



TAMPA ELECTRIC

April 8, 2011

ECT No. 070040-0100

Mr. Mike Halpin, Director
Division of Air Resource Management
Florida Department of Environmental Protection
3900 Commonwealth Blvd. MS 48
Tallahassee, Florida 32399-3000

Via FedEx
Airbill No. 7969 5704 8541

**Re: Tampa Electric Company
Site Certification Application (SCA) (No. 92-32)
Polk Power Station, Polk Unit 6
Polk County, Florida**

Dear Mr. Halpin:

Tampa Electric Company (TEC) is pleased to file this request for SCA modification for the proposed construction and operation of Polk Power Station Reclaimed Water Pipeline at the existing Polk Power Station (PPS) in Polk County, Florida. The Polk Power Station Reclaimed Water Pipeline will consist of a 15 mile pipeline running from the City of Lakeland's waste water treatment wetland system, located north of State Road 60 and east of Mulberry to Tampa Electric's PPS site. TEC will utilize the City of Lakeland's excess secondary treated wastewater and reduce its need for groundwater from the Southern Water Use Caution Area as well as (SWUCA) and also reduce nutrient loading to the Alafia River.

Enclosed are the original and four hard copies plus CD's of the Polk Power Station SCA modification. Enclosed is a check for the application modification fee of \$30,000.

Tampa Electric looks forward to working with you and the Department during this certification proceeding. If you have any questions regarding this SCA or the Polk Unit 6 Project, please contact me at 813/228-4558 or David Lukeic at 813/228-1095.

Sincerely,

Paul L. Carpinone
Director
Environmental, Health & Safety

EHS/ich/DML173

Enclosure

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**POLK POWER STATION RECLAIMED WATER PIPELINE
SCA MODIFICATION — CHAPTER 9.0
DISTRIBUTION LIST**

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Polk Power Station Reclaimed Water Pipeline

Request for SCA Modification—Chapter 9.0



Prepared by:

ECT

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ECT No. 100244-0100

TECO
TAMPA ELECTRIC

April 2011

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9.0 RECLAIMED WATER PIPELINE CORRIDOR

Tampa Electric Company (TEC) certified the Polk Power Station (PPS) in 1994 through Florida's Electrical Power Plant Siting Act (PPSA), Case

No. PA92-32. TEC is planning for future expansion of the current power generation facility and, as a result, will need additional cooling water for the facility located south of Mulberry in Polk County (see Figure 9.0.0-1). TEC has been a key member of a unique partnership, the Regional Reclaimed Water Partnership Initiative, also comprised of the Southwest Florida Water Management District (SWFWMD) and the city of Lakeland. The purpose of the partnership is to provide water resource benefits to each participant by using an under-utilized water source to its maximum benefit. In this case, the city of Lakeland has excess secondary treated wastewater (reclaimed water), which can be used by TEC to reduce their need for groundwater from the Southern Water Use Caution Area (SWUCA) and also reduce nutrient loading to the Alafia River.

To utilize the 5.2 million gallons per day (MGD) of available reclaimed wastewater, TEC will need to construct a pipeline from the Lakeland wastewater treatment wetland system, located north of State Road (SR) 60 and east of Mulberry (see Figure 9.0.0-2), to TEC's PPS site. The plans are to transfer the water via underground pipeline from the wetland treatment area to the PPS. The pipeline is expected to be of varying diameter from 20 to 30 inches. Ancillary facilities will include intake and pump structures at the wetland treatment system site.

No such pipeline facility was certified in the original PPSA application or a recent modification approved in 2009 to the PPS site; therefore, this directly associated linear facility represents a modification under the Florida Department of Environmental Protection's (FDEP's) siting rules (Section 62-17.211, Florida Administrative Code [F.A.C.]). TEC is using FDEP's Application Instruction Guide: Electrical Power Plant Sites and Associated Facilities found as FDEP Form 62-16.900. This modification application follows

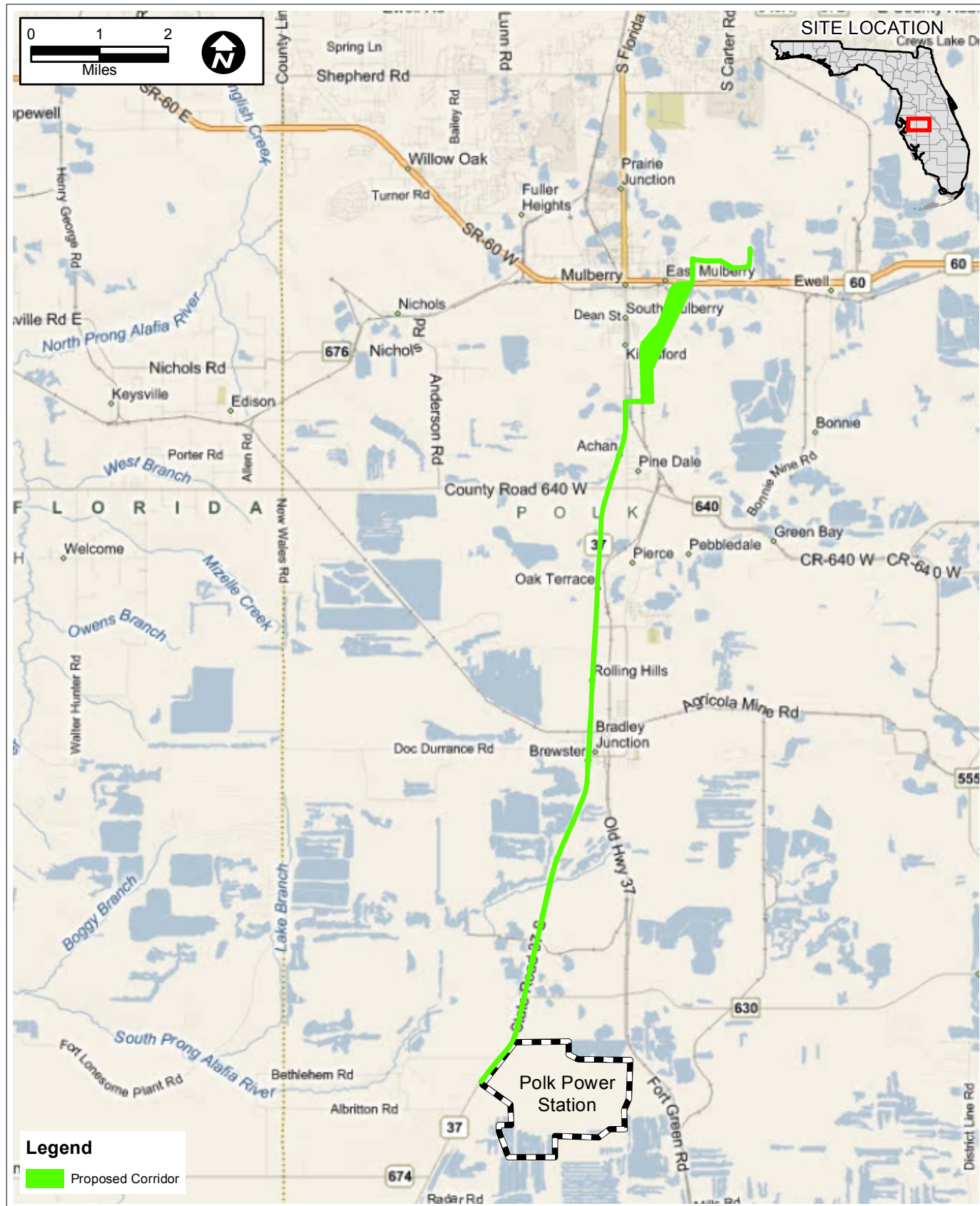


FIGURE 9.0.0-1.
PROJECT LOCATION

Sources: ESRI, 2010; ECT, 2010.



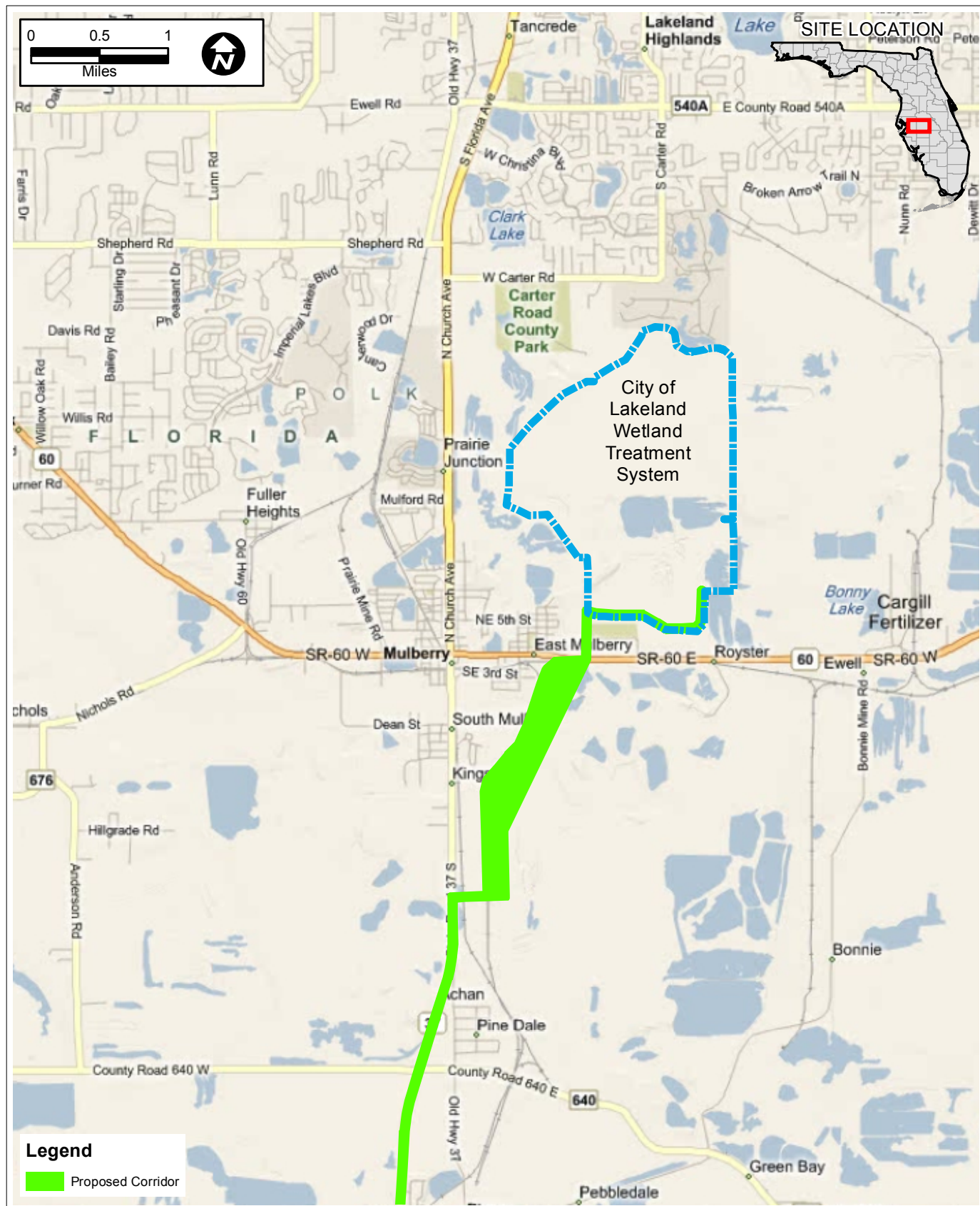


FIGURE 9.0.0-2.
CITY OF LAKELAND WETLANDS

Sources: ESRI, 2010; ECT, 2010.



the format of Chapter 9.0 of that instruction guide, which addresses electrical transmission lines and other associated linear facilities such as the one proposed.

The need for the project and this modification is based on the requirement for additional and sustainable water makeup for cooling purposes for the planned future expansion of the PPS. Specifically the project will:

- Promote maximum beneficial reuse of Lakeland's wastewater effluent, which is currently being discharged to the Alafia River.
- Help meet SWFWMD's priorities of reducing groundwater withdrawals in the SWUCA and provide a framework for future beneficial reuse of reclaimed wastewater in the SWUCA.
- Provide TEC an alternative water supply source that will minimize future groundwater withdrawals for their planned electrical generation expansion, which, in turn, will provide additional reliable electricity to the region.

9.1 MAPS

Maps are referenced and included in the text as appropriate. The exception is the required map series (aerial photographs, land use, zoning, and vegetation/land cover; Figures 9.1.0-1 through 9.1.0-4, respectively), which are included at the end of this application due to the large number of pages.

9.2 PROJECT DESCRIPTION

TEC is undertaking a preliminary engineering and piloting study for an approximately \$67-million project to develop a reclaimed water source from a wetland treatment system for use at the PPS. SWFWMD facilitated an agreement between the city of Lakeland and TEC for the city to provide at least 5 MGD of water from its wetland treatment facility to the PPS facility through a 15-mile-long pipeline. The project was conceived as a method to offset permitted reductions in groundwater withdrawals from the PPS wells, eliminate the loss of Lakeland water through a National Pollutant Discharge Elimination System (NPDES) discharge, and maintain cooling water reservoir quantity and quality. The project will be 50 percent co-funded by SWFWMD as part of their Reclaimed Water Initiative, which seeks to encourage alternative water sources while reducing groundwater pumping.

Currently, hydraulic calculations dictate a pipeline diameter of 20 to 30 inches will be required to provide initial and long-term capacity. Pumping will likely be accomplished through a single pump station located at the Lakeland facility. The use of variable frequency drives on the pumps will enable flows to be adjusted to meet both demand at the PPS treatment facility and future flow conditions. At the present time, it is anticipated that a single pump station, to be located at the Lakeland wetlands, will be required to adequately provide the required flows over the entire length of pipe, although that determination will require further analysis during the design phase of the project.

Right-of-way requirements will be small with regard to the width utilized for installation and operation of the pipeline. The majority of the proposed pipeline alignment is along a portion of public right-of-way that is approximately 150 feet (ft) wide. The actual trench width will be approximately 1 to 2 ft wider than the pipeline diameter. In areas where the pipeline is not along public rights-of-way and specific rights-of-way need to be acquired, it should be approximately 20 ft wide to accommodate the pipe, installation, and future maintenance. Figures 9.2.0-1 and 9.2.0-2 depict the typical cross-sections of the pipe installation.

TEC estimates an average flow volume of 5 to 6 MGD will be pumped from the wetland treatment system near Mulberry to the PPS via underground pipe. It is currently anticipated that the pipe will be 20 inches in diameter from the treatment system wetlands south to approximately SR 640. From there south to PPS, the diameter is expected to increase to 30 inches. The final flows and pipe sizes will be designed after certification of a corridor and selection of a right-of-way.

At the wetland treatment system, TEC will also build a pump station that will occupy an approximately 40- by 40-ft area. The pump facilities will be housed and will connect the intake features to the outgoing pipeline to PPS. Figure 9.2.0-3 depicts the typical plan view of the pumping facilities, and Figure 9.2.0-4 depicts the typical profile view of the pump house facilities. A small parking area will accompany the pump house site and the

SAWCUT

PAVEMENT ZONE

6"

RESTORE SURFACE TO ORIGINAL CONDITION

FINISHED GRADE

STREET ZONE

24"

PIPE ZONE

12"

6"

PIPE BASE

12" MAX TYP.

56"

NATIVE EARTH BACKFILL 95% RELATIVE COMPACTION

PLASTIC METALLIC DETECTION TAPE

HDPE PIPE - 30" DR 13.5

GRANULAR MATERIAL 95% RELATIVE COMPACTION

SHAPE TRENCH BOTTOM TO PROVIDE UNIFORM SUPPORT

BELL HOLE

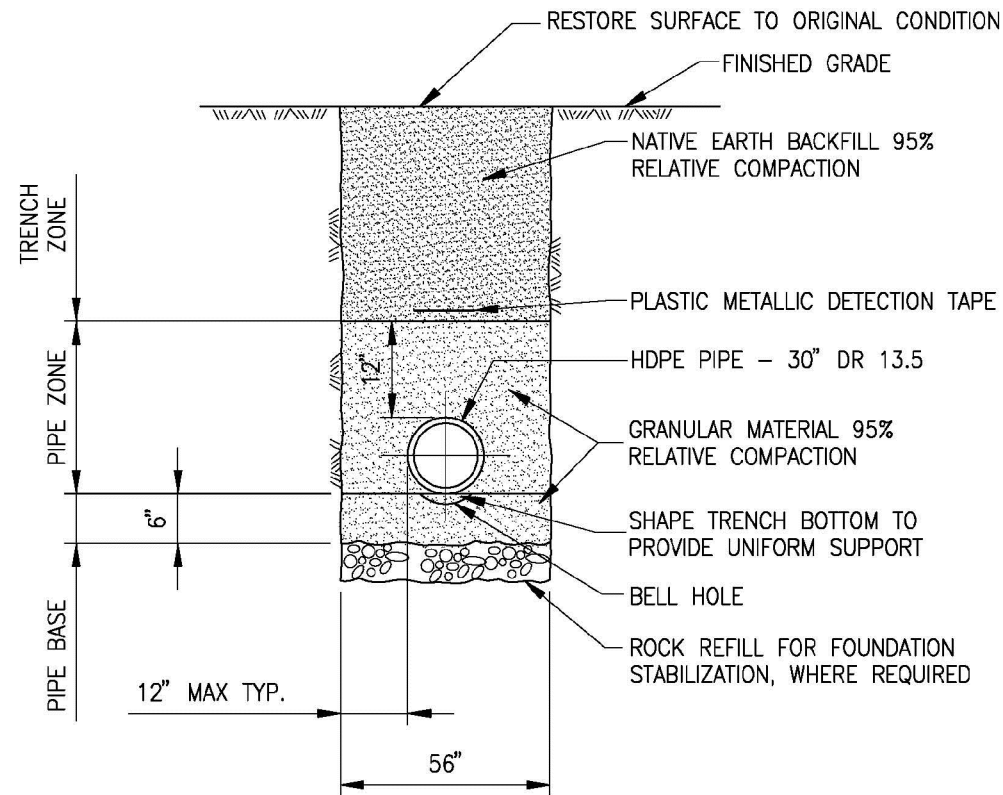
ROCK REFILL FOR FOUNDATION STABILIZATION, WHERE REQUIRED

1. TRENCH WALL SHOWN VERTICAL FOR CLARITY,
EXCAVATE PER OSHA/STATE REQUIREMENTS.

Source: AECOM, 2010; ECT, 2010.



TYPICAL OPEN CUT TRENCH DETAIL - UNPAVED AREAS



NOTE:

1. TRENCH WALL SHOWN VERTICAL FOR CLARITY, EXCAVATE PER OSHA/STATE REQUIREMENTS.

FIGURE 9.2.0-2.
TRENCH DETAIL - UNPAVED AREAS

Source: AECOM, 2010; ECT, 2010.



CONCEPTUAL PUMP STATION - PLAN

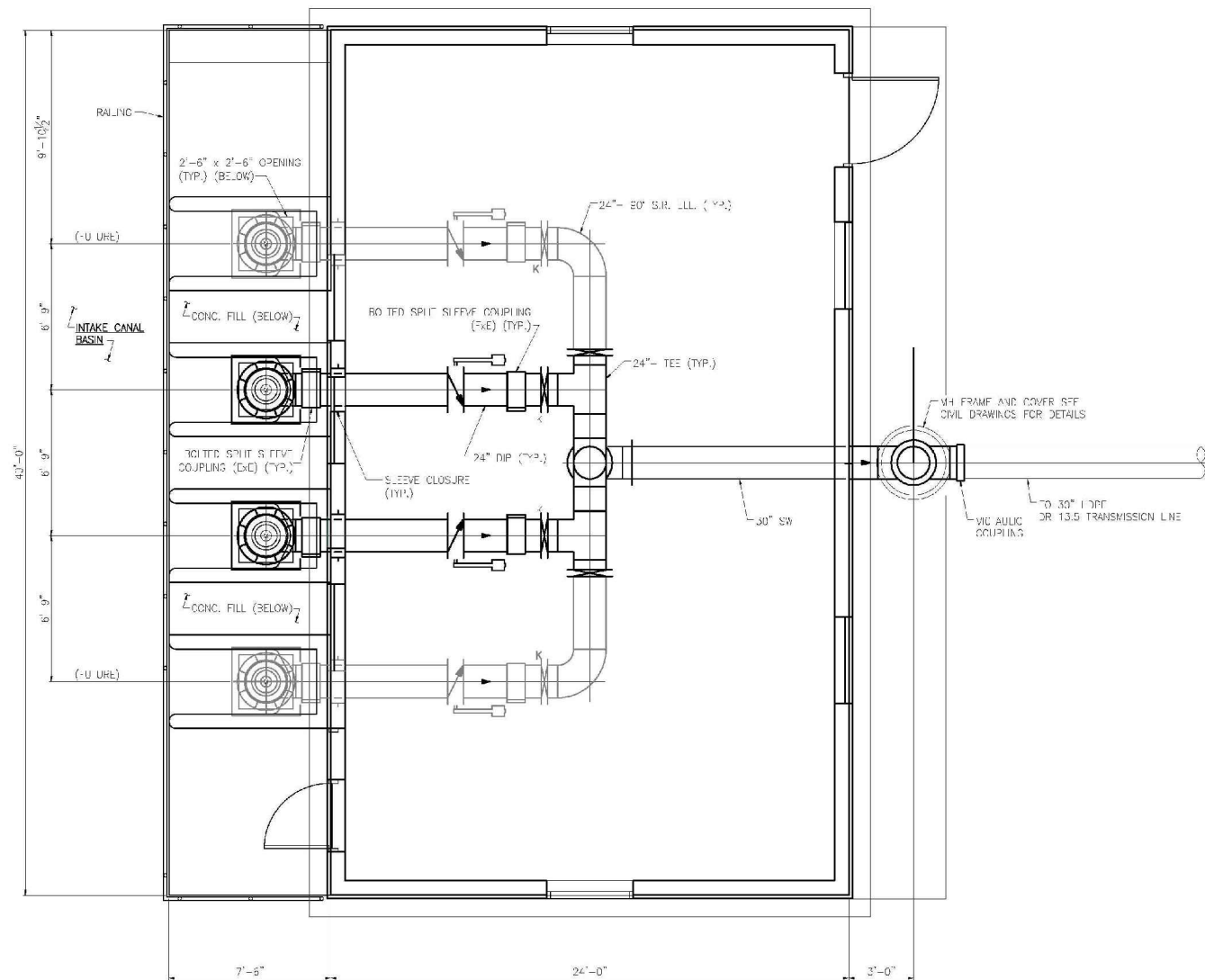
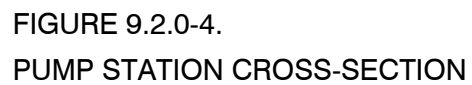


FIGURE 9.2.0-3.
PUMP STATION PLAN

Source: AECOM, 2010; ECT, 2010.



6-6



pump house will be fenced and locked. The entire pump station facility will occupy approximately 1 acre.

9.3 CORRIDOR

9.3.1 CORRIDOR SELECTION

The corridor selection process for the proposed pipeline was straightforward in that the PPS lies almost due south of Lakeland's wetland treatment areas. TEC desires to use either existing TEC or other utility rights-of-way, as well as road rights-of-way wherever possible. SR 37 borders the west side of the PPS site and is a logical linear facility along which to install the pipeline. TEC also has electric transmission line easements along SR 37 for a portion of the distance north of the PPS site.

A regional screening map, as shown in Figure 9.3.1-1, was developed to identify siting constraints and opportunities within the area between the two end points. Table 9.3.1-1 lists the types of resources mapped. Siting opportunities, such as other linear facilities, are visually depicted in the regional screening map and represent where favorable siting conditions are located. Constraints are potential obstacles or hindrances to siting such a facility and may include such things as residences, airports, parks, preserves, endangered species locations, or large wetlands and are also shown on the regional screening map. While not necessarily considered a fatal flaw to siting a pipeline, siting constraints represent potential engineering, economic, or permitting issues.

The study area is dominated by existing or former phosphate-mined lands. Therefore, large ponds or active mining would preclude placement of the pipeline. SR 37 provides a major siting opportunity from the PPS north to the city limits of Mulberry, which is the only incorporated municipality in the study area. TEC's consultants, along with environmental, engineering, and real estate staff, reviewed various siting options. It was evident that the best corridor would be along SR 37 from PPS to the south end of Mulberry. To avoid numerous developments and road crossings in downtown Mulberry, the corridor diverts eastward toward Lakeland's wetland treatment areas. This section of the corridor allows for the opportunity to follow the existing CSX Railroad corridor.

Table 9.3.1-1. Study Area Resources Mapped

Category	Resource
Base map information	• Highways, roads, streets • County boundaries • City boundaries • Railroads, airports, heliports • Existing and proposed substations • Existing transmission lines • Existing TEC properties, rights-of-way, and easements • Water bodies, rivers, streams, canals
Land use information	• Existing and proposed development for which local approvals are pending • Planned unit developments (PUDs) and developments of regional impact (DRIs) • Property boundaries • Existing schools and county school board lands • Cemeteries and historical structures and districts • National parks, wildlife refuges, estuarine sanctuaries, landmarks, or historical locations • State parks and preserves • SWFWMD-owned lands • County lands, parks, recreation areas, and mitigation lands • Privately designated wetland mitigation areas • Privately owned environmental preserves/sanctuaries
Environmental information	• Listed federal- and state-protected species and unique habitats, U.S. Fish and Wildlife Service (USFWS)-designated critical habitats • Wetlands as delineated on USFWS National Wetlands Inventory (NWI) maps

Source: ECT, 2010.

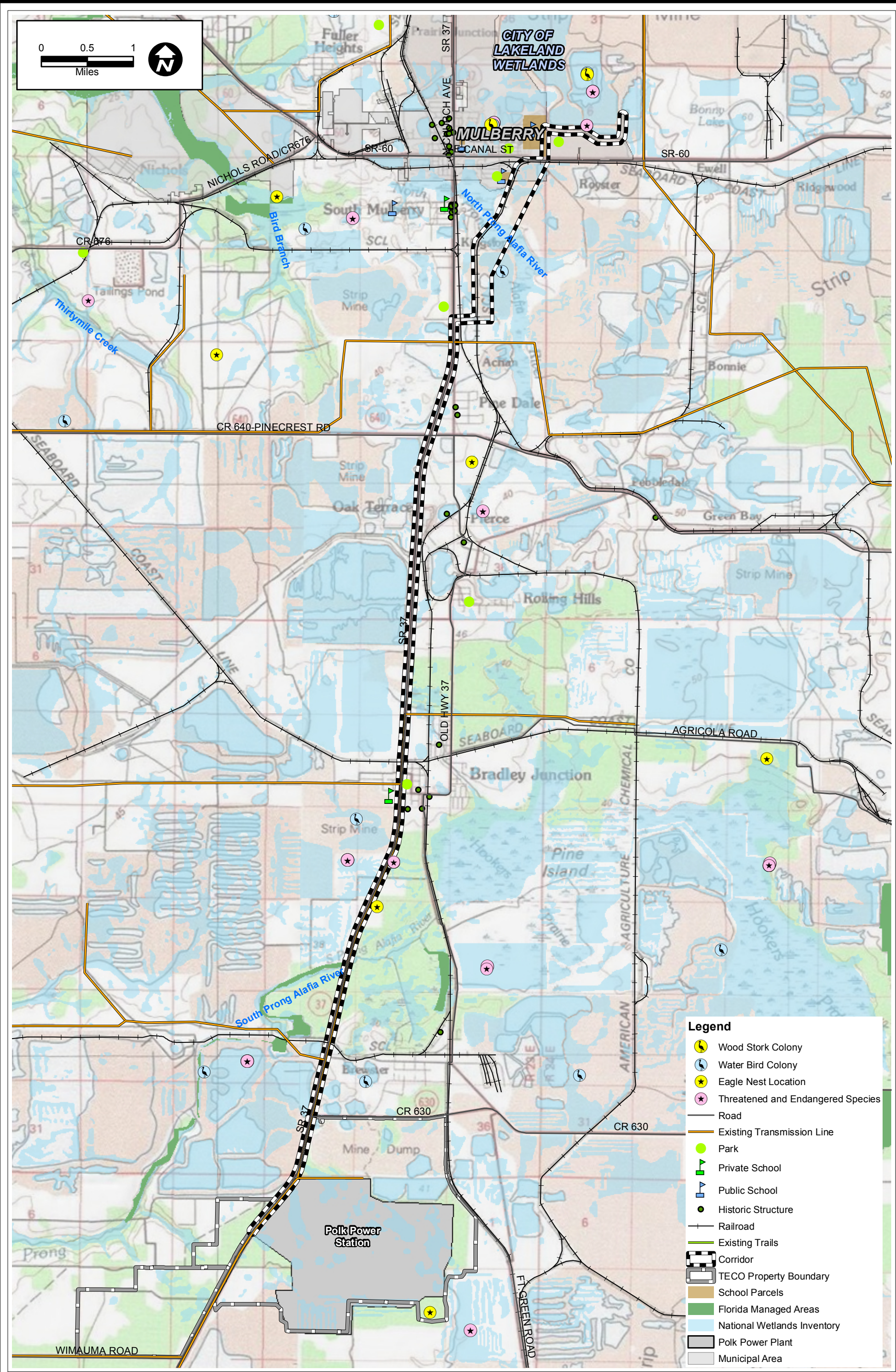


FIGURE 9.3.1-1.
REGIONAL SCREENING MAP

Sources: FNAI, 1999, 2010; FGD L, 2008, 2009, 2010; FWC, 1999, 2010; NWI, 2008; FAA, 2009; FDOT, 2009, Bureau of Archaeological Research, 2010; USFWS, 2010; Polk County, 2010; TECO, 2010; ECT,2010.



To provide TEC with flexibility in selecting a right-of-way, the corridor was made much wider than the eventual right-of-way required (approximately 20 ft where public right-of-way is available). The corridor varies from 400 to 1,775 ft in width. If site-specific issues arise, TEC will have the flexibility to move the right-of-way within the corridor to avoid or minimize impacts to such identified constraints.

9.3.2 CORRIDOR DESCRIPTION

Figure 9.3.2-1 illustrates the route for the preferred corridor for the PPS project at a scale of 1 inch equals 2 miles. The proposed corridor is depicted on Florida Department of Transportation (FDOT) Polk County maps, which also reflect major geographic features and roads. Also shown are existing electric transmission lines located within 5 miles of the preferred corridor.

The proposed corridor begins at Lakeland's wastewater treatment wetland system east of Mulberry, just north of SR 60, in Polk County. It follows property boundaries west approximately 1 mile to Grace Street, where it turns south to SR 60. The corridor crosses SR 60 east of downtown Mulberry and generally follows the CSX Railroad southwest, crossing the North Prong Alafia River, before joining SR 37. From there, the corridor straddles SR 37 south through Bradley Junction, ultimately terminating at the western boundary of the PPS site.

The entire corridor is approximately 15 miles in length. Figure 9.1.0-1 depicts the corridor on recent aerial photographs (U.S. Department of Agriculture [USDA] National Agricultural Imagery Program [NAIP], 2010) at a scale of 1 inch equals 1,000 ft.

9.3.3 ALTERNATE CORRIDORS

TEC is not proposing any alternate corridor to its proposed corridor. TEC believes it can minimize impacts from the project given the width and flexibility provided by the proposed corridor.

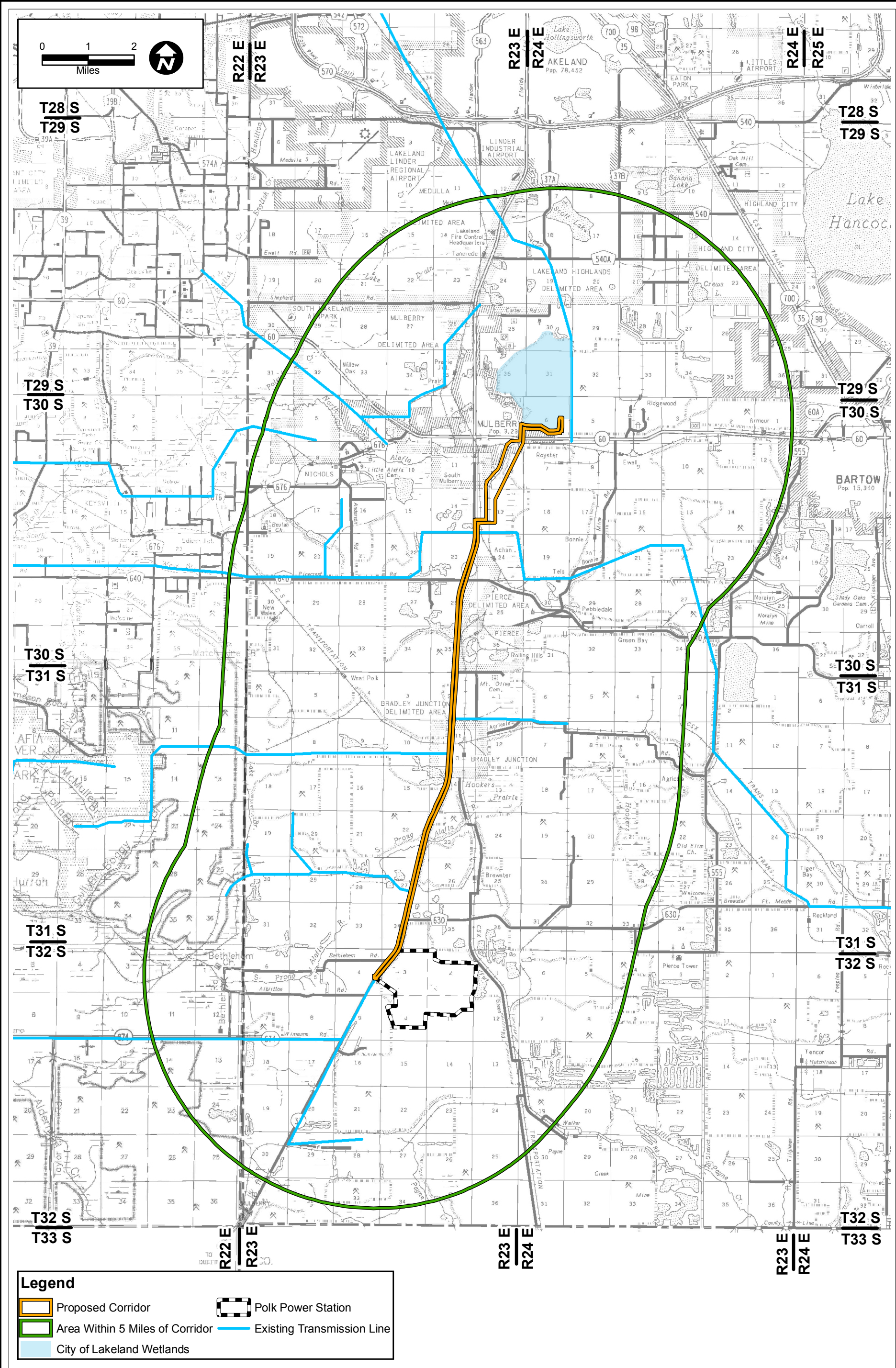


FIGURE 9.3.2-1.
PROPOSED CORRIDOR LOCATION

Sources: DOT, 2003, 2005; FGDL, 2008; TEC, 2010; ECT, 2010.



9.3.4 ACCESS ROADS

TEC does not anticipate permanent access roads along the pipeline route at this time; however, temporary access roads will be needed around the Mulberry phosphate area and the area around the river crossing. Figure 9.3.4-1 depicts a typical, temporary construction road detail. The rest of the route should provide reasonable access as is.

The one other area where some access may be needed is at the Lakeland wetland treatment system terminus. The land appears open and accessible as is but will require review with the contractor.

9.3.5 COST PROJECTIONS

The project is expected to cost \$67 million, with 50 percent being funded by SWFWMD through its Reclaimed Water Initiative.

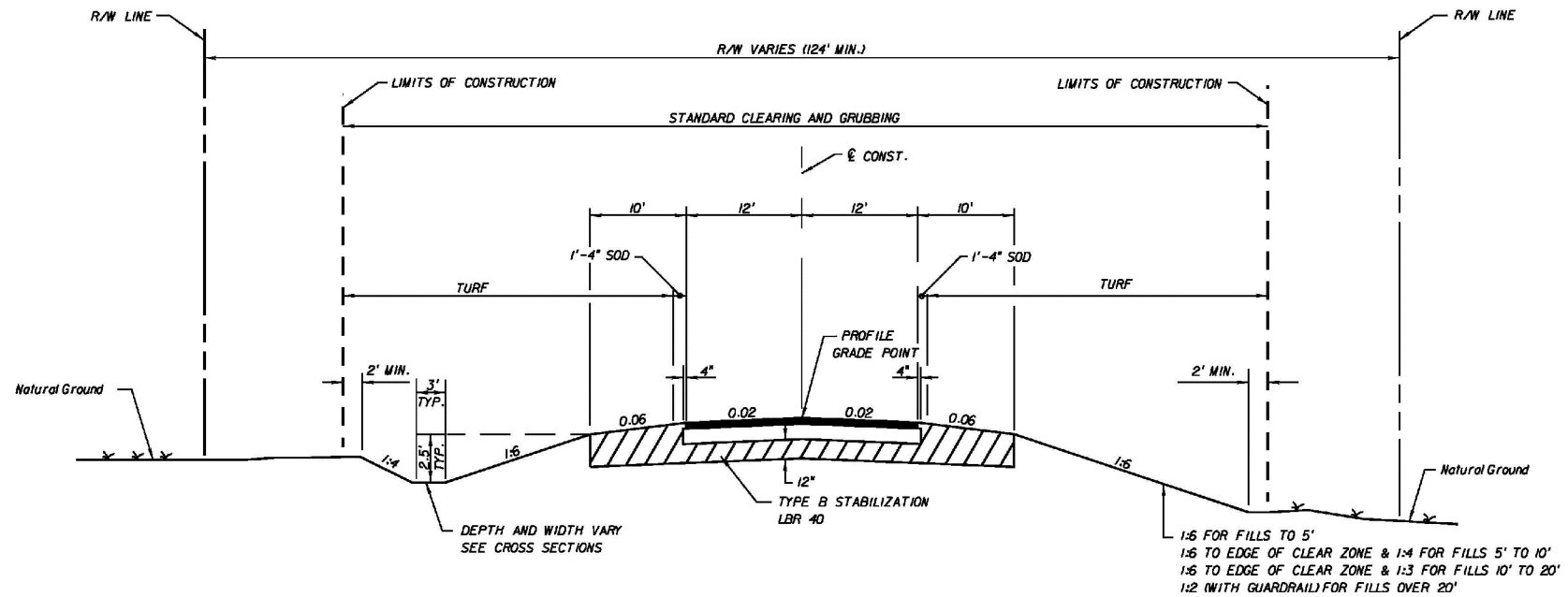
9.3.6 SOCIAL AND POLITICAL ENVIRONMENT OF THE CORRIDOR AREA

9.3.6.1 Governmental Jurisdictions

The proposed corridor is located in Polk County and the incorporated city of Mulberry. Figure 9.3.6-1 shows the preferred corridor at a scale of 1 inch equals 2 miles, in relation to the governmental jurisdictions within 5 miles of the edge of the proposed corridor. As indicated on the figure, portions of the South Prong Alafia River that are in the proposed corridor are owned by the state of Florida through the Florida Board of Trustees of the Internal Improvement Trust Fund (TIITF). The North Prong Alafia River also has a state conservation easement bordering both sides of the river.

The following federal, state, and local jurisdictional areas were researched, and none were found to occur within 5 miles of the edge of the preferred corridor:

- National parks.
- National forests.
- National wildlife refuges.
- National seashores.
- National wilderness areas.
- National memorials.
- National monuments.
- Marine and estuarine sanctuaries.
- State forests.
- Roadless area review and evaluation (RARE) areas.
- Outstanding Florida Rivers.
- Areas of critical state concern.
- State archaeological landmarks.



TYPICAL SECTION TEMPORARY ACCESS ROAD

NEW CONSTRUCTION

OPTIONAL BASE GROUP B WITH
TYPE SP STRUCTURAL COURSE (TRAFFIC C) (2")
AND FRICTION COURSE FC-12.5 (TRAFFIC C) (1 1/2") (RUBBER)

FIGURE 9.3.4-1.
TYPICAL TEMPORARY ACCESS ROAD

Source: AECOM, 2010; ECT, 2010.



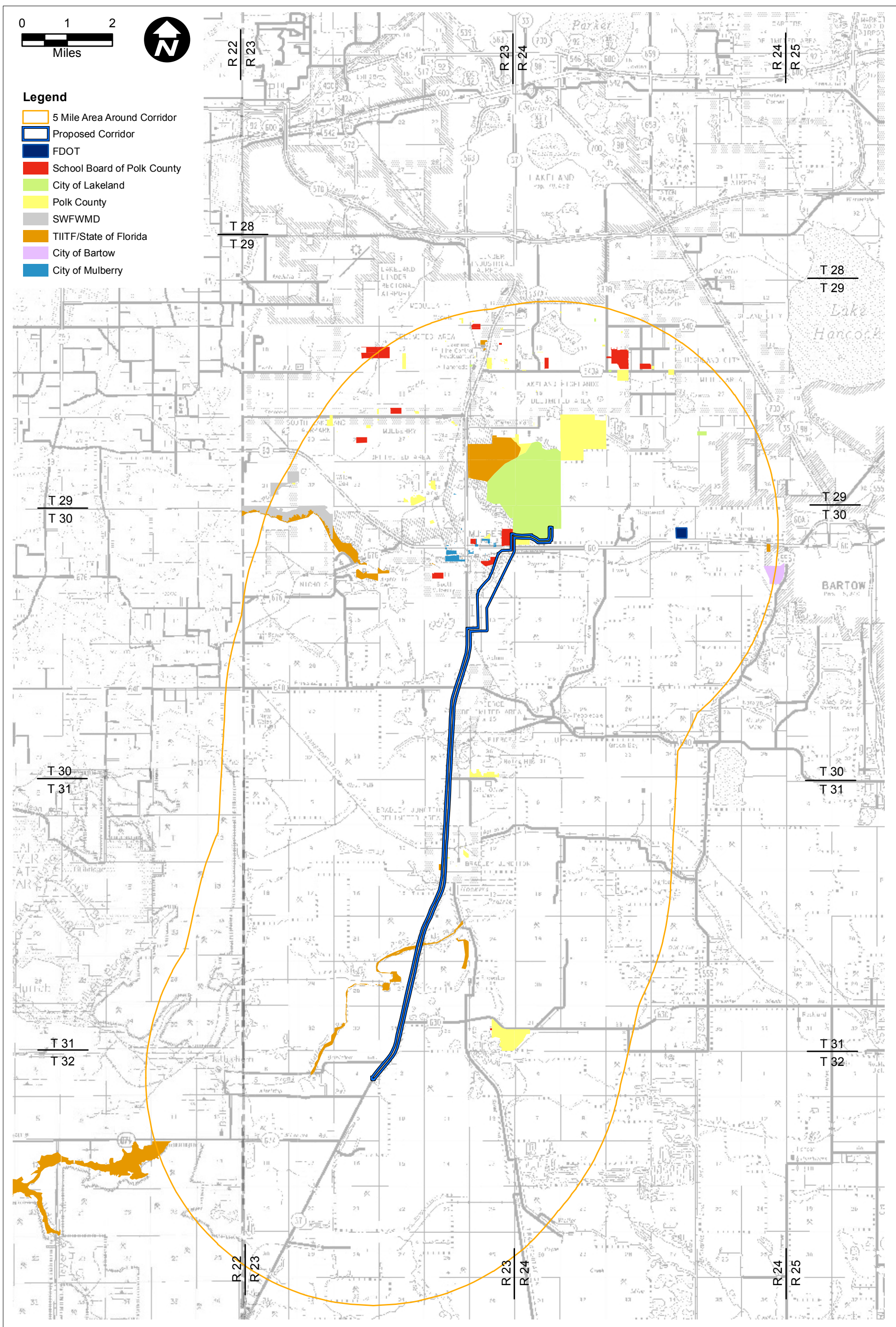


FIGURE 9.3.6-1.
GOVERNMENTAL JURISDICTIONS WITHIN 5 MILES
OF PROPOSED CORRIDOR

Sources: FDOT, 2003, 2005; Hillsborough County, 2010; Polk County, 2010; FNAI, 2010; ECT, 2010.



- Properties in the national register of historic places.
- Natural landmarks.
- Game Management Areas.
- State aquatic preserves.
- Indian reservations.
- Military installations.

9.3.6.2 Zoning and Land Use Plans

Comprehensive Plan

The proposed corridor crosses unincorporated areas of Polk County and the incorporated city of Mulberry. The Local Government Comprehensive Planning and Land Development Regulation Act of 1985 (Chapter 163, Florida Statutes [Fla. Stat.]) requires all counties and municipalities within the state to prepare comprehensive plans. Figure 9.1.0-2 depicts the corridor at a scale of 1 inch equals 1,000 ft in relation to the adopted land use plans of the two local governments affected. Appendix A contains reproductions of relevant portions of the county's and the city's future land use maps.

The following lists the future land use map categories crossed by the corridor:

- Polk County:
 - Phosphate Mining (PM).
 - Agriculture/Residential-Rural (A/RR).
 - Recreation and Open Space (ROS).
 - Residential-Suburban (RS).
 - Rural Cluster Center (Residential) (RCC-R).
 - Rural Cluster Center (Non-residential) (RCC).
 - Commercial Enclave (CE).
 - Business Park Center-Limited (BPC-1).
 - Business Park Center (BPC-2).
 - Institutional-2 (INST-2).
 - Industrial (IND).
- City of Mulberry:
 - Conservation (CON).
 - Outdoor Recreation (OR).
 - Low Density Residential (LDR).

- High Density Residential (HDR).
- Highway Commercial (COM-H).
- Industrial (IND).
- Public Buildings and Grounds (PBG).

Descriptions of the future land use categories crossed by the corridor in the two jurisdictions are provided in the following subsections.

Polk County

- Phosphate Mining (PM)—This land use designation is to identify existing or proposed phosphate mining operations, support facilities, and nonreclaimed phosphate mined areas.
- Agriculture/Residential-Rural (A/RR)—This land use category recognizes the importance of agriculture and provides for its protection and future continuance through the establishment of a base residential density of one dwelling unit per 5 acres.
- Recreation and Open Space (ROS)—This designation identifies primarily sites and facilities that are accessible to the general public and are oriented toward providing recreation services for the resident and the short-term and long-term visitor to Polk County. These lands are commonly county-owned or maintained open spaces, community and regional parks, and the facilities and services associated with each respective park type.
- Residential-Suburban (RS)—Areas in this category are established for a low-density suburban residential environment up to and including one dwelling unit per 5 acres. This classification is characterized by single-family and duplex units.
- Rural Cluster Centers (RCC and RCC-R)—Residential development is allowed up to two dwelling units per acre. Neighborhood activity centers are intended to accommodate the shopping needs of residents living within the immediate surrounding neighborhood(s). The maximum floor area ratio is 0.30.

- Commercial Enclave (CE)—This land use category is for concentrations of commercial/office uses and zoning districts that are located outside of activity centers and/or linear commercial corridors and whose future development or redevelopment will not degrade Polk County’s growth management program. Permitted uses include commercial, office, and institutional uses with a maximum floor area ratio of 0.35.
- Business Park Centers (BPC-1 and BPC-2)—The areas designated as Business Park Centers are intended to promote employment opportunities by allowing for the establishment of office parks, research and development parks, areas for light industrial facilities, distribution centers, and mixed-use employment centers. The maximum floor area ratio ranges from 0.25 to 0.75 depending upon the type of use and the location of the business park center (within or outside of the Urban Development Area). Residential development is allowed up to 15 dwelling units per acre.
- Institutional-2 (INST-2)—Institutional areas are primarily characterized by private and public service structures. Permitted uses include public and private educational facilities, government administration buildings, public safety structures, cultural facilities, and health care facilities. The maximum floor area ratio is 0.75.
- Industrial (IND)—This land use category is characterized by facilities for the processing, fabrication, manufacturing, recycling, and distribution of goods. The maximum floor area ratio is 0.75.

City of Mulberry

- Conservation (CON)—The primary function of this land use designation is to protect natural resources, lake water quality, and groundwater quality. Residential, commercial, industrial, and agricultural land uses are not allowed. Recreational land uses are allowed provided that as little land as possible is disturbed during any construction and that the activity will not degrade or harm any natural resource.
- Outdoor Recreation (OR)—Permitted uses in this land use designation include publicly and privately owned properties that are open to recreation use

by the general public. One residential unit per 10 acres is allowed for a caretaker, and up to 2,000 square feet (ft²) of nonresidential building is allowed per acre.

- Low Density Residential (LDR)—This land use category permits development of one dwelling unit on a minimum lot size of 7,500 ft² and a maximum of five dwelling units per acre.
- High Density Residential (HDR)—Single-family dwelling units, duplexes, and multifamily dwelling units are allowed. The maximum number of single-family dwelling units per acre is seven with a minimum lot size of 6,000 ft². Duplexes must have a minimum of a 7,500-ft² lot size, and multifamily units must have a minimum lot size of 10,000 ft². Up to 16 multifamily units are allowed per acre.
- Highway Commercial (COM-H)—Allowed uses in this land use designation include offices, retail, wholesale, and indoor recreation such as bowling alleys and skating rinks. The maximum floor area ratio is 3.0.
- Industrial (IND)—Permitted uses include manufacturing and processing activities, wholesale storage, and warehousing. The maximum floor area ratio is 1.0.
- Public Buildings and Grounds (PBG)—This land use category allows schools, government buildings, fire and police stations, community centers, parks, playgrounds, ball fields, indoor recreation facilities, nature preserves, and open space. The floor area ratio for public buildings is not to exceed 2.0. A caretaker residence is allowed at a density of one dwelling unit per 10 acres.

The city of Mulberry annexed the area of the Polk County Imperial R/C Club Inc. (radio-controlled flying) in July 2004. Since that time, a city of Mulberry land use designation has not been assigned. The land use designation of Polk County at the time of annexation was Industrial and remains so today. A land use designation for the property annexed in July 2004 will eventually be established through the Evaluation Appraisal Report Comprehensive Plan update process.

Future Land Use Element

Polk County

The proposed pipeline corridor traverses an unincorporated portion of west-central Polk County. There are five distinct development areas that combine with future land use categories to guide development within unincorporated Polk County. The proposed pipeline corridor is primarily located in the Rural Development Area (RDA). The RDAs provide areas for rural activities such as agricultural uses, mining activities, and rural residential uses. The Residential-Suburban (RS) land use designation depicted in Figure 9.1.0-2 located near the southern boundary of the city of Mulberry is located in the Suburban Development Area (SDA). These are areas that have predominantly developed in a suburban residential pattern with county-owned, municipal or county-franchised potable water systems, but without centralized sewer services. The Polk County IND land use category that abuts the eastern edge of the city limits of Mulberry is located in the Urban Growth Area (UGA). UGAs are areas that are currently predominantly served by a county-owned, municipal or county-franchised central potable water system, are contiguous to an Urban Development Area (UDA) or a municipality, and are being planned for central sewer systems. Other urban services that should be available or planned to be available are law enforcement, fire, emergency medical services, urban road network, developed parks, and schools.

The Polk County Comprehensive Plan identifies pipelines as utility use (Future Land Use Element Policy 2.125-D1b). Pipelines are considered a permitted use throughout Polk County in all land use classifications.

Future Land Use Element Policy 2.125-D2 is titled Utilities Development Controls. Utilities are allowed in non-RDA areas provided that the scale of such facilities are related to the surrounding land uses and are designed to preserve the character of residential neighborhoods. Policy 2.125-D2c states, “[t]he development of utility facilities shall be permitted in the RDA, as designated on the Future Land Use Map, only when such developments provide regional services, or is incompatible with urban uses, or services the existing needs of the immediate area in which it is located.” The proposed pipeline is planned to assist in the provision of a regional service (the production of electricity).

Policy 2.102-A8 addresses public facilities and utilities siting. The policy states that, “[p]ublic facilities and utilities shall be located to:

- a. Maximize the efficiency of services provided,
- b. Minimize their cost, and
- c. Minimize their impacts on the natural environment.”

Policy 2.123-C2 allows development within wetlands, as determined by appropriate regulatory agencies, for utility transmission and collection lines.

City of Mulberry

The comprehensive plan does not provide a definition for utilities. The Future Land Use Element does not contain any specific policies that address pipelines. Objective 7 states that, “[t]he City shall ensure the availability of suitable land for utility facilities necessary to support proposed development.”

Zoning and Land Use Districts

City of Mulberry

The city of Mulberry has established zoning districts. The proposed corridor’s zoning classifications are shown at a scale of 1 inch equals 1,000 ft in Figure 9.1.0-3. The preferred corridor crosses the following zoning districts:

- Conservation (CN).
- Outdoor Recreation (O-R).
- Single-Family Residential (R-1L).
- Multiple-Family Residential (R-1H).
- Highway Commercial (C-2).
- Light Industrial (I-L).
- Public Institutional (P-I).

Polk County

Development within the unincorporated areas of Polk County is controlled and guided by three levels of development controls: development areas (e.g., RDA, SDA, UGA, and UDA); future land uses (e.g., Phosphate Mining [PM], Agriculture/Residential-Rural [A/RR], Commercial Enclave [CE], etc.); and special-area overlay districts and areas (see

Figure 9.1.0-3). The proposed pipeline route is located in the following special-area overlay districts and areas:

- Floodplain-protection areas.
- Wetland-protection areas.
- Aquifer-protection areas.
- Green-Way districts.
- Transit corridors and centers.

The proposed corridor does not intersect the wellfield-protection district overlay, the Green Swamp Protection Area, the mineral-resource protection overlay, the historic preservation sites overlay, an airport-buffer district, or the SR 17 Ridge Scenic Highway overlay.

Floodplain-Protection Areas—The entire width of the proposed corridor intersects Flood Zone A areas associated with the South Prong Alafia River (for a length of approximately 500 ft) and North Prong Alafia River (for a length of approximately 1,500 ft); at a location approximately 4,000 ft north of County Road (CR) 630 (for a length of approximately 4,000 ft); at a location approximately 2,800 ft north of Railroad Street in Bradley Junction (for a length of approximately 3,000 ft); at a location approximately 300 ft south of CR 640 (for a length of approximately 500 ft); at a location approximately 1,800 ft south of the intersection of SR 37 and Old SR 37 (for a length of approximately 1,000 ft); and at the location of the corridor where the alignment shifts from south to north to west to east just north of the intersection of SR 37 and Old SR 37 (for a length of approximately 2,400 ft). The floodway associated with the North Prong Alafia River is not intersected by the proposed corridor. Figure 9.1.0-3 depicts these floodways and floodzones.

The objective of the Floodplain-Protection Area overlay is to limit development within areas subject to flooding to activities and intensities that will not enlarge the offsite floodplain, alter the natural function of the floodplain, and not affect more than a minimal risk to loss of property and life. There are specific land development code (LDC) regulations addressing riverine, lake, and other floodplains.

Wetland-Protection Areas—Wetland-Protection Areas that extend across the width of the proposed corridor are associated with the South Prong Alafia River and North Prong

Alafia River. The extent of the wetland designations are equal to or less than that of the floodplains previously described.

Wetland-Protection Areas are established in the Future Land Use Element of the comprehensive plan to limit development and redevelopment activities to activities and intensities that will have minimal impact on the natural function of the wetlands. Wetland impacts, where unavoidable and properly mitigated, are allowed for the placement of utility transmission lines. As required by Polk County, construction techniques are not to alter the natural retention and filtering capacities of the wetland.

Aquifer-Protection Areas—An Aquifer-Protection Area located approximately 2,300 ft north of the intersection of Bethlehem Road and SR 37 extends northward across the proposed corridor for an approximate length of 7,500 ft. A second Aquifer-Protection Area extends across the proposed corridor for a distance of approximately 3,300 ft at the location of the corridor where the alignment shifts from south to north to west to east just north of the intersection of SR 37 and Old SR 37.

The Aquifer-Protection Areas are established to protect these areas from direct contamination and protect the natural recharge function. Land development regulations have been promulgated to minimize the threat of contamination through restrictions on hazardous materials, requirements that postdevelopment runoff volumes not exceed predevelopment runoff volumes, requirements for stormwater treatment, and requirements that subsurface storage and flow simulate predevelopment natural conditions.

Green-Way Districts—Within or traversed by the proposed corridor are Green-Way Districts associated with the Florida Bureau of Mine Reclamation Integrated Habitat Network located north of Bethlehem Road extending to the southern side of the unnamed road that intersects SR 37 north of PPS, with the South Prong Alafia River, at CR 630 south of CR 640 (north of Oak Terrace), with the North Prong Alafia River, and a large area to the north of SR 60 and east of Mulberry High School. The Green-Way Districts overlay is established to designate lands that are desirable for future acquisition (or other property acquisition measures) to provide for the preservation of open space, habitat pro-

tection, linear parkways, and recreation areas. Proposed development within the districts will be reviewed under Polk County's development review procedures.

Transit Corridors and Centers—A review of this overlay indicates that Bradley Junction and the surrounding area are identified as a redevelopment district. Redevelopment districts are those that have an approved revitalization plan and are defined as low to moderate income as defined by the U. S. Department of Housing and Urban Development. The approved revitalization plan contains strategies to rehabilitate housing, remove dilapidated structures, coordinate infrastructure improvements, provide economic opportunities and neighborhood support, facilitate development of affordable housing, encourage design features for a pedestrian-oriented environment, and provide incentives for the development of community facilities. The city of Mulberry and areas extending southward to include the Kingsford neighborhood are identified as within a transit corridor and center. The Polk County Comprehensive Plan Transportation Element identifies this area as Category 1. This category describes fixed-route services operating within an urbanized area and providing access to the central business district and intense commercial corridors. The emphasis is on local circulation and land access.

Land Development Code

Polk County

The Polk County LDC defines transmission lines, including water distribution lines, and utility pipelines as a Class I utility (see page 10-66 of the Polk County LDC, adopted March 1, 2000, and revised June 2004). Class I utilities are permitted in all land use districts (Table 2.1 of the LDC: Use Table for Standard Land Use Districts).

Polk County has resource protection standards for surface water bodies, wetlands, floodplains, airports, aquifers, ecological communities, wellheads, and historic preservation. Wetland impacts from utility transmission lines are permitted where unavoidable and where properly mitigated as determined by agencies having jurisdiction pursuant to Section 620.C.2.c of the LDC.

City of Mulberry

The LDC defines essential services as “[t]he erection, construction, alteration or maintenance, by private utilities or municipal or other governmental agencies, of underground or overhead gas, electrical, steam or water transmission or distribution systems, collection, communication, sewers, pipes, conduits, ... or other similar equipment and accessories in connection therewith reasonably necessary for the furnishing of adequate service by such public utilities or municipal or other governmental agencies or for the public health or safety or general welfare, but not including buildings.” The proposed pipeline meets the definition of essential services.

A review of the LDC finds no further reference to essential services. The table of permitted uses in Section 2.04.01 of the LDC does not identify utilities, pipelines, or similar uses. Power stations and telephone switching stations are allowed in every zoning district except for Conservation and Outdoor-Recreation.

Section 3.06.02.03 of the LDC addresses noise. This section addresses operation by identifying maximum sound levels for various octave bands adjacent to residential uses and to industrial and commercial uses. Other objectionable noises due to intermittence, beat frequency, or shrillness are to be muffled or eliminated so as to not become a nuisance to adjacent uses.

Section 5.03.00 of the LDC addresses wetlands protection. This section establishes two zones for the protection of wetlands; the wetland zone defined as the landward extent of the wetland, and the upland zone which extends from a minimum of 40 ft from the landward extent up to 200 ft. Section 5.03.05(E) is an exemption for utility crossings.

Section 5.04.00 of the LDC addresses lake (pit) protection. It is the purpose of this section to maintain pit water quality and reduce nutrient loading. A shoreline protection zone extends 40 ft landward from the ordinary high water line. Development within the shoreline protection zone will be designed, constructed, and maintained to avoid adverse impacts to the pits. Compliance with this mandate includes:

- Maintaining natural drainage patterns to the maximum extent feasible.
- Minimizing the amount of fill to accommodate the permitted development.
- Minimizing environmental damage.
- Maintaining 50 percent of the natural vegetation within the 40 ft protection zone.
- Planting buffers if no natural vegetation is present such that 40 percent of the protection zone is covered.
- Limiting the removal of vegetation to the minimum necessary to complete the permitted development.
- Restoring any portion of the vegetation in the protection zone damaged or removed during construction by replanting native grasses and ground cover or other appropriate plantings.

9.3.6.3 Easements, Title, Agency Works

Easements may be necessary for the pipeline to cross lands for which the title is held by TIITF, Polk County, the city of Mulberry, or SWFWMD within the proposed corridor.

Approvals for crossing or use of state road rights-of-way must be granted pursuant to FDOT regulations. Approvals of crossings or use of county-maintained road rights-of-way must be granted pursuant to the requirements of Polk County and the city of Mulberry. This is particularly noteworthy since much of the proposed corridor follows or includes a crossing of road rights-of-way. Crossings of state roads will conform to specifications contained in FDOT's Utility Accommodation Manual (2007).

Where the corridor crosses the North Prong Alafia River, there is an FDEP Conservation Easement bordering both sides of the river that occupies the majority of the corridor in this locale (see Figure 9.3.6-2). TEC will seek a modification of that easement to cross the river via horizontal directional drilling (HDD). Such a request will be required because the easement includes language prohibiting utilities. Additionally, river crossings require a sovereign submerged lands crossing approval. The crossing of the South Prong Alafia River also crosses TIITF-owned lands and will therefore potentially require an approval from the state.

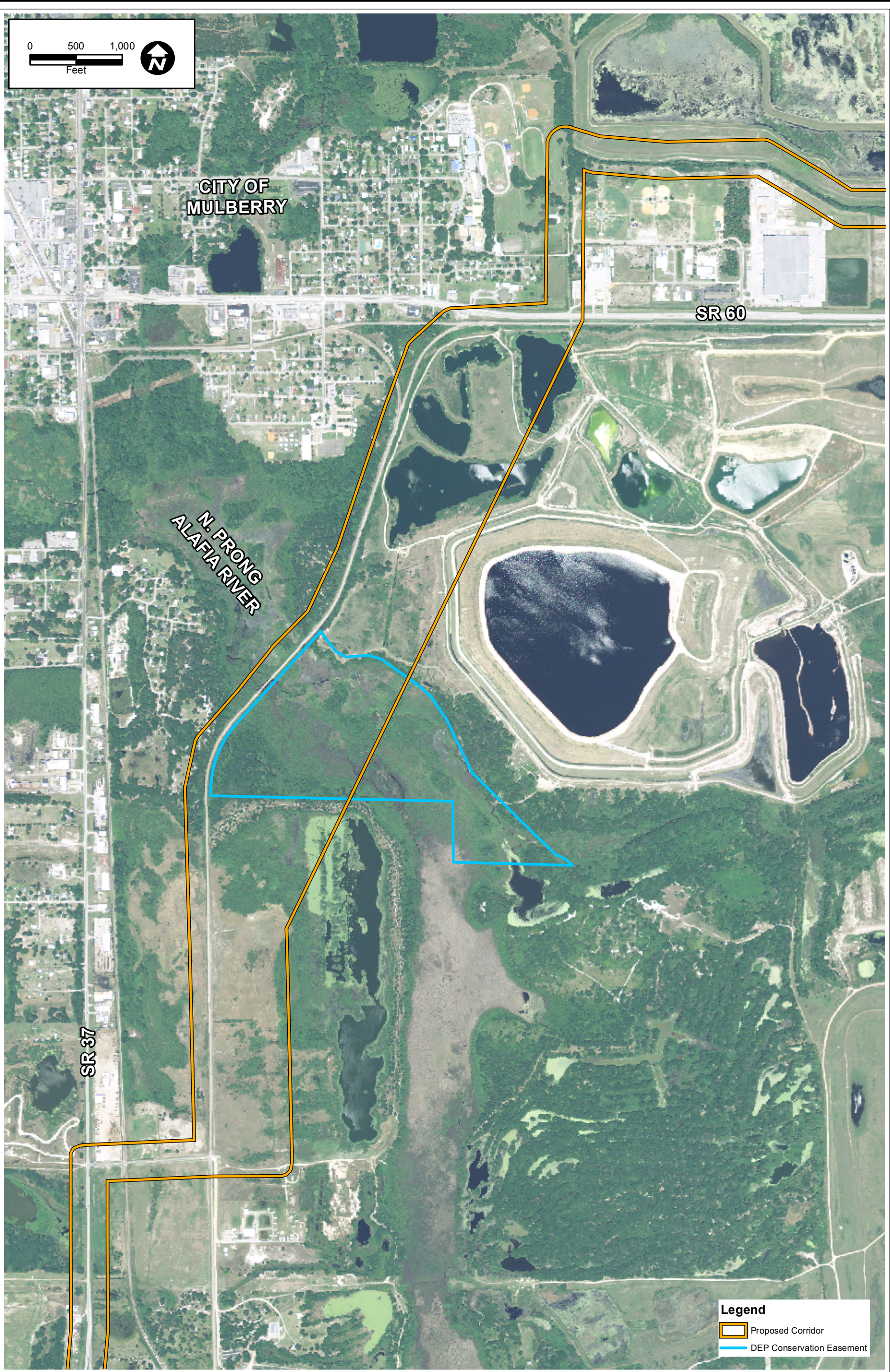


FIGURE 9.3.6-2.
DEP CONSERVATION EASEMENT

Sources: NAIP, 2010; TEC, 2010; ECT, 2010.



Permits are normally required to cross or collocate along canals or works of the district under the jurisdiction of SWFWMD. Such works may include structures, impoundments, wells, streams, canals, or other watercourses officially adopted by SWFWMD's governing board.

Table 9.3.6-1 presents a list of potential lands, roads, canals, or works of the district for which crossing approvals would normally be required.

9.3.6.4 Vicinity Scenic, Cultural and Natural Landmarks

No resources considered to be regionally scenic, cultural, or natural landmarks occur within the corridor.

9.3.6.5 Archaeological and Historic Sites

TEC conducted a Master Site File Search through the Division of Historical Resources (DHR) of the corridor proposed in this application (see Appendix B). Based on that research, nine previously recorded archaeological resources, eight previously recorded historic structures, and three previously recorded resource groups were found in proximity to the proposed corridor (Table 9.3.6-2).

DHR will review these results and make an assessment as to potential impacts to these known, as well as potentially unknown, locations. DHR may request, as a condition of certification, a cultural resources assessment be conducted along areas of the final right-of-way that have a likelihood of containing archaeological artifacts.

9.3.7 BIOLOGICAL AND PHYSICAL ENVIRONMENT OF THE CORRIDOR AREA

9.3.7.1 Land Use/Vegetation

The existing land use and vegetation cover types occurring within and for 0.5 mile adjacent to either side of the proposed corridor (study area) were acquired from the current SWFWMD geographic information system (GIS) database (2006) overlain on 1 inch equals 1,000 ft 2010 FDOT aerial photographs. These land use/cover types were classified using the Florida Land Use, Cover, and Forms Classification System (FLUCFCS)

Table 9.3.6-1. Possible Easements, Titles, and Crossing Approvals Expected to Be Required for Pipeline Construction in the Preferred Corridor

Facility/Lands	Agency	Approval
<u>Roads</u>		
SR 37	FDOT	Right-of-way use or crossing permit
SR 60	FDOT	Right-of-way use or crossing permit
Old SR 37	FDOT	Right-of-way use or crossing permit
CR 640 (Pinecrest Road)	FDOT	Right-of-way use or crossing permit
Agricola Road	FDOT	Right-of-way use or crossing permit
Doc Durrance Road	FDOT	Right-of-way use or crossing permit
CR 630	FDOT	Right-of-way use or crossing permit
Bethlehem Road	FDOT	Right-of-way use or crossing permit
Albritton Road	FDOT	Right-of-way use or crossing permit
<u>Water Bodies/Conservation Lands</u>		
North Prong Alafia River	FDEP and SWFWMD	Sovereign submerged lands crossing approval and conservation easement modification
South Prong Alafia River	FDEP , Polk County, and SWFWMD	Sovereign submerged lands crossing approval and use/crossing permit; possible state easement
<u>Parks</u>		
Mulberry Park	Polk County	Easement or permit
<u>School Board Easement</u>		
Mulberry High School	Polk County School Board	Easement

Source: ECT, 2010.

Table 9.3.6-2. Archaeological and Historic Sites Possibly Located in the Preferred Corridor

Site ID	Site Name	Comment	Location
PO00107	Brewster Expansion A		
PO00108	Brewster Expansion B		
PO00225	Agrico	Residence	Agrico Road, Bradley Junction
PO00226	Kirkland House	Residence	Agrico Road, Bradley Junction
PO00227	Barker House	Residence	Kirkland and 2 nd Street, Bradley Junction
PO00228	1 st Street	Residence	1 st Street, Bradley Junction
PO00229	Homer Smith House	Residence	SR 37, Bradley Junction
PO01686	G and S		Bradley Junction
PO02559	Cozy Fireplace	Building	Bradley Junction
PO03229	Black Lake 1		Bradley Junction
PO03230	Black Lake 2		Bradley Junction
PO06101	FGT Bradley Junction		Bradley Junction
PO07117	CSX Railroad		
PO07249	160 Little Orange Avenue	Residence, built circa 1925	Bradley Junction
PO00307	15 Lemon Street	Residence	Pinedale
PO00308	417 Patterson Street	Residence	Pinedale
PO00309	Pierce Power Plant	Built 1911	Pierce
PO06449	Seaboard Coast Line Railroad Grade		
PO003987		Historic Land	Dune
PO05297		Historic Land	Dune

Source: DHR, 2010.

(FDOT, 1999), Categories II and III. The various land use/vegetation types within the study area are shown in Figure 9.1.0-4 at the end of this document, and descriptions of the major land use and vegetation cover classes mapped within the study area are provided in the following subsections. Although the data provided by SWFWMD were originally generated in 2006, the vegetation/land use covers depicted are representative of the current resources.

Land Use

Land uses mapped along the route consist of residential, commercial and services, vacant commercial, mining, open land, agricultural, and utilities (PPS). According to the FLUCFCS, these categories include low-density residential (110), medium-density residential (120), commercial and services (140), industrial (150), extractive (160), reclaimed land (165), institutional (170), recreational (180), open land (190), cropland and pasture land (210), tree crops (220), other open lands (rural) (260), and transportation (810). Of these land use classifications, the mining land uses are dominant (extractive and reclaimed lands).

The cropland and pastureland (210) use classification is typically associated with cattle grazing on open fields of pasture grasses. No cropland (row crops) is apparent on the aerial photographs. There are few areas mapped as pasture within the study area. These improved and unimproved pastures have a dominant cover of pasture grasses such as bahia grass (*Paspalum notatum*), Bermudagrass (*Cynodon dactylon*), smutgrass (*Sporobolus indicus*), and big carpetgrass (*Axonopus furcatus*), among others. Depending on the degree of improvement, old field species such as dog fennel (*Eupatorium capillifolium*), sweet broom (*Scoparia dulcis*), common ragweed (*Ambrosia artemisiifolia*), slender goldenrod (*Euthamia caroliniana*), pokeweed (*Phytolacca americana*), manyflower marsh-pennywort (*Hydrocotyle umbellata*), blackberry (*Rubus* spp.), and other weedy herbaceous species, as well as occasional shrubs of saw palmetto (*Serenoa repens*), wax myrtle (*Myrica cerifera*), Brazilian pepper (*Schinus terebinthifolius*), or netted pawpaw (*Asimina reticulata*) often inhabit these communities. In addition, it should be noted that the reclaimed areas of former mining lands have also mostly been converted to pasture. The other predominant agricultural use within the study area is citrus groves.

Residential, commercial and services, and utilities make up a significant portion of the study area. Most of these areas are associated with Bradley Junction and eastern Mulberry in the central and northern portions of the study area, respectively. Although not all roads are mapped as transportation (810) on Figure 9.1.0-4, the study area crosses or encompasses portions of several roadways, particularly SR 37.

Vegetation

The proposed corridor will be located within or adjacent to the SR 37 road right-of-way for much of its length, then crosses phosphate-mined land in various stages of reclamation for the remainder. The majority of the road rights-of-way are maintained grassy areas with ditches. In addition to the maintained right-of-way, a few natural communities will be traversed or are located within 0.5 mile of the proposed corridor. These vegetation cover classes include shrub and brushland (320), upland pine flatwood forest (411), upland hardwood forest (420), hardwood conifer mixed forest (434), lakes (520), reservoirs (530), stream and lake swamps (bottomland) (615), freshwater marsh (641), wet prairies (643), and emergent aquatic vegetation (644). Although not technically vegetation communities, lakes (520) and reservoirs (530) are also included and described along with the dominant vegetation types in the following subsections. Finally, although not mapped as streams and waterways (511), there are a few named and unnamed natural drainage crossings that are typically associated with the stream and lake swamp (615) classification (e.g., South Prong Alafia River, North Prong Alafia River).

Upland Communities

There are four dominant upland communities within or adjacent to the preferred corridor. These communities consist of both natural and altered states of forest and rangeland.

Shrub and Brushland (320)—Shrub and brushland occurs in several locations throughout the proposed corridor and 0.5-mile adjacent area. This community is dominated by shrub cover, often has a distinct ground stratum similar to pine flatwoods, but lacks a tree canopy. Other areas mapped as shrub and brushland have been cleared of historic vegetation and have become vegetated by a variety of opportunistic, often weedy shrubs and

herbs. Typical shrub species include saw palmetto, wax myrtle, groundsel tree (*Baccharis halimifolia*), winged sumac (*Rhus copallinum*), and Brazilian pepper. Small pine (*Pinus* spp.), oak (*Quercus* spp.), or cabbage palm (*Sabal palmetto*) trees may be scattered throughout this upland community.

Pine Flatwoods (411)—The upland pine flatwoods community is uncommon within the study area. It is characterized by a prevalence of pine trees that may vary in age. The dominant pine tree in central Florida is slash pine (*Pinus elliottii*). Occasional stands or individuals of sand pine (*Pinus clausa*) or longleaf pine (*Pinus palustris*) may also be present, as well. In addition to the pines, cabbage palm, saw palmetto, wax myrtle, gallberry (*Ilex glabra*), staggerbushes (*Lyonia* spp.), netted pawpaw, and a variety of flatwoods grasses are also present. Invasive exotic species, such as Brazilian pepper, have become established within many disturbed pine flatwood areas in this region.

Upland Hardwood Forest (420)—Areas mapped as upland hardwood forest are uncommon within the study area. These oak-dominated forests are also referred to as mesic hammocks. These hammocks have canopies often dominated by live oak (*Quercus virginiana*) with laurel oak (*Quercus laurifolia* or *Q. hemispherica*), water oak (*Quercus nigra*), sweetgum (*Liquidambar styraciflua*), and cabbage palm and sometimes a few sand live oak (*Quercus geminata*), red maple (*Acer rubrum*), and/or longleaf or slash pine. Citrus, including wild sour orange (*Citris aurantium*), tangerine, sweet orange, and grapefruit (*C. x paradisi*) often formed a subcanopy in many of the areas mapped as upland hardwood forest. Shrub cover often includes saw palmetto, American beautyberry (*Callicarpa americana*), fetterbush (*Lyonia lucida*), gallberry, netted pawpaw, coralbean (*Erythrina herbacea*), sawtooth blackberry (*Rubus allegheniensis*), sparkleberry (*Vaccinium arboreum*), deerberry (*V. stamineum*), and winged sumac. Herbaceous cover varies with canopy and/or shrub coverage but can include whitemouth dayflower (*Commelina erecta*), flatsedges (*Cyperus* spp.), rosette grasses (*Dichanthelium* spp.), paspalum grasses (*Paspalum conjugatum* and other species), and panicgrasses (*Panicum* spp.), among others.

Hardwood Conifer Mixed Forest (434)—This forest community comprises several areas along the proposed corridor. It is not dominated by either pines or hardwoods; ra-

ther neither conifers nor hardwoods comprise 66-percent canopy dominance. The hardwood component of the canopy is primarily live oak, water oak, and/or laurel oak or diamond-leaved oak (*Q. hemispherica*). Cabbage palm, sweetgum, hackberry (*Celtis laevigata*), pignut (*Carya glabra*), and common persimmon (*Diospyros virginiana*) also may occur here. Slash pine, sand pine, and/or longleaf pine are intermixed. Shrubs typically consist of saw palmetto, wax myrtle, groundsel tree, and/or American beautyberry.

Wetland/Surface Water Communities

Wetlands are present within or adjacent to the study area encompassing the proposed corridor, which is to be expected considering the prevalence of wetlands in central Florida. Four wetland community types and two surface water features have been identified within the study area.

Lakes (520)—The lakes category includes one small water body, excluding reservoirs, in the northern portion of the study area.

Reservoirs (530)—This surface water category refers to artificial impoundments of water. Reservoirs within the study area typically result from impoundments created from phosphate mining activities.

Stream and Lake Swamps (615)—This bottomland community is dominated by hardwood tree species such as laurel oak, pop ash (*Fraxinus caroliniana*), elm (*Ulmus americana*), American hornbeam (*Carpinus caroliniana*), water hickory (*Carya aquatica*), black gum (*Nyssa sylvatica*), red maple, cabbage palm, swamp bay (*Persea palustris*), and sweet bay (*Magnolia virginiana*), among others. Common shrub/small tree species include Carolina willow (*Salix caroliniana*), elder (*Sambucus nigra*), swamp dogwood (*Cornus foemina*), buttonbush (*Cephalanthus occidentalis*), American snowbell (*Styrax americanus*), and dahoon holly (*Ilex cassine*). A variety of sedges, rushes, ferns, and epiphytes are also important components of this swamp type. A majority of these forested wetlands occur along stream crossings within the study area, especially the South Prong Alafia River in the central portion of the study area and adjacent to a large marsh complex associated with the North Prong Alafia River in the northern portion of the study area.

Fresh Water Marsh (641)—Fresh water marshes typically exhibit a distinct vegetation zonation pattern based largely on the depth and duration of flooding. Typical species along the upper rim of the wetland include sand cordgrass (*Spartina bakeri*), soft rush (*Juncus effusus*), spike rushes (*Eleocharis* spp.), maidencane (*Panicum hemitomon*), and various sedges, among others. In the center of the wetland, where water is deeper and present for a longer duration, vegetation species such as sawgrass (*Cladium jamaicense*), fireflag (*Thalia geniculata*), pickerelweed (*Pontedaria cordata*), bladderworts (*Utricularia* spp.), and arrowheads (*Sagittaria* spp.) dominate. Occasional shrubs of Carolina willow, Brazilian pepper, and wax myrtle can sometimes be found in and around these wetlands. This wetland type is found at several locations within the study area. A large marsh complex, associated with the North Prong Alafia River, exists within the corridor just south of Mulberry in the northern portion of the study area.

Wet Prairie (643)—This classification includes areas exhibiting hydric soils supporting a variety of grasses, sedges, and rushes. It is distinguished from freshwater marshes in that the depth and duration of ponding is less. Typical vegetation includes cordgrass, yellow-eyed grasses (*Xyris* spp.), redtop panicgrass (*Panicum rigidulum*), rosette grasses, various sedges (*Cyperus* spp., *Carex* spp.), spike rushes, maidencane, and meadow beauties (*Rhexia* spp.). This wetland type is found throughout the study area but is less common than freshwater marsh.

Emergent Aquatic Vegetation (644)—This wetland category includes deeper water systems with a discernible presence of free-floating, floating-leaved emergent, and/or emergent vegetation either occurring along littoral zones or as floating islands. Typical plant species found in these areas include Carolina willow, Peruvian primrosewillow (*Ludwigia peruviana*), cattail (*Typha* sp.), anglestem primrosewillow (*Ludwigia leptocarpa*), paragrass (*Urochloa mutica*), water lettuce (*Pistia stratiotes*), water hyacinth (*Eichhornia crassipes*), duckweeds (*Lemna* spp. and *Spirodela* spp.), fragrant white water lily (*Nymphaea odorata*), and spatterdock (*Nuphar advena*), among others. Areas mapped as emergent aquatic vegetation are uncommon within the study area.

9.3.7.2 Affected Waters and Wetlands

The preferred corridor occurs within the SWFWMD jurisdiction. SWFWMD's management area is large and contains nine surface water basins. The proposed corridor falls primarily within the Alafia River basin. The southern portion of the proposed corridor straddles the Peace River basin/Alafia River basin boundary.

The physiography is characterized by topography that is gently rolling to nearly flat. Typical elevations along the corridor range from approximately 150 feet above mean sea level (ft-msl) in the uplands to approximately 50 ft-msl along some of the tributaries.

Surface water bodies and wetlands crossed by the preferred corridor were identified using 1:24,000 U.S. Geological Survey (USGS) topographic maps, National Wetlands Inventory (NWI) maps, SWFWMD land use/cover maps, and recent aerial photographs (2010).

Pursuant to the provisions of Section 62-302.400, F.A.C., the majority of surface waters and wetlands crossed by the corridor would be classified as Class III waters, Recreation, Propagation, and Maintenance of Healthy, Well-Balanced Population of Fish and Wildlife. The preferred corridor does not include any Outstanding Florida Waters.

Water Bodies

Table 9.3.7-1 provides a list of the major water bodies found within the proposed corridor. The South Prong Alafia River and North Prong Alafia River are the only two significant water bodies crossed by the proposed corridor. Several small phosphate ponds are also located within the proposed corridor. The remainder of waters crossed by the preferred corridor includes minor drainages and roadside ditches. These smaller water bodies are not listed in the table.

Many of the ditches and roadside swales crossed or within the corridor (such as along SR 37) are intermittent, carrying water only during the rainy summer season. These intermittent ditches are neither navigable nor generally used for recreational purposes.

Table 9.3.7-1. Surface Water Bodies within the Proposed Corridor

Water Body	Receiving Water	Comments
North Prong Alafia River	Alafia River	Corridor crosses east of SR 37 south of Mulberry
South Prong Alafia River	Alafia River	Corridor crosses along SR 37
Unnamed lake(s)		Corridor crosses a grouping of five unnamed phosphate ponds east of SR 37 immediately south of SR 60

Source: ECT, 2010.

Drainage along the preferred corridor is generally to the south and west through sheet flow in wetland systems and small drainages/tributaries. The major drainages in the study region area are the Alafia River west of the study area, North Prong Alafia River, and South Prong Alafia River, which both cross the study area, and Payne Creek to the south-east of the study area.

Wetlands

Given the shallow groundwater table in places, flat topography, and varying soil conditions, there are various types of wetlands within the study area. As described in Section 9.3.7.1, these wetland types include bottomland swamps, fresh water marshes, wet prairies, and emergent aquatic vegetation. The hydrologic regime of these wetlands varies from semipermanently flooded to seasonally flooded, depending on their landscape position and the extent of drainage improvements within the immediate area. Extensive phosphate activities in and near the study area have altered the natural hydrologic regime of some of the wetlands.

Since much of the proposed corridor follows along SR 37, most water bodies that will be crossed have already been impacted by previous development such as filling, bridging, or culverting at the proposed points of crossing. This will minimize disturbance associated with construction since the area has already been impacted. However, limited construction for the placement of pipe is likely to be required in jurisdictional wetlands. Detailed design information will be provided to the appropriate regulatory agencies as postcertification submittals (see Section 9.4.2) to ensure that drainage patterns and characteristics are not further altered from the predevelopment condition.

9.3.7.3 Ecology

An area including the preferred corridor and 1,500 ft beyond either edge of the corridor was evaluated for the potential presence of listed plant or wildlife species. Listed species include those with a designation of endangered, threatened, species of special concern, or commercially exploited that are regulated by the U.S. Fish and Wildlife Service (USFWS), Florida Department of Agriculture and Consumer Services (FDACS), or Florida Fish and Wildlife Conservation Commission (FWC).

Listed species were included for discussion in this application based on their known or expected occurrence in the preferred corridor study area as residents, migrants, or transients determined on previous identifications in Polk County and the presence of suitable habitat within the preferred corridor. The lists of plant and animal species identified as potentially occurring within or adjacent to the preferred corridor are presented in the following subsections.

The probability of occurrence of these species was based on known locations for such species, recent and historical reports of occurrence in the scientific literature and the presence of suitable habitat as shown on land use and land cover maps, NWI maps, and recent aerial photographs. The Florida Natural Areas Inventory (FNAI)'s database (2010) was also used to identify known occurrences of such species. Since the specific locations of many plant species are not known or mapped and most vertebrates, particularly birds, have extensive ranges and show significant daily and/or seasonal movement and distribution patterns, the ecology section addresses the probability of occurrence in the preferred corridor primarily based on suitable habitat and range. This represents a conservative approach resulting in more diverse species inventories than solely depending on field observations and inclusion of species that may not occur within the confines of the preferred corridor.

In addition to the probability for occurrence, the potential for impacts due to right-of-way clearing, construction, and maintenance or other concerns such as the presence of ecologically unique or valuable habitats were evaluated for the species identified as potentially occurring in or adjacent to the preferred corridor. Individual discussions of the species are presented in the following subsections.

Plant Species

Fifteen plant species listed as endangered and four species listed as threatened by USFWS are known to occur in Polk County; 44 plant species are listed as endangered and 28 as threatened by the state of Florida (Wunderlin and Hansen, 2008).

Based on the results of an FNAI search of element occurrences, no state- or federally regulated plant species are known to occur within the proposed corridor. Due to the habitat specificity of most listed species known to occur in Polk County (e.g., restricted to sand pine scrub or other scrub habitats) and the disturbed condition of virtually all of the habitats crossed by the preferred corridor, no federally listed species and eight state-listed as endangered and seven state-listed as threatened plant species are considered to have a reasonable likelihood for occurrence within the preferred corridor. In addition, seven species listed as commercially exploited by FDACS have the potential to occur within the proposed corridor (Table 9.3.7-2). Given the known range of these species and presence of potential habitat on or adjacent to the preferred corridor, there is a possibility that some or all of these species could occur within or near the proposed corridor.

Wildlife Species

The presence or potential for occurrence of wildlife species within a given area is primarily related to the presence of suitable habitat for cover, feeding, and reproduction. In general, the type and quality of wildlife habitats vary with vegetation type and structure, surrounding land use, and hydrology. For this reason, wildlife habitat types can frequently be equated with vegetation community types.

To determine the vegetation community (i.e., habitat) types intersected by the preferred corridor, land use and land cover classification maps were obtained from SWFWMD (2006). These maps identified natural community systems as well as developed lands in various stages of disturbance. Using the SWFWMD classification (see Section 9.3.7.1), community systems identified in the corridor that serve as the principal wildlife habitat types include forested mixed uplands, upland hardwood forests, and wetlands such as freshwater marshes, emergent wetlands, bottomland swamps, and mine ponds. Habitats such as improved pasture, agricultural operations, transportation rights-of-way, recently or currently active mined lands, and landscaped residential and commercial development are of relatively lower value to wildlife due to the limited diversity of niches, which is reflected in the lower wildlife species diversities in such habitats.

Table 9.3.7-2. Listed Plant Species Known to Occur in Polk County with the Potential to Occur Within the Proposed Corridor

Scientific Name	Common Name	Designated Status FDACS*	Preferred Habitat	Potential for Occurrence
<i>Calopogon multiflorus</i>	Manyflowered grasspink	E	Damp pinelands, meadows	Low
<i>Matalea floridana</i>	Florida milkvine	E	Mesic hammock, sandhill	Low
<i>Pechuma pumula</i>	Plume polypody	E	Hammocks, floodplains	Low
<i>Pechuma ptilodon</i>	Comb polypody	E	Upland mixed forest	Low
<i>Spiranthes brevilabris</i>	Small ladiestresses	E	Dry to moist roadsides and fields	Moderate
<i>Thelypteris serrata</i>	Toothed lattice-vein fern	E	Swamps, floodplains	Moderate
<i>Tillandsia fasciculata</i>	Cardinal airplant	E	Hammocks, cypress swamps, floodplains	Moderate
<i>Tillandsia utriculata</i>	Giant airplant	E	Hammocks, floodplains, mixed forest	Moderate
<i>Gonolobus suberosus</i>	Angularfruit milkvine	T	Rich woods	Moderate
<i>Harrisella porrecta</i>	Threadroot orchid	T	Hammocks, floodplains, swamps, old orange groves	Moderate
<i>Pteroglossaspis ecristata</i>	Giant orchid	T	Scrub, sandhill, disturbed areas with xeric soils	Low
<i>Sacoila lanceolata</i>	Leafless beaked ladiestresses	T	Open pastures, roadsides, wet pine flatwoods	High
<i>Tillandsia balbisiana</i>	Northern needleleaf	T	Floodplain forest, cypress swamps	Low
<i>Zephyranthes atamasca</i> var. <i>treatiae</i>	Treat's zephyrlily	T	Floodplain forest, swamps, acid peaty soils	Moderate
<i>Zephyranthes simpsonii</i>	Simpson's zephyrlily	T	Roadsides, wet flatwoods, meadows	High
<i>Encyclia tampensis</i>	Butterfly orchid	CE	Hammocks, swamps, floodplains	Moderate
<i>Epidendrum conopseum</i>	Green-fly orchid	CE	Cypress and hardwood swamps, moist hammocks	Moderate
<i>Lycopodium cernuum</i>	Nodding club-moss	CE	Wet depressions, ditches, moist areas	High
<i>Osmunda cinnamomea</i>	Cinnamon fern	CE	Swamps, hydric hammocks, floodplains, marshes	High
<i>Osmunda regalis</i>	Royal fern	CE	Swamps, floodplains	High
<i>Rhapidophyllum hystrix</i>	Needle palm	CE	River bluffs, ravine slopes, hammocks, bottomland	Moderate
<i>Zamia</i> spp.	Coontie	CE	Oak hammocks, pinelands, shell middens	Moderate

*No federally listed species expected within the corridor.

E = endangered.

T = threatened.

CE = commercially exploited

Sources: FDACS, 2010.
FNAI, 2010.

USFWS, 2010a.
ECT, 2010.

Developed residential areas offer little habitat value to native vegetation and wildlife. Such areas occur primarily near Bradley Junction and Mulberry. In contrast, the undeveloped habitats in and along the preferred corridor include a variety of upland and wetland communities representing a wide range of habitat values for specific plant and wildlife species. Areas of potentially high habitat value within the preferred corridor area include the forested swamp areas and marsh communities found along the North Prong Alafia River and South Prong Alafia River.

The status and potential for occurrence of species recommended for study (i.e., species listed as endangered, threatened, or of special concern) in the study area were determined by a habitat analysis, literature survey, agency data, and ground surveys. A total of 28 vertebrate species, including 8 reptiles and amphibians, 17 birds, and 3 mammals, was identified as species occurring or possibly occurring in the study area. The status and potential for occurrence of these vertebrate species in and along the preferred corridor area are summarized in Table 9.3.7-3 and discussed in the following paragraphs.

Amphibians

Gopher Frog (*Lithobates capito*)—The gopher frog is a state-listed species of special concern as identified by FWC. This amphibian is typically considered a commensal species to the gopher tortoise. Therefore, habitat requirements tend to be xeric upland habitats that support gopher tortoise populations. Along the preferred corridor wherever gopher tortoise habitats are found, there is a moderate likelihood this species may be present.

Reptiles

American Alligator (*Alligator mississippiensis*)—The alligator is listed as threatened due to similarity of appearance by USFWS and a species of special concern by FWC. This reptile would almost certainly be present in wetlands and water bodies along the preferred corridor.

Eastern Indigo Snake (*Drymarchon corais couperi*)—This distinctive large, black snake can occur in suitable habitats throughout Florida. It has a wide range of habitat preferences and prey species. Often considered as a gopher tortoise commensal, it can be

Table 9.3.7-3. Listed Wildlife Species Potentially Occurring in the Tampa Electric Reclaimed Water Pipeline Corridor Study Area

Common Name	Scientific Name	Designated Status*		Likelihood of Occurrence within Preferred Corridor
		USFWS	FWC	
<u>Amphibians</u>				
Gopher frog	<i>Lithobates capito</i>	—	SSC	Moderate—wherever gopher tortoises are found
<u>Reptiles</u>				
American alligator	<i>Alligator mississippiensis</i>	T(S/A)	SSC	High—wetlands and water bodies throughout the corridor area
Eastern indigo snake	<i>Drymarchon corais couperi</i>	T	T	Moderate—especially where gopher tortoises are found; records from study area (FNAI)†
Blue-tailed mole skink	<i>Eumeces egregious lividus</i>	T	T	Low—No suitable habitat found along the corridor; no records exist for the study area (FNAI)
Gopher tortoise	<i>Gopherus polyphemus</i>	—	T	Moderate—likely found in more xeric portions of corridor; records found throughout the study area (FNAI)
Sand skink	<i>Neoseps reynoldsi</i>	—	T	Low—no suitable habitat found in the corridor area, although some records exist for the general study area (FNAI)
Florida pine snake	<i>Pituophis melanoleucus mugitus</i>	—	SSC	Low—no suitable habitat found in corridor area; no records exist within study area (FNAI)
Short-tailed snake	<i>Stilosoma extenuatum</i>	—	T	Low—no suitable habitat found in corridor area; no records exist within study area (FNAI)
<u>Birds</u>				
Florida grasshopper sparrow	<i>Ammodramus savannarum floridanus</i>	E	E	Low—no suitable habitat exists along the corridor
Florida scrub jay	<i>Aphelocoma coerulescens</i>	T	T	Low—scrub habitat along portions of the corridor; no records exist for the study area (FNAI)
Limpkin	<i>Aramus guaranauna</i>	—	SSC	Low—slow-moving streams generally absent from corridor area; no records exist from study area (FNAI)
Florida burrowing owl	<i>Athene cunicularia floridana</i>	—	SSC	Low—prefers dry, well drained pastures; no records exist for study area (FNAI)

Table 9.3.7-3. Listed Wildlife Species Potentially Occurring in the Tampa Electric Reclaimed Water Pipeline Corridor Study Area (Continued, Page 2 of 3)

Common Name	Scientific Name	Designated Status*		Likelihood of Occurrence within Preferred Corridor
		USFWS	FWC	
Little blue heron	<i>Egretta caerulea</i>	—	SSC	High—suitable habitats along corridor; five wading bird colonies known within 0.5 mile, and individual records exist for study area (FNAI)
Snowy egret	<i>Egretta thula</i>	—	SSC	High—suitable habitats along corridor; five wading bird colonies known within 0.5 mile, and individual records exist for study area (FNAI)
Tricolored heron	<i>Egretta tricolor</i>	—	SSC	High—suitable habitats along corridor; five wading bird colonies known within 0.5 mile, and individual records exist for study area (FNAI)
White ibis	<i>Eudocimus albus</i>	—	SSC	High—suitable habitats along corridor; five wading bird colonies known within 0.5 mile, and individual records exist for study area (FNAI)
Florida sandhill crane	<i>Grus canadensis pratensis</i>	—	T	Moderate—wet pastures and marshes along corridor; records exist for the study area (FNAI)
Bald eagle‡	<i>Haliaeetus l. leucocephalus</i>	—	--	Present—two nests located within 0.5 mile from the edge of corridor; numerous phosphate lakes exist for foraging; listed because of protective buffers afforded active nest sites
Wood stork	<i>Mycteria americana</i>	E	E	High—suitable habitats along corridor; two breeding colonies known within 0.5 mile, as well as numerous individual records exist for study area (FNAI)
Red-cockaded woodpecker	<i>Picoides borealis</i>	E	SSC	Low—suitable old growth pine trees absent from corridor area
Roseate spoonbill	<i>Platalea ajaja</i>	—	SSC	Low—more coastal species, but could be found foraging inland
Crested caracara	<i>Polyborus plancus audubonii</i>	T	T	Moderate—could be observed foraging along open areas within corridor

Table 9.3.7-3. Listed Wildlife Species Potentially Occurring in the Tampa Electric Reclaimed Water Pipeline Corridor Study Area (Continued, Page 3 of 3)

Common Name	Scientific Name	Designated Status*		Likelihood of Occurrence within Preferred Corridor
		USFWS	FWC	
Everglades snail kite	<i>Rostrhamus sociabilis plumbeus</i>	E	E	Low—lack of suitable habitat within corridor, although historical records (1988) exist from a mining area north of PPS (FNAI)
Least tern	<i>Sterna antillarum</i>	—	T	Low—Suitable habitat lacking; no records exist for the corridor area (FNAI)
<u>Mammals</u>				
Florida mouse	<i>Peromyscus floridanus</i>	—	SSC	Low—possibly found where gopher tortoises exist; no records from the study area (FNAI)
Sherman's fox squirrel	<i>Sciurus niger shermani</i>	—	SSC	Low—preferred habitat generally lacking from corridor; no records exist for study area (FNAI)
Florida black bear	<i>Ursus americanus floridanus</i>	—	T	Low—suitable habitat lacking; presence of mining and development minimize undisturbed areas

* E = endangered.

T = threatened.

T(S/A) = threatened due to similarity in appearance to a federally listed species.

SSC = species of special concern.

†FNAI 2010 records search of rare element occurrences for the study area.

‡The bald eagle has been delisted, however it is included due to federal protection and recommended nesting buffers.

Sources: FWC, 2010.

FNAI, 2010.

USFWS, 2010a.

ECT, 2010.

found in xeric habitats, but also uses more mesic habitats. There is a moderate likelihood it would be found along the preferred corridor. Both USFWS and FWC list the indigo snake as a threatened species. FNAI (2010) has records of this animal documented in the study area.

Blue-tailed Mole Skink (*Eumeces egregious lividus*)—This lizard is listed by both federal and state as threatened. Like the sand skink, this species is found along the Lake Wales Ridge and prefers xeric scrub habitats, which are not present in the corridor. Therefore its likelihood of occurrence is low.

Gopher Tortoise (*Gopherus polyphemus*)—The gopher tortoise's range in Florida includes all of the study area. It is likely to be found in more xeric habitats along the preferred corridor. Some records do exist for the study area (FNAI, 2010). Since it prefers burrows in sunny locations, any xeric habitats along existing road or railroad rights-of-way may be particularly suited to this species, and therefore has a moderate likelihood of occurrence. FWC currently lists the gopher tortoise as threatened.

Sand Skink (*Neoseps reynoldsi*)—This state-threatened species is habitat specific, restricted to rosemary scrub habitats of the Lake Wales Ridge. It occurs in Polk County (FNAI 2010), but habitats are lacking within the corridor area. Therefore its likelihood of occurrence is low.

Florida Pine Snake (*Pituophis melanoleucus mugitus*)—The Florida pine snake prefers longleaf pine/xeric oak woodlands. No such habitats are found in the corridor area. FNAI (2010) shows no records for this species for the study area, and therefore its likelihood of occurrence in the corridor is considered low.

Short-Tailed Snake (*Stilosoma extenuatum*)—The short-tailed snake is generally restricted to sandhill communities, which are xeric habitats. No xeric habitats are present in the corridor area. FNAI (2010) indicates no records for this species in the corridor; therefore, it has a low likelihood of occurrence.

Birds

Florida Grasshopper Sparrow (*Ammodramus savannarum floridanus*)—This bird is also listed as endangered by both regulatory agencies. This is a grassland species usually found around the Lake Okeechobee area. It formerly ranged into Polk County. However, due to range and habitat limitations, it is considered to have a low likelihood of occurrence within the corridor.

Florida Scrub Jay (*Aphelocoma coerulescens*)—The Florida scrub jay prefers xeric scrub habitats generally found along the Lake Wales Ridge of Florida, which is primarily southeast of the study area. No scrub habitat is found along the study area, and FNAI (2010) revealed no recorded observations from the study area. Therefore its likelihood of occurrence is low. The scrub jay is listed as threatened by both USFWS and FWC.

Limpkin (*Aramus guarauna*)—FWC lists the limpkin as a species of special concern. Its range is primarily north-central Florida, and it is found in slow-moving waterways inhabited by the apple snail. This bird's likelihood of occurrence in the preferred corridor is considered moderate due to the presence of two riverine systems within the preferred corridor.

Burrowing Owl (*Athene cunicularia floridana*)—The burrowing owl prefers xeric pastures with low vegetation. The preferred corridor does cross some dry pastures, but its likelihood of occurrence is considered low, since no records exist for the study area (FNAI, 2010).

Little Blue Heron (*Egretta caerulea*)—This wading bird is listed as a species of special concern by FWC and is found in suitable wetlands throughout Florida. They prefer freshwater habitats for foraging. This heron may be found foraging in suitable habitats along the preferred corridor.

Snowy Egret (*Egretta thula*)—FWC lists snowy egrets, like the other wading birds, as a species of special concern. This bird is widely distributed in Florida in both fresh and saltwater systems. It may occur in wetlands along the preferred corridor.

Tricolored Heron (*Egretta tricolor*)—The tricolored heron (formerly called Louisiana heron) is a species of special concern as listed by FWC. It prefers estuarine habitats but can be found foraging in almost any wetland system. It may occur along the preferred corridor.

White Ibis (*Eudocimus albus*)—The white ibis is actually one of the most common wading birds in Florida, but FWC lists it as a species of special concern. Large flocks of this bird are often seen foraging in shallow marshes or wet pastures. The white ibis is likely to occur along the preferred corridor.

Florida Sandhill Crane (*Grus canadensis pratensis*)—The Florida sandhill crane is listed as threatened by FWC. It prefers marshes for nesting and pastures, wet prairies, or farm fields for foraging. Given the potential habitats along the preferred corridor, its likelihood of occurrence is considered moderate.

Bald Eagle (*Haliaeetus leucocephalus*)—The bald eagle has been delisted by both the state and federal agencies; however, it is discussed here because it is afforded protection through various federal acts and nest buffer guidelines. The eagle is making a comeback in population numbers in the United States, and, in Florida, eagle nests are becoming more common. Two active bald eagles' nests occur within 0.5 mile of the preferred corridor:

- PO 071—This nest occurs approximately 0.5 mile east of the corridor and south of CR 640 (Pinecrest Road) (see Figure 9.3.7-1). The nest was last reported active in 2010.
- PO 151—This nest occurs south of Bradley Junction and approximately 300 ft east of the preferred corridor (see Figure 9.3.7-1). It was last reported active in 2010.

No other active eagle nests are known to occur in the corridor or within 0.5 mile of the preferred corridor.

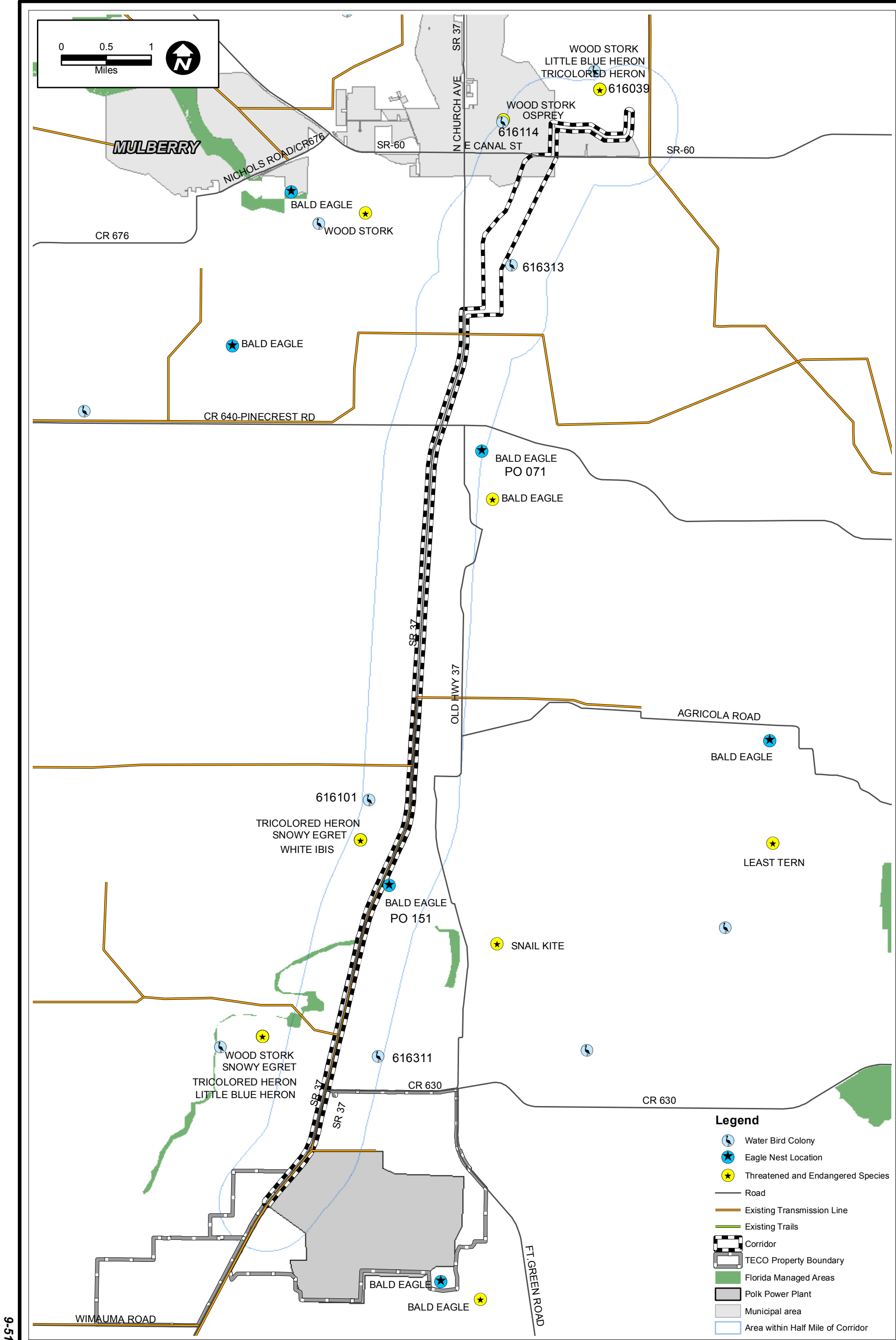


FIGURE 9.3.7-1.
THREATENED AND ENDANGERED SPECIES

Sources: FNAI, 1999, 2010; FWC, 1999; USFWS, 2010; Polk County, 2010; FGDL, 2010; ECT, 2010.



Wood Stork (*Mycteria americana*)—The wood stork is an endangered species according to both USFWS and FWC. This large bird prefers nesting in cypress swamps. Two known historical nesting colonies (FWC Colony numbers 616039 and 616114) are found near the preferred corridor. Both colonies are located north of the corridor near Mulberry (USFWS, 2010b). Figure 9.7.3-1 shows these two locations. Individuals of the species almost certainly would be found foraging in marshes, ditches, and phosphate ponds along the preferred corridor.

Red-cockaded Woodpecker (*Picoides borealis*)—The red-cockaded woodpecker is listed as federally endangered but a species of special concern in the state. Its unique habitat requirements include old-age pine trees inflicted with red-heart disease which allows the birds to form cavities in living trees. Since no old-age pine stands are found in the corridor, the bird's likelihood of occurrence is low.

Roseate Spoonbill (*Platalea ajaja*)—Roseate spoonbills are a conspicuous bird that nest and primarily forage along the coast. They do occasionally forage inland and therefore may occur in the study area due to its proximity to Tampa Bay. FNAI (2010) does not report any occurrences around the study area; therefore, their likelihood of occurrence is considered low.

Crested Caracara (*Polyborus plancus audubonii*)—This bird is listed as threatened by both agencies. The bird is more commonly observed in open cabbage palm prairies and grasslands of central Florida. While nesting habitat is relatively scarce along the corridor, there is a moderate possibility the bird could be observed foraging along the open habitats and roadways along the corridor.

Everglades Snail Kite (*Rostrhamus sociabilis plumbeus*)—This endangered bird prefers habitats consisting of slow-moving water with emergent vegetation (such as maidencane or sawgrass). It is typically found in the Lake Okeechobee area southward through the Everglades. Although FNAI lists a few historical sitings north of the PPS site, its likelihood of occurrence in the study area is considered low.

Least Tern (*Sterna antillarum*)—This state-listed threatened species is typically a coastal bird, but does occur inland and has been found in Polk County. It prefers nesting of sand or gravel substrates and has been known to nest on dirt roads and roof tops. FNAI (2010) has no records of this bird along the corridor and therefore its likelihood of occurrence is low.

Wading Bird Colonies

FWC (1999), USFWS (2010a), and FNAI (2010) do list known locations of several wading bird colonies in the study area, in addition to the two wood stork colonies discussed previously. While none are recorded as occurring within the preferred corridor, three are shown to occur within 0.5 mile of the preferred corridor (see Figure 9.3.7-1):

- Colony 616313—Located east of the corridor and south of the North Prong Alafia River.
- Colony 616101—Located west of the corridor just south of Bradley Junction.
- Colony 616311—Located east of the corridor and just north of CR 630.

Since these nests were last reported active in 1999 by FWC, it is unknown if they are currently active, but historical colonies can be reformed from year to year.

Mammals

Florida Mouse (*Podomys floridanus*)—The Florida mouse is also recognized as a commensal to the gopher tortoise, commonly found residing in tortoise burrows. FWC lists the species as a species of special concern. Gopher tortoises may exist within the preferred corridor, but the Florida mouse's likelihood of occurrence is considered low. FNAI (2010) reports no records for the study area.

Sherman's Fox Squirrel (*Sciurus niger shermani*)—This squirrel has a low likelihood to occur in the study area and along the preferred corridor. FWC lists the species as a species of special concern. It would be expected to be found in drier pine flatwoods, xeric oak, or sandhill communities, which are not common along the preferred corridor. FNAI (2010) shows no records of this species within the study area.

Florida Black Bear (*Ursus americanus floridanus*)—This large mammal typically prefers large wetlands and riverine swamps throughout the state. The bear is listed as threatened in Florida. While it has been reported in Polk County, its habitat opportunities within the corridor are limited to a couple limited riverine crossings and therefore, its likelihood of occurrence is considered low.

9.3.7.4 Other Environmental Factors

The preceding subsections present relevant environmental information regarding the biological and water resources within and near the reclaimed water pipeline preferred corridor. No additional information has been determined necessary to describe environmental characteristics of this corridor.

9.4 EFFECTS OF RIGHT-OF-WAY PREPARATION AND PIPELINE CONSTRUCTION

9.4.1 CONSTRUCTION TECHNIQUES

Because the proposed pipeline route follows existing road right-of-way for much of the way, clearing should be minimal. Field reconnaissance indicates public right-of-way along SR 37 is approximately 150 ft wide and covered by short grass. The stretch of right-of-way along the rail spur connecting SR 60 and Cozart Road traverses private property and the North Prong Alafia River.

Pipeline construction methods for most of the route will likely consist of either open cut (dig trench, place pipe, backfill, and restore) or HDD. Decisions regarding the installation method will be made during final design and the results of competitive bidding. Pipeline installation under wetlands, stream crossings, rail crossings, SR 60, and potentially some roadway intersections containing dense or hazardous utilities (e.g., SR 37 and Pinecrest intersection containing methanol and ammonia pipelines) will likely be by HDD. It is most likely that HDD techniques will be employed around the Mulberry phosphate land, the North Prong Alafia River crossing, and the railroad and road crossings. Drawings, fracture mitigation plans, depths, and borehole diameters will be determined after the design is complete and a construction contractor is selected.

HDD is anticipated for this work because of the length of bore and proximity to the road and other utilities.

A traditional jack-and-bore requires a large bore pit to accommodate the boring rig. Any bore pit in this area of Florida would have to be dewatered, which could impact the road, other utilities, and the surrounding area. Additionally, the closeness of the other utilities and neighbors would interfere with the set up of the bore rig.

Since the bore rig for directional drills sits above grade, other underground utilities are less likely to interfere with the rig. Also, directional drills can be made deeper than traditional jack-and-bores, which allow directional drills to maintain safe distances from other underground utilities. Also, the extra depth will increase safety during day to day operations. HDD utilizes a very good guidance system that allows the bores to be accurate over a long distance. Furthermore, the use of HDD techniques minimizes impact to the surrounding area, and especially to wetlands such as those associated with the North Prong Alafia River.

Construction equipment will include loaders, graders, dump trucks, directional drilling machines, asphalt paving machines, compactors, pipe handling equipment, and watering trucks.

Construction activities will generally include the ongoing/progressive installation of pipe, valves, and restoration along the full route. Typically, a pipe crew can install approximately 400 ft per day on average; therefore, the full length of pipeline may require approximately 200 crew-days. With two crews, this would take approximately 5 months working straight through. A third or fourth crew would probably be working in parallel for restoration, special crossings, etc. When installation is complete, the pipeline would be pressure-tested for final acceptance. It is reasonable to consider a total construction period of 8 to 10 months for submittals, mobilization, installation, testing, acceptance, and weather/other delays. However, the timetable could change depending upon the final pipeline alignment with respect to adjacent utilities, wetlands, number of roadway crossings, weather delays, etc.

Access roads are not required for the majority of the route where it follows public road rights-of-way. Where the route does leave SR 37 along the CSX Railroad to SR 60, TEC may require an access road in portions of this route. No access road will be constructed across the North Prong Alafia River or its floodplain. This sensitive portion of the route will be constructed using HDD. While it is not anticipated that permanent access roads will be needed along the pipeline route at this time, temporary access roads will be needed around the Mulberry phosphate area and the area around the river crossing. Figure 9.3.4-1 depicts a typical construction road detail.

The rest of the route should provide reasonable access as is. The one other area where some access improvement may be needed is at the Lakeland wetland treatment system terminus. The land appears fairly open and accessible as is, but this area will be reviewed with the contractor.

9.4.2 ENVIRONMENTAL RESOURCE PERMIT

Currently certification is sought for a corridor in which a narrow right-of-way will be identified. Once the corridor is certified, a right-of-way identified and acquired, and detailed designs are finalized, TEC will provide the information normally found in an environmental resource permit (ERP) application to the reviewing agencies as a postcertification condition, as authorized by Section 62-17.191, F.A.C.

9.4.3 SOLID WASTES

Solid wastes generated from right-of-way clearing and pipeline construction typically consist of cleared vegetation and construction related debris. Solid wastes will be collected and removed for disposal in compliance with state and local landfill regulations, chipped and spread over the right-of-way, or piled and burned within the right-of-way, if allowed and in compliance with local burning ordinances.

9.4.4 CHANGES TO VEGETATION, WILDLIFE, AND AQUATIC LIFE

Impacts on terrestrial and aquatic systems and species associated with pipeline right-of-way preparation and construction depend primarily on the location of the selected right-of-way and, to a lesser degree, on clearing and construction techniques.

Through a systematic, environmentally responsive corridor selection process, the crossing of major terrestrial, wetland, and aquatic systems was minimized or avoided to restrict any potential impacts to sensitive habitats and/or endangered and threatened species associated with pipeline construction and maintenance. Where the proposed corridor follows along SR 37 or other roadways, it is not anticipated that pipeline construction or maintenance will have any significant impact on native vegetation, wildlife, or aquatic life. The remaining areas that could be potentially crossed by the pipeline include a number of natural and disturbed upland and wetland community types. Design options will be explored to minimize wetland impacts at the crossing of the North Prong Alafia River wetlands. However, with the proposed use of HDD, impacts will be minimized and limited to minor vegetative clearing at each end of the drill/pull sites, which will be located in upland areas. No aquatic environments will be impacted.

It is not anticipated any listed species will be impacted by the narrow right-of-way. If the listed gopher tortoise is present along the right-of-way, TEC will acquire the necessary approvals from FWC to either permanently or temporarily relocate the affected tortoises. No other listed species will be adversely affected by construction of this facility.

9.4.5 IMPACT ON HUMAN POPULATIONS

Pipeline construction occurs as a series of tasks generally accomplished in sequence by different specialized crews. Tasks (where necessary) include clearing the right-of-way, excavation, constructing access roads, and cleanup activities. Construction of the entire pipeline is expected to take approximately 8 to 10 months. Crew sizes vary depending on the task and usually range in size from 6 to 12 members. Although several crews may work simultaneously along the length of a line, the duration of a crew's activities in any one area will be quite short (usually 1 to 2 days). Inconveniences experienced by residents near the pipeline will be primarily confined to noise from machinery used intermit-

tently at various locations along the right-of-way during construction and minor traffic disruptions due to use of heavy equipment along road rights-of-way. The construction and associated noise-producing activities are intermittent in nature and will take place only during normal daylight working hours unless otherwise directed by local permitting agencies.

Population density in the vicinity of the proposed corridor varies, but remains relatively low throughout most of the length of the corridor. Much of the proposed corridor is along agricultural, rural residential density, commercial, or undeveloped land, with generally a lower density of homes. In the few areas where development exists or is ongoing in Polk County and the city of Mulberry, the proposed corridor is at least partially collocated with existing linear facilities.

In Polk County, the proposed corridor incorporates both sides of SR 37 for most of its length. Much of the adjacent land has been mined for phosphate. Established neighborhoods along SR 37 are Oak Terrace and Bradley Junction. The established neighborhood of Pine Dale is located east of Old SR 37 north of Pinecrest Road. The Kingsford neighborhood is located east of SR 37 just south of the city limits of Mulberry.

There are established neighborhoods within the city limits of Mulberry adjacent to both the Mulberry Middle School and the Mulberry High School (Lakeview Heights). Other land uses in the proposed corridor within the city limits are commercial, light industrial, former phosphate mined land, and parks.

Impacts to the human population attributable to construction and possible maintenance of the proposed pipeline will be minimal due to the avoidance of much of the existing development in the region by the proposed corridor, the collocation with existing linear facility rights-of-way where feasible, and the short duration of construction activities in any one location.

9.4.6 IMPACT ON REGIONAL SCENIC, CULTURAL, AND NATURAL LANDMARKS

No such resources are known to occur within the corridor; therefore, no impacts are anticipated.

9.4.7 IMPACT ON ARCHAEOLOGICAL AND HISTORIC SITES

As discussed in Section 9.3.6.5, according to DHR's Master Site File (2010), there are several known archaeological/historic features found in the proposed corridor. Every effort will be made to avoid these sites. This can be accomplished with alignment of the actual right-of-way.

If requested by DHR, an archaeological site assessment survey will be conducted of archaeologically sensitive areas (as determined by DHR) within the eventual right-of-way, and the report of the survey will be submitted to DHR for review. If any sites within the right-of-way are determined to be significant, DHR will be consulted regarding appropriate procedures for either preservation or excavation of the significant site(s).

If unforeseen archaeological finds are discovered during construction, DHR will be notified. Following a determination of the importance of such finds, TEC will work with DHR to assess mitigation measures necessary to minimize adverse impacts.

9.5 POSTCONSTRUCTION IMPACTS AND EFFECTS OF MAINTENANCE

9.5.1 MAINTENANCE TECHNIQUES

A water pipeline typically requires little maintenance. Other than monitoring flow rates and operating pressure, the pipeline maintenance activities will include:

- Monthly *windshield* inspection of the pipeline to look for evidence of leaks exhibited by seepage and/or depressions along the alignment.
- Monthly inspection of the air release valves to assure proper operation.
- *Exercising* the valves on a monthly basis. Depending on the number of valves implemented into the final design, this activity could take approximately 2 days.

- Due to the characteristics of the water, pipeline *pigging* may not be required. However, a more thorough analysis of the need for pigging should be done during design activities.

The eventual right-of-way will primarily follow public road rights-of-way, so it will be maintained accordingly as FDOT currently maintains it.

Maintenance manpower requirements should be likewise minimal. The windshield inspection and inspection of air release valves can be accomplished by a single person in 1 day.

Maintenance activities for the pump station should include onsite inspection twice weekly to observe general condition of pumps, electrical components, and piping. The activities should include inspection for leaks, unusual pump/motor sounds, security of the pump house, etc.

Telemetry will provide a general view of pump and pipeline health through monitoring of flow rates, pump speed, system pressure, etc. Such monitoring could be accomplished during the normal course of control room activities.

9.5.2 MULTIPLE USES

TEC rights-of-way are frequently used for other purposes compatible with the operation and maintenance of pipelines. Multiple use of pipeline rights-of-way typically includes grazing, limited agricultural operations, controlled landscaping, recreational uses such as golf courses and hiking/biking trails, and other compatible activities that do not interfere with TEC's full use of the right-of-way and the function of the pipeline facilities. In most cases, TEC obtains an easement for the construction, maintenance, and operation of its pipeline, as well as the rights of ingress and egress to that line, from another party who retains the fee-simple interest in the property. The easement may provide for acceptable use of the right-of-way by the fee owner for activities that do not interfere with TEC's full use of its easement and the function of the pipeline facilities.

9.5.3 CHANGES IN SPECIES POPULATIONS

The status and potential for occurrence of important species in and along the preferred corridor is discussed in Section 9.3.7. The absence of significant impacts to important species is not coincidental, as efforts were made during the corridor selection study to avoid potentially sensitive habitats as much as practicable. The avoidance of ecologically unique or valuable habitats was achieved primarily through collocating the corridor with existing public roadway rights-of-way and other linear rights-of-way or traversing open lands, phosphate mined lands, or existing agricultural lands.

No changes in local species populations are expected as a result of pipeline presence and maintenance. Displacement of individuals from the immediate right-of-way area that may occur during construction activities will be temporary. Habitat use will decline during actual construction due to noise and human presence. Such avoidance behavior will enable wildlife to escape direct impacts from construction activities, although some losses of individual vertebrates (e.g., rodents, amphibians) may occur during right-of-way clearing. These displaced species are expected to reinhabit the right-of-way areas after construction. No animal or plant species are expected to be permanently displaced out of the pipeline right-of-way area.

Due to necessary maintenance practices in the right-of-way, a decrease in structural diversity will occur in formerly forested areas (i.e., permanent loss of a tree canopy layer), which are very limited on the corridor. Since most of the corridor follows existing road rights-of-way, previously disturbed lands, or active agricultural lands, clearing of canopy vegetation will be minimal. The long-term effects of this pipeline and associated maintenance should not adversely affect regional populations of any listed species. Through a vegetation maintenance program and proper culverting of access roads where needed, both existing habitat and hydrology will be maintained.

9.5.4 EFFECTS OF PUBLIC ACCESS

Much of the proposed pipeline corridor follows public road rights-of-way where access is currently not prohibited. Where TEC crosses private ownerships, TEC will install locked gates where the right-of-way enters and exits through existing fencing. That way, no new

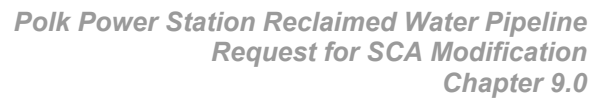
public access will be allowed along these portions of the right-of-way except by TEC maintenance crews. Where the corridor crosses the North Prong Alafia River conservation easement, TEC will provide FDEP access if locked gates are required.

9.5.5 OTHER POSTCONSTRUCTION EFFECTS

No other postconstruction effects are anticipated. Water pipelines are unobtrusive once constructed, and no other effects are anticipated.

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9.1 MAPS

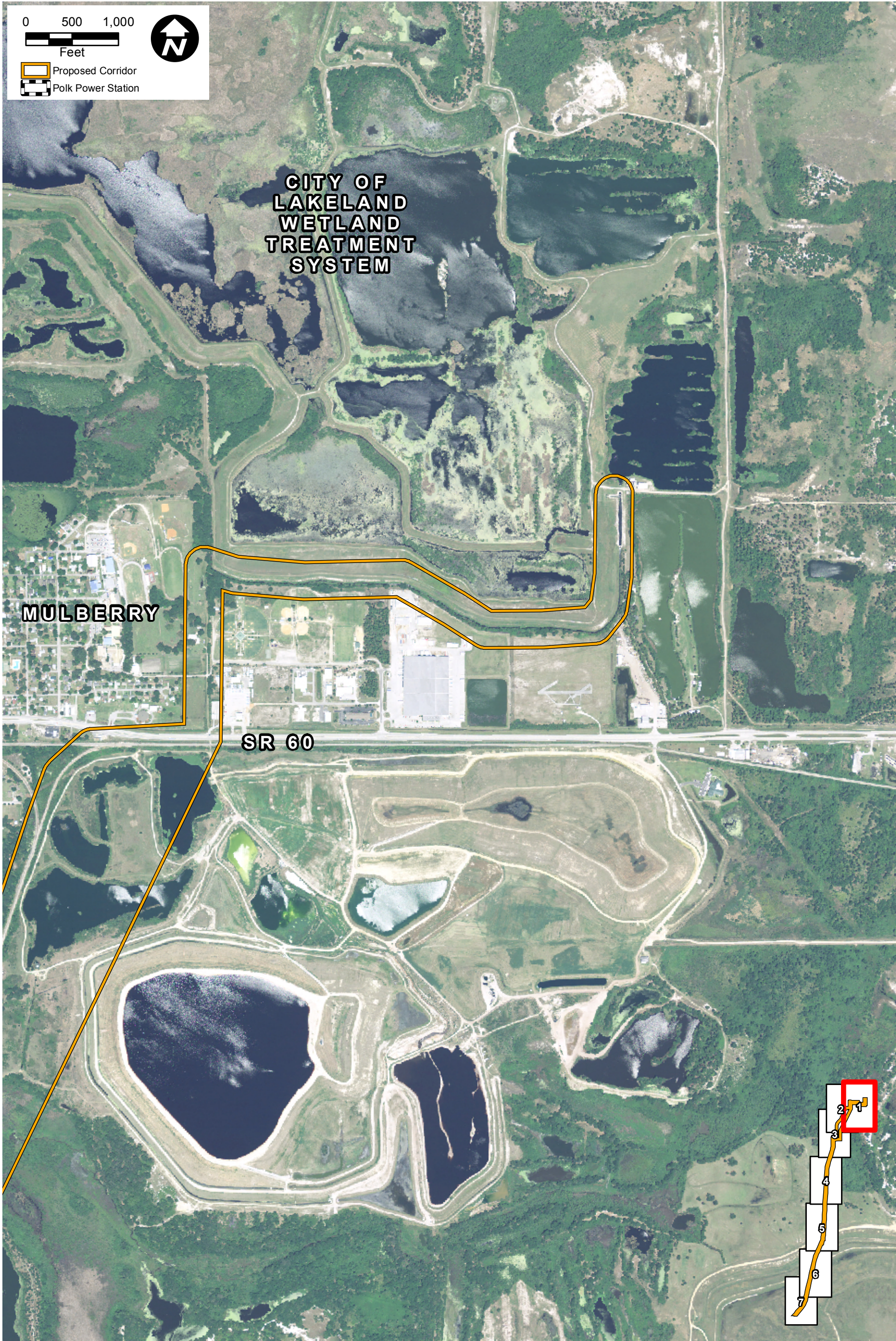


FIGURE 9.1.0-1.
2010 AERIAL OF CORRIDOR



99-6



FIGURE 9.1.0-1.
2010 AERIAL OF CORRIDOR



Sources: NAIP, 2010; ECT, 2010.

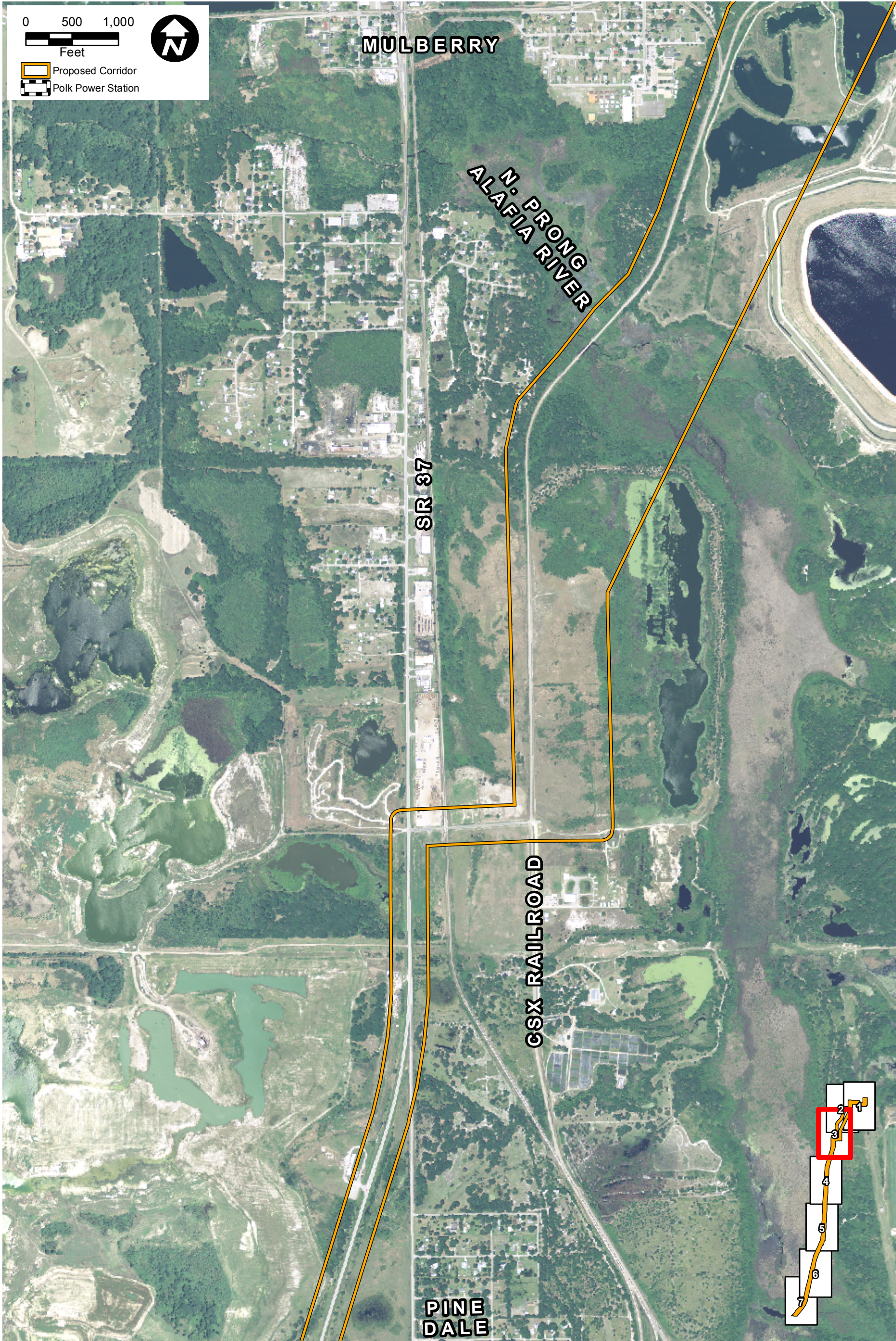


FIGURE 9.1.0-1.
2010 AERIAL OF CORRIDOR



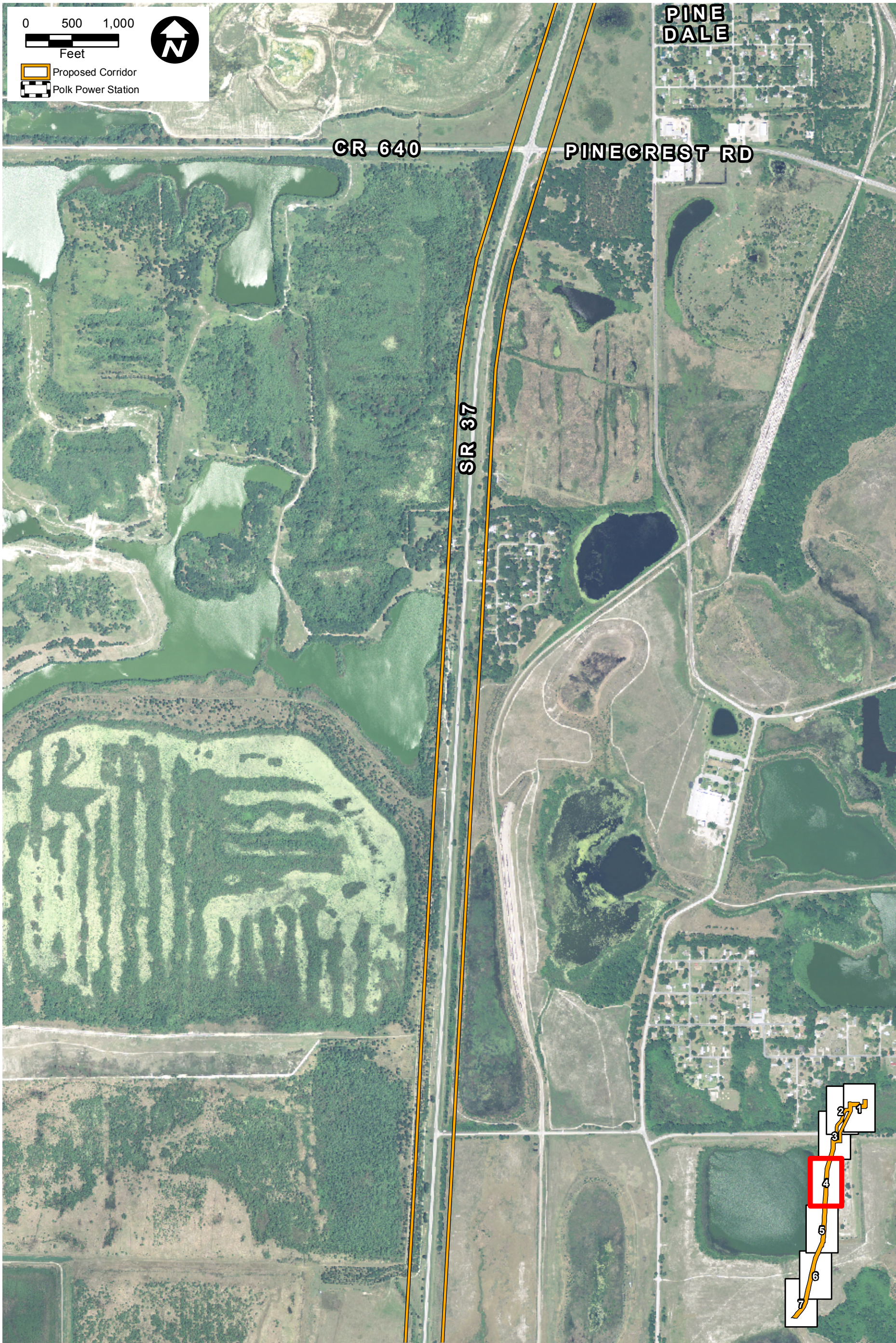


FIGURE 9.1.0-1.
2010 AERIAL OF CORRIDOR



Sources: NAIP, 2010; ECT, 2010.



FIGURE 9.1.0-1.
2010 AERIAL OF CORRIDOR





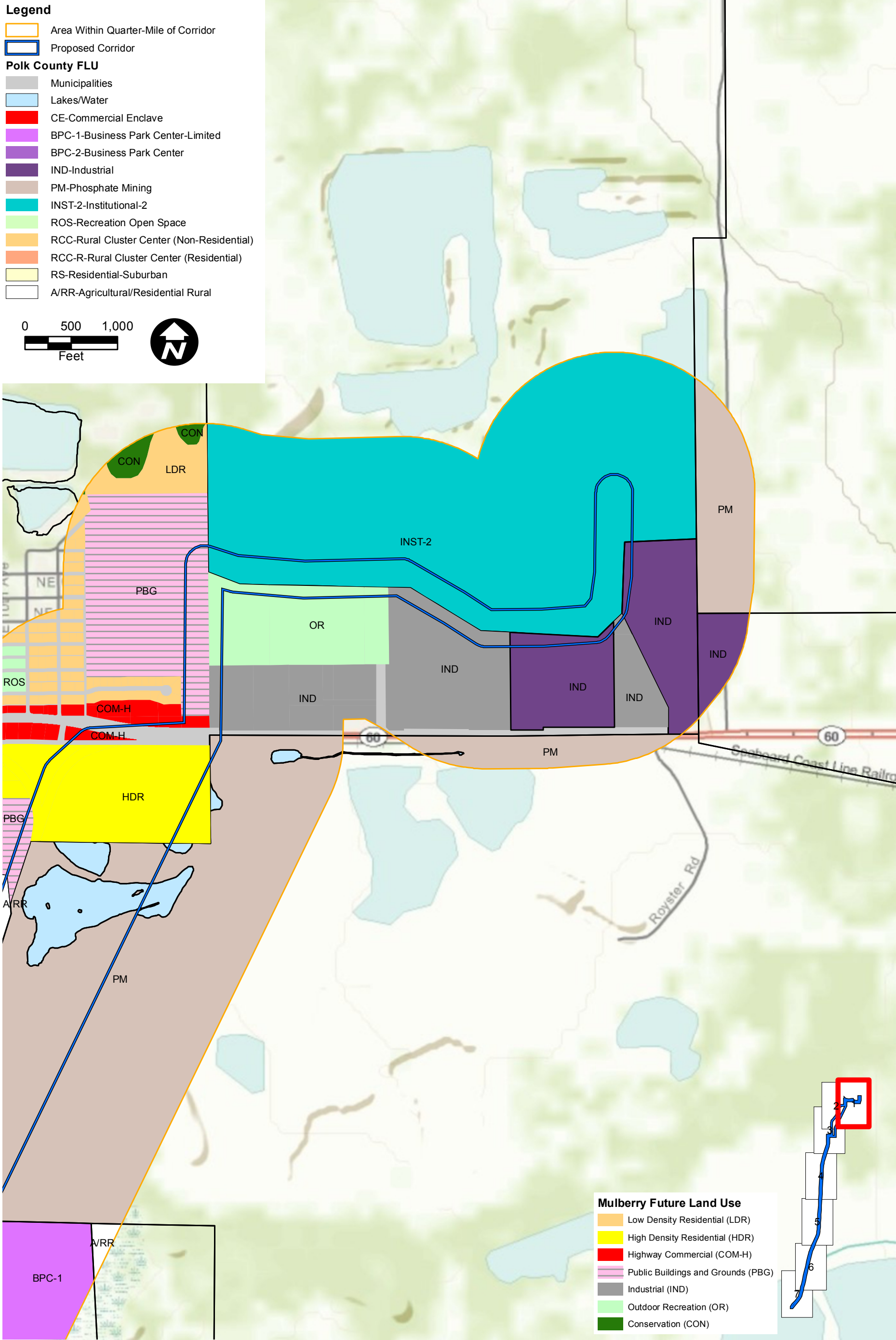
FIGURE 9.1.0-1.
2010 AERIAL OF CORRIDOR





FIGURE 9.1.0-1.
2010 AERIAL OF CORRIDOR



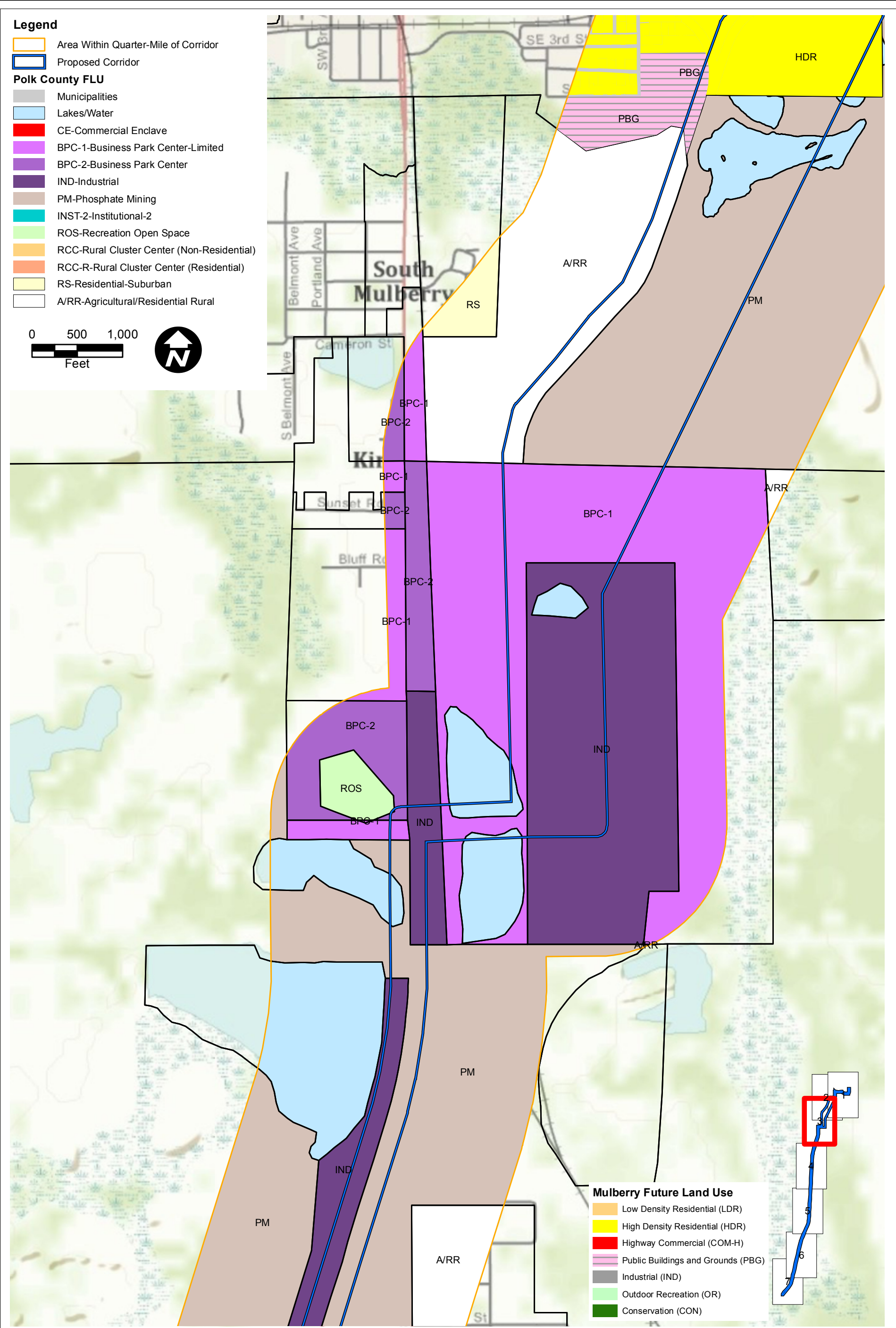


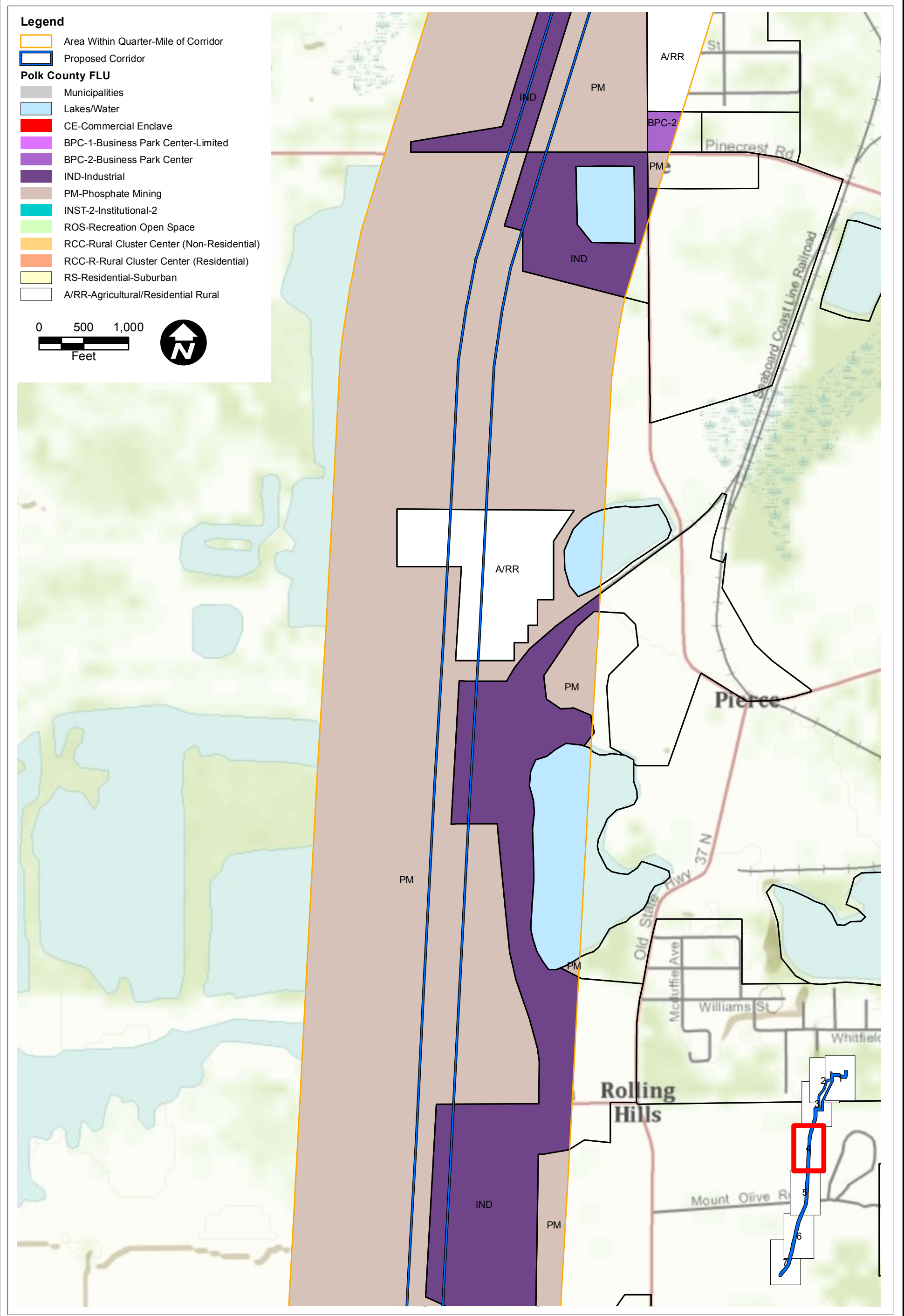


Sheet 2 of 7



TECO
TAMPA ELECTRIC





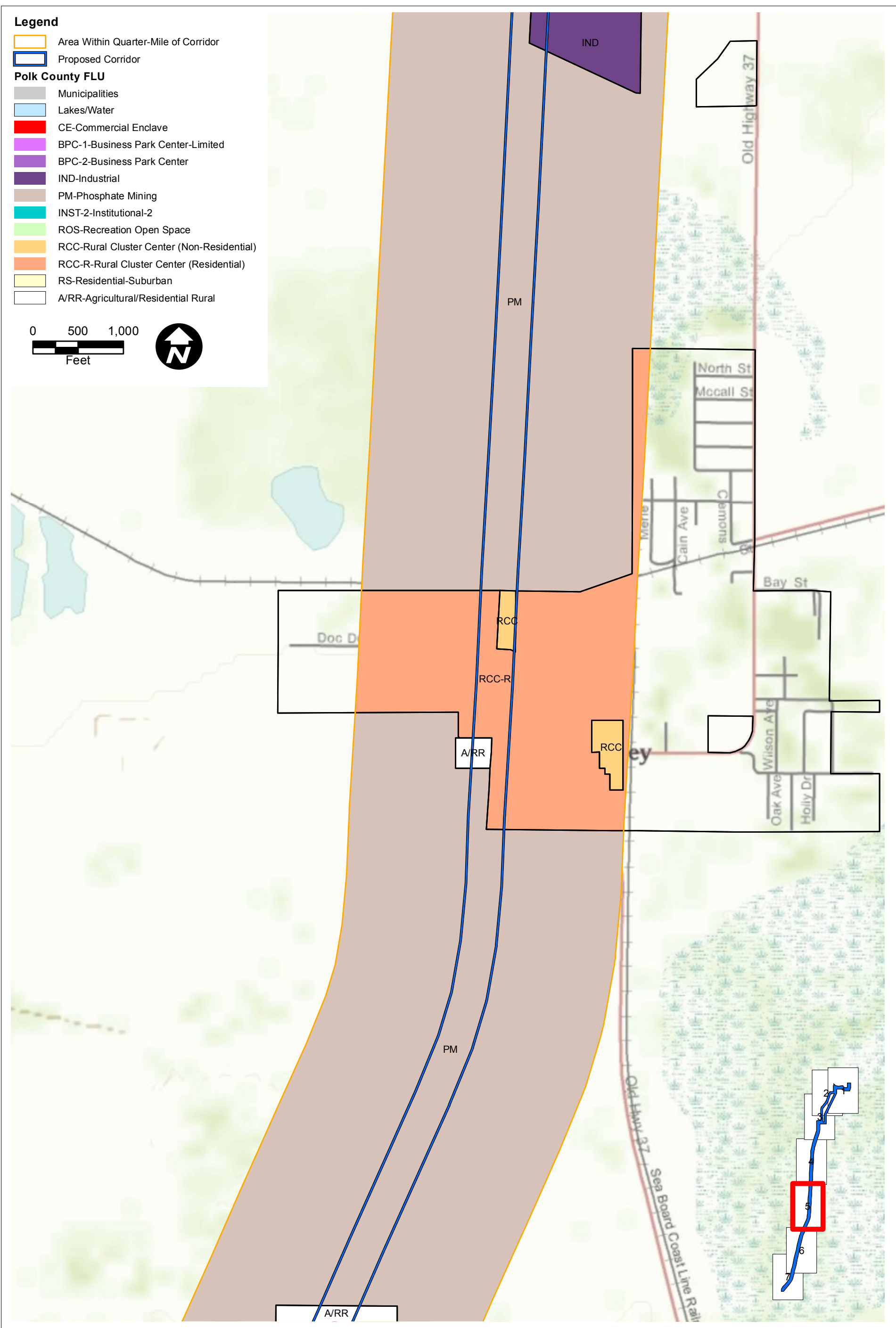


FIGURE 9.1.0-2.
FUTURE LAND USE WITHIN A
QUARTER-MILE OF PROPOSED CORRIDOR

Sources: POLK COUNTY, 2007; CITY OF MULBERRY, 2010; ESRI, 2010; ECT, 2010.



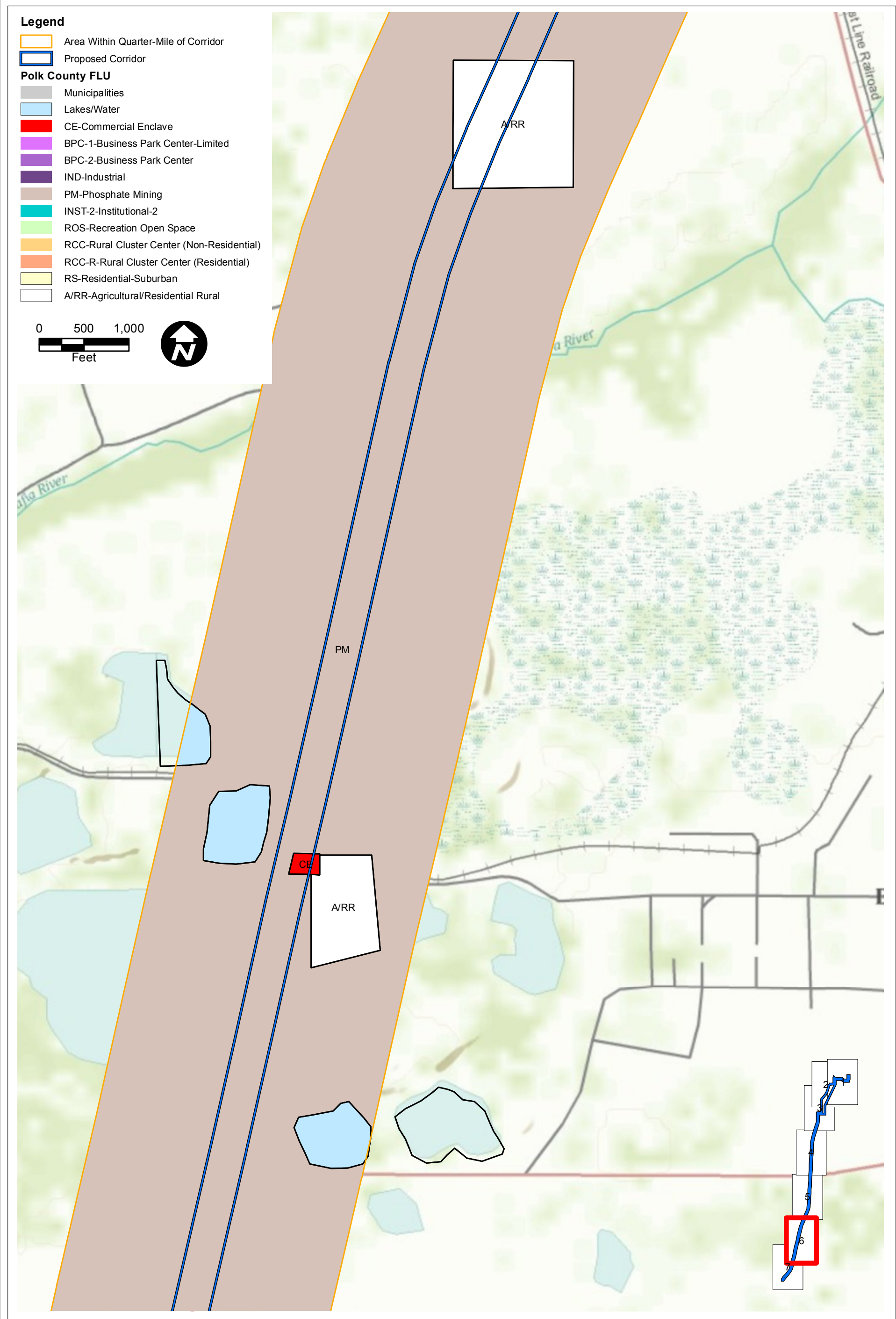
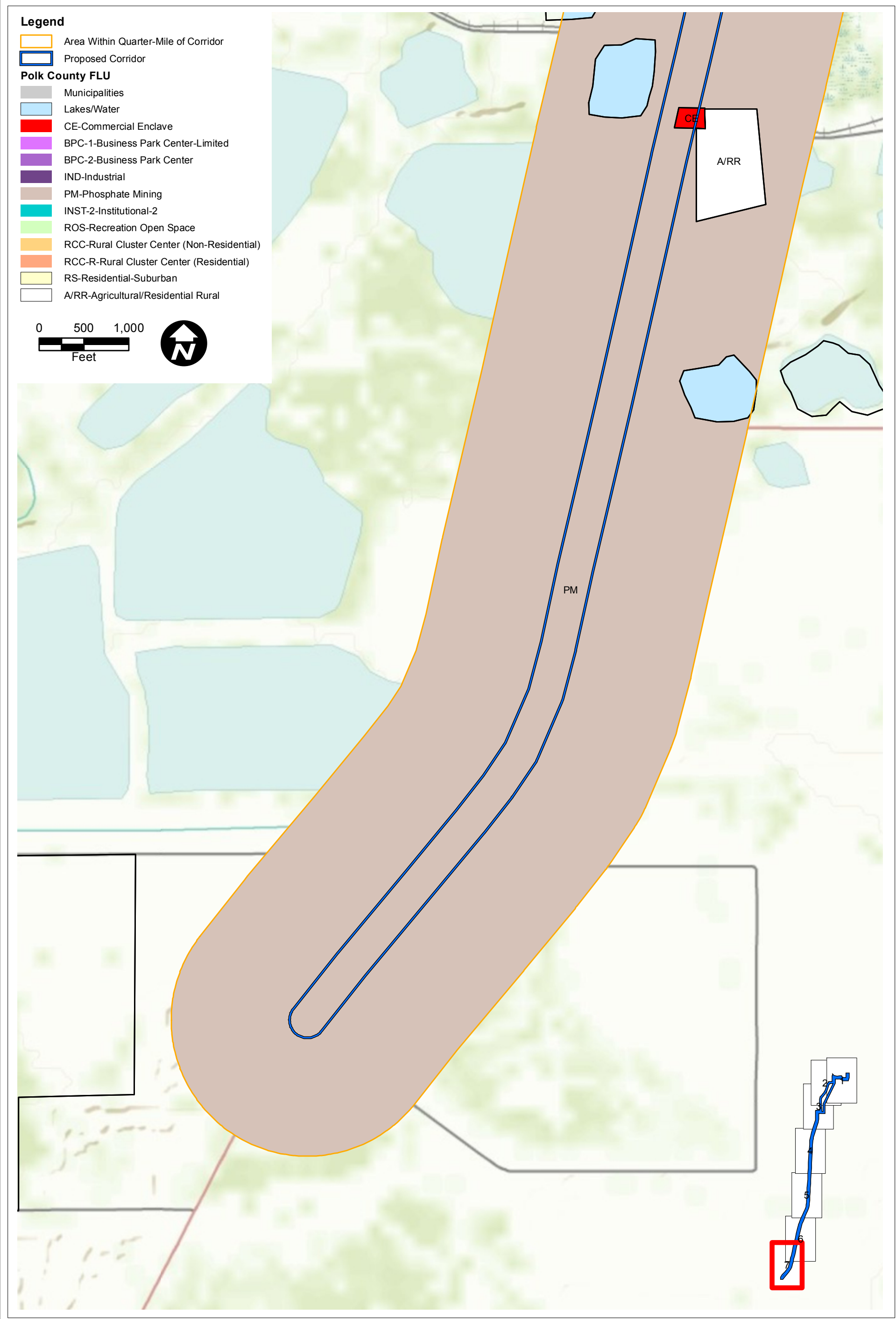


FIGURE 9.1.0-2.
FUTURE LAND USE WITHIN A
QUARTER-MILE OF PROPOSED CORRIDOR

Sources: POLK COUNTY, 2007; CITY OF MULBERRY, 2010; ESRI, 2010; ECT, 2010.





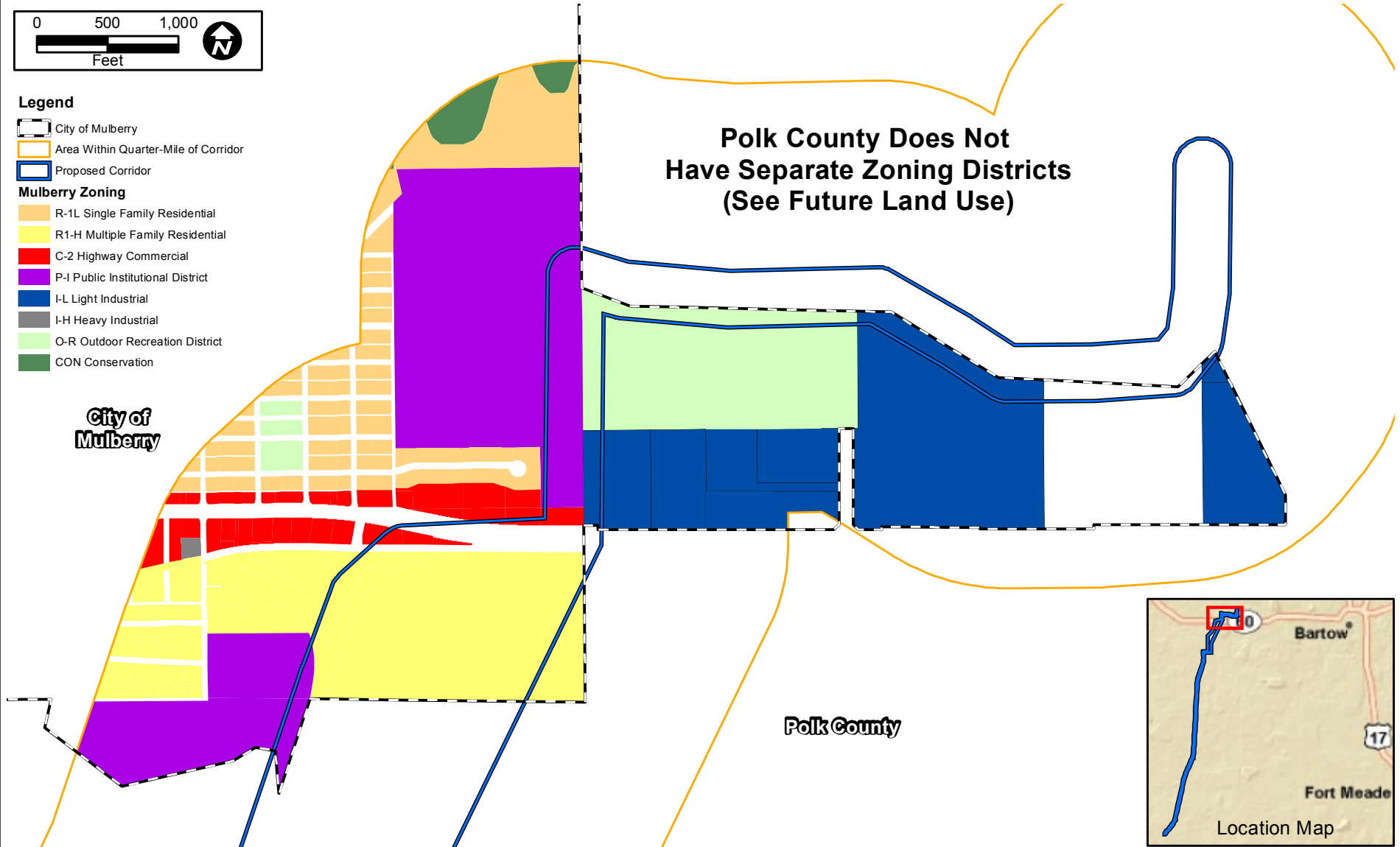


FIGURE 9.1.0-3.
ZONING WITHIN A QUARTER-MILE OF PROPOSED CORRIDOR

SHEET 1 OF 9

Sources: City of Mulberry, 2010; ECT, 2010.



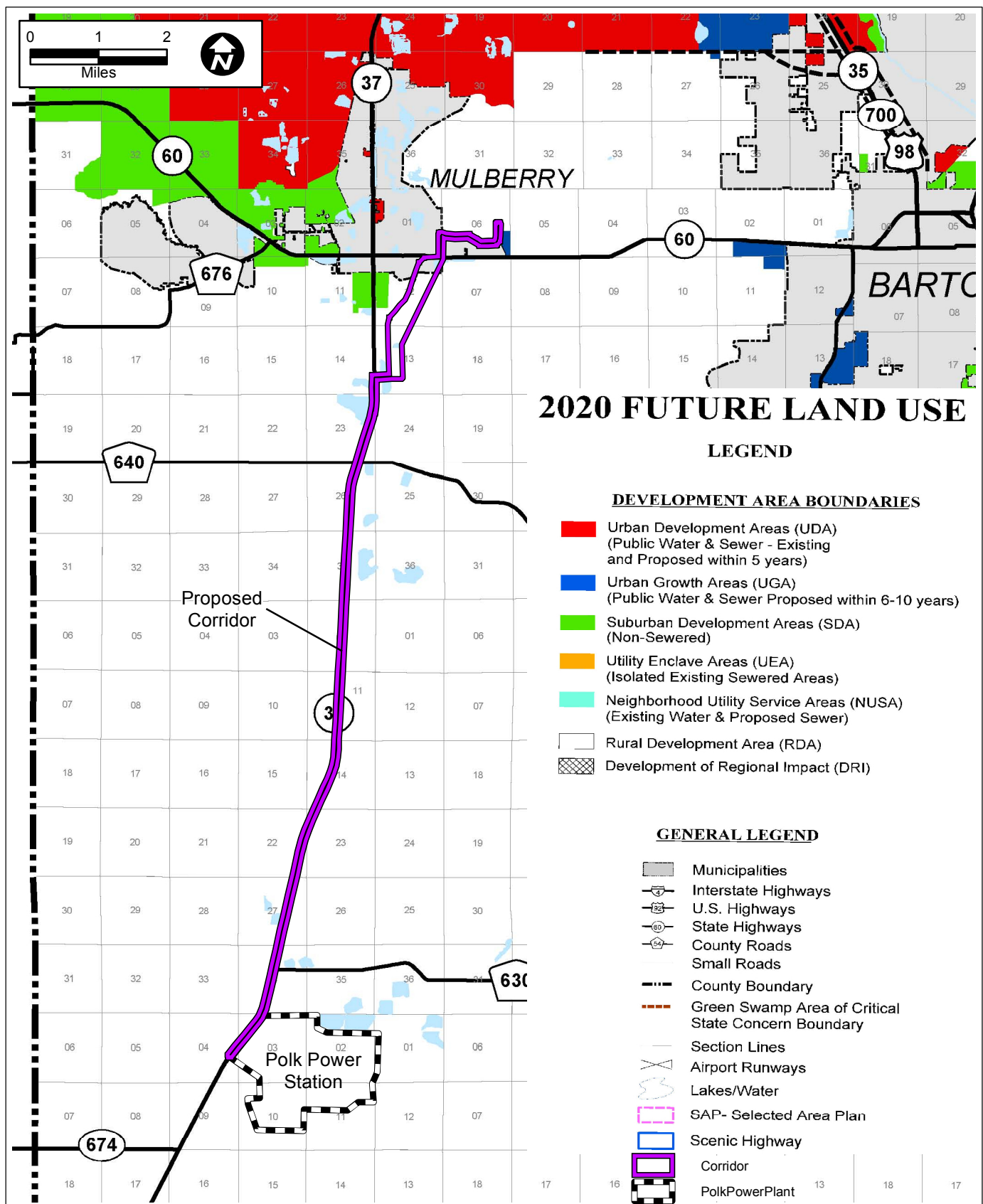
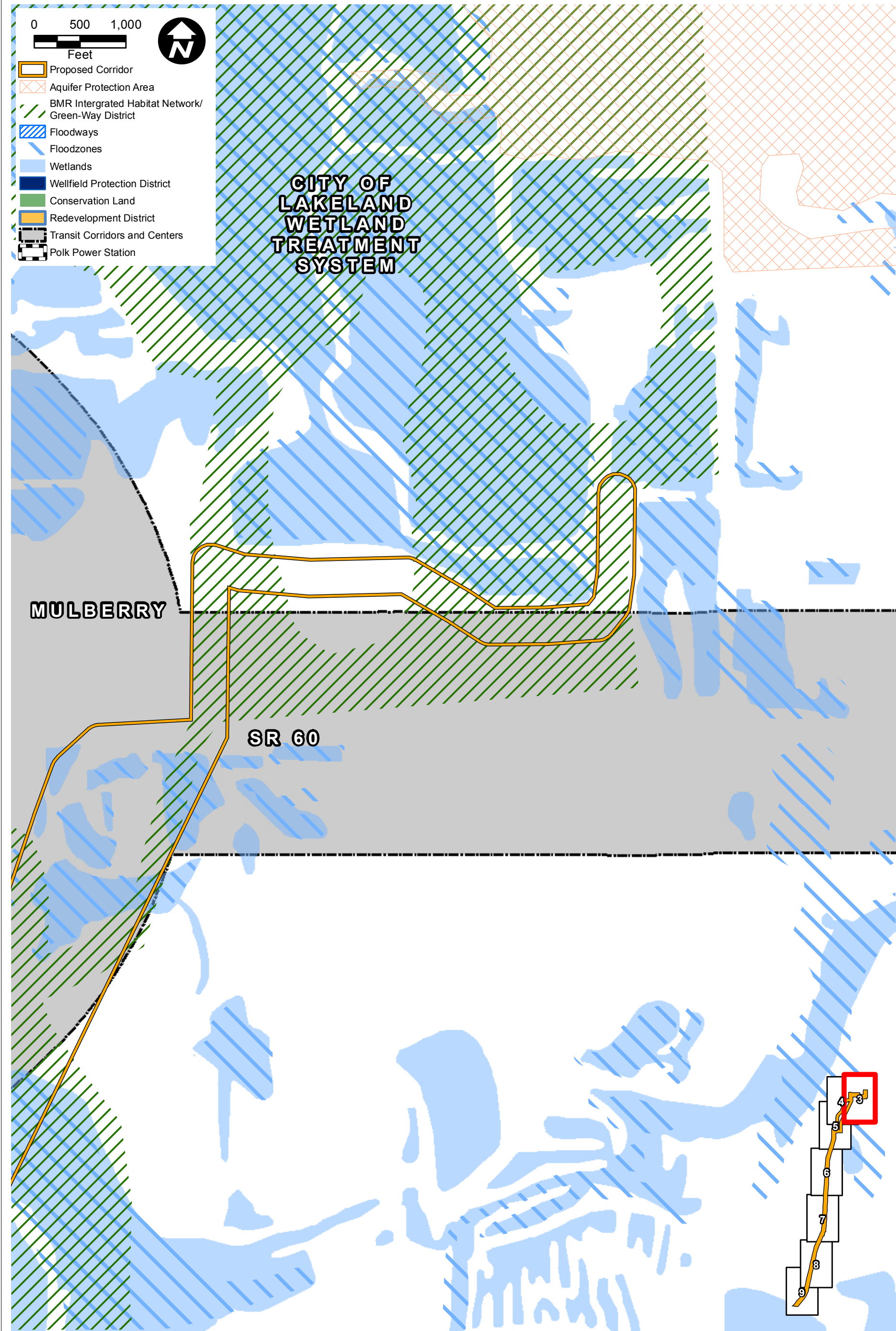


FIGURE 9.1.0-3.
POLK COUNTY DEVELOPMENT AREAS

SHEET 2 OF 9

Sources: TEC, 2010; Polk County; 2010; ECT, 2010.



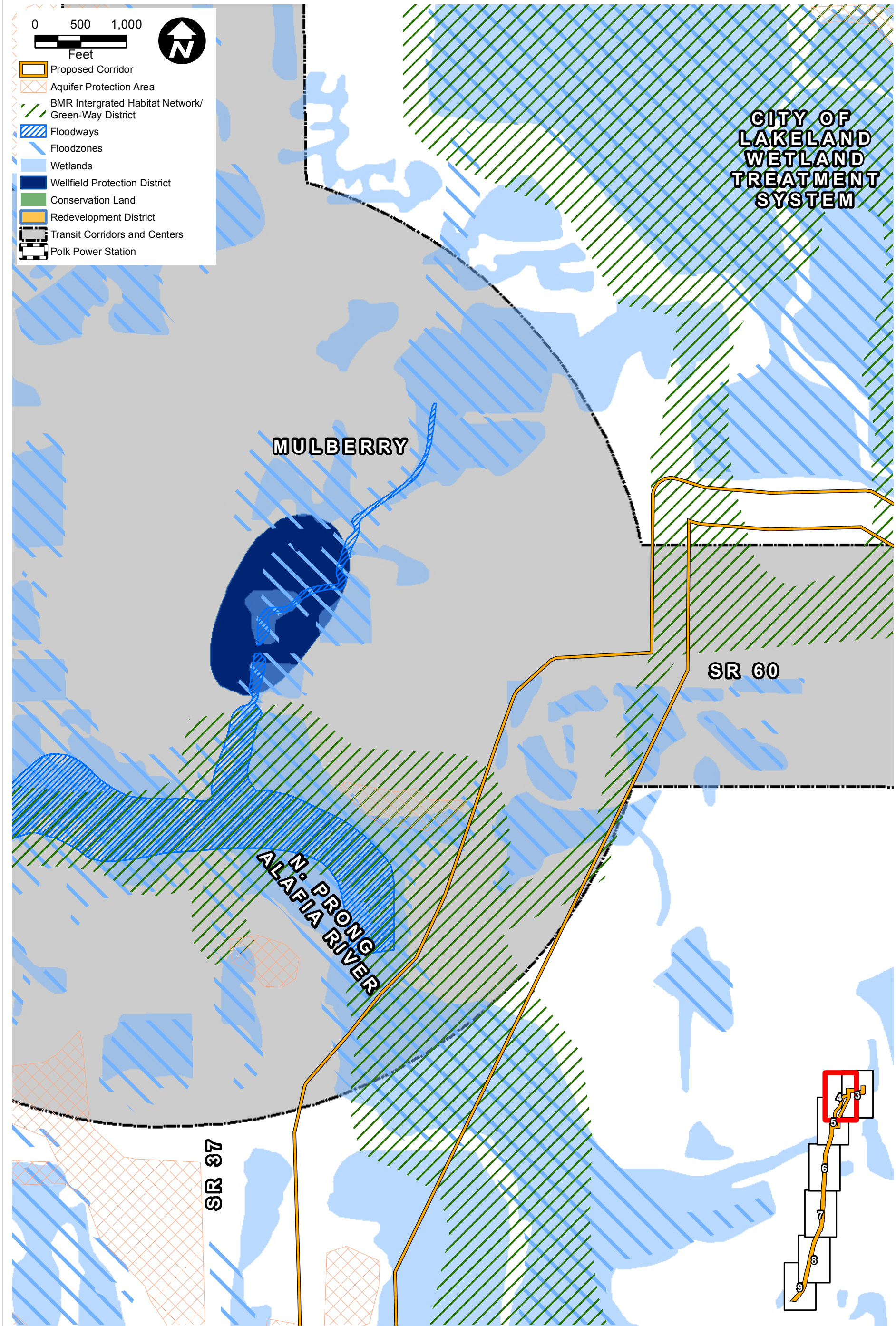


9-87

FIGURE 9.1.0-3.
POLK COUNTY OVERLAY DISTRICTS

Sources: Polk County, 2010; ECT, 2010.





9-82

FIGURE 9.1.0-3.
POLK COUNTY OVERLAY DISTRICTS

Sources: Polk County, 2010; ECT, 2010.



9-83

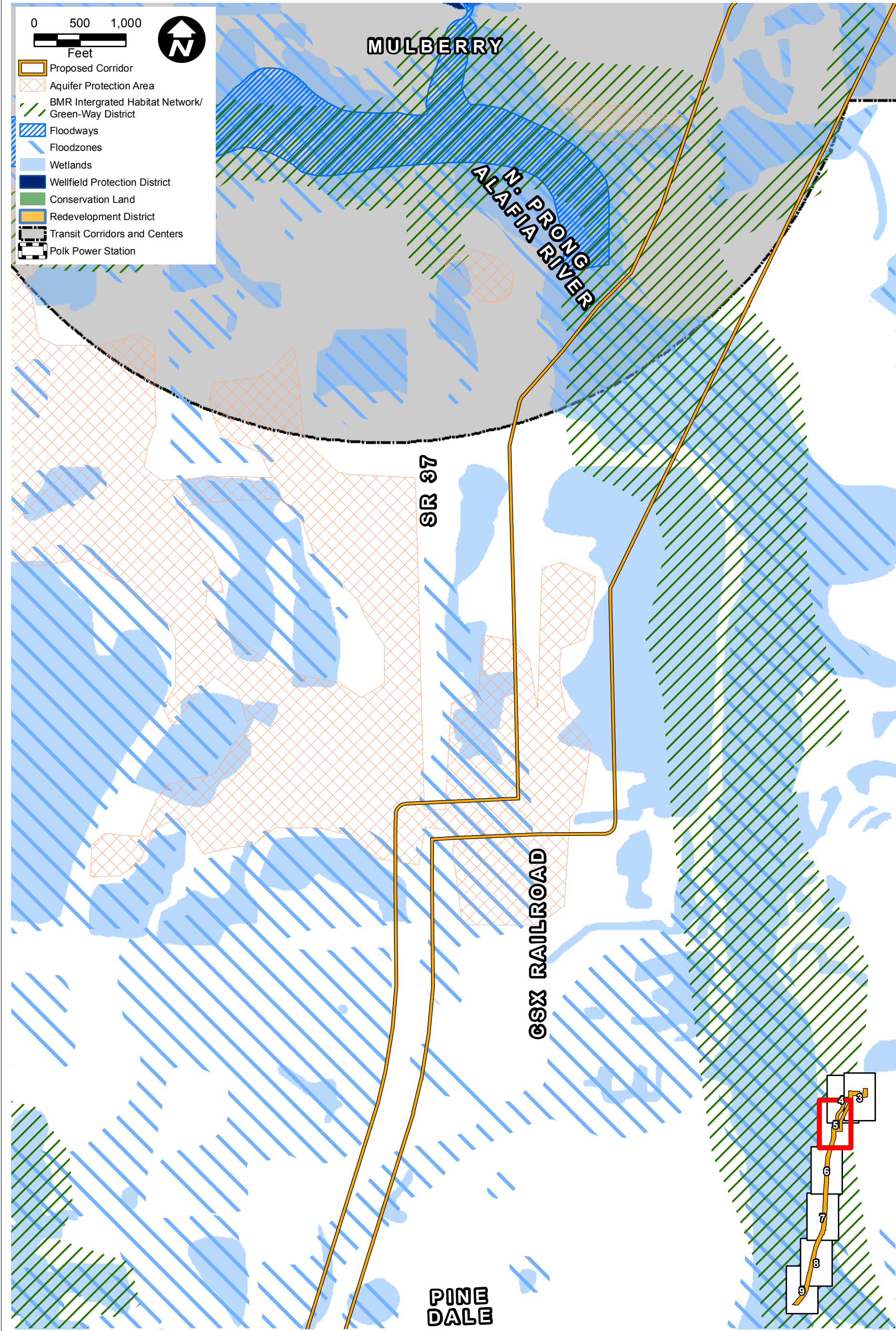
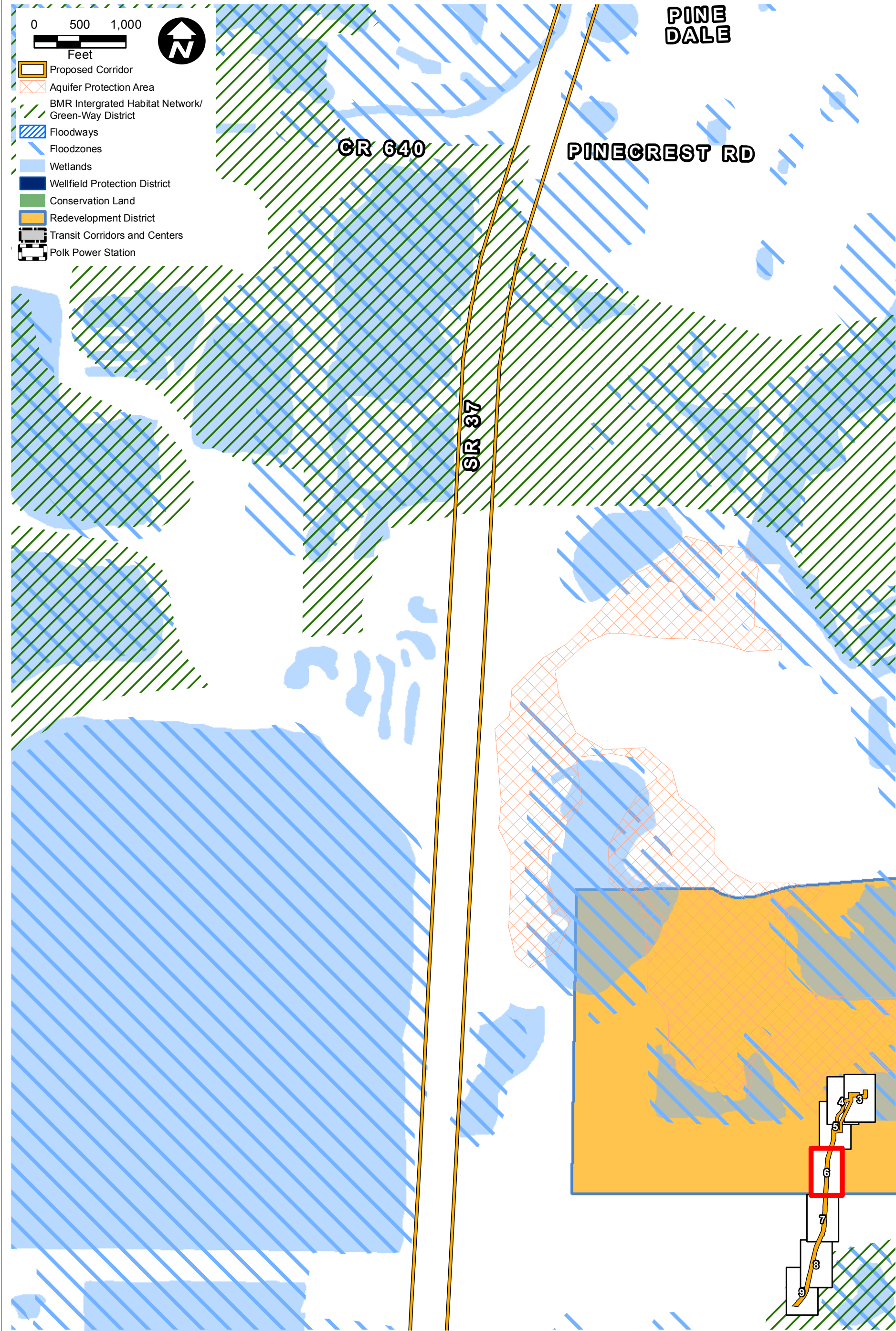


FIGURE 9.1.0-3.
POLK COUNTY OVERLAY DISTRICTS

Sources: Polk County, 2010; ECT, 2010.





9-84

FIGURE 9.1.0-3.
POLK COUNTY OVERLAY DISTRICTS

Sources: Polk County, 2010; ECT, 2010.



9-8-6

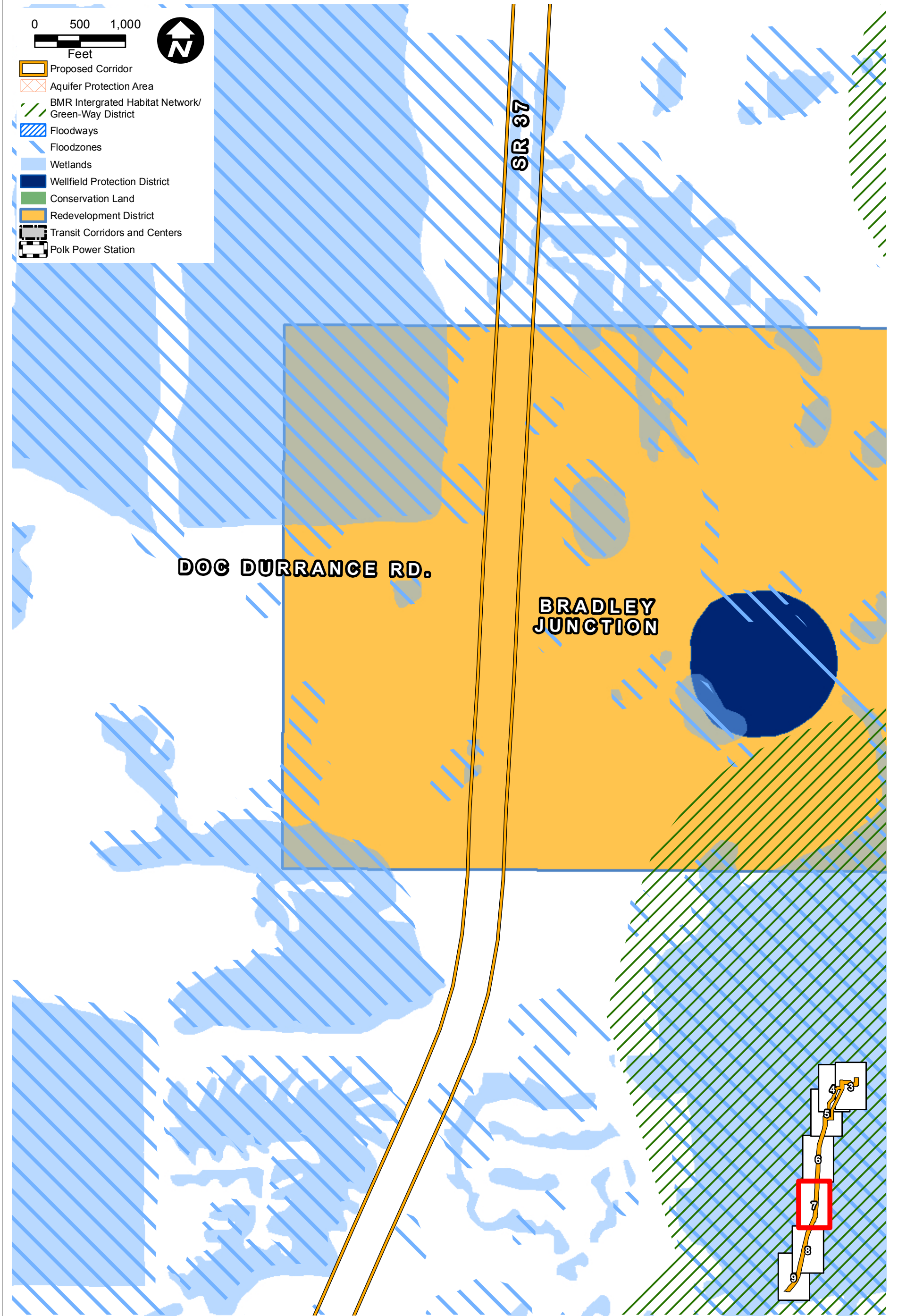


FIGURE 9.1.0-3.
POLK COUNTY OVERLAY DISTRICTS

Sources: Polk County, 2010; ECT, 2010.



98-6

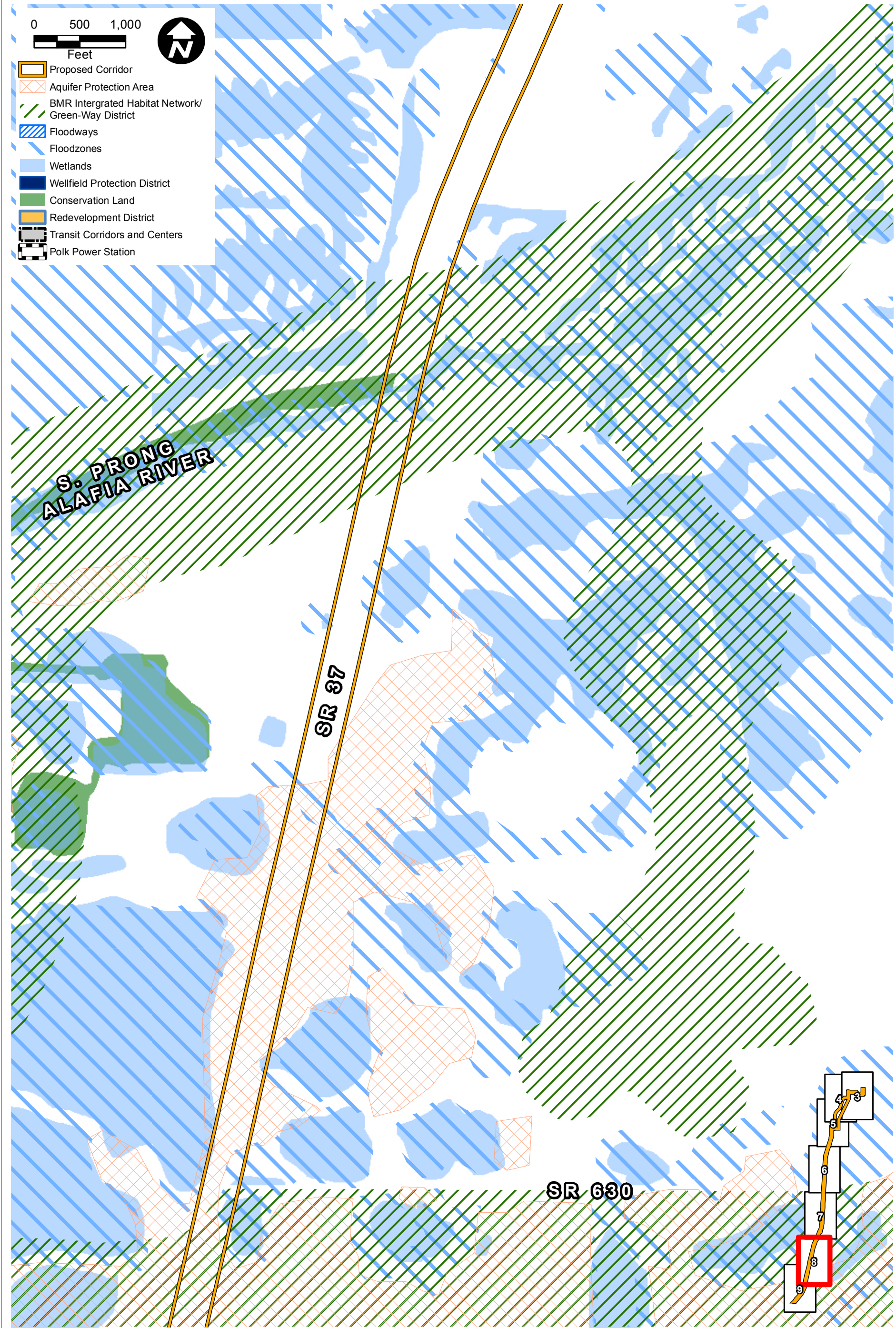


FIGURE 9.1.0-3.
POLK COUNTY OVERLAY DISTRICTS

Sources: Polk County, 2010; ECT, 2010.



9-87

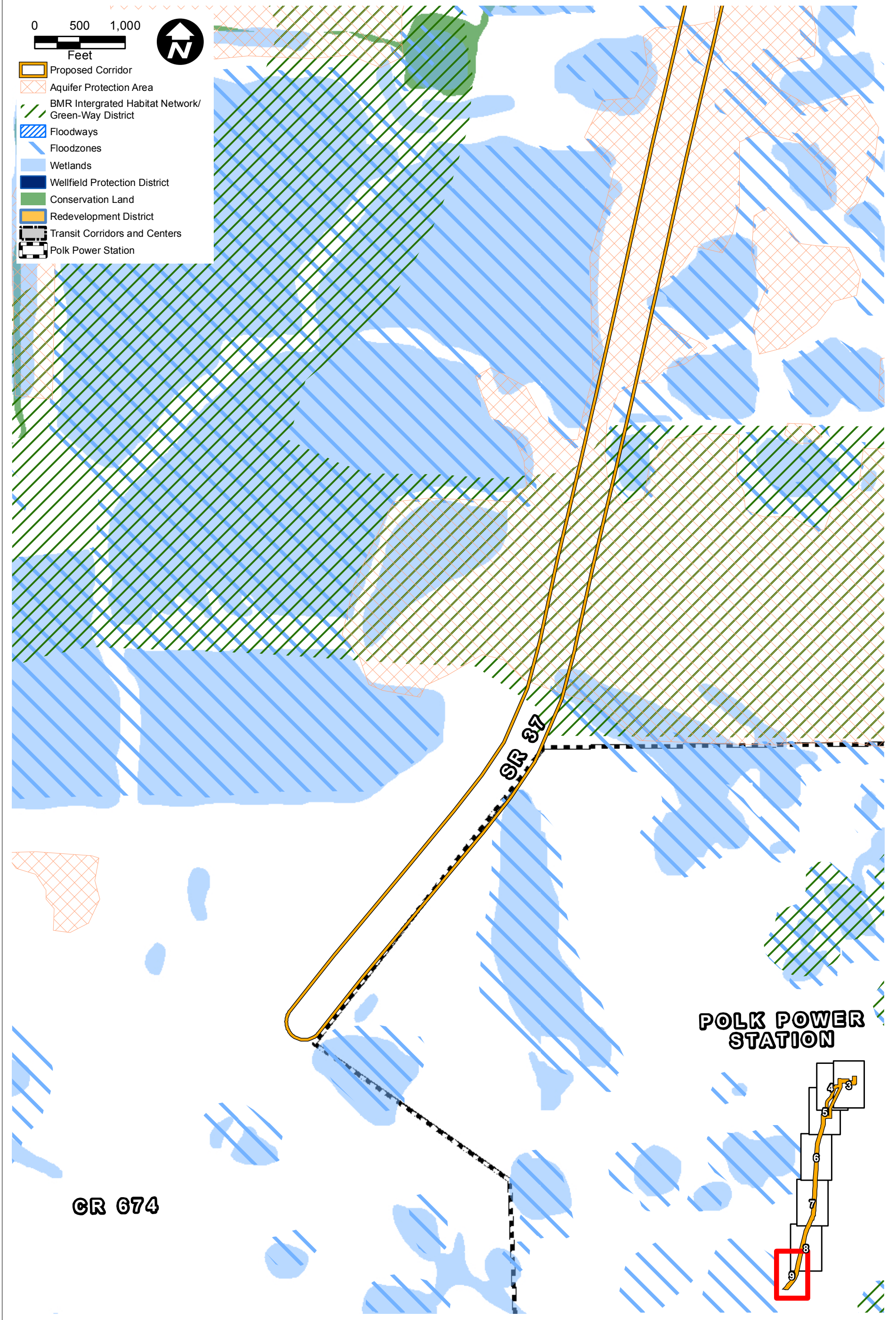


FIGURE 9.1.0-3.
POLK COUNTY OVERLAY DISTRICTS

Sources: Polk County, 2010; ECT, 2010.



LEVEL 3 CODE	DESCRIPTION
110	RESIDENTIAL, LOW DENSITY <LESS THAN TWO DWELLING UNITS PER ACRE>
120	RESIDENTIAL, MEDIUM DENSITY <TWO-FIVE DWELLING UNITS PER ACRE>
140	COMMERCIAL AND SERVICES
150	INDUSTRIAL
160	EXTRACTIVE
165	RECLAIMED LAND
170	INSTITUTIONAL
180	RECREATIONAL
190	OPEN LAND
210	CROPLAND AND PASTURELAND
220	TREE CROPS
260	OTHER OPEN LANDS <RURAL>
320	SHRUB AND BRUSHLAND
411	PINE FLATWOODS
420	UPLAND HARDWOOD FORESTS
434	HARDWOOD - CONIFEROUS MIXED
520	LAKES
530	RESERVOIRS
615	STREAMS AND LAKE SWAMPS (BOTTOMLAND)
641	FRESHWATER MARSHES
643	WET PRAIRIES
644	EMERGENT AQUATIC VEGETATION
810	TRANSPORTATION

FIGURE 9.1.0-4.
VEGETATION AND LAND USE KEY

Sources: SWFWMD, 2006;ECT, 2010.



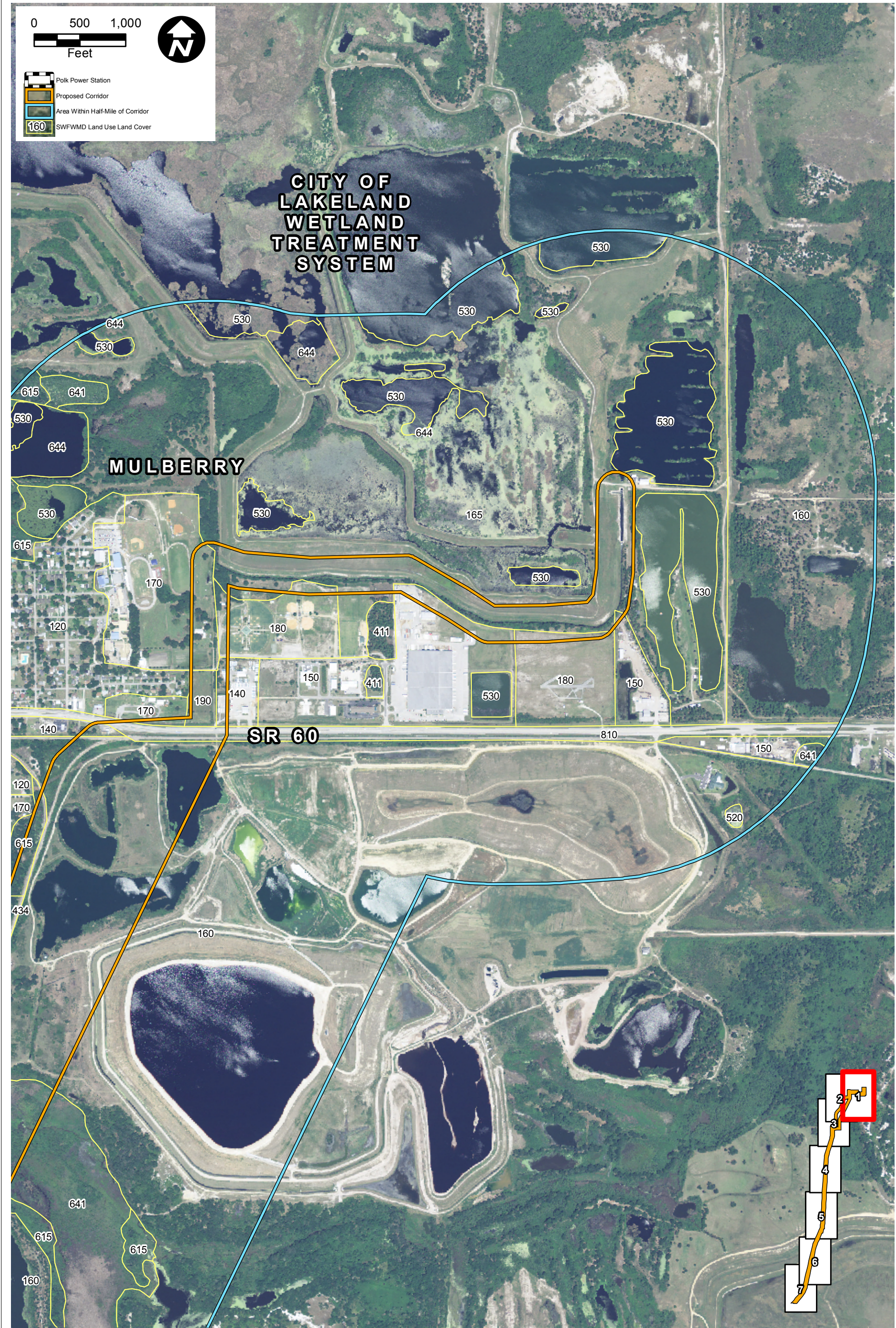


FIGURE 9.1.0-4.
VEGETATION AND LAND USE WITHIN A
HALF-MILE OF PROPOSED CORRIDOR

Sources:SWFWMD, 2006; NAIP, 2010; ECT, 2010.

Sources:SWFWMD, 2006; NAIP, 2010; ECT, 2010.

06-6



FIGURE 9.1.0-4.
VEGETATION AND LAND USE WITHIN A
HALF-MILE OF PROPOSED CORRIDOR

Sources:SWFWMD, 2006; NAIP, 2010; ECT, 2010.





FIGURE 9.1.0-4.
VEGETATION AND LAND USE WITHIN A
HALF-MILE OF PROPOSED CORRIDOR



9-63



FIGURE 9.1.0-4.
VEGETATION AND LAND USE WITHIN A
HALF-MILE OF PROPOSED CORRIDOR

Sources:SWFWMD, 2006; NAIP, 2010; ECT, 2010.





Sources:SWFWMD, 2006; NAIP, 2010; ECT, 2010.

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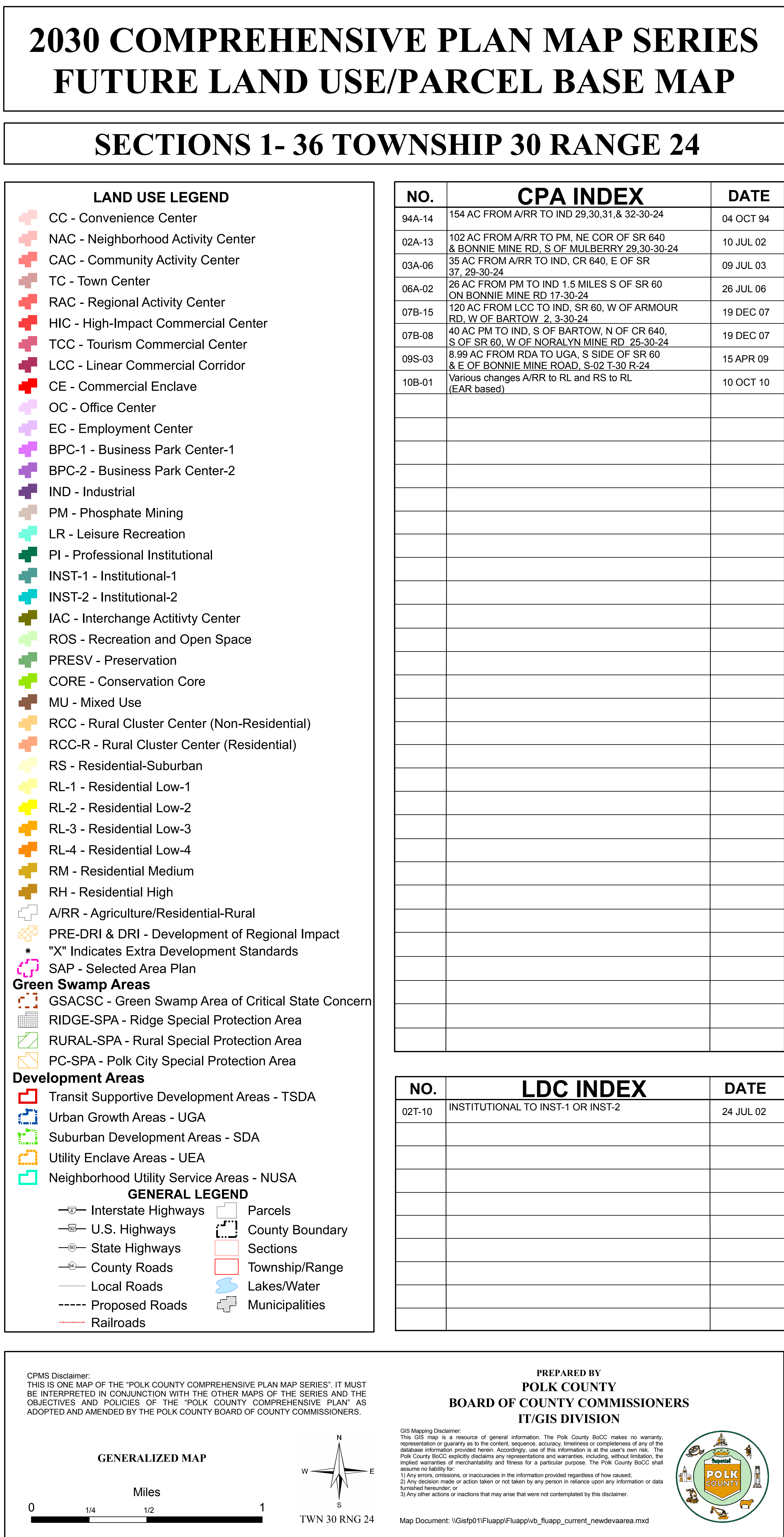
FIGURE 9.1.0-4.
VEGETATION AND LAND USE WITHIN A
HALF-MILE OF PROPOSED CORRIDOR

Sources:SWFWMD, 2006; NAIP, 2010; ECT, 2010.



APPENDIX A

FUTURE LAND USE MAPS

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THIS IS ONE MAP OF THE "POLK COUNTY COMPREHENSIVE PLAN MAP SERIES". IT MUST BE INTERPRETED IN CONJUNCTION WITH THE OTHER MAPS OF THE SERIES AND THE OBJECTIVES AND POLICIES OF THE "POLK COUNTY COMPREHENSIVE PLAN" AS ADOPTED AND AMENDED BY THE POLK COUNTY BOARD OF COUNTY COMMISSIONERS.

PREPARED BY
POLK COUNTY
BOARD OF COUNTY COMMISSIONERS
IT/GIS DIVISION

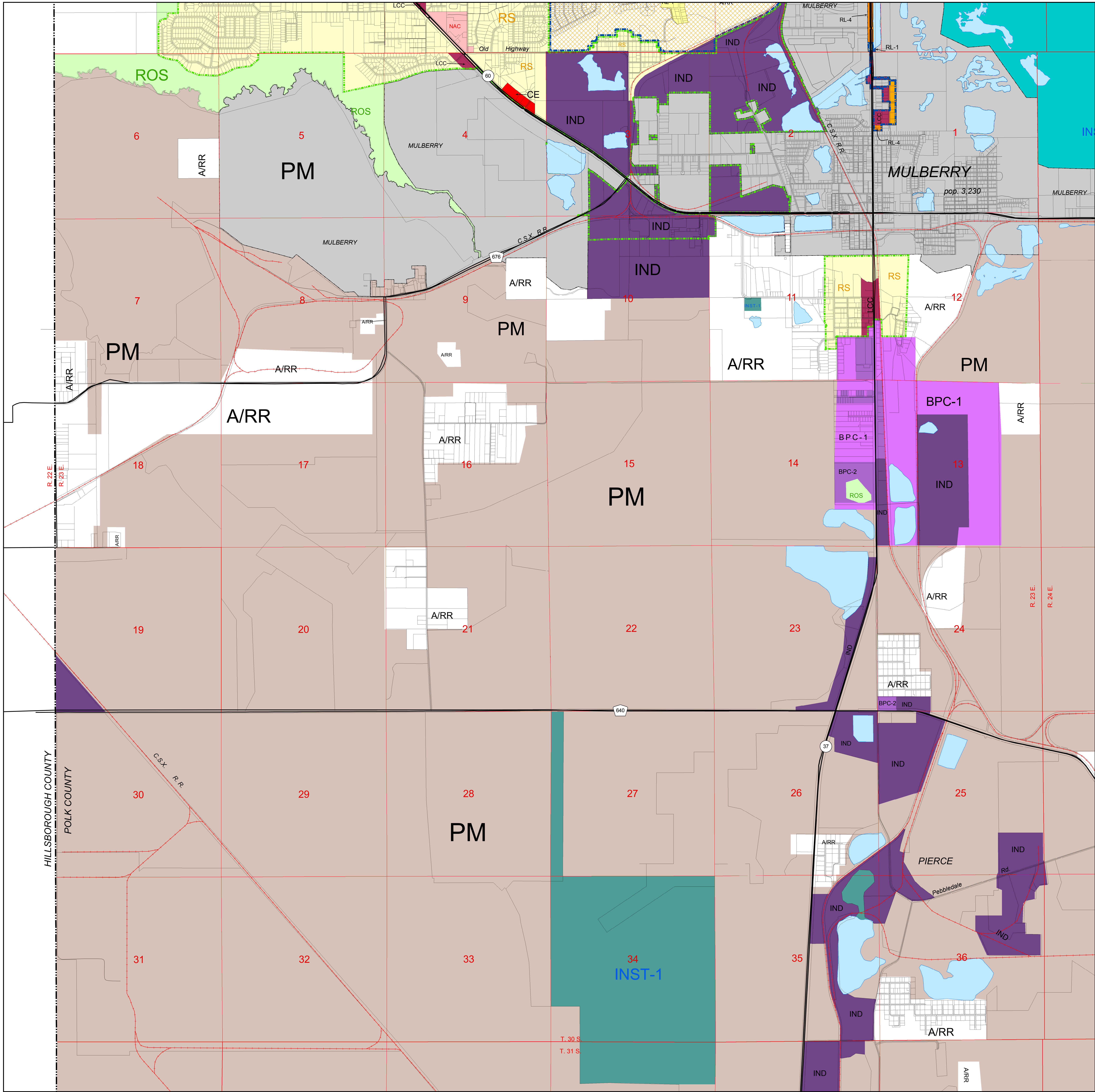
GENERALIZED MAP

GIS Mapping Disclaimer:
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2. Any decision made or action taken or not taken by any person in reliance upon any information or data furnished hereunder, or
3. Any other actions or inactions that may arise that were not contemplated by this disclaimer.

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2030 COMPREHENSIVE PLAN MAP SERIES
FUTURE LAND USE/PARCEL BASE MAP

SECTIONS 1- 36 TOWNSHIP 30 RANGE 23



- LAND USE LEGEND**
- CC - Convenience Center
 - NAC - Neighborhood Activity Center
 - CAC - Community Activity Center
 - TC - Town Center
 - RAC - Regional Activity Center
 - HIC - High-Impact Commercial Center
 - TCC - Tourism Commercial Center
 - LCC - Linear Commercial Corridor
 - CE - Commercial Enclave
 - OC - Office Center
 - EC - Employment Center
 - BPC-1 - Business Park Center-1
 - BPC-2 - Business Park Center-2
 - IND - Industrial
 - PM - Phosphate Mining
 - LR - Leisure Recreation
 - PI - Professional Institutional
 - INST-1 - Institutional-1
 - INST-2 - Institutional-2
 - IAC - Interchange Activity Center
 - ROS - Recreation and Open Space
 - PRESV - Preservation
 - CORE - Conservation Core
 - MU - Mixed Use
 - RCC - Rural Cluster Center (Non-Residential)
 - RCC-R - Rural Cluster Center (Residential)
 - RS - Residential-Suburban
 - RL-1 - Residential Low-1
 - RL-2 - Residential Low-2
 - RL-3 - Residential Low-3
 - RL-4 - Residential Low-4
 - RM - Residential Medium
 - RH - Residential High
 - A/RR - Agriculture/Residential-Rural
 - PRE-DRI & DRI - Development of Regional Impact
 - "X" Indicates Extra Development Standards
 - SAP - Selected Area Plan
- Green Swamp Areas**
- GSACSC - Green Swamp Area of Critical State Concern
 - RIDGE-SPA - Ridge Special Protection Area
 - RURAL-SPA - Rural Special Protection Area
 - PC-SPA - Polk City Special Protection Area
- Development Areas**
- Transit Supportive Development Areas - TSDA
 - Urban Growth Areas - UGA
 - Suburban Development Areas - SDA
 - Utility Enclave Areas - UEA
 - Neighborhood Utility Service Areas - NUSA

- GENERAL LEGEND**
- Interstate Highways
 - U.S. Highways
 - State Highways
 - County Roads
 - Local Roads
 - Proposed Roads
 - Railroads
 - Parcels
 - County Boundary
 - Sections
 - Township/Range
 - Lakes/Water
 - Municipalities

NO.	CPA INDEX	DATE
95A-10	120 AC FROM A/RR TO IND, PEBBLEDALE RD 25, 36-30-23	17 OCT 95
96A-08	16.3 AC FROM A/RR TO IND & BPC, E OF SR 37 & INT OF CR 640, 24 & 25-30-23	03 DEC 96
99A-05	334 AC A/RR TO ROS ON N PRONG OF ALAFIA RIVER 31,32-29-23 & 5,6-30-23	25 MAY 99
03S-18	10 AC FROM BPC-2 TO ROS, SR 37, S OF MULBERRY, 14-30-23	30 JUL 03
09A-05	19.06 +/- AC FROM BPC TO IND, E SIDE OF SR 37 N OF CR 640, S-13 T-30 R-23	02 SEP 09
09A-04	43.63 +/- AC FROM PM TO IND, SE CORNER OF SR 37 & CR 640, S-26 T-30 R-23	02 SEP 09
09B-04	228 +/- AC FROM PM TO IND, E & W OF SR 37, S OF CR 640, S-25,26,35,36 T-30 R-23	01 DEC 09
10A-03	800 AC PM TO INST W OF SR 37, S OF CR 640, NE OF BRADLEY JUNCTION, 27,34-30-23 & 3-31-23	19 AUG 10
10B-01	Various changes A/RR to RL and RS to RL (EAR based)	10 OCT 10

NO.	LDC INDEX	DATE
02T-10	INSTITUTIONAL TO INST-1 OR INST-2	24 JUL 02

CPMS Disclaimer:
THIS IS ONE MAP OF THE "POLK COUNTY COMPREHENSIVE PLAN MAP SERIES". IT MUST BE INTERPRETED IN CONJUNCTION WITH THE OTHER MAPS OF THE SERIES AND THE OBJECTIVES AND POLICIES OF THE "POLK COUNTY COMPREHENSIVE PLAN" AS ADOPTED AND AMENDED BY THE POLK COUNTY BOARD OF COUNTY COMMISSIONERS.

GENERALIZED MAP

Miles
0 1/4 1/2 0.8

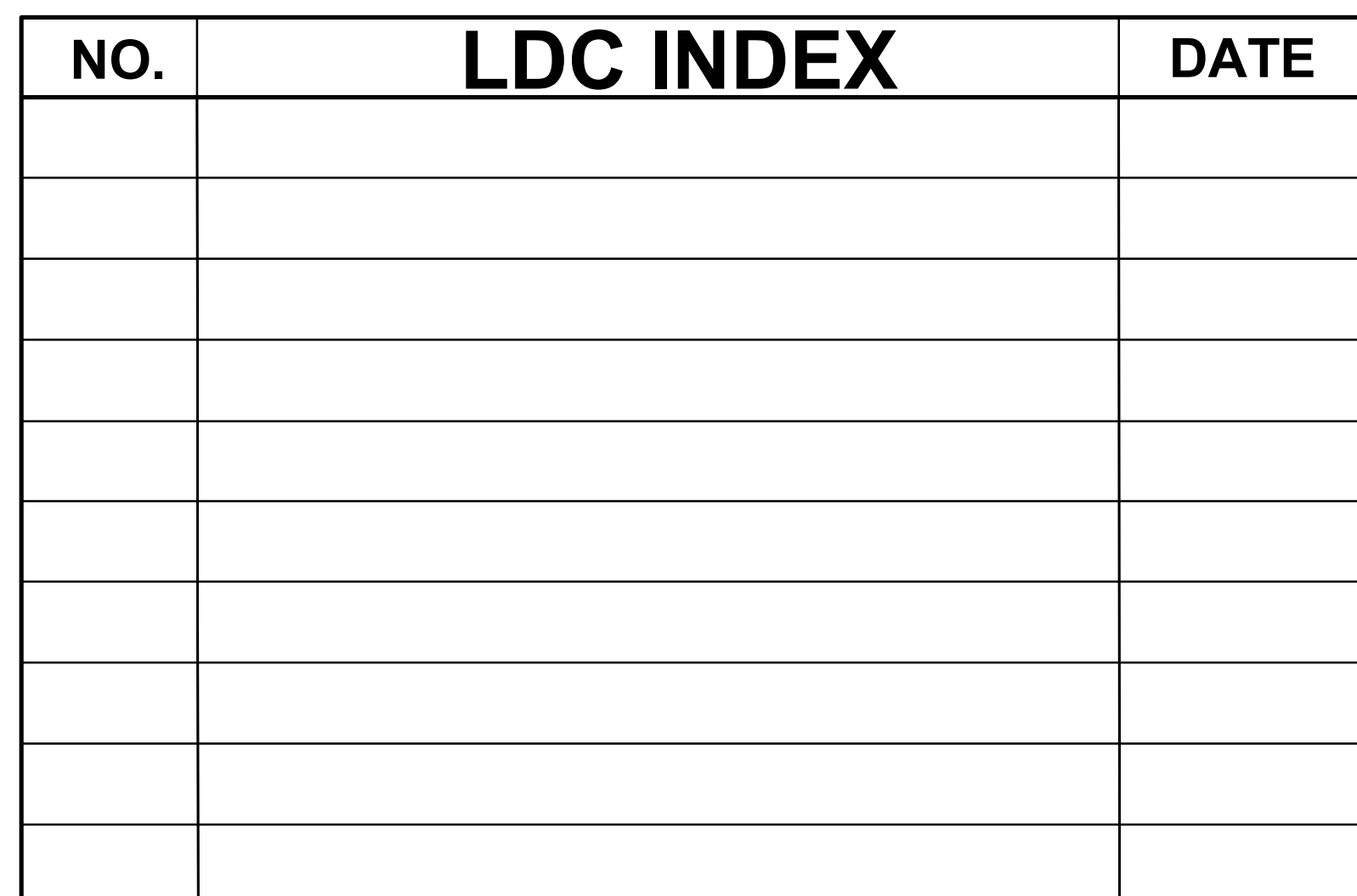
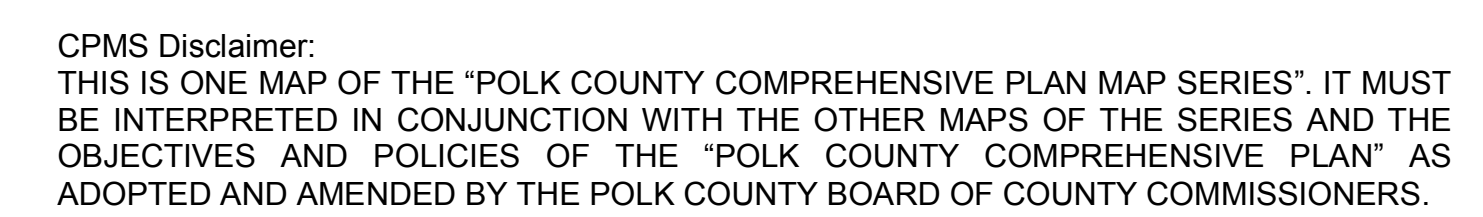
TWN 30 RNG 23

PREPARED BY
POLK COUNTY
BOARD OF COUNTY COMMISSIONERS
IT/GIS DIVISION

GIS Mapping Disclaimer:
The GIS map is a resource of general information. The Polk County BoCC makes no warranty, representation or guaranty as to the content, sequence, accuracy, timeliness or completeness of any of the data, information provided herein. Accordingly, use of this information is at the user's own risk. The Polk County BoCC explicitly disclaims any representations and warranties, including, without limitation, the implied warranties of merchantability and fitness for a particular purpose. The Polk County BoCC shall assume no liability for:
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2) Any decision made or action taken or not taken by any person in reliance upon any information or data furnished hereunder; or
3) Any other actions or inactions that may arise that were not contemplated by this disclaimer.

Map Document: \\gisfp01\Fuapp\Fuapp\vb_fuapp_current_newdevarea.mxd

SECTIONS 1- 36 TOWNSHIP 31 RANGE 23

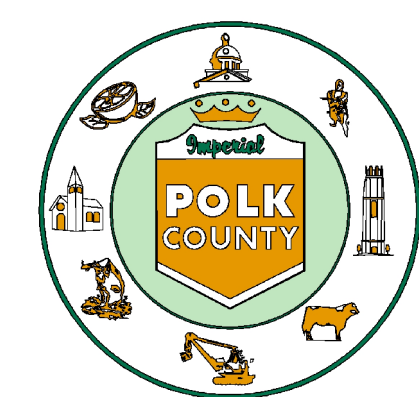


CPMS Disclaimer:
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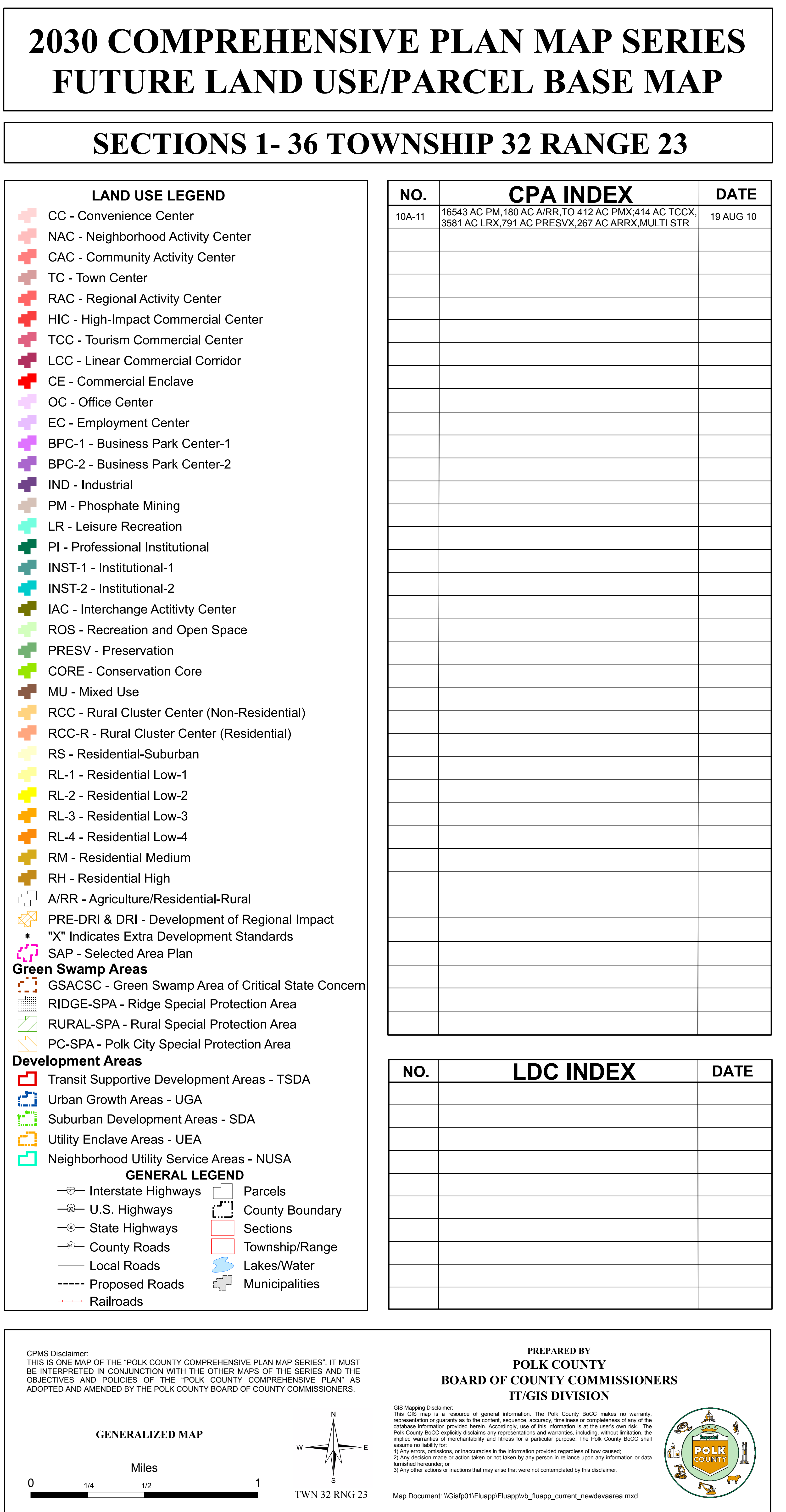
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- 3) Any other actions or inactions that may arise that were not contemplated by this disclaimer.



Map Document: \\Gisfp01\Fluapp\Fluapp\vb_fluapp_current_newdevaarea.mxd

[illegible]

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GENERALIZED MAP

Miles

0 1/4 1/2 1

TWN 32 RNG 23

Map Document: \\GIS\p1\Fuapp\Fuapp\vb_fuapp_current_newdevarearea.mxd

APPENDIX B

DHR REPORTS



This record search is for informational purposes only and does NOT constitute a project review. This search only identifies resources recorded at the Florida Master Site File and does NOT provide project approval from the Division of Historical Resources. Contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333 for project review information.



August 3, 2010

Jude Dawson
ECT, Inc.
3701 NW 98th Street
Gainesville, FL 32606
Email: jdawson@ectinc.com

In response to your inquiry of July 30, 2010, the Florida Master Site File lists one previously recorded archaeological site, one resource group and eight standing structures in the following parcel of Polk County:

T30S, R23E, Sections 01, 12, 13, 14, 23, 24, 26, 35

When interpreting the results of our search, please consider the following information:

- **This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.**
- **Because vandalism and looting are common at Florida sites, we ask that you limit the distribution of location information on archaeological sites.**
- **While many of our records document historically significant resources, the documentation of a resource at the Florida Master Site File does not necessarily mean the resource is historically significant.**
- **Federal, state and local laws require formal environmental review for most projects. This search DOES NOT constitute such a review. If your project falls under these laws, you should contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333.**

Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

Ginny Jones
Historical Data Analyst
Florida Master Site File
gljones@dos.state.fl.us

CULTURAL RESOURCES REPORT

SITEID	FORMNO	T-R-S	CR	SITENAME	NRLIST	SURVEY	LOCATION	OTHER
P000293	198210	30S/23E/26	SS	OAK TERRACE			OAK TERRACE, MULBERRY	Uses: RESI, RESI Built: C1908
P000297	198210	30S/23E/1	SS	206 NORTH EAST 1ST ST			206 NORTH EAST 1ST ST, MULBERRY	Uses: RESI, RESI
P000298	198210	30S/23E/1	SS	HALL HOUSE			208 NORTHEAST 1ST ST, MULBERRY	Uses: RESI, RESI
P000307	198210	30S/23E/24	SS	15 LEMON ST			15 LEMON ST, PINEDALE	Uses: RESI, VACA
P000308	198210	30S/23E/24	SS	417 PATTERSON ST			417 PATTERSON ST, PINEDALE	Uses: RESI, VACA
P000309	198210	30S/23E/26	SS	PIERCE POWER PLANT			POWER PLANT RD, PIERCE	Uses: PLNT, PLNT Built: C1911
P004622	199407	30S/23E/11	AR	SOUTH MULBERRY	4465	Map: MULB		Culture: PREA Sitetype: LAND, SING
P005169	199408	30S/23E/12	SS	1041 +/- STATE ROAD 37	4465	1041 +/- SR 37, SOUTH MULBERRY		Uses: RESI, RESI Built: C1930
P005170	199408	30S/23E/12	SS	1071 STATE ROAD 37	4465	1071 SR 37, SOUTH MULBERRY		Uses: RESI, RESI Built: C1920
P005171	199408	30S/23E/12	SS	1073 +/- STATE ROAD 37	4465	1073 SR 37, SOUTH MULBERRY		Uses: RESI, RESI Built: C1920
P006449	200605	30S/23E/12	RG	SEABOARD COAST LINE RAILROAD GRADE	13101	City: UNSPECIFIED		RG Type: LINE, # Cntrib Resources:

11 site(s) evaluated; 11 form(s) evaluated. (1 AR, 1 RG, 9 SS)
Print date: 8/2/2010 4:19:12 PM



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August 3, 2010

Jude Dawson
ECT, Inc.
3701 NW 98th Street
Gainesville, FL 32606
Email: jdawson@ectinc.com



In response to your inquiry of July 30, 2010, the Florida Master Site File lists no previously recorded archaeological sites, one resource group and no standing structures in the following parcel of Polk County:

T30S, R24E, Sections 06, 07

When interpreting the results of our search, please consider the following information:

- **This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.**
- **Because vandalism and looting are common at Florida sites, we ask that you limit the distribution of location information on archaeological sites.**
- **While many of our records document historically significant resources, the documentation of a resource at the Florida Master Site File does not necessarily mean the resource is historically significant.**
- **Federal, state and local laws require formal environmental review for most projects. This search DOES NOT constitute such a review. If your project falls under these laws, you should contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333.**

Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

Ginny Jones
Historical Data Analyst
Florida Master Site File
gljones@dos.state.fl.us

CULTURAL RESOURCES REPORT

SITEID	FORMNO	T-R-S	CR	SITENAME	NRLIST	SURVEY	LOCATION	OTHER
P006449	200605	30S/23E/12	RG	SEABOARD COAST LINE RAILROAD GRADE		13101	City: UNSPECIFIED	RG Type: LINE, # Cntrib Resources:

1 site(s) evaluated; 1 form(s) evaluated. (1 RG)
Print date: 8/2/2010 4:20:04 PM



This record search is for informational purposes only and does NOT constitute a project review. This search only identifies resources recorded at the Florida Master Site File and does NOT provide project approval from the Division of Historical Resources. Contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333 for project review information.

August 3, 2010

Jude Dawson
ECT, Inc.
3701 NW 98th Street
Gainesville, FL 32606
Email: jdawson@ectinc.com



In response to your inquiry of July 30, 2010, the Florida Master Site File lists seven previously recorded archaeological sites, one resource group and six standing structures in the following parcel of Polk County:

T31S, R23E, Sections 02, 11, 14, 22, 23, 27, 34

When interpreting the results of our search, please consider the following information:

- **This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.**
- **Because vandalism and looting are common at Florida sites, we ask that you limit the distribution of location information on archaeological sites.**
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Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

Ginny Jones
Historical Data Analyst
Florida Master Site File
gljones@dos.state.fl.us

CULTURAL RESOURCES REPORT

SITEID	FORMNO	T-R-S	CR	SITENAME	NRLIST	SURVEY	LOCATION	OTHER
P000107	MELD	31S/23E/14	AR	BREWSTER EXPANSION A		271	Map: BRDJ	Culture: UNSP Sitetype: SCAR
P000108	MELD	31S/23E/22	AR	BREWSTER EXPANSION B		271	Map: BRDJ	Culture: UNSP Sitetype: SCLI
P000225	198210	31S/23E/11	SS	AGRICO			AGRICO RD, BRADLEY JUNCTION	Uses: RESI, RESI
P000226	198210	31S/23E/11	SS	KIRKLAND HOUSE			AGRICO RD, BRADLEY JUNCTION	Uses: RESI, RESI
P000227	198210	31S/23E/11	SS	BARKER HOUSE			KIRKLAND AND 2ND ST, BRADLEY J	Uses: RESI, RESI Built: 1909
P000228	198210	31S/23E/11	SS	1ST ST			1ST ST, BRADLEY JUNCTION	Uses: RESI, COMM
P000229	198210	31S/23E/11	SS	HOMER SMITH HOUSE			HWY 37, BRADLEY JUNCTION	Uses: RESI, RESI
P001686	199009	31S/23E/14	AR	G AND S		2489	Map: BRDJ	Culture: PREA Sitetype: SCLI
P002559	199101	31S/23E/11	AR	COZY FIREPLACE		3014	Map: BRDJ	Culture: DEPR Sitetype: BLDG, HOME
P003229	199207	31S/23E/22	AR	BLACK LAKE 1		3269	Map: BRDJ	Culture: 20TH, PREC Sitetype: SCAR
P003230	199207	31S/23E/27	AR	BLACK LAKE 2		3269	Map: KYSV	Culture: PREC Sitetype: SCAR
P006101	199901	31S/23E/14	AR	FGT BRADLEY JUNCTION		5699	Map: BRDJ	Culture: PREC, PREH, WOD Sitetype: CAMP, SCAR, SCNQ
P007117	200804	28S/25E/23	RG	CSX RAILROAD		16476	City: MULBERRY	RG Type: LINE, # Cntrib Resources: 1
P007249	200909	31S/23E/11	SS	160 LITTLE ORANGE AVENUE			160 LITTLE ORANGE AVE, BRADLEY	Uses: RESI, VACA Built: 1925

14 site(s) evaluated; 14 form(s) evaluated. (7 AR, 1 RG, 6 SS)

Print date: 8/3/2010 8:39:00 AM



This record search is for informational purposes only and does NOT constitute a project review. This search only identifies resources recorded at the Florida Master Site File and does NOT provide project approval from the Division of Historical Resources. Contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333 for project review information.

August 3, 2010

Jude Dawson
ECT, Inc.
3701 NW 98th Street
Gainesville, FL 32606
Email: jdawson@ectinc.com



In response to your inquiry of July 30, 2010, the Florida Master Site File lists two previously recorded archaeological sites, no resource groups and no standing structures in the following parcel of Polk County:

T32S, R23E, Sections 03, 04

When interpreting the results of our search, please consider the following information:

- **This search area may contain *unrecorded* archaeological sites, historical structures or other resources even if previously surveyed for cultural resources.**
- **Because vandalism and looting are common at Florida sites, we ask that you limit the distribution of location information on archaeological sites.**
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- **Federal, state and local laws require formal environmental review for most projects. This search DOES NOT constitute such a review. If your project falls under these laws, you should contact the Compliance and Review Section of the Division of Historical Resources at 850-245-6333.**

Please do not hesitate to contact us if you have any questions regarding the results of this search.

Sincerely,

Ginny Jones
Historical Data Analyst
Florida Master Site File
gljones@dos.state.fl.us

CULTURAL RESOURCES REPORT

SITEID	FORMNO	T-R-S	CR	SITENAME	NRLIST	SURVEY	LOCATION	OTHER
P003987	199309	32S/23E/4	AR	S9-8-2		4295	Map: DUNE	Culture: 19TH, 20TH, HIST Sitetype: LAND, OTHR
P005297	199309	32S/23E/4	AR	S9-8-1		4295	Map: DUNE	Culture: 19TH, 20TH Sitetype: LAND, OTHR, VADE

2 site(s) evaluated; 2 form(s) evaluated. (2 AR)

Print date: 8/2/2010 4:21:24 PM