2.2 Land

This section describes the land characteristics of the STP 3 & 4 site and vicinity, transmission corridors and offsite areas, and the region. More detailed information can also be found in Section 2.5.

2.2.1 The Site and Vicinity

2.2.1.1 The Site

The STP site is located in rural Matagorda County, Texas, approximately 12 miles southwest of the city limits of Bay City, Texas, and 10 miles north of Matagorda Bay.

The STP site comprises approximately 12,220 acres. The existing plant facilities were sited to enable functional and safe operation of a nuclear power plant compatible with the environment of the surrounding site and community. The location of the STP site with respect to the Colorado River, nearby roads and highways, and communities and cities in the vicinity is shown in Figures 2.1-1 and 2.1-3. Figure 2.1-2 shows the 50-mile region including the Matagorda Bay.

Major road access to the plant is from Farm-to-Market road (FM) 521 and FM 1468. FM 1468 intersects FM 521 approximately 350 feet west of the main plant entrance (Figure 2.1 1).

The co-owners of STP own the land comprising the site except for the rights of way for the public roads (FM 521, County Road 392 extending south from FM 521 and adjacent to the western boundary of the site, and County Road 360, branching off the northeast corner of FM 521 as it loops around the site for meteorological tower access). The eastern property boundary is defined as the 1973 western bank of the Colorado River. Figure 2.2-1 shows the location of the STP site boundary. The Exclusion Area Boundary (EAB) is completely within the site property (Figure 2.2-1).

The co-owners of STP also own ~~most~~ or control all of the mineral interests within the site boundary and have the power to acquire such outstanding mineral interests in the subsurface estate as may be required for operation of the facility. The co-owners control the surface minerals and any drilling used to recover minerals. However, the co-owners of STP have agreed to not exercise their right to use any area within the EAB for explorations or recovery of minerals, or convey or lease mineral rights to any third party without proper approval of STP Nuclear Operating Company. There are ~~no~~ mineral resources (e.g., sand and gravel, coal, oil, natural gas, and ores) adjacent to (within the 6-mile vicinity) and ~~or~~ within the site boundary presently being exploited or of known commercial value. According to the Railroad Commission (RRC) of Texas, there are two petroleum wells within the site property that have been plugged and abandoned and there are seven petroleum wells within the 6-mile vicinity. There are 26 gas wells and nine oil/gas wells within the 6-mile vicinity (Reference 2.2-1).

There are no domestic residences within the site boundary; however, the STP Visitor Center is located inside the Nuclear Training Facility (NTF), which is inside the Owner-Controlled Area (site boundary) and the EAB but outside the security perimeter.

The centerline of the Unit 1 reactor is located at 28°47'42" N latitude and 96°02'53" W longitude, under the Universal Transverse Mercator (UTM) grid. The centerline of the Unit 2 reactor is located at 28°47'42" N latitude and 96°03'00" W longitude under the UTM grid. STP 1 & 2 are located at the north end of the Main Cooling Reservoir (MCR).

The current EAB is an oval-shaped area, having a minimum boundary distance from the center of each containment building for STP 1 & 2 of 4692 feet. The center of the EAB "oval" is a point 305 feet directly west of the center of the Unit 2 Reactor Containment Building. There are no public roads, railroads, or waterways within the EAB. The closest approach of FM 521 to the EAB is approximately 249 feet. A railroad spur (Figure 2.1-3), approximately nine miles in length, serves the plant and heads north away from the STP site to a commercial rail service. Only railroad cars consigned to STP are brought into the site on this spur. A barge slip (Figure 2.2-1) is located southeast, approximately 3.5 miles from the main plant on the Colorado River. The barge slip provides for water conveyance of heavy components to the plant.

No official land management plan has been developed for STP; however, STPNOC conducts an unofficial internal land management program with an emphasis on forestry and wildlife. In general, the program dedicates undeveloped areas of the site to natural wetlands and existing man-made wetland communities. This unofficial land management program also considers the necessity of plant security, project management, construction, and power generation. The unofficial internal land management program went into effect in 1995 and is periodically updated.

The 12,220-acre STP site includes land developed for industrial use, farmland, and undeveloped natural and man-made wetlands. The existing plant and plant facilities, including the NTF, operations area, support facilities, and transmission right-of-ways occupy approximately 65 acres, while the MCR makes up an additional 7000 acres. Another approximate 1700 acres remain as natural lowland habitat. The remaining portion of the STP site is undeveloped land, some of which, located to the east of the MCR, is leased for cattle grazing.

Approximately 90% of the STP site, excluding the MCR, is considered prime farmland. Figure 2.2-1 and Tables 2.2-1 and 2.2-2 illustrate the National Oceanic and Atmospheric Administration (NOAA) land use classifications, which are based on the U.S. Geological Survey's land use categories, within the STP site. This data has been supplemented with site-specific land use information to change the land area classification occupied by the MCR from agricultural land to water. Land use data has not been altered to include wetland areas delineated by STPNOC or its contractors.

Of the approximately 12,220 acres within the STP property (Table 2.2-1), approximately 57.5% comprises water (Essential Cooling Pond and Main Cooling Reservoir), 9.6% is bottomland, 0.3% is construction spoil area for Units 1 and 2, 2.5% is existing facilities, 1.1% is forested or forested/mixed pastureland, 4.4% is leased agricultural lands, 3.8% is maintained and disturbed areas, 12.0% is mixed grass or scrub shrub communities, 1.3% is wetlands and 6.2% represents other uses (reservoir

levee systems). ~~33.1% agricultural land, 8.8% forest land, with the remaining land use (0.7%) classified as rangeland.~~

The area surrounding the STP site is characterized by coastal plain with farmland and pasture predominating. The topography of the area is characterized by fairly flat land, approximately 23 feet above mean sea level (MSL). The plant facilities are located at an elevation of approximately 28 feet above MSL. The Colorado River, which flows to the Gulf of Mexico, forms the eastern boundary of the site and provides water for the 7000-acre MCR. An embankment fully surrounds the MCR, and baffle dikes direct water flow. The west branch of the Colorado River, as well as several sloughs, flow through the STP site. One slough feeds the 34 acre Kelly Lake located in the northeast corner of the site (Reference ~~2.2-1~~2.2-2).

Natural and man-made wetlands are located throughout the site. A 110-acre wetland habitat area was established in 1996 on previously unused land located northeast of STP 1 & 2 (Reference ~~2.2-1~~2.2-2). ~~, and an additional approximate 3.9 acres of non-jurisdictional natural and man-made wetlands are located throughout the STP site. The non-jurisdictional wetland areas (a total of 12) were delineated in a site-specific survey conducted in December 2006 and February 2007. All of the wetlands were identified as palustrine emergent or scrub-shrub wetlands (Reference 2.2-2). These areas, although designated as wetlands by STPNOC for land management purposes, are not classified as such in the NOAA database, which is the source of the land use data analyzed in this section.~~ STPNOC requested that the U.S. Army Corps of Engineers (USACE) issue a Jurisdictional Determination as to the presence and extent of any streams or wetlands within a 1406.5 acre portion of the STP site which would be considered jurisdictional under the provisions Clean Water Act. These 1406.5 acres were considered the only likely areas within the site which could be affected by construction of Units 3 & 4. Several wetlands had already been identified by STPNOC as a result of studies performed at the site for this Environmental Report (Reference 2.2-3). On May 14, 2009, the USACE issued a Preliminary Jurisdictional Determination citing 29 wetlands totaling 17.6 acres and five drainage ditches with a combined reach of 24,639 linear feet would fall within the jurisdiction of the Clean Water Act. Thus, authorization from the USACE would be required for the discharge of fill material into any of the identified waters. Additional information of wetlands within the STP site can be found in Section 2.4.

The STP property is located almost entirely within the Texas Coastal Management Program Coastal Management Zone (Figure 2.2-1). NOAA approved the Texas Coastal Management Program in 1996 to promote the development of uniform goals and policies to guide decision-making by all entities regulating or managing natural resource use within the Texas coastal area (Reference ~~2.2-3~~2.2-4 and ~~2.2-4~~2.2-5). The Coastal Zone Management Act Federal consistency certification was submitted to the Texas Coastal Coordination Council in April, 2008. The Coastal Coordination Council subsequently reviewed the project, found that there were no unavoidable adverse impacts, and made the determination that the project was consistent with the goals and policies of the Texas Coastal Management Program. ~~will be submitted during the licensing process.~~

Small portions of the STP site, along the east side of the site, are within the 100-year and 500-year flood plain areas (Reference ~~2.2-5~~2.2-6). A spillway is located at the southeast corner of the MCR to release flood waters resulting from direct rainfall accumulation in the MCR (Reference ~~2.2-1~~2.2-2).

2.2.1.2 The Vicinity

For the purposes of this Environmental Report, the vicinity is defined as the area within a six mile radius of STP. The STP site and its immediate environs fall within the Coastal Prairie, a broad band parallel to the Texas Gulf Coast. The topography of the area is characterized by fairly flat land with an average elevation of 20 feet to 30 feet above MSL (Reference ~~2.2-6~~2.2-7). There are no egress limitations from the area surrounding the site.

The east side of the Colorado River flows within six miles of STP and is bordered by primarily rural undeveloped land with few homes and small seasonal vacation communities. Figure 2.2-2 and Tables 2.2-1 and 2.2-2 identify land use classifications in the vicinity of STP. The closest incorporated communities are Bay City and Palacios, Texas. Both are outside the six-mile radius. The nearest full-time residence is to the west-southwest approximately 12,600 feet from the STP 1 & 2 reactors (Reference ~~2.2-1~~2.2-2).

The immediate area (within three miles) surrounding the STP site is a lacustrine system (a nontidal wetland comprised of bogs, marshes, and swamps) with an unconsolidated bottom that is artificially flooded. The area outward from the STP site becomes more of a palustrine system of nontidal wetlands dominated by trees and shrubs where salinity is below 0.5% in tidal areas (Reference 2.2-5). The area to the east-northeast of STP is farmland used to grow hay, maize, soybeans, and cotton and ranchland used to graze cattle and calves.

Recreational areas within six miles of the STP site include the Lower Colorado River Authority (LCRA) Park (FM 521 River Park).The LCRA FM 521 River Park is a small park that can be used by several hundred people at a time for picnics and barbeques.

Of the approximately 72,100 acres within the six-mile radius of the site (Figure 2.2-2, and ~~Tables 2.2-1 and~~Table 2.2-2), approximately 67.7% comprise agricultural land, 14.8% is forest land, 10.7% is water, 3.8% rangeland, with the remaining land use classified as wetland, barren land or urban or built-up (at 0.9%, 0.4%, and 1.8%, respectively). Within a five-mile radius of the site, bottomland comprises 19% and upland comprises 81%. The bottomland includes 52% cleared land and 48% wooded area, most of which, with the exception of the two small developments (Selkirk Island and Exotic Isle), is classified as agricultural. The upland consists of 91% cleared agricultural lands, 8% woodlands, and 1% industrial (Reference ~~2.2-1~~2.2-2).

For this report, Bay City Census County Division (CCD) is considered to be the nearest population center, as defined in 10 CFR 100.3 (population of about 25,000). (A CCD is a subdivision of a county that is a relatively permanent statistical area established cooperatively by the Census Bureau and state and local government authorities. It is used for presenting decennial census statistics in those states that do not have well-

defined and stable minor civil divisions that serve as local governments.) Bay City CCD contains Bay City and Van Vleck and is located approximately 12 miles north-northeast of STP (see Figure 2.2-4). The Bay City CCD had a 2000 population of 24,238 (Reference ~~2.2-7~~2.2-8). A more recent population estimate is not available for the CCD. There are no schools within six miles of the STP; however, there are three schools within ten miles (see Subsection 2.5.2.8). There are no hospitals or prisons located within six miles of the site (Reference ~~2.2-8~~2.2-9).

There are two offsite industrial facilities located within six miles of the STP site as noted on Figure 2.2-2. The OXEA Corporation facility (previously owned by Celanese Ltd., Inc., Reference ~~2.2-9~~2.2-10) is the largest facility located in the region and is approximately five miles northeast of STP (Reference ~~2.2-8~~2.2-9). The second offsite industrial facility within the vicinity is a public wharf located at the Port of Bay City, 4.8 miles to the north-northeast. The wharf is used for temporary storage and transport (by barge and tanker) of petroleum crude oil and condensate. The terminal is used by Gulfstream Terminal and Marketing, LLC and by GulfMark Energy, Inc. as a facility for unloading petroleum products such as gasoline and diesel fuel from barges traveling in on the Colorado River.

One additional offsite industrial facility is located just outside of the six-mile vicinity radius. The Equistar Chemicals, LP owns and operates a high-density polyethylene plastic resin manufacturing plant, located approximately seven miles east of the STP site (Reference ~~2.2-10~~2.2-11).

2.2.2 Transmission Corridors and Offsite Areas

The existing transmission corridors for STP 1 & 2 are described in Subsection 2.2.2.1 because the additional power provided by STP 3 & 4 would be transmitted over the existing circuits in these corridors. Termination points and counties traversed are presented in Subsection 2.2.2.1. Some modifications to the transmission system would be required, but neither new corridors nor expansion of existing corridors would be required to support the new units. Other offsite areas required to construct or operate the new units are identified in this section.

2.2.2.1 Existing Corridors

The four transmission service providers for STP are: CenterPoint Energy, AEP Texas Central Company, the City of Austin, and the City Public Service Board of San Antonio. The 345kV switchyard at STP currently has nine 345kV transmission circuits that connect it to the utility grid (the Offsite Electrical System) (Reference 2.2-11 and 2.2-12). These nine circuits occupy three corridors, identified here as the Eastern, Western, and Northwestern (or Middle) corridors. The corridors originate at the STP site in Matagorda County and run to the termination points identified below and summarized in Table 2.2-3. The corridor locations are shown on Figure 2.2-3. There are no land use restrictions in the easements for any of these corridors.

2.2.2.1.1 Eastern Corridor

STP to Velasco - This corridor is 100 feet wide, 45 miles long, and contains two 345kV circuits to Velasco Substation (Reference ~~2.2-11~~2.2-12), south of Houston in Brazoria

County. Most of this corridor falls within the Coastal Management Zone along the Gulf of Mexico.

2.2.2.1.2 Western Corridor

STP to Blessing - The corridor to Blessing heads west from STP for approximately eight miles then takes a turn to the north for another approximate seven miles, and terminates at Blessing Substation (Matagorda County). The corridor to Blessing is 100 feet wide.

2.2.2.1.3 Northwestern (Middle) Corridor

The remaining six 345kV circuits originate at STP and run to the Hillje Substation in a northwestern direction. Two circuits terminate at the Hillje Substation while the remaining four continue on. The Hillje Substation is located in the southwestern corner of Wharton County, just across the border from Matagorda County. The corridor is 400 feet wide and 20 miles long and terminates at the Hillje Substation. From there, four separate corridors extend to the W.A. Parish, Holman, Elm Creek, and White Point substations. These four corridors range from 100 to 150 feet in width. The portions of the corridors from Hillje to the termination points are described below:

- Hillje to W.A. Parish Substation - The original circuit from STP to W.A. Parish was constructed to transmit power from STP 1 & 2. Two additional 345kV lines to W. A. Parish were recently completed as part of the Hillje Project (Reference ~~2.2-12~~2.2-13). The three circuits are carried on two separate structures within the original corridor, which traverses Wharton County before terminating in Fort Bend County, approximately 20 miles from Houston. The corridor between Hillje and W.A. Parish is 50 miles long.

- Hillje to Holman - This 70-mile long corridor from Hillje terminates at the Holman Substation, which is connected to the City of Austin service area via additional transmission lines. The corridor traverses Wharton and Colorado counties before terminating in Fayette County.

- Hillje to Elm Creek Substations - This corridor runs approximately 135 miles from the Hillje Substation toward San Antonio to the west. The two circuits in this corridor terminate at the Elm Creek substation near the San Antonio service area. From Hillje, the corridor crosses portions of the counties of Wharton, Jackson, Lavaca, Victoria,De-Witt, Gonzales, Karnes, and Wilson, and terminates in Guadalupe County.

- Hillje to White Point - From Hillje, this corridor runs 113 miles southwest to the White Point Substation serving the Corpus Christi area. The corridor traverses Jackson, Victoria, Calhoun, Refugio, and San Patricio counties before terminating in the northern portion of Nueces County.

In total, the corridors carrying circuits from STP extend a distance of approximately 438 miles and occupy approximately 6264 acres of land. The land use along the transmission corridors is presented in Table 2.2-4.

2.2.2.2 Requirement for Additional Corridors or Offsite Areas

The Electric Reliability Council of Texas has completed a screening study that evaluated the existing transmission system to transmit power with the added generation capacity of STP 3 & 4. The results of the study indicate that no new transmission lines would be required to support the new units; thus, it is not expected that additional corridors or expansion of the existing corridors would be required.

STPNOC would construct a new Emergency Operations Facility (EOF) located in Bay City at 4000 Avenue F, where the new offices for STP 3 & 4 would be located. Other than the new EOF, no new areas off the existing STP property would be required for construction or operation of the new STP 3 & 4. STPNOC has indicated that offsite staging or assembly areas will not be required during the construction phase.

2.2.3 The Region

For the purposes of this ER, the region is defined as the area within a 50 mile radius of STP, but excluding the "site and vicinity" discussed in Subsection 2.2.1. All, or parts, of nine Texas counties are located within the 50-mile radius of STP: Brazoria, Calhoun, Colorado, Fort Bend, Jackson, Lavaca, Matagorda, Victoria, and Wharton. Figure 2.1-2 shows the 50-mile radius bounded by a portion of Lavaca, Jackson, Victoria, Calhoun, Colorado, Wharton, Fort Bend, and Brazoria counties and the Gulf of Mexico. Major land use classifications, waterways, and major highways in the region are shown on Figure 2.2-4. Table 2.2-5 lists the breakdown of land use categories and areas within the 50 mile radius. Additional information on land use can be found in Section 2.5.

The region encompasses over 3,118,700 acres within the 50-mile radius of the site. Land use categories (Figure 2.2-4 and Table 2.2-5) in the region consist of 61.1% agricultural, 18.3% forest, 10.2% rangeland, 5.3% wetland, 2.5% urban or built-up, 2.0% water, and 0.6% barren land.

Highway 59, located in Wharton County, is the nearest major roadway approximately 35 miles north of the STP facility. FM 1468 intersects with FM 521 north of the STP 1 & 2 reactors and runs in a north-south direction. FM 521 runs along the northern boundary of the STP site heading east-west. FM 1095 runs north-south, approximately four miles west of the STP property. Highway 60 is a north-south route, approximately seven miles east of the STP property. Three of the FM roadways (FM 521, 1095, and 1468) come within six miles of the STP site boundary. Other primary routes in the region include Highway 35, located north of the STP, which ties Bay City to Palacios and Port Lavaca on the west and Lake Jackson and Hwy 288 on the east; Highway 288 from Houston and Lake Jackson; and Highway 87 from Victoria to Port Lavaca. Additional major transportation infrastructure within the region is discussed in Subsection 2.5.2.2 and shown in Figures 2.5-4 and 2.5-5.

Of the current STP employees, 83% reside within two counties: Matagorda (60.7%) and Brazoria (22.4%). The remaining employees (17%) reside across at least 19 other Texas counties (see Section 2.5). Most anticipated land use changes in the region will be due to either increases in tax revenues in Matagorda County associated with the

new units at STP or population changes in Matagorda and Brazoria Counties where the greatest numbers of construction and operations employees are expected to reside. Therefore, Matagorda and Brazoria Counties are the focus of this section.

Bay City and Palacios (Figure 2.1-2), both incorporated communities in Matagorda County, provide residences for the majority of STP employees. Bay City is the Matagorda County seat.

2.2.3.1 Matagorda County

Matagorda County is in the Coastal Prairie region of Texas, bounded on the north by Wharton County, on the east by Brazoria County and the Gulf of Mexico, on the west by Calhoun and Jackson counties, and on the south by the Gulf of Mexico and Tres Palacios, Matagorda, and East Matagorda bays (Reference ~~2.2-13~~2.2-14, Figure 2.1-2). The county has extensive natural resources, productively used as cropland, pasture and rangeland, and marshes. These areas provide habitat and wetlands to support waterfowl and marine animals and provide area visitors and residents protected wildlife habitats (i.e., the Big Boggy National Wildlife Refuge and the Mad Island Wildlife Management Area), recreational hunting, fishing, and water sport attractions (References ~~2.2-13~~2.2-14 and ~~2.2-14~~2.2-15, Figure 2.1-9). Additional information on Matagorda County land use and recreation can be found in Subsections 2.5.2.4 and 2.5.2.5. Primary access routes in Matagorda include State Highways 35, 71, 111, and 60 (Figure 2.5-4).

Matagorda County has a total area of 1612 square miles of which a portion of the Matagorda Bay makes up 261 square miles of water area within the county. The elevation increases across the county from the southeast to the northwest, with the elevation rising from sea level at the Gulf of Mexico to over 70 feet at points along the Wharton County line (Reference ~~2.2-14~~2.2-15).

In 2002, there were 991 farms totaling approximately 619,142 acres in Matagorda County (Reference 2.2-15, Table 2.2-6). The 2002 numbers reflect a rise from 768 farms in 1997 and 738 farms in 1992. In 2002, 70% of Matagorda County consisted of farms and ranches with an average size of 625 acres, of which, 22% was harvested. The 2002 numbers reflected a fall in the average size of farms from 717 acres in 1997 and 762 acres in 1992 (Reference ~~2.2-15~~2.2-16).

In 2002, 71% of the farmland in Matagorda County was used for livestock ranching, 22% of the land was harvested cropland, and 7% was irrigated cropland (Reference ~~2.2-15~~2.2-16). The chief agricultural products of Matagorda County are livestock, sorghum for grain, corn for grain, rice, cotton and all hay. The chief agricultural crops have not changed since the 1992 Census of Agriculture Summary. The average yields of agricultural products from 1992 to 2002 in Matagorda County were:

- 34,069 head of livestock
- 2,628,721 bushels of sorghum for grain
- 349,718 bushels of corn for grain

- 1,790,956 cwt (hundredweight or 100 pounds) of rice
- 30,013 bales of cotton
- All-hay more than doubled from an average in 1992 and 1997 of 21,874 tons dried to 43,944 tons dried in the 2002 agricultural census (Reference 2.2-15, Table 2.2-7).

2.2.3.2 Brazoria County

Brazoria County is located in the Houston-Baytown-Sugar Land statistical metropolitan area and is bordered on the east by Galveston County, the northeast by Harris County, the northwest by Fort Bend County, the west by Matagorda County and the south-southeast by the Gulf of Mexico. The Brazos River divides the county into two sections: hardwoods cover the western one-third, and the rest is generally prairie land. The county seat of Brazoria County is Angleton, located near the center of the county and accessible by major roadways including State Highways 35, 36, and 288 (Figures 2.5-4). Railroad service from the coastal areas inland is provided by Union Pacific and Burlington Northern Santa Fe (Figures 2.5-4 and 2.5 5). Pearland, the largest city in Brazoria County, is located approximately 30 miles north-northeast of Angleton (Figure 2.1-2). Brazoria County offers water sports, fishing, hunting, and other recreation along the Brazos River, the Gulf of Mexico and various state parks and wildlife management areas (i.e., Varner-Hogg Plantation State Historical Park) (Reference ~~2.2-13~~2.2-14). Additional information on Brazoria County land use and recreation can be found in Subsections 2.5.2.4 and 2.5.2.5.

The total area of Brazoria County is 1597 square miles. In 2002, the county had 2455 farms and ranches covering 613,891 acres, an increase from 1783 farms covering 566,809 acres in 1997 and 1489 farms covering 563,993 acres in 1992 (Table 2.2-6). Of the farms in Brazoria County, 60% were devoted to pasture, 37% contained crops, and 3% are irrigated croplands (Reference 2.2-15). Cattle, hay, rice, sorghum for grain, corn and cotton are the primary crops. Over 19,271,000 board feet of pinewood and over 3,680,000 board feet of hardwood were harvested in the county in 2003 (Reference ~~2.2-13~~2.2-14). Since 1992, there has been a steady increase of cattle ranches and sorghum farms, while the amount of corn for grain and cotton crop farms has remained relatively unchanged. Rice production has been steadily declining from 109 farms in 1992, 57 farms in 1997, and 42 farms in 2002. The average yields of the primary agricultural products in Brazoria County from 1992 to 2002 were 37,858 head of livestock, 377,443 bushels of corn for grain, 1,287,100 cwt of rice, 7192 bales of cotton, 52,338 tons of dried all-hay, and sorghum for grain, which has steadily increased over the past ten years from 473,399 bushels in 1992, and 851,716 bushels in 1997 to 1,235,564 bushels in 2002 (Reference ~~2.2-15~~2.2-16, Table 2.2-7).

2.2.4 References

2.2-1 Railroad Commission of Texas. 2007. Wells.

2.2-2 ~~1~~ "2005 Annual Environmental Operating Report, South Texas Project Electric Generating Station," April 2005.

2.2-3 ~~2~~ "Ecological Survey Report - Unit 3 and 4 Licensing Project, South Texas Project Electric Generating Station," ENSR 2007, March 2007.

2.2-4 ~~3~~ Texas Coastal Management Program 2007. Available at http://www.glo.state.tx.us/coastal/maps/cmp/index.html, accessed April 11, 2007.

2.2-5 ~~4~~ "U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA), Ocean and Coastal Management in Texas," NOAA 2007. Available at http://coastalmanagement.noaa.gov/mystate/tx.html, accessed April 11, 2007.

2.2-6 ~~5~~ EDR (Environmental Data Resources Inc.) Database Search Report, Palacios, Texas, 2006.

2.2-7 ~~6~~ United States Department of Interior, Geological Survey. Palacios NE, Texas and Blessings SE Quadrangles, 1995.

2.2-8 ~~7~~ USCB (U.S. Census Bureau) 2000. Matagorda County, Texas - County Subdivision and Place. GCT-PH1. Population, Housing Units, Area, and Density: 2000. Available at http://www.factfinder.census.gov, accessed February 23, 2007.

2.2-9 ~~8~~ "Evacuation Time Estimates for the South Texas Project Electric Generating Station Plume Exposure Pathway Emergency Planning Zone," Earthtech 1994. Prepared for Houston Lighting and Power Company, December 1994.

2.2-10 ~~9~~ "Celanese Completes Sale of Oxo Products and Derivatives Businesses," Celanese Corporation 2007. Press release issued by Celanese Corporation on February 28, 2007. Available at http://www.celanese.com/mr_news_fullpage?id=33707, accessed April 9, 2007.

2.2-11 ~~10~~ Lyondell Chemical Company. Equistar Chemicals, LP Matagorda Plant. Available at: http://www.lyondell.com/html/lyondell/locations, accessed February 27, 2007.

2.2-12 ~~11~~ "STP Updated Final Safety Analysis Report, Revision 13," May 1, 2006.

2.2-13 ~~12~~ CenterPoint Energy (CenterPoint Energy Houston Electric, LLC) 2005. Application of CenterPoint Energy Houston Electric, LLC for a Proposed 345-kV Transmission Line within Fort Bend, Wharton, Matagorda And Brazoria Counties, Docket No. 31591. Submitted to the Public Utilities Commission of Texas, Austin, Texas.

2.2-14 13 "The Handbook of Texas Online," TSHA (Texas State Historical Association) 2007. Available at www.tsha.utexas.edu, accessed February 10, 2007.

2.2-15 14 USDA/NRCS (United States Department of Agriculture and Natural Resources Conservation Service) 2001. Soil Survey of Matagorda County, Texas.

2.2-16 15 "U.S. Census of Agriculture," NASS (National Agriculture Statistics Service) 1992. 1997, 2002, Available at http://www.nass.usda.gov, accessed February 26, 2007.

~~2.2-16 Environmental Systems Research Institute, Inc. (ESRI) 2006. Geographic information system software (Version 9.1) and data, ESRI, Redlands, California.~~

Table 2.2-1 ~~Land Use as Percent (%) within the Site and Six Mile Vicinity~~

~~Land Use Category~~	~~Site[1]~~	~~Six Mile Vicinity[1]~~
~~Agricultural Land~~	~~33.1%~~	~~67.7%~~
~~Forest Land~~	~~8.8%~~	~~14.8%~~
~~Water~~	~~57.5%~~	~~10.7%~~
~~Wetland~~	~~–~~	~~0.9%~~
~~Rangeland~~	~~0.7%~~	~~3.8%~~
~~Barren Land~~	~~–~~	~~0.4%~~
~~Urban~~	~~–~~	~~1.8%~~

[1] ~~Note—sums may not equal 100% due to rounding~~

Table 2.2-1 Land Use within the Site

Land Use Category	Acres	Percent
Bottomland	1,176	9.6
Units 1 and 2 Construction Spoil Area	41	0.3
Essential Cooling Pond (ECP)	46	0.4
Existing Facilities	300	2.5
Forested Communities	53	0.4
Forested/Mixed Pastureland	91	0.7
Leased Agricultural Lands	536	4.4
Main Cooling Reservoir	7,000	57.3
Maintained and Disturbed Areas	468	3.8
Mixed Grass Communities	486	4.0
Scrub Shrub Communities	976	8.0
Wetlands	155	1.3
Other – Reservoir Levee Systems	759	6.2
Dredge Materials Disposal Area	133	1.1
Total	12,220	100.0

[1] Note—Sums may not equal 100% due to rounding

Table 2.2-2 Land Use within the ~~Site and~~ Six-Mile Vicinity

Land Use Category	~~STP Site~~ Acres	~~Six-Mile Vicinity Acres~~Percent
Agricultural Land	~~4080~~48,404	~~48,791~~67.1%
Forest Land	~~1084~~10,668	~~10,668~~14.8%
Water	~~7096~~7,700	~~7700~~10.7%
Wetland	~~-~~678	~~678~~0.9%
Rangeland/Grassland/Bottomland	~~81~~2,736	~~2736~~3.8%
Barren Land	~~-~~262	~~262~~0.4%
Urban or Built-up	~~-~~1,657	~~1270~~2.3%
Total	72,105	100%

Table 2.2-3 STP Transmission Corridors

Corridor	Service Area	Approximate Length (miles)	Circuits
Eastern			
STP to Velasco	Houston	45	345 kV (2 circuits)
Western			
STP to Blessing	Southeastern Texas	15	345 kV
Northwestern (Middle)			
STP to W.A. Parish	Houston	70	345 kV
STP to Hillje	Austin and Houston	20	345 kV (2 circuits)
STP to Elm Creek	San Antonio	155	345 kV (2 circuits)
STP to White Point	Corpus Christi	133	345 kV

Table 2.2-4 Major Land Use Along Existing STP Transmission Corridors

Corridor	Land Use Categories[1]				
	Industrial	Agricultural	Rangeland	Forest	Wetland
STP to Velasco					
Percent	0.6	33.3	36	27.8	1.3
Area (acres)	3	177	191	147	7
STP to Blessing					
Percent	-	89.1	4.7	5.4	-
Area (acres)	-	143	8	9	-
STP to W.A. Parish					
Percent	0.8	84.4	3.0	11.7	-
Area (acres)	8	875	31	121	-
STP to Hilllje					
Percent	0.48	87.21	10.32	1.34	0.64
Area (acres)	3.3	602.80	71.33	9.3	4.43
STP to Elm Creek					
Percent	0.19	73.54	12.82	13.15	0.25
Area (acres)	3.3	1295.42	225.89	231.64	4.47
STP to White Point					
Percent	2.4	46.2	30.3	15.1	5.3
Area (acres)	50	974	638	318	112

[1] Other categories in smaller percentages that are not presented are water and barren land.

Table 2.2-5 Land Use within the 50-Mile Region

Land Use Category	Percent (%)[1]	Acres
Agricultural Land	61.1%	1,905,694
Forest Land	18.3%	571,859
Water	2.0%	63,021
Wetland	5.3%	164,835
Rangeland	10.2%	316,547
Barren Land	0.6%	20,075
Urban or Built-Up	2.5%	76,722

[1] Note- sums may not equal 100% due to rounding

Table 2.2-6 Farms and Ranches in Matagorda and Brazoria Counties

	Matagorda County			Brazoria County		
Item	**1992**	**1997**	**2002**	**1992**	**1997**	**2002**
Approximate County area (Square Mile)	1612	1612	1612	1597	1597	1597
Land in Farms (acres)	562,612	550,642	619,142	563,993	566,809	613,891
Number of Farms	738	768	991	1489	1783	2455
Average Size Farm (acres)	762	717	625	379	318	250
Harvested Land (acres)	122,282	126,253	135,809	80,820	75,952	84,348

Reference 2.2-13 and 2.2-15.

Table 2.2-7 1992-2002 Average Yields of the Primary Agricultural Products Matagorda and Brazoria Counties

Item	Matagorda County	Brazoria County
Head of Livestock		
1992	29,603	37,126
1997	31,414	33,787
2002	41,191	42,661
Average	34,069	37,858
Bushels of corn for grain		
1992	457,229	359,973
1997	172,033	100,199
2002	419,892	672,158
Average	349,718	377,443
Rice (cwt)		
1992	2,143,463	1,713,898
1997	1,456,601	1,134,188
2002	1,772,805	1,013,213
Average	1,790,956	1,287,100
Bales of cotton		
1992	18,980	4982
1997	28,151	6447
2002	42,907	10,146
Average	30,013	7192
Dried all-hay (tons)		
1992	21,950	43,419
1997	21,797	44,552
2002	43,944	69,044
Average	29,230	52,338
Bushels of sorghum for grain		
1992	2,448,157	473,399
1997	2,645,205	851,716
2002	2,792,801	1,235,564
Average	2,628,721	853,560

(Reference 2.2-15)

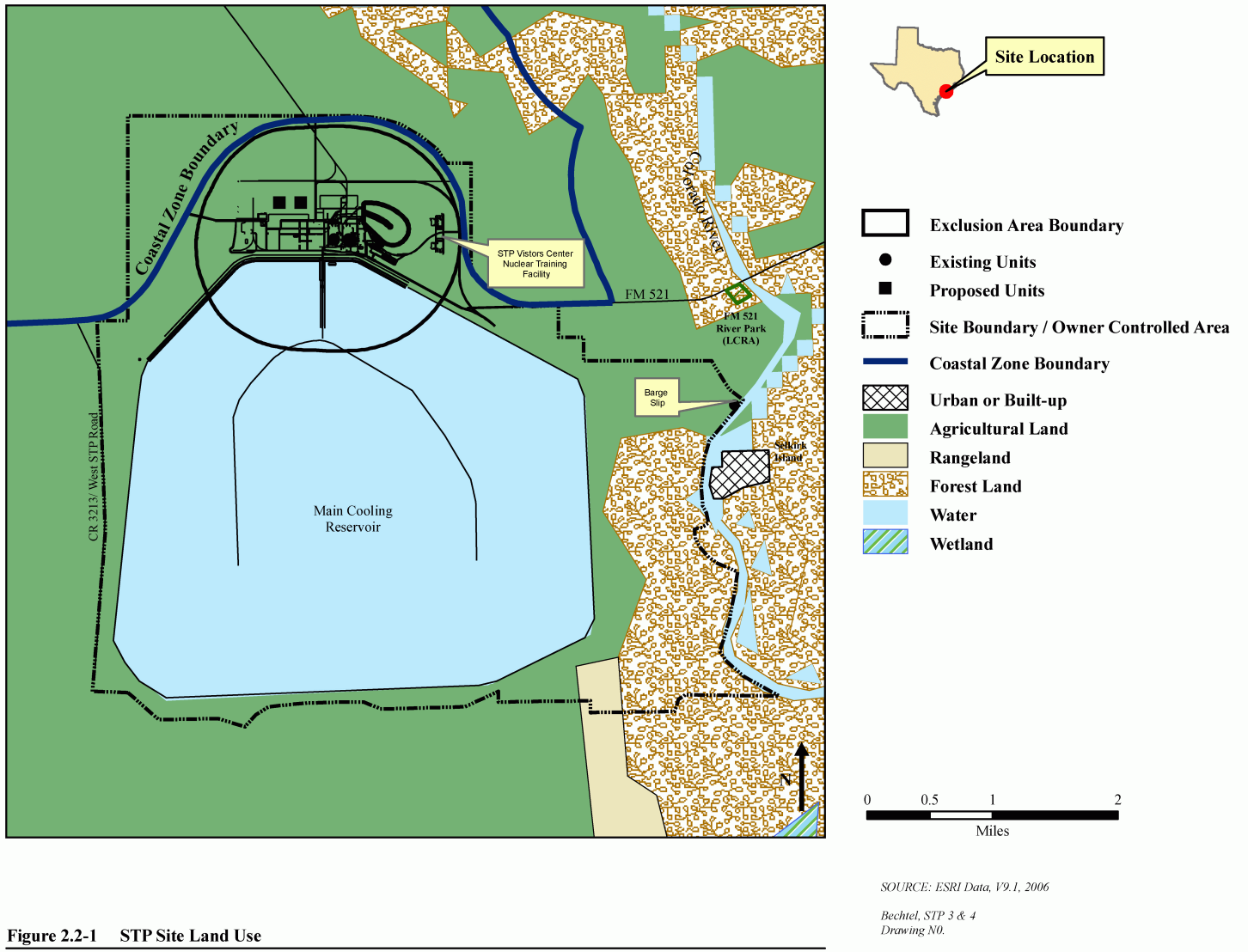

Figure 2.2-1 STP Site Land Use

Figure 2.2-1 Land Use Classifications at STP Site

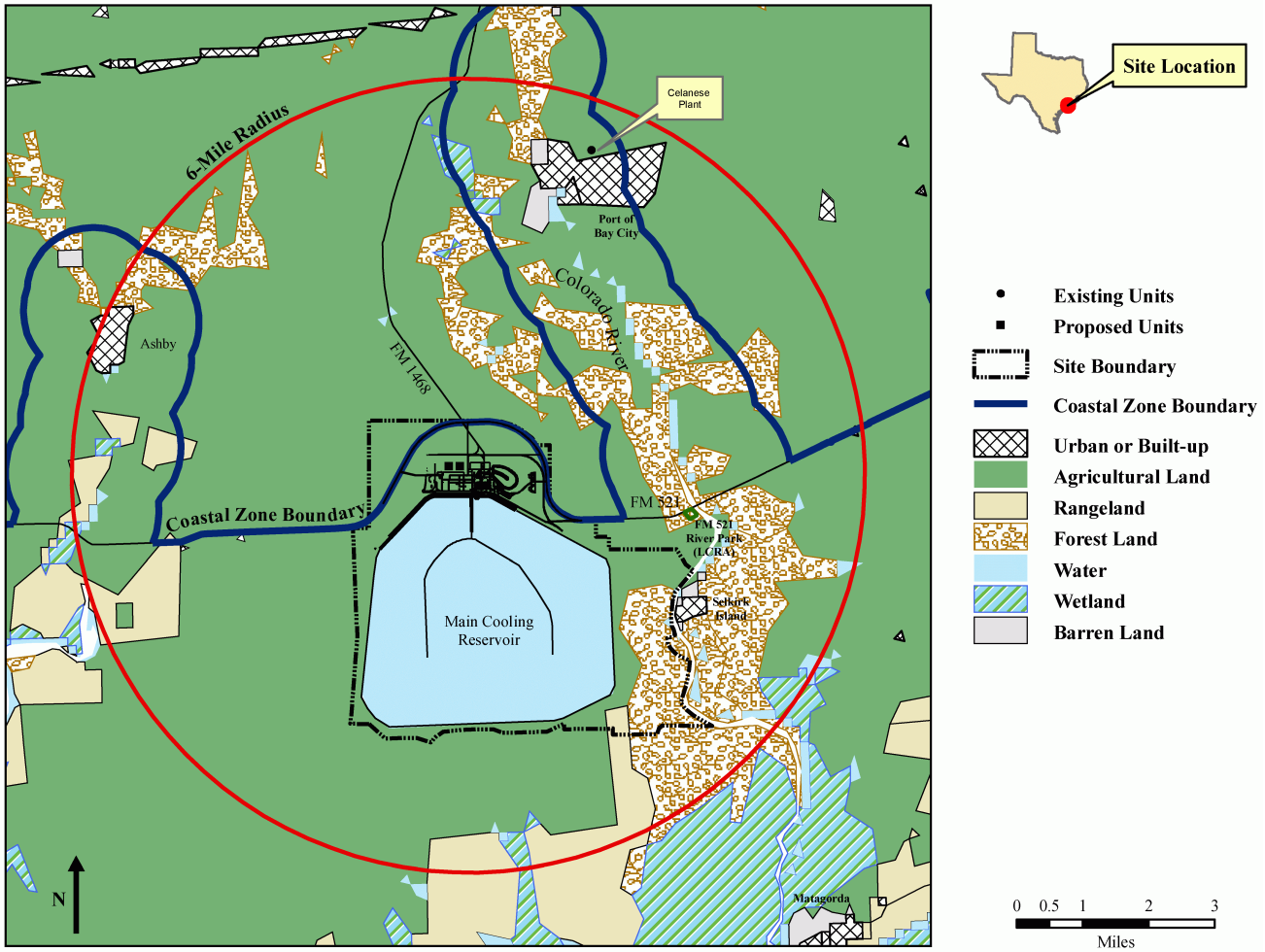

Figure 2.2-2 6-Mile Land Use

Figure 2.2-2 Land Use Classifications in the Vicinity of the STP Site

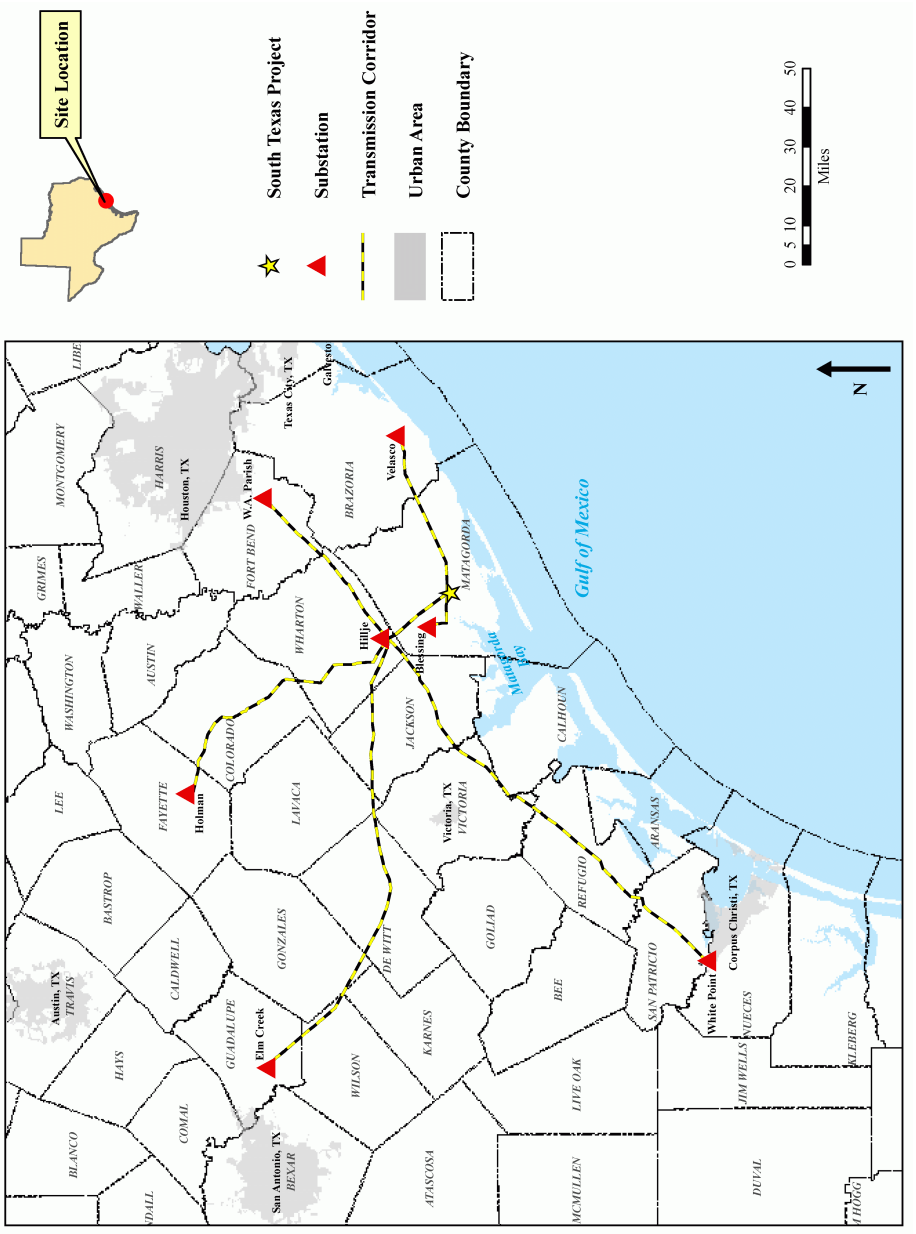

Figure 2.2-3 STP Rights-of-Way

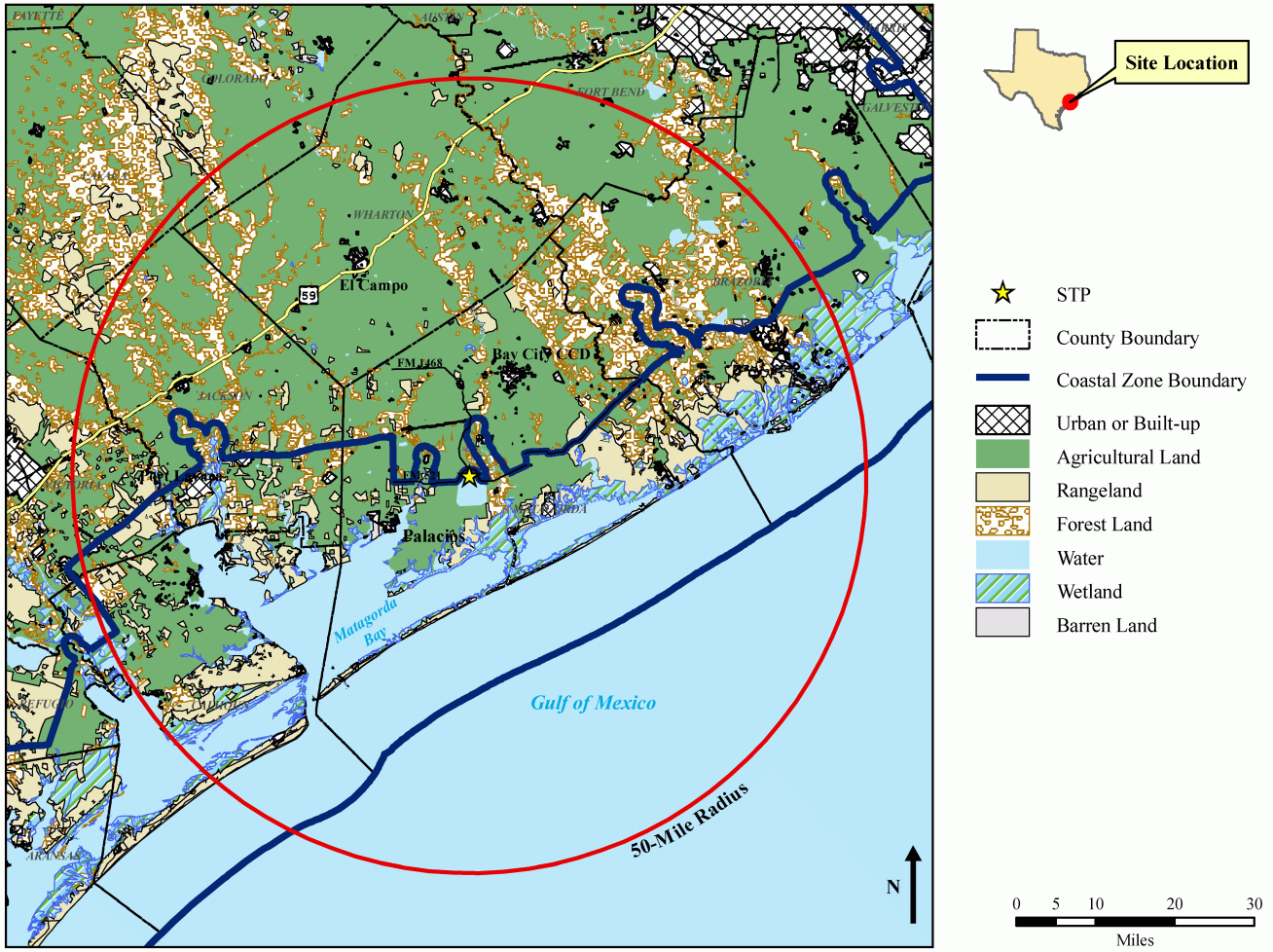

Figure 2.2-4 50-Mile Land Use

Figure 2.2-4 Land Use Classifications in STP 50-Mile Region