, and interpretive signs.

Vehicular wayfinding will start with a clear and concise Mozingo Loop Road signage that clarifies access to the park. New Loop Road signs attached to existing sign posts on Highway EE, Liberty Road, and 200th Street. Where each of these roads meets Highway 136, a new gateway monument will call out the location of Mozingo Lake Recreation Park. These gateways will include iconic vertical signage elements which match the scale and size of Mozingo as a whole.

On the Mozingo Loop Road, new signage will be added to direct users to the various trailheads and destinations around the site. These new signs will utilize the new Mozingo Park logo and will match the materials of the existing road signs to ensure longevity and road safety.

Further, new signage will be incorporated throughout the City of Maryville to direct users from downtown Maryville to Mozingo Lake Recreation Park. This new signage will be added to existing sign posts.

In the park itself, vehicular wayfinding will consist of new direction and destination signs that inform drivers where they are in the park and how to find the next amenity. These signs will follow MUTCD standards for sign clarity and ease of reading.

Pedestrian wayfinding signs will be added along the various trail networks to successfully get walkers, hikers, and cyclists to the various park destinations. These signs will include pedestrian-scaled directional signage, mileage markers, map and information kiosks, and interpretive signage pointing out key cultural and historical moments across the site.



Existing Mozingo Lake Recreation Park Sign



Recommended aesthetic designs for gateway and pedestrian directional signage



MARKETING RECOMMENDATIONS

A full-time marketing person will be hired to promote the park and keep up its visibility on social media sites. This marketing person should pay special attention toward ensuring that the various park amenities are well publicized toward their target audience. For example, the Youth Camp should be marketed directly at regional Boy and Girl Scout troops for local and regional camping programs. See the Ballard King & Associates Market Assessment in the Appendix for more recommendations on marketing strategies.

WEBSITE & ONLINE PRESENCE

While there have been significant strides made towards increasing the marketing of Mozingo Lake Recreation Park, additional efforts are needed to make the park successful.

First, continued effort needs to be aimed at developing a consistent online presence. Currently, there are still two websites: www.mozingolake.com and www.mozingolakemo.com which provide information about the park. The second website is run and maintained primarily for its ad revenue by a person not associated with the park. That website domain should be purchased immediately to ensure only one online access point for the park.

All of Mozingo Lake Recreation Park will have online reservation capabilities by 2016. This includes all rentable facilities and equipment including but not limited to: RV campsites, tent campsites, cabins, shelters, pavilions, lodge rooms, restaurant reservations, boats, and tee times. It is recommended the City invest in having the Website professionally designed and having a reservation system implemented or custom designed for Mozingo Lake Recreation Park.

The screenshot shows the homepage of the Mozingo Lake Recreation Park website. At the top, there is a navigation bar with links for HOME, GOLF, CABINS, RV & CAMPING, MOERA, RECREATION, INFO & MAP, YOUTH CAMP, and STORE. A search bar and a 'Recommend' button are also visible. The main header features the Mozingo Lake Recreation Park logo and a large image of a marshmallow being roasted over a campfire. Below the header, the text reads 'Change your outlook' and 'Youth camp amenities available at Mozingo!'. The main content area is divided into several sections: 'Welcome to the Official Website of Mozingo Lake Recreation Park', '18 HOLE GOLF COURSE', 'CABINS', 'RV & CAMPING', 'OUTDOOR RECREATION', 'MOERA ROPES COURSE', and 'PARK INFORMATION'. A 'Message Center' section on the right contains a message about hiking and biking trails, a request for feedback for a 2014 Trails Grant, and a news item about a professional golfer. Below the message center is a 'Calendar of Events' section with a button to 'SEE ALL UPCOMING EVENTS' and a 'Connect & Share' section with a Facebook share button.

GENERAL RENTAL RATES

For the most part, the rates to use/rent amenities in Mazingo Lake Recreation Park are lower than average. The market review completed by Ballard King & Associates (available in the Appendix of this document), notes that activities that draw day users should be at or slightly below the average for the region to encourage that easy day use, while activities which draw regional users should be at or above market rate.

As a general rule, rental rates for all facilities should increase at 5-8% per year. This intentionally outpaces inflation and provides needed capital for facility maintenance and replacement. It also allows for smaller periodic cost increases instead of larger, attention-grabbing increases.

MAINTENANCE

As a general policy, each facility throughout the park should look fresh and attended to so park guests will want to use and rent the facilities. Sticking with this policy will ensure the park is used and loved without feeling out of date or ignored.

Park management will annually survey the condition of each of the facilities and equipment within the park in order to effectively and efficiently schedule routine maintenance projects. The results of each survey will be included in the CIP for the coming year.

The following replacement guidelines should be included in life-cycle costs for all facilities:

- Open-air shelters: replaced every 20 years
- Enclosed shelters/pavilions: rehabilitated every 20 years, replaced every 40 years
- Restrooms: replaced every 15 years
- Picnic tables: replaced every 5-7 years
- Site furniture (trash receptacles, benches, grills, etc.): replaced every 7-10 years
- Paved roads: resurfaced every 15 years
- Paved trails: resurfaced or replaced every 15 years
- Aggregate trails: resurfaced every 7-10 years
- Playground equipment: replaced every 15 years
- Beach sand: refreshed every 2-3 years
- Cabins: replaced or rehabilitated every 25 years
- RV pads: replaced every 10-15 years
- Docks: replaced every 10-15 years

In terms of site maintenance, a new policy will be enacted that aims to reduce the quantity of mown turf grass to the very minimum. While the park has the staff and equipment to maintain the park in such a manner, it is not necessary or environmentally friendly to do so.

LAKE ACCESS

In order to promote high quality drinking water and a safe recreation experience, the park may need to consider adopting a policy to limit the number of boats that can use the lake each day. While this is likely to be an unpopular policy both for public access and revenue, with the growing popularity of the lake, it may become a necessary policy to ensure that boaters are safe, new paddle boaters have lake access, and the lake's native inhabitants are not being abused. Non-motorized boat permits, including permits for sail boats, will not have any maximum limit.

Ch 6: Specific Facility Recommendations

SPECIFIC FACILITY RECOMMENDATIONS

The recommendations in this chapter directly address the individual facilities across the site. These recommendations respond directly to the needs that were identified by the stakeholders of Mozingo Lake Recreation Park and were developed after considering a range of alternatives. The following recommendations are intended to shape the future for how the park will be improved. Each recommendation includes a brief explanation of the basis for the recommendations and is grouped by use and area.

The plan to the right shows the proposed full build-out of the core of Mozingo Lake Recreation Park. Detailed views of this plan are used throughout this chapter to further illustrate the master plan intent.

NAMING CONVENTIONS

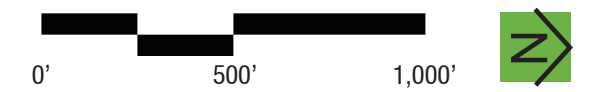
Most destinations in the Master Plan have been given a name in order to help distinguish them and to give them meaning. Most of the names are based on native plants or animals that are found in Mozingo. Other elements are named after prominent residents of Maryville or Nodaway County.

It is important to note that the names put forth in this Master Plan are recommendations only. Many areas were named for the sheer purpose of adding a name. If there is a clear naming convention that is preferred – especially if it is based on a site specific amenity such as “Hidden Bridges,” the name should be changed. Further, if a donor comes forth or is pursued to help finance a given addition, the name should be changed without hesitation.





Figure 6.1: Mzingo Lake Recreation Park: Core park improvements



VISITOR'S CENTER/ADMINISTRATION OFFICE

The most significant new structure to be added to the Mozingo Park property is a new visitor's center/administration office. This new building, located along the entry road into the park, will house an information desk, rental headquarters, gift shop, storage facilities, and administration offices for the multiple agencies.

For the public, this new structure will be the visitor center for Mozingo Lake Recreation Park. It will be the go-to place for information, recommendations, rental equipment, reservations, concessions, and interpretation of the park. Visitors will be encouraged to stop at the visitor's center when first entering the site in order to check into their cabin or buy a permit to boat on the lake. After setting up camp, visitors can return to the visitor's center to rent a bike, make a reservation for dinner, or find out what activities may be happening that day. Current list of rental equipment includes: snowshoes, cross-country skis, water skis, bikes, kites, ball sport equipment, and Frisbees.

For the park staff, the building will play an important role in park maintenance: combining the administration efforts of the City of Maryville, Mozingo Security, and MOERA (Northwest Missouri State University). The new building will house representatives from each organization so the site can be run efficiently as one facility, rather than separate parks. This also means that the entire park will have one contact phone number, so users can engage the park with much more ease.



Ch 6: Specific Facility Recommendations

The Visitor's Center building will provide office space for the park operations manager, maintenance manager, marketing manager, recreation coordinator, MOERA representative, receptionist, and two interns. A conference room will be included to accommodate meetings for ten-to-twelve people. For the public, the Visitor's Center will offer a dry goods and bottled drinks convenience store, small bait shop, gift shop, interpretive wall, permit counter, game room, and restrooms. Separate restrooms will be available for public and park staff, with shower facilities in the staff restrooms. The basement floor of the building will be open for storage and storm shelter needs. The exterior of the Visitors Center will include space for separate visitor and staff parking lots, outdoor permit kiosk for early-morning anglers, and facilities to sell firewood, propane, and ice.

Visitor's Center:

- 5,000 gross square feet
- Four offices: 100 SF each
- Open office space: 300 SF
- Conference room: 400 SF
- Game room: 300 SF
- Bait shop: 100 SF
- Gift shop: 200 SF
- Convenience store: 200 SF
- Open basement: 2,000 SF

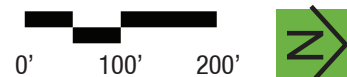


PARK MAINTENANCE FACILITY

The current maintenance building is physically deteriorating, functionally obsolete, and has outlived its purposed lifecycle. Additionally, it is in a prominent visual location and is situated in prime real estate for park use and expansion. Therefore, the park maintenance building will be relocated and expanded into a new facility downhill from the new Visitor's Center. It will be located in an area with existing tree canopy on three sides, so it will be well hidden from the public yet centrally located for easy use. Storage buildings in the maintenance facility need to total approximately 10,000 SF of space and portions will be heated and cooled. Exterior concrete stalls will be constructed to contain gravel, sand, and salt. A new sign will be needed to mark its location and encourage visitors to stay out.



Figure 6.2: Visitor's Center, Maintenance, and Park Entry Plan



THE POINT

The Point is now, and will continue to be, the primary destination for the best views of Mazingo Lake. Its unique location offers 270° views of the lake as well as stunning views of Mazingo Dam and the hills to the south. These elements will be celebrated in this Master Plan, encouraging unhindered views to all sides. All structures will be nestled back into the woods to the north and new walking paths will be placed next to the water to allow for even more connection with the lake.

THE POINT PAVILION

The centerpiece of The Point will be The Point Pavilion: a large park pavilion constructed to offer rental space for large events. This structure will be one of the primary icons for the park, as it will be visible from Highway 46. Therefore it must be aesthetically and architecturally strong, encapsulating and leading the aesthetics of the other structures on the site.



The Point Pavilion will not be enclosed, but will have a large fireplace to keep the space warm in colder weather. The structure will be separated into two halves, each designed to seat 150 people (total capacity of 300 seated guests). This will allow for two separate parties to rent the space if needed.



Figure 6.3: The Point Plan



The center of the structure will house fully plumbed restrooms, a catering kitchen, serving area, large fireplace, space for a dance floor, and storage space. Electrical systems will allow for fully lighted ceremonies and will include two sound systems, one for each half of the pavilion, which can be combined for large events.

Adjacent to The Point Pavilion, a new parking lot will mark the end of Ridge Road. This parking facility, which will accommodate 100 vehicles, will also provide a drop off zone for guests of the Pavilion.

THE POINT PAVILION GREAT LAWN

The Great Lawn in front of The Point Pavilion will include an irrigation system and electric service to ensure that the space can accommodate large events and festivals. The existing historical marker and plaque will be relocated and placed on the east side of the new Point Pavilion to encourage an open lawn. Additionally, the flag poles, shelters, and landscaping in the Great Lawn area will be relocated to appropriate locations.



THE BLUE HERON AMPHITHEATER

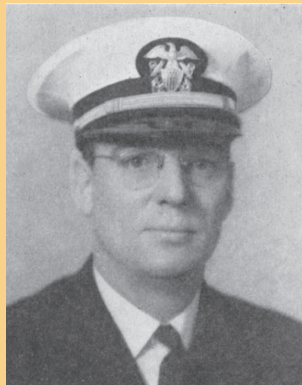
The Blue Heron amphitheater at The Point will allow access for crowds of roughly 450 people to view small performances or ceremonies. The amphitheater will be rented out through the Visitor's Center or via Mzingo Website. The amphitheater will have permanent bench seating for 250 people, with grass slope seating for 200 more. Trees will be planted around the edge of the amphitheater to provide shade.

The amphitheater stage will be close to the water's edge, to take advantage of the views of the water. Electrical access will be provided but kept far enough away from the stage to stay out of the 100-year flood level.

ALBERT DAVID MEMORIAL PLAYGROUND

The existing playground and shelter area on the west side of The Point are in a good location, though they are in need of renovation to stay current. To do this, the area will be rebranded as the Albert David Memorial Playground, named after the World War II Medal of Honor recipient who was born in Maryville.

The Host Lions Shelter will be replaced with a new shelter in the same location, as the current shelter is in need of repair. Next to the shelter, a new enlarged ADA-accessible playground will be installed. The play equipment will include both traditional and nature-based play equipment as well as a recirculating splash pad. While there are a number of new parking lots, the existing parking lot – which has a capacity of around 15 vehicles – will remain to provide ADA access to the playground and shelter.



Lieutenant Albert David

July 18, 1902 – September 17, 1945

This Maryville native received a Medal of Honor citation for leading a party from the U.S.S. Pillsbury to capture a German U-boat while at sea. The submarine was successfully salvaged and towed across the Atlantic. It was the first capture of an enemy ship on the high seas since 1815.

THE LANDING

With the relocation of the maintenance facilities, a new park destination area is recommended called The Landing. Besides a new pavilion and open lawn, new twenty-four- and forty-eight-person shelters will be built along a new looping drive that leads users down to the North Boat Ramp (formerly City Boat Ramp). Along this new road are thirty parking stalls, broken into three pull-off parking lots. See below for more information on the other amenities on The Landing.

THE LANDING PAVILION

A new three-season pavilion will be built on the site of the existing maintenance building to provide additional rental space for events. The fully-enclosed pavilion will be designed to seat at least 250 people while including fully plumbed restrooms, a fire place, a catering kitchen, and indoor furniture storage. The aesthetics of the Pavilion will match that of The Point Pavilion to keep a consistent visual theme throughout the park.

The Landing Pavilion is intended as a flexible facility that might offer indoor events when weather does not cooperate, including an indoor driving range, archery lessons, or gymnasium. The parking east of the Landing Pavilion will house at least 120 vehicles.

THE LANDING LAWN

The open lawn in front of The Landing Pavilion will include both irrigation and electric service to ensure that the space is prepared for all upcoming events.

THE EGRET AMPHITHEATER

The amphitheater at The Landing will allow access for crowds of roughly 200 people to view small performances or ceremonies. The amphitheater will be rented out through the Visitor's Center or via the Mozingo Lake Website. The amphitheater will have permanent bench seating for fifty people, with grass slope seating for 150 more.

The amphitheater stage will be close to the water's edge, to take advantage of the views of the lake. Electrical access will be provided but kept far enough away from the stage to stay out of the 100-year flood level.

NORTH BOAT RAMP (CITY BOAT RAMP)

The City Boat Ramp will be renamed the North Boat Ramp. This change is needed to add clarity to the site for regional lake users. It is smaller than the South Boat Ramp, which offers many advantages for smaller watercraft. However, additional parking must be considered in the future to allow for larger boating events. To help with those events, additional signage will be installed to help with wayfinding and queuing during large events.

The fish cleaning station will be modernized to match the State Boat Ramp and moved to the north side of the boat ramp. The current location is too close to the ramp and the prevailing southern summer winds blow the smell of fish directly to the ramp.



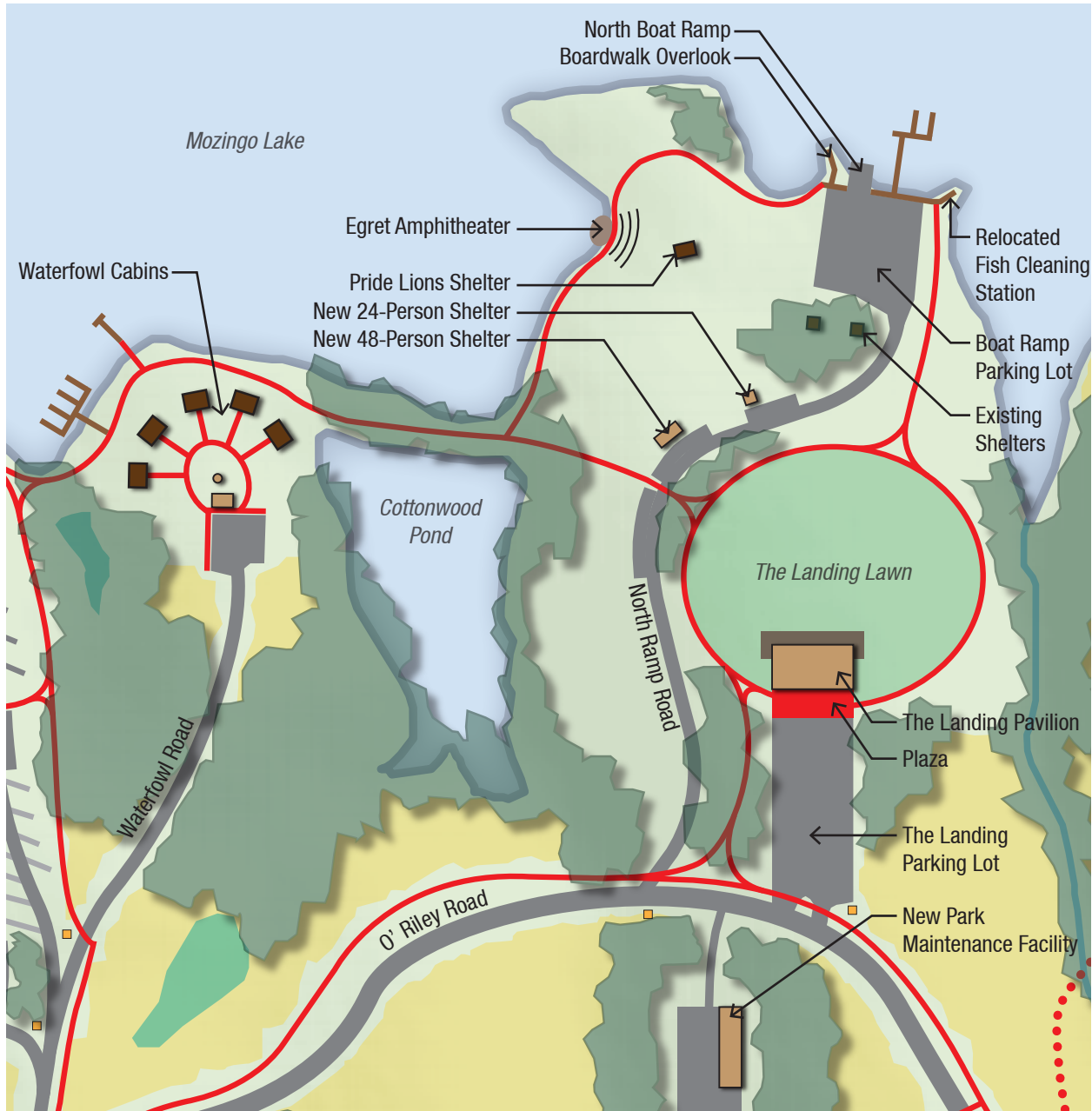


Figure 6.4: The Landing Plan



MOZINGO MARINA

The Mozingo Marina is a new destination for the park, incorporating the existing State Boat Ramp with other new uses to accommodate the needs of lake users. It will be the primary location for boat users coming to the site.

SOUTH BOAT RAMP (STATE BOAT RAMP)

The State Boat Ramp will change its name to the South Boat Ramp. This change is needed to add clarity to the site for regional lake users. As it is the most used boat ramp on Mozingo Lake, maintenance must continue to make it a successful ramp, particularly on the fish cleaning station. Better signage will also make wayfinding easier for the ramp.

Several people, when asked about the South Boat Ramp, mentioned problems with over-crowding around the boat ramp itself, often causing traffic jams when a lot of boats were trying to leave at once. While the existing boat ramp is wide enough to accommodate two users at the same time, the lines on the ramp will be repainted to ensure proper use. In the parking lot, a few parking spaces will be removed near the ramp to provide adequate movement for vehicles removing boats from the water. This includes providing spots for vehicles to safely queue while not blocking the exit of other vehicles.

Further, additional parking was requested during peak uses such as fishing tournaments. The open space directly to the east of the existing parking lot is already being used for overflow parking. This space will be improved with signage and hard-surface paving to accommodate additional users. Even further to the east, additional overflow space will be available for peak events. As demand for that space increases, the area will be paved and striped as well. Directly to the east of the ramp, a new permanent shelter building will be added to allow for fishing tournament viewing and celebrations. This spot provides unique viewing of the activity at the boat ramp as well.

BOAT REPAIR AND WASHING STATION

A new boat repair shop will be built adjacent to the overflow parking lot. This shop is not intended to fix all boat problems, as there are a number of boat repair shops in Maryville that are already catering to that audience. Instead, it is intended that this shop will identify boat issues and fix small problems that allow the boats to get back on the water in short order. It is anticipated that the boat repair operations would be licensed to a private vendor.



Figure 6.5: The Marina Plan

A boat and trailer washing station will be adjacent to the boat repair shop where users can clean their boats after using the lake. These stations, typically eighteen by thirty-six feet in size, are important as they are one of the tools used to stop invasive plants and animals from spreading from lake to lake. Water for the station will come directly from the lake and will be pressurized to remove as much material as possible. All water runoff will be maintained on site through a system of berms, bioswales, and bioretention areas and must not be allowed to directly re-enter the lake.

The washing station is a supplement to watercraft inspection and education programs, not as a substitute for other prevention steps. Therefore, washing will not be mandatory for all boats. It is a voluntary service that is accessible for a fee.

BOATHOUSE & MARINA CAFÉ

One of the most significant improvements to the Mozingo Marina is the addition of a two-story Boathouse and Café. On the basement floor, a Boathouse will be built to be the primary location to rent water craft, including paddleboats, paddle boards, canoes, kayaks, and small motor boats. All of these water craft will be stored outdoors in the summer months near the Boathouse and moved to storage at the maintenance facility in the winter. The Boathouse will be designed to withstand floods, as it is close to the normal pool elevation of the lake.

The Boathouse will include a small concessions facility to sell equipment and bait to boat users. A boardwalk will invite pedestrians to access the water in front of the Boathouse and will connect to the main trail network. The Boathouse will be visually significant on the water and will therefore have strong aesthetic design to incorporate it with the other newly built structures on the site.



On the second floor, at the same elevation as the parking lot, is a new Marina Café. This limited-service restaurant will offer fast-food style options (hamburgers, hot dogs, ice cream, soft drinks, etc.) for park users. A covered patio will allow for great views to the active boat ramp and marina docks below. An internal elevator and stairs will allow easy access between the two floors, so boat users can easily grab a bite to eat close to the water.

MARINA DOCKS

New ADA-accessible docks will be built to accommodate forty rentable slips. Slips will accommodate users with watercraft eight to twenty-five feet in length. Fuel will be available at the docks, with the fuel tanks stored safely above flood levels to the south. Fuel access will be strictly full-service in order to reduce the chance of user error. Staff for the fuel service station will be stationed in the Boathouse.

FISHING TOURNAMENT FACILITIES

On the north side of the marina site, a new shelter and platform will be built adjacent to the water for the use of fishing tournaments. The ten-by-twenty foot shelter will be the location for fish weighing and tank storage. Surrounding the shelter, rough-hewn limestone blocks will be inserted into the slope to accommodate viewing of the tournament and the weighing. At the top of the slope, an overlook will be placed to accommodate additional viewing.

THE BREAKWATER PIER

A new breakwater and pier will be added to the west of the South Boat Ramp in order to protect the cove, provide an easily accessible weigh-in station for fishing tournaments, and ideal viewing location for fishing tournament fans. A limestone trail will lead to a small covered shelter that will house the weigh-in scales and tanks for storing fish. The shelter will have removable walls in order to block the wind in cold weather.



OPEN SHELTERS

All free-standing open shelters will be replaced after twenty years of use. It is often after this time that the quality of the shelter has declined to the point where it is not an asset to the park any longer. When the shelters are up for replacement, the new shelters will follow the design guidelines to ensure that the site is cohesive.

New shelters will range in size from four-table shelters (approx. twenty-four by thirty feet) to sixteen-table shelters (approx. forty-eight by sixty feet). Shelters will have a varied level of utility service, based on the needs of the other facilities in the area. Some shelters may include restroom facilities as well.



KINGFISHER COVE

The current swimming beach sees a fair number of visitors, though many who were interviewed about the spot noted that they preferred to sunbathe on the beach rather than venture into the water. This is likely due to the low lake levels, algae growth, and poor sand quality.

The beach will be improved by branding it as the Kingfisher Cove. This name, which gives the idea of a resort destination, will help bring attention to the spot. A new paved parking lot adjacent to the Ridge Road will accommodate sixty vehicles, with additional overflow parking space for sixty more vehicles directly to the west the grass. Signage will inform visitors of the beach rules and regulations.

A new breakwater will be added roughly 250 feet from the water's edge to reduce wave action, protect the swimming area, and stabilize the sand so it doesn't have a tendency to wash away. This breakwater will be accessible to pedestrians via a small bridge and boardwalk from the south. On the lake side of the breakwater, a hard armored edge will allow for small boat access and fishing opportunities. The north half of the breakwater will be planted with native trees and grasses to help stabilize the soil.

New high quality beach sand will be imported to improve the experience both above and below the water level. The sand will be placed below the water line to provide adequate swimming facilities in low water levels. The grade below the water level will be regraded to offer a consistent slope from the shoreline to the buoy locations. The beach area above water will be large enough to accommodate 200 bathers: roughly 200 feet long by seventy feet wide.



Additional shade will also improve the experience for sunbathers, both in the form of additional trees closer to the sand and more options for shade structures. Other amenities on the beach include a fire ring, improvements to the sand volleyball court, and additional hard-surface options for sunbathing.

The water quality in the swimming area of the beach will be improved by adding submerged aerators placed outside of the swimming area. These aerators, which are not dangerous to swimmers, will improve the water clarity and reduce the prevalence of algae that tends to grow in the swimming area.

The existing concessions and restroom facilities at the top of the hill will be rehabilitated to make them more modern and give them a fresh look. The concessions area will be transformed into a secured vending area to allow for snack options on the beach.

Additional shade will also improve the experience for sunbathers, both in the form of additional trees closer to the sand and more options for shade structures. Other amenities on the beach include a fire ring, improvements to the sand volleyball court, and additional hard-surface options for sunbathing.

BEACH MAINTENANCE

Because the beach is one of the unique amenities that is available within Mozingo Lake Recreation Park, proper and routine maintenance of the beach is strongly recommended. This includes weekly cleaning and raking to remove debris, and loosen the sand to make it soft.

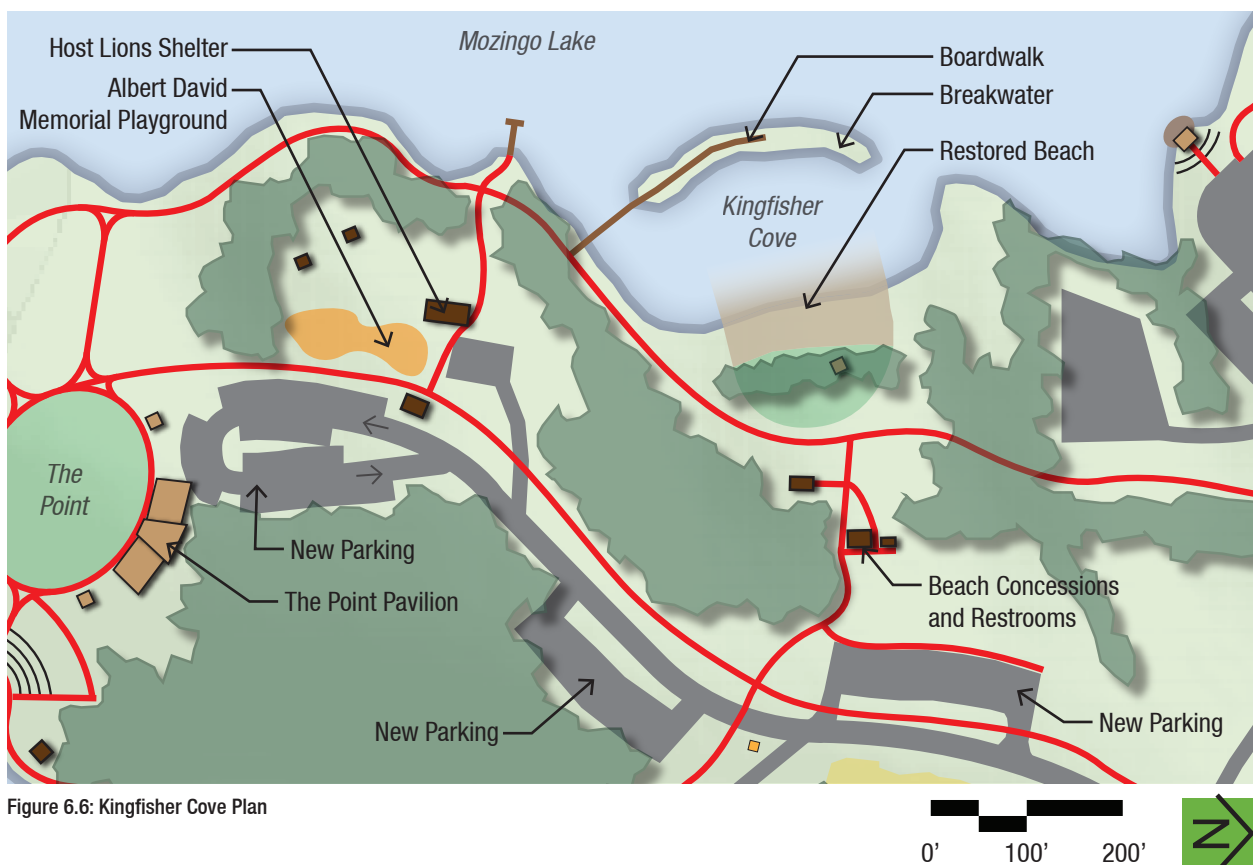


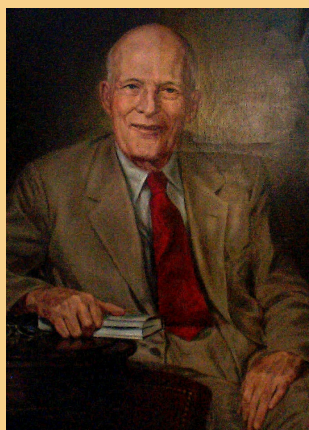
Figure 6.6: Kingfisher Cove Plan

HOMER CROY FESTIVAL BOWL

There have been a number of large outdoor concerts held at Mozingo Lake Recreation Park, most on The Point. However, this space is often windy and its flat terrain does not provide easy viewing of a show. Therefore a new destination has been created: the Homer Croy Festival Bowl.

Named after the Maryville-born author and screenwriter, this new venue is placed in a natural bowl and will easily accommodate up to 15,000 attendees. Initially, the stage will be brought in for each show, meaning that the only infrastructure needed is nearby electrical service to accommodate large concerts. As the event area becomes more popular, it will become advantageous to develop a permanent stage platform to support larger and more events. While trees will be planted to provide shade and enclosure for the space, the east and west edges of the festival bowl are left open to provide space for portable restrooms and vendors. Just to the north of the Festival Bowl, on the north side of O'Riley Road is a large mown field that will hold the parking for all attendees.

To prepare the site for future events, the existing drainage swale that runs through the center of the bowl will be tiled and buried to keep the site dry.



Homer Croy

March 11, 1883 – May 24, 1965

Homer Croy was an author and screenwriter who often wrote non-fiction stories about life in the Midwest. Born northwest of Maryville, his most popular book, *They Had to See Paris*, focused on a Missouri couple on a European vacation. It was made into a movie in 1929, and featured star actor Will Rogers.





Figure 6.7: Homer Croy Festival Bowl Plan



DOG PARK

A dog park is a low maintenance program that can bring a lot of benefit to users of the park. For Mozingo, the dog park will be placed in close proximity to the RV campgrounds, whose users bring the most dogs to the park. The park will be at least one acre in size and will have 6' tall perimeter fencing, drinking fountains for both humans and dogs, and adequate shade to protect users during hot days. If space is available, it's recommended that the dog park be subdivided into two areas, one for large dogs and one for small.



RV CAMPING

The existing RV camping spots are some of the most popular attractions on the Mazingo Park property. A common theme throughout the stakeholder meetings was that the RV campgrounds will continue to be developed and expanded to attract regional tourists.

It is recommended all RV campsites will be available via reservation only. While the first-come, first-served campsites may work the best for local residents looking for a quick trip out to the park, making all RV campsites reservable will level the playing field for regional users while still providing the opportunity for local residents. Current reservation rates are proving that the reserved campsites are preferential to first-come, first-served. Further, all RV campsite reservations occurring over a holiday weekend will have a minimum length of stay requirement.

In particular, the RV campgrounds need guest parking lots to provide spaces for non-campers to park. This request came out of concerns that the RV campgrounds were often over-crowded by vehicles, often blocking the main drives and creating safety issues. Additional parking lots on the perimeter of the RV campgrounds would provide locations for RV users to park their vehicles as well. Parking lot sizes will be calculated by assuming 2.5 stalls per RV pad (1 stall for RV owners, 1.5 stalls for visitors). A special parking lot will be provided to store boats and boat trailers for RV camp users. This parking lot will include fee-based electrical charging stations to recharge boat equipment.

RV NEIGHBORHOODS

The two primary RV campgrounds will be called the Red Maple Neighborhood (north) and Pin Oak Neighborhood (south). This nomenclature will help brand and differentiate each space, reinforcing the idea that the space is both a park and a community. Each neighborhood will have a centralized hub, offering restroom and shower facilities, picnic tables, grills and fire pits, and open space for play.

The Red Maple Neighborhood is smaller and therefore more intimate. As demand necessitates, twenty new RV pads will be installed on the south and east side of the campground. All of these pads will offer full sewer hookup and will therefore demand a higher reservation rate. If the full sewer hookup demand is felt, the remaining RV pads in the Red Maple Neighborhood will be retrofitted to accommodate that level of service.

The Pin Oak Neighborhood, beyond the need for visitor parking, will include a larger parking lot to accommodate boat parking for RV users. While this need is currently being met by parking along the roadway at the entrance to the RV campground, a permanent location is needed to protect the boats and offer more security.



SWEETGUM PARK & PLAYGROUND

Between the two RV Neighborhoods is a new park playground and open lawn that is usable by both campgrounds. On Linden Point, an open lawn will be available for passive play. Two shelters and restroom facilities anchor the top of the lawn and provide shade. An area for lawn game activities (i.e. – horseshoe, bocce ball, volleyball, croquet, etc) will be built in this location to accommodate both RV Neighborhoods.

East of the lawn is the Sweetgum Playground, which offers both traditional play, water play, and nature play as one moves from south to north. ADA-accessible play equipment will be provided in all areas of play. The water play area will include traditional splash pad equipment. The nature play area will provide water and climbing play areas that utilize natural materials. All water play areas throughout the park will utilize recirculating and chemically treated water systems.



Figure 6.8: RV Neighborhoods Plan

TENT CAMPING

Tent camping at Mozingo Lake Recreation Park is unique in that it is very secluded in the forest remnant. However, several improvements need to be made to make the campground easier to manage and more inviting for guests.

The campground forest will undergo periodic maintenance to selectively remove undergrowth and increase visibility. While the secluded campground is a selling point, the understory is overgrown and often makes security an issue. Camp pads will be periodically regraded to ensure there is an ideal gentle slope for camping. The roads throughout the campgrounds will be improved to allow for smooth and easy access for security vehicles. This includes adding aggregate along certain trails to maintain easy access paths. The existing restrooms will be maintained to ensure they are meeting the needs of the campers.

A new permit drop box is needed to track tent campers. If possible, this drop box will have a digital interface so the campsites can be tracked and managed in connection with the online reservation system.

Four new primitive, open air shelters will be built closer to the lake to provide a unique camping opportunity. These shelters, approximately ten- by twelve-feet in size, will have screened in walls, a chimney, and a permanent roof to offer the feeling of a sleeping porch in the forest. The remainder of the camping sites will be retrofitted with level areas with proper drainage to provide for optimal camping conditions.



EXISTING FAMILY CABINS

The existing family cabins are frequently used, though with a few improvements they could be one of the primary attractions on the site. These improvements start with new branding: the cabins on the west will be called the Waterfowl Cabins while the east cabins will be the Songbird Cabins. Further, each cabin will be named after a series of each bird in order to help distinguish them. For example, the Waterfowl Cabins will be named Mallard, Quail, Pheasant, Teal, and Wild Turkey. The Songbird Cabins will be named Goldfinch, Blue Jay, Robin, Blackbird, and Finch.

Physically, the biggest improvement to the cabin areas will be the expansion of space between the cabins and their respective parking lots. While this improvement is intended to happen when the existing parking lot is in need of repair in ten- to fifteen-years, this change will open up new community space in front of the cabins. This space will house a new shelter and fire pit that can be rented or shared by the cabin guests. Shelters will be named White Tail and Bluebird for the Waterfowl and Songbird cabins respectively.

Other cabin improvements include ensuring the cabins are connected to other areas of the site via pedestrian trails. Adding small boat docks will also allow for boats to be tied up overnight near the cabins.

NEW FAMILY CABINS

New cabins will be built only if the demand is in place, however current trends are pointing towards other forms of lodging (see Appendix). If demand exists, cabins should be first placed at the Waterfowl Cabins, as there is the most space available there for expansion. Some of these cabins will be built facing the adjacent wooded ravines, rather than the water, to provide a different experience.

On the west side of the park, near the Jimmy Jones Equestrian Trailhead, new primitive cabins will be built if further demand is felt by Park staff. These cabins will only include basic restroom facilities and an open room with a cot. It is envisioned that these cabins will be used by equestrians in the summer months and hunters in the winter and spring.



Figure 6.9: Songbird Cabins Plan



THE YOUTH CAMP

The Youth Camp is in good shape, although it is currently underutilized. The camp, with proper marketing in concert with the opportunities available through MOERA, would be an ideal destination for youth organizations throughout the regional market area. Efforts should be taken to expand the type of users for the multi-purpose building, particularly in the off-season. The Multi-Purpose building and Youth Camp area would benefit by attracting a diversity of events and users.

To start that marketing and branding push, each of the cabins will be named after native Missouri animals. Suggested names for the cabins include: Beaver, Badger, Woodchuck, Muskrat, and Raccoon.

Improvements to the Youth Camp will include better vehicular and pedestrian connections to both the main area of Mazingo to the south and MOERA to the north. The pedestrian trails will include at least one paved trail connecting to the core of the park and one aggregate trail connecting to MOERA.

The vegetated material around the Youth Camp is an asset; however it is relatively low in native species diversity. The Youth Camp site will be managed to introduce new native plant species and maintained to promote the grounds as a wild and native environment.



The Multi-Purpose Building is in good condition, though it is used very infrequently. The ceiling of the building will be retrofitted with acoustic dampeners to reduce the echoing inside the building. This will make it more usable for small and large groups alike. Finally, a storm shelter is needed in the Youth Camp to protect users in emergency situations.

Directly east of the Multi-Purpose Building is the highest point in the park. This location should be improved with trails and an overlook to take advantage of the views.



MOERA

MOERA is full of opportunities, though its difficulties with access – both physical and administrative – make it an underutilized amenity. By opening the site and reorganizing the access to the amenities, the site can become a bigger asset to both Mozingo and Northwest Missouri State University (NWMSU).

MOERA will be connected to the larger Mozingo Lake Recreation Park through a new roadway that connects directly within the park, not going out to the outer county roads. This means that all users of MOERA will go through the park first, firmly connecting it to the park rather than as a separate entity. Pedestrian and bike trails will connect through MOERA as well, allowing the public to see the site and access the Mozingo Lake Recreation Park.

Further, the program elements inside MOERA will have separate fences added to them to ensure that the public can freely move through the area. This will not only open the site to more people, it will allow easier control of facilities: if a group wants to use the ropes course, it can be opened individually while the trap shooting range could remain closed. For larger uses such as the archery range, signs will be added to clearly delineate the boundaries of the site and/or closing portions of the site to ensure public safety.

MOERA will also have a NWMSU representative available full-time at the new Visitor's Center. This will ensure that all of the programs that are available through MOERA are available for use by people visiting the lodge or using other Mozingo amenities.



MOZINGO LODGE & CONFERENCE CENTER

It is expected that the new Mazingo Lodge will be designed and built by a company that specializes in recreational lodges, so all recommendations about the Lodge that follow come with the understanding that they may change depending on who builds the facility. However, a design and layout has been proposed that will meet the needs of the site and promote the park as a whole.

The new Mazingo Lodge & Conference Center will be built close to the location of the existing golf clubhouse in order to take advantage of the views that are available on site. The Lodge complex will include seventy to eighty hotel rooms, a full-service restaurant, a 6,000 square foot conference center, golf clubhouse and storm shelter. The architecture of the lodge will reflect the general aesthetic of other new buildings constructed at Mazingo Lake Recreation Park.

The first floor of the Lodge will include a lobby/reception space, restaurant, conference center, and golf clubhouse. The lobby will be the meeting point of all the various uses, offering a single location to check in, get directions, and reserve a table for dinner. The adjacent sit-down restaurant will offer views of the lake and golf course. An enclosed patio area will allow for outdoor seating in nice weather.

The conference center will offer 6,000 square feet of space that is capable of being broken down into smaller conference rooms. Smaller meeting rooms and break-out spaces are optional as well. Storage and maintenance space for the conference center facility are included in the 6,000 square foot footprint.

Outside of the Lodge, a new parking lot will be added to accommodate 100 cars. The grounds of the Lodge will have a front lawn, back lawn, patio seating for the restaurant, and bocce ball courts.

Water service for the Lodge will need to be tapped off the four–inch force main. Fire service water will be pumped out of the lake. A traffic study will be needed to establish how the Lodge will impact both a new drive off of Liberty Road and the intersection of Liberty Road and Highway 136.

The new clubhouse will be connected to the lodge and separated from the golf course to provide a large open lawn to allow for event staging. The lawn will provide space for at least 200 people to accommodate professional golf tours and state-level golf tournaments. With that said, the clubhouse still needs to have good visibility of the course, with ideal views of both the 1st and 10th tee boxes on the main golf course and 1st and 9th tee boxes on the junior golf course.

The main floor of the clubhouse will provide a small bar for golf course users, restrooms, and locker room facilities.

The basement of the clubhouse will provide enough indoor space to hold all participants and spectators for large events, meaning space to comfortably hold 200 people. Other needs for the basement include storm shelters and indoor storage for all-electric golf carts.

As the golf course is located away from the City of Maryville, special care will be taken to think about energy sustainability for the golf course as well. Taking advantage of the ample sunlight and constant winds that pass the site would help offset costs for the high maintenance load the golf course and its clubhouse demand.



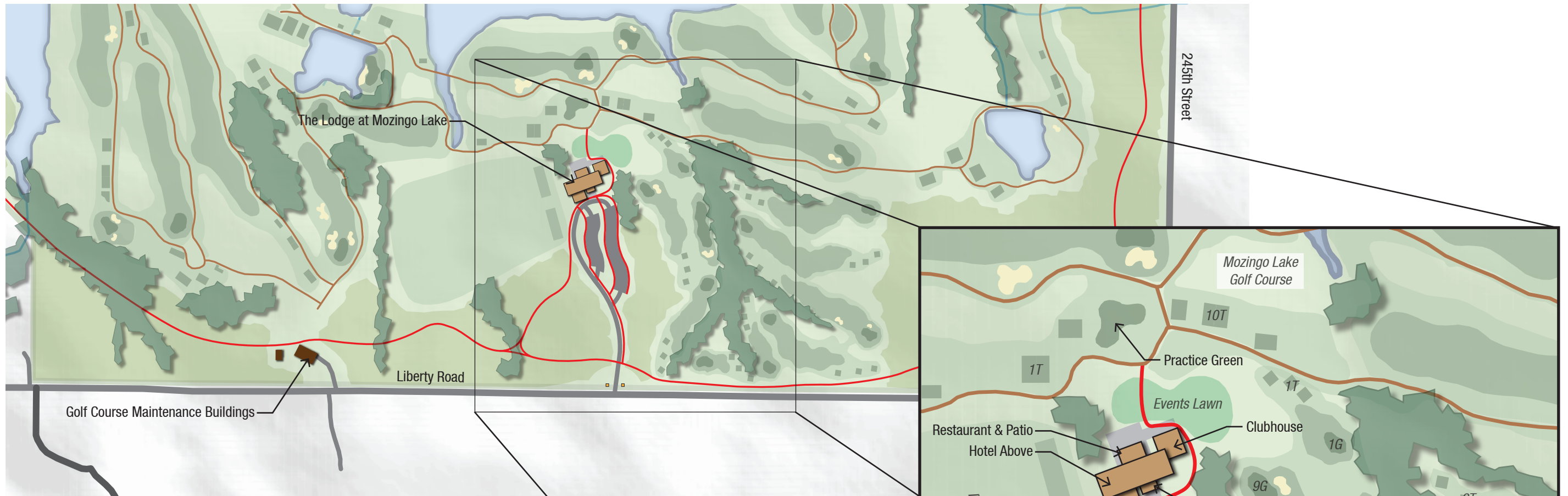
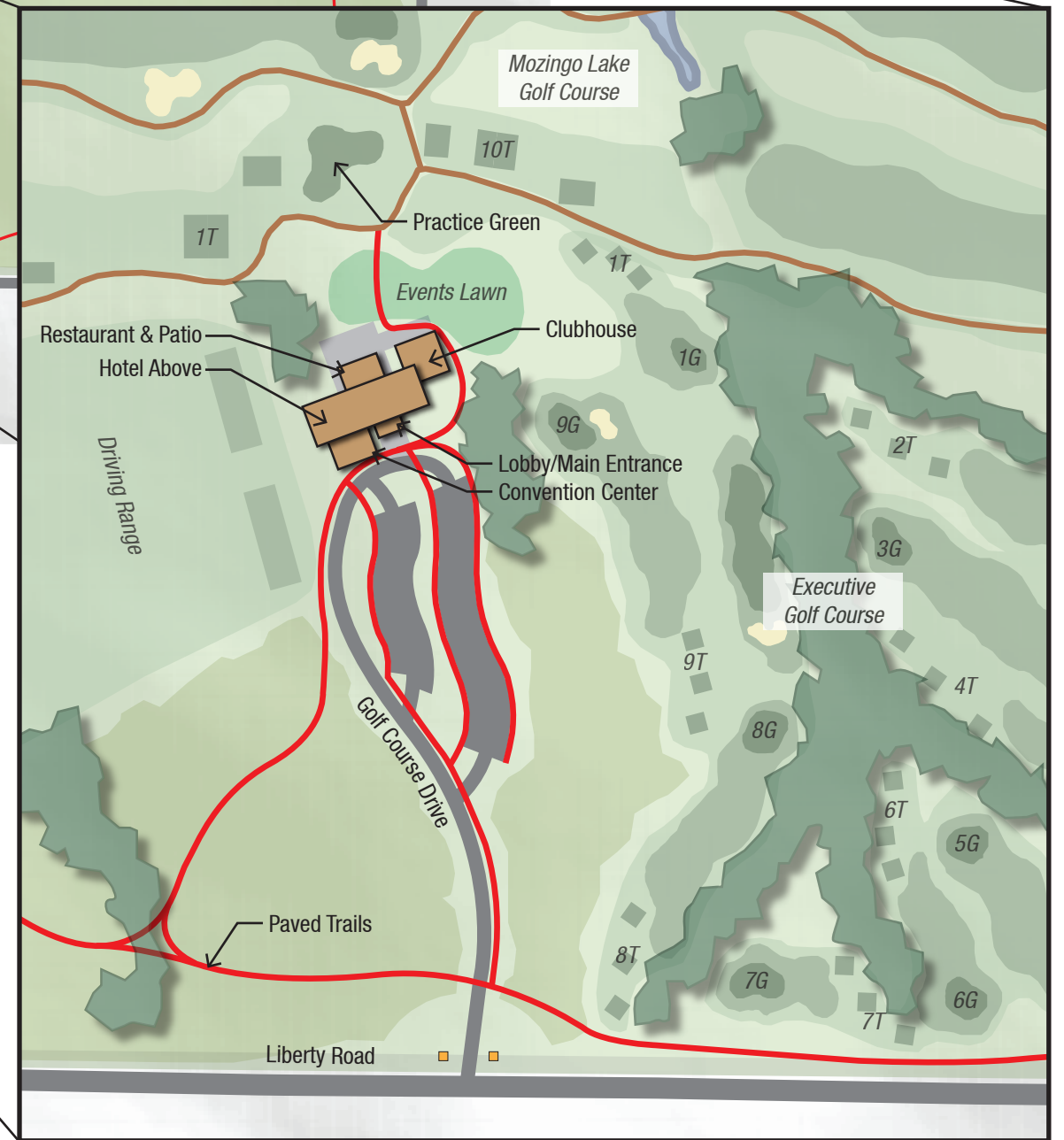


Figure 6.10: Mozingo Lodge & Golf Course Plan



MOZINGO LAKE GOLF COURSE

While the new Lodge & Clubhouse will dramatically impact the experience of the golf course, the overall golfing experience will be improved by adding tiered, heated, and covered driving range shelters, adding a chipping green, and adding a practice sand trap. The new driveway leading to the Lodge will be enhanced with trees and shrubs to shade the entry drive. Additionally, aesthetic landscape improvements will be installed around tee boxes, water coolers, and in and around the driving range.

Stormwater maintenance is a key issue for golf courses, as the maintenance requirements call for high quantities of water and fertilizer to make the golf course usable year-round. Therefore, additional stormwater best management practices (BMP's) will be incorporated throughout the golf course to catch as much surface runoff as possible before that water enters the lake. These BMP's include but are not limited to bioswales, bioretention basins, engineered wetlands, and sand filters. The golf course will adopt an overall environmentally-friendly approach to site maintenance, including using low-phosphorus fertilizer, integrated pest management systems, and the restoration and protection of adjacent native habitats.

Water conservation related to irrigation is another key issue for the golf courses. With the development of a new executive golf course, water conservation is going to become an important area of focus. Researching technologies that will improve the ability of staff to target irrigate the golf courses would greatly reduce the consumption of water for irrigation purposes.

GOLF COURSE MAINTENANCE SITE

A new sign will be designed and installed for the golf course maintenance site. As it is one of the first built amenities for visitors coming into the Mozingo Lake Recreation Park property, the visual appearance of the golf maintenance site needs to be addressed. Currently, the appearance of the maintenance site is not visually welcoming or attractive. Screening of the maintenance buildings and parking lot will be achieved through the strategic placement of landscaping, such as large evergreen trees and shrubs.



EQUESTRIAN FACILITIES

The existing equestrian RV camping area located on 220th Street is a popular destination for equestrians, though it is largely unusable in its current configuration due to the grading of the site. Secondly, the existing campground is not visible for park security. Therefore, the programming at the existing equestrian campground will be separated into two new destinations: the Horace 'Jimmy' Jones Equestrian Trailhead and the Switchgrass Trailhead. While this document sets the direction for the needs at the two equestrian trailheads, a supplemental Equestrian Facilities Master Plan is needed to fully establish how the two sites should function and how the trails in between should be formed and maintained.

HORACE 'JIMMY' JONES EQUESTRIAN TRAILHEAD

The new Horace 'Jimmy' Jones Equestrian Trailhead is named after the Nodaway County-born horse owner and trainer. This trailhead will be placed on the west side of what is now called Blazing Star Point in a location that is visible from The Landing yet not so prominent as to disturb the wild aesthetic of the west side of the park.

Lodging amenities at the Horace 'Jimmy' Jones Equestrian Trailhead will include space for sixteen RV campsites; each properly graded to accommodate extended length RVs and horse trailers. Between each campsite, additional space will be provided to accommodate horse trailers with side-hitching capabilities. Hitching posts will be constructed at each campsite as well as at the trailhead. A new restroom and shower facility will be built to accommodate the new RV campsites.

Gravel parking facilities will be added in an area not directly visible to the lake. These new parking lots will be designed to accommodate angled parking for extended horse trailers, including turn around space that accommodates vehicles with a 40' turning radius. A designated trailhead location will be located near the parking area that will connect equestrians and pedestrians to the trail network on the west side of the lake. This trailhead will include interpretive signage and trail maps for equestrians and pedestrians. A new horse corral will be built for the purposes of penning and training horses. If space is available, a 150' x 250' fenced "arena" will be created for the purposes of hosting small equestrian events on site.

Closer to the shore, at the end of Blazing Star Point, tent camping pads will be graded and mown and visible from The Landing to ease security concerns.

SWITCHGRASS TRAILHEAD

The new Switchgrass Trailhead will be reprogrammed as a primitive camping destination. The existing RV campsites will be removed to allow the site to be the primary trailhead location. The existing restroom and shower facilities will stay.

Near to the shore, new cabins will be built to accommodate park users looking for a more primitive experience. Each cabin will offer one room with two cots, a table, and chairs. The cabins will not have restrooms or indoor running water; users will utilize yard hydrants and the nearby restrooms instead. A fire ring will be placed outside of each cabin.

SWITCHGRASS BOAT RAMP

The existing boat ramp at the equestrian camp will be renamed as the Switchgrass Boat Ramp, to differentiate itself from the main North and South Boat Ramps. While this ramp is not often used and is not patrolled as often as the other boat ramps due to its remote location, it is a unique destination as it is only accessible by traversing through the remnant trees in the water. The docks near the Switchgrass Boat Ramp will be improved by expanding the gangway to ensure that the dock is usable when the lake level is low. Additional docking slips will be installed as demand increases.



Horace 'Jimmy' Jones

November 24, 1906 – September 2, 2001

Born in nearby Parnell, Missouri, Horace 'Jimmy' Jones found fame training racehorses with his father Ben Jones. Together, the two trained the U.S. Triple Crown winning racehorse Citation. On his own, Jimmy Jones was the trainer of horses that won the Kentucky Derby twice, Preakness Stakes four times, and Belmont Stakes once.

GOLDENROD TRAILHEAD

A new trailhead will be added along the existing access road that leads to the water reserve pond on the west side of the lake. This new trailhead will maintain public access to the public parking lot, then be gated for controlled access down to the pond. Amenities at this trailhead include information signage and connection to the Mozingo Nature Trail.

HIDDEN COVE TRAILHEAD

A new paved road and parking lot will be added on the southwest corner of the lake. The site is home to dramatic views of the lake and spillway. New improvements will include restroom facilities, formalized parking, and trail signage.

RC AIRCRAFT FIELD

The RC aircraft field will stay in its current location, but will be enhanced with a paved or aggregate trail that clearly delineates an always-open pedestrian linkage through the site. A new sign will be installed at the entrance to the RC airfield parking lot to designate it as part of Mozingo Lake Recreation Park. Interpretive signs will be added at the parking lot discussing the installation of the Mozingo Lake dam and the adjacent pioneer cemetery.

In the future, the RC Airfield site will be reconsidered as a potential location for redevelopment. Its prime location and connectivity to the park would make it an ideal location for small condos or townhomes. However, this redevelopment should not progress until a full study is completed regarding the best use of that parcel of land.

THE LOOKOUT TRAILHEAD

On the southeast corner of the lake, a trailhead exists along the east side of the dam. This will be named The Lookout Trailhead, as it provides stunning views of The Point and Mozingo Lake. No improvements are needed for this trailhead, except for updated destination signage along Highway 136.

SNOW GOOSE TRAILHEAD

A new trailhead will be added on the east side of the lake at the end of 230th Street. This trailhead will have a new gravel parking lot, information and interpretive signage, and restroom facilities.

BALD EAGLE TRAILHEAD

At the end of 220th Street, on the east side of the lake is the Bald Eagle Trailhead, named after the bird that is frequently seen in the tree remnants in the lake. There is a small parking lot at this site, though it is in need of new gravel. Other new amenities include access to the new Mozingo Nature Trail and information signage.

FISHING – FORMAL ACCESS

Multiple areas around the lake, primarily in populated areas, will have formal fishing access points. Each fishing point will have a hard edge to allow for close access to the water without causing adverse erosion. Roughly a third of these formal fishing points should be accessible with those with disabilities.

FISHING – SHORELINE & REMOTE ACCESS

Along the new trails that will ring the lake, informal pathways will be mown to select stable shorelines where shore fishing is ideal.



PERMITTED HUNTING LAND

In order to simplify the public's understanding of park ground where hunting is permitted, the allowed hunting ground limit will be moved further to the north on the west side of the lake. This means that hunting is permitted north of 230th Street on both sides of the lake. It also allows for more equestrian specific trails that are outside of hunting zones.



Ch 7: Implementation

PLAN IMPLEMENTATION

The City of Maryville should implement the visions and goals set forth by this Master Plan in a way that is both realistic and ambitious. Amenities should be installed in a way that is in step with the resources of the community while being proactive towards the vision of the park as a regional destination. To accomplish this balance, the following implementation plan is recommended.

POLICIES, PRIORITIES, AND ACTIONS

The Implementation Schedule presented in Table 7.1 presents a summary of the recommendations included in the Mozingo Lake Recreation Park Master Plan. Each recommendation is broken down by the type of effort, the priority for improvement, the priority survey score it received, and potential funding sources that may impact its development. The following definitions breakdown each effort:

Policy: A Long-term regulatory or administrative action which affects how the park is organized and/or managed.

Action: A specific effort or accomplishment which will ensure park success.

Capital: A specific park amenity which will enhance the value and usefulness of the park.

Ongoing: An effort already underway, though likely can be improved to be more effective and successful.

SURVEY SCORE

This number represents the average priority score as determined by the City Council, Mozingo Advisory Board, and selected park staff members. All recommendations were judged on a one to five scale, where one was the lowest priority and five the highest. The higher the average score, the higher priority assigned to each recommendation.

PRIORITIES

Taking the survey score into consideration, a priority level was given to each recommendation to identify the order in which park recommendations should be implemented.

1 High Priority: This amenity has been identified as deserving immediate attention as it is either needed or will improve the quality of the park in a short-term basis. In terms of time periods, this project should be implemented within the first five-to-ten years.

2 Medium Priority: This amenity is important, but should be implemented after the high priority items have been installed. This project should be constructed in approximately ten-to-fifteen years.

3 Low Priority: This amenity should be implemented only when the other amenities are completed in order to ensure full use of the site. When it is time to implement this recommendation, a new master plan should be developed to identify if it is still valued and to determine in which order the low priority recommendations should be constructed.

In some cases, the survey score and priority do not correlate. For most of those items, the Design Team felt that the recommendation warranted a higher priority to ensure consistent and efficient park development. For example, a recommendation deemed low priority from the survey pool was given a higher priority because needed to be developed before or in tandem with another high priority project.

FUNDING SOURCES

This column lists potential funding sources that may be investigated in order to help defer costs of design, development, and installation. The sources listed are recommendations only and are not intended as an exhaustive list of funding options. As each improvement is initiated, a full search of potential funding sources is recommended. For more information on Funding Sources, see Table 7.2.

Table 7.1: Implementation Schedule

General Recommendations		Type	Ongoing	Survey Score	Priority	Funding Sources
General Landscape Improvements (pages 19–22)					2	
1	Increase the quantity of shade trees in the primary use area	Policy Capital	X	4.13	1	MoDNR, MDC
2	Convert leased agricultural land to native prairie	Policy Capital		3.09	3	MoDNR, MDC
3	Convert unprogrammed turf areas to native prairie	Policy Capital		3.36	2	MoDNR, MDC
4	Hire or train a new full-time conservationist to perform regular tree & prairie maintenance	Action Policy	X		1	TRIM Grants, MoDNR
5	Install new ornamental plantings in key areas of the site	Capital	X		2	
6	Perform regular road maintenance	Action Policy	X		1	
7	Make improvements to the Mozingo Lake watershed, including lake and shoreline improvements	Capital	X	3.43	1	319 Grants, MoDNR, MDC
General Building Improvements (page 23)					1	
8	Include art integration in all architectural and landscape architectural structures	Policy			1	Missouri Arts Council
Site Access Improvements (pages 24–27)				3.96	1	
9	Build new roads, including the O'Riley Road connecting the park entrance to the Youth Camp and MOERA	Capital		3.35	2	
10	Reconfigure road intersections to improve wayfinding	Capital		3.78	2	
11	Increase pedestrian safety with increased regulatory signage and crosswalk striping	Action		3.61	2	
12	Develop paved walking trail network around the primary use area	Capital	X	4.00	1	FHWA (RTP Program), MODOT (TE Grants), LWCF
13	Add new limestone trails outside of the primary use area	Capital		3.30	2	FHWA (RTP Program), MODOT (TE Grants), LWCF
14	Develop new mown trails outside of the secondary use area	Capital	X	3.30	2	FHWA (RTP Program), MODOT (TE Grants), LWCF
15	Develop Mozingo Nature Trail, a connected loop trail around Mozingo Lake	Action		3.30	2	FHWA (RTP Program), MODOT (TE Grants), LWCF
16	Pave Mozingo Loop Road from 245th Street to Highway EE	Capital		3.13	2	MODOT

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	Type	Ongoing	Survey Score	Priority	Funding Sources
Wayfinding Improvements (page 28)			4.52	1	
17	Install Mozingo Loop Wayfinding Signage	Capital	3.96	1	
18	Install Gateway Monument Signs	Capital	4.26	1	
19	Add vehicular wayfinding	Capital	4.41	1	
20	Add pedestrian wayfinding	Capital	4.22	1	FHWA (RTP Program)
21	Install building and other destination signs	Capital		1	
Marketing Recommendations (page 29)				3	
22	Improve website with online reservation system	Action	X	1	
23	Hire a full-time marketing specialist	Action	2.65	3	
Supplemental Master Plans				2	
24	Develop Mozingo Wayfinding & Signage Master Plan	Policy Action	4.52	1	
25	Develop Mozingo Design Guidelines Master Plan	Policy Action	3.26	2	
26	Develop Mozingo Watershed Management Plan	Policy Action	3.70	2	319, MODNR
27	Develop Mozingo Equestrian Master Plan	Policy Action	2.22	3	

Specific Facility Recommendations		Type	Ongoing	Survey Score	Priority	Funding Sources
Visitor's Center/Administration Building (pages 35–36)				3.96	1	
28	Design and build a new Visitor's Center	Capital		4.04	1	
Mozingo Maintenance Facility (page 37)					2	
29	Remove and relocate the maintenance facility to a new site, including storage buildings and yard	Capital		3.13	2	
The Point (pages 38–39)				3.43	2	
30	Replace the Phillips Shelter with The Point Pavilion	Capital		3.83	1	
31	Add new shelters	Capital			2	
32	Construct the Point Great Lawn	Capital		3.00	1	
33	Build the Blue Heron Amphitheater	Capital		3.00	2	
34	Replace the existing playground with the Albert David Memorial Playground	Capital		3.30	2	LWCF
The Landing (pages 40–41)				2.95	3	
35	Replace the existing maintenance building with The Landing Pavilion	Capital		3.00	2	

	Type	Ongoing	Survey Score	Priority	Funding Sources
36 Add The Landing Lawn	Capital		3.00	2	
37 Build the new Egret Amphitheater	Capital		2.04	3	
38 Construct new shelters & parking along a new roadway leading to the North Boat Ramp	Capital		2.74	3	
39 Add boardwalks to the North Boat Ramp	Capital		4.52	1	
40 Relocate the Fish Cleaning Station	Capital		4.52	1	MoDNR (Land and Water Conservation Funds)
41 Resurface the North Boat Ramp parking lot	Capital			2	
Mozingo Marina (pages 42–43)			2.78	3	
42 Construct new docks to store forty boats	Capital			3	
43 Design and build the Boathouse including fuel storage and distribution system	Capital		2.96	3	
44 Design and build the Marina Café, including covered dining area	Capital		2.96	3	
45 Construct new Boat Repair Shop & boat washing station	Capital		2.17	3	
46 Add the 250' Breakwater Pier	Capital		3.87	2	
47 Build a shelter on Breakwater Pier	Capital			2	
48 Add the fishing tournament shelter and viewing seats	Capital		3.96	1	
49 Expand the South Boat Ramp parking lots and overflow parking	Capital		3.74	1	LWCF
Kingfisher Cove (44–45)			4.04	1	
50 Improve the sand quality on the beach	Capital		4.22	1	
51 Add new shade trees and shelter	Capital		3.61	2	
52 Add Kingfisher Cove breakwater and boardwalk	Capital		3.78	2	LWCF
53 Rehabilitate shower and restroom facilities	Capital		3.74	2	LWCF
54 Improve beach parking lot with paved parking area and dedicated turf overflow lot	Capital		3.22	2	
55 Initiate regular beach maintenance	Action Policy	X		1	
Homer Croy Festival Bowl (pages 46–47)			2.18	3	
56 Grade, drain, and seed festival bowl for public use	Capital		2.61	3	
57 Install electrical system	Capital		2.61	3	
58 Upgrade site with permanent stage	Capital		2.43	3	
59 Construct a new dog park with drinking fountains	Capital		2.43	3	

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	Type	Ongoing	Survey Score	Priority	Funding Sources
Red Maple RV Neighborhood (page 48)			3.65	2	
60	Capital		3.17	2	LWCF
61	Capital		3.35	2	
62	Capital			2	
63	Capital		3.87	1	
Pin Oak RV Neighborhood (page 48)			3.65	2	
64	Capital		3.13	3	
65	Capital			2	
66	Capital		3.73	2	
Sweetgum Playground and Linden Point (page 49)			3.32	2	
67	Capital		3.83	1	LWCF
68	Capital		3.52	2	
69	Capital		3.13	2	
70	Capital		3.35	2	LWCF
Tent Camping (page 50)			4.13	1	
71	Capital		3.13	2	
72	Action		4.13	1	
73	Capital		3.09	2	
74	Capital			3	
75	Action		4.17	1	
Songbird Cabins (page 51)			4.04	1	
76	Capital	X	4.36	1	LWCF
77	Capital		3.17	2	
78	Capital		2.96	3	
79	Capital			1	
Waterfowl Cabins (page 51)			4.04	1	
80	Capital		3.13	2	
81	Capital		3.30	2	
The Youth Camp (page 52–53)				3	
82	Capital			3	
83	Capital			2	
84	Capital			2	

	Type	Ongoing	Survey Score	Priority	Funding Sources	
Mozingo Lodge & Conference Center (page 54–55)			3.78	2		
85	Develop new lodge and conference center, including clubhouse and restaurant	Capital	X	4.13	1	
Golf Course Improvements (page 57)				3		
86	Build new driving range shelters	Capital		2.96	3	
Equestrian Facilities (page 58)			2.39	3		
87	Construct Horace 'Jimmy' Jones Trailhead, including RV campsites, hitching posts, restroom/shower facility, and parking	Capital		2.61	3	FHWA (RTP Program), LWCF
88	Add a horse corral at 'Jimmy' Jones Trailhead	Capital		2.57	3	
89	Add a new equestrian arena at 'Jimmy' Jones Trailhead	Capital		2.57	3	
90	Grade new tent camping sites near the lake at 'Jimmy Jones' Trailhead	Capital			3	
91	Reconfigure existing equestrian campground to the new Switchgrass Trailhead, including new parking	Capital		2.50	3	FHWA (RTP Program), LWCF
92	Add new primitive cabins at Switchgrass Cabins	Capital		2.82	3	
93	Expand gangway at Switchgrass Boat Ramp	Capital			3	
94	Grade new tent camping sites near the Switchgrass Trailhead	Capital			3	
Pedestrian Trailheads (page 59)			3.13	2		
95	Construct the Goldenrod Trailhead, including new parking lot, portable restroom enclosure, and interpretive signage	Capital		3.00	3	FHWA (RTP Program), LWCF
96	Construct the Hidden Cove Trailhead, including new parking lot, portable restroom enclosure, and interpretive signage	Capital		3.36	2	FHWA (RTP Program), LWCF
97	Construct the Snow Goose Trailhead, including new parking lot, portable restroom enclosure, and interpretive signage	Capital		3.00	3	FHWA (RTP Program), LWCF
98	Construct the Bald Eagle Trailhead, including new parking lot, portable restroom enclosure, and interpretive signage	Capital		2.96	3	FHWA (RTP Program), LWCF
99	Improve the Lookout Trailhead with new interpretive signage	Capital		3.61	1	FHWA (RTP Program), LWCF
Other Site Improvements (page 59)				2		
100	Add new hard-edged fishing locations around the lake	Capital			2	LWCF
101	Develop new informal shoreline fishing destinations	Capital	X		3	LWCF

Ch 7: Implementation

Table 7.2: Potential Funding Sources

Source	Fund Administrator	Description	Possible Uses	Deadlines	Available Funds	Required Match
Land and Water Conservation Fund (LWCF)	Missouri State Parks, National Park Service (NPS)	Land and Water Conservation Fund grants are available to cities, counties, and school districts to be used for outdoor recreation projects.	Playgrounds, campgrounds, docks, marina, shelters, and nature areas	N/A	\$75,000 max.	55%
Recreational Trails Program (RTP)	Missouri State Parks, Federal Highway Administration (FHWA)	Recreational Trails Program provides funds to help develop and maintain recreational trails and trail-related facilities.	Hiking, biking, equestrian trails, trailheads, trail amenities	Jan. 26, 2015	\$100,000 max.	20%
Transportation Enhancement Grants (TE)	Missouri Dept. of Transportation	Transportation Enhancement grants are offered to expand transportation choices and enhance the transportation experience.	Pedestrian and bicycle facility improvements, landscaping and scenic beautification, environmental mitigation	N/A	\$25,000 min., no max.	20%
Tree Resource Improvement and Maintenance Grant (TRIM)	Missouri Dept. of Conservation (MDC)	The TRIM grant is a cost-share tree care program created to assist government agencies with management, improvement, or conservation of trees on public lands.	Tree inventory, removal, pruning, planting, and training.	June 1, 2015	\$25,000 max.	40%
Section 319 Grants	Missouri Dept. of Natural Resources (MoDNR), US Environmental Protection Agency	Section 319 of the Clean Water Act established a national program to control nonpoint sources of water pollution.	Water quality improvements, education, protection, planning, conservation, and restoration	N/A	No max.	60%
Source Water Protection Development and Implementation Grant	Missouri Dept. of Natural Resources (MoDNR)	The Source Water Protection Program is designed to assist public water systems and the communities they serve with developing local voluntary source water protection plans.	Develop water protection plan, implement BMP's, restore or conserve water protection areas, develop education initiatives	Dec 31, 2014	No max.	N/A
Missouri Arts Council Strategic Grants	Missouri Arts Council	The Missouri Arts Council Strategic Grants provide funding to communities that support the Missouri Arts Council's strategic goals of increasing arts participation, growing Missouri's economy, and strengthening Missouri's education using the arts.	Educational programs, artist residencies, artist fees, exhibitions	Last Monday in January	Varies	N/A

PRIORITY TIMING OBJECTIVES

With recommendations in place, a timing strategy can be created to chart implementation. The timing strategy for Mozingo park improvements has three main objectives:

Objective 1. Create an exciting and achievable first phase, implemented in the first five years, which will encourage increased site access, generate enthusiasm and commitment from the citizens of Maryville, and attract investment.

The first phase of development, which includes all Priority 1 projects, must build on the existing assets of the park, targeting key projects that are inexpensive yet pivotal to the increased access and perception of the park. These first projects should prove to the local park users that the master plan is attainable while building excitement and public support for increased capital spending in subsequent phases.

Objective 2. Coordinate implementation and phasing to encourage the growth of local businesses, resulting in additional park revenues.

As the park grows in popularity, specifically from regional users, the implementation strategy must pivot to meet the needs of those users. The increased park revenues from their use of the site will be targeted to initiate larger capital expenses that allow for broader use of the site for both local and regional users. In turn, the additional users will impact the success of local businesses, providing more tax revenue for more park improvements. This cycle will ensure the park is developed in an economically sustainable way that does not put undue financial burden on future Maryville residents.

Objective 3. Plan for broad local and regional public support and participation throughout the twenty–year period of park development.

The scale of Mozingo Lake Recreation Park, the duration of the implementation plan, and the fact that the park is sustained by direct public tax dollars, demand that public support and participation are constant throughout the implementation process. Given the complexity of the park and its relationship with the public, it will be nearly impossible to predict all scenarios and contingencies that arise during the next twenty years. Thus, this Master Plan will be most successful if it targets initial implementation goals which will build public support and private investment and establishes a process for responding to changing demands.

ORGANIZATION OF PRIORITIES

The following implementation plan sets initial targets for park growth and development. For Mozingo, three five–year implementation phases, each based on the corresponding priority designation, are proposed to set goals and chart progress, though each implementation framework is subject to ongoing evaluation to ensure the strategy is appropriate for a changing park.

EFFORT LEVEL

Each recommendation is further categorized by level of effort in order to easily assess the complexity of the recommendation. For the most part, effort levels are based on both human capital and political capital needed to complete the project. The effort levels are broken down as follows:

Level 1 recommendations are the easiest to implement, often capable to be completed by existing staff.

Level 2 efforts are typically smaller capital improvement projects that will require additional design and engineering services, but are short in duration and intensity.

Level 3 efforts are large projects that will require extended design time and considerable capital to accomplish.

COST ESTIMATES

Cost estimates have been developed for reach recommendation within this plan. These estimates are intended for budget planning efforts only and will be updated over time. Project design, engineering, contract administration, and construction administration costs are not included in these estimates. Projects completed in–house will result in cost savings.

Please note that Priority 1 total cost recommendations include a 20% contingency in order to cover unanticipated costs. Further, Priority 2 and 3 total cost recommendations include a 25% contingency to account for changes in inflation.

PRIORITY 1 (YEARS 1-5)

As for many master plans, the first projects completed in a master plan set the tone and energy for future project success. The first implemented projects must be easily achievable and transformative in order to catalyze public support for future projects. The following list of park improvements is intended to do just that: focus on park accessibility, improve park operations, and expand park use in key areas.

Table 7.3: Priority 1 Recommendations (2015–2020)

	Cost Range
Priority 1: Level 1	
Develop a Wayfinding and Signage Master Plan	\$16,000 – \$27,000
Implement wayfinding signage improvements throughout the site	\$135,000 – \$225,000
Install Mozingo Lake Loop Road signage	\$8,000 – \$14,000
Develop a Mozingo Lake Watershed Management Plan	\$64,000 – \$106,000
Develop a Mozingo Design Guidelines Master Plan	\$20,000 – \$33,000
Add parking lots in the Pin Oak and Red Maple Neighborhoods	\$412,000 – \$687,000
Clear underbrush throughout the tent camping area and re-grade the campsites	\$2,000 – \$4,000
Add a new dock to the Songbird Cabins	\$4,000 – \$7,000
Construct a new parking lot and trails to the Songbird Cabins	\$86,000 – \$143,000
Add new cabins as demand increases	\$191,000 – \$317,000
Improve the website to include an online reservation system	\$8,000 – \$14,000
Pave additional parking lots near the South Boat Ramp	\$80,000 – \$132,000
Increase pedestrian safety through painting and signing all trail crosswalks	\$16,000 – \$27,000
Improve the Lookout Trailhead with new interpretive signage	\$10,000 – \$17,000
Priority 1: Level 2	
Improve the North Boat Ramp with new pedestrian access and relocated fish cleaning station	\$208,000 – \$347,000
Improve the sand quality of the beach	\$60,000 – \$99,000
Add fishing tournament viewing/weigh-in improvements to the South Boat Ramp	\$20,000 – \$33,000
Complete a paved loop trail around the Primary Use Area	\$1,066,000 – \$1,776,000
Priority 1: Level 3	
Upgrade water system to meet demands of full park build-out	\$1,169,000 – \$1,947,000
Design and construct a new Visitor's Center	\$602,000 – \$1,004,000
Replace the Phillips Shelter with The Point Pavilion, Great Lawn, parking lot, and walkways	\$1,086,000 – \$1,809,000
Develop the Lodge at Mozingo Lake	–
Total Priority 1 Costs:	\$5,263,000 – \$8,768,000

PRIORITY 2 (YEARS 6-10)

The Priority 2 improvements are intended to continue expanding the capabilities of the park. For the most part, the improvements involve improving the access within the park, improving existing camping facilities (RV, cabin, and tent), and constructing the remaining significant rentable facilities.

Table 7.4: Priority 2 Recommendations (2020–2025)

	Cost Range
Priority 2: Level 1	
Develop and sign the Mozingo Nature Trail around Mozingo Lake	\$372,000 – \$620,000
Build a shelter and fire ring at the Waterfowl Cabins	\$36,000 – \$60,000
Priority 2: Level 2	
Build new roads to increase park access and improve road intersections to improve internal wayfinding	\$915,000 – \$1,525,000
Pave the gravel sections of the Mozingo Loop Road	–
Construct new limestone trails in the Secondary Use Area	\$248,000 – \$413,000
Add new shelters to The Point	\$33,000 – \$55,000
Add twenty new RV campsites to the Red Maple Neighborhood, complete with full hookups	\$132,000 – \$220,000
Install shade trees and shelter at Kingfisher Cove	\$22,000 – \$36,000
Improve the Kingfisher Cove parking lot with paved surfacing and dedicated grass overflow parking	\$99,000 – \$165,000
Rehabilitate Kingfisher Cove restroom facilities	\$5,000 – \$8,000
Add Neighborhood Hubs to both RV campgrounds	\$50,000 – \$83,000
Add four new hard-edged fishing locations and four shoreline fishing locations along the lake	\$59,000 – \$98,000
Improve the Oak Forest Tent Campground with a new permit kiosk and primitive tent shelters	\$46,000 – \$76,000
Construct the Sweetgum Playground and Linden Point improvements	\$473,000 – \$788,000
Relocate the parking at the Waterfowl Cabins, adding new trails	\$98,000 – \$162,000
Construct the Hidden Cove Trailhead	\$32,000 – \$52,000
Repave North Boat Ramp parking lot	\$45,000 – \$75,000
Priority 2: Level 3	
Relocate the maintenance facility	\$596,000 – \$993,000
Build The Landing Pavilion and Lawn	\$977,000 – \$1,627,000
Design and construct the Blue Heron Amphitheater at The Point	\$126,000 – \$209,000
Construct the new Albert David Memorial Playground	\$488,000 – \$812,000
Add Kingfisher Cove breakwater and boardwalk	\$426,000 – \$709,000
Construct the Breakwater Pier with a trail and shelter to protect the Marina	\$420,000 – \$699,000
Total Priority 2 Costs:	\$5,698,000 – \$9,485,000

PRIORITY 3 (YEARS 11-15)

The Priority 3 goals are not unimportant or worth ignoring. Their implementation is simply not as immediate to the success of the park as previous projects. That being said, all recommendations that fall under Priority 3 should be reevaluated with a subsequent master plan to ensure that they will meet the needs of the park.

Table 7.5: Priority 3 Recommendations (2025–2030)

	Cost Range
Priority 3: Level 1	
Develop a Mozingo Equestrian Master Plan	\$17,000 – \$28,000
Improve trails throughout the Oak Forest Tent Campground	\$55,000 – \$92,000
Build a shelter and fire ring at the Songbird Cabins	\$20,000 – \$32,000
Make the Youth Camp improvements, including paving the parking lot, improving trails, and rehabilitating shelters	\$85,000 – \$141,000
Priority 3: Level 2	
Add shelters and parking lots along the road to the North Boat Ramp	\$438,000 – \$730,000
If desired, retrofit all campsites at the Red Maple Neighborhood to full hookup capabilities	\$66,000 – \$110,000
Improve the driving range with tiered driving shelters	\$66,000 – \$110,000
Construct improvements to the equestrian facilities, including the Horace ‘Jimmy’ Jones Trailhead and Switchgrass Trailhead	\$397,000 – \$662,000
Construct the Goldenrod, Snow Goose, and Bald Eagle Trailheads	\$68,000 – \$113,000
Add four additional hard-edged fishing locations and four additional shoreline fishing locations along the lake	\$59,000 – \$98,000
Priority 3: Level 3	
Design and construct the Egret Amphitheater at The Landing	\$138,000 – \$230,000
Design and build the Boathouse and Marina Café	\$1,551,000 – \$2,584,000
Add docks to the Mozingo Marina to store forty boats	\$187,000 – \$311,000
Construct the Boat Repair Shop and boat washing station at the Mozingo Marina	\$96,000 – \$159,000
Design and construct the Homer Croy Festival Bowl with electrical system and temporary stage	\$291,000 – \$484,000
Build the Dog Park	\$59,000 – \$97,000
Total Priority 3 Costs:	\$3,593,000 – \$5,981,000

STEWARDSHIP PLAN

Continued maintenance is essential to ensuring that the park continues to be an attractive destination for local and regional park users. To anticipate the costs that will go into long-term management of the site, the following recommendations and costs have been developed. The costs have been broken into two categories:

Table 7.6, Stewardship Recommendations, includes new project recommendations and initiatives which will improve the park but are not one-time capital improvements. Many, such as tree planting efforts, are broken up into many years in order to make the improvement more fiscally and operationally manageable.

Table 7.7, Replacement Costs, includes maintenance and replacement approximations based on the rough quantities of park amenities that are in the park. The costs also take into consideration the replacement times that are outlined in the General Recommendations chapter (page 30).

Both costs need to be included in future capital improvement plans to ensure that new yearly initiatives and replacement costs are included in project budgets.

Table 7.6: Stewardship Recommendations (2015–2030)

	Cost Range per Year
Priority 1	
Hire or train a new full-time park conservationist to manage woodlands and prairies	\$48,000 – \$80,000
Plant 150 new shade trees in the park	\$10,000 – \$17,000
Implement watershed management techniques around the park, especially in areas where off-site agricultural or on-site irrigated land is directly draining into the lake	\$16,000 – \$27,000
Initiate an improved beach maintenance routine	\$14,000 – \$22,000
Priority 1 Total:	\$88,000 – \$146,000
Priority 2	
Convert unprogrammed turf areas to native prairie	\$7,000 – \$11,000
Install ornamental plantings at key areas of the site	\$4,000 – \$6,000
Priority 2 Total:	\$11,000 – \$17,000
Priority 3	
Convert leased agricultural land to native prairie	\$47,000 – \$77,000
Hire a full-time marketing specialist	\$50,000 – \$83,000
Priority 3 Total:	\$97,000 – \$160,000

Table 7.7: Replacement Costs (2015–2030)

	Cost Range per Year
Resurfacing roads and trails	\$27,000 – \$44,000
Replace site furniture (benches, trash receptacles, picnic tables, etc.)	\$27,000 – \$44,000
Replace RV pads and re-grade tent sites	\$30,000 – \$50,000
Replace and rehabilitate shelters, restrooms, and pavilions	\$33,000 – \$55,000
Replace docks	\$7,000 – \$11,000
Replace or rehabilitate cabins	\$7,000 – \$11,000
Replace play equipment	\$10,000 – \$17,000
Total Replacement Costs:	\$141,000 – \$232,000

APPENDIX CONTENTS

Ballard * King Market Review Report

Olsson Associates Anticipated Water & Waste Water Analysis

Stakeholder Meeting Minutes: Mozingo Lake Recreation Park Advisory Board

Stakeholder Meeting Minutes: Economic Development Interests

Stakeholder Meeting Minutes: Park Users

Stakeholder Meeting Minutes: Park Maintenance Staff

Stakeholder Meeting Minutes: Northwest Missouri State University Interests



Mozingo Lake Recreation Park Market Review City of Maryville, Missouri

Demographic Summary & Market Review

Ballard*King & Associates as part of the RDG project team, has been tasked with the development of a demographic assessment and market review for Mozingo Lake Recreation Park. The following is a summary of the basic demographic characteristics of the identified service areas along with recreation and leisure participation standards as produced by the National Sporting Goods Association.

It is important to note that the summary of participation standards is merely that. Given the size of Mozingo Lake Recreation Park and the regional nature of the park, it is difficult to drill down to specific participation numbers by service area. However, the participation number along with trend information should be used to make future development decisions within the park along with programmatic direction.

Service Areas: Mozingo Lake Recreation Park is part of the City of Maryville (Mozingo is its own department within the City of Maryville). That being the case it would be natural to view the City of Maryville proper as the primary service area for the park. However, given the size of the park and the amenities contained within the park, a larger primary service area is more realistic. Based upon that, a 30-minute drive time has been used as the Primary Service Area and is a realistic expectation of how far individuals may travel on a consistent basis to use amenities in the park based upon the time of year. A significantly larger Secondary Service Area of 180-minute drive time has been identified. This larger secondary service area is indicative of the regional draw that the City of Maryville would like Mozingo Lake Recreation Park to have.

Primary Service Areas are usually defined by the distance people will travel on a regular basis (a minimum of once a week) to utilize a facility or its programs. Use by individuals outside of this area will be much more limited and will focus more on special activities or events (tournaments, etc.).

Service areas can vary in size with the types of components that are included in a facility. A center with active elements (pool, weight cardiovascular equipment area, gym, track, etc.) will generally have a larger service area than a more passively oriented facility. Specialized facilities such as a sports field house, ice arena or large competitive aquatic venue will have even larger service areas that make them more of a regional destination.

Service areas can also be based upon a facility's proximity to major thoroughfares. Other factors impacting the use as it relates to driving distance are the presence of alternative service providers in the service area. Alternative service providers can have an impact upon membership, daily admissions and the associated penetration rates for programs and services.

Service Area Comparison Chart:

	Primary Service Area	Secondary Service Area
Population:		
2010 Census	26,037	4,997,335
2013 Estimate	26,624	5,103,578
2018 Estimate	27,157	5,298,451
Households:		
2010 Census	9,511	1,964,906
2013 Estimate	9,783	2,009,254
2018 Estimate	10,018	2,088,296
Families:		
2010 Census	5,536	1,280,270
2013 Estimate	5,669	1,303,733
2018 Estimate	5,753	1,346,320
Average Household Size:		
2010 Census	2.35	2.48
2013 Estimate	2.35	2.48
2018 Estimate	2.35	2.48
Ethnicity:		
Hispanic	1.4%	8.0%
White	94.3%	83.2%
Black	2.5%	8.0%
American Indian	0.2%	0.6%
Asian	1.4%	2.2%
Pacific Islander	0.02%	0.1%
Other	0.4%	3.3%
Multiple	1.2%	2.6%
Median Age:		
2010 Census	29.4	36.2
2013 Estimate	29.9	36.6
2018 Estimate	31.4	37.2
Median Income:		
2013 Estimate	\$38,228	\$51,755
2018 Estimate	\$47,220	\$61,988
Household Budget Expenditures¹:		
Housing	67	97
Entertainment & Recreation	75	102

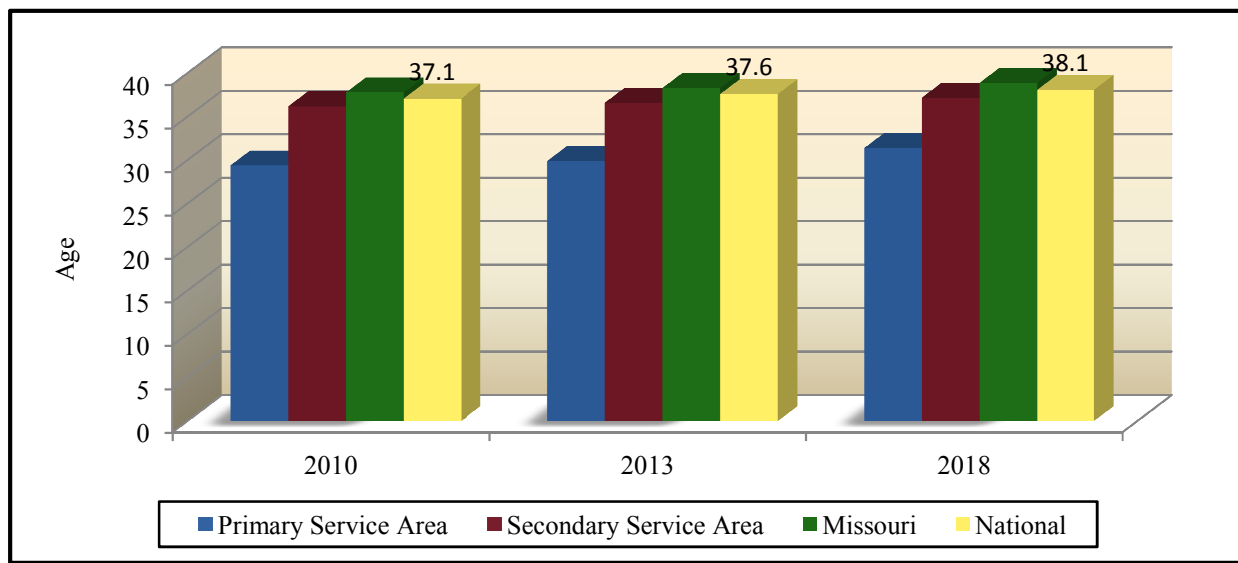
¹ This information is placed on an index with a reference point being the National average of 100.

Age and Income: The median age and household income levels are compared with the national number as both of these factors are primary determiners of participation in recreation and leisure activities. The lower the median age, the higher the participation rates are for most activities. The level of participation also increases as the median income level goes up.

Table A – Median Age:

	2010 Census	2013 Projection	2018 Projection
Primary Service Area	29.4	29.9	31.4
Secondary Service Area	36.2	36.6	37.2
State of Missouri	37.8	38.3	38.9
Nationally	37.1	37.6	38.1

Chart A – Median Age:

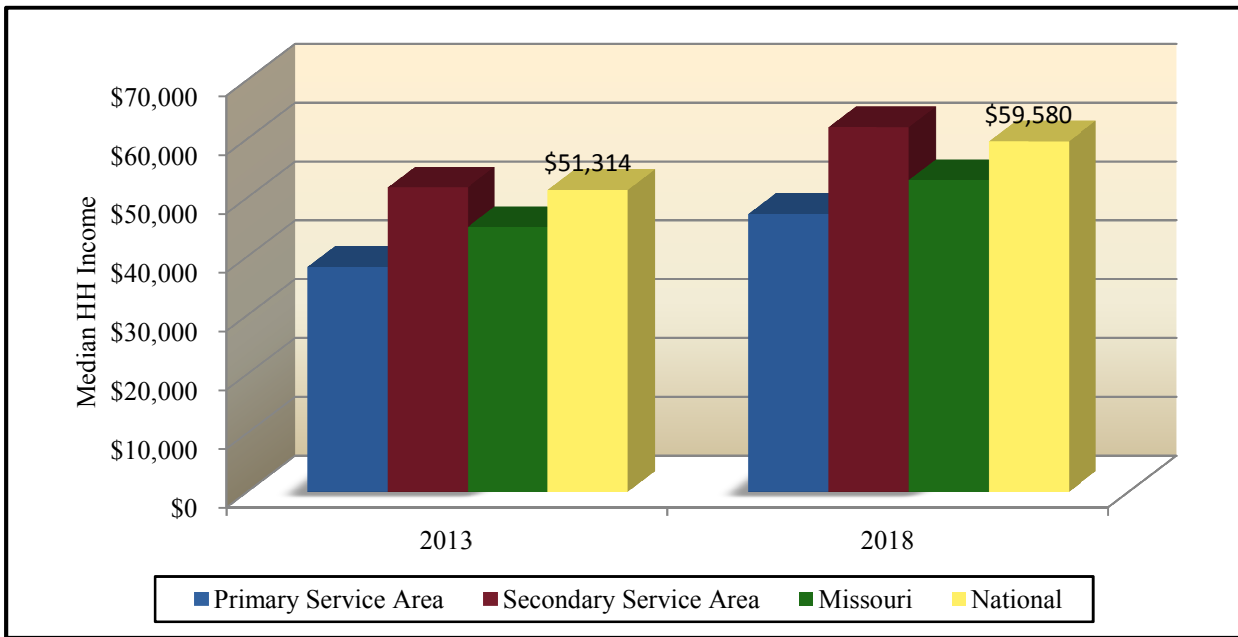


The median age in the State of Missouri is slightly greater than the National number, while the Secondary Service Area is slightly below the National number. The median age in the Primary Service Area is significantly below the Secondary Service Area, State of Missouri and National numbers, which is consistent with the presence of a major college/university within the service area. It must be remembered that the wide variety of activities that can take place at Mozingo Lake Recreation Park should have appeal to various age groups and demographics.

Table B – Median Household Income:

	2013 Estimate	2018 Projection
Primary Service Area	\$38,228	\$47,220
Secondary Service Area	\$51,755	\$61,988
State of Missouri	\$45,010	\$53,001
Nationally	\$51,314	\$59,580

Chart B – Median Household Income:



Based upon 2013 projections the following narrative can be provided about the service areas:

In the Primary Service Area the percentage of households with median income over \$50,000 per year is 39.9% compared to 50.1% on a national level. Furthermore, the percentage of the households in the service area with median income less than \$25,000 per year is 32.8% compared to a level of 24.7% nationally.

In the Secondary Service Area the percentage of households with median income over \$50,000 per year is 52.1% compared to 50.1% on a national level. Furthermore, the percentage of the households in the service area with median income less than \$25,000 per year is 22.8% compared to a level of 24.7% nationally.

The median household income for the State of Missouri is slightly below the National number while the Primary Service Area is significantly below both the State of Missouri and National numbers. This again is consistent with the presence of a major college/university within the service area. The median age in the Secondary Service Area is only slightly greater than the National number, but this is also consistent with the sheer size and population of said service area as the larger the service area is the less deviation there is from the National numbers.

This information is important to keep in mind with regards to price points for various activities that take place at Mozingo Lake Recreation Park. For the activities that are going to attract the frequent day user, those within the 30-minute drive time Primary Service Area, prices should be reasonable and comparable to other service providers in the market. For activities that are going to pull individuals from the Secondary Service Area and a further distance away charging rates that are at or above market rate would be more appropriate.

In addition to taking a look at Median Age and Median Income, it is important to examine Household Budget Expenditures. In particular looking at housing information; shelter, utilities, fuel and public services along with entertainment & recreation can provide a snap shot into the cost of living and spending patterns in the services areas. The table below looks at that information and compares the service areas.

Table C – Household Budget Expenditures²:

Primary Service Area	SPI	Average Amount Spent	Percent
Housing	67	\$14,331.72	29.4%
<i>Shelter</i>	65	\$10,531.34	21.6%
<i>Utilities, Fuel, Public Service</i>	75	\$3,800.37	7.8%
Entertainment & Recreation	75	\$2,425.42	5.0%

Secondary Service Area	SPI	Average Amount Spent	Percent
Housing	97	\$20,674.51	30.6%
<i>Shelter</i>	96	\$15,596.88	23.1%
<i>Utilities, Fuel, Public Service</i>	101	\$5,087.62	7.5%
Entertainment & Recreation	102	\$3,313.19	4.9%

State of Missouri	SPI	Average Amount Spent	Percent
Housing	86	\$18,421.93	30.4%
<i>Shelter</i>	85	\$13,762.09	22.7%
<i>Utilities, Fuel, Public Service</i>	92	\$4,659.84	7.7%
Entertainment & Recreation	92	\$2,986.11	4.9%

SPI: Spending Potential Index as compared to the National number of 100.

Average Amount Spent: The average amount spent per household.

Percent: Percent of the total 100% of household expenditures.

Note: Shelter along with Utilities, Fuel, Public Service are a portion of the Housing percentage.

² Consumer Spending data are derived from the 2004 and 2005 Consumer Expenditure Surveys, Bureau of Labor Statistics. ESRI forecasts for 2012 and 2018.

Chart C – Household Budget Expenditures Spending Potential Index:

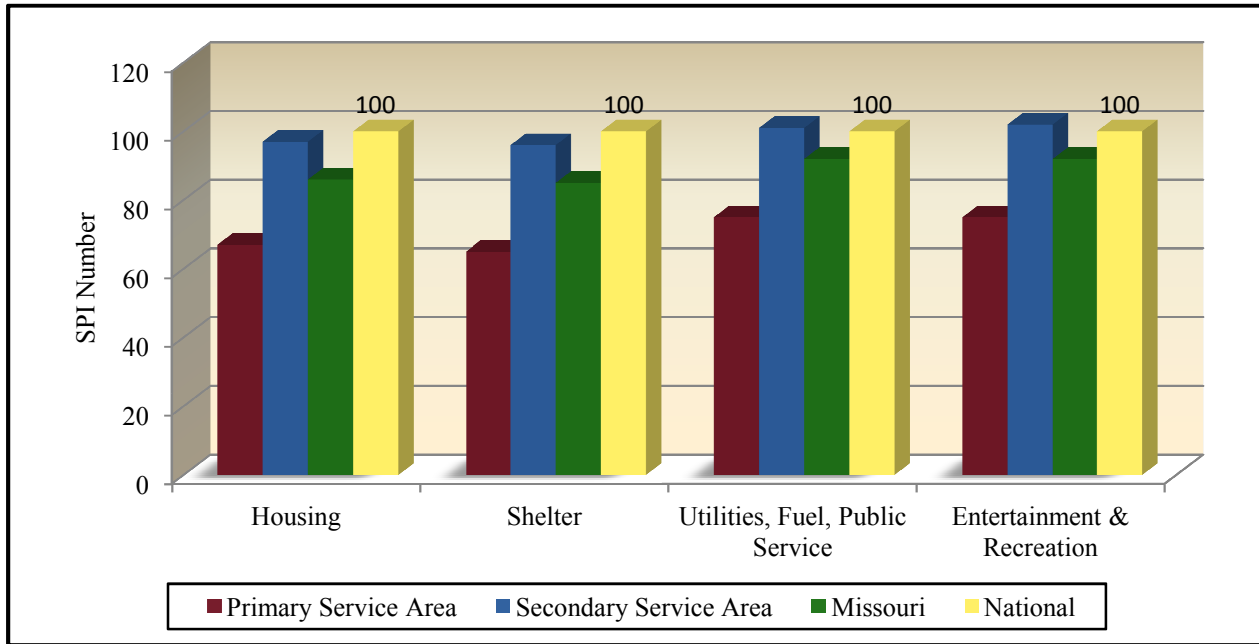


Chart C, illustrates the Household Budget Expenditures Spending Potential Index in the service areas. The index in both the State of Missouri and the Primary Service Area are below the National Number. In contrast the Secondary Service Area is slightly above and slightly below the National number on a category by category basis. This means that the overall cost of living in the Primary Service Area and State of Missouri are below the National average while the Secondary Service Area is at the National average.

Again this is important information to keep in mind when looking at current and future rate structure and frequency of visitor.

Recreation Expenditures Spending Potential Index: Finally, through the demographic provider that B*K utilizes for the market analysis portion of the report, we are able to examine the overall propensity for households to spend dollars on recreation activities. The following comparisons are possible.

Table D – Recreation Expenditures Spending Potential Index³:

Primary Service Area	SPI	Average Spent
Fees for Participant Sports	57	\$67.28
Fees for Recreational Lessons	54	\$66.57
Social, Recreation, Club Membership	56	\$94.00
Camp Fees	51	\$18.52
Purchases of RVs or Boats	82	\$137.41
Rental of RVs or Boats	61	\$5.10
Exercise Equipment/Game Tables	69	\$46.55
Bicycles	63	\$16.24
Camping Equipment	34	\$6.41
Hunting and Fishing Equipment	81	\$32.84
Water Sports Equipment	86	\$5.72
Other Sports Equipment	97	\$8.29

Secondary Service Area	SPI	Average Spent
Fees for Participant Sports	95	\$112.41
Fees for Recreational Lessons	92	\$113.82
Social, Recreation, Club Membership	96	\$160.00
Camp Fees	94	\$34.44
Purchases of RVs or Boats	98	\$165.01
Rental of RVs or Boats	97	\$8.05
Exercise Equipment/Game Tables	96	\$65.15
Bicycles	97	\$24.96
Camping Equipment	51	\$9.42
Hunting and Fishing Equipment	81	\$32.89
Water Sports Equipment	99	\$6.59
Other Sports Equipment	106	\$9.04

³ Consumer Spending data are derived from the 2006 and 2007 Consumer Expenditure Surveys, Bureau of Labor Statistics.

State of Missouri	SPI	Average Spent
Fees for Participant Sports	82	\$97.33
Fees for Recreational Lessons	79	\$97.97
Social, Recreation, Club Membership	84	\$140.54
Camp Fees	79	\$28.78
Purchases of RVs or Boats	90	\$151.29
Rental of RVs or Boats	85	\$7.07
Exercise Equipment/Game Tables	86	\$57.80
Bicycles	83	\$21.39
Camping Equipment	44	\$8.24
Hunting and Fishing Equipment	76	\$30.95
Water Sports Equipment	91	\$6.05
Other Sports Equipment	97	\$8.28

Average Amount Spent: The average amount spent for the service or item in a year.

SPI: Spending potential index as compared to the national number of 100.

The Spending Potential Index for Recreation is very comparable to the numbers in the Household Budget Index in that they follow the same pattern. The Primary Service Area and the Secondary Service Area are both lower than the National. The Primary Service Area is less than the State number while the Secondary Service Area is greater than the State.

It is also important to note that these dollars are currently being spent, so the identification of alternative service providers and the ability of another facility to capture a portion of these dollars will be important.

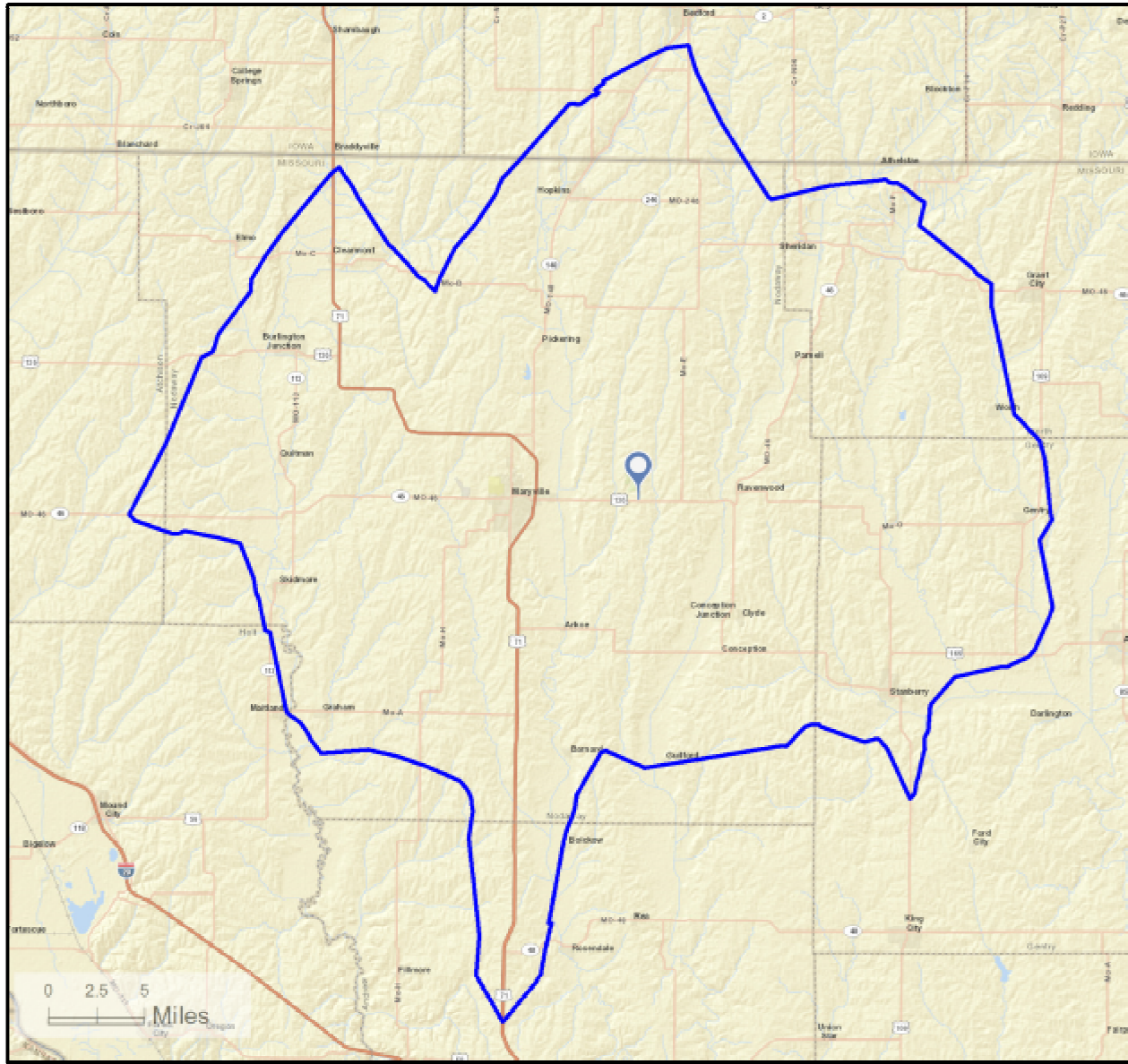
Service Area Analysis

Each of the identified service area's demographic characteristics is now analyzed individually.

Primary Service Area – 30–minute drive time.

Secondary Service Area – 180–minute drive time.

Map D – Primary Service Area Map:



Population Distribution by Age: Utilizing census information for the Primary Service Area, the following comparisons are possible.

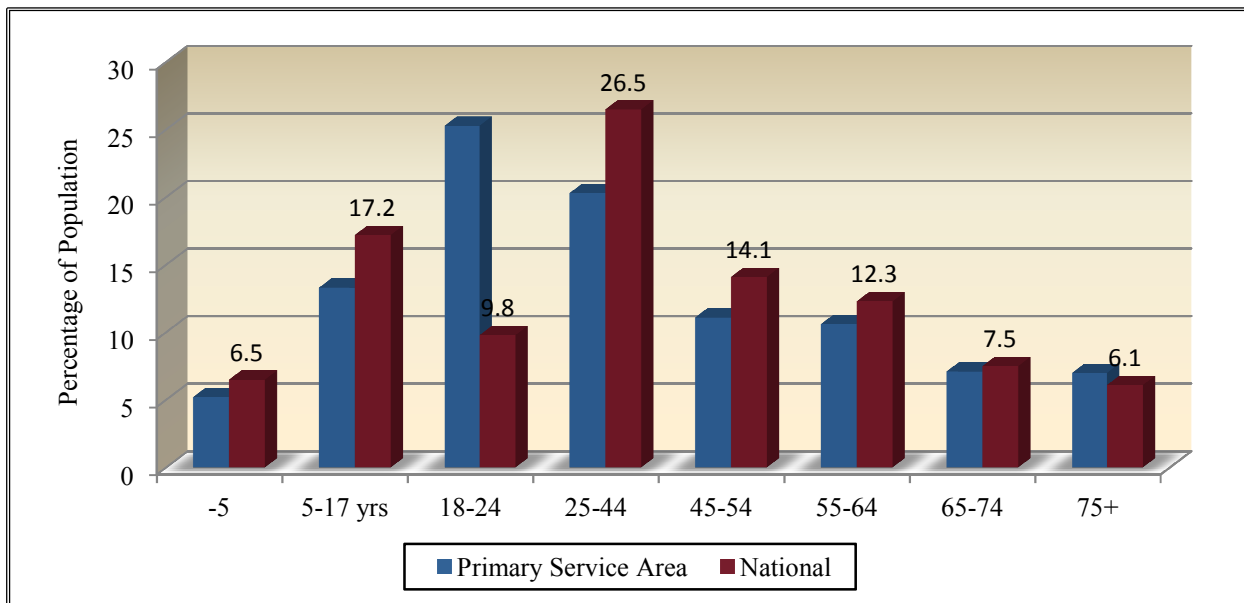
Table E – 2013 Primary Service Area Age Distribution

(ESRI estimates)

Ages	Population	% of Total	Nat. Population	Difference
-5	1,383	5.2%	6.5%	-0.7%
5-17	3,534	13.3%	17.2%	-3.9%
18-24	6,762	25.3%	9.8%	+15.5%
25-44	5,413	20.3%	26.5%	-6.2%
45-54	2,946	11.1%	14.1%	-3.0%
55-64	2,835	10.6%	12.3%	-1.7%
65-74	1,891	7.1%	7.5%	-0.4%
75+	1,860	7.0%	6.1%	+0.9%

- Population:** 2013 census estimates in the different age groups in the Primary Service Area.
- % of Total:** Percentage of the Primary Service Area/population in the age group.
- National Population:** Percentage of the national population in the age group.
- Difference:** Percentage difference between the Primary Service Area population and the national population.

Chart E – 2013 Primary Service Area Age Group Distribution



The demographic makeup of the Primary Service Area, when compared to the characteristics of the national population, indicates that there are some differences with an equal or larger population in the 18–24 and 75+ age groups and a smaller population in the –5, 5–17, 25–44, 45–54, 55–64 and 65–74 age groups. The largest positive variance is in the 18–24 age group with +15.5%, while the greatest negative variance is in the 25–44 age group with –6.2%.

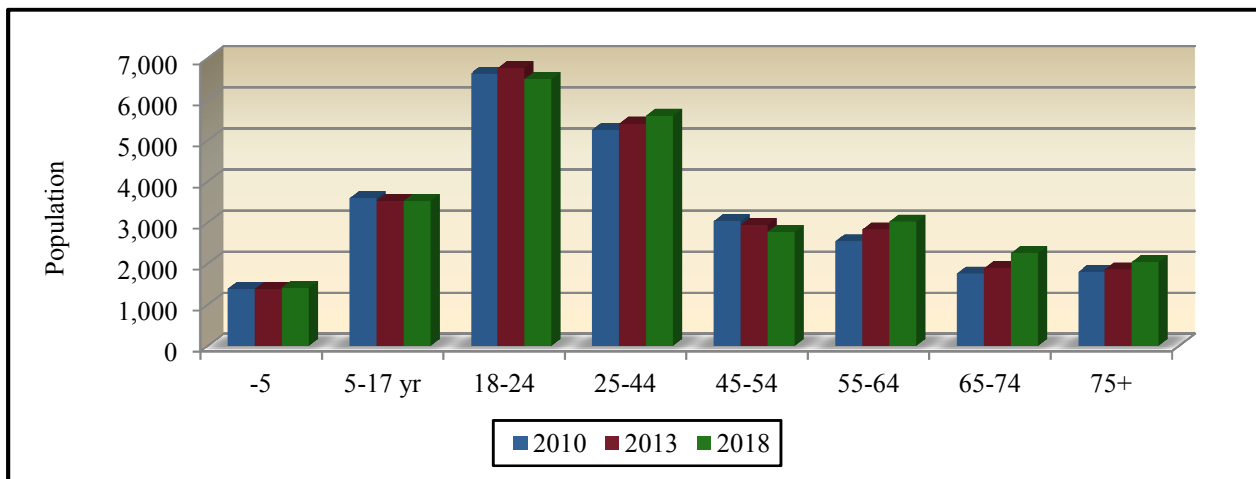
Population Distribution Comparison by Age: Utilizing census information from the Primary Service Area, the following comparisons are possible.

Table F – 2013 Primary Service Area Population Estimates

(U.S. Census Information and ESRI)

Ages	2010 Census	2013 Projection	2018 Projection	Percent Change	Percent Change Nat'l
–5	1,394	1,383	1,419	+1.8%	+4.7%
5–17	3,598	3,534	3,530	–1.9%	+1.8%
18–24	6,633	6,762	6,495	–1.2%	–2.4%
25–44	5,261	5,413	5,607	+6.6%	+10.4%
45–54	3,037	2,946	2,779	–8.5%	–6.2%
55–64	2,549	2,835	3,027	+18.8%	+13.7%
65–74	1,765	1,891	2,261	+28.1%	+32.9%
75+	1,802	1,860	2,040	+13.2%	+9.5%

Chart F – Primary Service Area Population Growth



Table–F, illustrates the growth or decline in age group numbers from the 2010 census until the year 2018. It is projected that all of the age categories will see an increase or static growth in population, except the 5–17, 18–24 and 45–54 age groups. It must be remembered that the population of the United States as a whole is aging and it is not unusual to find negative growth numbers in the younger age groups and significant net gains in the 45 plus age groupings in communities which are relatively stable in their population numbers.

Below is listed the distribution of the population by race and ethnicity for the Primary Service Area for 2013 population projections. Those numbers were developed from 2010 Census Data.

Table G – Primary Service Area Ethnic Population and Median Age

(Source – U.S. Census Bureau and ESRI)

Ethnicity	Total Population	Median Age	% of Population	% of MO Population
Hispanic	363	22.4	1.4%	4.0%

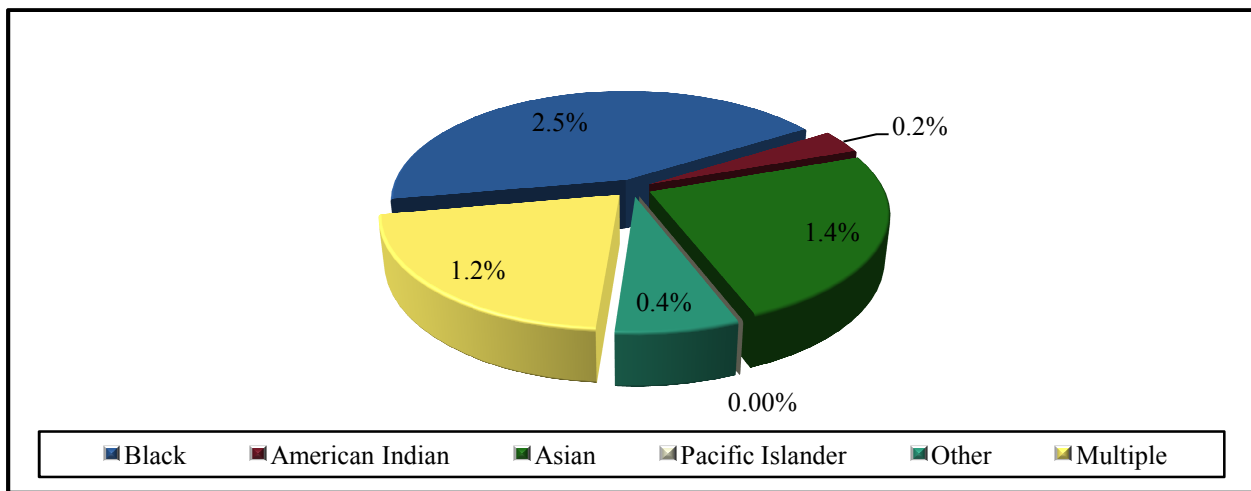
Table H – Primary Service Area Population by Race and Median Age

(Source – U.S. Census Bureau and ESRI)

Race	Total Population	Median Age	% of Population	% of MO Population
White	25,095	31.2	94.3%	82.3%
Black	669	22.8	2.5%	11.7%
American Indian	51	32.5	0.2%	0.5%
Asian	385	23.4	1.4%	1.7%
Pacific Islander	5	61.3	0.02%	0.1%
Other	105	23.1	0.4%	1.5%
Multiple	315	19.7	1.2%	2.2%

2013 Primary Service Area Total Population: 26,624 Residents

Chart G – Primary Service Area Non-White Population by Race



Tapestry Segments: In addition to exploring the age group distribution, population growth along with ethnicity and race of the service area, B*K can further study the service area by examining the various tapestry segments. The following table outlines the top 5 tapestry segments within the Primary Service Area and provides definitions for each of the tapestries.

Table I – Primary Service Area Tapestry Segment Comparison

(ESRI estimates)

	Primary Service Area		U.S. Households	
	Percent	Cumulative Percent	Percent	Cumulative Percent
Prairie Living (37)	36.7%	36.7%	1.2%	1.2%
College Towns (55)	25.1%	61.8%	0.9%	2.1%
Prosperous Empty Nesters (14)	8.1%	69.9%	2.1%	4.2%
Heartland Communities (50)	7.3%	77.2%	2.0%	6.2%
Salt of the Earth (25)	7.0%	84.2%	2.7%	8.9%

Prairie Living (37) – Small, family–owned farms in the Midwest dominate this stable market, 2/3 of these households are composed of married couples with or without children. These residents are slightly older with a median age of 41.3 years. There is little diversity in this segment.

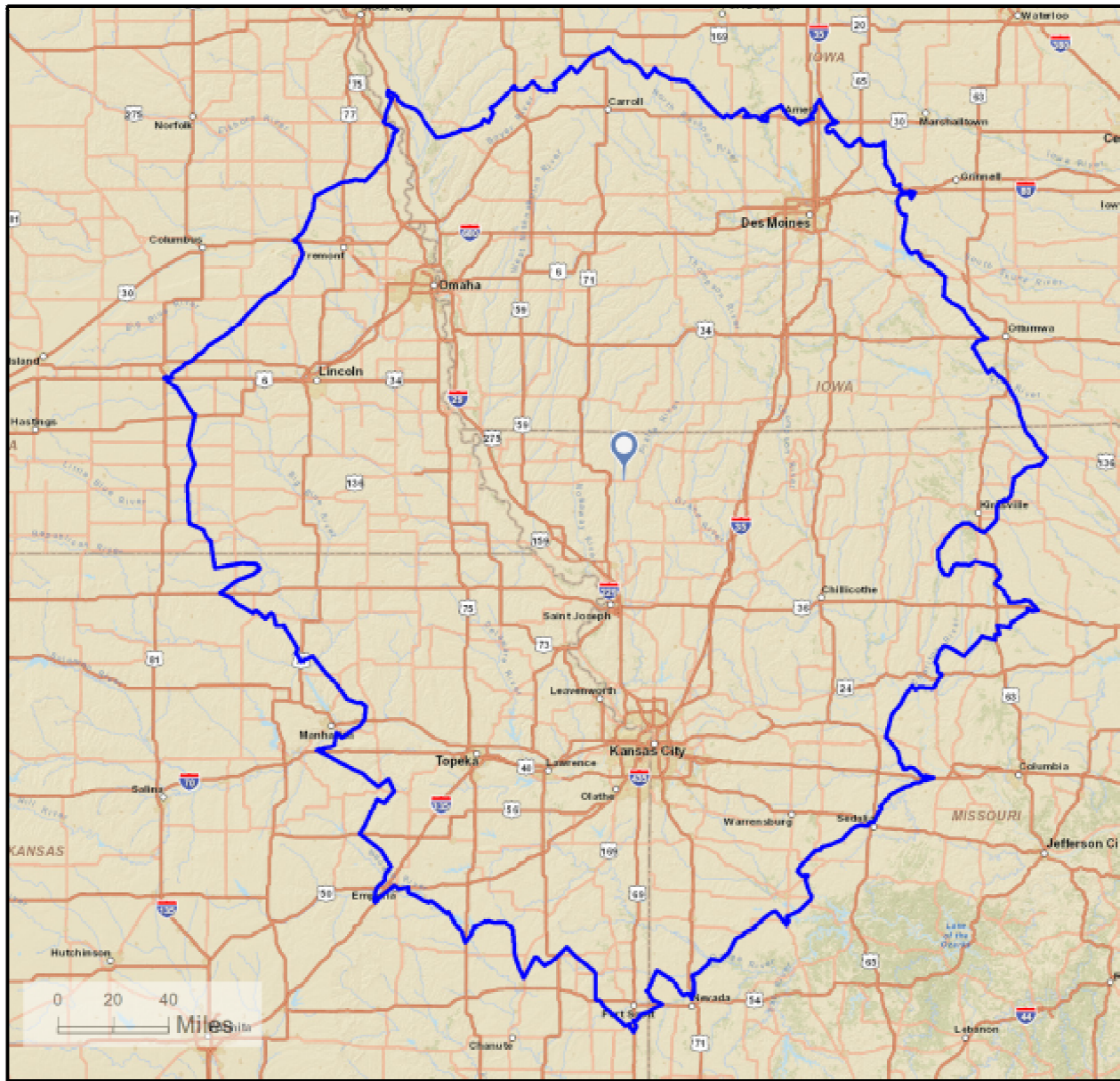
College Towns (55) – With a median age of 24.4 years this segment is the third youngest of all the Tapestry segments. Most residents are aged between 18–34 years and live in single–person or shared households, ¼ of households are occupied by married couple families.

Prosperous Empty Nesters (14) – Approximately 6 in 10 households are aged 55 years or older, 40% of the households are composed of married couples with no children living at home. Residents are enjoying the move from child–rearing to retirement. This segment is not ethnically diverse; approximately 90% of residents are white.

Heartland Communities (50) – Settled and close–knit these residents have a median age of 42.4 years and approximately ½ of the residents have already retired, many in the same towns where they have lived and worked their whole lives. Although married–couple families comprise nearly ½ of the household types and almost 1/3 are singles who live alone, other family types and share housing are also represented. Diversity is minimal.

Salt of the Earth (25) – Of the households in these neighborhoods 65% are married couples with and without children, 20% of the households are singles who live alone. The median age is 41.5 years and these neighborhoods are the least diverse of the Tapestry segments.

Map E – Secondary Service Area Map:



Population Distribution by Age: Utilizing census information for the Secondary Service Area, the following comparisons are possible.

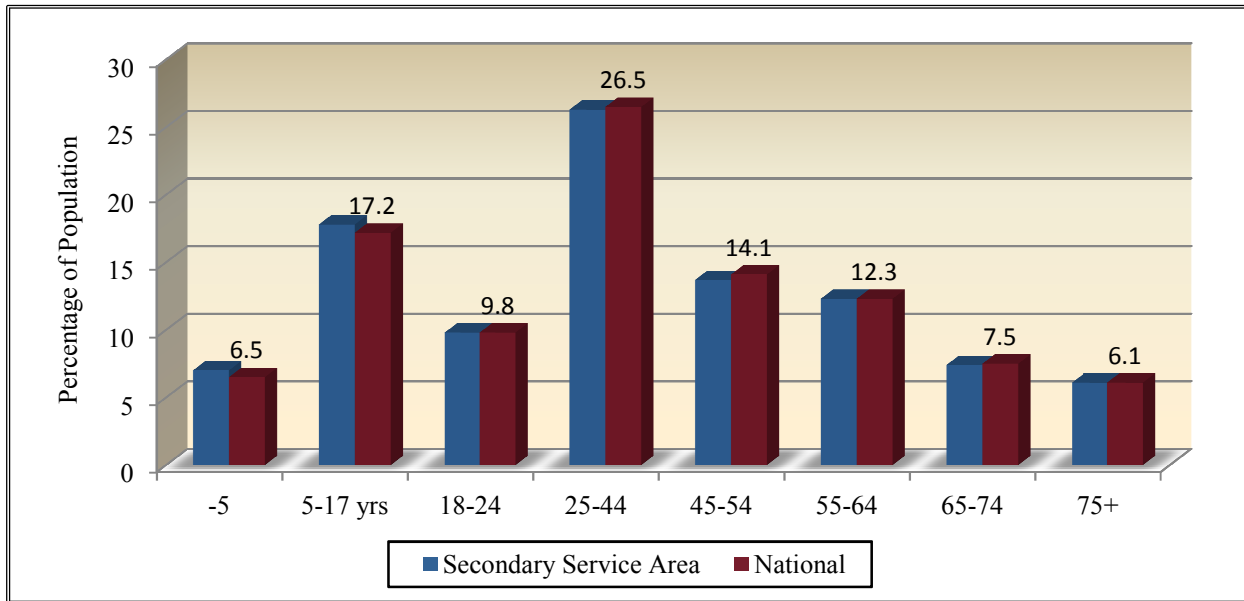
Table J – 2013 Secondary Service Area Age Distribution

(ESRI estimates)

Ages	Population	% of Total	Nat. Population	Difference
-5	350,368	7.0%	6.5%	+0.5%
5-17	894,979	17.8%	17.2%	+0.6%
18-24	501,179	9.8%	9.8%	+0.0%
25-44	1,345,220	26.3%	26.5%	-0.2%
45-54	696,956	13.7%	14.1%	-0.4%
55-64	630,112	12.3%	12.3%	+0.0%
65-74	375,127	7.4%	7.5%	-0.1%
75+	309,637	6.1%	6.1%	+0.0%

- Population:** 2013 census estimates in the different age groups in the Secondary Service Area.
- % of Total:** Percentage of the Secondary Service Area population in the age group.
- National Population:** Percentage of the national population in the age group.
- Difference:** Percentage difference between the Secondary Service Area population and the national population.

Chart H – 2013 Secondary Service Area Age Group Distribution



The demographic makeup of the Secondary Service Area, when compared to the characteristics of the national population, indicates that there are some differences with an equal or larger population in the -5, 5-17 and 45-54 age groups and a smaller population in the 18-24, 25-44, 55-64, 65-74 and 75+ age groups. The largest positive variance is in the 5-17 age group with +2.2%, while the greatest negative variance is in the 18-24 age group with -1.6%.

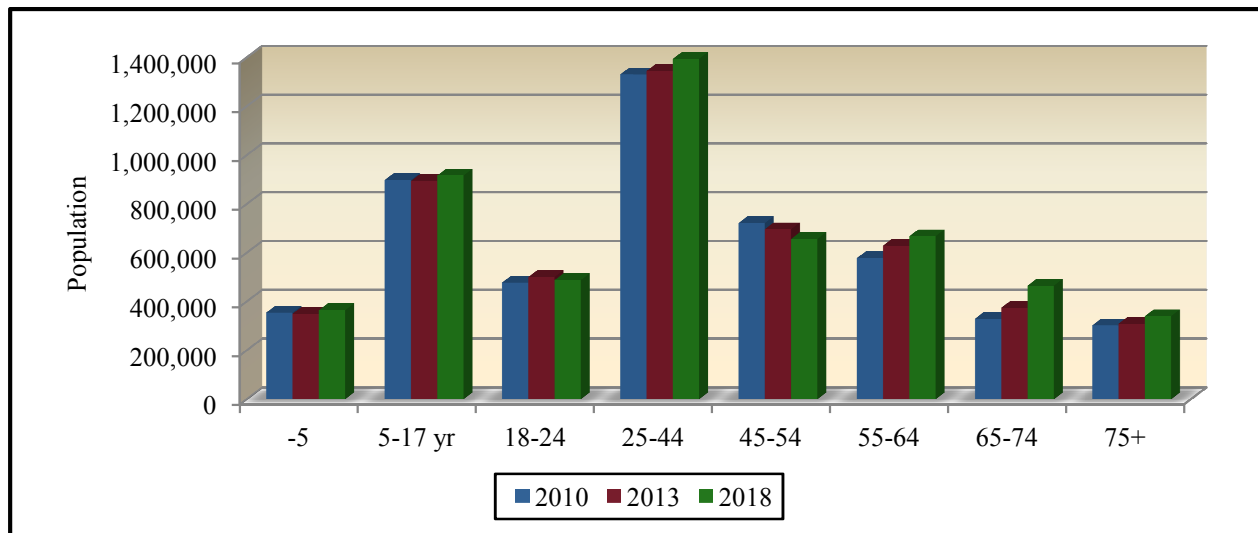
Population Distribution Comparison by Age: Utilizing census information from the Secondary Service Area, the following comparisons are possible.

Table K – 2013 Secondary Service Area Population Estimates

(U.S. Census Information and ESRI)

Ages	2010 Census	2013 Projection	2018 Projection	Percent Change	Percent Change Nat'l
-5	354,961	350,368	365,289	+2.9%	+4.7%
5-17	898,601	894,979	917,197	+2.1%	+1.8%
18-24	478,182	501,179	488,504	+2.2%	-2.4%
25-44	1,331,244	1,345,220	1,395,408	+4.8%	+10.4%
45-54	722,570	696,956	657,241	-9.0%	-6.2%
55-64	578,610	630,112	668,201	+15.5%	+13.7%
65-74	330,373	375,127	466,102	+41.1%	+32.9%
75+	302,963	309,637	340,509	+12.4%	+9.5%

Chart I – Secondary Service Area Population Growth



Table–K illustrates the growth or decline in age group numbers from the 2010 census until the year 2018. It is projected that all of the age categories will see an increase or static growth in population, except 45–54. It must be remembered that the population of the United States as a whole is aging and it is not unusual to find negative growth numbers in the younger age groups and significant net gains in the 45 plus age groupings in communities which are relatively stable in their population numbers.

Below is listed the distribution of the population by race and ethnicity for the Secondary Service Area for 2013 population projections. Those numbers were developed from 2010 Census Data.

Table L – Secondary Service Area Ethnic Population and Median Age

(Source – U.S. Census Bureau and ESRI)

Ethnicity	Total Population	Median Age	% of Population	% of MO Population
Hispanic	409,415	24.0	8.0%	4.0%

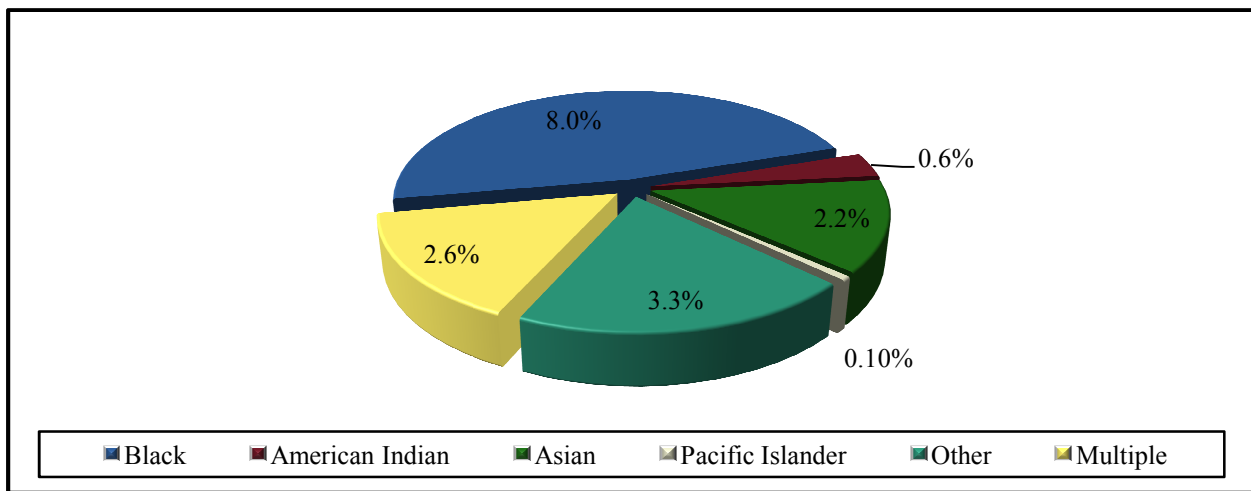
Table M – Secondary Service Area Population by Race and Median Age

(Source – U.S. Census Bureau and ESRI)

Race	Total Population	Median Age	% of Population	% of MO Population
White	4,243,771	39.0	83.2%	82.3%
Black	408,025	31.2	8.0%	11.7%
American Indian	31,848	31.0	0.6%	0.5%
Asian	110,360	31.2	2.2%	1.7%
Pacific Islander	5,543	27.3	0.1%	0.1%
Other	168,863	25.2	3.3%	1.5%
Multiple	135,168	16.1	2.6%	2.2%

2013 Secondary Service Area Total Population: 5,103,578 Residents

Chart J – Secondary Service Area Non-White Population by Race



Demographic Summary

The following summarizes the demographic characteristics of the service areas.

- The Primary Service Area is relatively small, however given the presence of the community and college/university there is still a great deal of participation and usage of Mozingo Lake Recreation Park that could be generated within the identified 30–minute drive time. These individuals will be your daily, weekly and monthly users of the park depending upon the amenity that they are most interested in.
- The Secondary Service Area is very large and represents the regional draw that the park hopes to have. These individuals are going to be more interested in staying at the park and using a variety of the amenities that are available on–site. These users will be of the monthly or seasonal variety. Some may only use the park once a season or once a year.
- The population of the Primary Service Area is younger, reflective of the college campus, but also has a population of young families and older adults. All of these groups are potential users of the park depending upon amenity. The Secondary Service Area is more reflective of the population of the U.S. as a whole, with growth in the younger age groups and significant growth in the older population.
- The median household income for the Primary Service Area is lower than the National level while the Secondary Service Area is slightly higher than the National number. This information is important to keep in mind as decisions are made as to what revenue and cost centers are within the park.
- The median age is less relevant in the overall planning of the park because there are amenities within the park that appeal to every age bracket. Identifying the activities that will be appeal to various age groups and pricing those activities appropriately will be more important.

Participation Numbers:

In addition to providing a demographic analysis of the identified service areas B*K has also accessed some basic participation numbers for activities that either currently take place at Mozingo Lake Recreation Park or could take place at that location. The following pages outline adult participation in various activities, the level of participation in the State of Missouri for various activities and finally the trends of those activities over the past 10 years.

Adult Participation: A MPI (Market Potential Index) measures the relative likelihood of the adults in the specified trade area to exhibit certain consumer behavior or purchasing patterns compared to the U.S. An MPI of 100 represents the U.S. average. The data are based upon national propensities to use various products and services, applied to the demographics of the service area. Usage data were collected by (?) MRI in a nationally representative survey of U.S. households.

Participation by Race/Ethnicity, State Participation and National Trends: On an annual basis the NSGA (National Sporting Goods Association) completes an annual survey of how Americans spend their leisure and recreation time. The information contained in these charts reflects the information collected in the 2012 survey, where a total of 47 activities were discussed. It is important to note that this information is State and National data and that anomalies in use and activities can occur on a local or regional level.

Table R – Market Potential Index for Adult Participation in the Primary Service Area

Adults participated in:	Expected Number of Adults	Percent of Population	MPI
Backpacking	608	2.8%	98
Baseball	1,156	5.3%	111
Basketball	2,035	9.4%	112
Bicycling (mountain)	697	3.2%	88
Bicycling (road)	2,332	10.7%	108
Boating (power)	1,306	6.0%	113
Canoeing/Kayaking	1,235	5.7%	116
Fishing (fresh water)	3,311	15.3%	121
Football	1,372	6.3%	122
Frisbee	1,392	6.4%	136
Golf	1,784	8.2%	83
Hiking	2,036	9.4%	96
Horseback Riding	630	2.9%	125
Hunting w/ Rifle	1,423	6.6%	143
Hunting w/ Shotgun	1,358	6.3%	164
Jogging/Running	2,857	13.2%	105
Soccer	753	3.5%	92
Softball	830	3.8%	105
Swimming	3,511	16.2%	101
Target Shooting	669	3.1%	83
Tennis	867	4.0%	94
Volleyball	1,140	5.3%	141
Walking for Exercise	5,668	26.1%	91

Expected # of Adults: Number of adults, 18 years of age and older, participating in the activity in the Primary Service Area.
Percent of Population: Percent of the service area that participates in the activity.
MPI: Market potential index as compared to the national number of 100.

Of the 23 activities listed the rate of participation by adults is greater than the National MPI in all but 8 instances showing a relatively high rate of participation. It is also important to point out that in many cases the activities with a MPI greater than 100 are those typically participated in by a younger population, which is consistent with the age distribution and presence of college/university within the service area. Two other factors greatly impact participation in activities like these, which is access to facilities or amenities and ability to pay for facilities and services.

Table R – Market Potential Index for Adult Participation in the Secondary Service Area

Adults participated in:	Expected Number of Adults	Percent of Population	MPI
Backpacking	107,714	2.8%	98
Baseball	192,541	5.0%	104
Basketball	333,576	8.6%	103
Bicycling (mountain)	145,900	3.8%	103
Bicycling (road)	392,959	10.2%	102
Boating (power)	224,926	5.8%	109
Canoeing/Kayaking	195,093	5.1%	103
Fishing (fresh water)	553,003	14.3%	113
Football	210,492	5.5%	105
Frisbee	184,654	4.8%	102
Golf	404,227	10.5%	105
Hiking	374,295	9.7%	100
Horseback Riding	91,538	2.4%	102
Hunting w/ Rifle	194,736	5.0%	110
Hunting w/ Shotgun	170,649	4.4%	116
Jogging/Running	488,141	12.7%	101
Soccer	142,258	3.7%	97
Softball	150,247	3.9%	107
Swimming	660,797	17.1%	107
Target Shooting	149,832	3.9%	104
Tennis	160,866	4.2%	98
Volleyball	145,767	3.8%	102
Walking for Exercise	1,122,959	29.1%	101

- Expected # of Adults:** Number of adults, 18 years of age and older, participating in the activity in the Primary Service Area.
- Percent of Population:** Percent of the service area that participates in the activity.
- MPI:** Market potential index as compared to the national number of 100.

The Secondary Service Area is significantly larger than the Primary in terms of population, which results in less variance from the National numbers because of a large sample of individuals. That being said the MPI in 3 of the 23 activities listed falls below the National number of 100, which equates to a very high rate of participation in activities.

Table R – MPI Adult Participation Comparison

Adults participated in:	Primary Service Area – MPI	Secondary Service Area – MPI	National – MPI
Backpacking	98	98	100
Baseball	111	104	100
Basketball	112	103	100
Bicycling (mountain)	88	103	100
Bicycling (road)	108	102	100
Boating (power)	113	109	100
Canoeing/Kayaking	116	103	100
Fishing (fresh water)	121	113	100
Football	122	105	100
Frisbee	136	102	100
Golf	83	105	100
Hiking	96	100	100
Horseback Riding	125	102	100
Hunting w/ Rifle	143	110	100
Hunting w/ Shotgun	164	116	100
Jogging/Running	105	101	100
Soccer	92	97	100
Softball	105	107	100
Swimming	101	107	100
Target Shooting	83	104	100
Tennis	94	98	100
Volleyball	141	102	100
Walking for Exercise	91	101	100

Primary Service Area – MPI:

Secondary Service Area – MPI:

National – MPI:

Market Potential Index for adult participation in the Primary Service Area

Market Potential Index for adult participation in the Secondary Service Area

Market Potential Index for adult participation in the Nation.

Participation by Ethnicity and Race per NSGA: Participation in sports activities is also tracked by ethnicity and race. The table below compares the overall rate of participation nationally with the rate for Hispanics and African Americans. Utilizing information provided by the National Sporting Goods Association's 2012 survey, the following comparisons are possible.

Table Q – Comparison of National, African American and Hispanic Participation Rates

	National Participation	African American Participation	Hispanic Participation
Archery (target)	2.4%	1.4%	1.3%
Baseball	4.2%	3.7%	4.9%
Basketball	9.0%	16.5%	10.4%
Bicycle Riding	13.8%	8.1%	10.4%
Boating (Motor/Power)	6.0%	1.5%	4.2%
Camping (Vacation/Overnight)	15.8%	4.0%	9.9%
Exercise Walking	35.8%	32.4%	27.2%
Exercise w/ Equipment	20.2%	15.9%	14.9%
Fishing (fresh water)	3.7%	5.0%	7.0%
Football (tackle)	2.8%	5.8%	5.4%
Golf	7.4%	1.9%	4.0%
Hiking	14.8%	4.5%	9.3%
Hunting w/ Firearms	6.8%	1.8%	4.2%
Kayaking	2.1%	1.8%	2.1%
Lacrosse	1.0%	1.2%	1.7%
Mountain Biking (off road)	1.9%	1.5%	2.0%
Muzzle Loading	1.1%	0.4%	1.0%
Running/Jogging	14.0%	12.0%	16.0%
Soccer	4.8%	3.1%	8.5%
Softball	3.7%	2.0%	4.1%
Swimming	17.0%	8.0%	11.8%
Target Shooting (Live Amo.)	7.6%	3.4%	3.3%
Target Shooting (Airgun)	1.7%	1.3%	1.1%
Tennis	4.8%	5.1%	4.5%
Volleyball	3.6%	4.7%	4.5%
Water Skiing	1.2%	0.6%	1.8%

National Rate: The national percentage of individuals who participate in the given activity.

African American Rate: The percentage of African Americans who participate in the given activity.

Hispanic Rate: The percentage of Hispanics who participate in the given activity.

While the National numbers are important because that percentage can be applied to the service areas to determine a potential market for various activities the Hispanic and African American numbers are less important because there is not a significant population within either the Primary or Secondary Service Area.

The top three (3) activities nationally, as outlined on the previous page are Exercise Walking, Exercising w/ Equipment and Swimming are activities that individuals can participate in from birth to grave. Currently patrons of Mozingo Lake Recreation Park can participate in Exercise Walking or Swimming while on property, which points to the need for re–development of the swimming beach and further definition and development of the trail system within the park.

In no particular order Hiking, Camping, Running/Jogging and Bicycling are the next four activities in terms of National popularity. Hiking would be able to go hand in hand with Exercise Walking, however some individuals may be more interested in nature trails for hiking while others may be more interested in paved or stone dust trails for exercise walking. Those same trails comprised of stone dust or paved surfaces could be used for bicycling, but there may also be a portion of the population that would be interested in mountain biking on the hiking trails. The point being that there could be dual use by multiple user groups based upon investment in facilities. The popularity of camping also points to the popularity of the RV and tent camping that takes place at Mozingo Lake Recreation Park. It also points to the popularity of the rentable cabins that are in existence and those that are being developed. While the rentable cabins are popular, B*K would suggest caution in their continued development because as is illustrated in the table illustrating trends, that activity is decreasing in participation.

While the field and team activities are popular (baseball, softball, football, etc.) it will be important for Mozingo Lake Recreation Park to determine if that is a business that they want to participate. In some instances they may inadvertently compete with the spaces that are already available in town and on campus.

Comparison of State Statistics with National Statistics: Utilizing information from the National Sporting Goods Association, the following charts illustrate the participation numbers in selected sports in the State of Missouri.

State of Missouri participation numbers in selected indoor and outdoor sports – As reported by the National Sporting Goods Association in 2012.

Table S – Missouri Participation Rates

Sport	Missouri Participation (in thousands) ⁴	Age Group	Largest Number
Exercise Walking	2,231	55–64	45–54
Camping (vacation/overnight)	1,004	35–44	35–44
Workout @ Club	890	18–24	45–54
Swimming	864	7–11	35–44
Running/Jogging	863	18–24	25–34
Fish (freshwater)	834	45–54	45–54
Hunting w/ Firearms	808	45–54	45–54
Bicycle Riding	665	7–11	35–44
Basketball	621	12–17	12–17
Target Shooting (live amo)	459	25–34	25–34
Hiking	406	25–34	25–34
Boating (motor/power)	347	45–54	55–64
Golf	312	65–74	45–54
Baseball	300	7–11	7–11
Volleyball	295	12–17	12–17
Soccer	277	7–11	7–11
Archery (target)	271	12–17	12–17
Tennis	247	7–11	25–34
Football (tackle)	201	12–17	12–17
Softball	98	7–11	25–34
Kayaking	48	12–17	25–34

MO Participation: The number of people (in thousands) in Missouri who participated more than once in the activity in 2012 and are at least 7 years of age.

Age Group: The age group in which the sport is most popular or in other words, where the highest percentage of the age group participates in the activity. (Example: The highest percent of an age group that participates in exercise walking is 55–64.) **This is a national statistic.**

Largest Number: The age group with the highest number of participants. Example: The greatest number of exercise walkers is in the 45–54 age group. (Note: This statistic is driven more by the sheer number of people in the age group than by the popularity of the sport in the age span.) **This is a national statistic.**

Below are activities that could take place in or around Mazingo Lake Recreation Park, and the percentage of growth or decline that each has experienced nationally over the last 10 years (2003–2012).

Table Z – National Activity Trend (in millions)

⁴ Some activities are not listed because state data was not collected.

Sport/Activity	2012 Part.	2003 Part.	Percent Change
Archery (target)	6.9	3.9	+76.9%
Running/Jogging	40.0	22.9	+74.7%
Hiking	42.2	25.0	+68.8%
Tennis	13.6	9.6	+41.7%
Target Shooting (airgun)	4.9	3.8	+28.9%
Exercise Walking	102.1	79.5	+28.4%
Target Shooting (live amo.)	21.7	17.0	+27.6%
Soccer	13.7	11.1	+23.5%
Kayaking	7.2	5.9	+22.0%
Hunting w/ Firearms	19.4	17.7	+9.6%
Bicycle Riding	39.3	36.3	+8.3%
Swimming	48.6	47.0	+3.4%
Muzzle Loading	3.2	3.1	+3.2%
Hunting w/ Bow & Arrow	5.1	5.0	+2.0%
Volleyball	10.3	10.4	-1.0%
Fishing (fresh water)	30.8	33.2	-7.2%
Basketball	25.6	27.9	-8.2%
Football (tackle)	7.9	8.7	-9.2%
Softball	10.5	11.8	-11.0%
Camping (vacation/overnight)	45.2	51.4	-12.1%
Baseball	12.1	14.6	-17.1%
Golf	21.1	25.7	-17.9%
Boating (motor/power)	17.0	24.2	-29.8%
Mountain Biking (off road)	5.5	8.2	-32.9%
Water Skiing	3.6	5.5	-34.5%

2012 Participation: The number of participants per year in the activity (in millions) in the United States.

2003 Participation: The number of participants per year in the activity (in millions) in the United States.

Percent Change: The percent change in the level of participation from 2003 to 2012.

Operational Review & Recommendations:

B*K was able to have a representative on-site May 7, 2014 to participate in a site tour of Mozingo Lake Recreation Park. The operational review and recommendations contained in this portion of the report are based upon the time spent on site for that day and B*K's understanding of the project goals for the master plan. Some of the recommendations contained in this section of the report may be moving towards implementation. It is also important to note that the recommendations are in no particular order, however if implementation of recommendations are tied to one another those connections are indicated.

Staffing:

- The overall staffing plan for Mozingo Lake Recreation Park as one large park makes a great deal of sense.
- The integration of the maintenance for the golf course and the park as a whole was an important structural move within the park. Not only does it make financial sense with regards to the entire operation it also removes the idea of "territory" or property lines within the park.
- The integration of a full-time staff member being housed on-site in the park makes a great deal of sense from a passive supervision stand point and in the case of emergencies. If it was possible to do the same for the MOERA portion of the property it would also make a great deal of sense from a passive supervision and customer service perspective.
- An area where B*K feels that the park as a whole is being underserved is in the area of marketing. There were multiple instances when touring the park where the topic came up that the general public "doesn't really know" what is here. If the end goal of the master plan is to increase the overall visibility and use of the park then the marketing of the park needs to increase. When referring to marketing B*K is not only referencing traditional print materials but equally important, if not more so would be:
 - Website Presence
 - Searchability of Mozingo Lake Recreation Park through Google and other search engines
 - Social Media (Facebook, Twitter, Foursquare, Instagram, etc.)

The marketing of Mozingo Lake Recreation Park is going to have minimal impact on the daily user of the park, however it is going to significantly increase the visibility of the property and subsequently the regional draw and less frequent users looking for a unique experience.

- The location of the staff offices makes sense at this time, however consideration may be given to expanding the structure at the main entrance to house all part-time and full-time recreation staff. This would assist in coverage of that space at non-peak times and also consistency of message, customer service, supervision and access.

Maintenance:

- The biggest concern from a maintenance standpoint within the park is if the staff has an adequate number of positions to achieve the level of maintenance that they expect. Clearly the sheer acreage that

requires mowing on a routine basis is daunting and may be something that the park re-examines in their approach.

- The sharing of equipment and staffing between general park maintenance and golf course maintenance seems appropriate in most instances, understanding that the peak season for both operational side of the house is the summer with shoulder seasons on both sides.
- Appropriate part-time staff should be employed when needed during the spring, summer and fall months.
- Consideration should be given to a second maintenance storage shed on the West side of the park. Currently, all equipment is either driven or trailered from the East side to the West side. While the development of a maintenance shed on the West side of the park would not be meant for storage of equipment year round, it would provide a place within relatively close proximity that minor repairs could be made on equipment and a place where staff and equipment could get out of the elements when necessary.
- Discussion should take place as to whether the maintenance staff, in particular those completing tasks on the West side of the park communicate enough and appropriately with supervision. It is important to note that this is not a current concern, however as current staff come closer to retirement the level with which new employees communicate with supervisors should be a discussion. As mentioned earlier, the challenge of a big park is that it is big and subsequently there are challenges as to whether staff are being efficient and effective with their time.
- If the maintenance department does not have a work order system in place, one should be implemented to maximize efficiency. Consideration may also be given to the implementation of a preventative maintenance program, in particular for the equipment that is used to maintain and service the park. Both of those systems could be integrated into mobile technology so as maintenance employees complete various tasks they could report said completion electronically.

Amenities (in no particular order of importance):

- Walking & Hiking Trails
 - It is the opinion of B*K that these need to be expanded and marketed to the users of the park. Not only is the park a great natural asset to the community but Exercise Walking and Hiking are activities in which a significant portion of the population participate.
 - Highlighting those amenities and making them an attraction for fun, nature and exercise would be a wise investment in the park.
 - A further consideration would be connectivity of the West and East sides of the park via trail. This will be challenging given the location of the golf course, however as currently laid out the park gives the feel of two (2) properties, not one.
 - The enhancement of the trail system may also provide some programmatic opportunities for special events, like trail runs, that would engage the local population and provide a regional draw.

- Golf Course
 - There are already plans to expand the golf course with the addition of a par-3 chip and put course. B*K would view this as a positive move to engage more individuals in the sport of golf. As an activity, golf has shown a decline in participation between the years 2003-2012. The addition of a par-3 course allows individuals that don't want to dedicate the time to a full round of golf on a particular day to still be engaged.
 - The golf course clubhouse has recently undergone a renovation. If there are future plans to locate a lodge on the property, being within close proximity to the club house so that there could be future duplication of banquet-like service would be appropriate and cost effective.
 - Adding covered storage and seasonal storage for golf carts and specialized equipment in close proximity to the club house would be another welcomed addition.

- Equestrian Camping & Trails
 - Currently the equestrian camping space and trails are located within the northwest portion of the Park. It would be the recommendation of B*K that it remain in that general area of the park.
 - While the camping/RV area for those using the equestrian trails are nice in that they have full electrical and water hook-ups, the layout of the space and navigation is a challenge. A complete redesign of the layout would be appropriate, with the potential for additional “dry-camping” in the green space adjacent to the trail head.

- Mazingo Lake
 - The lake is a huge asset to the park and is an amenity that individuals will travel some distance to use.
 - Primary uses of the lake are fishing and recreation. A continued effort to manage the lake as a place to fish and recreate should be actively pursued.
 - It may be worth considering the consolidation of boat launches on the lake. Currently there are three (3); two (2) located on the east side of the lake and a third in the northwest corner of the lake in close proximity to the equestrian camping area. The boat launch in the northwest corner is a navigational challenge to get to unless you know the lake well. It is also, based upon conversation with local law enforcement, a place where individuals that have not purchased a Mazingo Lake boat license launch their boat. The elimination of this amenity would force individuals wanting to launch a boat at Mazingo to make their way through the main entrance of the facility thereby increasing overall security and accountability of who is on the lake.

- Beach
 - The beach is an asset to the overall park system.
 - Consideration should be given to down-sizing the beach and making it a smaller space with more defined boundaries.
 - It would not be the recommendation of B*K to guard the space on a seasonal basis due to the cost associated with the part-time staffing. However, B*K would recommend that for special events taking place at the beach or in the water that lifeguards or properly trained emergency response personnel be present in adequate numbers. (i.e. if the swimming portion of a triathlon were to take place from the beach lifeguards would be appropriate.)
 - The green space adjacent to the beach should be taken advantage of and maintained as usable green space. It provides an opportunity for individuals to be close to the beach without having to get in the sand. Green space like this creates opportunities for visitors to set up their own volleyball nets, badminton nets, picnics, etc. and be in a very active and visible portion of the park. This is a potential location for an additional shelter to be located.
 - If the staff were to pursue the idea of concerts in the park, this would be the location that B*K would recommend used for such events.
 - If the staff does pursue concerts in the park or other programs at this location it would be the recommendation of B*K that the restrooms/bath-house facilities be enhanced or expanded.
 - B*K would not recommend that the concession area of the restrooms be expanded or enhanced in any way. The concession space should be used on a special-event-only basis and should sell non-perishable items. The other option that exists is contracting out the space to local

vendors or special interest groups (Lions, Kiwanis, Boy Scout, Girl Scouts) to provide concessions as events that they could in turn use as a fund raising activity.

- Camping (RV–Tent) & Cabins
 - Clearly the cabins that are available to rent at the park are a popular amenity, hence the addition of two (2) to the total inventory.
 - If the park were to move forward with the development of any more cabins B*K would encourage the park to locate those where current construction is taking place so that there are two (2) pods within the park.
 - Prior to the development of more cabins staff needs to track use and reservation of the spaces to determine if there is additional need.
 - The ability of patrons to rent/reserve cabins online is something that the park should pursue immediately.
 - The staff should also look at what other parks within the Secondary Service Area rent cabins similar to those at Mazingo Lake and determine how other location's fee structure compares.
 - Based upon the fee structure comparison of cabins B*K would encourage staff to make systematic increases in the cabin rental fee. They are a unique amenity and should be assessed at a fee at or above market rates.
 - It is the opinion of B*K that all of the RV spaces with full hook ups should be included in a reservation system and that system should be online immediately if it is not already.
 - There are currently challenges with a portion of the camping sites with the ability to be reserved and some being available on a first come first serve basis. B*K would recommend that all camp sites (RV & tent) be moved to a reservation basis and that first come first serve only available as space permits.
 - Connectivity to the full trail system from the cabin locations would be an asset.
 - Inclusion of a significant playground in close proximity to the camping area would be consistent with overall use and visitor demographics.
 - If there is not WIFI capabilities in the Camping area or around the Cabins that should be considered.
- Youth Camp
 - The youth camp with bunk–houses, adjacent community meeting space and adjacent green space is a significant asset to the park. In particular for youth groups of many varieties that could take advantage of the space.
 - As this area is currently under–utilized it would be the recommendation to not expand it further.
 - This is an asset that the addition of a focused marketing effort and/or staff person could raise awareness of the asset and potentially increase use.
 - The price point for rental of this space should be under current market value given its target audience.
- Shooting Range (non–MOERA)
 - Current shooting range for Maryville Police is located on park property. While it is located on park property it is considered a quasi–asset to the park. It is an asset in that its placement and availability for the local Police Department is appropriate, however the general public is not allowed to use this asset within the park.

- B*K would recommend this asset stay in its same location and use, unless the park makes the decision to move towards a public shooting facility.
 - **Note:** More discussion of shooting sports in the MOERA portion of this report.
- MOERA
 - This 300 acre portion of the park is a significant asset to Northwest Missouri State University and to the park proper. The relationship between the City and the University, in particular as it relates to this portion of the park should continue to be leveraged.
 - Included in the MOERA portion of the park:
 - Ropes Course; ground level, low and high
 - Observatory w/ individual telescope viewing areas
 - Archery Range; current non–functional
 - Disaster Response Training Area
 - Skeet Shooting Range
 - Meeting Room Space (adjacent to skeet shooting range)
 - Dock w/ Canoe Kayak Launch
 - Storage Barn
 - Significant consideration should be given to the consolidation of the skeet shooting range located in MOERA and the firing range that is used by the Maryville Police Department. The combination of those spaces and making it so that the Police Department could reserve the space exclusively at various times throughout the year would seem to make a great deal of sense. Further exploration may be needed to determine if an open public range were to ever be included on the park property.
 - In order to further access and utilize the spaces within the MOERA boundaries the City should consider having the recreation staff located at Mozingo Lake Recreation Park cross trained on some amenities. The one amenity in particular which would make a great deal of sense would be the ropes course. By implementing some cross–training across agencies there could be the opportunity to schedule multiple groups within MOERA and more groups based upon available of staffing.
 - Shelters
 - There is a significant number of shelters in the park currently.
 - Making those spaces so that they can be reserved, in particularly on–line would be an asset to the staff and a significant customer enhancement.
 - Prior to developing any more shelters the staff should see what capacity remains of existing inventory. If there is still capacity remaining the staff should analyze the data further to see if the size and location of the shelter has an impact on use. Based upon that it may not be a case of needing more, but placing them in more desirable locations within the park.

Other Considerations @ Mozingo Lake:

- There has already been discussion of this topic, re-development the signage around the park and in the park is a must. The park has a beautiful main entrance, however it is not definitive as to how to get there when you arrive. The re-development of the signage may coincide with the inclusion/introduction of a significant marketing effort.
- Along with the re-development of the signage around and in the park the staff may want to consider zoning the park for reference point and activities. As it currently is divided, the West side of the park is more passive and nature oriented with the East side of the park is a more active zone with the Northeast portion being MOERA. The inclusion of zones and focused development consistent with those zones will further define the park.
- B*K would not recommend that the staff consider bringing more active elements into the park, i.e. sports fields. The only caveat to that statement would be if the acreage at the Southeast corner of the property was acquired and became part of the park. If the City took those steps the development of an active sports park in that portion of the overall footprint would make some sense. Prior to moving forward with that development the City would want to study the overall need and impact of said sports park.
- The park may want to look at the development of a disc golf course. A feature such as that has a minimal impact on the vegetation and surrounding environment and those individuals that participate in disc golf tend to be good stewards. The staff may already know of a local club that would assist in the development of the amenity.
- B*K would recommend the development of more special events to take place in the park. Active special events like competitive trail runs or triathlons are a great way to raise awareness and interest in the park. Additionally, non-active events like “Art in the Park” or music festivals appeal to a completely different sector of the community but still develop interest in the park. The goal for the staff should be to average one (1) special event per month.
- B*K would recommend strengthening the current partnership with Northwest Missouri State University and would encourage staff to develop relationships with not only the Maryville School District, but with other school districts within a 30-minute drive time. Making the schools more aware of the park and what it could be in terms of a student outdoor learning space for field trips will only broaden the awareness of the park. This again is where a marketing staff member dedicated to the park would be advantageous.



Mozingo Lake Recreation Park: Anticipated Water & Waste Water Analysis

Estimated water demands for Mozingo Lake Master Plan:

A basic analysis of the anticipated peak domestic water needs associated with the proposed Specific Facility Recommendations results in a total Recreational Park water supply demand of 645 gallons per minute (gpm). This estimate is for domestic, potable water only, and does not include any irrigation or fire suppression flows. Internal fire suppression would need to be achieved by chemical fire suppression methods. While this anticipated peak domestic water demand comprises peak flows from all Park areas served without regards to any water use diversification, this peak flow can be readily conveyed by typical water main sizes available for construction. Additionally, while recreational parks tend to see a wide swing in water usage – from zero to full capacity – it is prudent to size the water system to accommodate full capacity peak demands so that all of the park amenities can be utilized during peak visitation periods throughout the year.

More specifically, the 645–gpm peak water demand includes 210 gpm for the proposed Mozingo Lodge and Conference Center and 60 gpm or less for each of the other areas of service. The Table below summarizes the anticipated water demands for each area. Accordingly, with the exception of the Lodge and Conference Center, a 2–inch or smaller service line and meter should sufficiently serve all other areas of the park.

<u>Area No.</u>	<u>Area Designation</u>	<u>Estimated Water Demand (gpm)</u>
1	The Point	60
2	The Marina	20
3	Pin Oak Neighborhood	50
4	Red Maple Neighborhood	50
5	The Landing	50
6	Kingfisher Cove	20
7	Songbird Cabins	30
8	Waterfowl Cabins	25
9	Youth Camp	20
10	Dog Park	10
11	Visitor's Center / Admin. Bldg.	20
12	Maintenance Buildings	10
13	Albert David Memorial Playground	10
14	Jimmy Jones Equestrian Trailhead	20
15	Switchgrass Trailhead	10
16	Festival Bowl	30
17	Mozingo Lodge and Conference Center	210
	TOTAL (gpm):	645

Overall water system line improvements to serve the proposed development in the southeastern portion of the Park include:

- Upgrading the existing 3–inch waterline along Liberty Road to an 8–inch line, including at the standpipe site, from Highway 136 to 245th Street. This will allow for a 6–inch line to stub over to the proposed Lodge and Conference Center.
- Upgrade the existing 2–inch waterline along 245th Street to 6–inch line from Liberty Road to the proposed Festival Bowl area. This line will serve as the main feed into this portion of the Park.
- Upgrade the existing waterline along Ridge Road to a 4–inch line from the Festival Bowl area down to The Point area. The Songbird Cabins could be served with the existing water service line. The Marina and Kingfisher Cove may be able to be served with the existing service line depending on the extent of the improvements at those sites
- Extend another 4–inch waterline off of the proposed 6–inch line near the Festival Bowl area to the west and north along O’Riley Road. This line will serve 2–inch feeds toward each of the Pin Oak and Red Maple Neighborhoods, as well as the Dog Park, and the Landing. The Water Fowl Cabins could be served with their existing service line
- The existing service line for the Youth Camp and MOERA could be reused. Upsizing of this water line may need to be considered if these areas are expanded.

Estimated wastewater flows for Mozingo Lake Master Plan:

Similarly, a basic analysis of the anticipated peak wastewater flows associated with the proposed Specific Facility Recommendations was performed, which resulted in a total Recreational Park wastewater flow of 29,390 gallons per day (GPD). Again, while this anticipated peak wastewater flow comprises peak flows from all Park areas served without regards to any use diversification, it is prudent to size the wastewater system to accommodate full capacity peak flows so that all of the park amenities can be utilized during peak visitation periods throughout the year. While some areas will be best served by portable restrooms (Porta–Pottys), the Table below summarizes the anticipated wastewater flows from each area to be served by a permanent collection system.

<u>Area No.</u>	<u>Area Designation</u>	<u>Estimated Wastewater Flow (GPD)</u>
1	The Point	2,000
2	The Marina	1,000
3	Red Maple Neighborhood	3,600
4	The Landing	2,600
5	Kingfisher Cove	3,000
6	Songbird Cabins	720
7	Waterfowl Cabins	600
8	Youth Camp	450
9	Dog Park	0 (no facilities)
10	Visitor's Center / Admin. Bldg.	450
11	Maintenance Buildings	120
12	Albert David Memorial Playground	0
13	Jimmy Jones Equestrian Trailhead	350
14	Switchgrass Trailhead	0 (portable restroom)
15	Festival Bowl	0 (portable restrooms)
16	Mozingo Lodge and Conference Center	14,500
	TOTAL (GPD):	29,390

There is, however, significant potential for wastewater management diversification among the Park service areas. For instance, 14,500 GPD of the total 29,390 GPD is associated with the Lodge and Conference Center. Accordingly, an on–site package treatment plant that serves just this area could be installed in order to avoid conveying this flow to another treatment area that would need to be expanded. Additionally, areas such as The Point, Red Maple Neighborhood, The Landing, and Kingfisher Cove, which will experience seasonal use but still have the potential to generate significant flows, could be served by holding tanks that are routinely pumped out and the contents hauled to a municipal treatment plant as needed. With the wastewater flows associated with the Lodge and Conference Center, Red Maple Neighborhood, The Point, The Landing, and Kingfisher Cove removed from the anticipated 29,390 GPD flow, the resulting 7,690 GPD flow could be handled with minor improvements to the Park's existing sand filter treatment system.

meeting minutes

Date:	April 21, 2014	Date of Issuance:	April 28, 2014
Project:	Mozingo Lake Master Plan		
Project No.:	2014.407.00	File No.:	C.4
Present:	Mozingo Park Advisory Board: Ed Higdon, Jeff Funstrom, Alan Langley, Floyd ?, John Gustafson, Michael Graham, Mike Thompson, Leslie Schulte, Bob Cooper, Dale Mathes, Daniel Billings, Ryan Heiland		
Distribution:	Ryan Heiland, Greg McDanel, Dolores Silkworth, File		

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Discussion:

The purpose of this meeting was to listen to the Mozingo Park Advisory Board to get their understanding of the strengths and weaknesses of the park.

Comments:

- Mitigation
 - The City is in charge of mitigation of the site. Since the landscape is established, the City can amend the plans as much as they desire, with a focus on preserving and maintaining the environment as much as possible.
- MOERA
 - 400 acres of land are leased to NWMSU
 - The site has a lot of room for improvement
 - Needs an on-site manager
- Water supply
 - Mozingo Lake feeds all of Nodaway County through the Rural Water District
 - Concern is apparent about sedimentation of the lake.
 - 2 million gallons of water a day
- Fishing tournaments
 - Fishing tournaments are a big industry, attracting nationwide attention for some
 - 47 boats at a tournament, with a weigh-in facility
 - #1 lake in state of Missouri
- Hay lease generates \$5,600 per year
- Find the Snow Bird newsletter

Concerns:

- Over-building the lodging and making it unsustainable
 - The cabins have a 65% usage rate
- Conflicts between hunting, biking, and equestrians
 - Leslie Schulte suggests setting the site up properly so everyone can get along: yield signs

Needs:

- Overall Master Plan
 - The master plan needs to guide development, set priorities, and state policy.
 - Name the features of the lake



- Conservation
 - Clean water is key
 - Interpretative signage noting the importance of the water quality & drinking source
- Signage
 - Better monument sign at the highway
 - Stop signs
 - Naming roads rather than having simple directions
 - Wayfinding needed for the equestrian area in particular
- Infrastructure
 - Replace and upgrade as needed
- Connections
 - Connect the City and the Park better
- Amenities
 - RV Camping
 - Expand the campgrounds
 - Administration building
 - Centralized location
 - Houses security
 - Convenience store
 - Information booth like the National Park Service
 - (Tear down the old maintenance building – it was an old chicken coop)
 - Trails
 - A trail all around the park
 - Main trails need to be concrete so it's easy to remove snow
 - Trailheads with signage
 - Amphitheater
 - Concerts and large events
 - Cabins
 - Add other cabin types to attract different users
 - Lodge & restaurant
 - At the first tee
 - A good beer, a good night's sleep
 - Good for corporate retreats
 - Conference room
 - A place for a wedding is needed
 - Marina
 - Boat storage
 - Weigh-in spot for mid-morning weigh-ins
 - Need better boat passes
 - Currently, it's weather dependent
 - Can there be passes you buy online?
 - Can you sell passes at the dock?
 - Is there an automatic kiosk that that can give out passes and weigh fish?
- Traffic improvements
 - Hard to get in and out
 - Boulevard to the golf course
 - Turn lane and flashing light to enter the park on the highway
- Off-season Activities
 - Hunting & ice fishing are important
 - Feb/March is goose season
- Promotion
 - The park is the focal point of northwest Missouri



- The park basics are there, but they need to be fine-tuned and marketed for success
- Sell the park as having “something for everyone”
- Have once-a-month special events
- TV, newspapers, newsletters
- Connect with other groups to help cross promote
- Expansion?
 - 49 acres - \$490,000 – key expansion area?
 - Department of Conservation
 - 100 property owners against it to begin with, now only a few are unwilling to sell
- Balanced budget
 - Make the 20 year master plan fiscally responsible

Comments from Leslie Schulte's “Lake Mozingo Equestrian Park Suggestions”:

Needs:

- More shade trees
- Trail signage
 - Wayfinding includes names, distances, times, trail difficulty
 - Instruction signs including quiet times, manure disposal, day parking
- Eliminate thorned honey locust trees along trails
- Add hitch rail to bathrooms/shower houses
- Add parking near bathrooms/shower houses
- Add picnic tables with hitch rail at resting areas
- Mounting block(s)
- Horse pens or corrals at camp sites
- Manure pit (gravel or concrete floor) with wheelbarrow
- Listing of camp hosts
- More RV camp sites which accommodate bigger rigs
 - Drive through
 - Need to accommodate a 3 horse goose neck
- Round pen or area for working horses
- Obstacle course for competitions
 - Near the main equestrian grounds
- Brochures that explain features and have maps of trails
- More varied trail difficulty



meeting minutes

Date:	9:30 am, April 22, 2014	Date of Issuance:	April 28, 2014
Project:	Mozingo Lake Master Plan		
Project No.:	2014.407.00	File No.:	C.4
Present:	Economic Development Stakeholders: Josh McKim, Brock Pfost, Glenn Jonagan, Melanie Smith, Chris Wiltfong, Greg McDanel, Ryan Heiland, Dolores Silkworth, Hans Klein-Hewett		
Distribution:	Ryan Heiland, Greg McDanel, Dolores Silkworth, File		

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Discussion:

The purpose of these meetings was to listen to the Mozingo Park stakeholders and get their understanding of the strengths and weaknesses of the park.

Comments:

- Original project
 - Nodaway County voted no on purchasing the land; the City barely approved purchasing land. There was a big "No-zingo" contingent at the beginning, though almost everyone is behind the project now.
- Economic sustainability
 - The park needs to be more economically sustainable. It is a park, so it will likely never make a profit, but it should be more balanced than it is now.
- Mitigation
 - Mitigated areas are owned and controlled by the City, so they the plan does not need to balance mitigated areas in the future.
 - Previous marketing RFP's were too restrictive in consideration to environmental issues, so there was little interest.
 - The master plan needs to reference this issue and clear it up for future RFPs.
- Hunting
 - Hunting is big business at the park and surrounding area. There is an estimated \$300,000 economic impact on the City of Maryville from hunting. There are an estimated 200 hunters that come in January and February.
 - There are an estimated 300,000 geese on the lake in the spring – more than Squaw Creek National Wildlife Refuge.
- Excited about...
 - Tom Watson designed golf course
 - Future of the park – they follow the RDG Comprehensive Plan closely, so they're excited to have another plan to implement.

Concerns:

- Figuring out how to balance the needs of the "City park" concept with the desire for a regional destination park.
- Water quality concerns
 - Discussion was raised over the water quality of the park, specifically in terms of the combustion engines on the water.
 - Thousand Lakes State Park only allows idle motors and electric trolling motors



- However, it was promised from the beginning that people could use jet skis and full motor boats on the lake, so restricting access is likely a nonstarter.
- There may be some value in limiting the number of boats as to make sure the lake isn't crowded.
- Erosion from wake can be an issue – demands riprap edging to lake.
- RC Airfield
 - The RC Airfield takes up a lot of prominent real estate for the park, and as of late, the users of the airfield have been restricting access to other users of the park.
 - Is there an alternate location for the airfield that will give them more privacy while opening up the frontage along the highway for the promotion of the park?

Needs:

- Amenities
 - Administration building
 - Centralized for easy access
 - Have one administrative department for the Park, not several as there is now (City owns park, Park & Rec maintains park, MOERA is NWMSU)
 - Entrance
 - A dedicated and real entrance to the park
 - Trails
 - Want to be able to walk around the whole lake
 - Lodge
 - Provide a broad range of amenities, some for high end clients, some for middle end clients.
 - Restaurant
 - Thousand Hills State Park has a restaurant on the water that is owned by the park but run by a concessionaire and it is very popular.
 - Event space
 - A wedding reception venue would be booked constantly if it was available. There are no other large venues in the area, let alone any with a great view.
 - The venue needs to hold 250-300 people minimum.
 - Amphitheater
 - Would bring big events and concerts
 - Marina
 - Concern over water quality issues, however.
 - Cabins
 - Offer a wider variety of cabins, not just the 'luxury cabins' that are there now.
 - RV improvements
 - Offer a wider variety of RV campsites. Owners of high quality RVs want paved roads, paved parking, sanitary sewer hookup, etc.
 - More trees in the RV campsites for shade.
- Events
 - Bring back the National Dog Trials – the Youth Camp site is perfect for their needs, though it could use improvements.
 - Host larger running events – a few good trails would make it an ideal location for 10K runs and half-marathons. May be nice to have both paved and unpaved trails for trail runs.
- MOERA
 - It has an observatory, though it's not used as often.
 - Get more public use out of the site. It's currently hidden and closed most of the time.
 - Also, show that the property is part of the park and not a separate destination.
 - Potential research facility on site?
- Master Plan



- A financial report is needed to make recommendations for maintenance staff to adequately run the facilities. Many times master plans do not include adequate information on maintenance staff.
- Development should be kept to the south, while preserving the natural areas to the north.

The big questions:

- They want a true destination park, where people would come for several days and spend the majority of time in the park.
 - What would it take to entertain a family of four for a whole week at Mozingo?
 - How do you balance the City park needs with the regional destination needs?
- Motor boats and jet skis are going to be hard to ban from the lake without scientific evidence noting their damage to the water source.
 - Who is monitoring the water quality? How has the water quality changed over the past decade?
- The southern half of the park (below 3-mile road) is inherently more developed and accessible than northern half.
 - Is there a tiered zoning plan for the park that will help prescribe the programming and level of development?
- There is a need for a centralized organization structure for the park – both administratively and physically.
 - How can the park be reorganized to allow for an ideal centralized entrance and administration/information building that allows for easy access to all park programming?
 - How can the various agencies (City of Maryville, Maryville Parks & Recreation, NWMSU, etc.) come together so the park is easier to manage?



meeting minutes

Date:	11:00 am, April 22, 2014	Date of Issuance:	April 28, 2014
Project:	Mozingo Lake Master Plan		
Project No.:	2014.407.00	File No.:	C.4
Present:	Brenda Ricks, Renee ____, Lesley Schulte, Ed Higdon, Tory Mason, Casey DeBris, Rod Coutts John Van Cleve, Erick Auxier, Twila Martin, Ryan Heiland, Dolores Silkworth, Hans Klein-Hewett		
Distribution:	Ryan Heiland, Greg McDanel, Dolores Silkworth, File		

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Discussion:

The purpose of these meetings was to listen to the Mozingo Park stakeholders and get their understanding of the strengths and weaknesses of the park.

Comments:

- Fishing is incredibly important at Mozingo. Making the fishing even better, whether through additional amenities or improving existing facilities, would have a direct impact.
 - Walleye & bass are the biggest draws
- The Junior Golf Course has been added to the Links Across America list, so it will likely be a big attraction once it's open.

Needs:

- Additional development of Youth Camp
 - The Youth Camp area was originally Boy & Girl Scout land; during the sale, the land became part of a trust which has stipulations for its growth.
 - The site needs a storm shelter, additional meeting space, and storage
 - Some plans have been drawn up for an addition on the multi-purpose building to include a basketball court.
 - The Boy & Girl Scouts use the youth camp roughly six times each year (3 for boys, 3 for girls). If the camp was listed as an official Girl Scout camp, it would get a lot more use.
 - The multi-purpose building currently only has 16% occupancy.
- More cabins
- Event space
 - Must accommodate 250-300 people.
 - Needs to have a commercial kitchen for caterers
 - Current events are held at St. Gregory's Gym (just a gym) and Youngers (smaller and expensive).
 - A local sorority wanted a large space, but the nearest option was in KC, so they bussed the sorority at a cost of \$3,000-4,000 to that venue.
- Improvements to docks
 - An improved weigh-in station would be nice
 - Expand the fishing jetty near City Ramp with ADA access to boats, and drop-off weigh station where live fish could get weighed and dumped back in the water.
 - A pavilion near the dock would be nice in the winter time so fish could be weighed in a location out of the wind.
 - Day dock for quick docking
- Marina



- Stalls for both motor and sail boats
- Canoe, kayak, and bicycle rental
- Storage
- RV campground
 - More bathhouses
 - Parking lot outside of the RV area for guests
 - There are too many guest cars filling up the RV campgrounds, so by providing them dedicated parking it may free up space in the campground.
 - More kid-friendly activities.
 - Something for kids to do while their parents relax (but not sand volleyball or bocce ball): geocaching or letterboxing, trail access, nature hikes
 - Movie night
- Beach
 - Sand quality could be improved.
 - Currently, there is a large algae problem, as the lake cannot be treated with herbicides to restrict growth.
 - There is quite a bit of wake issues at the beach as well, from nearby motor boats.
- Golf course
 - Needs storage for golf carts
 - Right now, all golf carts are gas-powered due to the fact that they can't be enclosed and recharged
 - Need a rental facility for golf equipment (?)
 - Need a storm shelter
 - Need a "stay and play" option – nearby lodging is the biggest missing link, currently people stay in the cabins but that only attracts a certain clientele and the cabins are quickly filled.
 - Brenda Ricks would like to see a Senior tour stop at Mozingo.

Things to look up:

- How can we get the Youth Camp listed as an official Girl Scout camp? (Boy Scouts too?)

The big ideas:

- How can the beach be improved to allow for a better experience while still being environmentally friendly? (aerators?)
- How can the existing facilities be improved to draw even more people to the big events (golf course, fishing tournaments, and RVing)?



meeting minutes

Date:	1:30 am, April 22, 2014	Date of Issuance:	April 28, 2014
Project:	Mozingo Lake Master Plan		
Project No.:	2014.407.00	File No.:	C.4
Present:	Rod Auxier, Kaley Coulter, Ron Darnell, Brandon Cartwright, Kyle Easter, Erick Auxier, Audrey Osborne, Kavin Drew, Shelly Hersch, Dolores Silkworth, Ryan Heiland, Hans Klein-Hewett		
Distribution:	Ryan Heiland, Greg McDanel, Dolores Silkworth, File		

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Discussion:

The purpose of these meetings was to listen to the Mozingo Park stakeholders and get their understanding of the strengths and weaknesses of the park.

Needs:

- Marina
 - Rental facility
 - Indoor and outdoor boat storage
 - Fresh-cooked food at small concession area, for boaters and picnickers
- Programming
 - Other parks, specifically the KOA campground near Gretna, NE, have programs for many ages throughout the year that keep the site active and interesting.
 - Planned kids activities
 - Mini-golf, tether ball, equipment check-out (balls, horseshoes), convenience store
- Equestrian programming
 - Cowboy rodeos (timed agility contests with prizes)
 - There has been one cowboy rodeo in the past, but it wasn't repeated.
 - More and better trails
 - Organized day rides
 - If you attract horse people, they will spend money.
 - Focus on spring and fall – best times for equestrian riding
- Connections
 - Connect the organizational structures between MOERA and the Youth Camp. Those are two educational-based organizations that could tie together well.
 - Currently, there is only one day camp for youth that focuses on fishing, canoeing, archery, and climbing.
- Centralized organization structure
 - A person or board that connects the City, Parks & Rec, & MOERA to help organize and connect the various resources.
- Centralized administration building
 - Houses above person(s)
 - Convenience store
 - Place to buy day passes, get maps & recommendations – all with a personal touch to make it unique.
- Family oriented activities



- Mini-golf, horseshoes
- Yoga in the park
- "Families on the Move" is already in place (family-based active programming – needs more research)
- Event center
 - Ballroom with a kitchen
 - Add an outside option so some events could be held outdoors
 - A nearby amphitheater for weddings would be nice
 - Concerts
- Trails
 - Trailheads
 - Directional signage with distances
 - Named trails
 - Specific trails for running, with events and advertising
 - Specific trails for mountain biking (currently, mountain bikers use equestrian trails, but they are non-congruent activities)
- Master Plan
 - The master plan must include costs for maintenance – an item that is frequently overlooked.
- Cabins
 - Cabins can be expensive to some. It may be good to have more options for cabins:
 - Some cabins with just a bed & restroom
 - Some cabins with bed and basic kitchen
 - Some cabins with all amenities (what they have now)
- Additional activities
 - Festival of Lights – lights around the lake, floatables on the water
 - Education classes
 - Hunter safety classes
 - Boat safety classes
 - Ice fishing classes
 - Ice fishing amenities (already popular activity)
 - Vineyard & winery on SE corner of site, with tasting room
 - Community gardens
 - Swimming pool
 - Farmers market
 - Shuttle to connect people to Maryville and NWMSU
 - Ziplines
 - Indoor golf simulator for golf practice in wintertime
- Beach improvements
 - Currently 30 people on the beach on a busy day
 - Needs a lifeguard
 - Beach bathhouse or structure for concessions
 - Aerators to reduce algae growth
 - Floating dock off shore to swim out to?
- Lake improvements
 - Additional erosion abatement measures to counteract wake and wave action on shoreline
 - Sailboat cove

Things to look up:

- Oglebay Park in Wheeling, West Virginia – has a lodge with meeting rooms, has week-long classes offering CEU's in the winter months to keep the park active.

The big ideas:

- Develop a zoning diagram for the park which dictates programming, development, materials, and signage details.



meeting minutes

Date:	1:30 am, April 22, 2014	Date of Issuance:	April 28, 2014
Project:	Mozingo Lake Master Plan		
Project No.:	2014.407.00	File No.:	C.4
Present:	Jeff Ferguson, Jon Gustafson, Terry Robertson, Zach Lawson, Emily Porter, Kaz Denepal Matt Symonds, Erick Auxier, Dolores Silkworth, Ryan Heiland, Hans Klein-Hewett		
Distribution:	Ryan Heiland, Greg McDanel, Dolores Silkworth, File		

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Discussion:

The purpose of these meetings was to listen to the Mozingo Park stakeholders and get their understanding of the strengths and weaknesses of the park.

Comments:

- The exterior roads around the site are easy to navigate.
- Lakefest in Atchinson, KS brings in 10-20K people for a concert at
- The highway out to Mozingo Park was widened recently, with wide shoulders for bikes, but those wide shoulders end at Liberty Road (entrance to Mozingo).
- NWMSU has a fishing club (Emily Porter is the vice president of the club). The fishing club offers a collegiate-only fishing tournament in the spring and an open tournament in the fall. There are NCAA sanctioned fishing clubs that even offer scholarships.
- NWMSU & the City have a joint internship program, where a college intern works at the Park for the City – it's a good symbol of the City and University working together.
- Many NWMSU students have the perception that the water quality at Mozingo Lake isn't that good; the water tastes funny.

Needs:

- Hunting
 - More public hunting ground
 - More definition as to which areas are designated for hunting – right now, it's hard to tell where hunting is allowed.
 - Both Nodaway County Recreation Area and Bilby Ranch Lake Recreation Area require permits, but Mozingo does not (unsure of this?)
 - Set up city-maintained blinds on the north end, usable by lottery
 - There are trap ranges in MOERA; directly south are rifle ranges, though they don't have a shooting hut or baffle
 - Across the lake is a private citizen who sells guns and has a make-shift rifle range. He shoots directly into the water.
 - NWMSU has an intramural trap shooting team that uses MOERA.
- Event Space
 - Restaurant in the park would be nice, ideally at the clubhouse
 - Dining hall and catering kitchen are a minimum
 - There have been corporate events held in Mozingo Park, but all the food had to be catered in and there wasn't a good facility for the group.
- Camp space



- Hope 14, a crisis response group, expressed interest in using the site for their training camps, but the facilities aren't there.
- Watershed management plan
 - A plan was developed by the MODNR, but it wasn't followed
- Water safety enforcement
 - MDC (Missouri Department of Conservation) is supposed to police the water (perhaps the City – unclear), but that is largely not being done. The nearest MDC office is in St. Joseph.
- Marina
 - Gas, tackle, and food options
 - The original plan called for no boats to overnight in the water.
 - Boat storage
 - Boat parking – ideally near the RVs so people can bring boats and park them near their RV
 - A long jetty or pier may be nice to increase the fishing opportunities for people who may not be experienced/adventurous fishers.
- Centralized Administration Building
 - Welcome center
 - Bait shop
 - Concessions
 - Small conference room
- MOERA improvements
 - The site has a trap range, ropes course, observatory, and archery range.
 - An amphitheater was originally planned in one of the coves
 - There were plans drawn up to house a grad student on the site, who would keep the site open and help with site programming.
- Beach improvements
 - The beach wasn't installed correctly. The water level was rising during the 1993 floods, so the beach was installed afterwards. The gravel sub-base wasn't installed, as the plans proposed.
 - The NWMSU football team has come out and pulled out the algae by hand. For the most part, the algae grow in the coves – especially where there are decaying trees still in the water.
- Erosion control
 - Rip rap is being installed intermittently
 - Brush piles have been dumped into the lake to reduce wave action and increase fish habitat
 - Willows have been planted on the bank in some areas to help protect the shoreline
 - The lake has been called a “100-year lake,” meaning that without maintenance, the lake would fill with silt in 100 years.
- Wayfinding
 - Signage around the site and maps are needed.
 - Even basic direction signs would be good.
 - Signs from Maryville to Mozingo.
 - Visit Missouri Trails (www.visitmissouritrails.com) is listing all state trails – Mozingo is not on there.
- More observatory programming
 - Was well used, then the professor who instigated the program lost interest.
- Connections
 - There could be better connection between the City and NWMSU. Perhaps incoming students would get an intro to the park during their start-of-the-year introductions?
- Additional amenities
 - Frisbee golf could be good.
 - Drive-in movie theater
 - Bonfire locations

Things to look up:

- Hope 14 camps – what they are and what facilities they need.



The big ideas:

- Attract many users to the site for many reasons. Hikers, fishers, hunters, bikers, campers, golfers.
- Attract and utilize the energy that is coming from NWMSU. A number of students noted that Mozingo was one of the selling points that made them come to NWMSU; now it's time to capitalize and make it a destination for the students for both recreation and study.



stakeholder opinions

Date:	April 22, 2014	Date of Issuance:	April 28, 2014
Project:	Mozingo Lake Master Plan		
Project No.:	2014.407.00	File No.:	C.4
Present:	--		
Distribution:	Ryan Heiland, Greg McDanel, Dolores Silkworth, File		

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Discussion:

This document combines the major desires of the stakeholders of Mozingo Lake Recreation Park. These comments were gathered over four separate meetings on April 22, 2014.

Needs/Programming:

- Amenities:
 - Centralized administration building
 - Rental facility
 - Convenience store
 - Information booth (maps, directions, recommendations)
 - Personal touch to make the experience unique
 - Park entrance
 - Dedicated to the park only
 - Turn lane off of Highway 46 (headed west)
 - Bigger, more attractive sign
 - Roads
 - Connect MOERA and the Youth Camp directly
 - Trails
 - Complete trails around the entire lake
 - Add marked and named trailheads for easy navigation
 - Add directional signage with times/distances
 - Name all trails
 - Design certain trail loops for running, then build events around them
 - Add trails for mountain biking to reduce the conflict in the equestrian area
 - Wayfinding
 - Add signs in Maryville to direct people to Mozingo
 - Equestrian facilities
 - Allow space for equestrian events (cowboy rodeo, etc.)
 - Improve trails with better surfacing, pruned vegetation, and signage
 - Offer numerous levels of trail difficulty
 - Organize day rides
 - Beach
 - Improve sand quality
 - Add aerators to help mitigate algae growth
 - Add lifeguards



- Add floating dock off-shore
- Lake improvements
 - Additional erosion abatement measures to counteract wake and wave action
 - Sailboat cove
- Lodging
 - On-site lodging options should accommodate both high-end and middle-end clients.
 - A connected family restaurant would
- Cabins
 - Provide a wide variety of cabins, from basic to luxury, to accommodate different users
- Event Center
 - Capacity for a minimum of 300-person events, but could be broken down into smaller rooms to accommodate conferences or multiple events at the same time.
 - Needs adjacent commercial kitchen for catering use.
- Amphitheater
 - An amphitheater was originally planned in MOERA
 - An ideal location would be overlooking the water
 - Big enough to hold major concerts – 10-20 thousand?
 - Perhaps a smaller amphitheater for 200-300 person outdoor weddings
- Golf Course
 - Add golf cart storage
 - Add rental facility for golf equipment
 - Add storm shelter
 - Add indoor golf simulator to practice in wintertime
- Marina
 - A restaurant close to the water, so it can be used by boaters.
 - Stalls for both motor and sail boats
 - Kayak, canoe, and bike rentals out of marina facilities
 - Storage for boats, both indoor and outdoor
 - Bait and tackle shop
 - Concessions
 - Small conference room
- Docks/Ramps
 - Extend the fishing jetty near City Ramp to include a high quality weigh station for fishing tournaments. The longer jetty could double as an ADA ramp as well.
 - Add a shelter or pavilion on the jetty for use in the wintertime.
 - Improve/move the day dock to include more access to shade/shelters.
- RV Campground
 - Provide a range of amenities, from basic gravel parking to concrete roads and pads with septic hook-ups to cater to a wide audience.
 - More trees/shade in RV campsites
 - More bathhouses
 - Add nearby parking lot for guest cars and keep them out of the campground.
 - Add more kid-friendly activities and programming.
 - Model after KOA near Gretna, NE:
 - Jumping pillow, playground, ziplines, slack line, mini-golf, swimming, shuffleboard, horseshoes, badminton, basketball, sand volleyball, pedal carts, banana bikes, fresh-made pizza, dog park, hay rides, ice cream socials, buffet breakfast
- Youth Camp improvements
 - Needs a storm shelter, additional meeting spaces, and storage
- Hunting
 - More public hunting ground
 - Hunting signs noting where hunting is allowed



- Public blinds?
 - Improvements to rifle range (add shooting hut and baffle)
 - MOERA
 - Connect to wider park, make more accessible
 - Other
 - Frisbee golf
- Education opportunities
 - Hunter safety classes
 - Boat safety classes
 - Ice fishing classes
- MOERA:
 - Make it more accessible for the public, open it up for use, make it a part of Mozingo Lake Park.
 - Provide space for research projects on site.
- Events to attract:
 - National Dog Trials
 - At the Youth Camp
 - Senior Golf Tours
- Policy:
 - Centralized administration
 - One department to coordinate efforts between City, Parks & rec, and NWMSU/MOERA.
- Master Plan
 - Consider maintenance costs for all master planned budgets.
 - Keep development on the south half of the site, while preserving the natural habitat on the north side.



