

CITY OF CLUTE

2009 Fiscal Year Coastal Management Program



COMPREHENSIVE RECREATION, CONSERVATION AND ECONOMIC DEVELOPMENT PLAN

Prepared by

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FOREWORD

This is a study for the City of Clute, financed through provisions of a Texas Coastal Management Program Grant from the Coastal Coordination Council. The study is a planning document that will assist the city in improving the living conditions of its citizens. Information, analysis, and recommendations are given in the areas of population, land use, recreation and open space, conservation, and economic and tourism development. This document is intended as a guide for making decisions in the development of the City of Clute.

Previously published socio-economic and physical planning studies that served as background for this document were: (1) 1990 and 2000 United States Census and (2) Natural Resource Conservation Service Brazoria County Soil Survey. Other studies that provided specific information are cited throughout the report. Many thanks are extended to Mayor Calvin Shiflet, the Clute City Council, the Clute Parks Board, the Clute Planning Committee, Clute city staff and the residents of the City of Clute for their assistance in this endeavor. Hopefully, this document will help to make the City of Clute a better place to work, play, and live.

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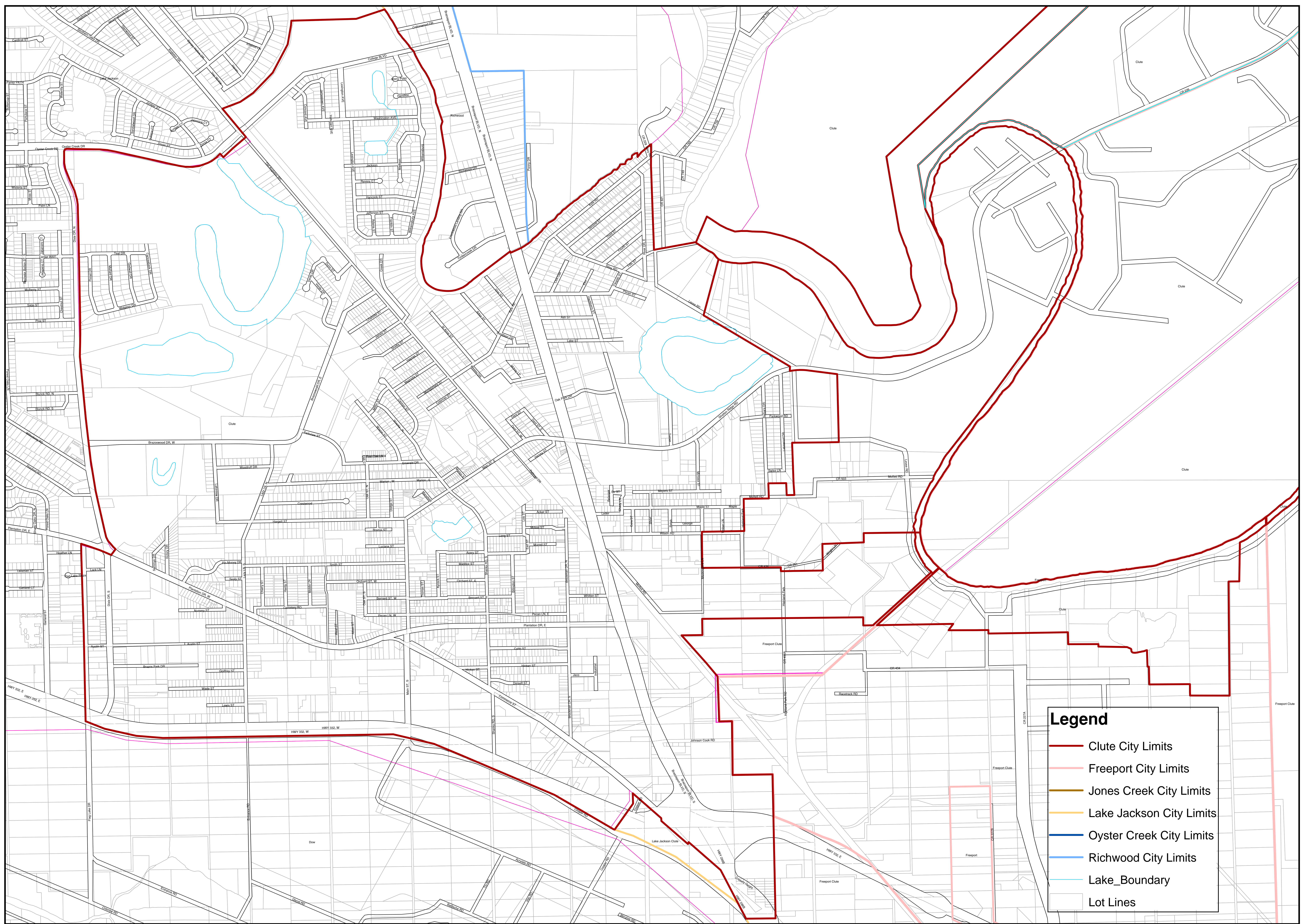
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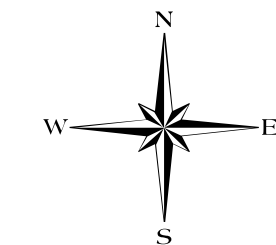
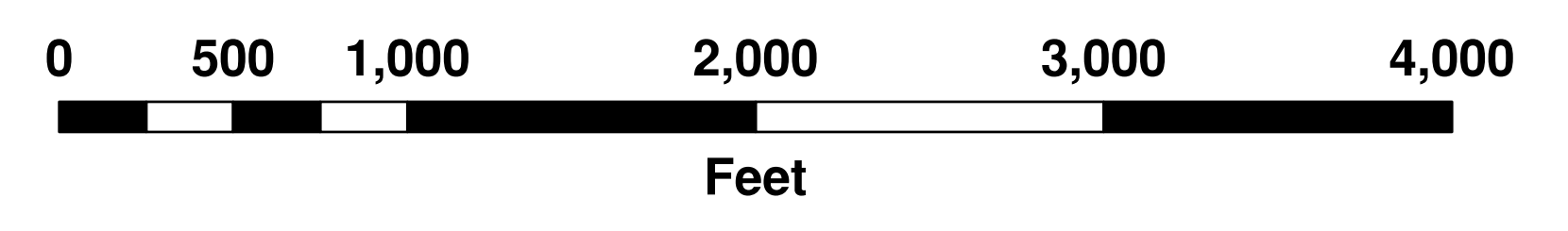
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Legend

- Clute City Limits
- Freeport City Limits
- Jones Creek City Limits
- Lake Jackson City Limits
- Oyster Creek City Limits
- Richwood City Limits
- Lake_Boundary
- Lot Lines



POPULATION

POPULATION

INTRODUCTION



Figure 1-Mammoth Lake, Clute, Texas

In 2008, the City of Clute received funding from the Coastal Coordination Council's Coastal Management Program to do planning for Recreation, Conservation and Economic/Tourism development. The City of Clute is located in Brazoria County on the East Texas Gulf Coast, bordered by Matagorda, Wharton, Fort Bend, Harris and Galveston Counties. The purpose of this planning document is to provide the city with goals and objectives that can be utilized in both current and future decision-making, and to avail the city to future funding opportunities, such as the Coastal Zone Management Program from the General Land Office, the Texas Recreation and Parks Account Program and the Boating Access Grant from the Texas Parks and Wildlife Department. The main areas of study are "Population, Land Use, Recreation, Economic/Tourism

Development and Conservation. Each main area of study, with the exception of Population, will contain goals and objectives specifically related to that particular subject.

LOCATION MAPS

Population projections are crucial for most types of planning activities. The planner needs to know how fast the targeted area is growing in order to know the quantity of facilities necessary to serve the area. The following map shows the location of Census Tracts within the City of Clute, according to the 2000 United States Census maps.

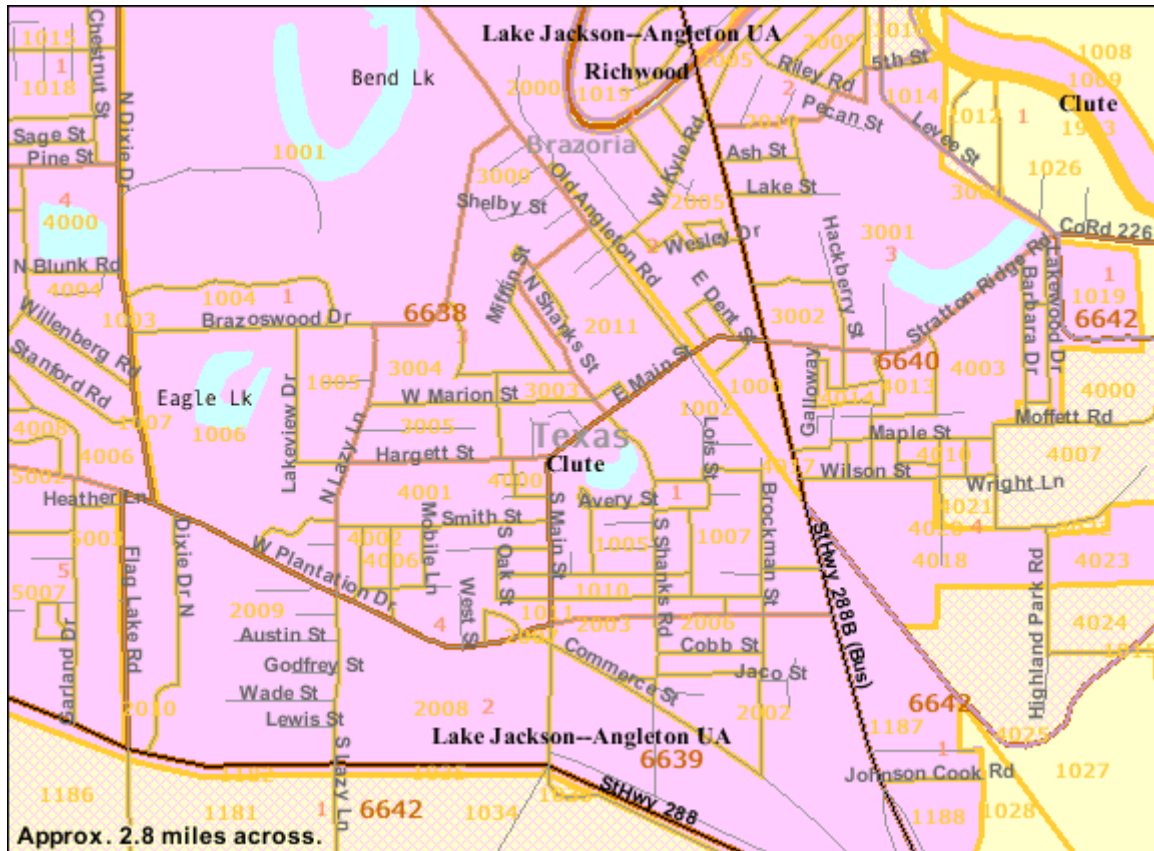


Figure 2-United States Census Map showing the City of Clute Census Tracts.

CENSUS DATA

The following table was comprised in order to show the population composition of Clute from 1990 to 2000, according to census data.

Table 1¹
Census Data Groups of Persons and Total Population

Group	1990	% Total	2000	% Total	% Change
White, not Hispanic	4,988	56.0	4,415	42.3	-13.7%
Black, not Hispanic	621	7.0	766	7.4	+0.4%
Hispanic	3,193	35.8	5,013	48.1	+12.3%
American Indian	32	0.3	17	0.2	-0.1%
Asian/Pacific Islander	52	0.6	100	1.0	+0.4%
Other	24	0.3	15	0.1	-0.2%
Two or more races	0	0.0	98	0.9	+0.9%
TOTAL	8,910	100.0	10,424	100.0	0.0%

As shown in the table above, the city's population grew by 1,514 persons between the years 1990 and 2000. That represents a 17.0% increase for the time period, which is a significant growth rate. Also of significance is the growth of the Hispanic segment of the population. The numbers are not unexpected because the Hispanic segment of the population is showing significant growth in many parts of the country, but especially in Texas. The following table shows general, social, and economic characteristics of the county according to 2000 census data.

¹ Source: 1990 and 2000 United States Census

Table 2²
2000 Census Demographic Profiles

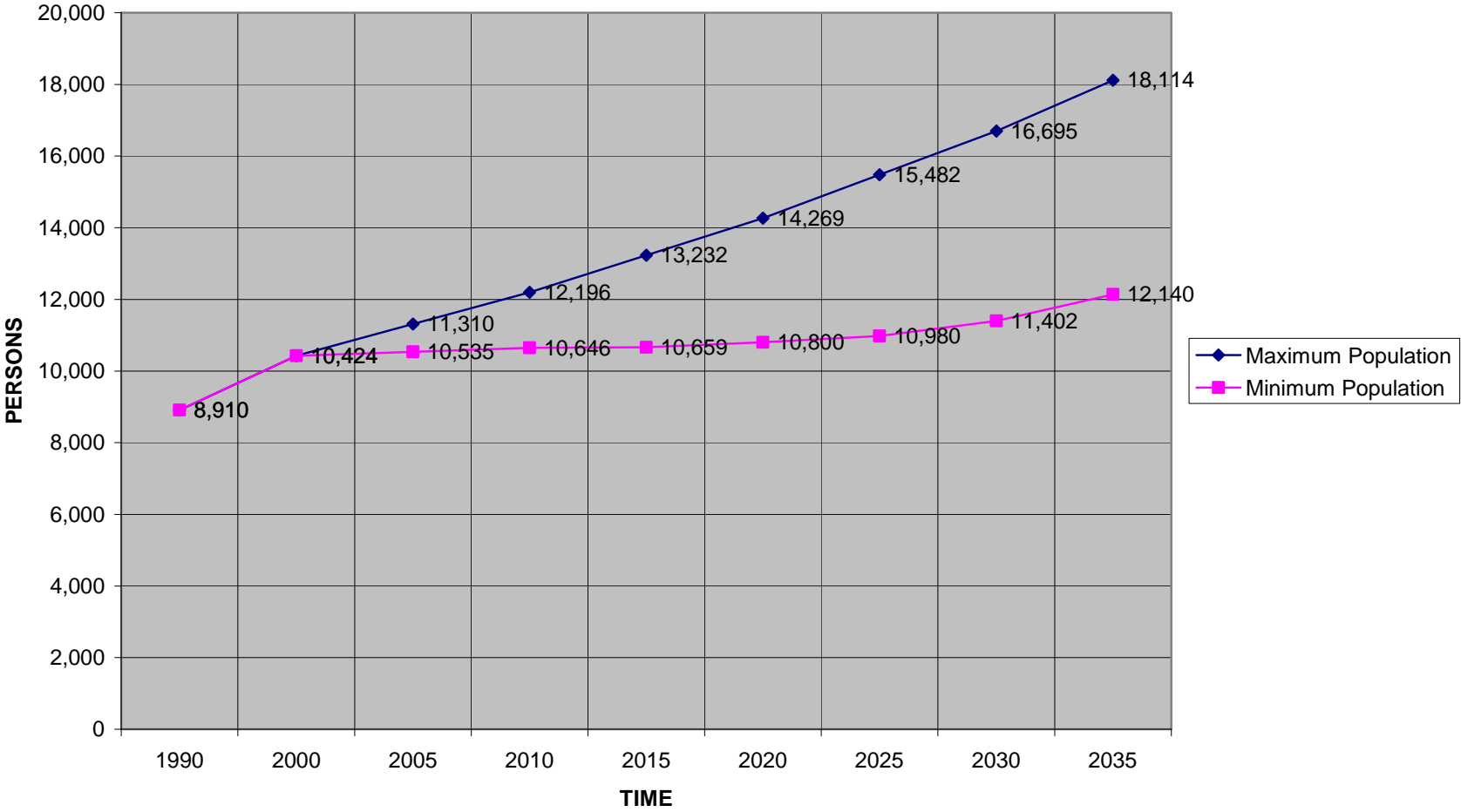
General Characteristic	Number	Percent
Male	5,256	50.4
Female	5,168	49.6
Median Age (years)	27.6	
Under 5 years	1,033	9.9
65 years and over	797	7.6
Average household size	2.79	
Social Characteristics		
Civilian veterans (civilian pop > 18)	781	11.0
High school Graduate or higher (pop 25 and >)	3,713	64.8
Bachelor's degree or higher (pop 25 and >)	471	8.2
Disability status (non-institutionalized pop > 5)	1,683	18.5
Economic Characteristics		
Median household income	\$32,622.00	
Per Capita income	\$14,008.00	
Families below poverty level	407	16.0
Individuals below poverty level	1,838	18.2

The reason for compiling the census demographic profile is to identify the composition of the population within the county. The demographic profile seems to indicate that the city is comprised of average-sized families with young parents. For recreation planning purposes, small children prefer the climbing and swinging facilities, while the teenagers prefer opportunities that include sporting complexes with basketball courts, baseball and

² Source: 2000 United States Census

softball fields. According to the 2000 United States Census Demographic profile, approximately 25% of the city's population falls within the age bracket 5-19 years of age. It is important for the city to consider all of these factors when developing improvements for the existing parks and considering new facilities at parks that have not been built yet.

EXHIBIT B
City of Clute, Texas 2035 Population Projections



RECREATION AND OPEN SPACE

RECREATION AND OPEN SPACE

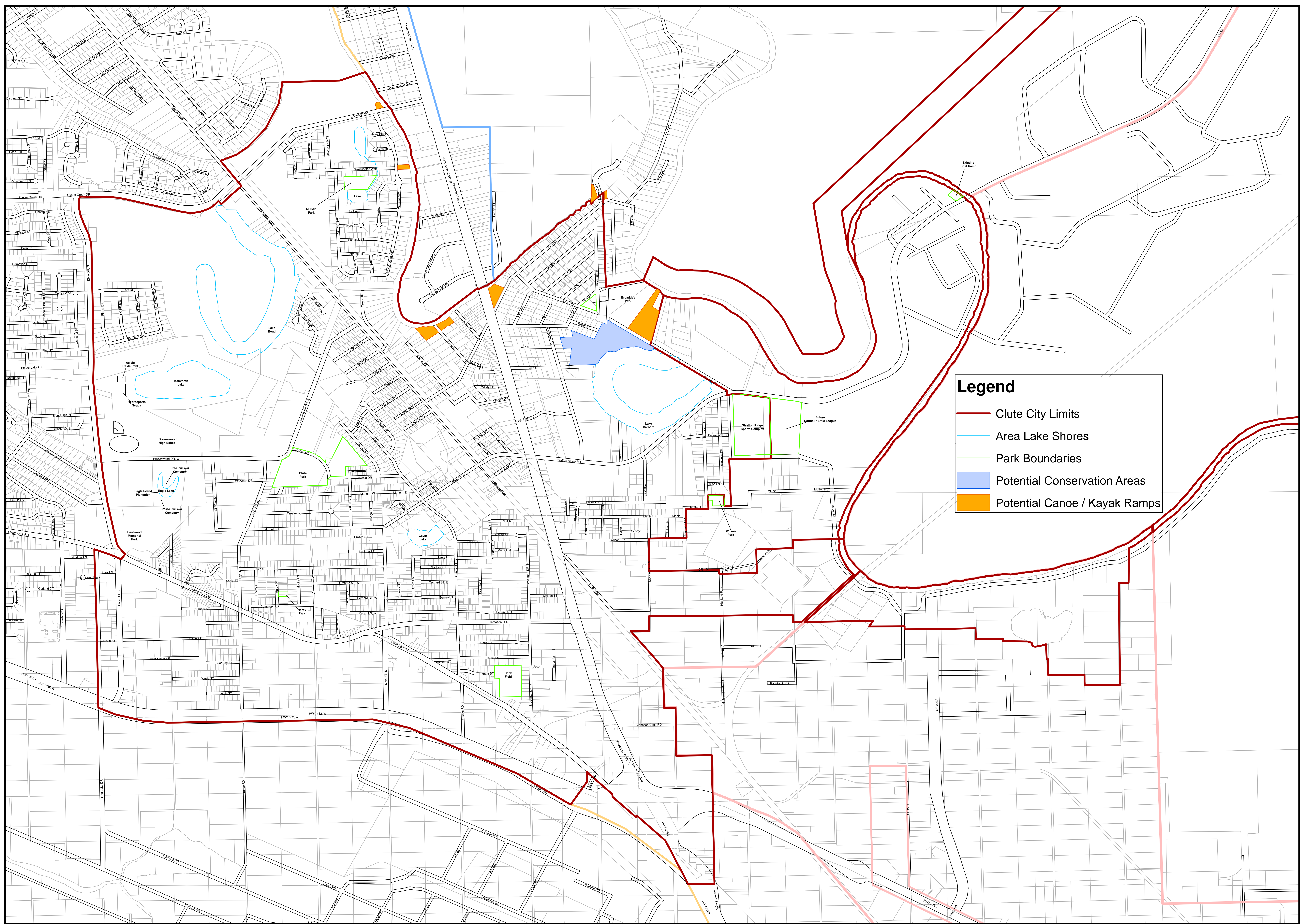
INTRODUCTION

As mentioned earlier in this plan, the City of Clute is located in Brazoria County on the East Texas Gulf Coast, bordered by Matagorda, Wharton, Fort Bend, Harris and Galveston Counties within the extreme southeastern portion of Texas, adjacent to the Gulf of Mexico. The proximity of the Gulf of Mexico and the bays results in a predominantly marine climate. This is important because the combination of the climate and the location near water-based activities creates an atmosphere conducive to recreation and tourism. Many people from the interior lands seek the Gulf of Mexico as a summer recreation spot, while many people from the northern climates seek the area for the warmth during the winter. Whatever the reason, Brazoria County is ideal for leisure and recreation.

As mentioned in the population study, the city's population grew by about seventeen percent (17%) during the 1990s. This is not surprising given the reasons above. Apparently, many of the visitors are deciding to call Clute home. It is no secret that many people are retiring at early ages and living longer. The City of Clute offers many amenities that people seek for leisure and relaxation.

RECREATION AND OPEN SPACE INVENTORY

The city has many different types of recreation and open space facilities located at various sites. These sites include municipal parks, sports fields and a community center. These sites are illustrated on Exhibit "C". In addition the facilities are listed in Table #3.



Legend

- Clute City Limits
- Area Lake Shores
- Park Boundaries
- Potential Conservation Areas
- Potential Canoe / Kayak Ramps

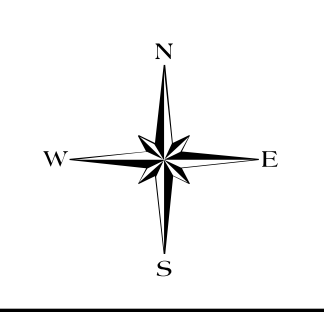


Table 3³
City of Clute
Inventory of Recreation and Open Space Facilities

Name and Location	Type	Facilities and Use
Clute Municipal Park	Outdoor Park	<ul style="list-style-type: none"> • Picnic Tables • Park Benches • Toddler Swings • Large Swings • Large Playscapes • Toddler play Area • ADA Playground Equipment • Basketball Court • Restrooms • Walking/Biking Trail • BBQ Pits • Sand Volleyball • Gazebo • Exercise Stations • ½ Court Basketball • Horseshoe Pits • Covered Pavilions • Swimming Complex • 50 meter swimming pool • 9-hole Disc Golf
Millstid Park	Outdoor Park	<ul style="list-style-type: none"> • Fishing Pond • Playground • Picnic Tables
Broaddus Park	Outdoor Park	<ul style="list-style-type: none"> • Playground • Picnic Tables • Park Benches • Basketball Court • Swings • BBQ Pits • Water Fountain
Wilson Park	Outdoor Park	<ul style="list-style-type: none"> • Playground • Pavilion • Picnic Tables • Park Benches • Basketball Court • Swings • Water Fountain-not working
Hardy Park	Outdoor Park	<ul style="list-style-type: none"> • Playground • Picnic Tables • Basketball Court • BBQ Pits

³ Source: Public Management, Inc. field survey, 2009 and the City of Clute Parks & Recreation Department

Table 3(cont.)⁴
City of Clute
Inventory of Recreation and Open Space Facilities

Name and Location	Type	Facilities and Use
Cobb Fields	Sports Complex	<ul style="list-style-type: none"> • Softball fields • Soccer fields • Restrooms
Stratton Ridge Sportsplex	Sports Complex	<ul style="list-style-type: none"> • Playground • Picnic Tables • Park Benches • Softball fields (4) • Soccer fields • Concessions
Oyster Creek	Water-based (Canoes, Kayaks)	<ul style="list-style-type: none"> • Limited
Community Center	Indoor Recreation	<ul style="list-style-type: none"> • Tables • Chairs • Restrooms • Full Kitchen

ANALYSIS

Level of Service Standards and Criteria

The needs for this plan were determined based on standards set forth by the NRPA, the resources currently available to the city, and the knowledge and experience of city leaders. A review of the city's current inventory compared to recommended standards reveals that the city has adequate facilities to meet current demands, although improvements are needed to these facilities. The implementation of the goals and objectives set forth in this planning document should satisfy the city's needs through the year 2030.

The needs were conceptualized into goals and objectives, and presented in this plan. The city defined the following concepts and standards for open space and recreation:

- a. There is a need for improvements to the city's existing facilities.
- b. There is a need to develop areas along Oyster Creek as canoe and kayak ramps.

⁴ Source: Public Management, Inc. field survey, 2009 and the City of Clute Parks & Recreation Department

- c. There is a need for additional sports fields within the city to respond to the needs of the growing population. According to the 2000 United States Census Demographic profile, approximately 25% of the city’s population falls within the age bracket 5-19 years of age.
- d. There should be at least one acre of public open space and recreation for each one hundred persons within the jurisdiction of the city.
- e. There should be natural areas designated for use as nature parks, plant and wildlife conservation areas and greenbelts, throughout the city.

Standards “a” and “b” were developed based on the resources currently available to the city. Standard “c” was developed in response to the needs of the community as evidenced by the growing number of soccer, baseball and softball leagues. Standards “d” and “e” were developed by the NRPA and are generally accepted. The following park classification system follows the standards set forth by the NRPA. The general standards set forth by the NRPA are generally viewed as a guide and address minimum, not maximum, goals to be achieved.

Table 4⁵
Park Classification System

Type	Description
Mini-Park	Addresses limited, isolated or unique recreational needs. May be either active or passive, but speak to a specific need rather than a population density.
Neighborhood Park	The foundation of any park system because it is closest to the users. The park should be centrally located, served by residential, or collector streets, but the primary access should be pedestrian in nature.
Community Park	Larger than neighborhood parks and serve several neighborhoods. May include areas for intense recreation activity, such as competitive sports. Should also be areas for passive recreation, such as walking.
Sports Complex	Consolidates heavily programmed athletic fields and associated facilities to larger and fewer sites located throughout the community.
Special Use areas	Specialized or single use facilities
Greenways/Linear Parks	Can be built along creek corridors, easements, public rights-of-way and floodplains to effectively tie all of the parks together to form a system.
Natural Resource Areas	Environmentally sensitive lands set aside for the preservation significant natural resources, and open space.

⁵ Source: -National Recreation and Park Association (NRPA) standards

Table 5⁶
Park Acreage Standards

Type	Size/Acres	Service Area	Acres/1000 Population
Mini-Park	2,500 sf-1 ac.	Less than ¼ mile from neighborhood	0.25-0.5 ac.
Neighborhood Park	5-10 ac.	One neighborhood ¼ to ½ mile radius	1.25-1.5 ac.
Community Park	As needed for desired uses, usually between 30-50 ac.	Several neighborhoods ½ mile to 3 mile radius	5.0-8.0 ac.
Sports Complex	Minimum of 25 ac., with an optimal size of 40-80 ac.	1 hour driving time	Variable
Special Use Areas	Varies	No applicable standard	Variable
Greenways/Linear Park	Sufficient width to protect the natural resource and provided maximum use	No applicable standard	Variable
Natural Resource Area	Resource availability and opportunity	Variable	Variable
School Park	Variable-depends on function	Variable	Variable

Needs Assessment and Identification

The needs assessment for this particular plan was based on accepted standards, as stated above, and the resources currently available to the city. The two approaches used by the city, standard-based and resource-based, are accepted by Texas Parks and Wildlife Department as legitimate needs assessment techniques. The resources available to the city include municipal parks, sports fields, Oyster Creek and a community center. The full listing of facilities is shown on Table 3.

Clute Municipal Park

Located off of Brazoswood Drive and Parkview St., Clute Municipal Park is the city’s largest community park and is home to annual events such as “The Great Texas Mosquito Festival”, “Harvest Fun Fest”, “Christmas in the Park”, “Car and Bike Show” and “Fiesta Clute”. Clute Municipal Park has many amenities available to the public such as the swimming pool, a 9-hole disc golf course, two pavilions, horseshoe pits, volleyball and basketball courts, playground equipment and many tables, benches and BBQ pits.

⁶ Source: -National Recreation and Park Association (NRPA) standards



Figure 3-Clute Municipal Park.



Figure 4-Clute Municipal Park.



Figure 5-Clute Municipal Park.



Figure 6-Clute Municipal Park.

The facilities at Clute Municipal Park are in relatively good condition and no major improvements to the park are suggested at this time. The planning committee did however identify the need for additional lights, and tree trimming.

Wilson Park

Located at the corner of Barbara Drive and Moffett Rd., Wilson Park is one of the city's neighborhood parks. The amenities available to the public include a small pavilion, a slide, swings, a small basketball court, a playscape and some benches. The basketball court needs to be re-surfaced and refurbished with new goals and nets. In addition, there is no working water fountain and there are no BBQ pits. The planning committee identified the need for a small walking trail, an additional pavilion and a small parking lot. The planning committee's recommendations for Wilson Park are as follows:

- Install a small walking trail.
- Install lighting for the walking trail.
- Install restroom facilities.
- Install an additional pavilion that could be used for rentals.
- Install more park benches.
- Install a parking lot.
- Re-surface the basketball court and replace the goals and nets.
- Install a new water fountain.
- Install BBQ pits.



Figure 7-Wilson Park.



Figure 8-Wilson Park

Broaddus Park

Located at the corner of East River Dr. and Riley Rd., Broaddus Park is another one of the city's neighborhood parks. The amenities available to the public include a small basketball court, a playscape, swings, water fountain, picnic table and some benches. The basketball court is in somewhat dilapidated condition and needs to be re-surfaced and refurbished with new goals and nets. In addition, the swings are outdated and are in need of replacement. Although lighting for the park was discussed, it was determined that better street lighting in the neighborhood would be more appropriate than lighting at the park. The planning committee identified the need for a paved parking area and additional park benches. The planning committee's recommendations for Broaddus Park are as follows:

- Install a paved parking area.

- Replace the swings.
- Install street lights in the neighborhood near the park.
- Install an additional playscape.
- Re-surface the basketball court and replace the goals and nets.
- Install additional park benches.



Figure 9-Broaddus Park



Figure 10-Broaddus Park

Millstid Park

Located in College Park Subdivision along Washington Ave. between Lexington Ave and Madison, Millstid Park is the city's newest neighborhood park. The amenities available to the public include a catch-and-release fishing lake, picnic tables and a small playground area. This small park has a lot of potential as a great recreational area for the community. Just north of the park is an elementary school with a walking trail. The planning committee believes that this trail can be connected to a nature trail within the park. The trail could follow the natural drainage channel out to Washington Ave. From there, the trail would go across a proposed city parking lot and connect with the trail at the elementary school. In addition, the planning committee feels that a fishing pier, park benches and a water fountain would make great additions to the park. The planning committee's recommendations for Millstid Park are as follows:

- Install a small parking area across from the park.
- Install a nature trail around the perimeter and link it to the trail at the elementary school. There are grant opportunities available from the Texas Parks and Wildlife through the Recreation Trail Grants. This grant program provides 80% of project

cost. Funds can be spent on projects such as the construction of new recreational trails or to improve existing trails.

- Install a fishing pier.
- Install park benches and a water fountain.

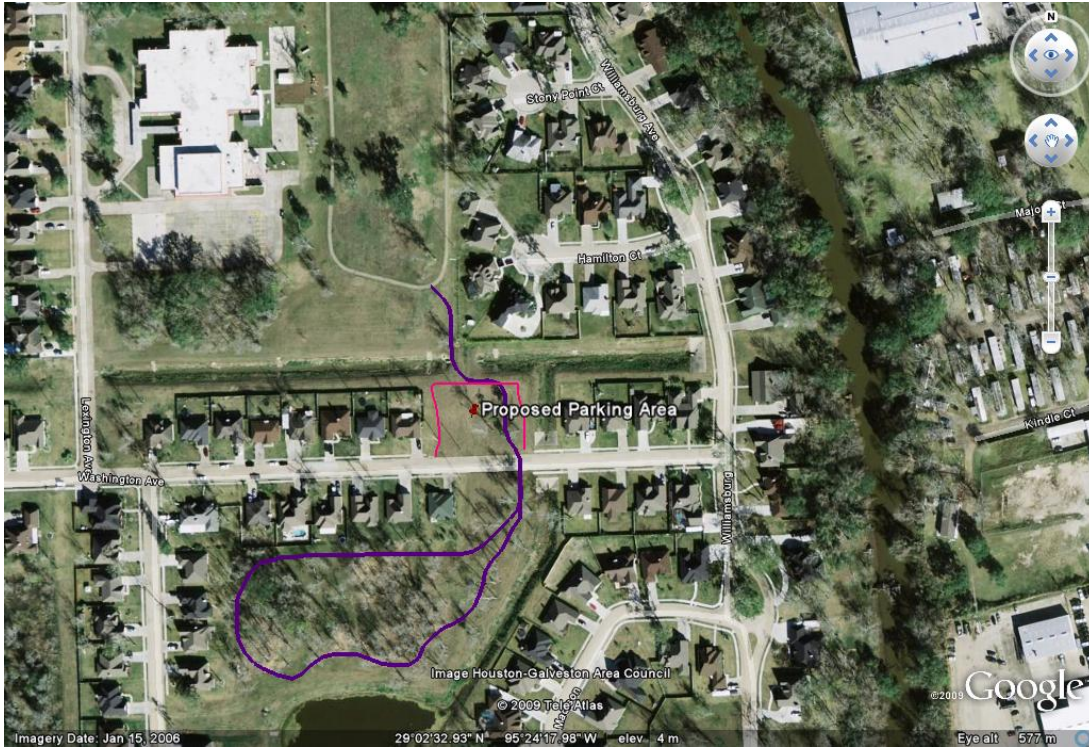


Figure 11-Proposed Walking Trail @Millstid Park

Hardy Park

Located along Hardy St. between Smith and Cemetery Sts., Hardy Park is a small mini-park. The amenities available to the public include a playground, picnic tables, BBQ Grills and a basketball court. The basketball court is in somewhat dilapidated condition and needs to be re-surfaced and refurbished with new goals and nets. The planning committee's recommendations for Hardy Park are as follows:

- Re-surface the basketball court and replace the goals and nets.
- Install a new water fountain.

Stratton Ridge Sportsplex

Located along Stratton Ridge Rd. just east of Levee St., Stratton Ridge Sportsplex is a large sports complex complete with playgrounds, BBQ grills, volleyball courts picnic tables, softball, baseball and soccer fields. There are many leagues that utilize the complex for not only weekly league games, but weekend tournaments as well. The relative youth of the population, median age 27.6 compared with 32.3 for the State, indicates the need for increased recreational opportunities for the community. According to local residents, new sports leagues are interested in Clute, but there are not enough facilities available. The planning committee's recommendations for Stratton Ridge Sportsplex are as follows:

- Install additional softball and baseball fields adjacent to the existing fields.
- Install additional parking @ the south end along the levee.
- Install a new, larger restroom facility.



Figure 12-Proposed Site for Additional Fields @ Stratton Ridge Sportsplex

Cobb Field

Cobb Field is a sports complex located at the intersection of Commerce Street and Dorsett Street, between Brockman Street and Shanks. The fields serve primarily as softball practice fields and soccer fields. There is parking, lighting, concessions and restrooms available at Cobb Field, however, the facilities are outdated. The planning committee's recommendations for Cobb Field are as follows:

- Upon adding facilities to the Stratton Ridge Sports Complex, convert the existing fields to soccer-only fields.
- Transfer baseball activities to the Stratton Ridge Sports Complex.
- Incorporate greenbelts along the perimeter of the complex to serve as a buffer for the homes located along Brockman and Hinken Sts.
- Consider rehabilitating the restroom/concession facilities.
- Consider replacing the existing lights.



Figure 13-Cobb Field

Oyster Creek

Oyster Creek is a long creek within the San Jacinto-Brazos Coastal Basin that originates near the City of Houston and empties into the Gulf of Mexico. Oyster shells, which give the creek its name, are common along its banks. During the 1950s mining these shells became a local industry. Oyster Creek is described by Texas Parks and Wildlife as “a potential recreational waterway from SH 35 (west of Angleton) to FM 523 (just northeast of Freeport). Flowing through the heavily populated coastal region, the creek empties into the Gulf of Mexico. The section between SH 35 and FM 523 is about 25 miles in length.” In addition to the potential as a recreational waterway, Oyster Creek also serves as a hot fishing spot. A “Fisheries Use Attainability Study for Oyster Creek” done in 1987 suggests that Oyster Creek has the potential for a “diverse aquatic community”

Over the years, Oyster Creek has accumulated large amounts of tree and limb debris that causes restricted water flow, increased erosion and limited navigation. It is the city’s intent to use funding from the Natural Resources Conservation Service (a division of the USDA) under the Emergency Watershed Protection Program to clear the creek. The project will involve the removal of tree limbs and debris from the creek. In addition, overhanging limbs will be removed as necessary for navigation. Once the creek is cleared and increased navigation is possible, the planning committee believes the creek can be utilized for increased water-related activities such as kayaking and canoeing. Therefore, it is necessary to install small ramps or launching areas along the creek. Potential ramps or launching areas are illustrated on the City’s new “Recreation Facilities Map” that is a part of this plan.

Phase I of the Oyster Creek improvements involves the 1.6-mile segment of the creek that begins south of College Park Drive and ends at the CR 228 Bridge. The City has a small drainage easement that extends to the creek, just east of Williamsburg in the College Park subdivision. The drainage easement could be used as a ramp or launching area for canoes and kayaks. In addition, this site is approximately one-tenth (0.1) of a mile from the proposed parking area, as discussed in the Millstid Park improvements. There are two (2) small plots of land at the southeast and northwest corners of the

intersection of the creek and the bridge that could serve as ramps. The land would have to be acquired and is not currently within the corporate limits of the City. This area is however within the city's extraterritorial jurisdiction and the planning committee believes this area should be explored for annexation purposes. Annexation and acquisition should be considered in the city's long range planning because these tools are important in the implementation of recreation and conservation ideas.

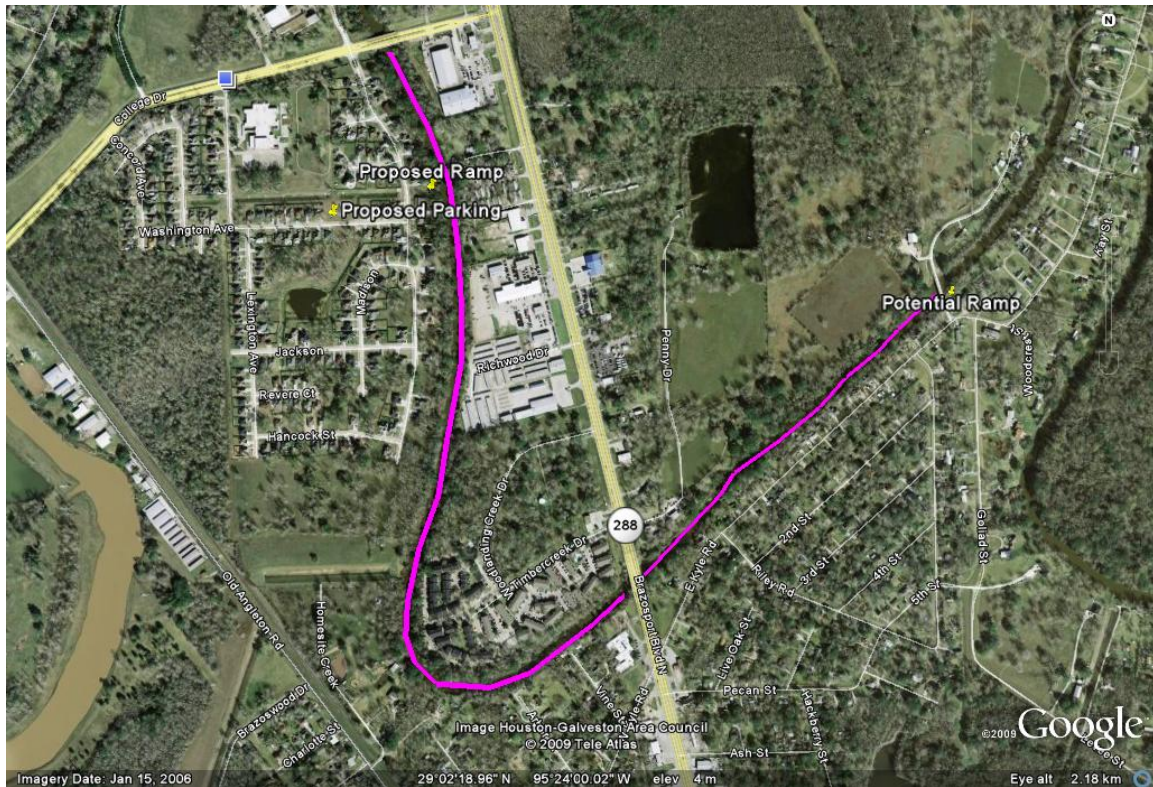


Figure 14-Proposed Phase I Improvements for Oyster Creek

Phase II of the Oyster Creek improvements, the most ambitious, involves a five-mile (5) mile segment of the creek that begins at CR 228 and ends at Stratton Ridge Rd. There is a county ramp at Stratton Ridge Rd., but enhancements to the site are would require the cooperation between the city and the county. In addition, there are other opportunities along this segment for addition ramps and launching areas.

The land for these ramps and launching areas in this phase would have to be acquired and are not currently within the corporate limits of the City. These areas are however within

the city's extraterritorial jurisdiction and the planning committee believes these areas should be explored for annexation purposes.

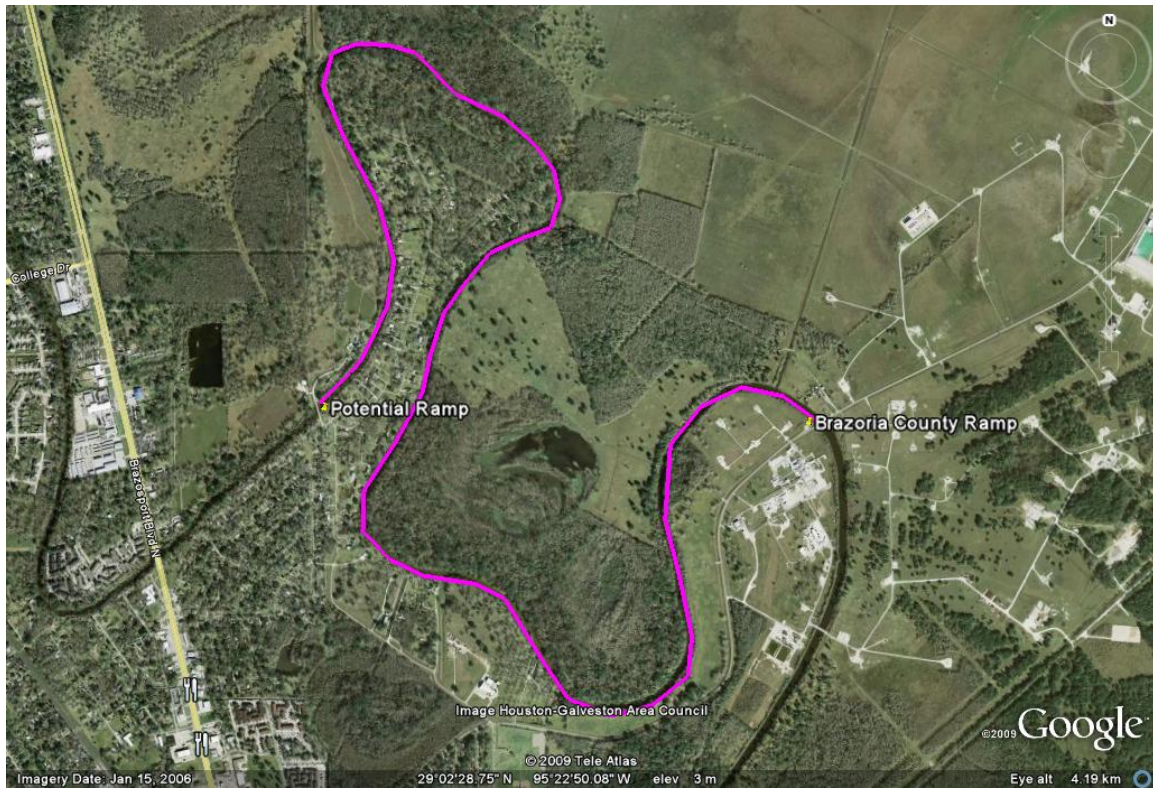


Figure 15-Proposed Phase II Improvements for Oyster Creek

The planning committee's recommendations for Oyster Creek are as follows:

- Phase I improvements to include the clearing of Oyster Creek from College Park Drive to CR 228.
- Utilizing the small drainage easement that extends to the creek, just east of Williamsburg in the College Park subdivision, install a ramp or launching area for canoes and kayaks. There are grant opportunities available from the Coastal Management Program as part of Waterfront Revitalization and Ecotourism Development. The program pays for 60% of the project and the applicant covers the remainder. The deadline for application is October of each year. In-kind services may be used as part of the matching funds.
- Utilizing the plot of land at the northwest corner of the intersection of the creek, install a ramp or launching area for canoes and kayaks.

- Phase II improvements to include the clearing of Oyster Creek from CR 228 to Stratton Ridge Rd.
- Utilizing the plot of land at the southeast corner of the intersection of the creek, install a ramp or launching area for canoes and kayaks.
- In cooperation with Brazoria County, enhance the current boat ramp by installing more ramps, improving or adding more parking and inviting vendors to the area. There are grant opportunities available from the Coastal Management Program, but the county would need to be the sponsor.

PLAN DEVELOPMENT PROCESS

The following is a prioritized park, recreation and open space needs assessment and identification, and the approaches used to determine them:

- a. Implement improvements to the city's existing facilities. (resource-based)
- b. Develop areas along Oyster Creek as canoe and kayak ramps. (resource-based)
- c. Provide additional sports fields within the city. (standard-based)
- d. Establish pocket parks, through enforcement of the city's subdivision ordinance, in all new subdivisions. (resource-based)
- e. Designate natural areas for use as nature parks, plant and wildlife conservation areas and greenbelts throughout the city. (standard-based)

GOALS AND OBJECTIVES

Improvements to Existing Parks

Goal 1: Improve the recreational facilities at Wilson Park.

Time period for meeting goal: (2010-2011)

Objectives

- Install a small walking trail.
- Install lighting for the walking trail.
- Install restroom facilities.
- Install an additional pavilion for rental use.
- Install more park benches.
- Install a parking lot.
- Re-surface the basketball court and replace the goals and nets.
- Install a new water fountain.
- Install BBQ pits.

Goal 2: Improve the recreational facilities at Broaddus Park.

Time period for meeting goal: (2011-2012)

Objectives

- Install a paved parking area.
- Replace the swings.
- Install street lights in the neighborhood near the park.
- Install an additional playscape.
- Re-surface the basketball court and replace the goals and nets.
- Install additional park benches.

Goal 3: Improve the recreational facilities at Millstid Park.

Time period for meeting goal: (2012-2013)

Objectives

- Install a small parking area across from the park.

- Install a nature trail around the perimeter and link it to the trail at the elementary school. There are grant opportunities available from the Texas Parks and Wildlife through the Recreation Trail Grants. This grant program provides 80% of project cost. Funds can be spent on projects such as the construction of new recreational trails or to improve existing trails.
- Install a fishing pier.
- Install park benches and a water fountain.

Goal 4: Improve the recreational facilities at Hardy Park.

Time period for meeting goal: (2013-2014)

Objectives

- Re-surface the basketball court and replace the goals and nets.
- Install a new water fountain.

Oyster Creek Improvements

Goal 1: Develop areas along Oyster Creek as canoe and kayak ramps.

Time period for meeting goal: (2010-2015)

- Phase I improvements to include the clearing of Oyster Creek from College Park Drive to CR 228.
- Utilizing the small drainage easement that extends to the creek, just east of Williamsburg in the College Park subdivision, install a ramp or launching area for canoes and kayaks. There are grant opportunities available from the Coastal Management Program as part of Waterfront Revitalization and Ecotourism Development. The program pays for 60% of the project and the applicant covers the remainder. The deadline for application is October of each year. In-kind services may be used as part of the matching funds.
- Utilizing the plot of land at the northwest corner of the intersection of the creek, install a ramp or launching area for canoes and kayaks.
- Phase II improvements to include the clearing of Oyster Creek from CR 228 to Stratton Ridge Rd.

- Utilizing the plot of land at the southeast corner of the intersection of the creek, install a ramp or launching area for canoes and kayaks.
- In cooperation with Brazoria County, enhance the current boat ramp by installing more ramps, improving or adding more parking and inviting vendors to the area. There are grant opportunities available from the Coastal Management Program, but the county would need to be the sponsor.

Sports Complex Improvements

Goal 1: Improve/Expand facilities at Stratton Ridge Sportsplex.

Time period for meeting goal: (2010-2012)

- Install additional softball and baseball fields adjacent to the existing fields.
- Install additional parking @ the south end along the levee.
- Install a new, larger restroom facility.

Goal 2: Improve facilities at Cobb Field.

Time period for meeting goal: (2012-2014)

- Upon adding facilities to the Stratton Ridge Sports Complex, convert the existing fields to soccer-only fields.
- Transfer baseball activities to the Stratton Ridge Sports Complex.
- Incorporate greenbelts along the perimeter of the complex to serve as a buffer for the homes located along Brockman and Hinken Sts.
- Consider rehabilitating the restroom/concession facilities.
- Consider replacing the existing lights.

Pocket Parks/New Parks

Goal 1: Establish pocket parks, through enforcement of the city's subdivision ordinance, in all new subdivisions.

Time period for meeting goal: (2010-2020)

Natural Resource Areas

Goal 1: Designate natural areas for use as nature parks, plant and wildlife conservation areas and greenbelts, throughout the city.

Time period for meeting goal: (2010-2020)

- Identify and purchase nature sites within the city that can be used for eco-tourism development.
 - Ideal sites are those with significant historical or cultural attributes, or sites that have contributed to the identity of the city throughout the years.
 - Consider low-lying or flood prone areas that are not conducive to commercial or residential development.
 - Identify funding options such as the Texas Parks and Wildlife Department grant programs and the Coastal Management Program.
 - Upon acquisition, develop these sites with limited or primitive facilities. Facilities could include primitive camping sites, park benches, low impact walking trails, birding towers, picnic tables and BBQ grills. Parking should be crushed rock or other suitable materials.

PLAN IMPLEMENTATION & PRIORITIZATION OF NEEDS

The city intends to meet its parks, recreation and open space goals and objectives through budgetary responsiveness to this plan and the active search for additional funding options, such as grants. The following prioritizes the needs previously delineated with a specific plan of action and timetable. The priorities were determined based on the city's documented needs assessment.

Priority 1: Improve the city's existing recreational facilities.

Timetable: 2010-2014

Estimated Costs: \$445,000.00

Wilson Park Improvements:	\$255,000.00
Broaddus Park Improvements:	\$100,000.00
Millstid Park Improvements:	\$75,000.00

Hardy Park Improvements: \$15,000.00

Financial Resources: Texas Recreation Parks Account Program Outdoor, Indoor and Small Community Grants, Recreation Trail Grants from the Texas Parks and Wildlife Department, Coastal Management Program from the Coastal Coordination Council.

Priority 2: Develop Oyster Creek as a viable recreation area

Timetable: 2010-2015

Estimated Costs: \$750,000.00

Phase I clearing:	\$125,000.00
Ramp @ College Park:	\$50,000.00
Phase II clearing:	\$375,000.00
Acquisition @ CR 228:	\$100,000.00
Ramp (s) @ CR 228:	\$100,000.00

Financial Resources: Texas Recreation Parks Account Program Outdoor, Indoor and Small Community Grants from the Texas Parks and Wildlife Department, Coastal Management Program from the Coastal Coordination Council, city funds, donated land, labor, material and equipment.

Priority 3: Improve/Expand the facilities at Stratton Ridge Sportsplex

Timetable: 2010-2012

Estimated Costs: \$710,000.00

Acquisition:	\$250,000.00
Field Lights:	\$150,000.00
Parking and Fencing:	\$125,000.00
Bleachers:	\$75,000.00
Dugouts:	\$50,000.00
Batting Cage:	\$10,000.00
Restroom Facilities	\$50,000.00

Financial Resources: Texas Recreation Parks Account Program Outdoor Grant from the Texas Parks and Wildlife Department, city funds, donated land, labor, material and equipment.

Priority 4: Improve the facilities at Cobb Field

Timetable: 2013-2015

Estimated Costs: \$185,000.00

Convert fields:	\$50,000.00
Field Lights:	\$75,000.00
Rehabilitate existing facility	\$50,000.00
Landscaping/greenbelt:	\$10,000.00

Financial Resources: Texas Recreation Parks Account Program Outdoor, Indoor and Small Community Grants from the Texas Parks and Wildlife Department, city funds, donated land, labor, material and equipment.

Priority 5: Establish pocket parks, through enforcement of the city's subdivision ordinance, in all new subdivisions.

Timetable: 2012-2025

Estimated Costs: \$50,000.00

Pocket Park Development per park:	\$50,000.00
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Financial Resources: Texas Recreation Parks Account Program Outdoor and Small Communities Grant from the Texas Parks and Wildlife Department, Coastal Management Program from the Coastal Coordination Council.

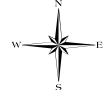
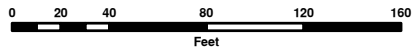
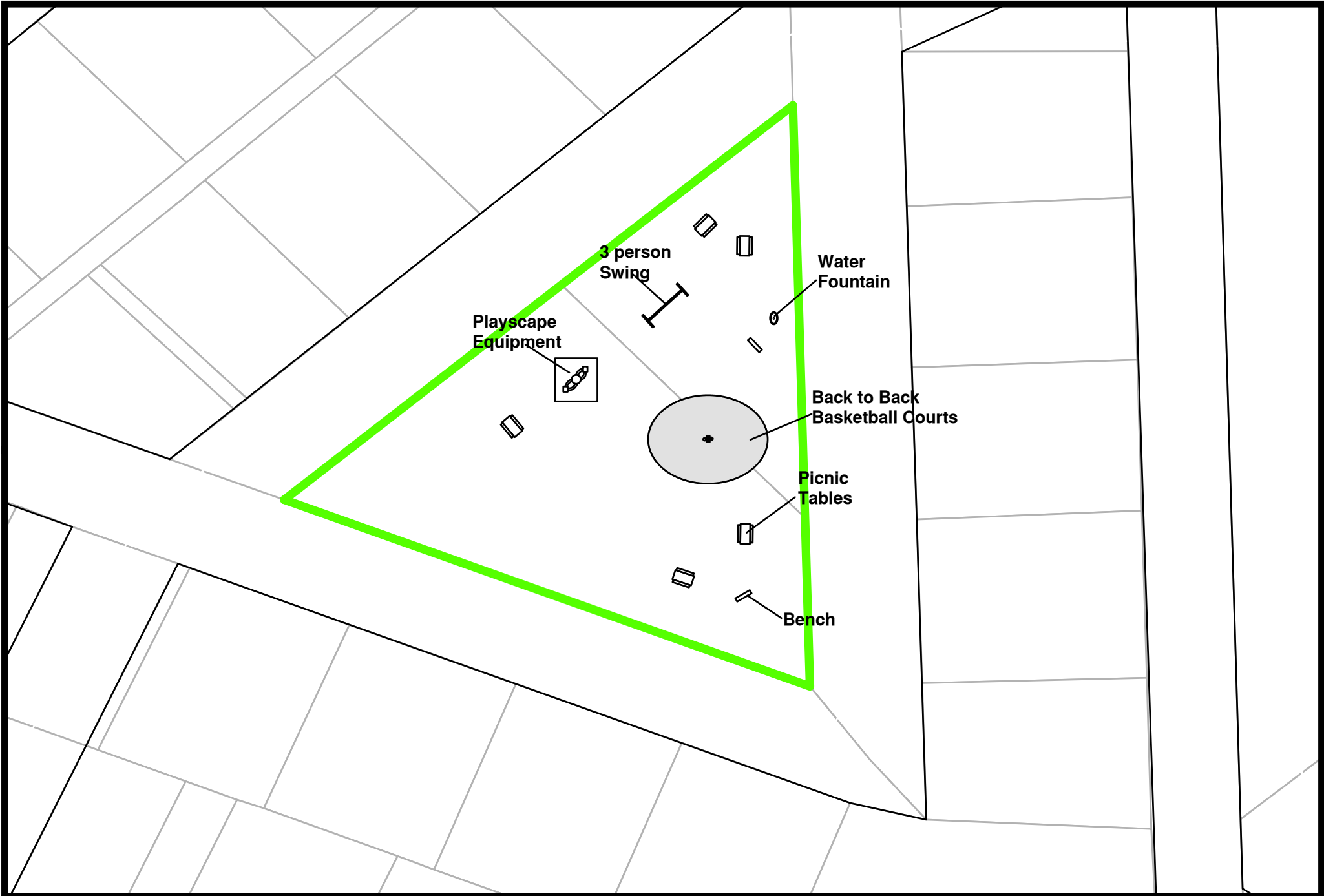
Priority 6: Designate natural areas for use as nature parks, plant and wildlife conservation areas and greenbelts, throughout the city.

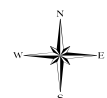
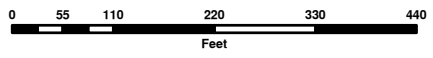
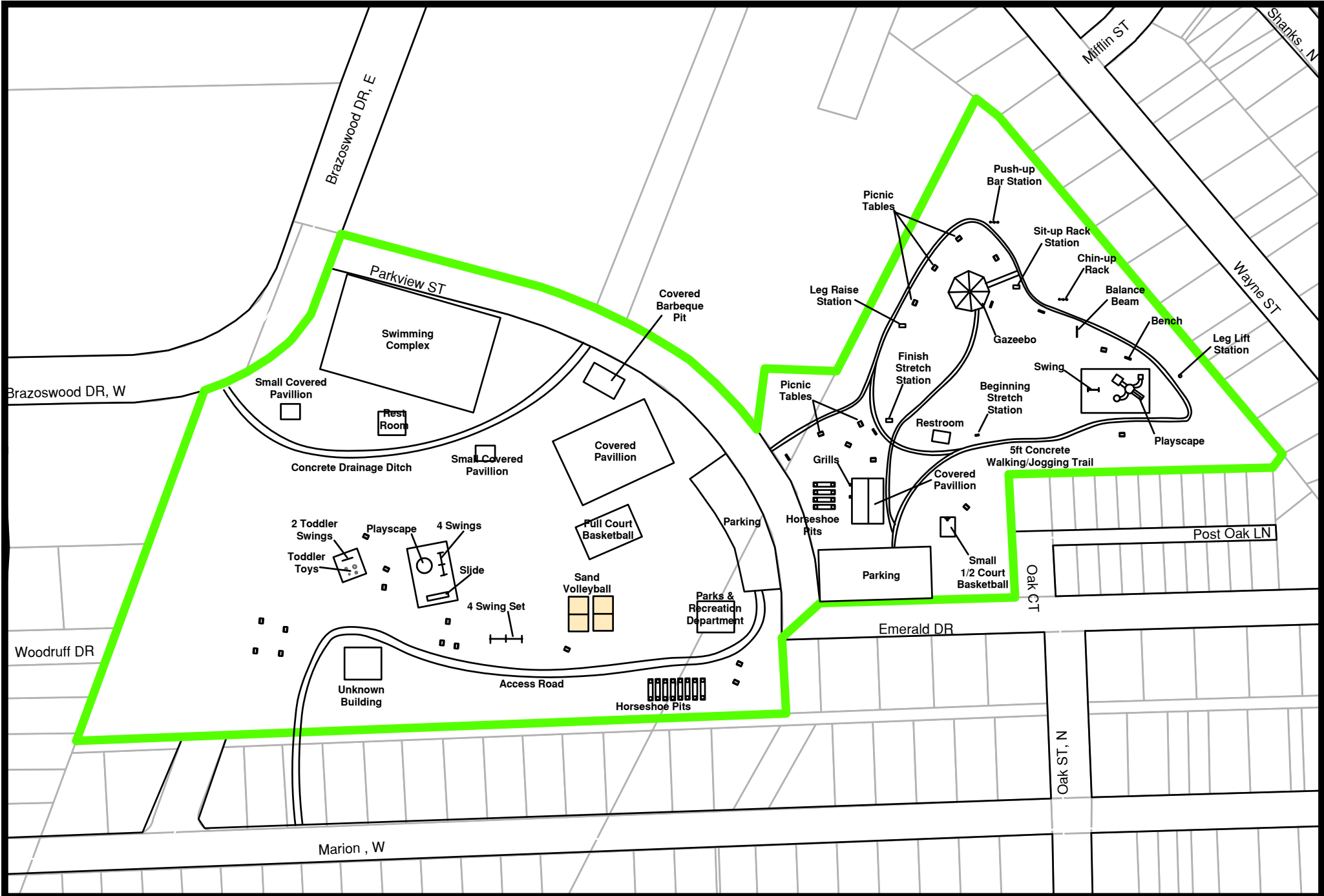
Timetable: 2010-2020

Estimated Costs: \$200,000.00

Nature Site Acquisition and Development:	\$200,000.00
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Financial Resources: Texas Recreation Parks Account Program Outdoor Grant from the Texas Parks and Wildlife Department, Coastal Management Program from the Coastal Coordination Council.





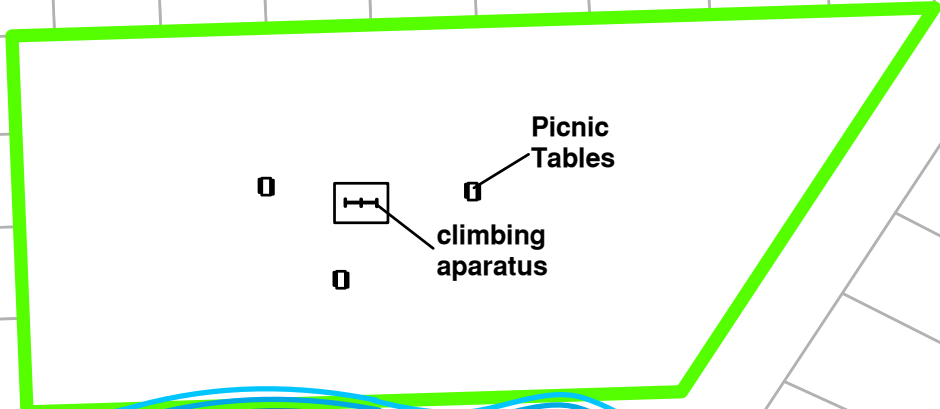
Lexington AVE

Washington AVE

Lexington AVE

Madison

Jackson



Lake
Catch & Release
Fishing

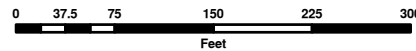


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COUNCIL PURSUANT TO NATIONAL OCEANIC AND ATMOSPHERIC
ADMINISTRATION AWARD NO. NA08NOS4190458.



2009
CITY OF CLUTE, TEXAS
PARK INVENTORY
MILLSTID PARK

Barbara DR

Small covered Pavillion with 2 Picnic Tables

Slide

4 Person Swing

Small Basketball Half Court

Climbing Equipment

Bench

Moffett RD

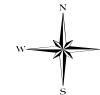
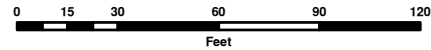
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2009
CITY OF CLUTE, TEXAS
PARK INVENTORY
WILSON PARK

LAND USE

LAND USE

INTRODUCTION

The City of Clute, in Brazoria County, is located along the Gulf Coast within the Houston–Sugar Land–Baytown metropolitan area. As of the 2000 U.S. Census, the city population was 10,424. The city gained some fame with the discovery of a fossilized mammoth named Asiel. There is now a restaurant/museum of the same name to honor this discovery. In addition, the City is home to the “Great Texas Mosquito Festival”. Clute's history began at the junction of the old Calvit and Eagle Island Plantations. Alexander (Sandy) Calvit, one of Stephen F. Austin's Old Three Hundred, obtained title to the land in 1824. Calvit's plantation later became the Herndon sugar plantation, owned by John H. Herndon, who married Calvit's only daughter⁷

The climate is modified subtropical marine characterized by hot summers and cool winters. The proximity of the Gulf of Mexico contributes to the predominantly marine climate. Average annual rainfall in the area is about 48” and the average annual temperature is 71°⁸.

INVENTORY

Existing land use

The existing land use pattern for Clute is typical for this size community. The commercial and light industrial land uses are generally adjacent to the major streets. Residential, light commercial, and public land uses are near the central city, in traditional downtown Clute. Rural residential uses extend beyond the City’s corporate limits and into the ETJ. The following photos illustrate some of the different types of land use within the City.

⁷ Wikipedia.org 2009

⁸ <http://www.ci.clute.tx.us/pages/community-profile.php> 2010



Figure 16 Eagle Island Plantation



Figure 17 Clute Intermediate School.



Figure 18-Fishing Lake @ Millstid Park

A significant amount of acreage within the city is in environmentally sensitive areas. Therefore, the city must identify which areas are best suited for ecotourism development. The International Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves the environment and sustains the well-being of local people." The city's proximity to the Great Texas Coastal Birding Trail is just one example of how ecotourism can provide a supplemental revenue source. The Great Texas Coastal Birding Trail serves as the attraction and the "tourists" spend their vacation dollars in the city's hotels and restaurants, rather than at a theme park, perhaps. The idea of ecotourism will be revisited in the economic development portion of this plan.

Soils characteristics

Brazoria County was one of the most prosperous counties in Texas in the mid-1800s. The county became a major producer of sugarcane and was known as the "Sugar Bowl of Texas". Eventually, the soil began to produce more cotton than sugar sometime toward the late-1800s. The soils in the region are very productive for crops and pastures. In

addition, the marshes are productive rangelands and are a necessary part of the food chain for the marine ecosystem.

Storm Drainage

In June, 2007 the city contracted with an engineering firm for the purpose of preparing a “Storm Water Drainage Master Plan”. The purpose of the plan was to investigate recurring flooding conditions that cause notable flooding and ponding during relatively small flood events (2-year design storms).

Prior to this study, the city did not have “Level of Protection” standards. The city reviewed standards from surrounding communities and Brazoria County and thus adopted the desired “Level of Protection”. The “Level of Protection” determines the capacity to which the drainage structures should perform.

In addition to recommendations from the city’s master plan, such as maintenance and channel and culvert improvements, the city can implement land development standards that greatly reduce the threat of severe flooding caused by the addition of impervious coverings to the watershed. These impervious coverings include large housing developments, parking lots and shopping centers. One technique that is used by many cities is the requirement of site specific retention or detention ponds. These requirements are usually contained within subdivision regulations. The language within the regulations often requires a site drainage plan, performed by a licensed engineer that must accompany the subdivision plat. The site plan must also include some type of retention or detention pond. The plat is then reviewed by the city’s engineer or planner. The idea is to prevent the development from adding excess runoff to the watershed as a result of developing the property.

Another way the city can reduce the threat of severe flooding is to properly implement the Federal Emergency Management Agency’s policy regarding development within the 100-year floodplain. In general, the city appoints a person to serve as the floodplain management administrator. Often times the city combines the duties of the floodplain

administrator with the duties of the Emergency Management Coordinator. It is the floodplain administrator's job to ensure that all new development and renovation activities are done in accordance with the guidelines set forth by the Federal Emergency Management Agency's policies. Failure to follow these guidelines could result in the revocation of the city's participation in the National Flood Insurance Program. Residential development within the 100-year floodplain, as delineated by the Flood Insurance Rate Map, is subject to elevation at least 12"-18" above the habitable floor level, as determined by a licensed engineer. In addition, renovation or rehabilitation that exceeds 50% of the structure's value is also subject to the elevation requirement.

LAND USE PLAN

The population and development within the city has been increasing steadily over the last ten (10) years. The city's population grew at a rate of approximately 17% during the time period 1990 to 2000. It is expected that this growth rate will continue through the current decade. As the population increases, additional services and amenities are required to meet their needs. These services and amenities include schools, restaurants, hotels, grocery stores and gasoline stations. The effect of development on land use is that a portion of the city's vacant land uses may convert over to commercial, residential or industrial uses. Therefore, the city should embrace this development, but also provide for the future by securing vacant lands for the purpose of public land uses. In addition, the city should update or adopt new subdivision regulations in order to manage growth and ensure quality development.

Goal 1: Improve utility service throughout the city.

Wastewater

Objective 1: Identify areas within the ETJ currently utilizing septic systems.

Timeline for completion: (2010-2011)

Objective 2: Prioritize areas based on population and growth potential and prepare a master list to be used throughout this planning period of twenty years.

Timeline for completion: (2011)

Objective 3: Contract with a reputable financial management organization and identify funding programs in order to expand wastewater services to the identified areas. Some examples include the Texas General Land Office Coastal Management Program, Texas Community Block Grant Program, Texas Water Development Board Loans and Rural Development loans.
Timeline for completion: (2011)

Goal 2: Promote both natural resources and wildlife conservation through property acquisition and land management.

Objective 1: Actively seek available properties to purchase throughout the city.
Timeline for completion: (2010-2015)

Objective 2: Pursue methods of financing these property acquisitions.

- A. **Texas General Land Office-Coastal Management Program.** This program is currently being used to fund this study and offers the city a funding mechanism to acquire future sites.
- B. **Texas Parks and Wildlife Department-**The Texas Parks and Wildlife Department's Recreation and Park Account Program offers funding for the acquisition of sites that will be utilized solely for parks and recreational uses.

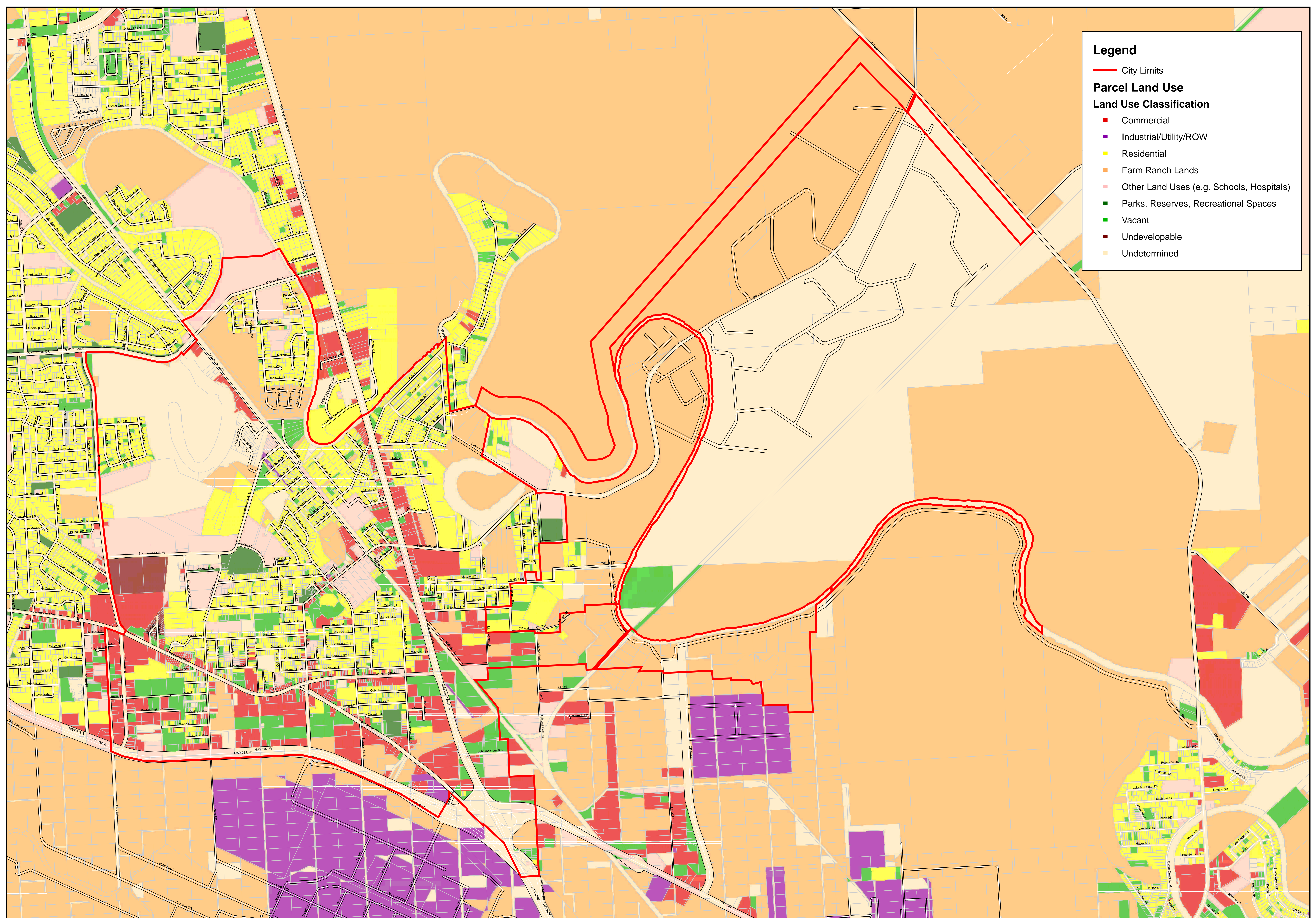
Goal 3: Promote an aesthetically pleasing, durable and safe living environment for present and future residents.

Objective 1: Institute a growth management strategy by adopting new subdivision regulations to include green space.
Timeline for completion: (2010-2011)

Objective 2: Consider adopting a land acquisition policy designed to promote conservation and eco-tourism. These sites should be areas that are not conducive to traditional residential or commercial

development. Ideal sites are those with significant historical or cultural attributes, or sites that have contributed to the identity of the county throughout the years. In addition, low-lying or flood prone areas are also ideal.

Timeline for completion: (ongoing)



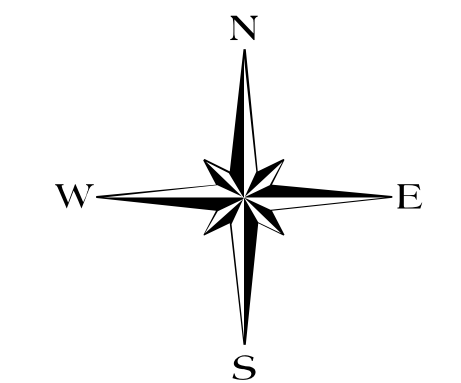
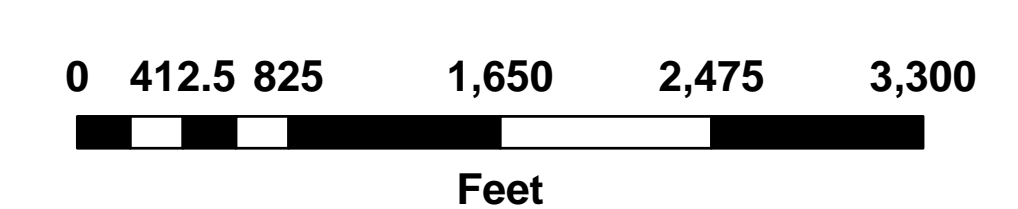
Legend

- City Limits

Parcel Land Use

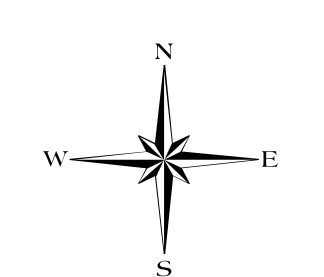
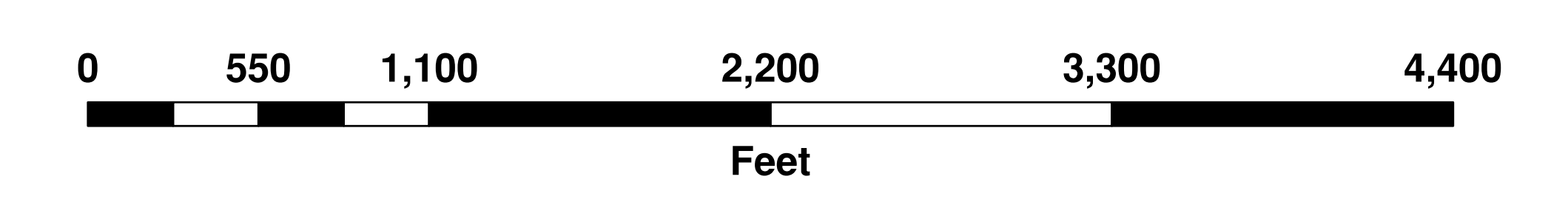
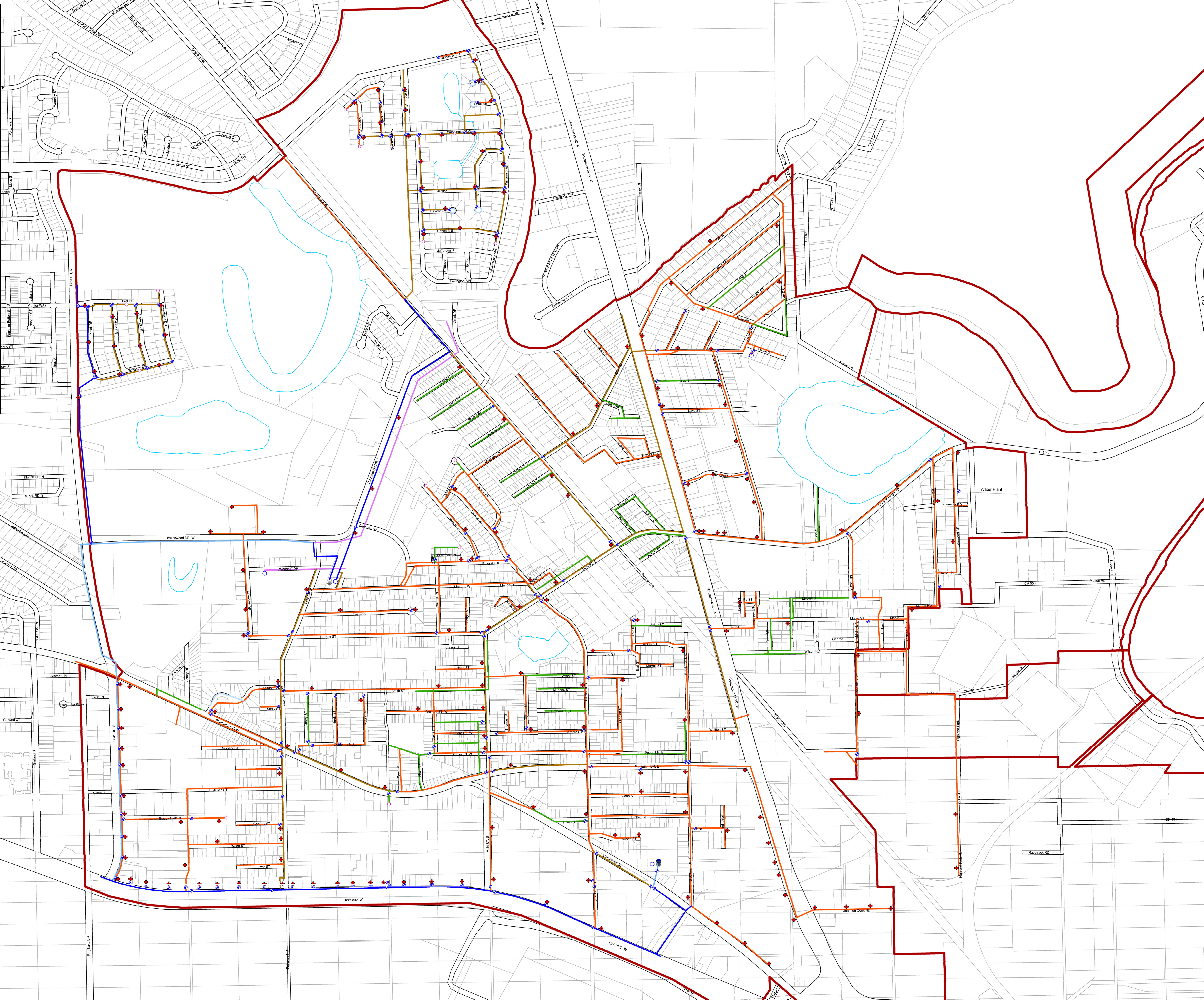
Land Use Classification

- Commercial
- Industrial/Utility/ROW
- Residential
- Farm Ranch Lands
- Other Land Uses (e.g. Schools, Hospitals)
- Parks, Reserves, Recreational Spaces
- Vacant
- Undevelopable
- Undetermined



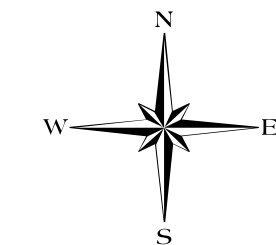
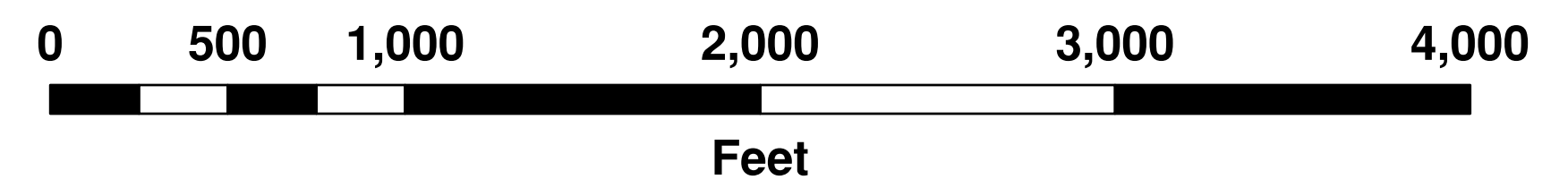
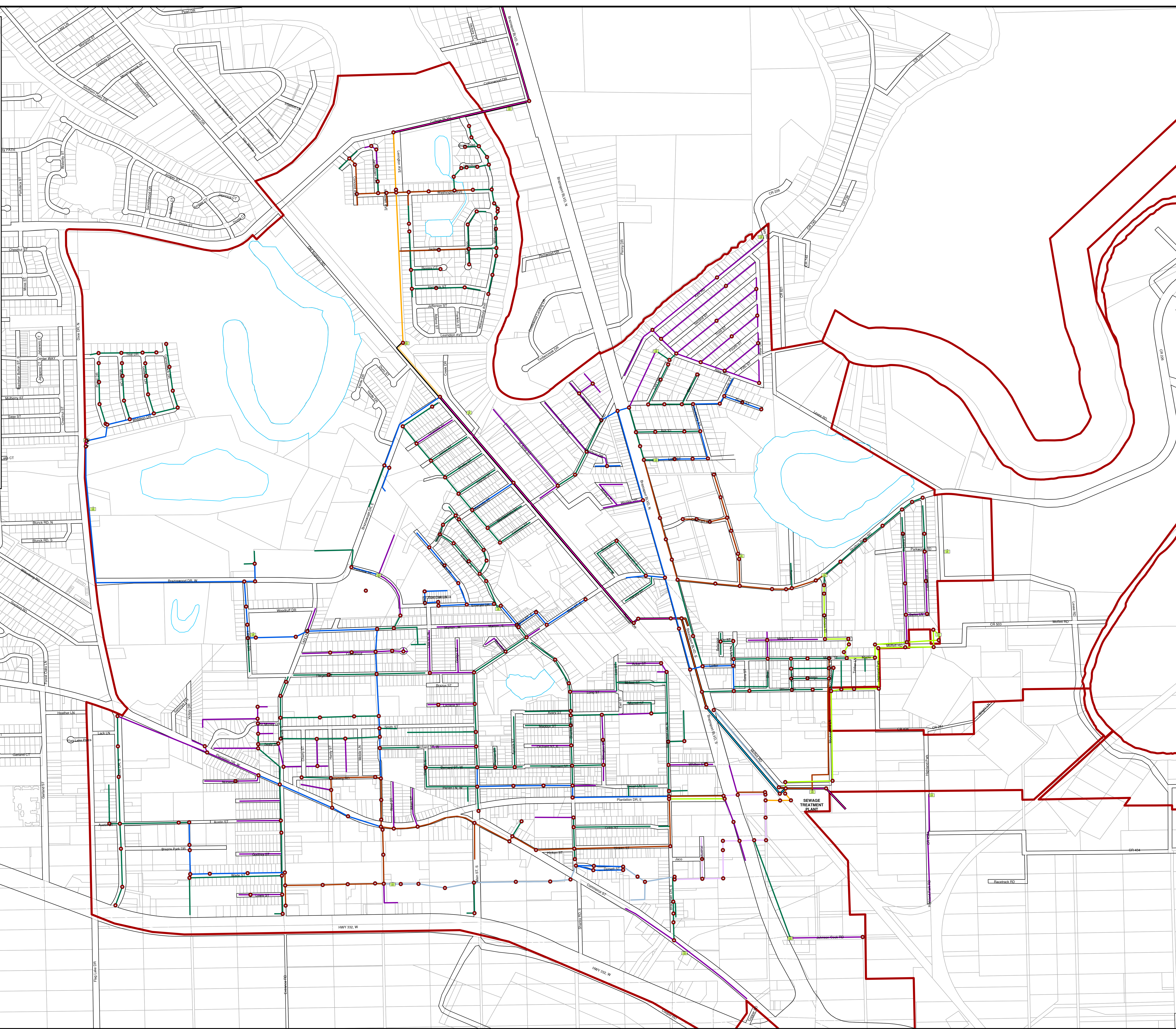
Legend - Water system

- Clute City Limits
- Well
- Elevated Storage
- Ground Storage
- Blow-off Valve
- + Valve
- + Fire Hydrant
- 2" Waterline
- 4" Waterline
- 6" Waterline
- 8" Waterline
- 10" Waterline
- 12" Waterline
- 14" Waterline
- 16" Waterline



Legend - Wastewater System

- Clute City Limits
- Manhole
- Lift Station
- 4" Sewer line
- 6" Sewer line
- 8" Sewer line
- 10" Sewer line
- 12" Sewer line
- 15" Sewer line
- 18" Sewer line
- 21" Sewer line
- 24" Sewer line
- 30" Sewer line
- 20" Force Main
- 16" Interceptor
- 36" Interceptor
- 42" Interceptor
- 48" Interceptor



CONSERVATION

CONSERVATION

INTRODUCTION

The conservation of natural resources is a very important part of any Parks and Recreation Plan. Conservation entails the wise use of natural resources, such as soils, water, plants, animals, and minerals. The natural resources of any area constitute its basic capital with wasteful use or non-use of those resources constituting an economic loss. From the aesthetic viewpoint, conservation includes also the maintenance of national parks, wilderness areas, historic sites, and wildlife. Brazoria County has suffered relatively little natural degradation and alteration from outside development. This existing environmental quality is one of the greatest heritages the county has to offer to both the people of Brazoria County and its visitors and guests. Therefore, the preservation of the existing environment should be the city's number one economic development and conservation goal. For the City of Clute, conservation and economic growth are tied together because Texas is the second most visited state in the nation. In addition, tourism is the nation's second largest service industry, employing over 14 million people with a total payroll over \$110 billion.

Natural resources are of two main types, renewable and nonrenewable. Renewable resources include wildlife and natural vegetation of all kinds. The soil itself may be considered a renewable resource, although severe damage is difficult to repair because of the slow rate of soil-forming processes. The natural drainage of waters from the watershed of a region can be maintained indefinitely by careful management of vegetation and soils, and the quality of water can be controlled through pollution control.

Non-renewable resources are those that cannot be replaced or that can be replaced only over extremely long periods of time. Such resources include the so-called fossil fuels (coal, petroleum, and natural gas) and the metallic and other ores.

Although the conservation of natural resources has been recognized as desirable by many peoples since ancient times, frequently the basic principles of sound land use have been

ignored, with disastrous results. In the United States, conservation developed gradually as the country became settled. Growing realization of the need to conserve the natural resources, which in pioneer times seemed unlimited, brought about better management. One of the first steps toward an official conservation policy was the petition to Congress in 1873 by the American Association for the Advancement of Science to halt unwise use of natural resources. Highlights in conservation history, thereafter, include the creation of the federal forest reserves (later called the national forests) in 1891; the development of the national park system, starting with Yellowstone National Park in 1872; and the establishment, in 1899, of the U.S. Soil Survey. The period of drought and soil erosion in the 1930s further stimulated conservation measures. The Soil Conservation Service was established in 1933 to aid in the management of private lands. Passage of the Taylor Grazing Act in 1934 provided for management of the remaining large areas of unappropriated public domain to halt severe abuse of these lands. With the establishment of the Natural Resources Commission in 1934, a continuing survey of natural resources was begun to recommend plans for their efficient use. Much significant legislation has been enacted since that time, and in 1970 the Environmental Protection Agency was established.

One of the basic principles of wildlife conservation involves the provision of adequate natural food and shelter to maintain populations of each species in a given habitat. A major threat facing wildlife is both the destruction of habitat, through drainage, agriculture, and urban expansion, and the fragmentation of habitat into parcels too small for wildlife populations to use. Wildlife is an important economic and recreational resource that can be maintained through careful management. Hunting regulations allow the take of many species without affecting population levels. In fact, under hunting and other factors have allowed the white-tailed deer to become a pest species in many regions, resulting in collisions with automobiles and damage to crops, forests, and suburban gardens.

Among the basic measures for soil conservation currently in use is the zoning of land by capability classes. In this system, the more level and stable soils are designated as

suitable for annual crops and other areas are designated for perennials, such as grass and legumes, or for use as grazing or forest lands.

Acquisition is a key ingredient and the first major step when designing a conservation project. It is difficult, if not impossible; to implement conservation techniques on privately held property. One of the city's goals in this plan is to seek properties that are ideal for conservation areas, and could lead to further expansion of the ecotourism industry within the region.

WETLANDS CONSERVATION

Approximately one-twelfth of the world's land surface can be classified as 'wetland'. Most wetlands lie in the tropical and subtropical regions, between 30° north of the Equator (a line passing, through Shanghai; Cairo and New Orleans), and 30° south (a line linking Brisbane, Durban and São Paulo). A large number of the world's developing countries lie within these regions, making wetlands issues very closely linked with development issues. The two types of wetlands are interior and coastal, with interior accounting for 4/5 of Texas' total acreage. The portion of wetlands that lies in Brazoria County is considered coastal.

Many different kinds of waterscape qualify as wetlands. The internationally accepted definition is deliberately broad: 'areas of marsh, fen, peat land or water, whether natural or artificial, permanent or temporary, with water that is static or flowing, fresh, brackish or salt, including areas of marine water the depth of which at low tide does not exceed six meters. Open coasts, lakes, rivers and shallow coral reefs fall within this definition, as do estuaries, tidal flats, mangrove forests, floodplains, swamps and bogs. Man-made bodies of water also qualify, not least reservoirs, aquaculture ponds, sewage treatment ponds and even rice fields. Because of this variety, deciding on the wisest use of wetlands is a very complex subject indeed.

Wetlands are havens of biodiversity, the biological supermarkets of the Earth. They fulfill a huge range of useful functions which people often take for granted. Sometimes

these values have only come to be appreciated when the wetlands have been removed. Most wetlands are home to dense and diverse populations of plants, animals, aquatic life and waterfowl. They also serve as breeding and nursery grounds for most of the fish populations of rivers, lakes and the open sea. Wetlands perform vital services in the water cycle. They filter and purify water and return it in a cleansed state to the groundwater table or to the sea⁹.

The City of Clute has an interesting array of lakes and marsh areas. Some of these lakes are natural and some are man-made. The list of lakes includes Mammoth Lake, Lake Bend, Eagle Lake, Lake Barbara and Cayer Lake. In addition, the city is home to a portion of Oyster Creek, which was discussed in detail earlier in this plan. The city has a desire to protect these wetland areas and promote the city as a destination for nature enthusiasts.

Conservation Techniques

Wetland restoration: is an essential tool in the campaign to protect, improve, and increase wetlands. Wetlands that have been filled and drained retain their characteristic soil and hydrology, allowing their natural functions to be reclaimed. Restoration is a complex process that involves renewing natural and historical wetlands that have been lost or degraded and reclaiming their functions and values as vital ecosystems. Restoring lost and degraded wetlands to their natural state is essential to ensure the health of the County's watersheds¹⁰.

Section 404 Permitting: Section 404 of the Clean Water Act (CWA) establishes a program to regulate the discharge of dredged or fills material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects. Section 404 requires a permit before dredged or fill material may be discharged into waters of the

⁹ Revaluing Wetlands Contributors: Bettina Söderbaum - author. Journal Title: OECD Observer. Volume: a. Issue: 198. Publication Year: 1996. Page Number: 48.

¹⁰ <http://www.epa.gov> 2006

United States, unless the activity is exempt from Section 404 regulation (e.g. certain farming and forestry activities)¹¹.

Watershed-based Approach: A watershed-based approach to water and wetlands protection considers the whole system, including other resource management programs that address land, air, and water, to successfully manage problems for a given aquatic resource. This approach helps the wetlands areas remain in a natural state, because pollution is monitored and controlled before it reaches sensitive areas.

WILDLIFE CONSERVATION

Introduction

Brazoria County is home to numerous endangered species and the protection of their habitats is of special concern. The list includes Bald Eagles, Swallow-tailed Kite, Black Rail, White-faced Ibis and Wood Stork.

In addition to the above listed species, a wide variety of wildlife exists in the county because of the diversity in soil types and vegetation. Important game species include ducks, geese, white-tailed deer, bobwhite quail, mourning doves and tree squirrels. Furbearing animals include bobcats, raccoon, nutria, mink, muskrat, river otter, beaver, coyote, skunk, fox and opossum.

The county also is home to many aquatic life forms. Fish, oysters, clams, crabs and shrimp exist in the brackish water marshes, creeks and shallows bays. An important commercial and sport industry is based on the harvest and sale of seafood, along with the newly discovered industry of commercial catfish farming.

¹¹ <http://www.epa.gov> 2006

The Great Texas Coastal Birding Trail

Texas was the first state in the nation to create birding and wildlife viewing trails, an idea that resulted in similar projects throughout North America. These trails provide economic incentives for landowners and communities to conserve habitats while providing recreational opportunities for the traveling public. The wildlife trails of Texas promote sustainable economic development and build public support for conservation of wildlife and habitats. Texas is one of the nation's leaders in nature tourism. In 2000, Texas Parks and Wildlife Department completed The Great Texas Coastal Birding Trail¹².

The Texas coast is replete with natural resources, particularly birds. Over 600 species of birds have been seen in Texas, more than any state in the U.S. Most of these species reside or migrate along the coast, thereby offering birders unparalleled opportunities to see an impressive variety of birds within a relatively consolidated area¹³.

Before the development of the Great Texas Coastal Birding Trail, birding destinations along the Texas coast operated independently of one another and the contribution to local economies was relatively unknown. The development of the “Trail” has consolidated the efforts of local birding pioneers and transformed a conservation activity into an economic engine for local communities that allow conservation to pay for itself. Of the top ten outdoor recreational sports in America, wildlife viewing ranks number one in terms of participants.

The Great Texas Coastal Birding Trail exists because of the cooperation between private landowners, local businesses, local governments, conservation groups and government agencies. The “Trail” attracts visitors to the region, thus infusing capital into the local economies. Brazoria County is a part of The Great Texas Coastal Birding Trail and the sites are illustrated on the “Brazoria Loop” portion of the Great Texas Coastal Birding Trail map shown below. Many tourists visit the county to view migratory birds each year

¹² <http://www.tpwd.state.tx.us> 2006

¹³ <http://www.fermatainc.com> 2006

and the impact to the city's economy is enhanced as well. The City of Clute is home to a number of the region's hotels.

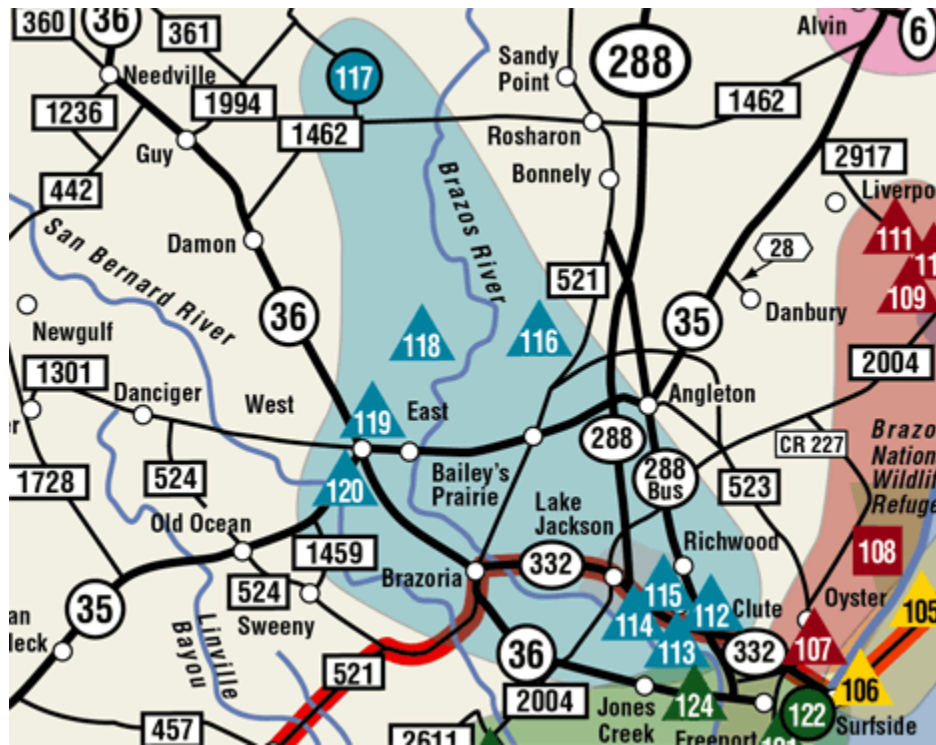


Figure 19 "Brazoria Loop" portion of the Great Texas Coastal Birding Trail

UTC 112-BRAZOSPORT NATURE CENTER AND PLANETARIUM (NCAP) NATURE TRAIL

Suggested Seasons to visit: Migrations, Winter

The Brazosport Area, consisting of the communities of Clute, Freeport, Jones Creek, Lake Jackson, and Oyster Creek, is situated along the Texas coast at the mouth of the Brazos River. The woodlands that border the river, in combination with the surrounding mosaic of coastal grasslands, marshes, swamps, beach, and open Gulf waters, attract an astounding variety and density of birds. The Freeport Christmas Bird Count (CBC), conducted in late December, has frequently led the nation in the number of species seen. The Migration Celebration, held every year in spring, offers an opportunity to visit this remarkable area with the guidance and able assistance of local experts.

UTC 113 SEA CENTER TEXAS

Suggested Seasons to visit: All Seasons

Continue west on TX 332 to Plantation Drive in Lake Jackson, then go south on Plantation Drive to Sea Center Texas. TPWD, Dow North America, and the Gulf Coast Conservation Association have developed this marine education center and aquarium. The fish hatchery at this location has the capacity to produce 20 million fingerlings annually, primarily red drum and spotted seatrout, for release into Texas coastal waters. Although the focus of Sea Center Texas is upon the marine ecosystem, two wetlands (a 3.78-acre freshwater marsh, and a 1.31-acre saltwater marsh) have been created that are attractive to waterbirds. The complex includes a boardwalk, indoor aquaria and an outdoor interpretive building.

UTC 114 DOW CENTENNIAL BOTTOMLANDS PARK

Suggested Seasons to visit: Migrations, Winter

Continue west on TX 332 to Oak Drive, then go south on Oak Drive to MacLean Park and the entrance to Dow Centennial Bottomlands Park. Dow Chemical donated this 240-acre tract to Lake Jackson to commemorate the company's 100th anniversary. The sanctuary, with its extensive bottomland forests, is dedicated as a nature sanctuary. The bottomland forests along the Brazos River (known as the Columbia Bottomlands) are one of the most important migratory vectors for landbirds in the United States. Millions of migrants pass through these woodlands each spring as they complete their trans-Gulf migratory journeys, although birders may detect only a miniscule ripple of this avian tidal wave.

UTC 115 LAKE JACKSON WILDERNESS PARK

Suggested Seasons to visit: Migrations, Winter

Continue west on TX 332 to Lake Jackson Wilderness Park (approximately 1.5 miles west of Oak Drive). An unpaved road penetrates the dense thickets and allows entry into this fascinating bottomland forest. Wood Ducks are often seen feeding on duckweed in the stagnant pools. These evergreen bottomlands remain lush throughout the winter (it rarely freezes here), and each winter a number of neotropical migrants, birds that otherwise would have continued to the tropical forests of Central and South America, stay on in these insect-rich woods.

NATURE CONSERVATION AREAS

As discussed above, the natural resources, such as soils, water, plants, animals, and minerals within the city constitute its basic capital, and wasteful use or nonuse of those resources constitutes an economic loss. It is understood that the biggest contribution the city can make to conservation in the region is by practicing good conservation techniques at its own sites, acquiring properties and by promoting conservation through educational programs.

Pin Money Park

The city owns a small portion of land known as Pin Money Park. Although this site is little more than a median along Pin Money Drive, it offers an opportunity to showcase native vegetation and local conservation practices. For instance, “Keep Clute Beautiful” and “The Grable Grasshoppers”, an Environmental Science Club of Brazoswood High School, could take turns maintaining and cultivating the site at different times of the year. The pictures below offer a view of what another city has done with natural vegetation.



Costa Verde Nature Park

Recently, the city approved a subdivision known as “Costa Verde”. Within this subdivision, a small property will be deeded to the city for public use. It is the recommendation of the planning committee to preserve that property as a nature park. The amenities would include a nature trail, bird watching towers, landscape exhibits and other passive park elements.



Kyle Road

At the end of Kyle Road, there is some vacant property for sale. It has been suggested by the planning committee that this property would make an excellent site for a “Wilderness Park” or wildlife viewing area. There are various types of animals, discussed in the land use portion of this plan, that use this area as a natural habitat. If acquired and developed, the amenities to the site would include native trails and wildlife viewing platforms.



GOALS AND OBJECTIVES

Goal 1: Enhance the recreational and economic health of the city through conservation.

Time period for meeting goal: (2010-2025)

Objectives

1. Strive to preserve natural habitats for the city's terrestrial and aquatic life.
2. Identify and purchase nature sites within the city that can be used for eco-tourism development.
 - a. Ideal sites are those with significant historical or cultural attributes, or sites that have contributed to the identity of the county throughout the years.
 - b. Consider low-lying or flood-prone areas that are not conducive to commercial or residential development.

- c. Identify funding options such as Texas Parks and Wildlife Department grant programs and the Coastal Management Program.
- d. Upon acquisition, develop these sites with limited or primitive facilities. Facilities could include primitive camping sites, park benches, low impact walking trails, birding towers, picnic tables and BBQ grills. Parking should be crushed rock or other suitable materials.

ECONOMIC DEVELOPMENT AND ECO-TOURISM

ECONOMIC DEVELOPMENT AND ECO-TOURISM

INTRODUCTION

Factors Contributing to the Present Development

Development of the economy

As mentioned earlier, Brazoria County was one of the most prosperous counties in Texas in the mid-1800s. The county became a major producer of sugarcane and was known as the “Sugar Bowl of Texas”. Eventually, the soil began to produce more cotton than sugar sometime toward the late-1800s. The soils in the region are very productive for crops and pastures. In addition, the marshes are productive rangelands and are a necessary part of the food chain for the marine ecosystem. While agriculture is still a big part of the county’s economic development, the petrochemical industry along with contributing companies makes up the bulk of the county’s current economic success. Not to be overlooked, however, is the county’s ecotourism industry. As discussed earlier, Texas is the second most visited state in the nation. In addition, tourism is the nation’s second largest service industry, employing over 14 million people with a total payroll over \$110 billion. The City of Clute is in good position to take advantage of this industry due to the location of the many hotels within the city. Although the Hotel/Motel tax receipts were down sharply from November 2008 to November 2009, there is evidence that the local economy is starting to improve.

The Economic Development Alliance for Brazoria County recently posted on its website “Brazoria County-Economic Indicators” from the Brazosport College Economic Forecasting Center. The Brazoria County Index of Leading Economic Indicators rose in December and in fact has been above the six-month moving average since June of 2009. This is significant because it indicates that the county is moving into or is in a period of economic growth.

Physical growth of the City of Clute

The City of Clute, in Brazoria County, is located along the Gulf Coast within the Houston–Sugar Land–Baytown metropolitan area. As of the 2000 U.S. Census, the city

population was 10,424. The city gained some fame with the discovery of a fossilized mammoth named Asiel. There is now a restaurant/museum of the same name to honor this discovery. In addition, the City is home to the “Great Texas Mosquito Festival”. Clute's history began at the junction of the old Calvit and Eagle Island Plantations. Alexander (Sandy) Calvit, one of Stephen F. Austin's Old Three Hundred, obtained title to the land in 1824. Calvit's plantation later became the Herndon sugar plantation, owned by John H. Herndon, who married Calvit's only daughter¹⁴.

The relationship of the county to the region

The regional economy is becoming diversified and it is moving away from natural resources and agriculture and moving toward tourism and service industries. As can be seen in Table 6, approximately 54% of the area’s commercial facilities in 2007 were in service industries such as finance, retail, health care and food services. This is typical for counties that have such cultural and historical significance for the State of Texas. Tourists are looking for places to visit and vacation on weekends and during the summer.

Table 6¹⁵
Commercial and Industrial Facilities

Type of Facility	Number (Brazoria County)	Percentage of Total	Number (Matagorda County)	Percentage of Total	Number (Galveston County)	Percentage of Total
Agriculture, Forestry, Fishing, Mining	39	0.9%	27	0.2%	30	0.6%
Retail	727	15.8%	151	19.8%	840	16.2%
Wholesale	216	4.7%	30	3.9%	219	4.3%
Manufacturing	225	4.9%	27	3.6%	162	3.1%
Services	1,407	30.6%	250	32.9%	1,840	35.5%
Construction	406	8.8%	48	6.4%	411	8.0%
Transportation and Warehousing	153	3.4%	27	3.6%	166	3.2%
Educational Services	59	1.3%	2	0.2%	63	1.2%
Health Care and Social Services	502	10.9%	65	8.5%	524	10.1%
Administration	199	4.3%	30	3.9%	224	4.3%
Utilities	17	0.4%	7	0.9%	15	0.3%
Finance, Insurance, Real Estate	570	12.4%	83	10.9%	613	11.8%
Information	69	1.5%	12	1.6%	62	1.2%
Unclassified	3	0.1%	2	0.2%	9	0.2%
TOTAL	4,592	100%	761	100%	5,178	100%

¹⁴ Wikipedia.org 2009

¹⁵ Source: United States Census Bureau, 2007 County and Zip Code Business Patterns

City of Clute Economic Development Corporation

The City of Clute collects the 4B sales tax for the purpose of economic development. These funds can be used for wide-ranging assortment of plans and projects as they relate to economic development, but are limited to the language set forth during the election and creation of the sales tax corporation. Some cities use the funds to offer loans to local business, improve infrastructure to both existing and new businesses and to fund economic development studies and market analysis. Recently, the 4B Sales Tax Corporation funded a “Demographic and Spending Analysis” prepared by GeoMarket Solutions, Inc. One of the goals of the study was to look for business segments that were not being served and to find a way to attract consumers to the businesses of Clute. The study revealed that additional gasoline stations, general merchandise and clothing stores were needed in order to meet the demands of the local community. In other words, Clute residents are buying these items elsewhere. On a positive note, the city was experiencing a surplus in food and service stores, furniture and home stores and other retailers. This indicates that people are visiting the city and that eco-tourism should be looked at as a viable instrument for the future economic development of the city.

ECO-TOURISM

A significant amount of acreage within the city is in environmentally sensitive areas. Therefore, the city must identify which areas are best suited for ecotourism development. The International Ecotourism Society defines ecotourism as "responsible travel to natural areas that conserves the environment and sustains the well-being of local people." The city's proximity to the Great Texas Coastal Birding Trail is just one example of how ecotourism can provide a supplemental revenue source. The Great Texas Coastal Birding Trail serves as the attraction and the “tourists” spend their vacation dollars in the city's hotels and restaurants. With this in mind, the planning committee has identified some activities and sites that could serve as attractions for the city.

Wharton Family Cemetery at Eagle Island Plantation

A report in 1984 by Johnney T. Pollan, Jr. indicated that the Brazosport Archaeological Society had located the early Wharton Family Cemetery at Eagle Island Plantation. The cemetery was used from the late 1830s to the early 1860s. At least three men, William H. Wharton, John A. Wharton and Dr. Branch T. Archer were buried at the site. These men contributed greatly to the formation of the Republic of Texas. The current site, the post-Civil War Wharton cemetery is located within the boundaries of the Restwood Memorial Park. A Texas State Historical Marker was erected at the site of the post-Civil War Wharton Cemetery in 1936.



Figure 20 Texas State Historical Marker



Figure 21 Texas State Historical Marker

It is the intention of the planning committee to bring notice to the pre Civil War cemetery as well. This site is located just north of Eagle Lake and the post-Civil War cemetery. The planning committee believes that there may be an opportunity to preserve this site and open it up for tourism. This of course would need to be coordinated with Restwood Memorial Park. The proposed entrance would be along Brazoswood Drive. There is room along Brazoswood Drive for limited parking. The idea is to list the site along with others at the Clute Visitors Bureau for a city tour of interesting sites. The facilities would include a walking trail and the parking. Great care would be taken in preserving any burial sites before and trail construction would begin.

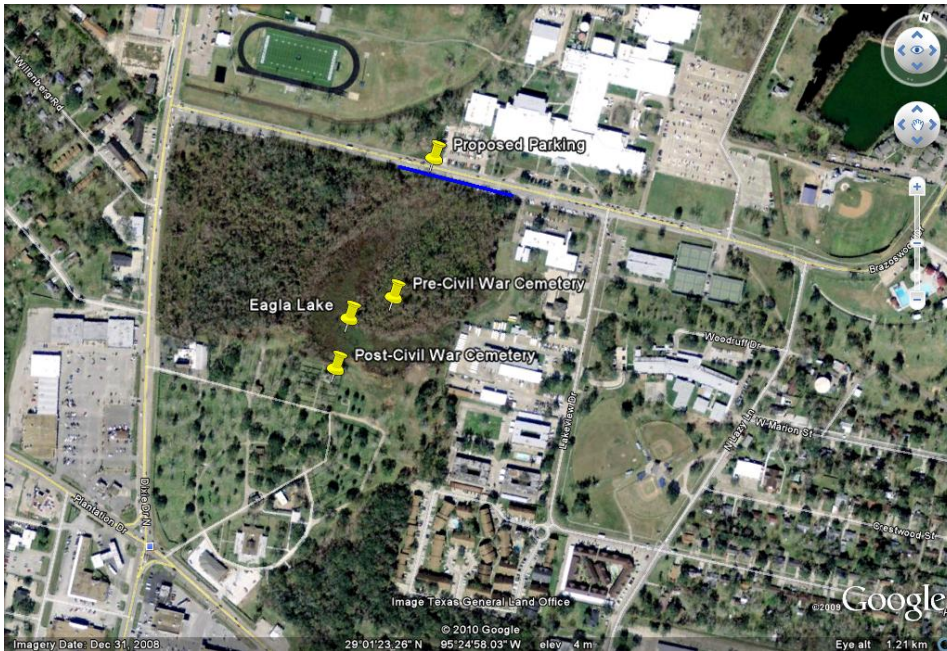


Figure 22 Proposed Improvements for the Pre-Civil War Cemetery @ Eagle Island Plantation

Clute Wilderness Park

As mentioned earlier, at the end of Kyle Road there is some vacant property for sale. It has been suggested by the planning committee that this property would make an excellent site for a “Wilderness Park” or wildlife viewing area. There are various types of animals, discussed in the land use portion of this plan, that use this area as a natural habitat. If acquired and developed, the amenities to the site would include native trails and wildlife viewing platforms. This site would make a nice addition to the city tour, along with Costa Verde Nature Park and the other parks in the city.

Mammoth Lake and other Lakes of Clute

Mammoth Lake began its life as a bend in an ancient river. As animals fell into the river, their bodies were swept to this area and deposited. Mammoth Lake was mined for its sand and clay deposits as early as the 1950's. In 2003, an excavator operator named Joe unearthed the remains of an early inhabitant of this area, a Colombian Mammoth. Shortly thereafter, the remains of another Mammoth, along with bison, camels, three toed sloths, and others including a saber toothed tiger were found. The name, Mammoth Lake, was born! As the sand played out, the decision was made to turn this large 55 acre pit into the largest scuba specific park in the U.S. Planning meetings were held, and the

public became aware of it in 2006. In October 2006, Hydrosports Scuba moved to the shores of Mammoth Lake. The pumps removing water from the pit were turned off on December 29, 2006 and Mammoth Lake began filling. At present the deepest part of the lake sits around 61'.¹⁶ In addition to Mammoth Lake the City of Clute has an interesting array of lakes and marsh areas. Some of these lakes are natural and some are man-made. The list of lakes includes Lake Bend, Eagle Lake, Lake Barbara and Cayer Lake. Although many of these sites are currently in the hands of private ownership, the city has a desire to protect these wetland areas and promote the city as a destination for nature enthusiasts.

The Clute Visitor's Bureau

The purpose of this department is to promote the city as a destination for travel and tourism. This office and the Parks and Recreation Department are currently sharing space and will continue to share space when a new office is built. Among the attractions that the Bureau promotes is the Center for the Arts and Sciences. The Center for the Arts and Sciences is home to a multitude of local cultural, archeological and scientific originations including the Brazosport Art League, the Brazosport Museum of Natural Science, the Brazosport Planetarium, and Brazosport Center Stages. The Center, built for the cultural enrichment of Southern Brazoria County, offers a wealth of educational and artistic opportunities. The Museum includes collections of shells, a life-size dinosaur replica, and exhibits of wildlife, rocks, minerals, archeology & fossils¹⁷.

¹⁶ http://www.divethemammoth.com/History_of_the_lake.html

¹⁷ <http://www.goclute.com/>

PLAN

Goal 1: Enhance the city's current eco-tourism attractions

Objective 1: Consider improvements to the pre-Civil War Cemetery at Eagle Island Plantation.

Objective 2: Consider purchasing the site on Kyle Road and creating a "Wilderness Park".

Objective 3: Consider utilizing the park at Costa Verde as a "Nature Park".

Goal 2: Promote the City of Clute as a base of ecotourism in Brazoria County.

Objective 1: Continue to utilize the Clute Visitor's Bureau as a tourism information headquarters in the city. In addition to the information currently available, consider offering guided tours around the city to include the areas listed above and the immediate region.

Objective 2: Consider the acquisition of properties in the surrounding area for future use. One of the most important assets the city has is its natural resources, including land. Some potential sites have been outlined above and in other areas of this plan.

Objective 3: Consider the recommendations from the "Demographic and Spending Analysis" prepared by GeoMarket Solutions, Inc.