Chapter 3

Future Land Use Plan

Chapter Purpose: To ensure quality residential and nonresidential uses around the lake

Introduction

An important part of this Comprehensive Plan is establishing the ideal Future Land Use Plan for the area. The Future Land Use Plan and Map portray the overall framework of desired land uses surrounding the Lower Bois d'Arc Creek Reservoir (LBCR). Specifically, the Future Land Use Plan designates various areas within the reservoir's planning area for particular land uses, based principally on the specific land use policies outlined herein.

The Future Land Use Map, shown in Figure 14, is graphically depicted for use during zoning and development plan review process. It is important to note that the Future Land Use Map is not a zoning map, which legally regulates specific development requirements on individual parcels. Rather, the zoning map, which will be created once the Comprehensive Plan is completed, should be guided by the graphic depiction of the preferred long-range development pattern as shown on the Future Land Use Map.





Future Land Use Categories

This section of the Future Land Use Plan provides an in depth description of each recommended land use type as shown in Figure 14. This section also provides recommendations as to the development of each land use type to provide some guidance for the creation of the Zoning Ordinance. The Future Land Use categories are:

- Agriculture/Open Space
- Large Lot Residential
- Small Lot Residential
- Nonresidential

How Does Future Land Use Relate to Zoning?

The future land use plan informs the zoning ordinance by providing a framework for where land uses are suitable around the lake. It is recommended that all the land around the lake be initially zoned agricultural/open space to accommodate the existing uses. It would be impractical to zone all the land around the lake to match the future land use plan because the dam has yet to be constructed and the market cannot be accurately predicted. There are two ways the County can rezone the land -- reactive and proactive. The reactive way is when new uses are being planned by residents and developers they will submit a rezoning request to the zoning commission. The zoning commission will then review the request and use this comprehensive plan and future land use plan as a guide to determine if the rezoning is appropriate. The proactive way is to slowly rezone pieces of land before development happens. This should not be done all at once, but instead should be done after the dam is constructed and the lake starts to fill in. These gradual rezonings could help to attract certain types of development to particular locations.

Agriculture/Open Space

Vision

Land with the designation of agriculture/open space is envisioned to take up the majority of the planning area surrounding the LBCR. This land use type will prevent overdevelopment from occurring as well as protect the water quality found in the region. The land use category is intended to support the continuing operation of an important part of the agricultural related businesses found in Fannin County. The designation includes land that is used for active farming or ranching, hunting, fishing, open space, and agricultural operations. It is important to note that Texas Parks and Wildlife Department regulates all hunting and fishing in Texas. Although the land should primarily be used for agricultural uses or left as open space, it is also appropriate for large lot residential developments to be found within this land use.

Recommendations

Concentrated animal feeding operations (CAFOs) should not be allowed within this land use category. CAFOs are agricultural facilities in which animals are kept and raised in confined areas and whose waste is discharged into the water supply. Prohibiting CAFOs within the LBCR will ensure that there is a high level of water quality.

Desirable







Undesirable







What is a Concentrated Animal Feeding Operation (CAFO)?

In Texas, CAFOs are regulated by the Texas Commission on Environmental Quality. They are defined as "lots or other facilities, other than an aquatic animal production facility, where animals have been, are, or will be stabled or confined and fed or maintained for a total of 45 days or more in any 12-month period, and in which the animal confinement areas do not sustain crops, vegetation, forage growth, or post-harvest residues in the normal growing season over any portion of the lot or facility." *Source: Texas Commission on Environmental Quality*

Large Lot Residential

Vision

This land use is indicative of single family homes located on large properties in an effort to maintain the rural character of the area.

Recommendations

All new developments should have lots greater than one acre in size to provide for a rural lifestyle. Lots should have 100' of frontage to prevent homes from being densely packed along the roadway, resulting in a more densely developed area. Limits on impervious coverage should be set at 40%. Homes should have a front yard and rear yard setback of at least 80' from the property line. This will prevent homes from encroaching on the road and the lake. Homes should have a 25' side yard setback to ensure ample amount of spacing between homes. Having side yard setbacks will prevent homes from being clustered too close to one another. All large lot developments should have paved roads that are at least 28' in width with a 60' right-of-way. The roadways should have two driving lanes each with a width of 12', as well as 2' shoulders on each side. This will ensure that mobility throughout large lot residential areas is easily accessible not only for the residents but also for emergency vehicles. Water will be obtained either from a well or from a provider. Wastewater will be collected by community wastewater collection systems for new subdivisions. On-site sewage facilities are allowed at locations where community wastewater systems are not feasible, provided they protect water quality and meet the requirements of Subchapter D, Chapter 285 of the Title 30 Texas Administrative Code.

Desirable	Undesirable
	
	
	

Small Lot Residential

Vision

Small lot residential land use is representative of traditional, single family dwelling units found on half-acre lots. Quality construction should be utilized in all small lot neighborhoods to ensure long-term structural durability as well as to preserve the long term visual integrity of the LBCR area. Quality building materials and landscaping should be encouraged. It is envisioned that HOAs would develop to create and maintain community amenities.

Recommendations

The average lot size in these developments should be 30,000 sq. ft. or about two-thirds of an acre. This will allow for smaller lots that still maintain the look and feel of the rural setting. Lots should be required to have a 100' frontage with a 200' depth to ensure that lots are all of a similar shape and avoid the creation of flag lots. Limits on impervious coverage should be set at 40%. Homes should have both a front yard and rear yard setback of 40' to ensure that homes are not being constructed either too close to the roadway or too close to neighboring homes to the rear. This will make the small lot areas look cohesive. Homes located within these neighborhoods should have a minimum dwelling area of 1,800 square feet. Having a minimum dwelling area for homes ensures that the area surrounding LBCR is developed with large, high quality homes. Similar to large lot developments, small lot residential developments should also have paved roads that are at least 28' in width and a 60' right-of-way.

The roadways should have two 12' undivided driving lanes and 2' shoulders on either side. This will ensure that mobility throughout large lot residential areas is easily accessible not only for the residents but also for emergency vehicles.

Desirable | **Undesirable**








Office/Retail/Commercial

Vision

Nonresidential uses will be primarily located along major thoroughfares and will be limited throughout the planning area. Nonresidential uses should be constructed to a high quality to ensure that they are visually appealing as well as to prolong the longevity of the structure. Generally, nonresidential uses should include restaurants, hotels, small shops, and marinas. Marinas and public access areas will provide visitors of LBCR with great opportunities for boating activities. Marinas are harbors in which privately owned boats are kept, while public access points are locations in which boat ramps will be located to allow LBCR visitors to enter and exit the lake.

Recommendations

Marinas should be the primary nonresidential use around the lake. There are three potential marina locations identified in Figure 22 in Chapter 5. Public access areas should be provided at multiple prime locations surrounding the LBCR. This will ensure that visitors of the lake are provided with the best possible access to the water. Nonresidential uses should also have a minimum lot size of one acre. The front yard setback requirement should be 80'. Nonresidential uses near the lake should consider the amount of parking needed to accommodate large trucks and boat trailers.

Desirable	Undesirable
	
	
	

NTMWD-Owned Property

Vision

The vision for this land use type is to support the operation of the lake as a reservoir and recreational area. Land with this designation is currently owned by the NTMWD. Its purpose is to allow for safe and efficient reservoir operations.

Recommendation

As its primary function, this land use should be used to support the operation of the reservoir, which includes offices, buildings, infrastructure, and any other uses needed for the lake to function as a reservoir. It is anticipated that some of the areas will remain undeveloped in the immediate future, but may develop over time as residential subdivisions are constructed. As a secondary function, some of the properties within this land use category could be used as recreational opportunities. Notably, site evaluation is necessary to determine if land is suitable for recreational needs and to ensure that the primary function – supporting reservoir operations – is not compromised in any fashion. To the extent property currently owned by the NTMWD is determined unnecessary for reservoir operation following the construction of LBCR, such property may be sold and converted to some other use that is consistent with adjacent land uses and the Comprehensive Plan. The Comprehensive Plan would then be revised to reflect this change in use.

Desirable	Undesirable
	
	
	

Recreational Areas

Vision

Recreational areas are envisioned to provide both passive and active recreational opportunities to the visitors of the LBCR. There are locations shown on the Future Land Use Map (others may be added in the future) that are designated as appropriate for park lands. Areas that are designated as recreational areas will help ensure that land is protected from development, protects water quality, and enhances the area's natural beauty. Further site evaluations are needed to be certain that these areas are suitable for recreational areas.

Recommendations

Recreational areas are identified in Figure 14 and Figure 24. These areas should be developed to provide a superior recreation system for residents and create a regional destination for tourists. The implementation of these areas will require strategic partnerships with various entities in Fannin County. All recreational areas should be well maintained and designed to protect the natural environment of Fannin County. Generally, recreational areas should be developed adjacent to the lake, in areas that have proposed boat docks, near marinas, and near areas where major thoroughfares are located.

Desirable	Undesirable
	
	
	

Multi-Family

This future land use category is not shown on the future land use map because multi-family developments require a large amount of infrastructure and it is unrealistic to determine a specific location for this type of development at this time. If a developer decides to build apartments around the lake, they could use the PD process to rezone their land to a PD to allow for multi-family development to occur. This PD district will be a practical way for the zoning commission to approve multi-family developments while still have control over the design and other elements. It is recommended that when development proposals for multi-family are approved by the zoning commission, the Future Land Use Map be updated to reflect the location.

What is a PD?

A planned development (PD) is a unique zoning tool to assist in implementing the vision and policies of the comprehensive plan. It allows the Commissioner's Court to see development proposals and work with the property owner to ensure development is consistent with the vision of the comprehensive plan.

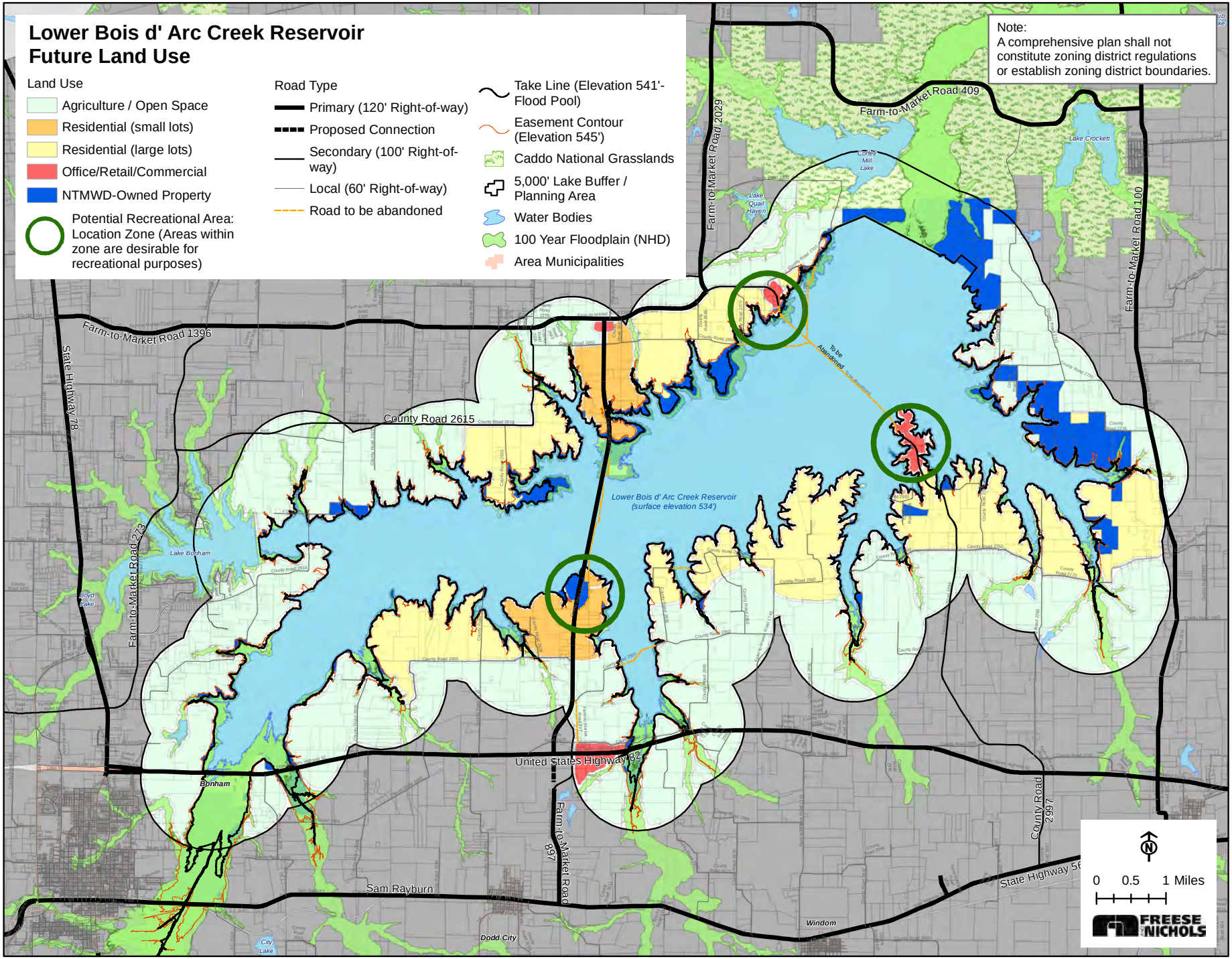
How will PDs be used in Fannin County?

When a property owner wants to develop their property with a different use than what is on the future land use plan and the zoning map, one option is to apply for a PD. The property owner can work with the County to agree on requirements such as building materials and landscaping. This allows for flexibility in implementing the comprehensive plan and ensures that quality development is occurring around the lake. It is anticipated that multi-family development will occur around the lake under the PD process.

It is anticipated that multi-family development will occur around the lake under the PD process



Figure 14. Future Land Use Map



Residential Design Recommendations

Connections to Adjacent Uses

As new residential developments begin to appear around the LBCR, it is important to consider the future connections that will be needed to adjacent neighborhoods and any nonresidential development. Doing so will improve the circulation throughout the neighborhoods as well as provide easy access for school buses and emergency vehicles. To avoid future connection issues, subdivisions should be required to have at least one street stub-out into currently undeveloped tracts of land. This will allow for new subdivisions to create roads that are a continuation of an existing street.



Plan for Trail Connections

The LBCR area is envisioned to be predominately rural with recreational areas located throughout. There should be trails located in certain areas around the reservoir in order to provide access to open space, parks, and other facilities to help link various areas of the community to one another. The development of the trail system will be the responsibility of the County. It is important that trail connections are implemented as development occurs, in particular residential development. This can be done in the form of establishing sidewalks or paths that run through residential areas to create small trails within the subdivisions that can later be incorporated into the larger trail network. Trail connections can also be created by providing oversized shoulders on roads.



Building Materials

To promote a rural character around the lake, the required building materials should less stringent while still promoting quality development. Wood/log, metal, brick, and stone/masonry building materials should be required. Additional details and requirements for each building material should be incorporated into the zoning ordinance.

Manufactured Homes

There are two types of manufactured homes: manufactured (HUD code) homes and industrialized (modular) homes. The primary difference is that manufactured homes are constructed to the Federal HUD code standards and modular homes are constructed to the same State of Texas codes as site built houses. According to State law, municipalities may not differentiate between modular homes and site built homes. Modular homes become a part of the real property once installed and must be installed on a permanent foundation system. Manufactured homes should be allowed in residential areas around the lake as long as they conform to the building material standards that are outlined in the zoning ordinance. To promote quality development, industrialized homes should be encouraged over manufactured homes.



Industrialized Housing

(Per Section 1202.002 of the State of Texas Occupations Code, as may be amended)

a. Industrialized housing is a residential structure that is:
  i. designed for the occupancy of one or more families;
  ii. constructed in one or more modules or constructed using one or more modular components built at a location other than the permanent site; and
  iii. designed to be used as a permanent residential structure when the module or the modular component is transported to the permanent site and erected or installed on a permanent foundation system.
b. Industrialized housing includes the structure's plumbing, heating, air conditioning, and electrical systems.
c. Industrialized housing does not include:
  i. a residential structure that exceeds three stories or 49 feet in height;
  ii. housing constructed of a sectional or panelized system that does not use a modular component; or
  iii. a ready-built home constructed in a manner in which the entire living area is contained in a single unit or section at a temporary location for the purpose of selling and moving the home to another location.

Manufactured Housing

(Per Section 1201.003 of the State of Texas Occupations Code, as may be amended)

a. Manufactured Home – HUD Code
  i. means a structure:
    1. constructed on or after June 15, 1976, according to the rules of the United States Department of Housing and Urban Development;
    2. built on a permanent chassis;
    3. designed for use as a dwelling with or without a permanent foundation when the structure is connected to the required utilities;
    4. transportable in one or more sections; and
    5. in the traveling mode, at least eight body feet in width or at least 40 body feet in length or, when erected on site, at least 320 square feet;
  ii. includes the plumbing, heating, air conditioning, and electrical systems of the home; and
  iii. does not include a recreational vehicle as defined by 24 C.F.R. Section 82.8(g).

Nonresidential Design Recommendations

Building Facades

Building material regulations in nonresidential areas are important to enhance the aesthetic value of the community and to establish a cohesive look. Businesses should use high quality materials on the front façade of their buildings. The use of metal façades should not be promoted.

Building Articulation

Building articulation refers to offsets of the outer walls or roof line of a building. A perfectly flat wall with no variations has no articulation, and therefore provides no architectural character to a building. Within the nonresidential areas of LBCR, businesses should incorporate articulation to the front façade of the buildings to enhance the architectural quality of the area.

Refuse Containers

The placement of trash and recycling receptacles is often an overlooked component of site design. They are often placed, unintentionally, in highly visible locations. Receptacles, however, do not have to be unsightly or reduce the visual quality of nonresidential developments. To ensure refuse containers do not become eyesores, they should be screened from public view or located behind the main structure. This can be done with a variety of materials such as masonry walls or landscaping.

Outside Storage

Outside storage areas are generally defined as areas where goods and materials are displayed or stored outside a building for periods that are longer than 24 hours on a permanent basis. Examples include pre-fabricated storage sheds, commercial equipment, landscaping material storage, and some agricultural uses. To avoid unappealing views, new businesses should be required to locate outside storage in areas not visible to public view. Screening with masonry walls or fences are useful methods. This should be required of all outside storage except for those serving agricultural uses. Materials being stored should not exceed the height of the screening.



Business Signage

Signage establishes an identity to buildings, businesses, and developments. As one of the most visible elements in a streetscape or corridor, signs significantly influence the visual environment. As development occurs, special consideration should be given to the types of permitted signage. Monument signs should be predominately used since they are visually appealing and do not create clutter along roadways. Attached signs would also be acceptable since they are of a smaller scale and can be easily attached to small shops or boutiques. Detached signage should have a height restriction that does not allow for billboards to be placed along roadways.



Wayfinding Signage

Wayfinding signs are aimed at providing guidance to specific locations or features of an area. Wayfinding signs may be used to direct vehicular traffic to parks and boat ramps located around the LBCR. They may also be used to help pedestrians or bicyclists identify public facilities, parks, public access areas, trails, marinas and other areas of interest within the LBCR. Acceptable types of wayfinding signs may be pole mounted, part of a monument sign, attached to traffic signal poles, or attached to light poles.



Recreational Vehicle (RV) Parks and Camping Areas

The area surrounding the LBCR is envisioned to include recreational opportunities. Therefore, it is recommended that the County develop standards for future recreational vehicle (RV) parks and camping areas. These RV parks and camping areas will be allowed to be located within the nonresidential areas since they fall within the commercial category. The following standards are recommended to be applied to all RV parks and camping areas surrounding LBCR.

Park Area

The minimum area of RV parks and camping areas should be 3 acres.

Rental Space Size

A minimum rental space of 1,500 square feet should be required for all individual sites (including concrete pad and open space). There should not be a minimum square footage requirement for tent sites or building sizes. Rental cabins tend to be small since most time is spent outside of the cabin utilizing the recreational areas.

Rental Pads

A minimum of 80 percent of all spaces should be equipped with a surfaced area that has a minimum area of 10 feet by 40 feet. These areas should have water, sewer, and electricity hookups available. Surfacing should consist of concrete or asphalt, unless otherwise approved by the County. Other alternatives are pervious pavement or reinforced grass, which promote infiltration and have many benefits to water quality.





Streets

Streets within RV parks should be designed to provide the safest and most convenient access to all rental spaces and common use facilities. Streets should be constructed in a manner that allows emergency vehicles easy access into the park and throughout the internal street network. It should be required that all streets be paved with concrete or asphalt of a similar standard, and are a minimum of 24' for two-way traffic and 15' for one way traffic. Wherever an interior street is meant to curve, it should be required that there be a 45' turning radius to facilitate access for emergency vehicles.

Frontage

To provide ample space between rental spaces, all spaces should be required to have a minimum frontage of 30' along an interior roadway.

Disposal Stations

RV parks should be required to have at least one sanitary disposal station. These stations should only be used to remove and dispose of waste from RV holding tanks.





Utilities

Water — A supply of accessible, adequate, safe, and potable water that is under pressure should be provided within an RV park. All aspects of the water supply from design, construction, and maintenance should be required to comply with the Texas Commission on Environmental Quality (TCEQ) standards as well as Fannin County standards. Rental RV spaces that are equipped with sewer and electrical connections should have two water outlets, while all other spaces only need one.

Sewer — Sewer connections should be connected to a public sewage system or an approved on-site sewage system if a public sewage system is not available. Sanitary sewage systems should be installed and maintained in compliance to TCEQ standards.

Electricity — Electrical outlets should be made available to all rental pad sites. They should be installed in compliance to the State of Texas Electrical Code. Electrical utility lines should be placed underground so as to not disrupt the look and feel of the RV park.

Refuse Disposal

Refuse disposal should be made accessible to all occupants of the RV park. One small refuse container should be required within each rental space and several large containers should be located throughout the park. Large refuse containers should be required to be screened from public view. Park owners should be responsible for the appropriate collection and removal of refuse.

Landscaping

Grass and other natural landscaping should be required throughout all RV parks and should be designed to give parks an aesthetically pleasing appearance within the park and along the frontage from major roadways. Landscaping should also serve as a buffer between the RV park and adjacent properties.

Structural Additions

Canvas awnings, screened enclosures, platforms, or any other temporary structure that is normally associated with camping should be allowed within a rental space, but must be removed when the space is vacated. No other structural additions should be allowed.

Stormwater Management Recommendations

Subdivision Plats

A subdivision plat should not be approved that does not make adequate provisions for stormwater runoff. Additionally, a stormwater drainage plan should be prepared in accordance with standard engineering practice, as part of the subdivision final plat.

Design Criteria

Drainage structures should be designed to accommodate runoff from a storm event. The County should work to develop the appropriate threshold. The facilities should also be designed so as to minimize any increase in the quantity or velocity of stormwater runoff from the subdivision.

Low-Lying Lands Along Natural Drainage Course

Low-lying lands along natural drainage courses subject to flooding or overflowing during storm periods should be preserved and retain their natural state as drainage ways, and should not be included as residential lots in the subdivision.

Primary Roads

Additional right-of-way may be needed at intersections and for specific site features to promote efficient stormwater management practices.





Summary | Future Land Use Plan

The Future Land Use Plan and Map lay the foundation for how the lake area should be developed. This chapter establishes land uses and the types of development envisioned to occur. Recommendations for the important qualities of development are also listed.

Major Themes:

1. The lake area should be developed as a desirable home, commercial, and tourist destination

2. The lake area should primarily have a rural feel, with some areas for more intense development

3. The southern half of the lake is anticipated to develop first and should have a mixture of large and small lot residential development

4. Nonresidential uses should occur at locations shown on the Future Land Use Map



Chapter 4

Transportation Plan

Chapter Purpose: To ensure that roadways provide access around all parts of the lake and to all destinations in the County

Introduction

The thoroughfare system forms one of the most visible and permanent elements in a community. It establishes the framework for community growth and development and, along with the Future Land Use Plan, forms a long-range statement of public policy. As the alignment and right-of-way of major transportation facilities are established and adjacent property is developed, it is difficult to facilitate system changes without significant financial impacts. However, by incorporating programmed land uses and planning for future roadway needs, strategies that maximize the land use and transportation relationship can be developed.

More specifically, the transportation system should:

- Provide mobility and accessibility at appropriate levels
- Expand as needed to meet the demands of the area's anticipated development
- Be economically feasible for the citizenry and the County
- Be correlated with regional considerations

Existing Transportation Conditions

Daily Traffic Volumes

U.S. Highway 82 and State Highway 78 experience the highest traffic volumes in the area surrounding the Lower Bois d'Arc Creek Reservoir (LBCR). The lowest traffic volumes are found on east FM 100 and north FM 273. According to the TxDOT Annual Average Daily Traffic Counts shown in Figure 15, there are approximately 6,900 cars per day at the western end of the planning area and 5,400 cars per day along the eastern end near Honey Grove. This can indicate that US 82 mainly serves as a connection for cities that lie along the roadway.

Current Transportation Systems

Regional Highways

There are three major highways that run at a close proximity to the LBCR and play a key role in providing current and future mobility to the reservoir: SH 78, SH 56, and US 82.



State Highway 78

SH 78 is a TxDOT maintained highway located just west of the proposed LBCR. The roadway runs in a predominately southwest-to-northeast direction beginning at the intersection with IH 30 in Dallas and travels approximately 90 miles north-northeast to Oklahoma's border. The highway provides a major link from the DFW Metroplex to the LBCR area.

State Highway 56

SH 56 is a TxDOT maintained highway located just south of the proposed LBCR. The roadway runs east-west parallel with US 82 from Whitesboro to Honey Grove. This highway will not be affected by the lake; however, it connects the Fannin County cities of Savoy, Ector, Bonham, Dodd City, Windom, and Honey Grove. SH 56 is anticipated to see increased traffic due to the proximity to the LBCR.

U.S. Highway 82

US 82 will be a key to the growth and development of LBCR's surrounding area. The County should ensure that it is aware of and greatly involved in any discussions or decisions related to US 82. Figure 15 depicts the traffic volumes for the major roadways surrounding the LBCR. US 82 carries more vehicles per day than any other roadway in Fannin County. The heaviest traffic volumes on US 82 are near the intersection with CR 2915. Currently, TxDOT has a project under development pertaining to US 82 - an approximately 14.5-mile strip located between SH 78 and FM 100 expected to have two lanes in each direction and shoulders. The estimated cost for the project is around $38,000,000, and there is no expected start or completion date known at this time.

U.S. Highway 82



Public Transportation

Texoma Area Paratransit System (TAPS) Public Transit

The TAPS Public Transit provides curb-to-curb service that runs throughout the Texoma Council of Governments region, which includes the counties of Clay, Cooke, Fannin, Grayson, Montague, and Wise. Trips are prioritized to seniors (60+ years) and individuals with disabilities. Seniors and individuals with disabilities may request a trip for any purpose, including to keep an appointment, get to work, go shopping, get to an educational facility, or any other reason. Riders are asked to schedule a ride with the Get-a-Ride services at least two days before the trip date.

TAPS Service Area Map



Source: www.tapsbus.com

Air Transportation

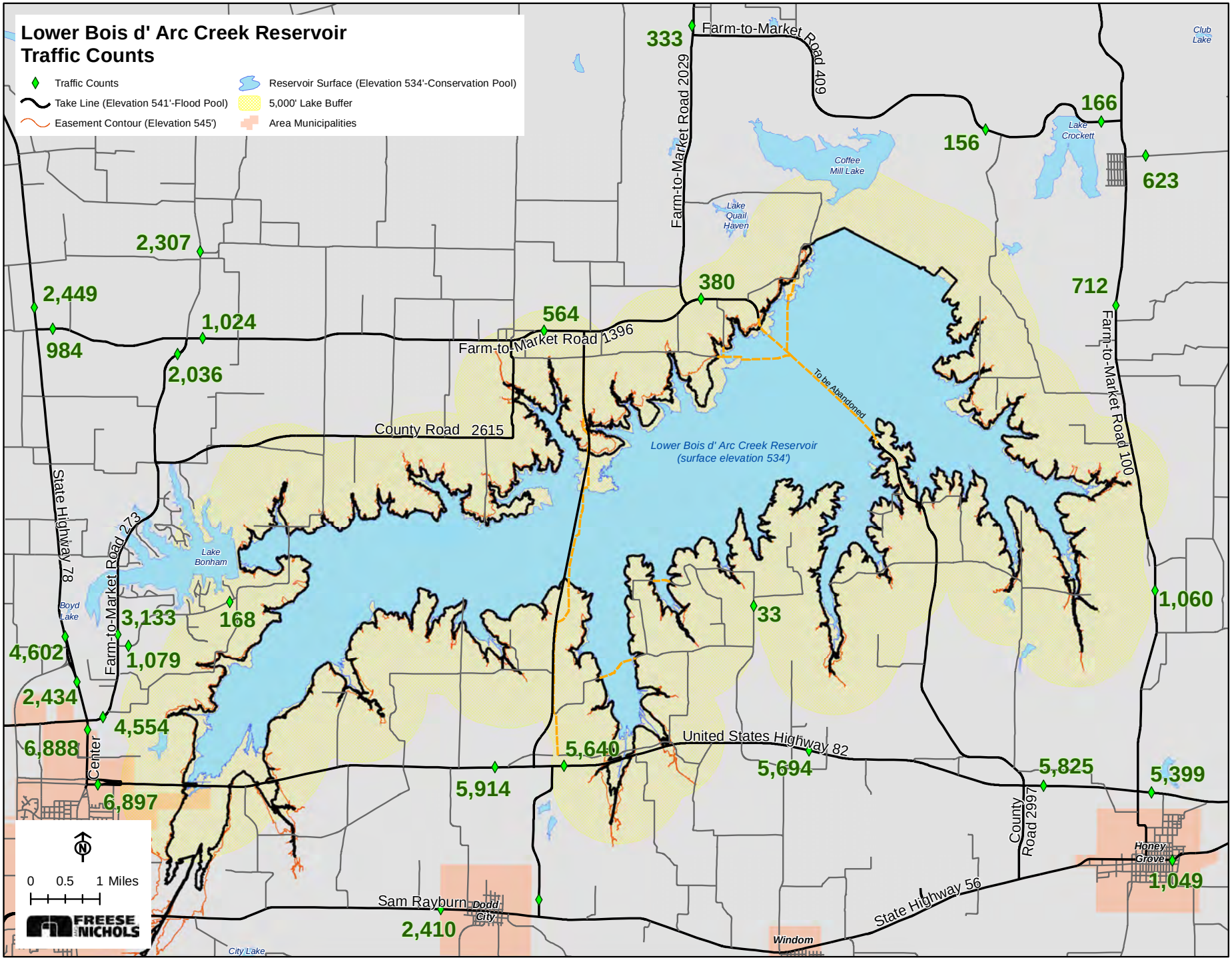
Jones Field Airport

The Jones Field Airport was constructed in 1941. The airport is located 2 miles north of the central business district of Bonham and five miles southwest from what will be the LBCR. Jones Field Airport covers an area of approximately 300 acres, at an elevation of 618 feet above the mean sea level. Once an Air Force base, the airport currently serves as a general aviation airport owned by the City of Bonham. The airport is predominately used by people who have single engine airplanes. Each fall, the airport hosts one of Bonham's biggest festivals, the Bonham Festival of Flight, which attracts people from all over Fannin County to see the airshow. Access to Jones Field Airport is provided via SH 78, north of its intersection with US 82.

Municipal Airport Example



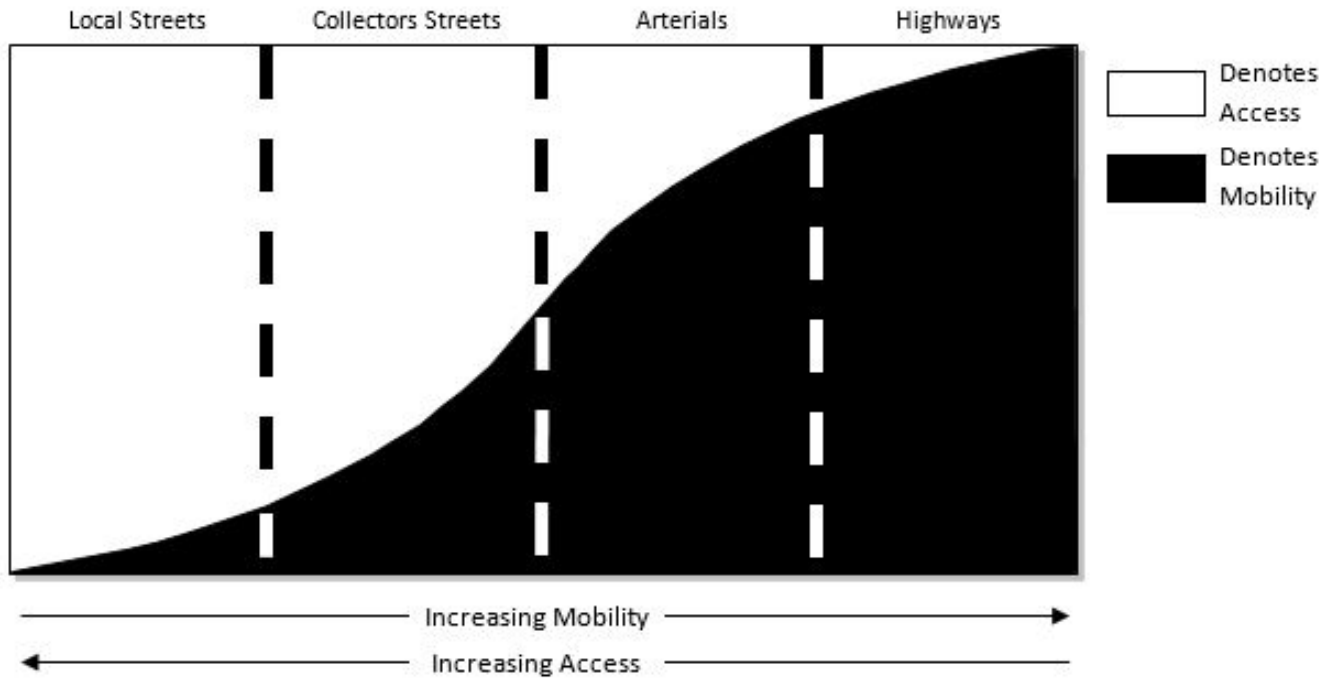
Figure 15. Traffic Count Map



Access Management and Connectivity

Access management refers to the practice of controlling access allowed onto a roadway by considering specific design criteria for the location, spacing, design and operation of driveways, median openings and intersections. Generally, as the capacity of a roadway is increased, it is important to ensure the safe access to adjacent properties. Not only does access management provide for safer driving conditions, but it also enhances the visual appearance of roadways. To avoid having access points at a close proximity to one another, only one driveway should be allowed per lot. If that is not feasible, driveways should be separated by a minimum of 150'. Developments that are placed within 100' of neighboring establishments should provide connections and cross access easements, both as walkways and drives. Additionally, vehicles should not park within the right-of-ways leading to adjacent properties.

Figure 16. Functional Classification



Local Thoroughfare System

The Transportation Plan for LBCR is based upon a classification system that recognizes that every roadway within the planning area can be described according to its anticipated function. Thoroughfare types, as discussed in the following sections, will be classified as primary, secondary, and local. Although this does not follow the typical functional classification system (i.e., arterial, collector, and local roadways), the hierarchy used herein is thought to be the most suitable for the LBCR area. The following section contains roadway cross-sections for the applicable types of thoroughfares shown on the Transportation Plan Map. The cross-sections are intended to help the County provide for adequate mobility along the expected future high-traffic roadways, while also providing for access to local land uses. The Transportation Plan Map shows the future recommended roadways according to the hierarchical system defined herein. Table 9 describes the roadway types in relation to various characteristics.

Table 9. Summary of Roadway Cross-Sections

Roadway Type	Right-of-Way Width	Purpose
Primary Roadway	120’	Accommodate high levels of traffic volumes; provide access to and around the lake; mobility is key element; access to properties is limited
Secondary Roadway	100’	Provide greater access to the lake; mobility and access are equally important
Local Roadway	60’	Provide access to properties; slower speed facilities

Primary Roadways

It is recommended that a Primary Roadway have 120 feet of right-of-way width. It is the largest roadway section within the area that is immediately surrounding LBCR. Additionally, trails can be implemented in the shoulders of the roadways at a future date when trail connectivity exists. Figure 17 provides a cross-section for a Primary Roadway with a trail implemented into the right-of-way. There are eight Primary Roadways shown on the Transportation Plan Map, which include:

- US 82
- E. Sam Rayburn Drive
- FM 897
- FM 100
- FM 409
- FM 2029
- FM 1396
- SH 78

These roadways are expected to be the main routes that travelers will use to access the different areas of the lake. These roads create a large loop around the lake, with one roadway, FM 897, bisecting the lake from north to south.

Secondary Roadways

Secondary roadways are intended to distribute traffic from local access streets and funnel it to major thoroughfares. Secondary roadways are intended to provide more mobility than local streets, and local streets are intended to provide more access than secondary roadways. Secondary roadways should provide access to adjacent land uses as well as the key areas found around the LBCR, such as marinas and nonresidential developments. It is recommended that roadways of this classification have a 100' right-of-way that will ultimately accommodate a four-lane undivided roadway. Examples around LBCR include:

- FM 273
- County Road 2615

Local Roadways

Roadways identified as local are designed to convey light volumes of traffic, generally around 1,000 or fewer vehicles per day. These roadways are primarily intended to provide access to adjacent properties. The mobility aspect of local roadways is secondary to accessibility. Due to the fact that local roadways are generally constructed within residential areas, safety is of high importance. It is recommended that local streets be configured to discourage through-traffic movement. All County Roads and a few FM roadways within the LBCR planning area have been designated as local roadways. Refer to Figure 19 for a graphic depiction of the recommended local roadways.

Figure 17. 120’ ROW Cross-Section for Primary Roadways

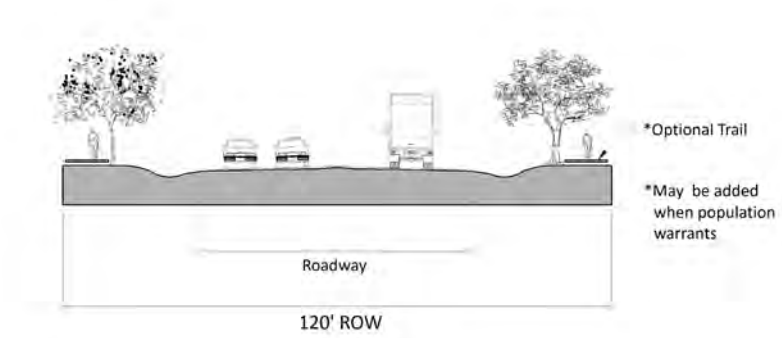


Figure 18. 100’ ROW Cross-Section for Secondary Roadways

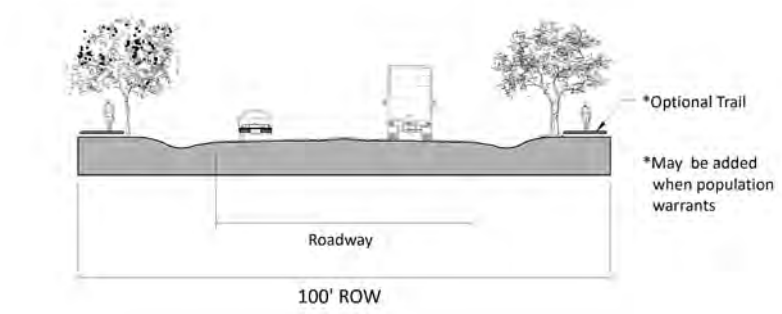
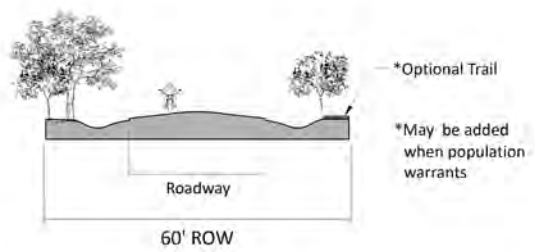
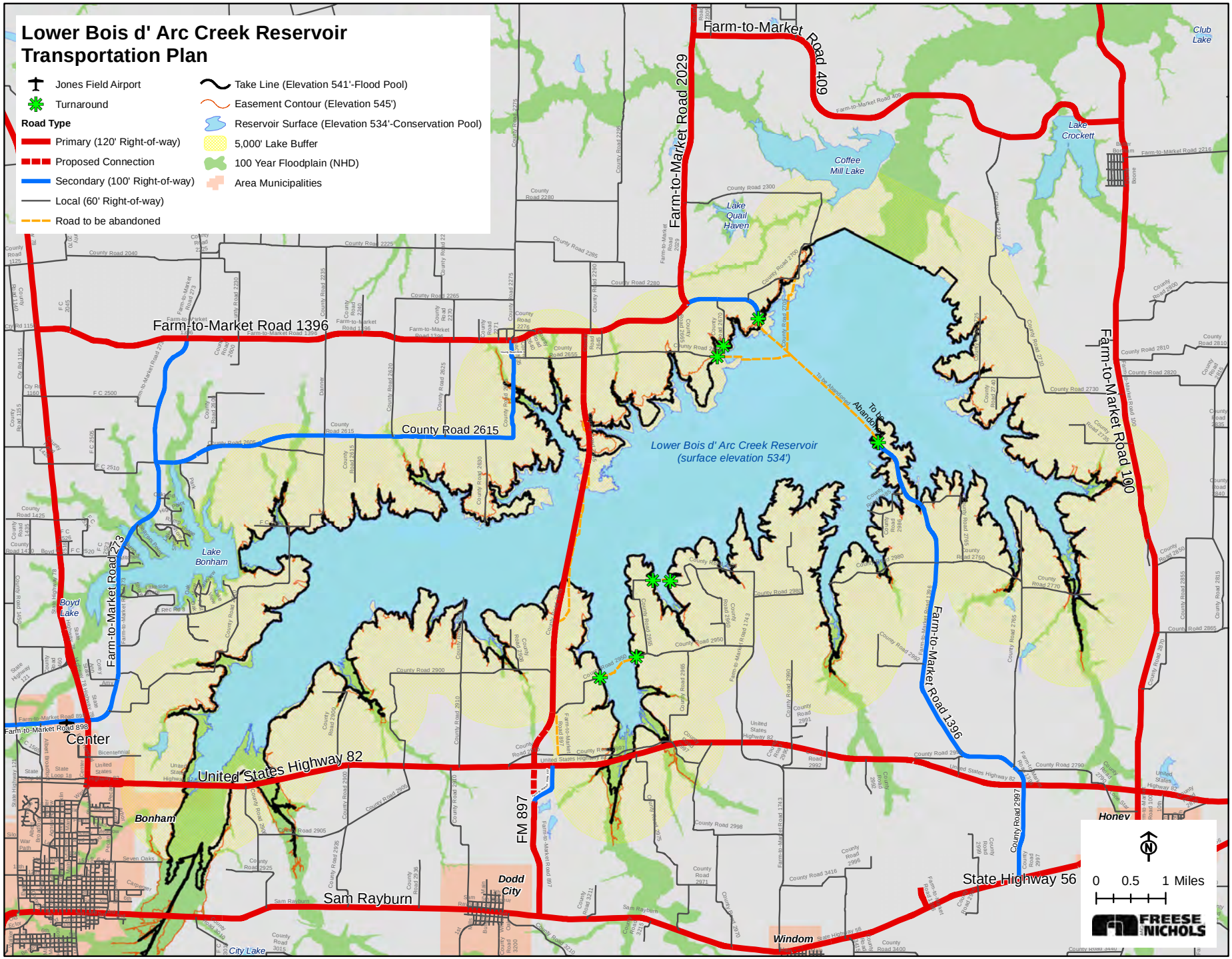


Figure 19. 60’ ROW Cross-Section for Local Roadways



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Figure 20. Transportation Plan



Summary | Transportation Plan

The thoroughfare system is the backbone of the Plan. These roadways will help transport people to, from, and around the lake. This chapter establishes the hierarchy and locations of the thoroughfares.

Major Themes:

1. It is important to plan for access around the entire lake
2. It is important to ensure that all emergency service vehicles can quickly access all parts of the lake area
3. Roads and roadway improvements will help to drive growth and development
4. Trails along certain roadways will help to provide a superior recreational system



Chapter 5

Chapter Purpose: To create a unique, well-connected recreation system for County residents and visitors to enjoy

Parks, Recreation, Trails, and County Connectivity Plan

Introduction

A vital component for a community is the space devoted to satisfying active and passive recreational needs. The LBCR will provide a recreational asset to Fannin County. The lake's close proximity to the Dallas-Fort Worth region will attract many weekend visitors. While it is important to provide space for parks and recreation, it is also important to preserve open space to maintain the natural feel of the environment. This chapter will help coordinate parks and recreation efforts by Fannin County and other regional entities.





Public Access to the Lake

Public access to the LBCR is vital to Fannin County and its residents. It is important that residents and visitors are able to fully access and enjoy the lake, even if they do not own lake front property; however, the public access points should still be appropriately situated to allow the County to better manage public resources and safety. A limited number of public access points are proposed because the County seeks to maintain quality public boat ramps while ensuring fiscal responsibility.

Public access points for launching boats in the water are identified in Figure 22. These public access points are easily accessible via roadways and trails. Most of the lake's visitors will likely come from US 82; therefore, two public access points were identified on the south side of the lake. Public access points were identified on all sides of the lake to give all residents and visitors sufficient access. Three of the public access points are near areas identified for suitable marina locations. These access points are also areas where non-residential uses could potentially develop. The other identified public access points are in areas where parkland was identified.

Varying lake levels were taken into account when identifying public access points because the upper end of the lake (the western portion) will be the first part of the lake to experience limited access in a season of drought, due to higher elevations. Figure 21 depicts the pool elevations of the LBCR.

School districts were also taken into account in the placement of public access points. Development generally occurs around public access points near major thoroughfares; thereby creating residential tax revenue for the school districts. There are three public access points initially planned at various locations around the lake.

Figure 21. LBCR Pool Elevations

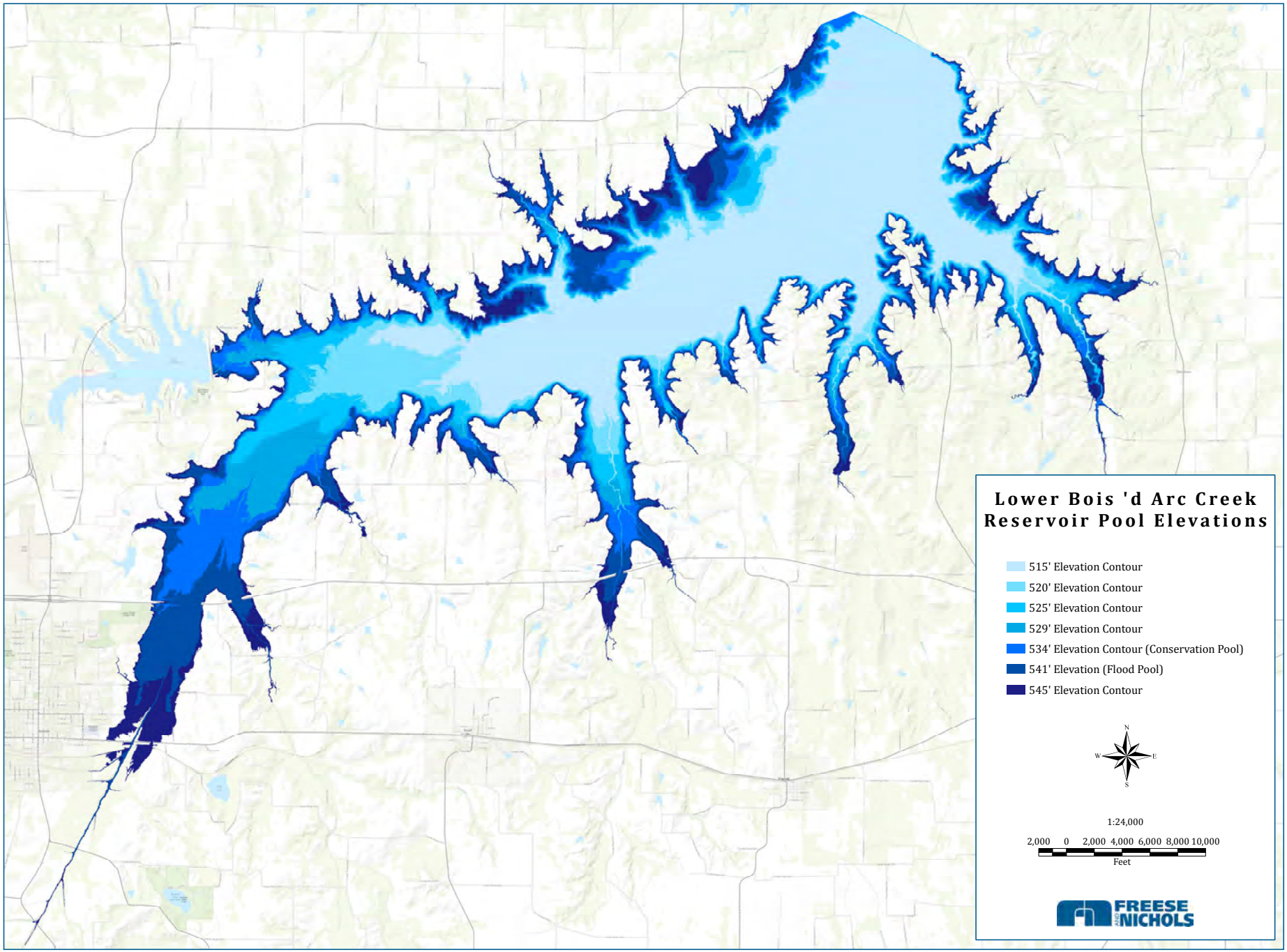
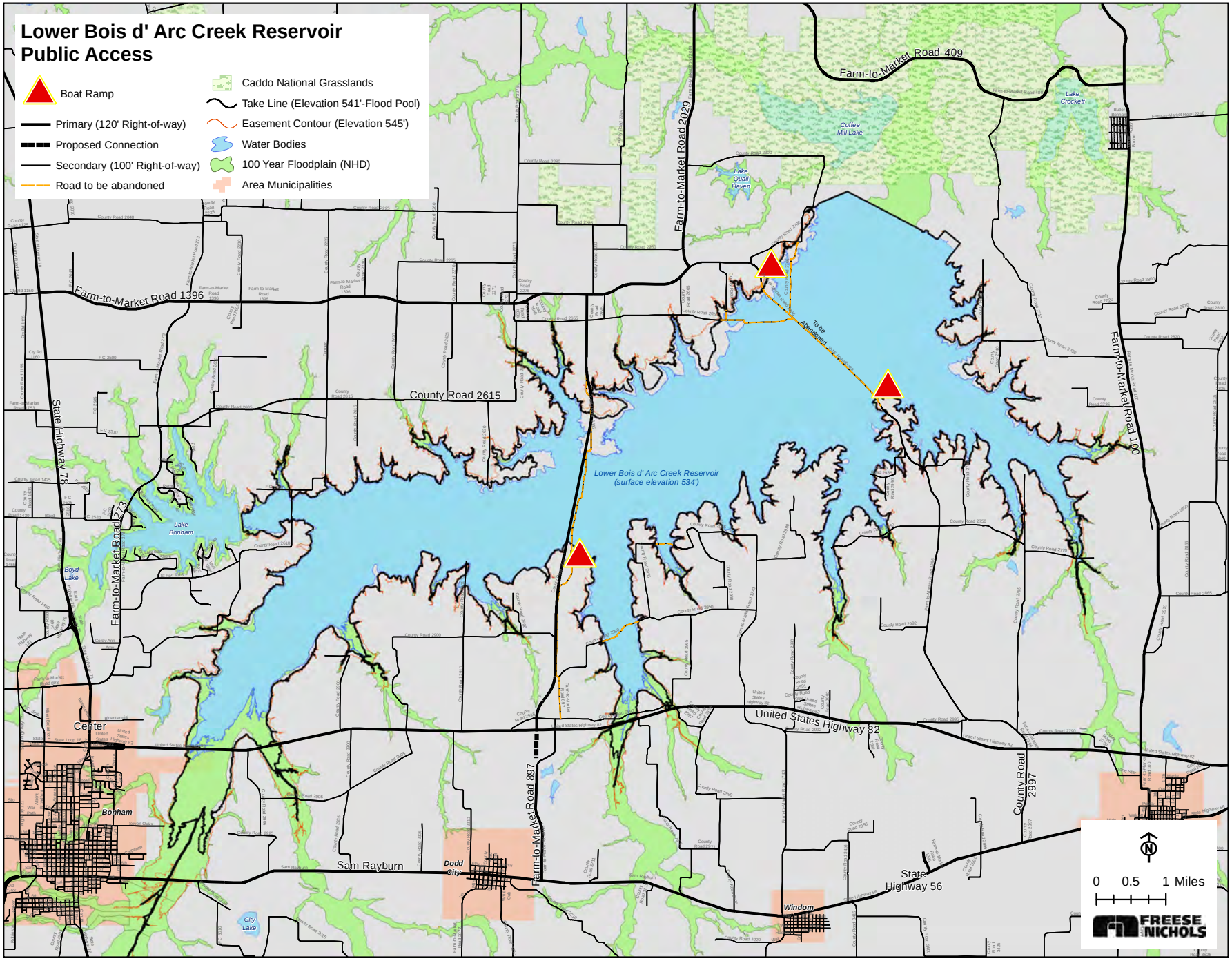


Figure 22. Public Access Points Map



Parks | Active Recreation

Lakes are generally associated with boating recreation; however, there are more recreational opportunities around the lake that will add value to the LBCR. Large parks with playgrounds and trails should be developed around the lake near the areas designated for public access. Most parks should be connected by the trail system, which may be paved or unpaved. In certain areas, outdoor fitness equipment can be installed to promote healthy activity. This type of recreation is ideal for families and those that want to enjoy the lake without boating. Camping facilities will also add value to the LBCR. These facilities should be located near the water so that visitors can have a view of the lake. To protect the environment and the water quality, concrete pad sites with electricity should be provided. The campgrounds should be for short-term visitors only, to maintain the character of the lake. Additionally, visitors will have the ability to bring their pets to these public parks and trails. A regulation should be enacted that requires pet owners to pick up waste from their pets. All parks and trails should have pet waste stations installed to encourage cleanliness.

Playground



Swimming area



Multi-use trail



RV camping sites



The LBCR parks are envisioned to have:

- Camping
- Playgrounds
- Swimming areas
- Trails (paved and unpaved)
- Fitness trails/exercise areas

Locations for potential parks have been identified in Figure 24.

Parks | Passive Recreation

Many people enjoy lakes for the natural beauty rather than active recreation. The land around the lake is currently sparsely developed and very rural. This will allow for large amounts of land to be preserved for open space. This is not only important to preserve the environment, but also protect water quality. The land around the lake is home to many types of natural species, which can allow bird and animal watching. These environmentally-sensitive areas are generally on the southern portion of the lake and have been planned to be preserved as wetlands and open space by the NTMWD. Areas should also be designated for public picnic areas with seating, tables, and waste receptacles so that visitors can have a place to rest and eat. Another form of passive recreation is pier fishing, which is ideal for families with young children.

Picnic tables



Nature preserve



Fishing pier



Pavilion



The LBCR parks are envisioned to have:

- Nature preserves
- Bird-watching
- Pier fishing
- Picnic areas
- Pavilions

Locations for potential parks have been identified in Figure 24.

Trail Connections

Trails and sidewalks are important to the LBCR to promote non-vehicular mobility. All of the proposed parks are also connected by the trail system, which will allow visitors to freely move around the lake while enjoying the natural environment.

Trail Connections around the Lake

The trail connections around the lake should connect as many parks and recreational amenities as possible so that visitors can travel freely between them. The trails should also tie into the regional trail network to increase the accessibility of the lake. Many of the proposed trails shown in Figure 24 are along existing roadways or easements to make implementation of the trails easier and more practical. There are many existing utility easements that are already cleared. Agreements and partnerships with landowners and the owner of the easement would allow for a useful trail connection. All trail connections should also be coordinated with surrounding entities to ensure that critical destination points are not overlooked. For example, the City of Bonham is the closest municipality to the lake and will be a destination where many visitors will stay. Coordination with Bonham's current park and trail system, including connections to adjacent Lake Bonham, are critical. It is not feasible to have a trail all the way around the lake near the water's edge because of private property. All trails should be multi-use to allow walkers, runners, and cyclists. Generally, a multi-use trail is 12' wide. The trail can either be paved or left natural depending on the environment of the area.

Multi-use concrete trail



Natural trail



Utility Line Trail

An existing utility line and easement runs through the southern portion of the lake and may make a practical trail location. The trail may not cross the lake, but would connect different portions of the lake with smaller trail segments. The trails can be built as development occurs around the lake. The utility easement can be seen on the Future Parks and Trails map in Figure 24.

Existing Utility Easement



Utility Easement with Trail



Regional Trail Connections

It is important to connect the County with trail connections and now is the best time to plan for these future trails. The regional trail connections should have a strong tie with historical areas and future developments to offer superior recreational opportunities.

Northeast Texas Trail

When the Northeast Texas Trail is completed, it will be the longest hike and bike trail in Texas and the fourth largest in the United States. It is currently 130 miles long and runs from Farmersville (Collin County) to New Boston (Bowie County). It links 19 rural towns and seven counties. The trail is on an abandoned rail line that was released by Union Pacific and the Chaparral in the late 1990s and has now been land banked. This corridor does not have any active rail, but the entire corridor is preserved so that it could be used again for rail in the future. This trail is a very popular attraction and could be connected to the LBCR to add value to the lake and the trail. The trail runs south of Ladonia, near the potential site for Lake Ralph Hall. It will be necessary to provide connections from the LBCR to the trail to bring bicyclists and other people looking for trail recreation, allowing the LBCR to become a destination for parks and trails.

"Old Bob" Rail Line - Connection to LBCR and Lake Ralph Hall

One way to connect the Northeast Texas Trail and Lake Ralph Hall to the LBCR is using the "Old Bob" rail line. The "Old Bob" rail line is an abandoned railroad corridor that runs north-south from Ladonia to Honey Grove. This corridor intersects with the Northeast Texas Trail and could provide a connection from the trail and Lake Ralph Hall to the LBCR. This corridor is not land banked, which means that the old line runs through private property. Right-of-way acquisition would be necessary to piece the corridor back together and make it possible for the public to use. While the possibility of acquiring the old railroad right-of-way is remote, this may be an opportunity in the coming decades to provide recreational opportunities and preserve east Fannin County history.

Lake Ralph Hall

Lake Ralph Hall is a proposed reservoir for the Upper Trinity Regional Water District (UTRWD). The proposed new water supply will be located on the North Sulphur River in Fannin County, south of the LBCR and north of Ladonia. The addition of two lakes gives Fannin County a chance to plan for a successful future and leverage the lakes to benefit the County. Trail connections between the LBCR and Lake Ralph Hall are critical. As previously mentioned, the "Old Bob" rail line is a potential connection. There are also many existing water lines and utility easements that could be used as right-of-way for trail installation. The trail(s) between the two lakes should be wide enough to accommodate runners, walkers, cyclists, and even horses. Since the trail will be a true multi-purpose trail, it should be made of natural materials. This will be a fiscally-responsible way to implement a trail and also help to preserve the natural beauty of the area between the two lakes. The easiest way to acquire land for the trail connection would be to use the right-of-way along SH 34.

Funding Mechanisms:

- The County will be responsible for implementing regional trail connections
- Partnerships with nearby cities, entities, and organizations
- State and Federal grants

Figure 23. Regional Trail Connection Map

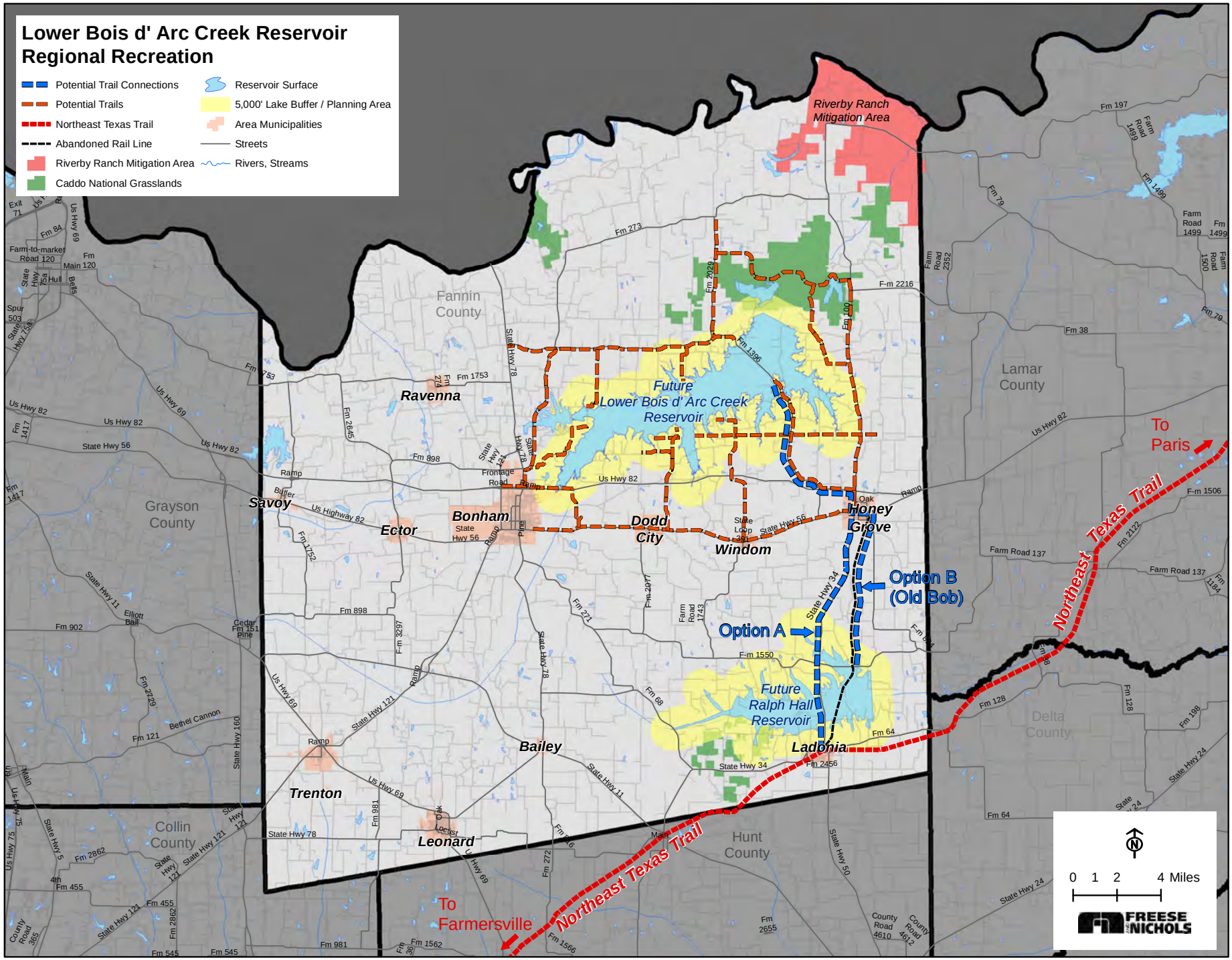
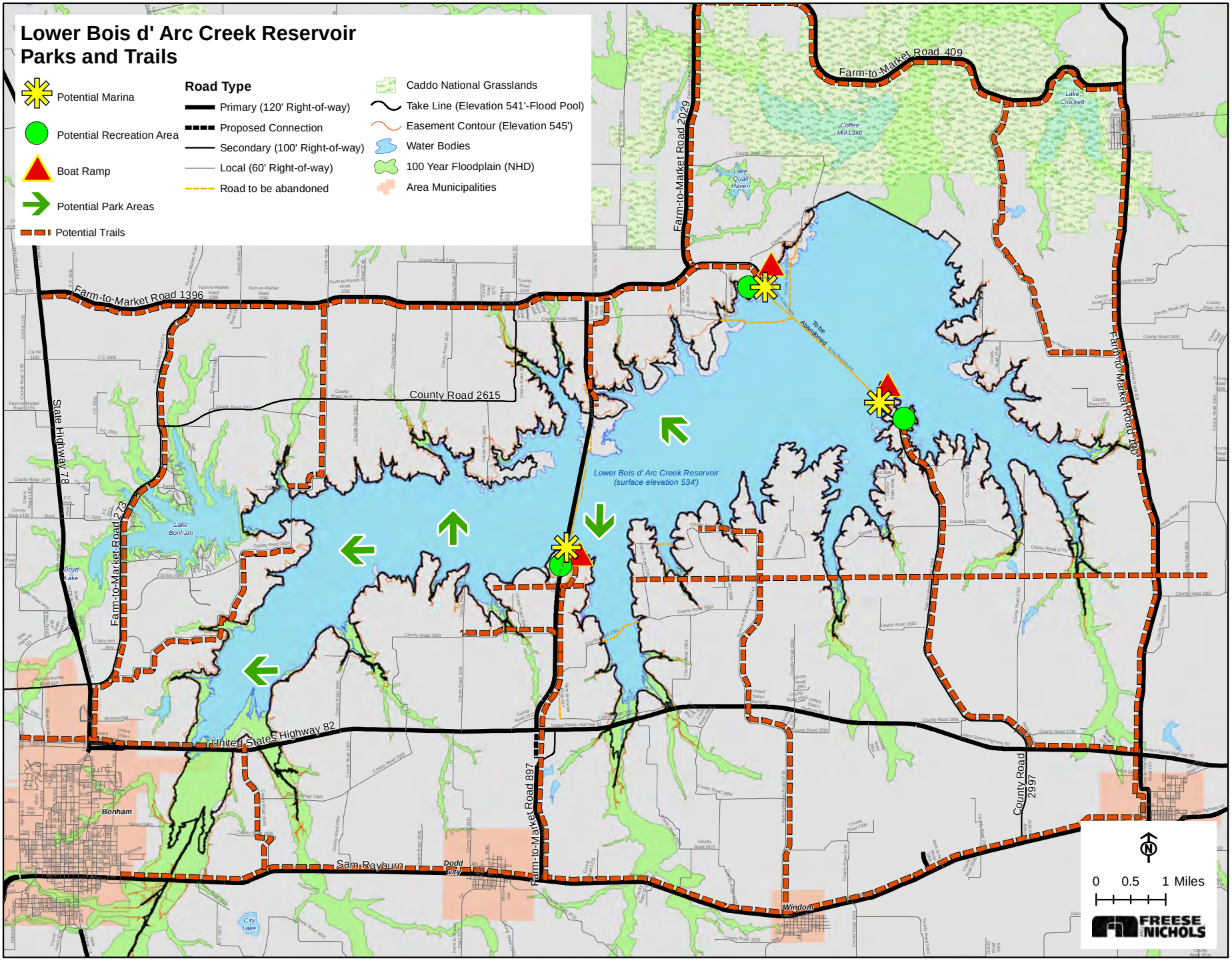


Figure 24. Future Parks and Trails Map



Summary | Parks, Recreation, Trails, and County Connectivity Plan

One of the main purposes of the lake is to provide recreational opportunities for residents and visitors. This chapter establishes a plan for providing recreational opportunities in and around the lake. Additionally, this chapter plans for recreational connections between the LBCR and Lake Ralph Hall.

Major Themes:

1. The recreational system will be a major asset for the County
2. Resident and visitors will be able to enjoy a superior recreational system
3. Hiking and biking opportunities will attract visitors
4. The LBCR will be a regional destination for tourists
5. Public access to the lake is important and will be accomplished through public boat ramps and marinas that are aesthetically-pleasing
6. Parks are planned to serve active and passive recreational needs
7. Trail connections are designed to be an asset to homeowners and visitors
8. Trails will take decades to develop, but the locations must be planned now
9. Linking the LBCR and Lake Ralph Hall will be a major accomplishment
10. Connecting to the Northeast Texas Trail will open both lakes to more tourists and recreational opportunities


DESIGNATED
CAMPSITE
TYPE II
WILDLIFE MANAGEMENT AREA
A HUNTER
FUNDED
PROJECT
WILDLIFE RESTORATION

Chapter 6

Lake Edge Development Standards

Chapter Purpose: To recommend standards for the development of uses around the lake's edge that can inform NTMWD's plan for boat docks and lake activities, while protecting water quality

Introduction

The guidelines in this chapter are specific to the development around the edge of lake and are important to protect water quality and the natural beauty of the LBCR. These guidelines should be incorporated in the development of the zoning ordinance for the area close to the lake edge. Any guidelines or regulations related to developing on the land adjacent to the lake will be enforced by Fannin County. Any guidelines or regulations related to structures on or over the water will be under the authority of the NTMWD. Initial and annual fees will be required for boat docks and piers. The NTMWD owns the land under the water and the water itself. This chapter explains the County's vision for docks on the lake. The County recognizes that NTMWD is the sole authority responsible for allowing docks on the lake. A cooperative partnership between the County and NTMWD will ensure that desirable development occurs, while protecting the natural environment and water quality as well as minimizing shoreline erosion.





Residential Guidelines for Boat Docks and Piers

Registration and Inspection

Boat docks should only be permitted with the approval of the NTMWD. This will benefit the owner if emergency response or law enforcement is called to the location. Registration of boat docks will also help NTMWD locate the dock owner in the event of an emergency or maintenance issue. All boat docks are subject to inspection periodically and dock owners will be required to provide proof of adequate liability insurance as required by NTMWD. The dock owner is responsible for all dock maintenance.

Private docks are owned and maintained by private individuals; therefore, the individual assumes all responsibilities associated with the maintenance of a dock. Dock owners may also be subject to additional hold harmless agreements.



Fixed Docks

Fixed docks consist of pilings fixed into the lake bed with decking on top. Since these docks do not move, they require less maintenance, support larger loads, will last longer, and are structurally stable. The biggest issue with fixed docks is that they can become submerged at high lake levels and can be unusable during low lake levels.

PWC Floats or Lifts

Personal watercraft (PWC) floats or PWC lifts should be permitted along with the dock.

Fixed dock



Fixed dock



Fixed dock with PWC lift



Design Guidelines for Docks and Piers

Prospective dock owners should check the water depth in the dock location to ensure it is adequate for the dock and associated activities. For example, small shallow coves may make it difficult to moor a large boat.

Stress Loads

The stress exerted on a dock is proportional to its size and height. Larger docks must be engineered so that toppling is avoided and to accommodate increased stress by wind and waves. This stress occurs when a floating dock must absorb both the tallest side of the wave and the lowest side of the wave at the same time. This is more common in areas where the lake is wide and deep. A qualified engineer or dock builder should be consulted to determine the size and height that is best for the particular location. The dock should not be permitted if it cannot be proven to handle appropriate stress loads.

Recommended Guidelines:

- No dock or structure shall exceed 1,500 square feet
- Covered (roofed) structures must be open and not walled or enclosed. One exterior side may be walled for the placement of an approved storage area.
- A dock and any of its structures may not exceed 30 feet in height, as measured from the highest point of the structure above the normal pool elevation of the lake.
- Dock length shall be the shortest amount feasible to allow access to the lake, as determined by NTMWD, but in no case should exceed 150 feet

Desirable boat docks



Dock and Pier Maintenance

It is essential to perform regular maintenance on boat docks to ensure the dock's usefulness. Poor maintenance can lead to a dock breaking loose and causing a hazard in the open waters. The owners should agree to maintain all docks in an acceptable and safe condition. All docks and piers should be subject to inspection.

Unsafe dock



Residential Wastewater

Per section 3.2.16 of the Fannin County Subdivision Ordinance:

"to use individual on-site septic systems for sewage treatment a suitability study will be performed on the property and the study will be submitted with the preliminary plat. The purpose of the study is to verify that all of the proposed lots in the subdivision will comply with the Fannin County regulations for on-site sewage facilities. The individual of company performing the study must be qualified to perform site evaluations under the rules for on-site sewage facilities. Minimum lot size is one acre per the Fannin County On-Site Sewage Facility Regulations."

If these regulations cannot be met, the homeowner must connect to a centralized sewage system. Ideally, all homes would be on a centralized wastewater system to protect water quality.

Nonresidential Guidelines for Marinas

Location

Potential marina locations are identified and shown on the Future Parks and Trails Map in Figure 24.

Size and Height

A marina should not exceed 30' in height. All marina roofs should be pitched to provide aesthetic appeal.

Permitting, Registration, and Inspection

Marinas should be permitted by and registered with the NTMWD. This will benefit the owner if emergency response or law enforcement are called to the location. Initial and annual marina fees may be required. Additionally, all marinas are subject to inspection by the NTMWD or Fannin County; therefore, the marina owner is responsible for making all improvements necessary to comply with the lake edge development guidelines. It should be required that a marina owner maintain comprehensive general or public lability insurance that is suitable for the type of commercial use in operation.

Undesirable marina



Restrooms

Restrooms should not be allowed on docks, piers, or over the water in any manner. All restrooms for nonresidential uses must be on land and connected to an approved septic system or centralized wastewater system. No portable restrooms should be allowed near the shoreline. All floating buildings must provide continuous connection to the marina's wastewater system.

Fuel and Pumpout Stations

Sanitary wastewater pumpouts are required for all marinas to address boats and RVs. Sewage will introduce dangerous pathogens into the water and must be controlled and addressed properly. Limiting the number of stations helps protect water quality. Boat fueling should be done at a gas dock. Fueling stations should be prohibited from using fuel with ethanol. Additionally, storing fuel in large quantities should be banned near the lake edge. The pumpout stations should be connected to an approved septic system or centralized wastewater system. All fueling stations must have a sign that clearly displays the TCEQ emergency spill hotline. All fueling docks should have wave protection to help stabilize boats. It is recommended to also have a personal watercraft (PWC) dock or platform to help stabilize the PWC.

Safety Tips for Fueling

- Clear the area of anyone not involved in fueling the boat
- Make sure the boat is secure to the gas dock
- Turn off engine(s) and electronics
- Never fuel around an open-flame or while smoking
- Keep nozzle in contact with the edge of the fill to prevent spills
- Do not top off tank – know how much fuel the tank can hold and stop at 90% because fuel expands as temperatures rise
- Clean up any fuel spill immediately and wipe down any part of the boat that may have come in contact with fuel
- Treat fueling operations with care and remain present the entire time
- Use extra caution when fueling PWCs, since they sit closer to the water
- Report any fuel spills immediately to the TCEQ emergency spill hotline at 1-800-832-8224 (24 hours a day)

Fish Cleaning Stations

Fish cleaning stations should be provided, which provides for the sanitary disposal of fish waste. Rinse water from stations should not runoff into the lake or use septic systems. Fish waste should not be disposed into the marina and fish cleaning on docks and floats should not be allowed.

Pollution Control

Stormwater runoff from marina parking lots and other impervious areas is a significant source of pollution. Activities at marinas (boat scraping, cleaning, fueling, engine repair, fisheries, etc.) can elevate pollutant concentrations in runoff. The following practices will minimize the impacts marina operations have on stormwater.

Boat Maintenance

To prevent pollution and protect water quality, certain boat maintenance should be performed with the vessel out of the water. If there is a likelihood that pollutants may be lost in the water, the maintenance should be performed in an area that is designed for that purpose. The following maintenance should be performed with the vessel out of the water or in a designated area:

- Repairs requiring the disassembly of the outboard or lower drive units.
- Bilge repairs requiring opening or penetrating the hull.
- Scraping, sandblasting, or painting the hull exterior or drive units.
- Interior or on-deck painting or similar activity involving aerosol application with a risk of over-spray or drip beyond the confines of the vessel.
- To the extent practicable, minimize the use of soap and detergents in the marina environment.
- Ensure vessels, and any portable containers on such vessels, are appropriately drained of water to prevent the introduction or spread of invasive species.

Recommended Guidelines:

- All areas of the marina should be cleaned on a regular basis to prevent oil, paint, dust, sanding residues, and other wastes from washing into surface waters, storm drains, ditches, swales, sloughs, and other watercourses.
- All drainage associated with maintenance, sandblasting, and repair activities should be separated from other stormwater discharges, and best management practices specific to those activities should be employed to minimize the chance for release.
- Sweep or vacuum boatyard areas and collect the debris. Sandblast grit, dust, and other work area debris should not accumulate.
- Covered work areas can prevent contamination of stormwater run-off, and can reduce the need for structural controls.

Public Boat Ramps

Public boat ramps should only be located at public access points, as shown in Figure 22 or as amended in the future. Limiting the number of public access points will ensure that the water's edge is protected and that the boat ramps can be easily maintained.

Recommended Guidelines:

- Each public boat ramp should have a designated parking area that is close to the ramp
- The parking lot should be connected to the ramp by the same pavement
- Boats that are trailered to launch at a boat ramp are typically 26 feet in length and all boat ramp facilities, including the parking lot, should accommodate this size
- The accepted national standard for the slope of a boat launch is 12% to 15%, and the preferred is 14%
- Each launch lane should be at least 20 feet - a 10 foot occupy zone and a five foot buffer zone on each side
- If more than one launch lane is provided, there should be boarding float access between each lane

Examples of public boat ramps





Nonresidential Setbacks

A parking lot or permanent structure, other than a dock or a combined storage area on the water's edge, should be set back at least 100' from the shoreline.

Nonresidential Wastewater

All marinas and nonresidential uses must be connected to a centralized wastewater system or an approved system. Septic tanks should be prohibited.

Open Storage

In areas around the lake's edge, mini warehouses and open storage should not be viewable from any primary or secondary street. Open storage uses along the roadway should screen all storage from public view. Boats should not be stored out in the open. Boat storage areas should be screened at least 6' high with a masonry wall or a row of evergreen trees.

Undesirable boat storage



Enclosed boat storage



Water Quality

The LBCR is an important water supply source; therefore, water quality is of the utmost importance. To ensure the best quality drinking water possible, certain restrictions will be put in place by the NTMWD. Boating and fishing will still be allowed. All sightings of littering, pollution, or illegal dumping should be immediately reported to the lake office. In the event of a fuel spill, the Texas Commission on Environmental Quality's (TCEQ) emergency hotline should be contacted immediately.

Tires near the shoreline



Dumpster near the water



Recommended Guidelines:

- Do not leave fuel containers on an open deck
- Store fuel in an approved container in vented storage areas
- Hazardous materials are not allowed to be stored on the marina (batteries, fuel, tires, oil, cleaners, antifreeze)
- Boats should be out of the water to be cleaned below the water line
- It is recommended to use a minimal amount of cleaning products
- All cleaning products should be phosphate-free and biodegradable
- Boats with sewage holding tanks must use an approved sewage pumpout facility at a marina around the lake
- Report any boat that is submerged or partially submerged at a marina, since the boat may contain gasoline, oil, or other hazardous materials
- Antifreeze is very harmful to water quality and the fish habitat and should be appropriately applied and properly disposed of
- Properly dispose of any trash and litter
- Any pollution concerns should be reported immediately

Immediately report any fuel spills to the TCEQ emergency spill hotline at 1-800-832-8224 (24 hours a day)

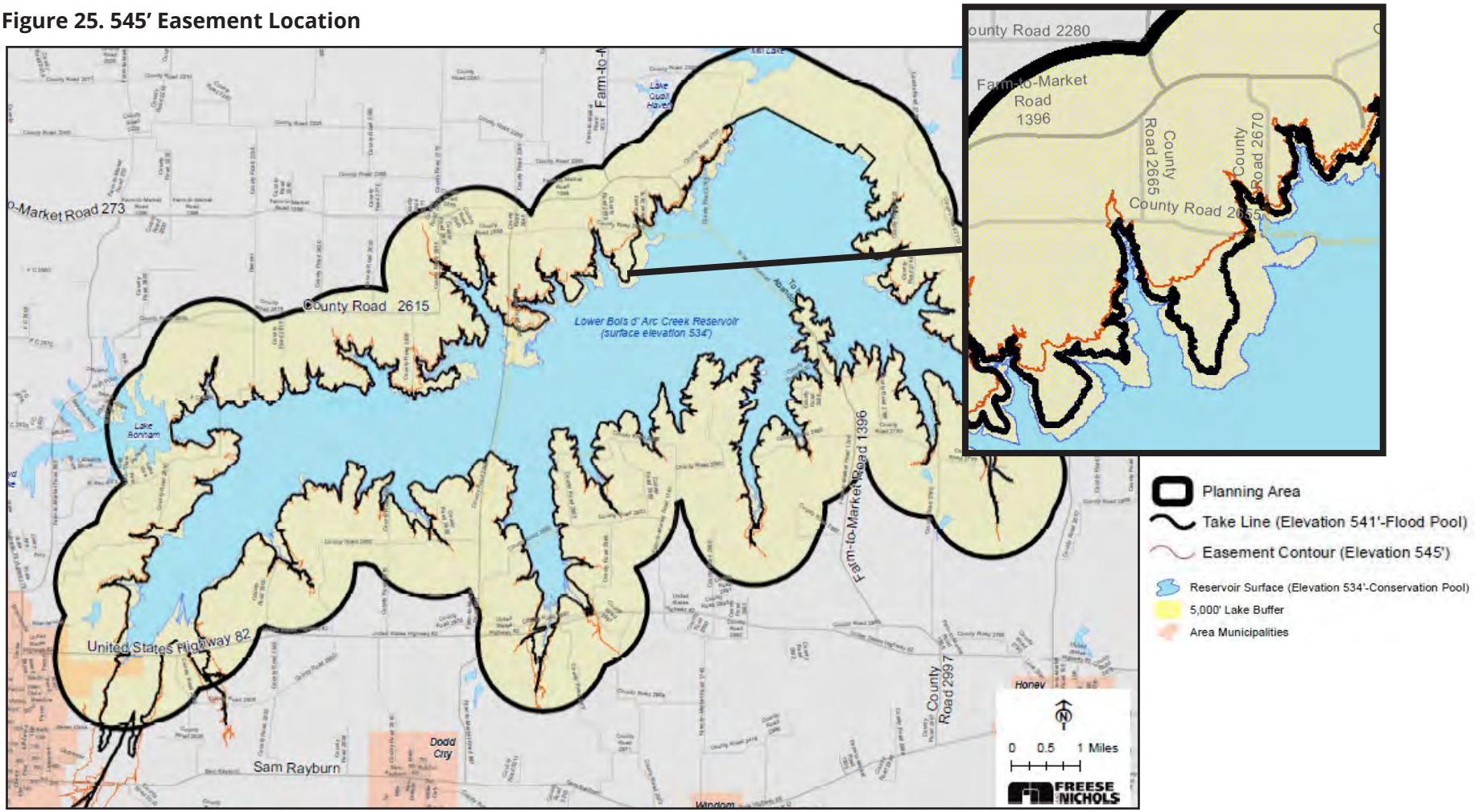
Water Withdraw

Water may not be drawn from the lake for residential or commercial uses unless approved by NTMWD.

NTMWD Easement (Flowage and Floodplain Easement)

This easement is to be free and clear of all habitable structures. The easement cannot have any fill or dirt added to it. The easement is located between the 541' elevation (take line) and the 545' elevation. This is shown by the red line (easement contour) in Figure 25.

Figure 25. 545' Easement Location



Erosion Control/Shoreline Stabilization

Shoreline erosion is a natural part of any lake. Controlling shore erosion is important to reduce sedimentation and the growth of algae and weeds, and to prevent property from eroding which decreases lot size. The following are basic stabilization methods to control and prevent shoreline erosion.

- **Native vegetation –** the deep roots of these plants keep the earth together and removal of the plants can cause the shore to weaken
- **Gentle slopes** – the gradual slope on a natural shoreline will absorb the energy of the waves
- **Healthy trees** – help to stabilize the shoreline
- **Rip-rap** – refers to medium/large granite or limestone stones covering the shore to prevent erosion by decreasing the impact of waves on the shoreline and is the preferred method of erosion control

Retaining Walls

Retaining walls should be considered on a case-by-case basis and should be designed by an engineer. Retaining walls should be constructed from quality materials and should be designed to be aesthetically pleasing. Restrictions should be set for the amount of impervious surfaces that are immediately adjacent to the shoreline (excluding rip-rap and other bank stabilization structures). This will help to ensure best practices and preservation of riparian vegetation.

Example of natural shoreline



Retaining wall



Lighting

All boat docks, piers, and marinas should be lighted continuously from sunset to sunrise and should meet all lighting requirements established by NTMWD. All lights should be required to be fixed – not blinking – so boaters do not confuse the light with a buoy light. It is recommended that lighting be directed downward to clearly identify the marina. All lighting should be designed to illuminate the boat dock so that the light does not "blind" boat operators when they pass the structure. No bulbs should be directly visible to boaters or a neighbor's property. The following outlines what type of lighting should and should not be used.

- **White lights** - discouraged because they attract insects and can have an adverse blinding effect on boaters
- **Yellow/amber lights** - encouraged because they are less likely to attract insects and are easy on the eyes
- **Red/green lights** - prohibited because boaters may confuse with the lighting that typically marks navigation
- **Reflectors** - must be white or amber and and at least 20 square inches and cannot be used to replace lighting
- **Bulb wattage** - low watts are encouraged (40 watts or less); low wattage fluorescent lights in incandescent bases have a longer lifespan

Lighting examples





Electrical

Electrical wiring over the open water surface should be prohibited. Additionally, it is the marina owner's responsibility and liability to protect the safety of guests while on the marina. It is recommended that an electrical system on a marina be installed and maintained in compliance with the National Electrical Code (NEC) and the National Electrical Safety Code (NESC). The National Fire Protection Association (NFPA) 303 Marinas and Boat Yards document should also be used as a guideline. All electrical systems should be designed and installed by a licensed electrician.



Recommended Guidelines:

- All electrical equipment and materials must be approved by the manufacturer for use in wet/damp locations
- All electrical equipment and materials must be firmly attached to the surface on which they are mounted
- Only copper conductors should be used
- All electrical equipment that is in locations where physical damage may occur must have guards or enclosures
- All unused openings in boxes and conduits should be closed
- Suitable covers should be on all boxes and enclosures to prevent accidental contact with energized parts
- Electrical cables installed in the water should only be Type G, Type W, or Marina and Boatyard Cable
- A strain relief device should be installed at all termination points
- Never use extension cords in place of permanent electrical wiring
- Low-voltage (non-battery operated) and solar-powered systems are highly recommended and must be in accordance with the National Electric Code (NEC)
- Floating marinas must provide additional slack on wiring to accommodate varying lake levels
- The service equipment used for the system must be located on the adjacent shore



Summary | Lake Edge Development Standards

The lake edge and its future development is critical in determining the future of the lake. This chapter defines how the lake edge development will occur.

Major Themes:

1. Quality guidelines have been developed to show the vision for this type of development
2. Septic tanks are limited to large lot residential developments of one acre or more because of the hazardous effect that a failing septic tank can have on the quality of the water supply
3. Nonresidential guidelines have been established to promote quality marina development
4. Shoreline erosion control is recommended
5. The recommendations of this chapter should be enforced through a zoning ordinance
6. There are constraints around what can be constructed in the NTMWD easement



Chapter 7

Implementation Plan

Chapter Purpose: To use the vision for the lake and plan recommendations to create specific implementation steps for the County to achieve the vision of the Comprehensive Plan

Introduction

Successful plans establish a clear vision for the future and identify the steps necessary to achieve that vision. This section completes the Comprehensive Plan by providing implementation techniques and priorities that address the vision, recommendations, and related policies established herein. This Implementation Plan is structured into a coordinated action program so that County leaders, staff, and other decision-makers can easily identify the steps that are necessary to achieve the vision for the LBCR. It is also important to note that counties or cities cannot afford to complete all of the desired tasks at once; therefore, it is important to identify the top priorities that are most critical for achieving the vision. Many of these recommendations will take several years to complete, but this plan will help the County to identify action items.

The Role of the Comprehensive Plan

A Guide for Daily Decision-Making

Many diverse individuals and groups will be involved in the development of land surrounding the lake. In the future, each new development that takes place represents an addition to the County and the lake area's physical form. The composite of all such efforts creates the County as it is seen and experienced by its citizens and visitors. If planning is to be effective, it must guide each and every individual development decision. The County, in its daily decisions pertaining to whether to surface a street or amend a zoning ordinance provision should always refer to the basic concepts outlined within the Comprehensive Plan. A private builder or investor, likewise, should recognize the broad concepts and policies of the Plan so that their efforts become integrated into planning efforts of the LBCR area and the County.

Zoning and Subdivision

The processes for reviewing and processing zoning amendments, development plans, and subdivision plats provide significant opportunities for implementing the Comprehensive Plan. Each zoning and development decision should be evaluated and weighed against applicable recommendations and policies contained within this Comprehensive Plan. The Plan allows the County to review proposals and requests in light of an officially prepared document adopted through a sound, thorough planning process. If decisions are made that are inconsistent with Plan recommendations, then they should include actions to modify or amend the Plan accordingly in order to ensure consistency and fairness in future decision-making. The



zoning ordinance represents a significant measure that the County can take to implement Comprehensive Plan recommendations.

A Flexible and Alterable Guide

The Comprehensive Plan for the LBCR is intended to be a dynamic planning document – one that responds to changing needs and conditions. Major plan amendments should not be made without thorough analysis of immediate needs, as well as consideration for long-term effects of proposed amendments. The County Commissioners, Zoning Commissioners, and other officials should consider each proposed amendment carefully to determine whether it is consistent with the Plan's goals and policies, and whether it will be beneficial for the long-term health and vitality of the LBCR area.

Annual Reviews

At one-year intervals, a periodic review of the Plan with respect to current conditions and trends should be performed. Such ongoing, scheduled evaluations will provide a basis for adjusting capital expenditures and priorities, and will reveal changes and additions that should be made to the Plan in order to keep it current and applicable long-term. It would be appropriate to devote one annual meeting of the Zoning Commission to reviewing the status and continued applicability of the Plan in light of current conditions. By such periodic evaluations, the Plan will remain functional, and will continue to give civic leaders effective guidance in decision-making. During reviews, consideration should be given to the following:

- The County's progress in implementing the Plan;
- Changes in conditions that formed the basis of the Plan;
- Community support for the Plan's goals and recommendations;
- Changes in County officials' policies and priorities; and
- Changes in State laws.

Complete Review with Public Participation

The Comprehensive Plan should undergo a complete, more thorough review and update every five to ten years. The review and updating process should begin with the Zoning Commission and should be a complete review. Upon completion of LBCR, and its filling with water, it is likely that the County will need to reevaluate the Comprehensive Plan to ensure it adequately addresses development and growth. Specific input on major changes should be sought from various groups, including property owners, civic leaders and major stakeholders, developers, merchants, and other citizens who express an interest in the long-term growth and development of the LBCR.

How to Implement Chapter 3: Future Land Use Plan

1. Adopt Zoning Regulations

Action

The County should adopt zoning regulations in accordance with the Future Land Use Plan and Map.

Rationale

Zoning will ensure that future developments will occur according the Future Land Use Plan and Map.

2. Utilize the Full Boundaries of the Zoning Authority

Action

The County should adopt zoning regulations within 5,000' of the shoreline (534 feet AMSL) in accordance Texas Local Government Code Section 231.132.

Rationale

In order to provide the best environment to manage new development, it is necessary to apply zoning within the entire 5,000' area around the lake. With the exception of the intersection of US 82 and FM 897, the land from 3,500' to 5,000' is shown as agriculture and will serve to keep the area predominately rural and also as a buffer to the other zoning districts, which will be applied closer to the lake shore.

3. Coordination for New Lake Parks

Action

The County should work with other local governments and reach out to landowners regarding the possibility of creating parks at the locations shown on the Future Land Use Map.

Rationale

Parks are generally acquired in two manners. First, a local government can purchase land from a property owner for a park. In this case, the sooner parkland can be purchased, the more affordable the land is to acquire. The second manner is through a partnership with the landowner, which generally occurs when the landowner develops the land and would like the local governments to eventually take ownership for operation and maintenance for the park.

4. Amend County's Subdivision Ordinance

Action

Amend the County's subdivision ordinance to require two points of access into residential subdivisions, as well as trail connections.

Rationale

As new residential development occurs, the County's subdivision ordinance will be used to regulate the design of neighborhoods and this design should reflect the vision of the Comprehensive Plan.

5. Coordinate with Local Residents, the City of Bonham, and NTMWD to Ensure Water Quality in the Watershed

Action

A committee or civic group (e.g., Friends of the Lake) should be created to help monitor and identify areas contributing to sediment and pollution runoff, promote the care and beautification of the lake, and be a forum for public comment and involvement.

Rationale

A committee or civic group should be developed to ensure the quality of the lake can build support for implementing the vision and serve as a way for the general public to become involved with lake affairs.

6. Protect the Visual Appearance of US 82, where possible

Action

Ensure zoning regulations protect the look and feel of the highway by prohibiting open storage or by requiring businesses to provide adequate screening in the 5,000' zoning area. Additionally, landscaping and building design standards will be needed for commercial developments along this important corridor.

Rationale

US 82 will be the main entry into the lake community. In order to attract desirable development, the highway frontages should be well-designed and built with quality materials. If left unchecked, the highway corridor can quickly develop a cluttered appearance with low-quality development.

How to Implement Chapter 4: Transportation Plan

1. Adopt County-Wide Thoroughfare Plan

Action

The County should adopt a County-wide Thoroughfare Plan that addresses roadway needs across the County.

Rationale

A County-wide perspective would help address regional and local issues, such as ensuring that the LBCR area is appropriately connected to the region.

2. Coordinate with TxDOT

Action

The County should coordinate with TxDOT for opportunities of cost-sharing and prioritization of roadway improvements.

Rationale

With the adoption of this Plan, County leaders now have another tool to use in discussions with TxDOT. This Plan can be used to show where future growth will occur and to request funding participation from TxDOT.

3. Amend the County's Subdivision Ordinance

Action

Amend the County's subdivision ordinance to apply the recommended roadway rights-of-way.

Rationale

As development occurs and land is subdivided, developers must dedicate right-of-way for roadways in accordance with the subdivision ordinance. Therefore, it is critical to amend the ordinance to ensure the rights-of-way are dedicated.

4. Promote Commercial Development along Primary Roadways

Action

If the County is involved in partnerships or agreements regarding land development, then land along the Primary corridors should be developed first according to the Future Land Use Plan and Map.

Rationale

It is desirable to allow land along the primary corridors to develop to take advantage of existing roadway infrastructure and to allow for faster responses from emergency services.

5. Plan for Secondary and Roadway Improvements

Action

While the need for roadway improvements may be years away, the County should assess which roadways, if improved, are needed to promote the desired development.

Rationale

In order to attract the quality development the County desires, the roadway infrastructure system needs to accommodate the projected uses.

6. Require Curbs on Local Roadways

Action

In order to prevent the deterioration of roadway edges, curbs should be used in all residential subdivisions with new roadway construction. Curbs may be standard or ribbon design.

Rationale

As a road ages, the edges can become cracked and broken. This is common in rural areas where curbs are not typically used, which poses both aesthetic and safety issues. Aesthetically, these roads are unappealing and can detract from the appearance and value of a neighborhood. The main safety concern is that vehicles tend to travel in the center of roads to avoid being next to the edge and can create situation where two vehicles cannot pass each other at the same time.

How to Implement Chapter 5: Parks, Recreation, Trails, and County Connectivity Plan

1. Program and Prioritize Park Sites

Action

The parks sites should be programed (e.g., determined by type of facilities) and prioritized in order of first to be developed.

Rationale

The Plan shows park sites around the lake; however, a more detailed analysis should be performed regarding the type of facilities and activities that should occur at each park site. For example, some park sites may be well suited as a nature preserve with natural habitat for bird watching, while other sites may be more suited for playground facilities and picnic areas. Once the park sites have been programed, the sites should be prioritized to determine which park site should be constructed first.

2. Coordinate Trail Construction

Action

Trail construction will occur over several decades, but the County should reach out to landowners and easement holders regarding the future development of trails.

Rationale

Trail construction and the acquisition of land or the right to build a trail can take decades. Trails around the LBCR will most likely only occur when a landowner develops the property. The other means that trails will be constructed are within roadway rights-of-way or within parks.

3. Utility Line Trail

Action

As land is developed along the utility corridor, the County should make efforts to develop a trail within the utility easement. If possible, the County should investigate purchasing the land within the utility easement from the property owners. Generally, most property owners when developing the land would likely be favorable to selling the land with the easement because the land will never be developable due to easement restrictions.

Rationale

Finding trail corridors that are already cleared and ready for use is a difficult task. Generally, utility easements are used for trail locations because the land is free and clear of any obstacles. Additionally, they are used for trail locations because utility easements typically run through areas that are beneficial to connect by trails (i.e., residential developments to nonresidential development).

4. Plan for Regional Trail Connections

Action

Plan to connect LBCR with the future Lake Ralph Hall and the Northeast Texas Trail (NETT).

Rationale

In order to make the recreation areas unique and desirable, a regional connection to the future Lake Ralph Hall and NETT is needed. Regional trails offer opportunities to connect Fannin County's two major recreational features (LBCR and Lake Ralph Hall). Honey Grove and Ladonia are connected by SH 34, but were also once connected by the "Old Bob" rail line. This rail line was abandoned over 70 years ago, but evidence of its location remains. The highway, or old rail line, could be a major recreational opportunity to connect the two lakes.

5. Plan for Trails along Certain Roadways

Action

Utilize the trails map when new roadways are being constructed to ensure trails are constructed in the right-of-way.

Rationale

Trail construction and locations can be difficult issues to address. If the construction of a trail can be timed with construction of a roadway and built within the right-of-way, then there are fewer complications with site selection and funding.

6. Develop a Park Planning Commission

Action

Develop a park planning commission to be charged with the oversight of the development of the County's recreational system.

Rationale

This will help to ensure that the planning of the recreational system is strategically coordinated.

How to Implement Chapter 6: Lake Edge Development Standards

1. Continue Partnerships with NTMWD to Ensure Quality Boat Docks

Action

Continually work with NTMWD to ensure that quality boat dock facilities are being constructed and update the Comprehensive Plan if needed to address any unforeseen issues with boat dock construction.

Rationale

The NTMWD will be the sole entity responsible for permitting boat docks on the lake, but the County may assist NTMWD in implementing and enforcing NTMWD's regulations for such boat docks. The County's responsibility is to set the vision for the quality of the development on the lake. Having NTMWD as a partner to ensure quality development is the best method for promoting the vision for the lake.

2. Work with Water and Wastewater Providers to Extend Lines

Action

To encourage water and wastewater lines to service the LBCR area, the County should coordinate with local providers in an effort to provide services to the area. This will help to avoid the use of wells and septic systems, since septic systems can pose a hazard to water quality.

Rationale

Water/wastewater providers, such as Municipal Utility Districts (MUDs) or Water Supply Corporations (WSCs), provide services to the LBCR area. With a quality infrastructure system from the providers, land will be better able to handle development than if left to develop on wells and septic systems. Wells can be suitable for rural residential use, but may not be adequate for fire protection in a subdivision. Septic systems can fail if not properly maintained and can pollute the lake, as has been the case in other Texas lakes.

3. Incentivize Connecting to Water and Wastewater System

Action

The County should investigate incentives for developers to connect homes to centralized water and wastewater systems. These incentives could include participation in roadway improvements or other public infrastructure improvements that will help benefit water quality.

Rationale

Since the County is not a water or wastewater provider, its authority is somewhat limited regarding water and wastewater planning. Incentives can be one element that can help supplement the County's zoning and subdivision authority. According to State law, approved septic tanks cannot be prohibited on properties one acre or larger; however, the use of centralized wastewater systems is highly encouraged.

4. Educate Property Owners on Marina Sites and Boat Docks

Action

Since only three marinas are shown on the Future Land Use Plan, the County should work closely with the property owners in the zoning process and help educate owners regarding the vision for the lake and help with coordination with NTMWD. Additionally, residential property owners should be educated to ensure quality boat dock development and stream bank stabilization.

Rationale

In lake edge developments that include access to the lake, there will always be at least three groups involved in development - the property owners, NTMWD, and the County. These three groups all have an interest in seeing quality development around the lake. The County should be focused on educating the public and coordinating with owners and NTMWD.

5. Prohibit Dumping and Open Storage Adjacent to the Lake

Action

Establish zoning regulations to prohibit dumping of tires and other debris and open storage adjacent to the lake.

Rationale

The vision for the lake is one of high quality. The public expressed that some lakes in Texas have not been well kept. These lakes have a very negative image with poor quality development, which is what the public and County seeks to avoid with the LBCR.

Summary | Implementation Plan

The following are the top ten implementation actions in order of importance. The actions should be pursued with the adoption of this comprehensive plan.

Top Priorities for Implementation:

1. Adopt Zoning Regulations (FLUP #1)
2. Utilize the Full Boundaries of the Zoning Authority (FLUP #2)
3. Continue Partnerships with NTMWD to Ensure Quality Boat Docks (Lake Edge #1)
4. Program and Prioritize Park Sites (Parks #2)
5. Work with Water and Wastewater Providers to Extend Lines (Lake Edge #2)
6. Plan for Regional Trail Connections (Parks #5)
7. Coordination for New Lake Parks (FLUP #3)
8. Plan for Trail along Certain Roadways (Parks #7)
9. Amend the County's Subdivision Ordinance (Transportation #3)



Appendix

Acknowledgements

Thank you to the following people for contributing to the development of this Comprehensive Plan:

Fannin County Judge

Creta L. Carter II

Fannin County Commissioners

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Dustin Knight
Bob McCraw

Fannin County Staff

Leah Gibby, Executive Assistant to the County Judge
Rita Watts, Former Executive Assistant to the County Judge

Consultant Team | Freese and Nichols

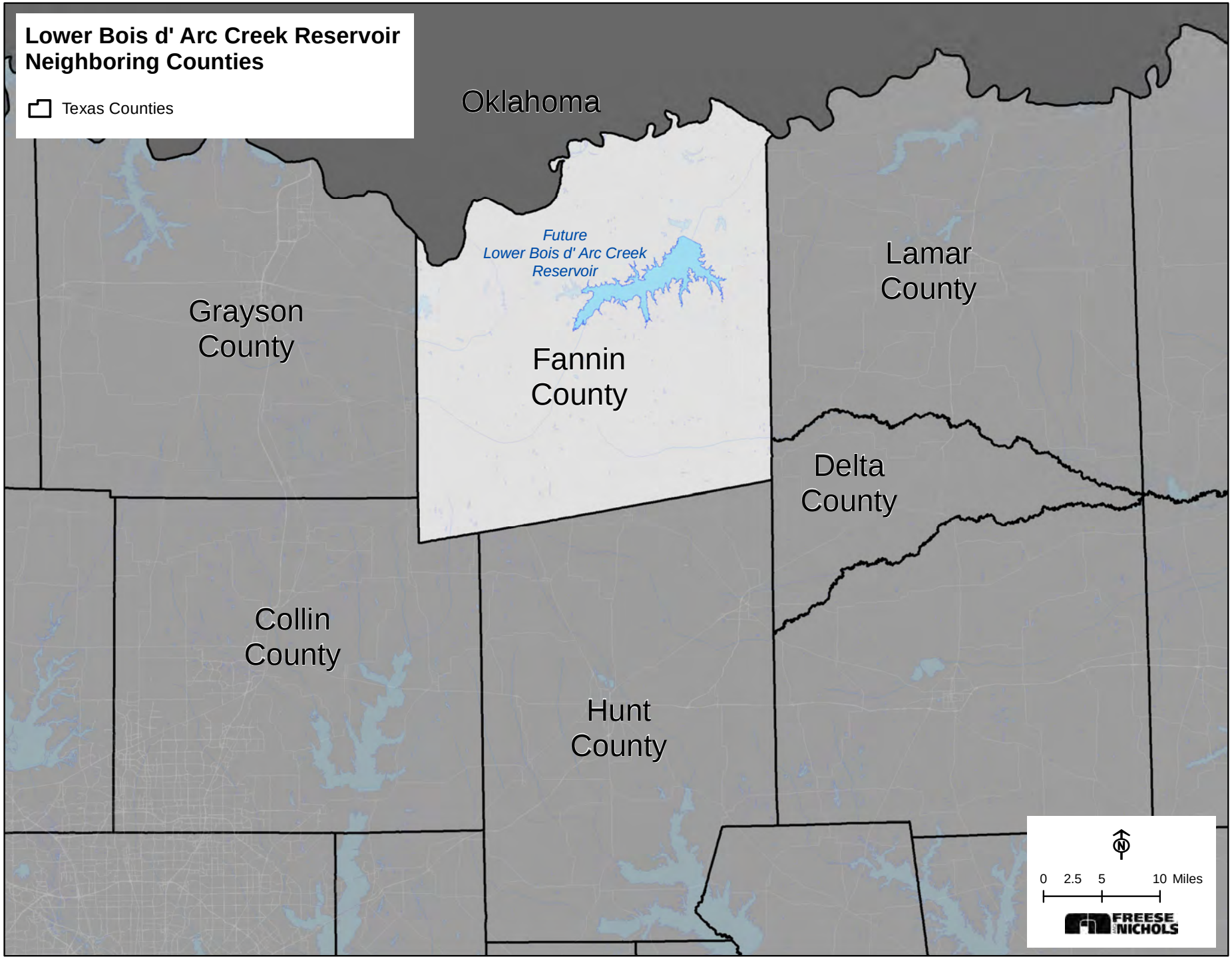
Dan Sefko, FAICP, Project Director
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Chelsea Irby, Project Planner
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Mireya Varela, Planning Support

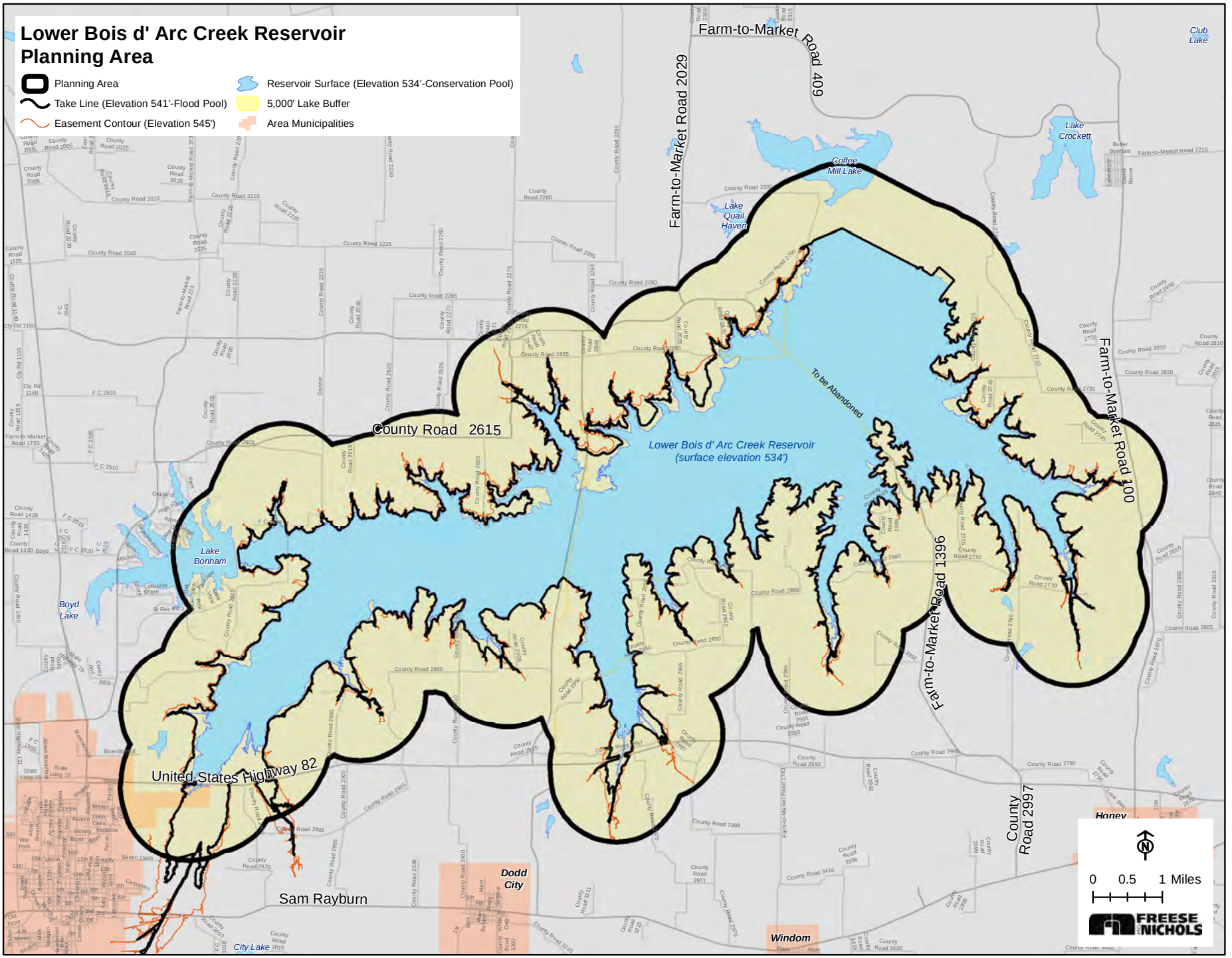
Mapping

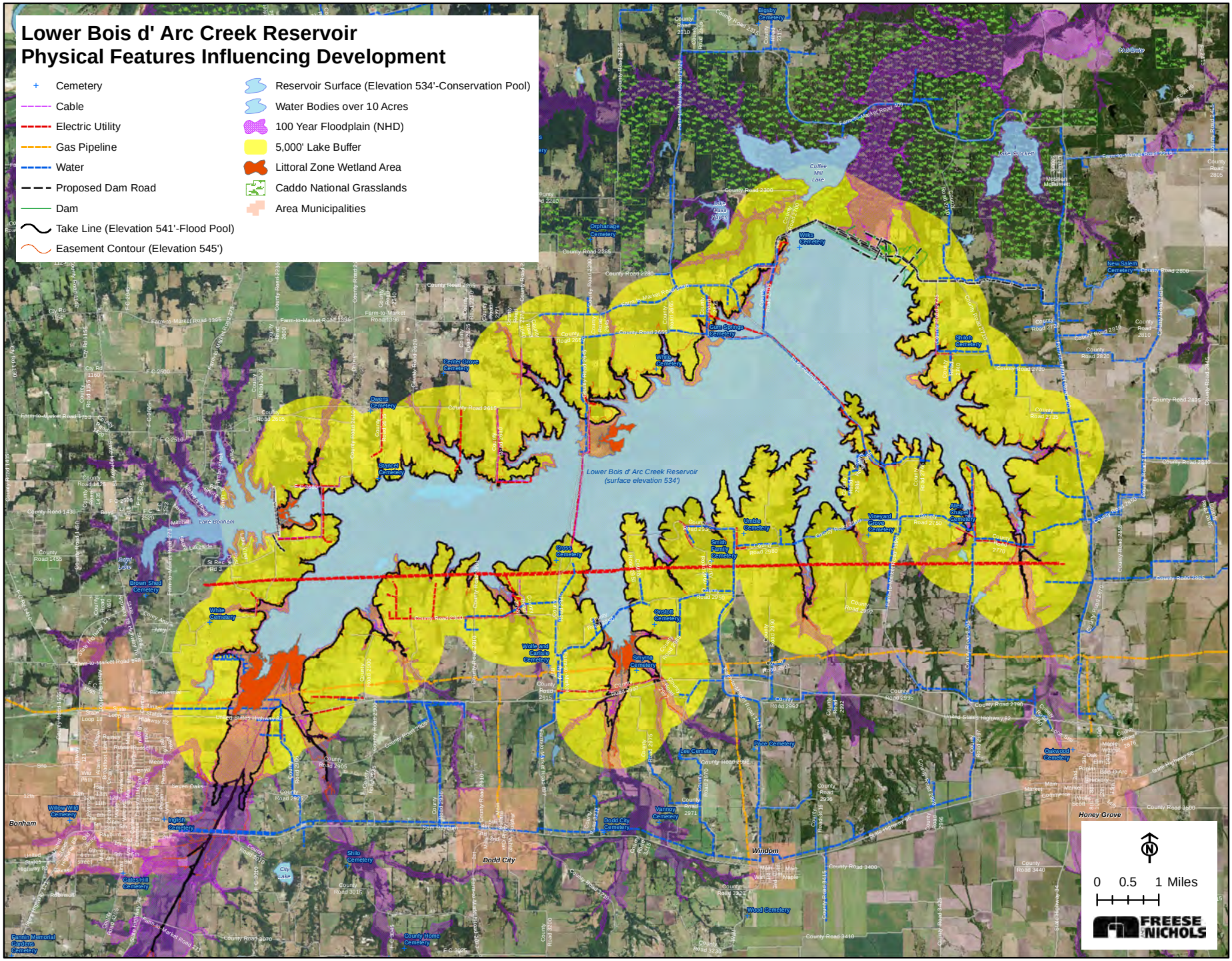
All maps found in this Comprehensive Plan can also be found in this appendix.

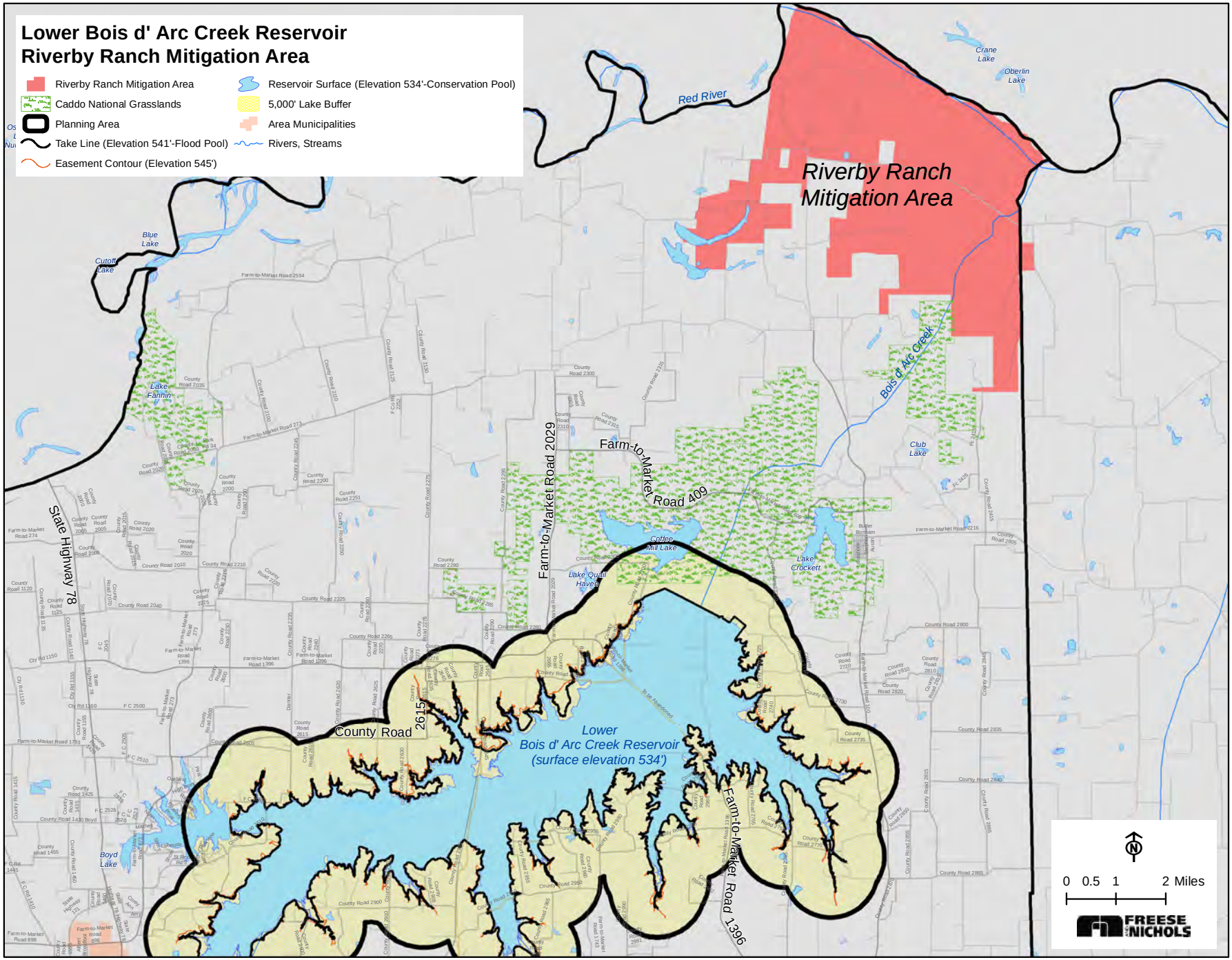
Online Comments

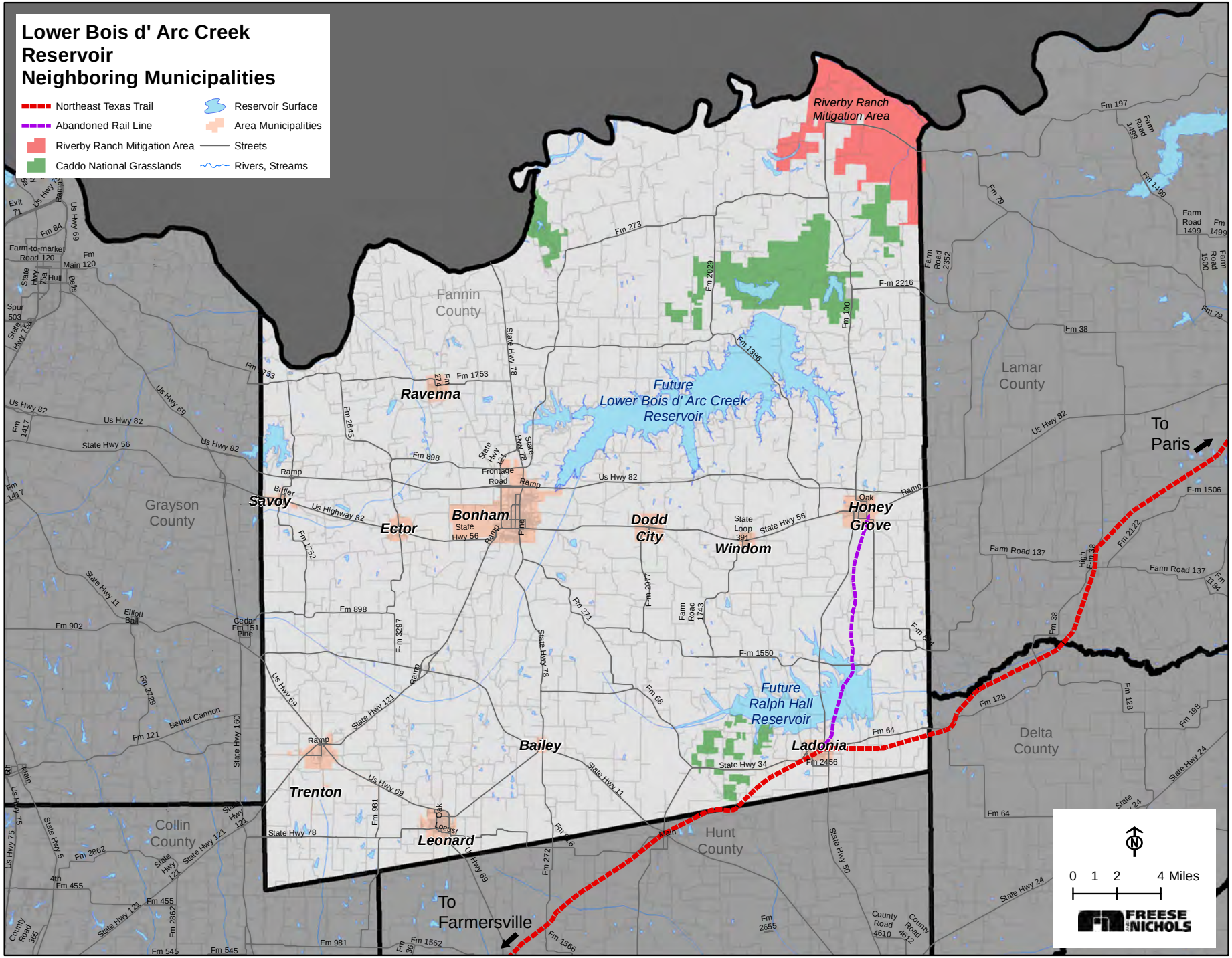
All comments submitted through the project website can be found in this appendix.

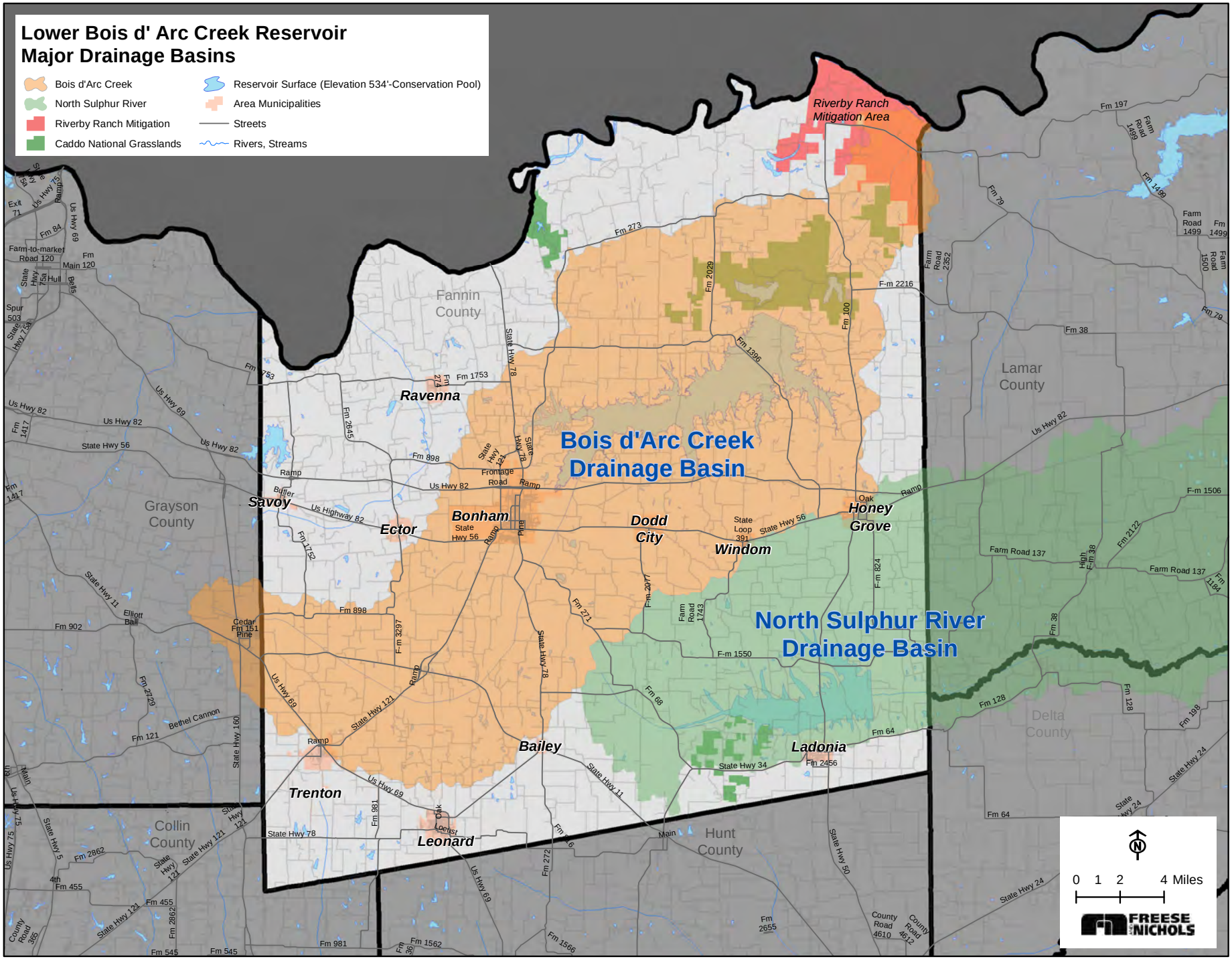

Lower Bois d' Arc Creek Reservoir
Neighboring Counties
Texas Counties
Oklahoma
Future
Lower Bois d' Arc Creek
Reservoir
Grayson
County
Fannin
County
Lamar
County
Delta
County
Collin
County
Hunt
County
N
0 2.5 5 10 Miles
FREESE NICHOLS

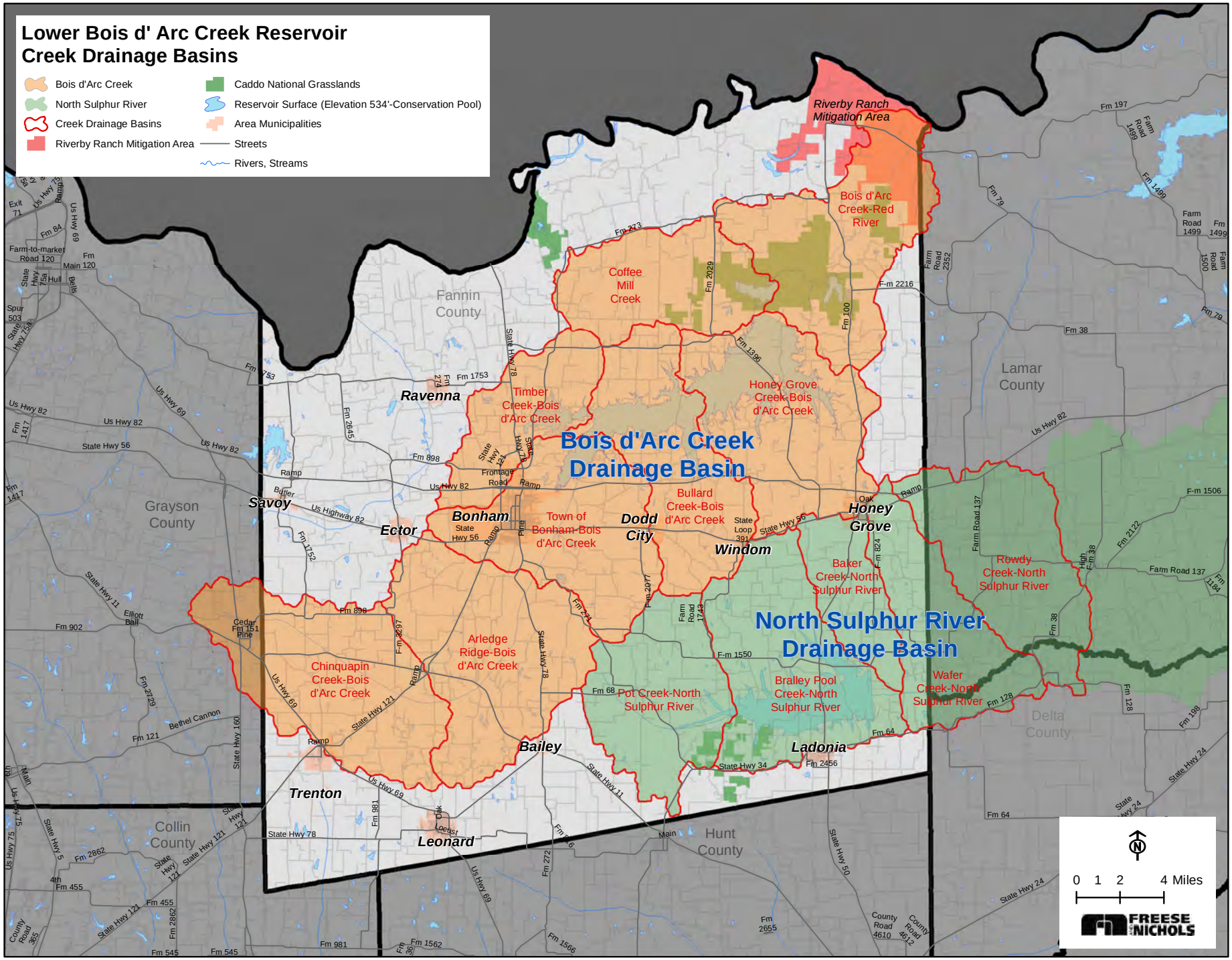

Lower Bois d' Arc Creek Reservoir
Planning Area
Planning Area
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Reservoir Surface (Elevation 534'-Conservation Pool)
5,000' Lake Buffer
Area Municipalities
Farm-to-Market Road 409
Farm-to-Market Road 2029
Club Lake
Lake Crockett
Coffee Mill Lake
Lake Quail Haven
To be Abandoned
Lower Bois d' Arc Creek Reservoir
(surface elevation 534')
County Road 2615
Farm-to-Market Road 100
Farm-to-Market Road 1396
Lake Bonham
Boyd Lake
United States Highway 82
Sam Rayburn
Dodd City
City Lake
Windom
County Road 2997
0 0.5 1 Miles

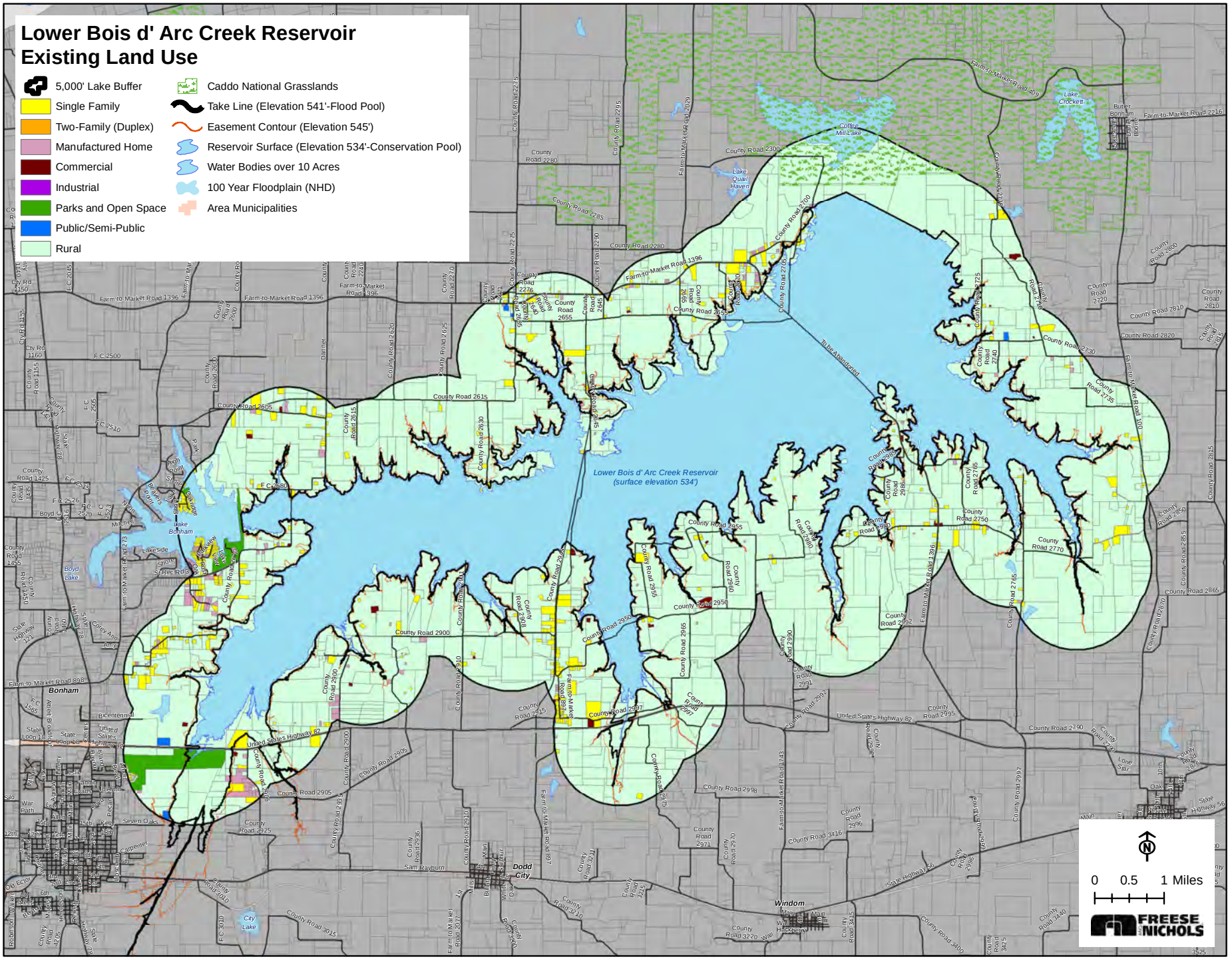

Lower Bois d' Arc Creek Reservoir
Physical Features Influencing Development
Cemetery
Cable
Electric Utility
Gas Pipeline
Water
Proposed Dam Road
Dam
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Reservoir Surface (Elevation 534'-Conservation Pool)
Water Bodies over 10 Acres
100 Year Floodplain (NHD)
5,000' Lake Buffer
Littoral Zone Wetland Area
Caddo National Grasslands
Area Municipalities
Lower Bois d' Arc Creek Reservoir
(surface elevation 534')
0 0.5 1 Miles
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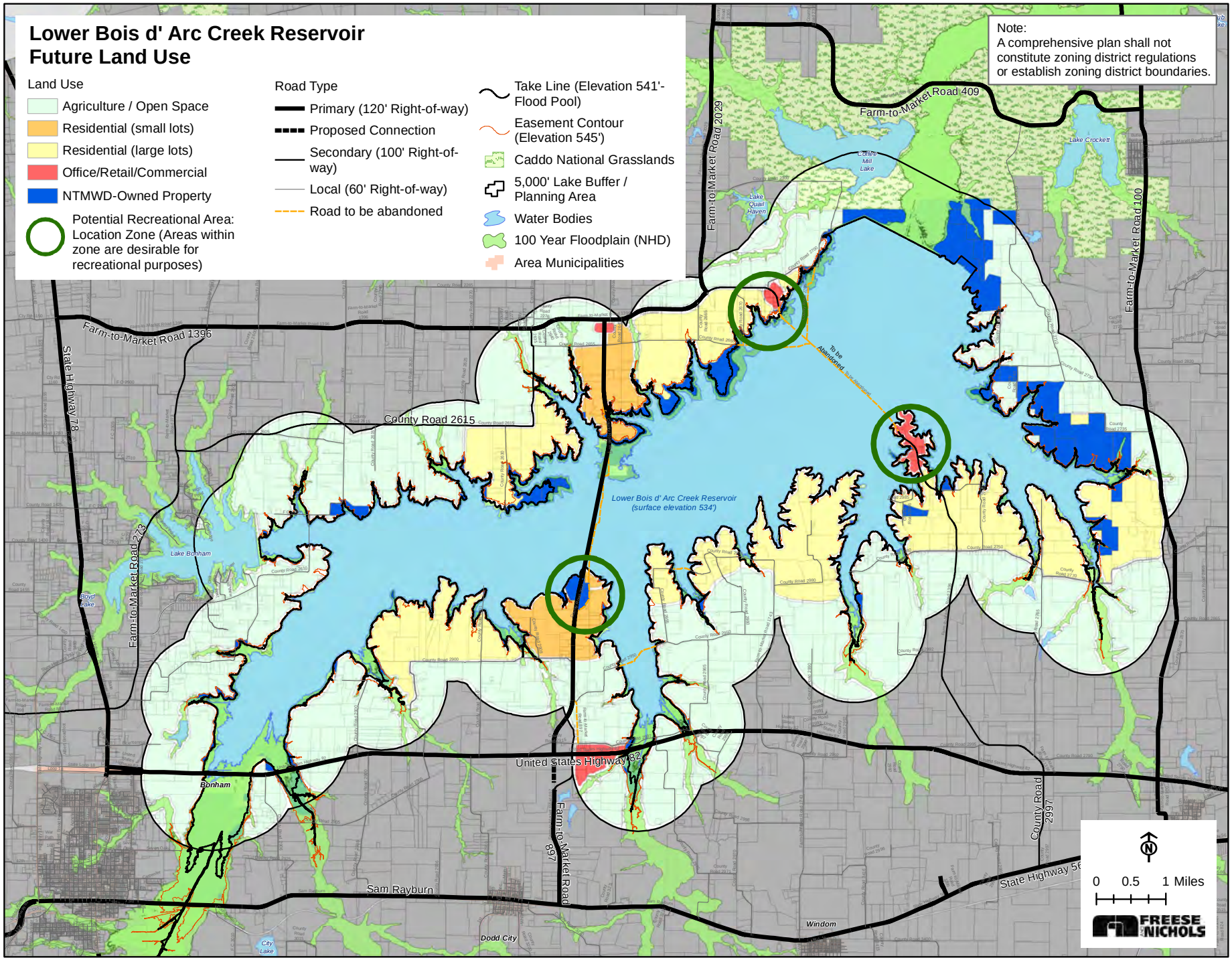

Lower Bois d' Arc Creek Reservoir
Riverby Ranch Mitigation Area
Riverby Ranch Mitigation Area
Caddo National Grasslands
Planning Area
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Reservoir Surface (Elevation 534'-Conservation Pool)
5,000' Lake Buffer
Area Municipalities
Rivers, Streams
Riverby Ranch Mitigation Area
Red River
Crane Lake
Oberlin Lake
Blue Lake
Cutoff Lake
Lake Fannin
Bois d' Arc Creek
Club Lake
Farm-to-Market Road 2029
Farm-to-Market Road 409
State Highway 78
Coffee Mill Lake
Lake Quail Haven
Lake Crockett
County Road 2615
Lower Bois d' Arc Creek Reservoir (surface elevation 534')
Farm-to-Market Road 1396
Boyd Lake
0 0.5 1 2 Miles
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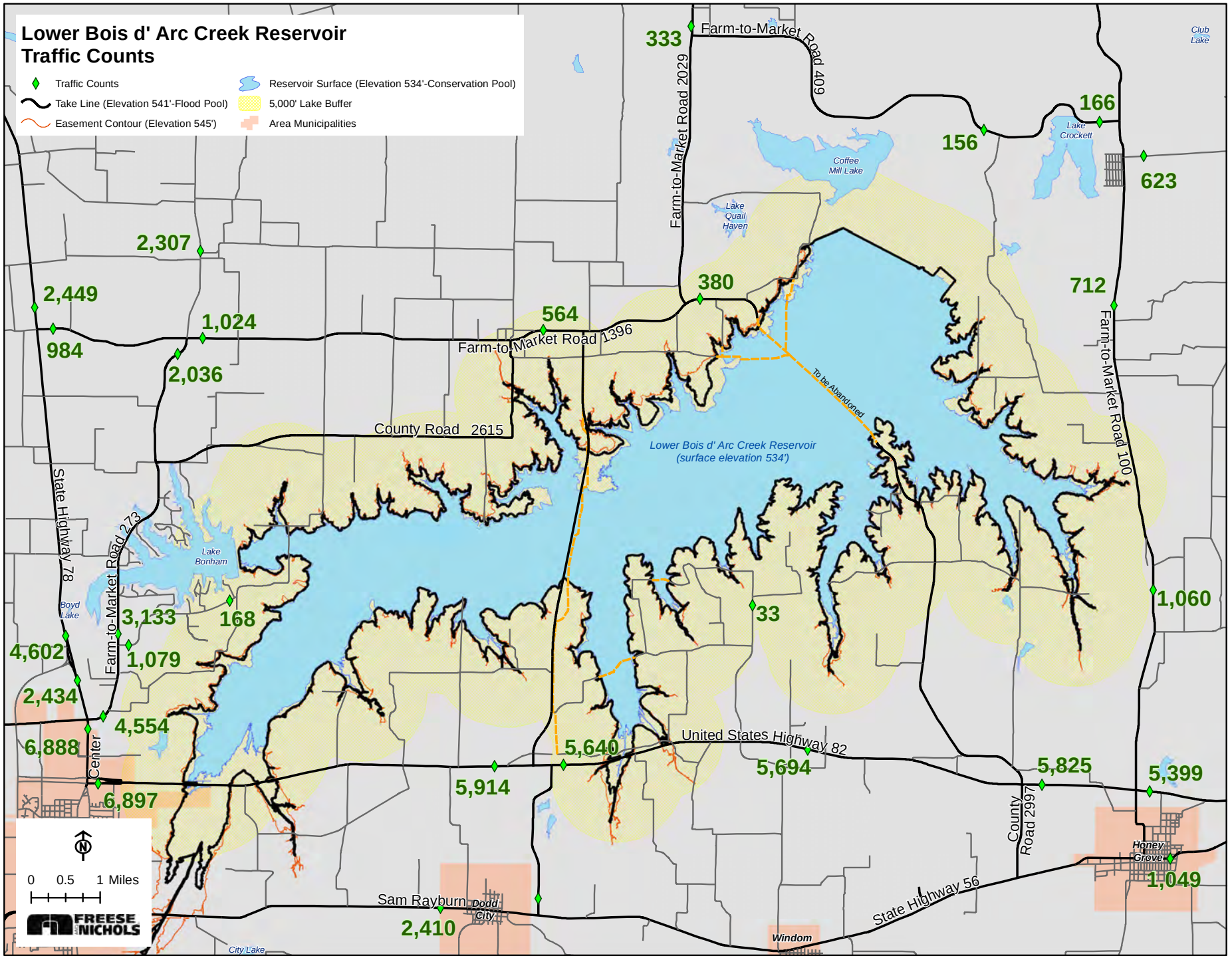

Lower Bois d' Arc Creek Reservoir
Neighboring Municipalities
Northeast Texas Trail
Abandoned Rail Line
Riverby Ranch Mitigation Area
Caddo National Grasslands
Reservoir Surface
Area Municipalities
Streets
Rivers, Streams
Riverby Ranch Mitigation Area
Fannin County
Future Lower Bois d' Arc Creek Reservoir
Ravenna
Savoy
Ector
Bonham
Dodd City
Windom
Honey Grove
Lamar County
To Paris
Grayson County
Future Ralph Hall Reservoir
Bailey
Trenton
Leonard
Ladonia
Collin County
Hunt County
Delta County
To Farmersville
0 1 2 4 Miles
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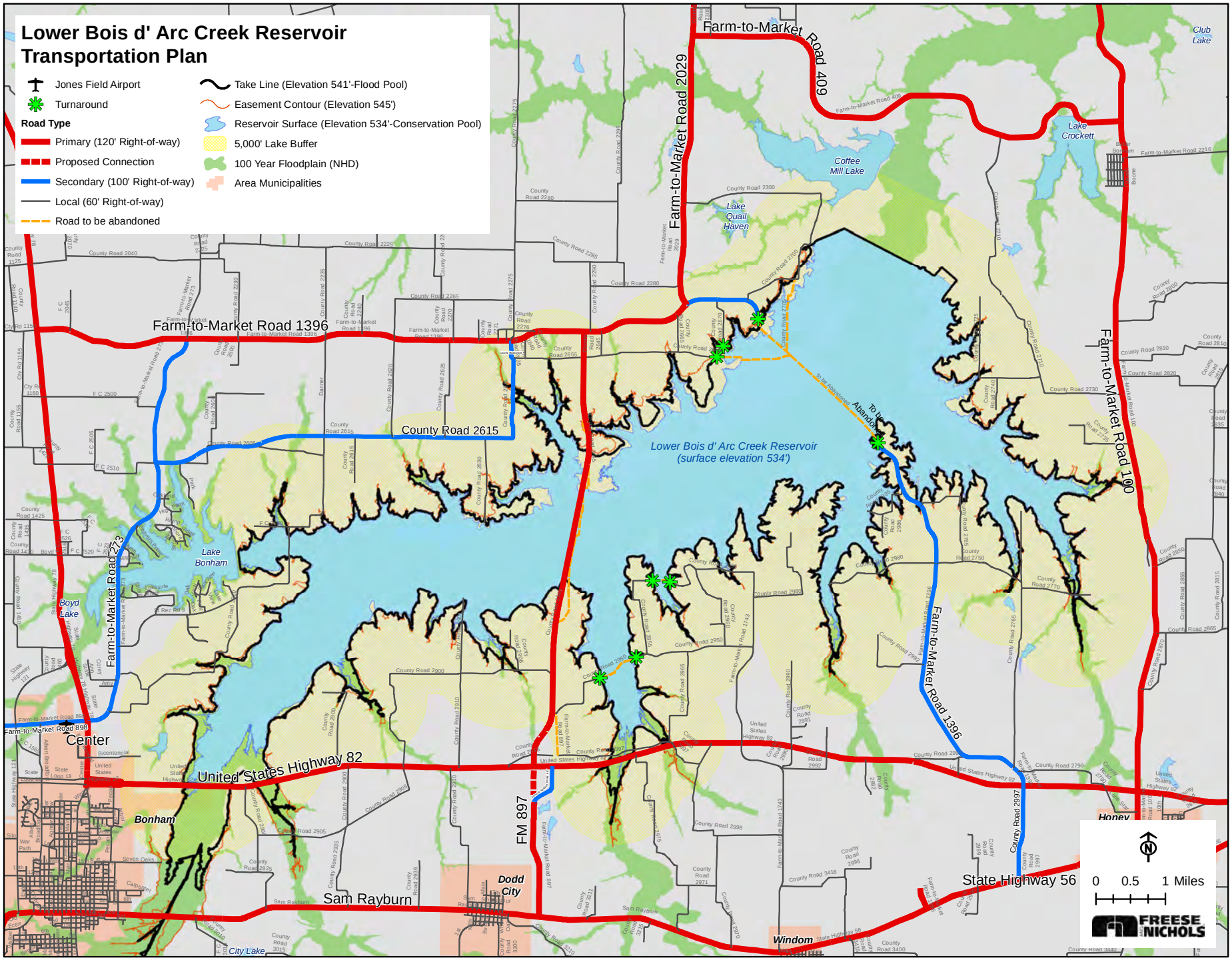

Lower Bois d' Arc Creek Reservoir
Major Drainage Basins
Bois d'Arc Creek
North Sulphur River
Riverby Ranch Mitigation
Caddo National Grasslands
Reservoir Surface (Elevation 534'-Conservation Pool)
Area Municipalities
Streets
Rivers, Streams
Riverby Ranch Mitigation Area
Bois d'Arc Creek Drainage Basin
North Sulphur River Drainage Basin
Fannin County
Lamar County
Grayson County
Collin County
Hunt County
Delta County
Ravenna
Savoy
Bonham
Ector
Dodd City
Windom
Honey Grove
Trenton
Bailey
Ladonia
Leonard
0 1 2 4 Miles
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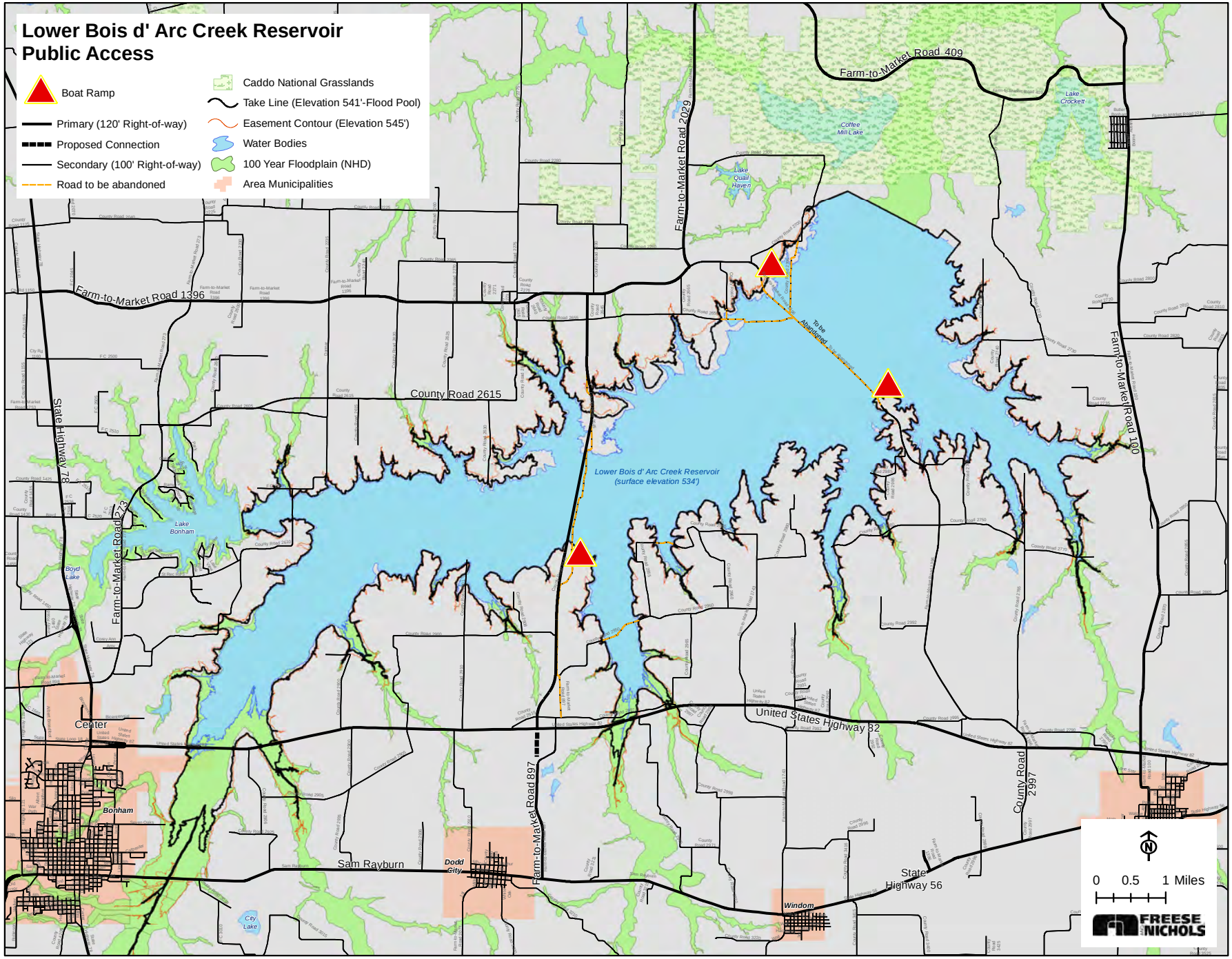

Lower Bois d' Arc Creek Reservoir
Creek Drainage Basins
Bois d'Arc Creek
North Sulphur River
Creek Drainage Basins
Riverby Ranch Mitigation Area
Caddo National Grasslands
Reservoir Surface (Elevation 534'-Conservation Pool)
Area Municipalities
Streets
Rivers, Streams
Riverby Ranch Mitigation Area
Bois d'Arc Creek-Red River
Coffee Mill Creek
Timber Creek-Bois d'Arc Creek
Honey Grove Creek-Bois d'Arc Creek
Bois d'Arc Creek Drainage Basin
Bullard Creek-Bois d'Arc Creek
Town of Bonham-Bois d'Arc Creek
Baker Creek-North Sulphur River
Rowdy Creek-North Sulphur River
North Sulphur River Drainage Basin
Arledge Ridge-Bois d'Arc Creek
Chinquapin Creek-Bois d'Arc Creek
Pot Creek-North Sulphur River
Bralley Pool Creek-North Sulphur River
Wafer Creek-North Sulphur River
Fannin County
Grayson County
Collin County
Hunt County
Lamar County
Delta County
Ravenna
Savoy
Bonham
Ector
Dodd City
Windom
Honey Grove
Trenton
Bailey
Ladonia
Leonard
0 1 2 4 Miles
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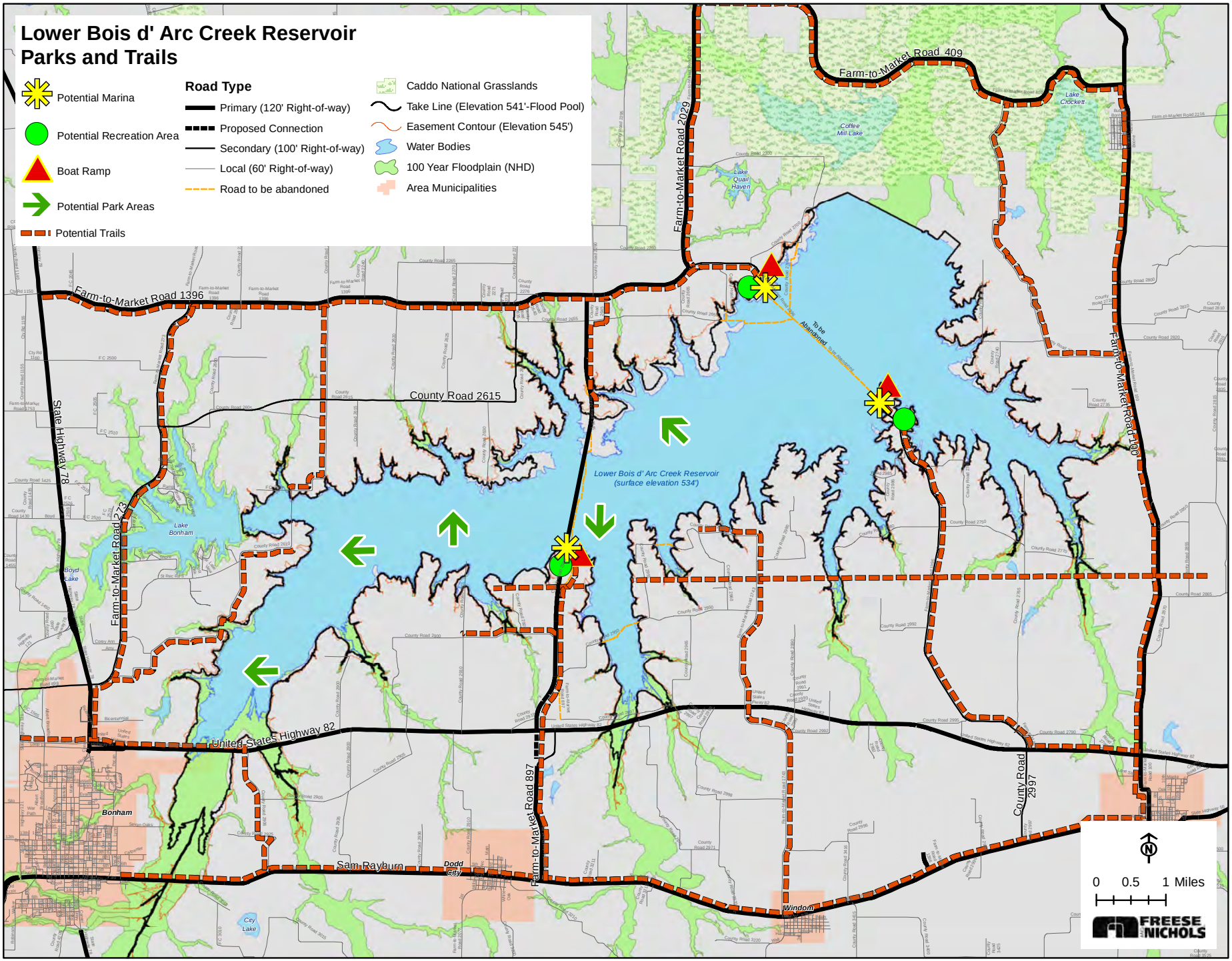

Lower Bois d' Arc Creek Reservoir
Existing Land Use
5,000' Lake Buffer
Single Family
Two-Family (Duplex)
Manufactured Home
Commercial
Industrial
Parks and Open Space
Public/Semi-Public
Rural
Caddo National Grasslands
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Reservoir Surface (Elevation 534'-Conservation Pool)
Water Bodies over 10 Acres
100 Year Floodplain (NHD)
Area Municipalities
Lower Bois d' Arc Creek Reservoir
(surface elevation 534')
Bonham
Dodd City
Windom
0 0.5 1 Miles
FREESE NICHOLS

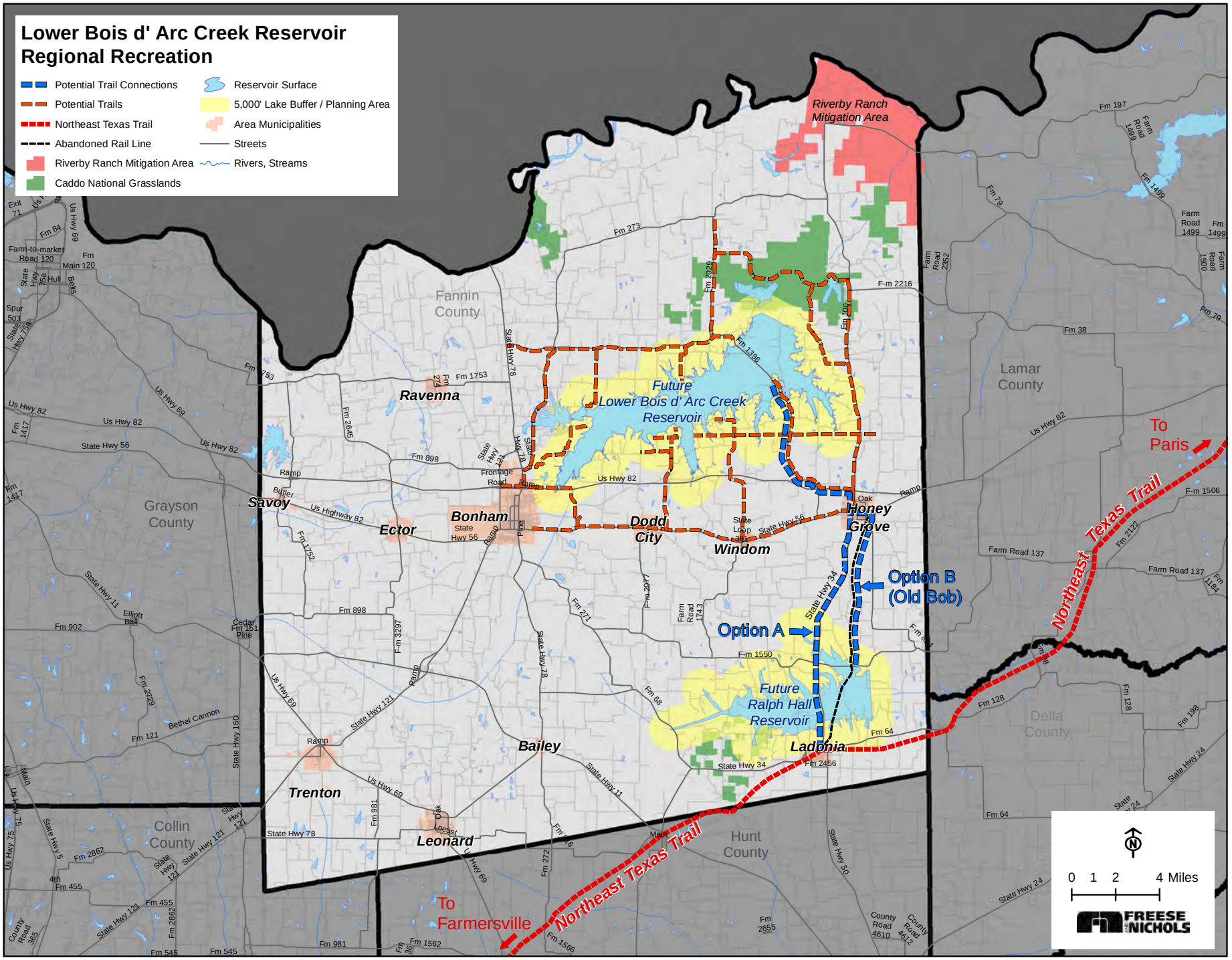

Lower Bois d' Arc Creek Reservoir
Future Land Use
Land Use
Agriculture / Open Space
Residential (small lots)
Residential (large lots)
Office/Retail/Commercial
NTMWD-Owned Property
Potential Recreational Area: Location Zone (Areas within zone are desirable for recreational purposes)
Road Type
Primary (120' Right-of-way)
Proposed Connection
Secondary (100' Right-of-way)
Local (60' Right-of-way)
Road to be abandoned
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Caddo National Grasslands
5,000' Lake Buffer / Planning Area
Water Bodies
100 Year Floodplain (NHD)
Area Municipalities
Note:
A comprehensive plan shall not constitute zoning district regulations or establish zoning district boundaries.
Farm-to-Market Road 409
Farm-to-Market Road 2029
Farm-to-Market Road 100
Farm-to-Market Road 1396
State Highway 78
County Road 2615
Lower Bois d' Arc Creek Reservoir (surface elevation 534')
To be Abandoned
Farm-to-Market Road 273
Lake Bonham
Boyd Lake
United States Highway 82
Bonham
Farm-to-Market Road 897
County Road 2997
Sam Rayburn
Dodd City
Windom
Lake Crockett
Lake Quail Haven
0 0.5 1 Miles
FREESE NICHOLS

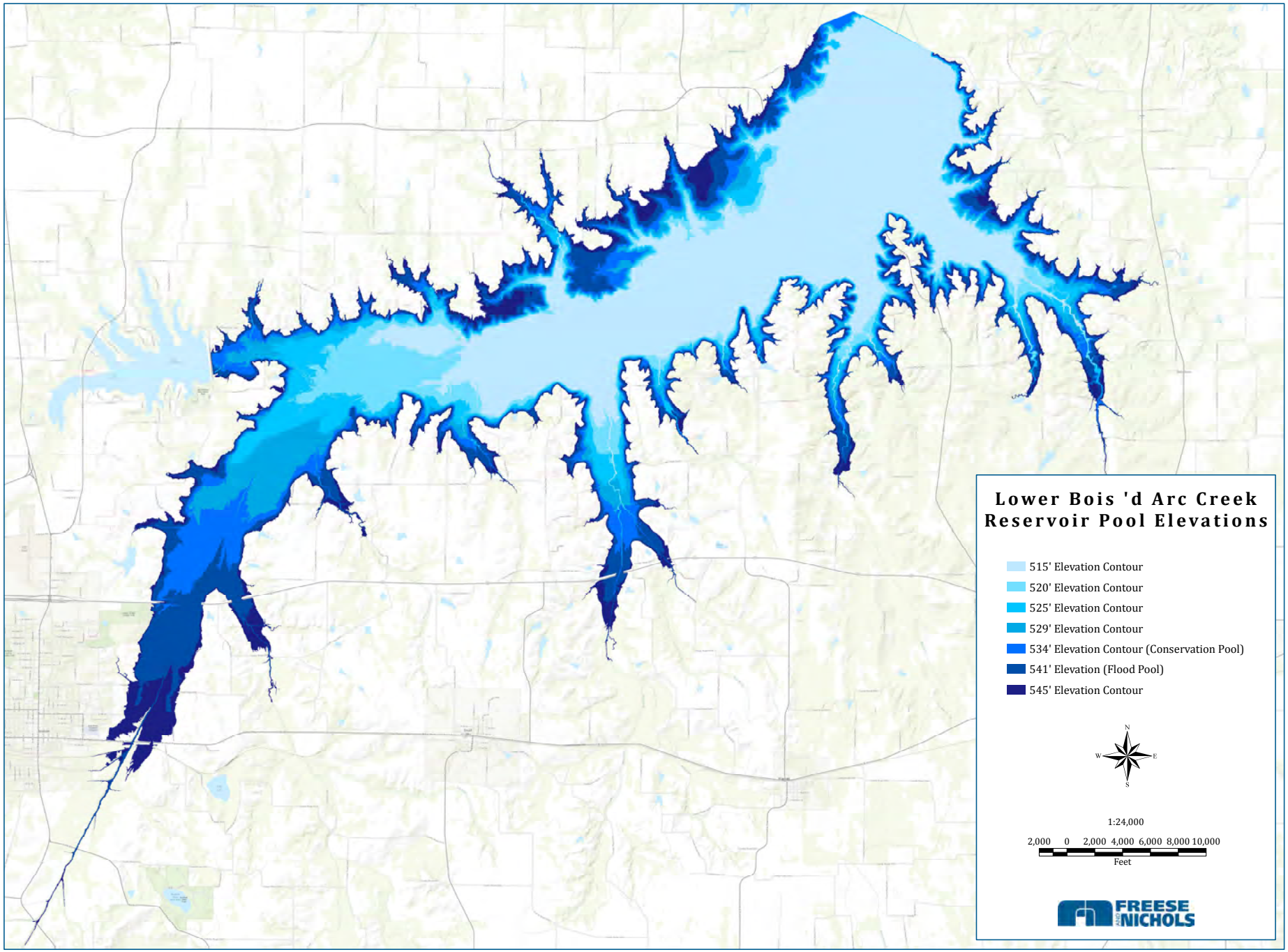

Lower Bois d' Arc Creek Reservoir
Traffic Counts
Traffic Counts
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Reservoir Surface (Elevation 534'-Conservation Pool)
5,000' Lake Buffer
Area Municipalities
333
Farm-to-Market Road 409
Farm-to-Market Road 2029
Club Lake
166
156
Lake Crockett
623
Coffee Mill Lake
Lake Quail Haven
2,307
2,449
1,024
984
2,036
380
564
712
Farm-to-Market Road 1396
To be Abandoned
Farm-to-Market Road 100
County Road 2615
Lower Bois d' Arc Creek Reservoir
(surface elevation 534')
State Highway 78
Farm-to-Market Road 273
Lake Bonham
Boyd Lake
3,133
168
33
1,060
4,602
1,079
2,434
4,554
6,888
Center
5,640
United States Highway 82
5,694
5,825
5,399
5,914
6,897
County Road 2997
Honey Grove
1,049
Sam Rayburn
2,410
Dodd City
State Highway 56
Windom
City Lake
0 0.5 1 Miles
FREESE NICHOLS


Lower Bois d' Arc Creek Reservoir
Transportation Plan
Jones Field Airport
Turnaround
Road Type
Primary (120' Right-of-way)
Proposed Connection
Secondary (100' Right-of-way)
Local (60' Right-of-way)
Road to be abandoned
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Reservoir Surface (Elevation 534'-Conservation Pool)
5,000' Lake Buffer
100 Year Floodplain (NHD)
Area Municipalities
Farm-to-Market Road 409
Farm-to-Market Road 2029
Farm-to-Market Road 1396
Farm-to-Market Road 100
Farm-to-Market Road 273
Farm-to-Market Road 898
County Road 2615
Lower Bois d' Arc Creek Reservoir
(surface elevation 534')
Lake Bonham
Boyd Lake
Lake Quail Haven
Coffee Mill Lake
Lake Crockett
Club Lake
Center
Bonham
United States Highway 82
FM 897
Dodd City
Sam Rayburn
State Highway 56
Windom
Honey
City Lake
0 0.5 1 Miles
FREESE NICHOLS


Lower Bois d' Arc Creek Reservoir
Public Access
Boat Ramp
Primary (120' Right-of-way)
Proposed Connection
Secondary (100' Right-of-way)
Road to be abandoned
Caddo National Grasslands
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Water Bodies
100 Year Floodplain (NHD)
Area Municipalities
Farm-to-Market Road 409
Farm-to-Market Road 2029
Farm-to-Market Road 1396
County Road 2615
State Highway 78
Farm-to-Market Road 273
Farm-to-Market Road 100
Lower Bois d' Arc Creek Reservoir
(surface elevation 534')
To be Abandoned
Lake Crockett
Coffee Mill Lake
Lake Quail Haven
Lake Bonham
Boyd Lake
United States Highway 82
Center
Bonham
Sam Rayburn
Dodd City
Farm-to-Market Road 897
County Road 2997
State Highway 56
Windom
City Lake
0 0.5 1 Miles
FREESE NICHOLS


Lower Bois d' Arc Creek Reservoir
Parks and Trails
Potential Marina
Potential Recreation Area
Boat Ramp
Potential Park Areas
Potential Trails
Road Type
Primary (120' Right-of-way)
Proposed Connection
Secondary (100' Right-of-way)
Local (60' Right-of-way)
Road to be abandoned
Caddo National Grasslands
Take Line (Elevation 541'-Flood Pool)
Easement Contour (Elevation 545')
Water Bodies
100 Year Floodplain (NHD)
Area Municipalities
Farm-to-Market Road 409
Farm-to-Market Road 2029
Farm-to-Market Road 1396
County Road 2615
State Highway 78
Farm-to-Market Road 273
Farm-to-Market Road 100
Lower Bois d' Arc Creek Reservoir
(surface elevation 534')
To be Abandoned
United States Highway 82
Farm-to-Market Road 897
County Road 2997
Bonham
Sam Rayburn
Dodd City
Windom
Lake Bonham
Boyd Lake
Lake Quail Haven
Coffee Mill Lake
Lake Crockett
City Lake
0 0.5 1 Miles
FREESE NICHOLS


Lower Bois d' Arc Creek Reservoir
Regional Recreation
Potential Trail Connections
Potential Trails
Northeast Texas Trail
Abandoned Rail Line
Riverby Ranch Mitigation Area
Caddo National Grasslands
Reservoir Surface
5,000' Lake Buffer / Planning Area
Area Municipalities
Streets
Rivers, Streams
Riverby Ranch Mitigation Area
Future Lower Bois d' Arc Creek Reservoir
Future Ralph Hall Reservoir
Option A
Option B (Old Bob)
Northeast Texas Trail
To Paris
To Farmersville
Fannin County
Grayson County
Collin County
Hunt County
Lamar County
Delta County
Ravenna
Savoy
Ector
Bonham
Dodd City
Windom
Honey Grove
Bailey
Trenton
Leonard
Ladonia
0 1 2 4 Miles
FREESE NICHOLS


Lower Bois 'd Arc Creek Reservoir Pool Elevations
515' Elevation Contour
520' Elevation Contour
525' Elevation Contour
529' Elevation Contour
534' Elevation Contour (Conservation Pool)
541' Elevation (Flood Pool)
545' Elevation Contour
N
W
E
S
1:24,000
2,000 0 2,000 4,000 6,000 8,000 10,000
Feet
FREESE AND NICHOLS

Comments Received from Project Website

These comments were not edited for grammar or spelling.

1. *"I live at FM 1396 and CR 2645, and as is the case with many in this area, much of our assets are invested in our homes and property. We are near where the lake will be and don't want our property values diminished by zoning which allows bait shops and liquor stores every few feet. Neither do we want mobile home parks with houses that are deteriorated and surrounded by trash. Many here believe that the only benefit derived from this lake will go to the Metroplex and Fannin Co. citizens will lose the pastoral setting we cherish. Fannin is one of the poorest counties in the state, yet we will probably be left with the bill. In my opinion, neither Bonham officialdom nor North Texas Water are really concerned about those of us whose way of life will be most seriously affected by their actions."*

2. *"In planning how about an area for "Park Homes", TOWs (Tiny Home on Wheels)."*

3. *I own property that is on the lake front and I would like to know if owners around the lake can have their own private boat docks and boat ramps."*

4. *Where can these ideas/comments be viewed?"*

5. *"I do agree that some kind of planning makes sense. However, I did not like the Delphi Methodology employed for "input" purposes. I will continue to attend the meetings."*

6. *"The vision I have, not the one I desire, is the same thing that has happened to Delta County with even worse consequences. A county dependent on an agricultural economy that has been broken by the loss of so much farm land and tax base with no industry or tourism or anything else to take its place. A county that believed the fast talk of urban planners but had no guarantee of development which never occurs. Fannin County is giving up natural resources and getting nothing in return, so one could not hope for much of a bright future. The vision I have is of a financially broke county struggling with a constantly low water supply reservoir that yield nothing but more expenses for the county. No development, no tourism, nothing but added cost and no recourse."*

7. *"Zone a major park facility where entry to the facilities are made off of CR 2610. The traffic flow will hub from Bonham at highways 78/121, to 273 to Park Rd 3 to CR 2610 and build a modern park that will attract tourism and serve the citizens of Fannin County.*

   a. Why is this request important? – (1) Position's Bonham/Fannin County seat as a hub for lake activities using the major highway from the Metroplex, point west of Bonham and Bonham residence a western access to the lake. With the creation of Lake Ralph Hall, Bonham is well position to be the hub for Fannin County. (2) Leverages and integrates existing city facilities/resources, example Lake Bonham Recreational Area, with the economic growth from the lake. (3) The tourism revenue is important to the City of Bonham, it's businesses and its residence. (4) Park facilities can be an economic engine for years and can be enjoyed by local residents year round. (5) The park location does not require the

construction of a bridge over the water. (6) The facilities construction will cost the least if planned and executed before the lake fills.

b. Key requirements – (1) Must guarantee navigable water for boating from the park to the dam, down to the 500 year drought line. (2) The boat ramp must be deep enough to launch down to the 500 year drought line. (3) The facilities can be situated along the banks of Timber Creek and the boating lanes can be developed along the Timber creek to Bois d'Arc Creek channels from there anywhere on the lake. (4) Must team up with Texas Parks and Wildlife to influence the quality of the fishery. (5) The area behind Lake Bonham dam can be planned with hiking trails, bird watching and access to duck hunting which will bring value to areas not normally used around lakes. (6) Overnight stay facilities able to support charging boat batteries for overnight guest.

c. Examples – (1) Lake Fork is a good example of how the fishing industry has transform the economics around the lake and surrounding communities, but yet the communities were able to maintain their rural character. (2) Lake Ray Roberts is an example of how the Texas Parks and Wildlife regulations has an impact on the fishing economics. By setting the black bass length requirements to 14", the community has seen tourism traffic increase from when the lake had a big fish slot. (3) Humphrey Pavilion on Lake Sam Rayburn. (4) Anderson County, South Carolina's new Green Pond Landing & Event Center is a 221-foot by 50-foot high capacity mega-ramp."

8. *It will not prosper Fannin County at all it is taking tax revenue away and taking good farming land away from area farmers. Bonham sold the residents of our county out. They will learn this soon after.*

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