# 5.0 RESEARCH CONSIDERATIONS AND METHODS

## 5.1 <u>Background Research and Literature Review</u>

A comprehensive review of archaeological and historical literature, records and other documents and data pertaining to the project area was conducted. The focus of this research was to ascertain the types of cultural resources known in the project area and vicinity, their temporal/cultural affiliations, site location information, and other relevant data. This included a review of sites listed in the NRHP, the FMSF, cultural resource survey reports, published books and articles, unpublished manuscripts, maps, and interviews. It should be noted that the FMSF information in this report was obtained July 2006. However, according to FMSF staff, input may be a month or more behind receipt of reports and site files, in addition, the GIS data are updated quarterly.

In keeping with standard archaeological conventions, both the English and metric equivalents are used in this section, as well as in the Survey Results chapter which follows.

## 5.1.1 Archaeological Considerations

For archaeological survey projects of this kind, specific research designs are formulated prior to initiating fieldwork in order to delineate project goals and strategies. Of primary importance is an attempt to understand, based on prior investigations, the spatial distribution of known resources. Such knowledge serves not only to generate an informed set of expectations concerning the kinds of sites which might be anticipated to occur within the project APE, but also provides a valuable regional perspective, and thus, a basis for evaluating any new sites discovered.

The search of the FMSF at the Florida Division of Historical Resources (FDHR) in Tallahassee revealed that of the 59 archaeological sites recorded within two miles of the APE, four are located within or adjacent to the proposed Wekiva Parkway viable alternatives (Figure 5.1, Table 5.1). The four sites include two single artifact sites (8LA532 and 8SE80) each evidenced by a piece of aboriginal ceramic, and two historic period artifact scatters (8SE1723 and 8SE1775). 8LA532 consists of a piece of St. Johns Plain ceramic that was recovered during the cultural resource assessment survey of a bear crossing facility along SR 46 (Browning 1992). 8SE80 consists of a piece of St. Johns Check Stamped ceramic recovered during the investigations for the Sanford 201 facilities (Dickinson and Wayne 1985). 8SE1723 is a 20<sup>th</sup> century artifact scatter that was recorded during one of the many Florida Natural Gas transmission line surveys (Labadia et al. 2000). Finally, 8SE1775, is a late 19<sup>th</sup> and early 20<sup>th</sup> century artifact scatter that was recorded during a survey of the Wekiva River Parcel for Stoneybrook Joint Venture (Carr et al. 2001).



and Seminole Counties, Florida (USGS Astatula, Fla. 1962, PR 1970, PI 1984; Eustis, Fla. 1966, PR 1980; Sorrento, Fla. 1960, PR 1980; Forest City, Fla. 1959, PR 1980; Apopka, Fla. 1960, PR 1980; Casselberry, Fla. 1962, PR 1980; Sanford, Fla. 1965, PR 1988; Sanford SW, Fla. 1965, PR 1970). Blue corridor is the John Land Apopka Expressway.



WEKIVA PARKWAY (SR 429)/ SR 46 REALIGNMENT PD&E STUDY Orange, Lake and Seminole Counties

SITE #	SITE NAME	SITE TYPE	CULTURE	REFERENCE
LA00456	Seminole Springs Road	Artifact scatter	Prehistoric lacking pottery	Browning & Jackson 1990
LA00514	Hunt Camp	Habitation, shell midden, artifact scatter	St. Johns, 20th century	Dickinson & Wayne 1992
LA00532	Bear Crossing	Single artifact	St. Johns	Browning 1992
LA00538	Bear Crossing 2	Campsite, artifact scatter	Unknown FMSF – Browning	
LA00539	Bear Crossing 3	Campsite, artifact scatter	Middle Archaic FMSF – Browning	
LA00540	Bear Crossing 4	Single artifact	Unknown FMSF – Browning	
LA00541	Bear Crossing 5	Campsite, single artifact	Unknown FMSF – Browning	
LA00542	Bear Crossing 6	Single artifact	Unknown	FMSF – Browning
LA02127	Wekiva Ferryboat	Subsurface features, artifact scatter, shipwreck	1821-1899	Denson & Ellis 1998
LA02244	FGT New Smyrna Lateral	Campsite, artifact scatter, ceramic scatter	Prehistoric with pottery	Stokes 1999
LA02760	Cassia Station	Railroad grade segment	20th century	Dunbar & Newman 2004
LA02761	South Loop Hill	Historic refuse, road segment, non-quarry lithic scatter	Middle Archaic, 20th century	Dunbar & Newman 2004
LA02784	W.C.C. Black Water Creek Sawmill	Building remains, lumber mill, railroad segment, historic refuse, road segment	20th century	Dunbar & Newman 2004
LA02903	Wolf Branch	Historic refuse	20th century	Austin 2005
OR00016	Rock Springs	Inundated	Indeterminate	FMSF – Brock
OR00017	Zellwood	Artifact scatter	Transitional	FMSF- Chamberlin
OR00018	Downy	Burial mound, artifact scatter	St. Johns, St. Johns II	Jones 1970
OR00034	Drawdy Cabin	House	post-1821	Jones 1970
OR00458	Rock Springs Burial Mound	Burial mound	Unspecified	FMSF - Stewart
OR00493	McDonald Airfield	Unknown	Unspecified	FMSF - Stewart

**Table 5.1**. Previously recorded archaeological sites within two miles of the Wekiva Parkway APE.

SITE #	SITE NAME	SITE TYPE	CULTURE	REFERENCE
OR00494	Mud Lake	Unknown	Unspecified	FMSF - Stewart
OR00888	Mulford Hickerson	Burial mound	Prehistoric	FMSF
OR04353	GBS	Single artifact	Prehistoric lacking pottery	ACI 1996, 2004
OR04354	Clear Water Lake	Artifact scatter	Prehistoric with pottery, St. Johns	ACI 1996, 2004
OR04356	Carrot Farm	Midden, artifact scatter	St. Johns	ACI 1996, 2004
OR04369	McKay Lake Flake	Single artifact	Prehistoric lacking pottery	ACI 1996, 2004
OR04370	Tin Can Pavement	Single artifact	Prehistoric lacking pottery	ACI 1996, 2004
OR05974	Wekiva Basin Geopark Tram Roads	Raw materials procurement; road segment	20 <sup>th</sup> century	FMSF – Fillyan
OR09219	Lake Apopka Canoe #1	Log Boat	Unknown	FMSF – Wheeler
SE00025	Wekiva Shell Field A	Shell midden	St. Johns II	Wyman 1875
SE00026	Shell Field B	Campsite, shell midden; ceramic scatter; non- quarry lithic scatter	St. Johns I, Seminole	Wyman 1875; Erbe, Dickinson & Wayne 2002
SE00080	NN	Single artifact	St. Johns II	Dickinson & Wayne 1985
SE00081	Windmill	Historic refuse	post-1821	FMSF
SE00083	DNR Mound	Campsite, shell midden, mound, artifact scatter	Prehistoric, St. Johns II	Weisman 1990
SE00564	Plantation Indian Midden Mound	Midden, mound	St. Johns	Stewart & Pope 1988b
SE00565	Plantation Lithic Scatter	Lithic scatter/quarry	Prehistoric	Stewart & Pope 1988b
SE00566	Plantation Hotel/Mitchell Farm House	Habitation, house; artifact scatter	post-1821, African American	Stewart & Pope 1988b; Estabrook & Weant 1991
SE00568	Oak Grove Missionary Baptist Church	Building remains	post-1821, African-American	Stewart & Pope 1988b; Estabrook & Weant 1991
SE00570	Seminole Mall 1	Artifact scatter	St. Johns I Stewart & Pope 1988a	
SE00571	Seminole Mall 2	Historic refuse	20th century	Stewart & Pope 1988a

**Table 5.1**. Previously recorded archaeological sites within two miles of the Wekiva Parkway APE.

SITE #	SITE NAME	SITE TYPE	CULTURE	REFERENCE
SE00572	Seminole Mall 3	Non-quarry lithic scatter	Prehistoric lacking pottery	Stewart & Pope 1988a
SE00573	Heathrow North 1	Building remains, homestead, historic refuse	1880-1916	Estabrook 1989
SE00574	Heathrow North 2	Building remains, homestead	1880-1916	Estabrook 1989
SE01095	Markham Pond	Artifact scatter	St. Johns Estabrook & Weant 19	
SE01135	Lake Stern	Homestead, historic refuse	20th centuryBurger 1992	
SE01136	Trues Lake	Agriculture/Farm structure, homestead, historic refuse	post 1880	Burger 1992
SE01146	Jacque's Midden	Habitation, shell midden, artifact scatter	Late Archaic, Orange, Transitional, St. Johns I & II	Ellis et al. 1994
SE01147	Sylvan Lake 1	Habitation, shell midden, artifact scatter	St. Johns I & II	Ellis et al. 1994
SE01177	Katie's Landing	Campsite, subsurface features, habitation, shell midden, midden	Late Archaic, Orange, St. Johns I & II, 20th century Cockrell 2003	
SE01216	Debary-Winter Springs #4	Raw materials procurement, artifact scatter; lithic scatter/quarry	Prehistoric lacking pottery	Bellomo 1994
SE01334	Arnold	Campsite, artifact scatter	Transitional, St. Johns	Burger 1993
SE01335	Tindell	Artifact scatter	Middle & Late Archaic, Orange	Burger 1993
SE01686	Burch	Campsite, shell midden, artifact scatter	St. Johns II	FMSF - Wheeler
SE01720	Farmland Historic Scatter	Building remains, historic refuse, road segment	20th century	ACI/Janus 1999
SE01723	BA4-01	Artifact scatter	20th century	Labadia et al. 2000
SE01775	Twin Oaks	Homestead	post-1821	Carr et al. 2001
SE01776	Wekiva Hillside Site	Raw materials procurement, habitation	Archaic, St. Johns	Carr et al. 2001, 2002
SE01777	Wekiva Riverside Site	Raw materials procurement, habitation	Archaic, St. Johns	Carr et al. 2001, 2002
SE01778	Serenity Site	Raw materials procurement, habitation	Archaic, St. Johns	Carr et al. 2001

**Table 5.1**. Previously recorded archaeological sites within two miles of the Wekiva Parkway APE.

In addition to the aforementioned investigations that resulted in the recording of four local sites, background research indicated that over 60 cultural resource assessment surveys have been conducted within about two miles of the PD&E study corridor. These included surveys for highway and road improvements, natural gas and electricity transmission lines, wastewater facilities, residential and commercial development, state parks, and telecommunications towers.

The transportation projects conducted proximate to the PD&E study area include I-4 (ACI/Janus 1999; Ashley and Smith 1997; Browning and Wiedenfeld 1989), US 17/92 (Greiner 1988; Whitaker 2006), Eastern Beltway (Wayne and Dickinson 1990), SR 44 (ACI 1991; Browning and Jackson 1990), US 441 (ACI 1996; Ashley et al. 1995), CR 15 (ACI 2000), SR 429 (ACI 2004), the Maitland Boulevard Extension/John Land Apopka Expressway (ACI 2005, 2006) and Grant Line Road (Burger 1992). In addition, the previously mentioned bear crossing project was conducted along SR 46 (Browning 1992). A variety of utility related project have also been conducted in the area. These include natural gas and electric line corridors and their ancillary facilities (Bellomo 1994; Janus Research 1999; Labadia et al. 2000; SEARCH 2000; Stokes et al. 1999; Voellinger and Voellinger 1980) and wastewater treatment and disposal facilities (Dickinson and Wayne 1985; Richards 1994).

Numerous commercial and residential developments have also been subject to archaeological and historical resources surveys. These have been conducted for residential developments (Austin 2005; Ballo and Hardin 1986; Carr et al. 2001; Dickinson and Wayne 2003; Estabrook 1989; Parker 2000; Stokes 2003, 2004a, 2004b, 2005; Storm L. Richards & Associates 2003a, 2003b; Waters et al. 2004; Wayne 2004), apartment complexes (Causey 2003), Planned Use Developments (ACI 2001; Burger 1993; Dickinson and Wayne 1992, 2002; Estabrook and Weant 1991; Stewart and Pope 1988b; Stokes 2002), postal facilities (Greiner Engineering Sciences 1987), and shopping malls (Stewart and Kimsey-Hickman 1989; Stewart and Pope 1988a). There have also been numerous surveys conducted for cellular communication towers (Batategas 2001; Carlson 2001; Carty 2005a, 2005b; Davis 2003, 2004a, 2004b; Johnson 2001; Parker 2001, 2002).

Finally there have been several surveys conducted for State and County lands associated with the Lower Wekiva River State Reserve, Wekiva Springs State Park, Rock Springs Run State Reserve, and the Seminole State Forest, in addition to a small survey of the Dowling Blount Estates tract for the Division of Parks and Recreation (Cockrell 2003; Dunbar and Newman 2004; Erbe et al. 2002; Jones 1970; Stanton et al. 1999; Weisman 1990; Weisman and Newman 1993a, 1993b).

In addition, county-wide surveys have been conducted in Orange (Johnson and Basinet 1995) and Seminole (Ellis et al. 1994) Counties. Within Seminole County, sites would be expected along the Wekiva River where natural shoreline elevations provide suitable bases for habitation (Ellis et al. 1994). Within the Osceola Plain, east of the Wekiva River floodplain, sites would tend to be located adjacent to upland lakes and springs (Ellis et al. 1994:152).

In Orange County, the site location predictive model was divided into three general settings: the flatwoods, the uplands, and the floodplains. Within the flatwoods, most sites are located on slightly elevated terrain adjacent to wetlands, creek, or streams (Johnson and Basinet 1995:176). In addition, the following soil types within the flatwoods are considered to have a medium to high probability for site occurrence depending on the proximity of hydric features: Pomello, Archbold, Lochloosa, Seffner, Tavares-Millhopper, and Zolfo fine sands. The poorly drained Immokalee, Ona, St. Johns, Smyrna, and Wabasso fine sands would be assigned a medium probability for site occurrence if situated within 150 m (492 ft) of a water source (Johnson and Basinet 1995:176-177). Within the uplands, areas greater than 300 m (984 ft) from a water source are considered to have low archaeological probability, within 150 to 300 m (492-984 ft), moderate archaeological potential, and a high probability within 150 m (492 ft) of a water source. The soils of the floodplains and freshwater marshes and swamps should be considered to have a very low probability for site occurrence unless occurring on the banks of creeks or rivers or upon hammock islands, where they should then be considered high probability areas (Johnson and Basinet 1995:178). In addition, St. Lucie fine sand, Candler-Urban land complex (5-12%), and Tavares fine sand all have a greater than expected occurrence of archaeological sites and should be considered to have a medium to high probability for site occurrence based on distance to a hydric resource.

On the basis of regional site location information, precontact period sites within the PD&E study corridor were predicted to be located on the better-drained lands along or proximate to the margins of the local rivers, creeks, lakes, and other wetlands. An analysis of the aboriginal archaeological sites within two miles of the APE revealed that less than 10% of the sites (4 of 43) were situated more than 150 m (492 ft) from a water source. Those areas proximate to water that have somewhat poorly to excessively drained soils were considered to have a higher potential for site occurrence as compared to the poorly drained soils proximate to water. This too is evidenced by the local site distribution where 34 of the 56 sites recorded within two miles of the APE are situated on excessively and moderately well drained soils. Three sites were excluded from these areas of excessively drained soils greater than 300 m (984 ft) from a water source, as well as all areas characterized by very poorly drained soil regardless of distance to water (unless occurring on the elevated banks of the river), were considered to have low probability for site occurrence.

The types of sites expected within the Wekiva Parkway/SR 46 Realignment PD&E Study APE consist of freshwater shell midden deposits along the banks of the Wekiva River. Smaller midden deposits might be expected adjacent to the smaller water sources. In addition to middens, artifact and/or lithic scatters may be expected in areas away from the major water sources. These would be more representative of special use extractive camps. The larger more permanent settlements would most likely be located on the terraces above the Wekiva River.

#### 5.1.2 Historical Considerations

A comprehensive FMSF search and literature review was performed to determine the locations of *NRHP*-listed, *NRHP*-eligible, and potentially *NHRP*-eligible historic resources. The search revealed that previous work has been performed in the vicinity of the project APE, as enumerated in Table 5.2.

	SURVEY	
SURVEY NAME	NUMBER	AUTHOR AND DATE
Cultural Resource Assessment for the City of		
Sanford Proposed 201 Wastewater Effluent		
Disposal Facility Plan Site 1.	1052	Dickinson, Martin F. 1985
Cultural Resources Study of Seminole		
County, Florida: Historic and Architectural		
Resources, Volume II.	3889	Laurie, Murray D. 1994
Inventory and Assessment of Cultural		
Resources on the Fechtel Tract and Lower		
Wekiva State Reserve, Lake and Seminole		
Counties, Florida	5679	Lammers, Jonathon 1999
Cultural Resource Survey and Evaluation		
Report of the Florida Gas Transmission		
Company Phase IV Expansion	5699	Allen, Matthew 1999
A Cultural Resources Assessment of the		
Mount Dora Apartments Tract Lake County,		
Florida	9322	Causey, Philip D. 2003
Assessment and Documentation of Resources		
in Seminole State Forest, Lake County,		
Florida	9364	Dunbar, James S. 2004
CRAS of SR 429/SR 414/Maitland Boulevard		
Extension PD&E Study Reevaluation	11206	ACI 2004
A Phase 1 Cultural Resource Survey of the		
Summerbrooke Development Property, Lake		
County, Florida	11368	Austin, Robert J. 2005

**Table 5.2.** Surveys Conducted in the Vicinity of the Area of Potential Effect

A search of the electronic files kept by the FMSF for previously recorded historic resources in the project area revealed one documented building, 2626 Boch Road (OR07946). This building was not evaluated by SHPO, but an *NRHP* assessment was conducted as part of this survey and is included in the results section.

A building identified through aerial photographs and local informants is also located within the project area at 6229 Plymouth-Sorrento Road. This house is currently owned by the Holder family, and the owners' son, Jerry Holder was contacted regarding the house. The house is Frame Vernacular in style, built in the early 1910s, and located on a former large citrus farm. The study team made numerous requests for access to this property. All such requests were denied. Therefore, the property could not be surveyed, and a FMSF form could not be prepared.

#### 5.2 Field Methodology

Archaeological field survey methods consisted of an initial windshield survey of the Wekiva Parkway/SR 46 Realignment PD&E Study project area. Field survey efforts were focused on all areas identified in the background research as having a high or moderate probability for precontact and historic period site occurrence. Those localities deemed to have a low site potential were archaeologically sampled. Following ground surface inspection, subsurface shovel testing was carried out to test for the presence of buried cultural deposits. An Archaeological Research Permit (No. 0607.04) was obtained from the Bureau of Archaeological Research prior to initiating the field investigations within the Rock Springs Run State Reserve (Appendix A). Also obtained were a Research/Collecting Permit (No. 07210613) from the Florida Department of Environmental Protection, Division of Recreation and Parks for Rock Springs Run State Reserve, and State Forest Use Permit No. 14546 for access into the Seminole State Forest. Information about specific properties was obtained from local resident Marsha Nesler and landowner Bill Cole, as well as Joe Bishop of the Florida Department of Agriculture, Division of Forestry.

Subsurface testing was systematically carried out at 82 ft (25 m) and 164 ft (50 m) intervals in the high and moderate probability zones. Additional shovel tests were dug at 328 ft (100 m) intervals within a sample of the low probability zone, as well as judgmentally around productive shovel tests to determine site dimensions. Shovel tests were circular and measured approximately 1.6 ft (0.5 m) in diameter by at least 3.3 ft (1 m) in depth. All soil removed from the test pits was screened through a 0.25 in (6.4 mm) mesh hardware cloth to maximize the recovery of artifacts. The locations of all shovel tests were plotted on the aerial maps, and, following the recording of relevant data such as stratigraphic profile and artifact finds, all test pits were refilled. Any artifacts recovered were placed in plastic reclosable bags with the appropriate provenience information recorded on the bags. Each bag was assigned a Field Specimen (FS) number and the information was recorded in the FS log. Updated FMSF forms were prepared for both newly identified and previously recorded archaeological sites, even where no artifacts were found (Appendix B).

**Historical/architectural** field survey was conducted by an architectural historian and at least one technical assistant in order to ensure that each resource built prior to 1958 within the project APE was identified, properly mapped, and photographed. The historic resources survey used standard field methods to identify and record historic resources. All resources within the APE received a preliminary visual reconnaissance. Any resource with features indicative of 1950s or earlier construction materials, building methods, or architectural styles was noted on aerial photographs and a USGS Quadrangle map.

For each resource identified in the preliminary assessment, FMSF forms were completed with field data, including notes from site observations, and information obtained through research. The FMSF forms are located in Appendix B. The estimated date of construction, distinctive features, and architectural style were noted. The information contained on any FMSF form completed for this project was recorded in a Microsoft Access database. Photographs were taken with a high resolution digital camera. Blackand-white photographs were printed on Fuji Crystal Archival Paper with an approximately 70-year lifespan. A log was kept to record the resource's physical location and compass direction of each photograph.

Each resource's individual significance was then evaluated for its potential eligibility for inclusion in the *NRHP*. Historic physical integrity was determined from site observations, field data, and photographic documentation. Local information was consulted to assist in the research for known significant historical associations. Research was conducted at the Orange County Regional History Center. Beth Jackson with the Orange County Environmental Protection Division as well as local resident Jerry Holder were contacted regarding pertinent information on several buildings in the Bay Ridge and Sorrento areas.

# 5.3 <u>Laboratory Methods and Curation</u>

All recovered cultural materials were initially cleaned and sorted by artifact class. Lithics were divided into tools and debitage based on gross morphology. Tools, had they been recovered, would have been measured, and the edges examined with a 7-45x stereo-zoom microscope for traces of edge damage. Tool types would have been classified using standard references (Bullen 1975; Purdy 1981). Lithic debitage was subjected to a limited technological analysis focused on ascertaining the stages of stone tool production. Flakes and non-flake production debris (i.e., cores, blanks, tested cobbles) were measured, and examined for raw material types and absence or presence of thermal alteration. Flakes were classified into four types (primary decortication, secondary decortication, non-decortication, and shatter) based on the amount of cortex on the dorsal surface and the shape (White 1963).

The aboriginal ceramics were classified into commonly recognized types based on observable characteristics such as aplastic inclusions and surface treatment (cf., Cordell 1985; Cordell 1993; Goggin 1939, 1940, 1948, 1952; Griffin 1945; Rouse 1951; Willey 1949). Historic materials, had they been recovered, would have been identified using a variety of resources with the focus of the analysis being the determination of site function and period of occupation.

Artifacts and associated project-related records are being stored at the ACI office in Sarasota pending transfer to the FDOT, or a designated curatorial facility.

## 5.4 <u>Unexpected Discoveries</u>

If human burial sites such as Indian mounds, lost historic and precontact cemeteries, or other unmarked burials or associated artifacts were found, then the provisions and guidelines set forth in Chapter 872.05, F.S. (Florida's Unmarked Burial Law) were to be followed. However, it was not anticipated that such sites would be found during this survey.