

3.0 Existing Conditions

3.1 Existing Roadway Conditions

The following subsections describe the existing roadway conditions within the project study area.

3.1.1 Existing Roadway Network

Figure 2.3.1 displays the existing roadway network in addition to future roadway improvements. State Road 13, located on along the St. Johns River on the west side of the County, is a two-lane, state rural highway. According to the Florida Department of Transportation, SR 13 is a "Candidate Highway" to establish a "Florida Scenic Highway" designation for 17 miles from the intersection with SR 16 to the Julington Creek bridge. Interstate 95 is a freeway extending from Maine to South Florida along the eastern seaboard and has six lanes in the vicinity of the study area. No other north-south arterials exist in the northwest portion of the County.

In terms of east-west roadways, Racetrack Road is a 4-lane urban arterial from SR 13 to Russell Sampson Road. A future four-lane relocation is planned as part of the 9B interchange with Racetrack Road. County Road 210 is a 4-lane urban arterial in the vicinity of CR 2209 and has an interchange with I-95. Both International Golf Parkway and SR 16 are two-lane, rural roadways that are proposed to become 4-lane urban arterials in the vicinity of CR 2209. By 2012, International Golf Parkway will be four lanes between I-95 and SR 16. Likewise, SR 16 will be four lanes between I-95 and International Golf Parkway. County Road 208 is a rural, two-lane highway with no current plans for expansion.

3.1.2 Drainage

The majority of the project corridor is undeveloped. Rainfall across the project corridor is drained by direct infiltration to the surficial aquifer or by intermittent or perennial creeks. Major hydrologic features such as a river or lake generally influence regional groundwater flow direction in the surficial aquifer. Trout Creek is located at the northern portion of the project corridor and generally flows from north to south to the St. Johns River. Mill Creek and Turnbull Creek are located at the central and south portions of the project corridor, respectively. These creeks flow to Sixmile Creek located at the southwestern portion of the project corridor. Sixmile

Creek flows from southeast to northwest to the St. Johns River. The St. Johns River is located approximately five miles west of the nearest point in the project corridor and flows from south to north.

Surface topography may also influence regional groundwater flow direction. The available hydrologic information indicates that the regional groundwater flow direction in the surficial aquifer is southwest. It should be noted that local geologic features may cause local groundwater flow direction to differ from the regional flow direction. Local hydraulic gradient at the project site is interpreted based on a review of the Picolata, FLA (1949, photorevised 1970), Bakersville, FLA (1970, photorevised 1992), and Orangedale, FLA (1993) USGS Topographic 7.5 Quadrangles.

3.1.3 Geotechnical Data

A preliminary geotechnical investigation was performed to help evaluate the possible habitat types and locations within the project area. Specifically, the purpose of this preliminary geotechnical investigation was to review readily available published information regarding anticipated geotechnical conditions within the study area. This information included the US Department of Agriculture (USDA), Natural Resources Conservation Services “Soil Survey of St. Johns County, Florida.” Figure 3.1.3 displays the SCS Soil Survey Map of the study area, and Table 3.3.1 describes the existing soils.

Table 3.1 - Existing Soils

Florida MUID	Hydrological Soil Group	Description
92	A	Ortega-Penney-Centenary
101	A	Tavares-Zolfo-Paolo
102	A	Palm Beach-Canaveral-Urban Land
103	B/D	Pamona-Eaugallie-Malabar
105	D	Floridana-Rivera-Terra Ceia
107	B/D	Terra Ceia-Samsula-Tomoka

Areas possessing a hydrologic soil group of D are considered poorly drained soils. The B/D hydrologic soil group is soils that are typically saturated with water and are considered very poorly drained. Group A soils are characterized as having well drained sandy or gravelly soils.

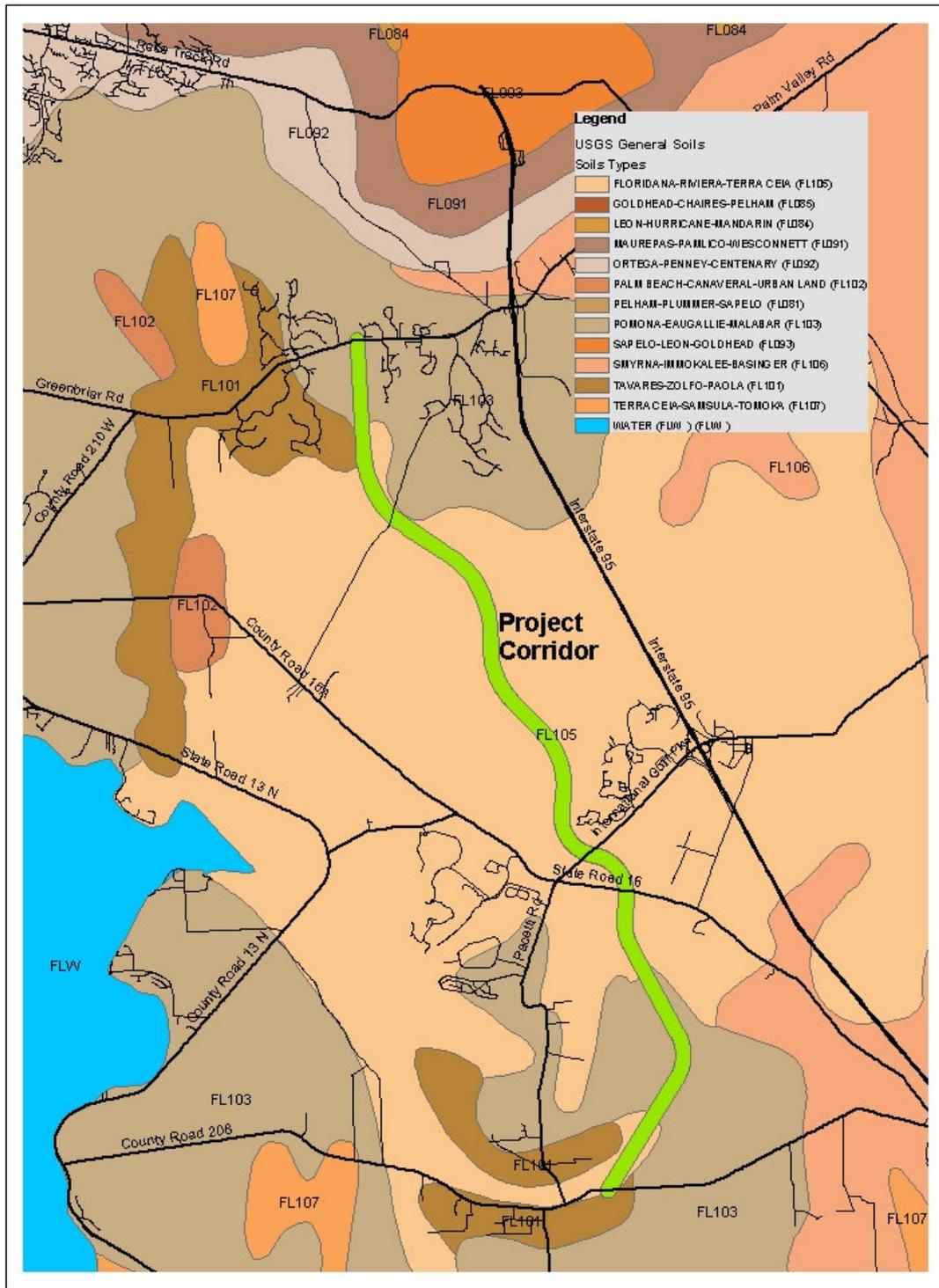


Figure 3.1.3 – Soil Survey

3.1.4 Utilities

A number of utilities traverse the CR 2209 corridor. A 110'-wide utility easement is located along the east side of existing CR 2209 at the intersection with CR 210. This easement extends three miles south before turning westward and is owned by Florida Power and Light Company (FPL). An electric substation coinciding with this easement is located in the southeast corner of the CR 210 / CR 2209 intersection. Additional FPL facilities are located on overhead poles along Pacetti Road and along SR 16 between I-95 and South Francis Road. North of International Golf Parkway and on the east side of the roadway corridor, FPL maintains an easement, which eventually turns westward approximately 3600' north of International Golf Parkway.

Litestream Technologies has aerial and underground fiber on CR 210 from Phillips Highway to 4 miles west of I-95.

Comcast Cable has underground cable approximately 36" deep on CR 210, aerial cable on Leo Maguire, 36" deep underground cable on International Golf Parkway, and aerial cable on Pacetti Road and SR 16.

St. Johns County has no utilities on CR 210, Leo Maguire, or Pacetti Road. Along International Golf Parkway, a water main, a re-use main, and two force mains are located here, while SR 16 has a force main and a re-use main.

JEA has electric facilities, water, and sewer along Racetrack Road. BellSouth also has facilities along this segment.

3.2 Existing Environmental Characteristics

3.2.1 Land Use

The majority of the existing land uses fall into several general categories based on their location. The properties fronting on CR 210 are mainly residential neighborhoods with some commercial property. South of the CR 210, agricultural and silvicultural development become the dominant land uses within the project corridor, although remnant natural areas are also

present. A large portion of this area has been and continues to be used as pine plantation and for various types of agricultural purposes including row crops and pasture. The land uses transition to residential and institutional uses with some pasturelands as the corridor approaches and crosses International Golf Parkway and SR 16.

Between SR 16 and CR 208 pine plantation is the dominant land use within the project corridor. These areas were undoubtedly pine flatwoods prior to their conversion. Turnbull Creek and its minor tributaries along with their associated forested wetlands as well as highly impacted isolated forested wetlands are the dominant natural systems present in this area. Mesic pine flatwoods and live oak hammock are minor components. Between SR 16 and the proposed Turnbull Creek crossing, the project corridor traverses property purchased by St. Johns County for the purpose of creating a wetland mitigation bank. This tract is referred to as the Turnbull Regional Off-site Mitigation Bank. Restoration of the historic hydrology and natural communities is an integral part of the development plan for this tract.

3.2.2 Natural and Biological Features

3.2.2.1 Wetlands

Wetlands along the project corridor consist of predominantly contiguous and isolated, forested systems within the Trout Creek and Sixmile Creek watersheds. Generally emergent wetlands are located along the disturbed fringes of the mixed, forested wetlands and bottomland swamp, in the littoral zones of the borrow lakes and in various ditches throughout the project corridor.

Wetlands in the project area were classified using the January 1999 version of the *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) developed by the Thematic Mapping Section of the Florida Department of Transportation. Four wetland types are found at the project site – stream and lake (bottomland), swamp (615), hydric pine plantation (6251), wetland mixed forest (630), and freshwater marsh (641). Wetland systems at the site have been impacted by silvicultural and agricultural activity.

Stream and Lake (Bottomland) Swamp (615)

The bottomland hardwood swamp type is associated with the streams found along the project corridor. Common species in this wetland type include bald cypress (*Taxodium distichum*), black gum (*Nyssa sylvatica* var. *biflora*), elm (*Ulmus americana*_var. *floridana*), red maple,

sweetgum (*Liquidambar styraciflua*), water oak and diamond-leaf oak. Wetlands in this category are generally of good quality in the project area.

Hydric Pine Plantation (6251)

The hydric pine plantation type can best be described as a variation of the hydric pine flatwoods. These wetlands were historically more than likely hydric pine flatwoods or the fringe of mixed, forested wetlands prior to conversion to pine plantation. Slash pine is the dominant canopy species with some mesic oaks or loblolly bay (*Gordonia lasianthus*). Groundcover is composed of gallberry, fetterbush (*Lyonia lucida*), broomsedge and other hydrophytic herbaceous species. The hydric pine plantation wetlands at the project site are generally marginally jurisdictional and of poor quality.

Wetland Mixed Forest (630)

The mixed wetland forest type is composed of hardwoods and conifers in which neither type dominates the canopy. Common species in this wetland type include bald cypress, black gum, slash pine, red maple, sweetgum, water oak, swamp bay (*Persea palustris*), wax myrtle (*Myrica cerifera*), poison ivy (*Toxicodendron radicans*), chain fern (*Woodwardia virginica*) and maidencane (*Panicum hemitomon*). Wetlands of this type are generally of moderate quality with adjacent agricultural and silvicultural activity having the greatest influence upon the wetland functions.

Freshwater Marsh (641)

The freshwater marsh type wetlands are located at the disturbed fringes of the mixed, forested wetlands and bottomland swamp, in the littoral zones of the borrow lakes and in various ditches throughout the project corridor. Common species include maidencane, broomsedge, soft rush (*Juncus effusus*), tall swamp panicum (*Panicum scabriusculum*), blue maidencane (*Amphicarpum muhlenbergianum*), chain fern and pickerelweed (*Pontederia cordata*). Generally these wetlands are of moderate quality.

3.2.2.2 Uplands

Uplands in the project area were classified using the January 1999 version of the *Florida Land Use, Cover and Forms Classification System* (FLUCFCS) developed by the Thematic Mapping Section of the Department of Transportation. Five upland habitat types are found at the project

site – cropland and pastureland (210), pine flatwoods (411), pine - mesic oak (414), live oak hammock (427) and pine plantation (441).

Cropland and Pastureland (210)

Historically pine flatwoods was the dominant upland natural community along the project corridor. Presently the majority of the upland habitat within the project corridor has been modified for agricultural and silvicultural use. The central portion of the project area has been cultivated for row crops such as potatoes, soybean, cabbage and other suitable commercial species. Fallow fields are generally dominated by ruderal species such as dog fennel (*Eupatorium capillifolium*), broomsedge (*Andropogon* sp.) and blackberry (*Rubus argutus*). Bahia grass (*Paspalum notatum*) is the dominant species of the pasture. The agricultural use has severely impacted the diversity of wildlife utilizing these areas. Generally the wildlife species found are common in northeast Florida and found in a number of habitats. The fields provide primarily foraging habitat used on an opportunistic basis. In addition to the direct physical impacts to the lands being cultivated, these practices have also altered the hydrology of adjacent areas.

Pine Flatwoods (411)

Pine flatwoods remnants are located throughout the project corridor. Historically, this natural community type was the dominant upland habitat. Conversion for agricultural and silvicultural development has resulted in its currently limited extent in the project corridor. Slash pine (*Pinus elliotii*) is the dominant canopy species present with saw palmetto (*Serenoa repens*) and gallberry (*Ilex glabra*) as common groundcover associates.

Pine - Mesic Oak (414)

This land cover type is a mesic variant of the pine flatwoods natural community. It has also been severely impacted by past agricultural and silvicultural development and currently is represented by small remnants scattered throughout the project corridor. Slash pine is the dominant canopy species with water oak (*Quercus nigra*) and diamond-leaf oak (*Quercus laurifolia*) as common subcanopy species. Gallberry is the dominant groundcover species associated with this habitat type.

Live Oak Hammock (427)

Small remnants of live oak hammock are found along Turnbull Creek in the project corridor south of SR 16 crossing. Live oak (*Quercus virginiana*) is the dominant canopy species with saw palmetto and sapling live oak as common groundcover associates.

Pine Plantation (441)

Slash pine is the dominant canopy species of the pine plantation, generally forming a closed canopy. Groundcover varies from saw palmetto in the highest elevations to gallberry with mesic oaks and red maple (*Acer rubrum*) in slightly lower elevations. The northern and southern portions of the project area has been maintained and operated as silvicultural lands for many years. This has removed any semblance to the natural communities that existed prior to these operations and has limited their use by wildlife as suitable habitat.

3.2.2.3 Listed Species

There are several listed species that may utilize resources found within the project area. The fact that the majority of the project corridor consists of lands developed for pasture and silviculture purposes limits the natural systems required to support a rich diversity of wildlife species. The majority of listed wildlife found within the corridor is associated with isolated wetland systems as well as those contiguous with Mill Creek and Trout Creek. More information is contained in Appendix B chapter 4.1.

3.2.2.4 Contamination

Potential contamination sources along the project corridor were identified through a combination of sources, including the computerized database search results, review of aerial photographs, visual reconnaissance of the corridor, and regulatory agency file reviews. Table 4.3a, in Appendix B, provides a summary of these identified facilities. Pollutant storage tank data are summarized in Table 4.3b, in Appendix B, for only those facilities that have, or had tanks. Site photographs are contained in the project file.

3.2.3 Cultural Resources

A Cultural Resource Overview has been conducted as part of this study in order to ascertain the cultural resources located within the project area. A full copy of the Cultural Resource Overview can be found in Appendix C of this report. Within the North Study Area, from CR 210 to SR 16, only one recorded cultural resource was found. The Pacetti Lithics site, a prehistoric archeological site, is located within the project corridor just north of International Golf Parkway. Within the South Study Area, from SR 16 to CR 208, a number of historical and archeological resources were identified. However, none of these resources are located within the project corridor.