

# NORTHEAST COLLIER COUNTY TRAIL FEASIBILITY STUDY

## VOLUME 1



**SUBMITTED TO:**



**SUBMITTED BY:**



**SEPTEMBER 30, 2008**



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# Executive Summary

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## Study Objectives

Collier County Department of Transportation envisions establishing a trail to connect the existing network of trails in Collier County with those in Lee County. In order to accomplish this, Collier County has authorized a feasibility study to evaluate existing conditions and establish trail alternatives. The objective of the study is to examine the feasibility of a proposed 12-foot wide multi-use pathway to be constructed in the northeast region of Collier County. The study addresses a number of factors including environmental constraints, right-of-way and easement availability, future roadway construction and development, connections to existing trails, constructability, costs, and community involvement.

## Conditions and Constraints

The site conditions in the study area were reviewed based on GIS and institutionally published data, as well as extensive field reconnaissance. Maps, plans and drawings were generated to confirm existing conditions and constraints. Generally, open alignments along public roadways offered the most direct and accessible options. Utility corridors were considered, but their practical use was found to be limited due to environmental concerns and ownership and easement constraints. Alignments along utility corridors would require agreements with multiple land owners and approval from utility providers to co-locate the trail in their easement. Other alignments through public lands were considered, but the presence of protected species and environmentally jurisdictional areas made this questionable. The other consideration was striking a partnership with land owners wishing to develop land or that would be supportive of the trail system. New easements or agreements with developers for construction of the trail system, at little or no cost to the County, should be actively pursued as their development programs progress. This will benefit the County and add value to the properties in the development.

## Alternative Alignments

Alternative alignments were established and can be seen in Figure 1 and 35 of Volume 2. Please note that the Preferred Alignment is shown in red in Figure 1. The Preferred Alignment contains trail segments that would be considered a priority over other alternative locations. The study area has numerous intersecting roadways that offer many options in alignment alternatives. It also has many land development projects or capital improvement projects that can have a direct positive impact on the placement of new trails in the region. An evaluation matrix was prepared for each trail segment and ranked based on its attributes. See Table T-3 for the evaluation and rankings. The unusual outcome was the lack of an overwhelmingly strong choice among the alternatives. However, the positive outcome is many of the alignment options are candidates as long as it is a segment that will support a continuous long term trail solution. As a result, the County has a lot flexibility in adapting the final alignment to correspond to the opportunities and

projects as they occur so long as the sum of the segments provide for the continuation of a user friendly trail system.

### **Implementation Options**

The implementation options available to the County are numerous and can occur on a short term and long term basis. In the short term, the project can begin with the next highway project funded by the County in the area. Oil Well Road improvements contemplate providing for trail and sidewalk elements. This first phase will have an immediate positive impact on school accessibility for kids riding bikes or walking to school. It will establish the first trail segment which can thereafter be the point of reference for new segments that will interconnect over time. Another example, with an unknown construction date, is including a trail component in the widening plans for SR 82 by FDOT. Not implementing this planning element in the proposed roadway widening PD&E study would be a rare opportunity missed.

Long term funding would consider a time horizon of five years or longer. County Capital Improvement programs, while not robust under current market conditions, will continue to be updated each year. Conscientiously integrating the trail components with strategically selected highway improvement projects will advance the program considerably. An example would be to design and build the future Little League Road with a typical section that contains adequate right-of-way and the placement for trail segments. This would serve recreational and true non-motorized traffic needs in the community and the Town of Immokalee. Ultimately, widening of SR 82 is another example of a long term option that would be a critical link in providing a future interconnection with the continuation of the trail into Lee County.

### **Conclusions**

Collier County has a unique opportunity to establish guidelines and implementation plans for a trail system in the Northeast region. The new trail segments will enhance the lifestyle of its residents while providing non-motorized transportation links and multi-use trail elements that will improve the health and safety for the citizens and students. The preferred alignment with its priority trail segments can provide the county an over arching plan for the development and construction of the trail system in this region. A multi-pronged approach considering parallel concurrent options and bringing in one or more segments at a time will, in the long run, result in the needed trail system. Patience to maintain a long term focus, teamed with a sense of priority on what can be accomplished short term will allow the “trail puzzle” in the region to be assembled over time. The driver for accomplishment will be strategic partnerships by the county with land owners and developers; and the speed with which funding can be obtained for specific trail improvements.

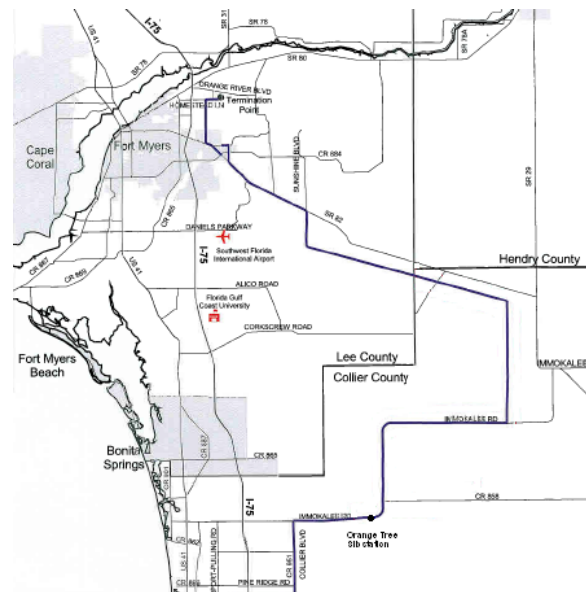
# 1.0 Introduction

Across the United States, the public continues to seek more and more multi-use recreational trails and pathways. This movement and its expanding programs by the federal, state, and local governments as well as advocacy groups such as Rails-to-Trails Conservancy is in response to a groundswell of public interest in accessing expanding trails for transportation and recreational use. The momentum continues to grow. Collier County has a unique opportunity to be proactive in planning a new trail system in Northeast Collier County in advance of new and explosive growth in the area. This vision to plan ahead will pay dividends to residents and users in the years to come while improving safety and access to schools in addition to all of the other beneficial attributes of the trail systems. The need for planning and creating new systems has never been greater as the country faces declining mobility, increased obesity and the need for effective use of space and resources for public use. A quick scan of the projects that have surfaced in this region of the county includes several large master planned communities. Planned housing has already exceeded 22,000 units with more coming in the future. More than 9 new schools have been planned to support the new population growth. This study, authorized by Collier County, is well timed and is a critical step in the process to respond to public needs and to take advantage of the many funding sources currently available for this type of development. As trail systems are put in place, a legacy for future generations, as well as an improved quality of life, will be enjoyed in this region and in Collier County for many years.

## 1.1. Project Description

Collier County Department of Transportation partnered with PBS&J to conduct a trail study for a multi-use pathway in Northeast Collier County. The team included Alta Planning, Borrelli + Partners and Rails-to-Trails Conservancy as sub-consultants to PBS&J. This study examines the feasibility of a proposed 12-foot wide multi-use pathway to be constructed

within or nearby the 51-mile Florida Power and Light (FPL) 230KV Transmission Line Corridor located between the Orange River Substation in Lee County and the Orange Tree Substation in Collier County. The total length of the trail corridor is approximately 35-40 miles.



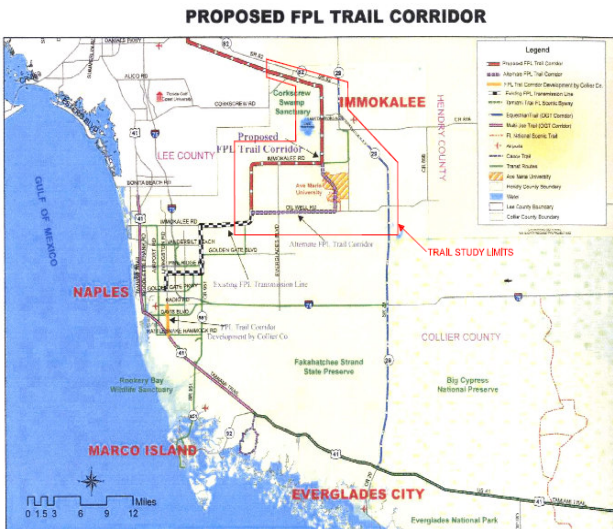
### FPL Corridor – Orangetree Substation, Collier County to Orange River Substation, Lee County

The Feasibility Study addresses a number of factors including environmental constraints, ROW and easement availability, future roadway construction and development, connections to existing trails, constructability, costs, and community involvement. The study focused on an area from the Orange Tree substation to the CREW Trust lands near Corkscrew Road at the Lee County line with the general objective of connecting to a planned trail system located in the FPL corridor in Lee County.



**Orangetree Substation, Collier County**

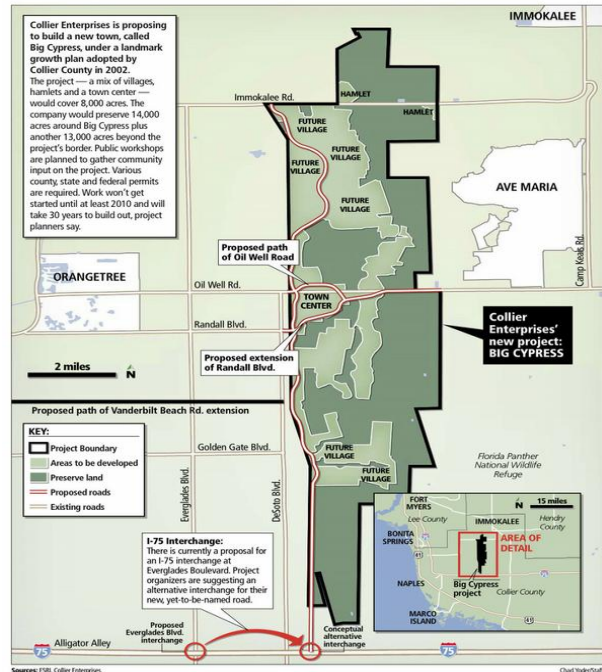
The Study was comprised of the following elements: data collection; site analysis; evaluation of trail alternatives; ground truthing; preliminary design; public involvement; potential funding sources; management and maintenance; and cost analysis. The goal of the assessment is to determine the feasibility and to accomplish conceptual design tasks needed prior to implementing final design, permitting and subsequent construction of the multi-use pathway. Thus, the study will be the baseline from which plans can be prepared in the future implementation phases.



## 1.2. The Planning Process

The first step in the planning process consisted of conducting a comprehensive inventory of the existing conditions within the study corridor. This included field investigations; research of existing data related to wetlands, threatened and endangered species (T&E studies), existing and proposed development/land use, and potential historical preservation areas. This inventory included field review of physical and environmental constraints; alignment concerns, safety, ROW restrictions, and intersection and roadway crossings. A detailed look at underlying ownership was not part of the analysis.

Potential assets were inventoried, such as schools, residential and commercial areas, commuter use by workers and students, recreational areas, public facilities, and connections to existing and future trails. Planned development such as the Big Cypress Development of Regional Impact (DRI), widening of Oil Well Road, and recreational improvements were also researched and inventoried.



**Big Cypress DRI**



Public involvement was a key element in the evolution of the Master Plan and preferred alignment. A public information meeting and workshop was held in June 2008 at the University of Florida Extension Service in Immokalee. The project team presented several trail alternatives and potential trail connections. In addition to public feedback gathered at the meeting, an on-line survey was made available and publicized via the local media. The public meeting and survey results are detailed later in this report. Following the public meeting a briefing was also provided to the Metropolitan Planning Organization (MPO) Pathway Advisory Committee.



**Corkscrew Elementary School**

### **1.3. Preferred Alignment**

Several factors were considered and evaluated in order to determine the most advantageous trail alignment for Northeast Collier County. During the evaluation of the alternative alignments, the following categories were analyzed: wetland and environmental impacts, ROW needs, cost to construct, connectivity, safety, aesthetics and attractions, public meeting input, and Comprehensive Pathway Plan facility needs. Careful evaluation of this criteria resulted in the selection of a preferred trail alignment which addresses needs of residents while limiting the environmental impacts and the cost implications to Collier County. Figure F-1 illustrates the

resulting preferred alignment as the trail outlined in red.

### **1.4. Overview of SW Florida Trail System**

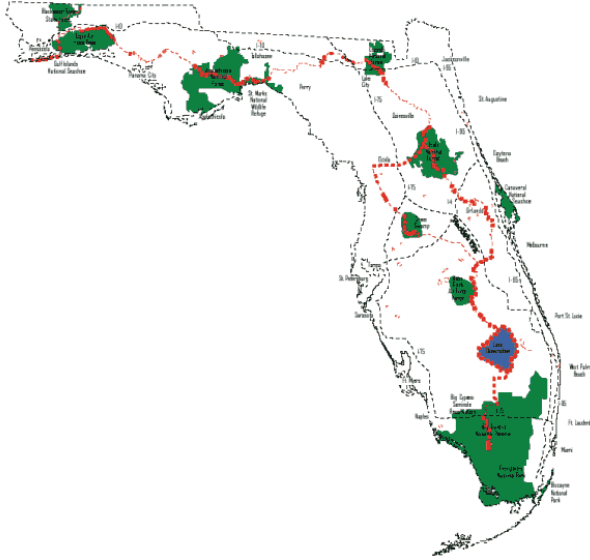
The Southwest Florida region is generally underserved compared to the rest of the state for all types of trails. However, several single-use and multi-use trails exist within the southern part of the state and provide potential connections to the Collier County area. Trails of regional significance are highlighted below.

#### **1.4.1. Florida National Scenic Trail**

Initiated in the early 1960s, the Florida National Scenic Trail runs 1,400 miles throughout the state. The trail is one of eight National Scenic Trails, including the Appalachian Trail and others. The trail is promoted and maintained largely by the Florida Trail Association, a 501(c)3 non-profit volunteer organization. The trail is largely maintained as a walking and backpacking trail for foot traffic, but some sections are open for equestrians, bicycles and mountain bikes, paddling, and wheelchair access. No sections are open to ATV or motorized vehicles.

In the South Florida Region, the Florida Trail travels 280 miles through some of the area's most scenic natural destinations. The Big Cypress and Seminole sections of the trail explore the Everglades and Big Cypress swamp; the Seminole section travels 22 miles over the Seminole Reservation. The Okeechobee section loops the nation's second largest freshwater lake while the lake to ocean section connects the lake to the Atlantic Ocean.

Two sections of the Florida Trail, Big Cypress and Seminole, run through Collier County mainly in the southeastern portion of the county. These sections of trail are unpaved and maintained for walking and backpacking use. Both sections of trail are roughly 20-40 miles from the Town of Immokalee.



**Florida National Scenic Trail**

**1.4.2. Lake Okeechobee Scenic Trail**

A segment of the Florida National Scenic Trail, the Lake Okeechobee Scenic Trail makes a 114 mile loop around the lake. The trail runs along the Herbert Hoover Dike and is maintained as a soft-surface walking, hiking trail, equestrian, and mountain biking trail. Sections of the trail are maintained and promoted by the Florida Trail Association and United States Army Corps of Engineers' (USACE) South Florida Operations Office. The nearest trail access point is located approximately 50 miles from the Town of Immokalee.



**1.4.3. Florida Keys Overseas Heritage Trail**

Traveling from Key Largo to Key West, the Florida Overseas Heritage Trail will ultimately be a multi-use cycling and walking path running along the length of the Florida Keys. The trail further supports a wide range of activities throughout the Keys, including fishing, in-line

skating, paddling, snorkeling, swimming, and diving. The trail follows US Highway 1 along both roadway shoulders and separated bridges. Starting in Key Largo, the trail is over 150 miles from Town of Immokalee.

**1.4.4. Cape Haze Pioneer Trail**

Located near Port Charlotte in Charlotte County, the Cape Haze Pioneer Trail traces the former route of the Charlotte Harbor and Northern Railroad. The trail is approximately 5 miles long and paved for walking, cycling, and wheelchair use. The trail has several planned extensions and is located approximately 66 miles from Town of Immokalee.

**1.5. Overview of Collier County Trail System**

The most notable trail within Collier County is the existing trail running adjacent to the north side of Immokalee Road. The trail runs from near I-75 in Naples eastward along adjacent developments. The trail is concrete and is separated from the roadway by various combinations of ditches and berms. This trail provides an easy existing connection from Naples roughly half-way to the project corridor.

There are a number of trail segments throughout the Collier County for a variety of modes, including hiking, canoeing, and multi-use paths. The following table as well as Appendix A-1, provides further information on Collier County trails. Most trails are short loops or segments for enjoying the southern Florida natural environment, though the statewide Florida National Scenic Trail has a significant portion within the western edge of the county. Two primary trail segments are immediately adjacent to the proposed trail corridor: Corkscrew Marsh Loop Trail and the Corkscrew Swamp Sanctuary Boardwalk.



**Corkscrew Swamp Sanctuary/Boardwalk**



**Ave Maria Town Center**

**1.5.1. Private Development Trails**



**Ave Maria**

Collier County is fast developing with large, master-planned DRI's. One of the most notable in the area is Ave Maria, a large mixed-use development located 35 miles east of Naples and 7 miles south of Immokalee. Most roadways within the development have broad sidewalks and the major throughways have adjacent multi-use paths. Ave Maria Blvd and Pope John Paul II Boulevard both have paths which connect adjacent county roads to the town center, providing easy connections to the community's mixed-use core and prominent Catholic Church.



**Ave Maria University**

**1.5.2. Privately-Accessed Property/ Recreational Lands**

A number of dirt logging roads exist along property immediately adjacent to the proposed trail corridor study area. They are dirt logging roads that are on various properties, parts owned by private landowners, Water Management District, and the Audubon Society's preserve. The roads provide potential linkages from the project study area to major roads on the west side of the county. There have been agreements made between Audubon Society and local recreational users to access the roads, but potential for public access is currently unknown. Access to the property is off of Shady Hollow Boulevard, near the Corkscrew Swamp Sanctuary and Immokalee Road. See Appendix A-1 for specific locations.

**Table T-1**

Name	Surface Type	Management/ Owner	Distance from Proposed Corridor
Corkscrew Marsh Loop Trail	Unpaved	SFWMD Staff and Crew Volunteers	3 miles
Corkscrew Swamp Sanctuary	Boardwalk	Audubon Society	9 miles
Big Cypress National Preserve Trail	Unpaved	Big Cypress National Preserve	20 miles
Fakahatchee Strand Trail, Janes Scenic Drive	Unpaved	Big Cypress National Preserve	20 miles
Florida Trail	Unpaved	Collier-Seminole State Park	20 miles
Blackwater River/Royal Palm Hammock Creek State Canoe Trail	Water		22 miles
Big Cypress Bend Trail	Unpaved	Big Cypress National Preserve	26 miles
Florida National Scenic Trail	Unpaved	Big Cypress National Preserve	35 miles
Big Cypress Kirby Storter Trail	Unpaved	Big Cypress National Preserve	40 miles
Collier County Trail	Unpaved		46 miles

## 2.0 Preliminary Design Approach

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### 2.1. Environmental Considerations

In order to determine preliminary locations and boundaries of the existing wetland communities and the potential presence of protected species or their habitats within the study area, general data was collected and reviewed. Reviewed data includes the following:

- US Department of Agriculture, Natural Resources Conservation Service (NRCS) Soils Maps (<http://www.nrcs.usda.gov>).
- South Florida Water Management District (SFWMD) Land Use Maps, based on the FDOT Florida Land Use, Cover and Forms Classification System (FLUCFCS) (third ed.) 1999.
- Florida Natural Areas Inventory (FNAI) database (<http://www.fnai.org>).
- Florida Fish and Wildlife Conservation Commission (FWC) Breeding Bird Atlas, Eagle nest locator, and telemetry data for the Florida panther and the Florida black bear (<http://www.myfwc.com>).
- US Fish and Wildlife (FWS) endangered species data (<http://www.fws.gov>)
- Aerial photography of the study area (2007 aerials provided by Collier County).

Using the above information, an analysis was performed to identify wetland areas and potential habitat for protected species. These areas were mapped on aerials and labeled using FLUCS codes. The following analysis is based on available Geographic Information Systems (GIS) data and the FNAI biodiversity matrix; no environmental field surveys have been conducted.

Figures F-2 through F-16 visually represents the recommended trail alignments which reflect consideration for existing environmental conditions on site.

### 2.2. Planning and Design Considerations

#### 2.2.1. Roadway Crossing/Structures

Combining pedestrians and vehicle traffic elevates the concern for individual safety. Therefore, careful consideration was made when identifying the alternative trail alignments. Particular attention was focused on aligning the trail along roadways in a manner to limit the number of road crossings. In addition, roadway type, accident reports, vehicle speed and sight distance were all considered when determining the location and treatment necessary at each intersection (See Figures F-17 and F-18 for accident data). Along the recommended trail alignment, there are approximately 43 road crossings. Six of the crossings are considered major. All designated crossings will be designed to meet Florida Department of Transportation Standards, Collier County Development Standards, and ADA Access Requirements. Crossing details and graphical renderings are provided later in the study (See Figures F-19 and F-20). Major crossings are considered those areas which cross major roadways. The remaining 37 crossings were considered minor crossings. Minor crossings include local roads and residential streets. The trail should be installed continuous through the driveways as opposed to abutting the driveway and be designed to meet ADA requirements.

#### 2.2.2. Environmental Constraints

Based on an interpretation of aerial photography using available data, it has been determined that both the preferred alignment and the alternative alignment may potentially impact wetlands and waterways. In addition, both alignments are located within strategic habitat and conservation areas that are considered critical habitat for one or more protected species, including the black bear, Florida panther, bald eagle, sandhill crane, and wading birds. **These areas mostly occur in**

**the southern and eastern portions of the alignments. As a result, a joint application for an Environmental Resource Permit (ERP), submitted to SFWMD and USACE will be required. It is likely that Collier County will require an Environmental Impact Statement (EIS).** The EIS documents the project's potential impacts to wetlands, protected species and critical habitat as well as other environmental concerns.

### **2.2.3. Connectivity**

Trail value is linked to the value of the connections it provides. For this reason the trail should be accessible to as many people as possible. Locating the trail near residential areas provides a ready population of potential trail users. Similarly, the trail should be accessible to as many local attractions as possible. Local attractions include commercial areas, schools, parks, etc. A third consideration is the linking of the trail with other proposed and existing trails in order to create a continuous network. Providing connections to a variety of destinations makes the trail attractive for both commuting and recreational uses.

### **2.2.4. Constructability/Maintenance of Traffic (MOT)**

Construction of a trail may be negatively impacted or potentially prohibited as a result of impact to existing traffic conditions. Therefore, constructability and MOT were evaluated when identifying alternative alignments. The emphasis of constructability focused on the impact to the environment, utility conflicts and economic feasibility. Disruption of natural drainage patterns and potential impacts to wetlands were the primary environmental factors effecting constructability. In addition, the presence of existing infrastructure and utilities were evaluated to verify conflicts with trail alignments. In turn, the presence of utilities as well as accommodating the natural drainage patterns and wetlands may negate the economic feasibility of constructing a particular trail alignment.

During construction, minimizing the impact on traffic is very important. When circumstances require close proximity of the trail to the roadway, MOT becomes a requirement. MOT is necessary to protect the safety of both the construction workers and vehicular traffic.

### **2.2.5. Comprehensive Pathways Plan**

During the identification of alternative trail alignments, incorporating the needs of the community played a major role. The Comprehensive Pathways Plan was a primary reference point for identifying the needs of the community. Of particular importance was the bicycle and pedestrian latent demand data as well as the bicycle and pedestrian facility prioritization data. The prioritization and demand data were integral in highlighting areas within the study area that have a need for trails. Figures F-21 and F-22 provide information on the latent demand and facility prioritization.

## **2.3. Trail Design**

### **2.3.1. Design Criteria**

The proposed trail system will be designed to maximize the public's accessibility and serve a variety of users. The trail system will be designed in accordance with Florida Department of Transportation (FDOT) and American Association of State Highway and Transportation Officials (AASHTO) design standards. In addition, where applicable, Collier County Land Development Code standards will be met as well as local and state building codes. Finally, SFWMD and Florida Department of Environmental Protection (FDEP) criteria will be incorporated into any proposed modifications to the existing stormwater infrastructure and proposed stormwater treatment systems. The following design references were considered during the trail planning process:

- *FDOT Roadway and Traffic Design Standards for Design Construction, Maintenance of Traffic, Utility Operations on the State Highway System, FDOT Bicycle Facilities Planning and Design Handbook.*

- *AASHTO Guide for the Development of Bicycle Facilities.*
- *Manual of Uniform Minimum Standards for Design, Construction, and Maintenance of Traffic for Streets and Highways.*
- *SFWMD Rules & Criteria Chapter 40 and the Environmental Resource Permitting Basis of Review.*
- *FDEP Chapter 62 of the Florida Administrative Code.*
- *Collier County Land Development Code.*
- *Collier County Code of Ordinances.*

FDOT standards recommend a minimum trail width of 12 feet with 2-foot shoulders. Analysis of the proposed corridor concluded that a 12-foot trail section will fit the majority of the alignment. An 11 or 10-foot width will be considered on a case-by-case basis as dictated by the existing conditions. The preferred clear distance to a fixed object is 4 feet with a minimum of 2 feet. The typical cross-section will provide adequate capacity and flexibility to accommodate the needs of different users throughout the life of the trail. See Figure F-23 for details on a typical cross section.

The FDOT *Bicycle Facilities Planning and Design Handbook* states that a 6-foot lateral separation is desired from any embankment or slope that would create potential difficulty for cyclists. This is defined as an embankment with slopes greater than or equal to 3(H):1(V). In situations where the recommended 6-foot separation cannot be met, an appropriate barrier should be provided. The barrier may consist of dense shrubbery or other suitable vegetation, safety railing, or fencing. In some locations there may be slopes encountered adjacent to the trail alignment where permanent or semi permanent surface water is located at the bottom of the slope. In these conditions, SFWMD criteria and engineering judgment will be utilized to determine a minimum required lateral separation or the appropriate safety barrier.

Wherever possible, the proposed trail will be located outside of any adjacent roadway clear zones. In extreme situations, the FDOT *Bicycle Facilities Planning and Design Handbook* states that if the distance from the edge of shoulder to the edge of trail is less than 3.5 feet, then a suitable physical divider should be considered based on engineering judgment. For rural roadway sections a 5-foot separation is preferred. For urban roadway sections, the trail may be placed adjacent to the back of curb. In determining the appropriate divider to separate the trail from the parallel roadway, the posted speed limit and roadway clear zone requirements will need to be considered. No utility conflicts or required offsets were identified during the study. FPL has specific design criteria for trail construction within an FPL easement. Figures F-23 and F-24 detail FPL typical sections.

Additional design criteria have been summarized in Table T-2 below.

**Table T-2**

<b>Design Element</b>	<b>Criteria</b>
Trail Alignment	
Design Speed	20 mph
Horizontal Widths	15-ft. Desirable
	12-ft. Minimum
Graded Shoulders	5-ft. Desirable
	2-ft. Minimum
Horizontal Clearance to Obstructions	4-ft. Desirable
	2-ft. Minimum
Separation from Slopes >3:1 and from Canals/Ditches	6-ft. Desirable or Use FDOT Index No. 452 or 520
Separation from Parallel Roadways	<i>Rural:</i> 5-ft. Desirable; 3.5-ft. minimum from roadway shoulder or use a suitable physical divider. <i>Urban:</i> Trail may be adjacent to back of curb.
Superelevation	2% Maximum
Radius	100-ft. Desirable
Stopping Sight Distance	130 ft.
Grade = 5% Descending	(varies for other grades)
Lateral Clearance on Inside of Horizontal Curve	Based on sum of stopping sight distance for trail users traveling in opposite directions.
Vertical Alignment Grades	≤ 5% Desirable 7% Maximum
Length of Vertical Curve	Based on Grades and Required Stopping Sight Distance
<b>Vertical Clearances</b>	
Vertical Clearance to Obstructions	8-ft. Minimum
<b>Other</b>	
Roadway Median Width	10 ft.

## 2.4. Amenities

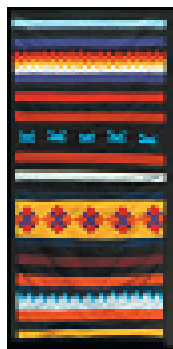
As part of the feasibility study we have considered the people, places and events that have shaped Collier County's heritage within the corridor as the main theme to be translated into the planning and design of the trail, specifically in its structures, amenities and signs.

Based on the historical, cultural and archeological aspects studied, what seemed to be the most prominent theme was the influence of the Seminole Indians and the later influence of the cattle and agricultural industry of Collier County. The Seminole Indian culture lends itself well to interpretation as a strong basis for the trail's theme, especially their colorful clothing. The structures of the early settlers and cattle industry is well represented in the "Cracker Architecture" that was common throughout the state during this era.



1

The Seminole Indian patchwork design began shortly before 1920. Developed by Seminole women and rapidly adopted as a way to further embellish their already colorful clothing, this patchwork represented a source of Tribal pride, artistic achievement and important income. Several generations of mothers have passed this treasured technique to their daughters. Its early designs were blocks or bars of alternating color or often a sawtooth design. These bands of designs were sewn directly into the body of the garment, forming an integral part of it. As time



went on, the designs became more and more intricate as the seamstresses became more adept at their new skill. The Seminole Indian patchwork was an important source of inspiration reflected in the design theme of the rest area structures, signage and amenities of the trail.



Southwest Florida remained virtually uninhabited until after the Civil War when handfuls of adventurous farmers, refugees and squatters began making their way south via mule wagon, or carts and sailboats. Pioneers to the deep south found an inhospitable land of searing heat, merciless biting insects and semi-tropical rains. The homes and shelters that these early settlers built are referred to as "Cracker Architecture". The term "Cracker" came from the sound of the long leather whips early Florida cowmen used to urge the cattle through the Florida scrub. In its simplest form, a "Cracker" house is a wooden shelter originally built of Cypress and Cedar. Native rock or bricks made of oyster shell and lime served as pilings to keep the structures off the ground. The structures were site oriented for shade and breezes, and had wide covered porches. A wide shade porch wasn't just an embellishment; the porch provided much needed relief from the relentless sun. Crawl spaces beneath the homes were used for ventilation, and windows took advantage of cross breezes. Floor cracks "helped" with house cleaning and the raised first floor was used to keep hunting hounds and chickens, which in turn provided pest control service by consuming fleas and other pests. These structures were incredibly energy efficient and their modern day

design elements can be found in “Florida Vernacular” structures.

The feasibility study has taken into consideration several additions to the trail system that will allow users greater access to and from neighborhoods, schools, businesses, parks and other locations.

In order for the trail to be a successful community amenity, the trail should appeal to a wide variety of users. To achieve this, the trail has been planned to provide several user conveniences. The communities will use the trail more often if amenities are provided. Recommended trail amenities include: covered rest areas with seating, bike racks, signage (primary identity, directional, interpretive and mile marker signs), trash receptacles, water fountains, pet amenities, restrooms, concessions, etc. Additional amenity details have been provided below and in Figures F-23 to F-34.

#### 2.4.1. Rest Stop

A rest stop is a designated place to stop along a trail and typically consists of a concrete pad, a bench, bike rack, trash receptacle secured by tamper proof bolts and a covered shelter. Rest areas generally occur every mile and are located with consideration given to existing grade, shade, existing vegetation, views, environmental conditions and security. Landscaping and a roof structure are being proposed at the rest areas where existing vegetation and shade does not exist. Landscaping with low shrubs and groundcovers and a minimum of one shade tree in proximity to the rest area is proposed where existing shade trees are not present.

Depending on the site conditions where the rest stop is located, a slab on grade or a wood deck option with a hand rail is proposed. The slab on grade option will be used where slopes are not severe and where extensive fill will not be required. Where slopes are steep and or where filling cannot be accomplished due to environmental and/or drainage reasons, a deck structure made of pressure treated and recycled lumber shall be used. In the event that a deck structure is used, a concrete abutment will be

required to be constructed adjacent to the trail to attach the wood structure and decking.

Depending on where the rest stop is located, two different options, urban and rural rest stops, are being proposed.

**Urban Rest Stop:** The urban rest stop consists of basic posts and canopy structures that incorporate seating. The canopy frames consist of various aluminum extrusions and castings, rolled, milled and welded together with structural steel columns welded to square steel base plates. B+P has proposed the *Kaleidoscope Canopy with Plexus II collection bench by Landscape Forms, Inc.* or similar approved style. The Urban rest stops are proposed at more urbanized areas of the trail corridor and where core population/economic activity centers occur.



**Rural Rest Stop:** The "Chickee", the word Seminoles use for "house", has been the inspiration for the rural rest stop located in rural areas along the corridor. The “Chickee” style of

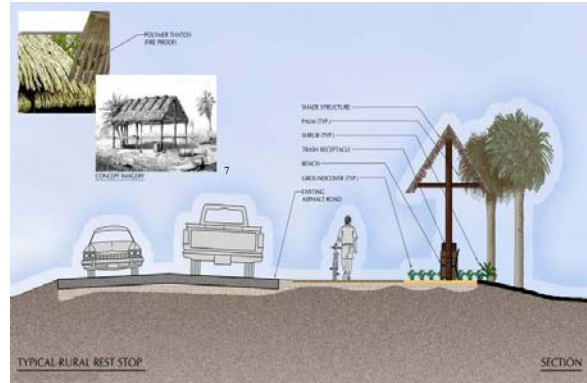


architecture - palmetto thatch over a cypress log frame - was born during the early 1800s when Seminole



Indians, pursued by U.S. troops, needed fast, disposable shelter while on the run. Building “Chickees” has become a big business in Florida in recent years. The entrepreneurs have looked to this unique structure as a way to make profit from Florida’s heritage and preserve the past at the same time.

The thatching being proposed for this project consists of a synthetic polymer based tropical palm roofing thatch, that is a permanent, easy to install, non-maintenance natural leaf substitute, all of which is fire-proof. This robust and practical material is a responsible substitute for tropical palm species normally associated with this ancestral traditional construction system. The columns are being proposed to have a band with the Seminole Indians patchwork design carved into it. The proposed locations for the rural rest stops are at those areas where agriculture is more prevalent and/or where there is limited population density or development present.



## 2.4.2. Primary Identity Signs

The proposed primary identity signs will borrow elements from the Seminole Indian culture and history. The suspended sign will be a double faced sign, 1/2" phenolic-fused graphic panel with ink-jet images on melamine surface similar to that produced by Folia Industries or equal. The panel is proposed to have the trail’s name in the center, the corresponding “sponsors’ or community” logo where the trail is passing through at the upper left, two feathers at each side of the Collier County Seal in the center and Collier County’s logo at the upper right as well. The sign panel shall be mounted on 20’ high wood posts. The posts are being proposed to have bands of Seminole Indian patchwork designs carved into them. The proposed locations of the primary identity signs are adjacent to major access points to the trail and comply with all required setbacks.



### 2.4.3. Primary Identity sign for ROW Constrained Areas

The proposed primary identity sign for ROW constrained areas will also borrow from the Seminole Indian culture and history. The suspended sign will be a double faced sign, 1/2" phenolic-fused graphic panel with ink-jet images on melamine surface similar to that produced by Folia Industries or equal. The panel is proposed to have the trail's name in the center, the corresponding city's logo where the trail is passing through at the upper left, two feathers at each side of the Collier County Seal in the center and Collier County's logo at the upper right as well. The signs are to be mounted on 20' high steel tapered poles similar to those produced by Sternberg Lighting or equal. The Seminole Indian patchwork design is being proposed on the sign panel. The proposed locations will comply with all required setbacks and will be proposed where there is constrained ROW.

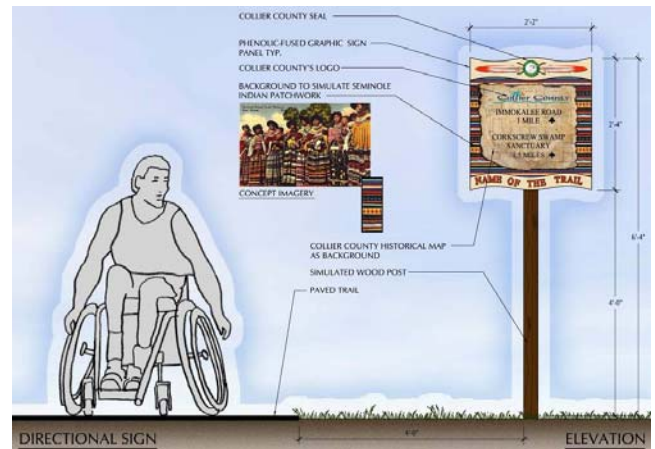


### 2.4.4. Directional/Informational Signs

These signs give pertinent trail information, directions and distance to amenities, significant off trail amenities, streets and locations. The sign will be 1/2" phenolic-fused single graphic panel with ink-jet images on melamine surface similar to those produced by Folia Industries or equal, mounted with tamper proof attachments to aluminum with ALTO simulated wood grain post. The wood pattern transfer will be made with a single seam at the back of the post.

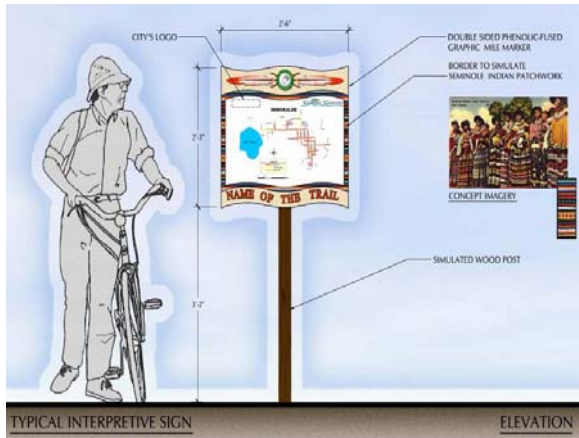
Information will be displayed on an antique looking Collier County map on top of a Seminole Indian patchwork background. The two feathers at each side of the Collier County Seal and the County's logo are part of the sign as well. The name of the trail is proposed to be located at the bottom.

Directional/information signs will be located at intersections with existing roadways, access points to the trail and anywhere else information, directions or distances need to be conveyed to trail users.



### 2.4.5. Interpretive Signs

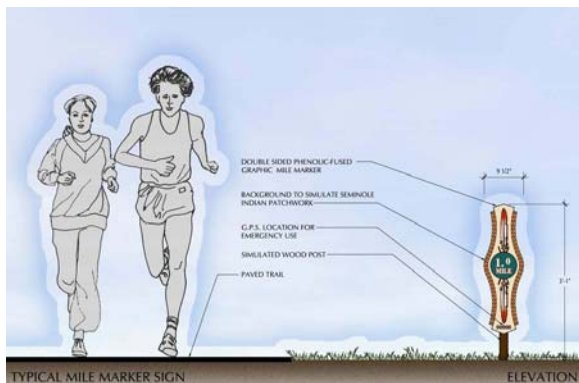
Interpretive signs will depict historical, archaeological or ecological events and locations and will include significant descriptions and photographs to educate trail users. The sign will be 1/2" phenolic-fused single graphic panel with ink-jet images on melamine surface similar to those produced by Folia Industries or equal, mounted with tamper proof attachments to aluminum with ALTO simulated wood grain post. The wood pattern transfer will be made with a single seam at the back of the post. Interpretive signs will be located at points of historical, archaeological or ecological interest along the trail.



### 2.4.6. Mile Markers

Mile marker signs are to be double sided and will be in ascending order depending on the direction of travel from either end of the trail. Each side will be 1/2" phenolic-fused graphic panel with ink-jet images on melamine surface similar to those produced by Folia Industries or equal, mounted with tamper proof attachments to aluminum with ALTO simulated wood grain post. The wood pattern transfer will be made with a single seam at the back of the post.

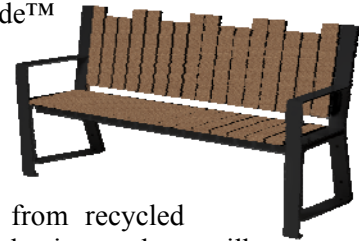
Distance covered will be shown in miles. Each mile marker will be numbered with a separate number for use by emergency personnel to locate the exact location of a trail user. Mile marker post numbers when installed will be given GPS coordinates which can be transmitted to emergency dispatch in order to route emergency vehicles to the nearest access point. Mile markers are located at every mile on the trail to let the trail user know where they are in relation to the overall trail, distance covered on their trip and/or how far to the next destination.



### 2.4.7. Bench

The bench being proposed for this project is the Lake Side™ bench as provided by Landscape Forms® or similar. The Lake Side™ bench design was inspired by historic design, architecture and nature. The inspiration for the seating was reflections of forms in the outdoor environments.

The Lake Side™ bench is made with PolySite™ from 100% high density polyethylene



(HDPE), derived from recycled post-consumer packaging such as milk containers. This reclaimed HDPE is purified and ground into small pellets. Pigment and UV inhibitors are added as the HDPE is heated, then extruded to shape and cooled. The resulting finished product contains over 90% recycled content by weight. Because PolySite™ is made from HDPE, it has exceptional resistance to moisture, corrosive substances, insects, and other environmental stresses. It does not absorb moisture, so it will not rot, splinter or crack. It requires no waterproofing, staining or similar maintenance. PolySite™ has a melt temperature of approximately 270° F and a flash point of approximately 620° F. This is a higher flash point than wood and PolySite™ must be exposed to a severe combustion source for a longer period than wood to ignite. Like wood, when exposed to a combustion source for a long enough period of time, PolySite™ will burn.

### 2.4.8. Trash Receptacle

The trash receptacle being proposed for this project is the Gretchen trash receptacle as manufactured by Landscape Forms® or similar. Constructed of PolySite, it is made of recycled plastic which has a 90% recycled material content and is 100% recyclable. The 30-gallon capacity Polysite spun-metal



top liner and included side opening lid is constructed of 14 gauge-spun metal, permanently attached to the unit with pop-up mechanism for emptying. Side panel material is recycled plastic PolySite. Support is a combination of freestanding /surface mounted. Metal parts are finished with Panguard II®. Powdercoated colors are available in standard colors.

**2.4.9. Bike Rack**



Short-term bicycle parking provides shoppers, customers, messengers and other visitors who generally park for two hours or less, a convenient and readily accessible place to park bicycles.

Long-term bicycle parking provides employees, students, residents, commuters and others who generally stay at a site for several hours a secure place to park bicycles.

The single loop bike rack will be located at the rest stops along the trail. Multiple loop bikes racks are proposed to meet the needs of the potential users in areas where there is high pedestrian activity.



Multiple bike racks are also proposed at primary and secondary trailheads. The selected powder-coated steel bike racks are similar to those provided by Dumor, Inc or equal. The bike racks combines style with amazing durability, making a bike rack a great addition to any site.

**2.4.10. Picnic Tables**

The proposed picnic table , Gretchen Picnin Table, is manufactured by Landscape Forms®. It is designed for heavy use, public space seating requirementst and is wheelchair accessible from either end. It is made with PoluSite™ recycled

materials. The table can be freestanding or surface mounted and an umbrella hole is also available forshade. Color and material of tables should match the bench and trash receptacle.



**2.4.11. Information Kiosks**

Trailhead stations, points of interest and destinations, should provide trail users with detailed information of the area or trail, educating the public about the corridor. Involving school children, university students and civic organizations in the research, design, and construction of these kiosks is an excellent community activity and would also reduce implementation costs.



The structures located in the rural areas should maintain the “Cracker” or “Chickee” vernacular character while urban kiosks may be more contemporary in design.

**2.4.12. Fountains**

Drinking fountains may be installed where water service is readily available. The recommended fountain is American Disability Association (ADA) compliant and in addition has an attached pet fountain.



The fountain is intended to be a surface mounted design to be anchored to a concrete pad with anchor bolts through a mounting plate located at the base of the fountain. The finish is

proposed to be oven baked powder coat with textured color.

### 2.4.13. Waste Pickup Stations

The dog waste station by Picnic Table Outlet or similar, includes 10-gallon waste receptacle, 9" x 12" sign, metal bag dispenser, non-toxic, biodegradable bags and 8' channel post. The waste pickup bag dispensers should be placed at



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trailheads and key neighborhood access points along the route. Signs should be placed along the trail notifying dog owners of the county ordinance requiring dog owners to clean up after their dogs.

## 2.5. Safety/Security

There are many different forms of safety to consider when building a pathway system that traverses through many different land uses and population densities. Typical safety concerns involve pathway design, trail user safety and in the case of this study, proximity to power distribution lines. The initial safety concern is pathway design. This addresses such items as road crossings, clear lines of sight, roadway separation, signage and the reduction or minimizing of driveways. Pathway alignments and landscaping will need to be sensitive to the county's design criteria, management requirements and public safety needs.

In addition to design safety, there is personal safety of the trail user. Often misunderstood by those not familiar with pathway development and management, pathways continue to be very safe facilities for commuting, recreation and enjoying the outdoors. A study by Rails-to-Trails Conservancy of 372 trails located

throughout the country clearly demonstrated the safety record of pathways. Selected quotes from law enforcement agencies interviewed in that study include:

*The trail does not encourage crime, and in fact probably deters crime since there are many people, tourists, and local citizens using the trail for many activities at various hours of the day.” --Pat Conlin, Sheriff, Green County, WI*

*“We have found that the trail brings in so many people that it has actually led to a decrease in problems we formerly encountered such as underage drinking.” --Charles Tennant, Chief of Police, Elizabeth Township, PA*

A comparable pathway with a significant length was reviewed in neighboring Lee County for a more local example. The Ten Mile Park's safety record was researched with the help of Officer Lynnette Garcia of the Lee County Sheriff's Department and it was found to be consistent with the aforementioned nationwide study. There were 19 calls that were responded to in or near the pathway over a 3 ½ year period with over half (10) of those being traffic or automobile related. No violent or major crimes have been recorded at the pathway.

We encourage the County to give consideration to developing a multi-departmental management plan as well as develop partnerships with local users and user groups. These individuals and civic organizations, in many cases, act as the eyes and the ears of the neighborhoods and pathway. Public pathway systems require intensive cooperation and planning between the trail managing entity and the businesses along the routes as well as private landowners in order to properly plan facilities and to minimize operation and maintenance impacts. All design and management activities should be coordinated with appropriate partners and adjacent landowners. The survey portion of this study includes many comments related to this matter.

The final safety concern is with regard to proximity to power distribution lines. From an operational perspective, power distribution lines are typically not an issue. Basically there are three (3) kinds of concerns expressed about public use of powerline ROW. They are:

**1. Safety.** Downed power lines can be the most hazardous situation for a trail user. However, it is important to note that downed power lines are a rare occurrence. Downed power lines are typically the result of a tree being blown over during periods of high winds and strong storms. As a result, power line rights-of-way are kept clear to prevent such an occurrence.

**2. Electromagnetic Fields (EMF).** Over the past 20 years extensive research has been conducted to determine the effects of EMF. To date, there has been no proven evidence of a connection between magnetic fields and health effects, however the research continues. The following government web links provide further information:

<http://www.who.int/peh-emf/en/> (World Health Organization - WHO)

<http://www.hc-sc.gc.ca/english/iyh/environment/magnetic.html> (Canada)

<http://www.niehs.nih.gov/emfrapid/booklet/emf2002.pdf> (USA)

[http://www.nrp.org/radiation\\_topics/emf/index.htm](http://www.nrp.org/radiation_topics/emf/index.htm) (UK)

**3. Induction from Power Lines.** Touching a grounded metal object, such as a sign, can cause a person who is not grounded to create a small 'shock'. This 'shock' is similar to the shock you receive when touch a door knob after walking across a carpet. This is typically referred to as 'nuisance shocks' because while they are below the level to be considered a safety issue, they are nonetheless annoying.

## 2.6. Liability

Liability protection for trail owners and nearby property owners is an important consideration. Florida has a strong Recreational Use Statue that provides certain protections to adjacent landowners from occurrences associated with the pathway. Pathways that are located on privately held land and made available to the public at no charge are also offered protections under the State's Florida Greenways and Trails Designation process. In many cases, such as with utility companies, a separate liability coverage policy is required for a recreational use to be granted on their property. Generally, a liability policy is only discussed when the trail traverses over privately held lands. See Appendix A-9 for a more detailed legal review on liability and issues related to co-locating within utility corridors.

## 2.7. Roadway/Trail Crossings

Roadway crossings present the most critical public safety design element. In order to enhance safety a combination of regulatory signage and warnings, special emphasis pavement, raised medians, landscape and directional signs are used to help make both, motorist and trail users, aware of crossings.

The intent for the treatment proposed at locations where the trail crosses an existing road is to make the roadway crossings more visible for both the trail user and vehicles. In addition to the advance warning provided by required regulatory signs, we have proposed additional elements that will help define and make the trail's road crossings more visible. The FDOT "Design Handbook" also recommends restricting unauthorized motor vehicle entry to the trail. In order to accomplish this, we propose to split the trail with a median into two sections with a minimum width of 6 ft. on each side of the trail. The median area should be a maximum 3 ft. wide to allow emergency vehicles to straddle it; 6 ft. long, and setback a minimum of 10 ft. from the roadway edge to give trail users negotiating space before the intersection.

A gentle transition from a 12 ft. paved section to a 16 ft. paved section is proposed approximately 92 ft. before the trail intersects with the existing roadway and where the ROW is available.

For the entire length of the raised median, we propose the installation of a colored and textured asphalt treatment similar to street print. This provides not only a color indicator to all trail users that an intersection is ahead and for them to prepare to stop, but also provides trail users and the visually impaired a textural change in the trail surface, functioning as an advanced tactile warning of the intersection.

Landscaping at each intersection will also help define the trail and announce to motorists that a crossing is coming up and providing an attractive entranceway. Landscaping will also serve to create a positive image of the trail to the community. Native and xeric plant material shall be used at these locations. The raised median will be planted with low shrubs and ground cover that will allow an emergency vehicle to straddle the median and the plants to enter the trail if needed. Palms located 4' off the trail and parallel to the trail will also help define the trail corridor and help reduce or discourage the opportunity of unauthorized vehicles entering the trail.

Depending on the desired aesthetics, removable bollards may also be used as an unauthorized motor vehicle deterrent in lieu of splitting the trail into two sections, trail widening, and adding medians. The removable function would ensure easy access to authorized and emergency vehicles. Three bollards would be placed with a four foot separation at the entrance of the trail at each side of the intersection. The bollards would be four feet in height and are typically painted yellow for easy visibility.



**Removable Bollards**

A mid-block crossing may be necessary along Immokalee Road to connect the existing concrete trail on the north side of the road to the proposed trail alignment. In addition to using the above mentioned safety design elements, a HAWK (High Intensity Activated Crosswalk) signal should also be used for trail user safety.



HAWK uses typical traffic and pedestrian signals, but in a different sequence and configuration. These signals include a sign instructing motorists to “stop on red” and a “pedestrians” overhead sign. When not activated, the signal is dark with no lights

functioning. The HAWK signal is activated by a pedestrian push button. The overhead signal begins flashing yellow and then solid yellow, advising drivers to prepare to stop. The signal then displays a solid red and shows the pedestrian a “Walk” indication. The HAWK signal was created by the Tucson Dept. of Transportation and has proved effective in reducing vehicle crashes involving pedestrians.



**HAWK Signal**

## **2.8. Major Canal Crossings**

There are three major canal crossings located within the preferred alignment. The three crossings are located on Oil Well Road and have been considered and accommodated in the widening project.



**Golden Gate Canal Crossing – Oil Well Road**



## 3.0 Public Involvement

### 3.1. Public Meeting Summary

On Thursday June 5th 2008, the Northeast Collier County Trail Feasibility Study team hosted a public meeting from 5:00 to 7:00 pm at the University of Florida Extension Service, 14700 Immokalee Road in Naples. The meeting was publicized through two advertisements in the printed media, a direct mailing and information posted on the variable message boards on local roads. The meeting was well attended with a consistent flow of traffic at the six stations throughout the room. A representative from the Naples Daily News was on hand to provide coverage of the meeting. The story is available at:

(<http://www.naplesnews.com/news/2008/jun/05/workshop-greenway-trails-draws-small-crowd/>).

The following comments were recorded from the team members stationed around the room:

- County Commissioner, Jim Coletta, is very supportive of the trail system. He would like to see all or as many segments in place as possible.
- There are a lot of bikes in this part of the County.
- A path 6 feet wide is better than no path at all (along Oil Well Road).
- FDOT should consider a trail located within the expanded SR 82 and include in Project Development and Environment (PD&E) Study.
- Alignment 3A is tight (crowded).
- Using power line easement for trail alignment would minimize vehicle conflicts/crossings.



- Trail through Town of Immokalee should be a priority.
- If trail is located in SR 82 ROW, consider CR 850 for connection back to Segment 7 if needed.
- Want a safe and continuous route for trail
- Use trail for commute to work and route to Ft. Myers; make it safe.
- Review Westclox Street vs. Lake Trafford Road alignment.
- A lot of people will want to use section 3D or 3C.
- Would love to see Immokalee have a trail.
- There are bike racks all over Immokalee.
- The Orange Grove Company wanted to be kept in the loop and was concerned with their operations of the orange grove as well as their concern with being made to pay for the improvements.
- “Have we conducted an environmental assessment” and “have we determined what environmental permits will be required (i.e. SFWMD, Fish and Wildlife, etc)?” This question came from an employee of an Engineering Firm and he was offering his services.

- Question from the Parks and Recreation Department representative and 1 other attendee about long-term management costs.
- Strong presence from the Naples Pathway Coalition.
- Request for good trail heads with a tie-in to local developments.
- “Build all the alignments....”

### **3.2. Pathway Advisory Committee Meeting Summary**

The Pathways Advisory Committee (PAC) met on Friday morning, June 6th 2008 where the team presented the initial findings and trail alternatives. The following comments were received from the advisory committee:



- Review study area for potential bridge connections and associated costs.
- Follow up with School Board and discuss “hazard sites” and possible link to trail funding.
- Want to have trail access within a 2 mile radius.
- Review potential connections to Hendry County trail system and to Lake Okeechobee.

- Lee County working on their trail planning program.
- Establishing safe routes to school should be a consideration by the County in its trail planning.
- Keep alternative corridors on map for future planning purposes.

### **3.3. Public Survey Results**

As part of the public outreach process, a survey was developed to gather feedback from local residents and potential trail users. Attendants at the public meeting had the opportunity to complete the survey on-line and were also provided printed surveys to fill out after the meeting. The on-line survey was publicized on the Collier County website and was available for submission from the date of the meeting until June 30th, 2008. During that time, 190 responses were received and the data is summarized in Appendix A-6.

## 4.0 Alternatives Analysis

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### 4.1. Methodology

Thorough analysis was accomplished to determine the most feasible option for the trail alignments. In order to both objectively and subjectively evaluate each of the initial trail alternatives, a decision matrix was established. (See Table T-3 for the Decision Matrix) In total, there were 18 trail segments and/or alternatives analyzed in the matrix. Figure F-35 visually depicts each of the trail segments and alternatives. There were eight categories evaluated in the decision matrix. The categories were: Wetland and Environmental Impacts; ROW Needs; Cost to Construct; Connectivity; Safety; Aesthetics and Attractions; Public Meeting Input; and the Comprehensive Pathway Report. Depending on the importance and impact to the success of the trail, each category was assigned a weighted percentage. The higher the percentage, the greater the impact the category had on affecting the outcome of the trail. Each trail segment and trail alternative was provided a score of 1 to 4 depending on the impact of each category. Below, a brief description has been provided on each category, explaining the weighted percentage as well as how it was evaluated.

#### 4.1.1. Wetland and Environmental Impacts (12%)

Land use maps were evaluated to determine the percentage of trail segment / alternative that fell within a wetland area. The greater the percentage of trail that fell within a wetland area, the lower the trail segment / alternative scored.

#### 4.1.2. ROW Needs (15%)

The Collier County Property Appraiser's website was evaluated to determine the availability of county ROW along each trail segment / alternative. The greater the percentage of trail that required additional

ROW, the lower the trail segment / alternative scored.

#### 4.1.3. Cost to Construct (13%)

Terrain, existing utilities, and facility crossings were the major areas addressed in the cost to construct. The greater the percentage of trail that required drainage improvements, utility relocation and/or facility crossings, the lower the trail segment / alternative scored.

#### 4.1.4. Connectivity (10%)

Accessibility to existing communities, trailheads, schools, and commercial areas was evaluated in the connectivity category. The greater the percentage of connections, the higher the trail segment / alternative scored.

#### 4.1.5. Safety (12%)

Safety was evaluated based on the number of major and minor facility crossings per mile. The greater the number of major and minor crossings, the lower the trail segment / alternative scored.

#### 4.1.6. Aesthetics and Attractions (10%)

Trail scenery, parks, cultural and historical sites and other recreation areas were evaluated when scoring Aesthetics and Attractions. The greater the percentage of trail that fell within these areas, the higher the trail segment / alternative scored.

#### 4.1.7. Public Meeting Input (13%)

The primary contributor from the public meetings was a public meeting survey which requested feedback from the public as to which trail segments / alternatives the public wanted. The greater the support from the public, the higher the trail segment / alternative scored.

#### 4.1.8. Comprehensive Pathways Plan (15%)

The pedestrian and bicycle needs and prioritization data within the Comprehensive Pathway Report were considered. The greater

the needs and priorities were for a pathway, the higher the trail segment / alternative scored.

#### **4.2. Trail / Roadway Alignment**

In concert with the evaluation of the decision matrix, physical trail alignment was evaluated to determine how the trail should align with regards to the existing roadways. Using similar methodology as the decision matrix, ROW availability, construction costs and safety were the primary areas addressed when determining how to align the trail. It should also be noted that no residential or business displacement is anticipated with the selected trail alignment. The trail alignments have been outlined within the decision matrix (Table T-3). The alignments are written as North, South, East and/or West, which explains which side of the road the trail will align. In some cases, more than one compass heading has been identified. This is due to the fact that the road has changed direction. There are a few trail segments / alternatives which display 'N/A'. In this case, the trail has diverted away from an existing roadway and either falls within the FPL Easement, or the trail falls within a future roadway.

**Table T-3  
Trail Decision Matrix**

Segment Title	Wetland/ Environmental Impacts		Right-of-Way Needs		Cost to Construct		Connectivity		Safety		Aesthetics & Attractions		Public Meetingg Input		Comprehensive Pathway Report Demand		Total	Alignment			
	Score (1-4)	Weighted Score	Score (1-4)	Weighted Score	Score (1-4)	Weighted Score	Score (1-4)	Weighted Score	Score (1-4)	Weighted Score	Score (1-4)	Weighted Score	Score (1-4)	Weighted Score	Score (1-4)	Weighted Score	Total Score (Possible 40)	North	South	East	West
<b>Total Weight:</b>	12%		15%		13%		10%		12%		10%		13%		15%		100%				
Trail Segment 1 - Immokalee Road	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	X			X
Trail Segment 2 – Oil Well Road / Camp Keais Road	1	1.2	4	6	4	5.2	4	4	4	4.8	4	4	3	3.9	2.5	3.75	32.85	X			X
Trail Segment 3 – Immokalee Road	1	1.2	4	6	3	3.9	4	4	3	3.6	3	3	2	2.6	2.5	3.75	28.05			X	
Trail Segment 4 – Roberts Avenue / Main Street	4	4.8	3	4.5	4	5.2	4	4	4	4.8	3	3	2	2.6	4	6	34.9	X		X	
Trail Segment 5 – SR 29	4	4.8	1	1.5	3	3.9	4	4	4	4.8	3	3	2	2.6	1.5	2.25	26.85				X
Trail Segment 6 – FPL Easement	4	4.8	1	1.5	1	1.3	3	3	4	4.8	4	4	2	2.6	1	1.5	23.5	N/A	N/A	N/A	N/A
Trail Segment 7 – FPL Easement	1	1.2	1	1.5	1	1.3	2	2	4	4.8	4	4	4	5.2	1	1.5	21.5	N/A	N/A	N/A	N/A
Trail Alternative 1 – Immokalee Road	1	1.2	4	6	2	2.6	4	4	2	2.4	4	4	4	5.2	2.5	3.75	29.15	X			X
Trail Alternative 2 – Immokalee Road	1	1.2	4	6	2	2.6	1	1	2	2.4	1	1	2	2.6	2.5	3.75	20.55	X			
Trail Alternative 3 – Little League Road Extension	1	1.2	1	1.5	1	1.3	4	4	4	4.8	3	3	4	5.2	1	1.5	22.5	N/A	N/A	N/A	N/A
Trail Alternative 3A – New Market Road	4	4.8	4	6	4	5.2	3	3	1	1.2	3	3	1	1.3	3	4.5	29	X			
Trail Alternative 3B – Madison Avenue	4	4.8	4	6	4	5.2	3	3	2	2.4	3	3	1	1.3	3	4.5	30.2	X			
Trail Alternative 3C – Lake Trafford Road	4	4.8	4	6	3	3.9	4	4	2	2.4	2	2	3	3.9	3.5	5.25	32.25	X			
Trail Alternative 3D – Westclox Street	4	4.8	1	1.5	3	3.9	3	3	3	3.6	2	2	2	2.6	3	4.5	25.9	X			
Trail Alternative 4 – Little League Road Extension	2	2.4	1	1.5	1	1.3	4	4	4	4.8	3	3	3	3.9	1	1.5	22.4	N/A	N/A	N/A	N/A
Trail Alternative 5 – SR 29 / SR 82	2	2.4	4	6	3	3.9	4	4	4	4.8	3	3	1	1.3	1.5	2.25	27.65		X		
Trail Alternative 5A – FPL easement	4	4.8	1	1.5	1	1.3	2	2	4	4.8	2	2	1	1.3	1	1.5	19.2	N/A	N/A	N/A	N/A
Trail Alternative 6 – SR 82	3	3.6	4	6	2	2.6	4	4	4	4.8	3	3	1	1.3	1.5	2.25	27.55		X		

## **5.0 Implementation**

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### **5.1. General Implementation Measures**

The recommended alignment for the Northeast Collier County multi-use trail is shown in figure F-1. The trail is designed to accommodate a variety of non-motorized users, including walkers, joggers, bicyclists, and in-line skaters. The trail has not been planned to accommodate equestrian use. The recommended alignment is the culmination of an alternative analysis, existing conditions and input from the public. The alignment begins at the existing trail located in the north ROW of Immokalee Road, approximately 6 miles east of I-75. The alignment continues east along Immokalee Road and will then continue east on Oil Well Road in the north ROW to Camp Keais Road. At Camp Keais Road, the alignment will continue north within the west ROW, reconnect with Immokalee Road and continue north within the east ROW into the Town of Immokalee. Once in the Town of Immokalee, the alignment will continue west along Roberts Avenue within the north ROW and once again re-direct north along 15th Street/SR29 in the east ROW. At SR 82, the trail will bare northwest in the south ROW where it will eventually continue into Lee County.

It is envisioned that this trail system will become a model for creating partnerships with an electric company and/or developer to encourage additional trails to be co-located within future developments and utility corridors. The report's recommendations include low-cost intersection crossings at the identified road crossings and that these points become access points to the trail system. Potential trailheads and rest areas have been identified as part of this study and are appropriately marked on figure F-1.

### **5.2. Accessibility**

#### **5.2.1. Community Connectors**

The feasibility study has included actual and future connections within 1320-ft. of the

preferred alignment to provide the community with connections to local destinations such as public lands, parks, town centers, neighborhoods and schools. The trails will be part of the transportation system providing pedestrian and bicycle commuter routes throughout the county, safe routes to schools and beneficial alternative modes of transportation. The end of an existing trail located at the north side of the canal at Immokalee Road will be the beginning of the proposed trail corridor or segment 1, ending at the intersection of Oil Well Road where a Secondary Trailhead is proposed. From this reference point two alignments have been considered and called Preferred and Alternative alignments. The section of the trail labeled as segments are those portions which are within the preferred trail alignment. The portions of the trail labeled as alternatives are within the secondary alignment.

Segment 2 responds to the option of being connected to the community Ave Maria, planned to have a population of 3,000 permanent residents and 5,000 students, bringing further development in housing and entertainment for residents and visitors. Segment 2 also offers connections to existing schools, the future Town of Big Cypress, Everglades Boulevard and Oil Well Grade Road.

Segment 3 connects with the east entrance of Ave Maria and ends at Immokalee Road.

Segment 4 begins at Immokalee Road and ends at Main Street, offering a possible Secondary trailhead at existing schools and connection to the Seminole Casino.

Segment 5 and 6 cross the heart of the Town of Immokalee and offer connection to the Immokalee Pioneer Museum at Roberts Ranch as well as existing schools, the library and potential Secondary trailheads.

Segment 6 and 7 intend to connect with a future trail at Lee County.

The Alternative 1 brings connectivity with the Fairgrounds, a future SFWMD Trailhead and

future Wastewater Treatment Plant (WWTP) and Recreational Area.

Alternative 2 connects to the Corkscrew Swamp Sanctuary, existing fire stations which represent possible Secondary Trailhead and turns at the FPL Easement called Alternative 3, 4 and 5.

The TH-1 Alignment connects Segment 6 and Alternative 4 with Lake Trafford Road, a site of archeological significance and an important interest point within the city.

### 5.2.2. Trailhead Connectors

A trailhead typically consists of designated parking and staging areas, public telephone, public restrooms, trash receptacles, information and interpretive signs, maps or brochures, potable water, picnic facilities, covered shelters, electric service, active recreation opportunities and other appropriate amenities and public recreational facilities. Providing rest areas and viewing of the surrounding landscape, as well as access to the trail and access to other public amenities was recognized as being important to trail users. Figure F-1 depicts proposed primary trailheads, secondary trailheads and rest stops which we have identified along the corridor. The master plan proposes the use of existing facilities as trailheads whenever possible. The following describes the differences between the different types of trailheads and rest stops that have been proposed along the trail corridor (Figure F-1). Included below is a brief description of each element and amenities one might expect to find at these locations:

**Primary Trailhead:** A primary trailhead consists of designated parking and staging area, public telephone, public restrooms, trash receptacles, informative and interpretive signs, maps or brochures, potable water, picnic facilities, covered shelters, electric service, active recreation opportunities and other appropriate amenities and public recreational facilities.

The suggested architectural style for any new trailhead structure is based on Cattle ranching which is Collier County's oldest industry. By the

early 1900s, ranchers like Bob Roberts, Jehu Whidden and Robert Carson were grazing herds of scrub cattle on the open prairies around Immokalee. "Cracker Architecture" is the basis for the proposed trail head structures.



**Secondary Trailhead:** A secondary trailhead includes designated parking and/or staging area, possibly restrooms, refuse containers, information signs, maps or brochures, potable water and covered shelter. Generally secondary trailheads do not include active recreation and can be located at existing facilities or sites.

### 5.2.3. Locations of Cultural Significance

Extensive cultural, historical and archeological sites exist in and around Collier County with a selection of sites in close proximity to the trail corridor study area. The following sites were identified as being close to the study area and it may be worthwhile to plan connections to these areas.

**The Immokalee Pioneer Museum at Roberts Ranch:** The Immokalee Pioneer Museum at Roberts Ranch depicts the area's cattle ranching past and present.

The ranch is significant for its associations with the



cultural, social, economic, political and architectural contributions to the pattern of history in Immokalee and Collier County and was recently restored. Roberts Ranch was

registered in October of 2003 into the National Register of Historic Places.

**Lake Trafford:** A significant archeological site in proximity to the trail corridor is located at Lake Trafford where recently 10 canoe sections were found, possibly more than 1,000 years old. The water levels in the lake have dropped during drought periods and normally submerged areas have become dry exposing the canoes. The largest canoe fragment was almost 14 feet long; some seem to be made of Cypress, others pine. Dead plant material generally breaks down quickly, but the canoes had been buried in anaerobic sediment without oxygen where organisms that cause decomposition can't live. There are no plans to remove the canoes from the lake, and archeologists are hoping that rains continue to keep the lakes filled and keep the artifacts covered so they can continue to be preserved. The area around the lake is filled with many Native American artifacts.



### 5.3. Parking

Providing parking access along the trail at public locations and trailheads will be critical for accommodating and encouraging trail use. There are a number of existing and potential sites for parking facilities. Placing parking facilities at a variety of existing destinations will draw visitors to scenic and recreational features in the study area as well as allowing users to tailor their trip based on their potential interests.

#### *Needs & Requirements of Trailheads and Parking Facilities*

- Number of spaces required
- Shade
- Security
- Residential/commercial/educational access

### 5.3.1. Existing Parking Locations

**Immokalee Road:** The study area's southern most point at the corner of Immokalee Road and Oil Well Road provides a potential parking area at a gas station and adjacent undeveloped lot. The Collier County Fairgrounds, located on 39th Avenue, provides a prime location for large, underutilized parking spaces that can accommodate both a popular destination as well as a high number of trail users. Similar publicly-owned facilities such as the University of Florida Extension Center provide locations for smaller trailheads with less parking accommodations.

**Corkscrew Swamp Audubon Sanctuary:** The Corkscrew Swamp Sanctuary, located near Immokalee Road off Sanctuary Road, is a prime destination along the corridor for both scenic and recreational purposes. A prominent trailhead with larger amounts of associated trail parking will allow visitors to utilize both the important sanctuary area as well the trail through this portion of the corridor.

**Oil Well Road:** Trail corridor alternatives along Oil Well Road traverse more residential areas and school sites than other alternatives. This will allow for more car-free, short trip trail use. Key locations at either Corkscrew Elementary or Palmetto Ridge High School offer existing parking facilities that can accommodate a small trailhead and few associated parking spaces.

**Everglades Boulevard:** Like Oil Well Road, Everglades Boulevard has a higher amount of residential and educational land uses than surrounding areas. Estates Elementary School provides one location for a potential trailhead and parking spaces.

**Ave Maria:** The community of Ave Maria covers the eastern corner of the study corridor bounded by Oil Well Road, Camp Keais Road, and Immokalee Road. The community has several opportunities for a trailhead and some associated parking at the edge of the development near entry gates. Within the town center of the community, commercial business, educational facilities, and residential areas



provide prime destinations for trail users. The community is privately owned and managed and will need additional negotiation for coordinating public use along the trail.

**Immokalee:** Any number of potential areas within the unincorporated Town of Immokalee could serve as parking locations for the trail, depending on the selected alternative. Community recreational areas at the Immokalee Community Park, recreation area along Lake Trafford Road, and Immokalee High School will allow users to focus on recreational or exercise trips. Likewise, a trailhead and parking area at Lake Trafford will allow the trail to connect to a prime destination along the corridor.

**Seminole Casino:** The casino facility located on Seminole Indian Reservation provides a prime opportunity for both a destination and large trailhead facility near the community of Immokalee. However due to jurisdictional issues, additional negotiation will be necessary to obtain space on the casino property.

### 5.3.2. Potential Parking Locations

New parking locations can potentially be carved out at a number of locations along the trail alternative corridors. Trailheads at private developments, road intersections, publicly owned properties, and car pull-offs along the road and trail ROW can all provide small trailheads and limited amounts of public parking along the corridor alternatives.

### 5.3.3. Concern and Issues with Public Parking

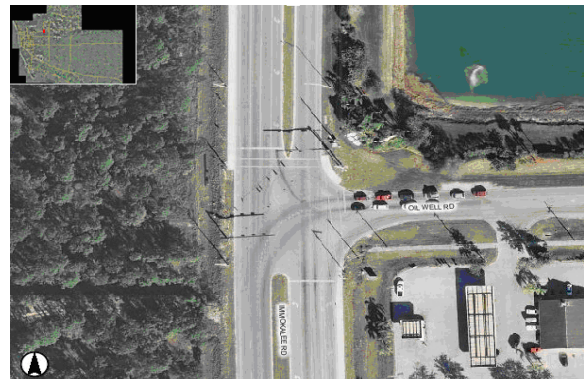
- Safety
- Negotiating with private land owners – property easements, trail access, public nuisance, security, etc
- Signage & landscape design
- Emergency response access

## 5.4. Major Roadway/Trail Crossings

The preferred alignment will have 6 roadway crossings that are considered major trail-roadway crossings (See Figure F-19 for typical trail crossing). The following briefly addresses each of the major crossings:

### 5.4.1. Immokalee Road and Oil Well Road

The preferred alignment runs north along the east side of Immokalee Road and crosses Oil Well Road where the two intersect. Immokalee Road is a 6-lane, divided median, roadway section with curb and gutter, bike lanes, and a sidewalk running along the south and east side of Immokalee Road. As you approach the intersection of Immokalee Road and Oil Well Road there is an additional right turn lane to accommodate north bound traffic turning onto Oil Well Road. Oil Well Road is a two lane rural roadway section that widens to 3-lanes at the intersection with Immokalee Road to accommodate left turning traffic. The intersection is signalized with designated pedestrian cross walks. The bike lane ends just north of the intersection. Roadway grades are approximately one to two percent with a two percent cross slope.



The proposed treatment of the crossing formed by the intersection of the Trail, Immokalee Road, and Oil Well Road needs to address the potential conflict between trail users, right and left turning traffic from Immokalee Road, and west bound traffic on Oil Well Road. Plans have been developed for widening and upgrading to Oil Well Road from the intersection at Immokalee Road eastward to the

intersection of Camp Keais Road. This project also includes upgrades to the existing traffic signals. It's understood that as part of this road improvement project, road crossing safety will be addressed. As part of the intersection improvements the traffic signalization should include pedestrian/bicyclist push-buttons.

#### 5.4.2. Everglades Boulevard and Oil Well Road

Oil Well Road is scheduled for widening and infrastructure upgrades. As part of the roadway improvement project the intersection of Oil Well Road and Everglades Boulevard will be widened to 9-lanes in each approaching direction, 3-lanes each for through traffic with 2-left turn lanes and a right turn lane. Also included will be a 12-foot concrete trail on the north side of Oil Well Road, designated pedestrian/bicyclist crossings, and signalization upgrades. Crossing safety concerns will be addressed as part of this project. It is recommended that additional signage be considered to caution approaching traffic and trail users as they approach the intersection. Also, intersection improvements will include high visibility traffic markings.

#### 5.4.3. Camp Keais Road and Immokalee Road

Beginning at the intersection of Oil Well Road and Camp Keais Road the preferred alignment runs north, along the west side of Camp Keais Road, to the intersection of Camp Keais Road and Immokalee Road. At this point the trail continues north along the east side of Immokalee Road. The trail crosses Camp Keais Road to the east side of Immokalee Road in order to avoid an Immokalee Road Crossing. Currently this intersection is not signalized and only north bound traffic on Camp Keais Road is required to stop and yield to through traffic. Accident data for this intersection indicates an average of 9.3 accidents a year occurring between 2004 and 2006. The proposed treatment at this crossing needs to address potential conflict between the trail user and north bound traffic on Camp Keais Road as well as right and left turning traffic off of Immokalee Road.



The proposed crossing treatment at this intersection includes sweeping turns in the trail as it approaches Camp Keais Road to create a 90-degree intersection. As the trail approaches the intersection it widens to 16-feet with a 4-foot median. The trail will be posted with stop signs and stop bars. This treatment is typical for each side of Camp Keais Road. The crossing will be marked with high visibility hatching. Appropriate signage will be placed on the east side of Camp Keais Road to warn north bound traffic of the approaching trail intersection. A stop bar and stop sign will be located on the south side of the crossing.

#### 5.4.4. Immokalee Road and Main Street (SR 29) in the Town of Immokalee

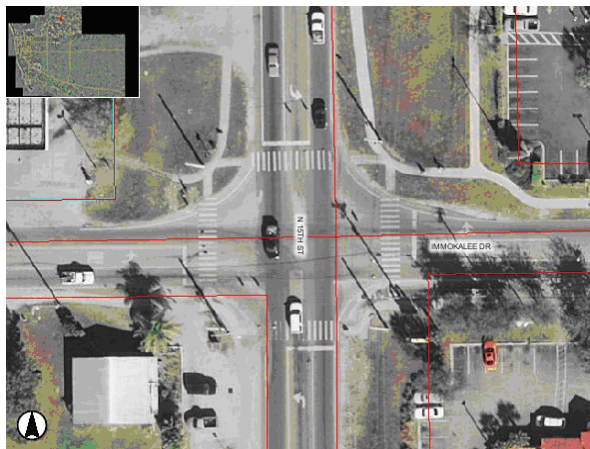


At the intersection of Immokalee Road and SR 29 the trail will continue along the east side of Immokalee Road to the intersection of Immokalee Road and Main Street (SR 29) necessitating a crossing at SR 29. At the intersection SR 29 widens to 5-lanes with right

and left turn lanes for both east and west bound traffic. Immokalee Road, north bound, widens to 4-lanes with right and left turn lanes. Available accident data for this area indicates an average of approximately 6.5 accidents per year occurring between 2005 and 2007. This crossing will need to address potential conflicts between 4-lanes of east and west bound traffic and west bound right and left turning traffic on SR 29 as well as right turning north bound and left turning south bound traffic on Immokalee Road. The intersection is currently signalized.

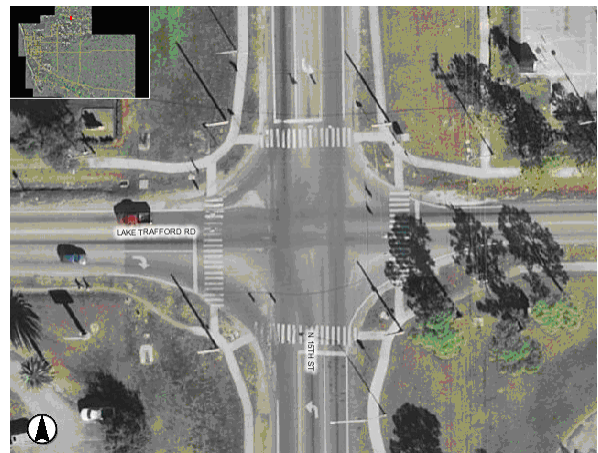
The trail will intersect with SR 29 at a 90-degree angle for both north and south bound trail users. The proposed crossing treatment will include widening of the trail from 12-feet to 16-feet with a 4-foot median. The trail will be posted with stop signs and stop bars. Appropriate signage will be placed on the north and south sides of SR 29 warning east and west bound motorist of the approaching trail crossing. The crossing will be striped with high visibility cross-walk hatching. The existing traffic signal should be retrofitted to provide pedestrian/bicyclist push-buttons

#### 5.4.5. North 15th Street and Immokalee Drive and Lake Trafford Road and North 15th Street



These two intersections are similar in that they are four-way, multi-lane intersections with left and right turning lanes, and both intersections are signalized. The trail will be crossing side streets (Immokalee Drive and Lake Trafford Road – on the east side of North 15th Street). After crossing Lake Trafford Road on the east

side of North 15th Street the trail will then cross North 15th Street on the north side of the intersection. The additional North 15th Street crossing is proposed in order to reduce the number of additional crossings as the trail continues north and to reduce the need for crossing SR 29 at the intersection of SR 82. Because the intersection of SR 29 and 82 are not signalized and there is no device in place for stopping north/south bound traffic on SR 29, it was determined that crossing North 15th Street (SR 29) at Lake Trafford Road was a much safer crossing. Crossing treatment will be similar to the intersection of Immokalee Road and SR 29. As the trail approaches the intersection(s) it will widen from 12-feet to 16-feet with a 4-foot median. Stop bars, signage, and crosswalk hatching will be provided as previously described. The existing traffic signals should be retrofitted to provide pedestrian/bicyclist push-buttons to facilitate safe crossing.



### 5.5. ROW Acquisition

It is important to note that a detailed acquisition analysis was not included within the scope of this study primarily because it became a goal of the study to maximize the creation of a trail system in Northeast Collier County within existing roadway ROW. There are several segments, however, that may be co-located within existing overhead transmission corridors. It is very common for transmission corridors to be located on lands that are leased by the utility company for the sole purpose of locating an

overhead transmission line. The typical lease arrangement does not accommodate recreational use of the underlying property owner's land. Therefore any potential trail alignment that would be located within a transmission corridor would require the permission of the utility company as well as would require a separate easement be obtained by the county from the underlying property owners. Since this detailed acquisition analysis was not included in this scope, Collier County agreed to research the public records to identify potential parties so that information exchanges could occur. All known underlying property owners were sent a notice and invited for the public workshop that was held and several were known to have attended. A complete list of these property owners is available from Collier County upon request.

Additionally, several attachments have been included that were developed as part of an earlier pathway partnership between the county and FPL (FPL Greenway located in Naples). These have been included as a general starting point for this project. Appendix A-8 includes a sample Use Agreement for the utility company and Appendix A-7 is a draft Trail Easement for use with each underlying property owner.

## **5.6. Estimated Development Cost**

### **5.6.1. Design**

The cost estimate for the design and permitting process has been broken up into a per mile approximation. The per-mile estimate is based on the entire trail corridor and is subject to variation for individual segments due to the range of complexities involved. The design process estimate includes survey field work, geotechnical investigations, minor utility relocation design, minor structural design, transportation design and civil site development design. The anticipated permitting process consists of Collier County Development and minor building department permitting; as well as SFWMD environmental resource permitting.

### **5.6.2. Pathway Construction:**

The construction cost for the preferred trail alignment was developed based on the existing and future construction activities scheduled to take place in the trail corridor. The trail will either be an asphalt or concrete trail for the entire proposed corridor. Along the majority of Oil Well Road, no trail construction will be necessary due to the roadway and sidewalk improvements already designed and scheduled. It is not anticipated that any part of the trail will have vehicular loads, so a 1.25" course of asphalt should be constructed. Since all parts of the preferred alignment run along a roadway, MOT during construction will be important. Most of the concrete portions of the trail (along Immokalee Road and in the Town of Immokalee) will require existing sidewalks to be removed and replaced with the 10'-12' concrete trail. A detailed breakdown of the cost estimate is shown in Table T-4. The Amenities and Landscaping have been included in the construction cost pricing for the crossings (Items 15 to 17) and the Rest Stops (Items 25 and 26) of Table T-5. For complete list of cost assumptions, please see Appendix A-2.

**Table T-4  
Conceptual Cost Estimate**

NO.	ITEM	UNIT	UNIT PRICE	QUANTITY	AMOUNT
<b>General Requirements</b>					
1	Mobilization / Demobilization	LS	\$620,000.00	1.00	\$620,000.00
2	Maintenance of Traffic	MI	\$4,000.00	28.73	\$114,920.00
<b>General Requirements: SUBTOTAL (Sum of 1-2)</b>					<b>\$734,920.00</b>
<b>Site Preparation</b>					
3	Clearing and Grubbing (w/ Tree Removal)	AC	\$7,206	111.45	\$803,108.70
4	Erosion Control	LF	\$1.70	303,417.64	\$515,809.99
<b>Site Preparation: SUBTOTAL (Sum of 3-4)</b>					<b>\$1,318,918.69</b>
<b>Earthwork</b>					
5	Backfill Site/Trail	CY	\$6.00	179,803.04	\$1,078,818.24
6	Excavation	CY	\$5.50	134,852.28	\$741,687.54
7	Fine Grading	SF	\$0.25	4,854,682.24	\$1,213,670.56
<b>Earthwork: SUBTOTAL (Sum of 5-7)</b>					<b>\$3,034,176.34</b>
<b>Paving and Surfacing</b>					
8	1.25" Type S-III Asphalt Pavement	SY	\$8.00	120,289.00	\$962,312.00
9	4" Concrete Trail	SY	\$23.75	81,994.00	\$1,947,357.50
10	4" Limerock Base, LBR 100	SY	\$6.80	130,313.00	\$886,128.40
11	8" Stabilized Subgrade, LBR 60	SY	\$6.00	140,336.00	\$842,016.00
12	12" Stabilized Subgrade, LBR 60	SY	\$8.60	86,961.00	\$747,864.60
13	Sod	SY	\$1.80	67,426.14	\$121,367.05
<b>Paving and Surfacing: SUBTOTAL (Sum of 8-13)</b>					<b>\$5,507,045.55</b>
<b>Drainage</b>					
14	Drainage Improvements (Structures, Culverts, Etc.)	LS	\$525,000.00	1.00	\$525,000.00
<b>Drainage: SUBTOTAL (Item 14)</b>					<b>\$525,000.00</b>
<b>Signage and Striping</b>					
15	Major Roadway Crossings	EA	\$16,200.00	6.00	\$97,200.00
16	Intersection Crossings	EA	\$12,300.00	3.00	\$36,900.00
17	Minor Crossings	EA	\$5,800.00	37.00	\$214,600.00
18	Striping	LF	\$1.85	14,777.43	\$27,338.25
19	Mile Marking Sign (9 1/2" x 3'-1")	EA	\$709.50	39.00	\$27,670.50
20	Primary Identity Sign	EA	\$14,471.00	4.00	\$57,884.00
21	Primary Identity Sign (for ROW Costrained Areas)	EA	\$11,482.00	3.00	\$34,446.00
22	Directional Sign	EA	\$1,144.00	19.00	\$21,736.00
23	Interpretive Sign	EA	\$1,589.50	2.00	\$3,179.00
<b>Signage and Striping: SUBTOTAL (Sum of 15-23)</b>					<b>\$520,953.75</b>
<b>General Improvements</b>					
24	Bollards (Removable)	EA	\$650.00	32.00	\$20,800.00
25	Rural Rest Stop	EA	\$24,200.00	7.00	\$169,400.00
26	Urban Rest Stop	EA	\$32,000.00	32.00	\$1,024,000.00
<b>General Improvements: SUBTOTAL (Sum of 24-26)</b>					<b>\$1,214,200.00</b>
<b>SUBTOTAL (Sum of Items 1-26)</b>					<b>\$12,855,214.33</b>
27	Contingency, (20% of Subtotal)	LS	20%	\$12,855,214.33	\$2,571,042.87
28	Design/Permitting	MI	\$38,000.00	28.73	\$1,091,740.00
<b>TOTAL PRICE (Sum of Items 1-28)</b>					<b>\$16,517,997.19</b>

## 5.7. Proposed Development Schedule

The proposed development schedule provided below assumes that the trail is developed in segments approximately 5 miles in length. The schedule is meant to be an average and is subject to variation based upon total length of trail segment in addition to location of trail segment.

<b>Design (including 30 days for advertisement)</b>	<b>120 days</b>
<b>Permitting</b>	<b>90 days</b>
<b>Construction (including 30 days for advertisement)</b>	<b>210 days</b>

## 5.8. Law Enforcement

Pathways and trails tend to become self-policing once they are open. Users become the “eyes and ears” of the pathway and are often the first to assist when injury occurs or security is threatened. Many successful pathways have the local police or sheriff’s department adopt it as part of their patrol route. Also, many communities now have police officers on bikes that work with the trail manager to monitor the facility. The team recommends a relationship be built with local law enforcement, adjoining public lands staff and appropriate Collier County staff to create a security plan.

## 5.9. Estimated Operations and Maintenance Cost

Maintenance costs will vary greatly depending on the type of surfaces, amount of volunteer labor use, available services and geographic location of the pathway. These costs, however, must be considered during the planning process to ensure that managers can pay for the ongoing maintenance of the system they develop.

The typical cost of resurfacing asphalt trails (based on national averages – costs will vary) is \$14.10 per linear foot (\$7.05 per linear foot to overlay with top coat). Asphalt surfaced trails will need to be resurfaced every seven to fifteen years (resurface with top coat and replace sections).

The typical cost of resurfacing concrete trails (based on national averages – costs will vary) is \$27.50 per linear foot. Concrete surfaced trails need to be resurfaced every 20+ years.

Liability insurance, if necessary, is another expense that must be factored into the cost of developing and maintaining a pathway or trail.

The following are the typical annual maintenance costs for one mile of paved trail (these figures are based on the national average with year 2000 dollars and extrapolated to 2008 dollars). It is important to note that these figures are meant to assist in the budgetary planning process only. Costs will vary for individual trails and can be coordinated with roadway activity for significant cost reductions. The county may wish to examine its data base for specific local contracts relating to maintenance activities. Please note that estimated costs in the current marketing have shown significant variability. Final actual construction costs will be subject to the market conditions at the time of construction and the unit costs at that time.

<b>Drainage and storm channel maintenance (3-5 times per year)</b>	<b>\$974</b>
<b>Sweeping/blowing debris off trailhead (16-24 times per year)</b>	<b>\$2,340</b>
<b>Pickup and removal of trash (16-24 times per year)</b>	<b>\$2,340</b>
<b>Weed control and vegetation management (8-12 times per year)</b>	<b>\$1,950</b>
<b>Mowing of 3-foot grass shoulder along trail (8-24 years per year)</b>	<b>\$2,340</b>
<b>Minor repairs to trail furniture/safety features</b>	<b>\$974</b>
<b>Maintenance supplies for work crews</b>	<b>\$585</b>
<b>Equipment fuel and repairs</b>	<b>\$1,170</b>
<b>TOTAL COST:</b>	<b>\$12,673</b>

Information gathered from Trails for the 21<sup>st</sup> Century-Planning, Design, and Management Manual for Multi-Use Trails, Rails-to-Trails conservancy, Island Press, 2001

## 5.10. Funding Sources

Numerous potential sources exist, that can be considered by the County, to provide monetary assistance for pathways facilities and programs.

Many of these sources are available on the federal level, as dictated by transportation legislation. Most of these programs are administered by the FDOT. Additionally, there are other state funding sources which can be used to help achieve the goals of this project. Finally, a myriad of private funding sources exist which can be used by the county to implement path-related programs.

It is recommended that the county consider all opportunities to leverage additional dollars and programs to enhance the pathway system by acquiring additional ROW and parcels to accommodate an increase in path width in both constrained and non-constrained areas as well as to enhance areas by providing additional open spaces, buffering, rest areas, parking and other support facilities whenever possible. Programs such as the Florida Greenways and Trails Program purchase such additions and require no local matching dollars. This particular program averages only 7–10 projects per funding cycle and has never received an application from Collier County. Title is held by the Florida Internal Improvement Trust Fund and local leases or management agreements are common. Worth noting is a recent change made to the Florida Communities Trust that allows for certain parkland property previously purchased by local governments to be eligible for reimbursement. Some agencies have then utilized this unforeseen revenue as a source to develop, improve or maintain pathway projects within their communities. Collier County is one such community that has successfully been reimbursed for past green space investment.

Detailed description of funding sources is provided in Appendix A-5.

The various funding sources are as follows:

- Matching and Major Funding Sources - Federal/State Matching Requirements.
- Federal Funding Resources.
- Nonmotorized Transportation Pilot Program (Sec. 1807).

- Federal-aid Highway Program.
- Highway Safety Programs.
- Safe Routes to School Program.
- State of Florida Funding Resources.
- Private Funding Resources.

## **5.11. Alignment Prioritization**

### **5.11.1. Preferred Alignment**

Based on the preferred alignment, the next step is to prioritize the segments of the alignment for future construction. This assumes that the trail design and construction will occur in a phased manner and funding will not be available to build in a single phase. An additional assumption has been made that the widening of Oil Well Road, which includes a multi-use pathway, will be constructed prior to designing the remaining segments of the preferred alignment.

Taking into consideration the recreational benefits of the Northeast Collier County Trail, it is important to maximize the use of existing amenities and trail head connectors. The preferred alignment has been divided into four phases. The first phase to design and construct is Segment 1. Constructing Segment 1 will bridge the gap between the existing trail along the north side of Immokalee Road and the existing trail located along Oil Well Road. The next phase of trail to execute should be Segment 3 in addition to Segment 4. This portion of the trail will connect the existing trail on Oil Well Road with the Town of Immokalee. The third phase of execution should be Segment 5 and Segment 6. This phase will enable the trail to continue through the Town of Immokalee. The final phase of execution is Segment 7. This final segment of trail will lead into Lee County. The benefit of this prioritization is it enables the county to build upon the existing network of recreational trail and in-turn increases the recreational opportunities for trail users. Additionally, each segment of trail will build

upon its predecessor segment, therefore preventing gaps in the trail.

**Table T-5**

RECREATIONAL NEEDS PHASING PRIORITIZATION TABLE			
Phasing Priority Number	Segment	Description	Estimated Construction Cost
1	Segment #1 (Optional Improvements: Segment #2)	Connection to Existing Trail on North Side of Immokalee Road East to Oil Well Road (Optional Improvements: Signage, Rest Areas, and Minor Crossing Improvements Along Oil Well Road)	\$4,407,416.61 (Optional Improvements: \$949,465.00)
2	Segment #3, Segment #4	Connection from Oil Well Road to the Town Center of Immokalee	\$4,910,238.39
3	Segment #5, Segment #6	Connection through the Town of Immokalee to S.R 82	\$3,373,776.93
4	Segment #7	Connection S.R. 82 to the Collier County Line	\$3,472,180.92

**Notes:**

1. Includes estimated Cost of Design and Permitting.
2. Total Estimated Construction Cost may be greater than the total cost of sign and construction of a single phase. This is due primarily to additional mobilization and permitting.

**5.11.2. Alternative Alignment**

The alternative alignment has received outstanding support based on the response of the public survey. Unfortunately, due to the lack of county ROW, it is not economically feasible at this time to construct the trail along that alignment. However, similar to the construction of the trail on Oil Well Road, construction of some alignments will occur with adjacent road expansion projects for these areas.



## **6.0 Conclusion**

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The location of a trail system in the Northeast study area will provide a critical link in the ultimate regional network. This is needed for a continuous pathway system from Lee County to the more urbanized Naples area. This also complies with the County's vision for the future and its Trail Master Plan objectives. The successful public meeting confirmed the strong support and need for the trail system by local residents. New trail segments in Immokalee will improve safety and provide greatly improved mobility for the high level of non-motorized transportation traffic in the town area.

Prior to the study, the utility ROW appeared to be a first priority alignment. However, further research revealed that the underlying ownership was held by many individual parties, including individual homeowners, businesses and large tracts. Thus, the acquisition of easements from numerous land holders diminished the attractiveness of certain alignments. This resulted in public ROW becoming one of the leading choices for trail alignments.

Research of the local history and culture revealed a colorful heritage in the area. This heritage has been incorporated into the trail design. A visual theme for trail identification and amenity treatments has been provided which emphasizes the areas Native American habitat and agricultural development.

Operation and maintenance costs taken from a large data base was presented. No unusual or out of the ordinary costs were identified and normal operations of the trail system is expected. The names of potential funding sources were identified and should be considered as the project goes into design and construction phases in the future. The entire length of an interconnecting trail in the region most likely will not be built in a single phase. However, the prevalent local government strategy in Florida is to build individual segments as they are able to be funded. This approach, along with an effort towards

completing gaps in the system, will ultimately lead to a functional regional system of interconnected trails.

This master planning document demonstrates the feasibility of a trail system in Northeast Collier County. This study will serve as a guidance document as the County moves forward with trail system and transportation improvements. With the construction of Oil Well Road, the beginning of the trail system will be in place. Subsequently, additional trail segments and amenities may be added as progress is made with funding and new partnerships.

# **APPENDIX**

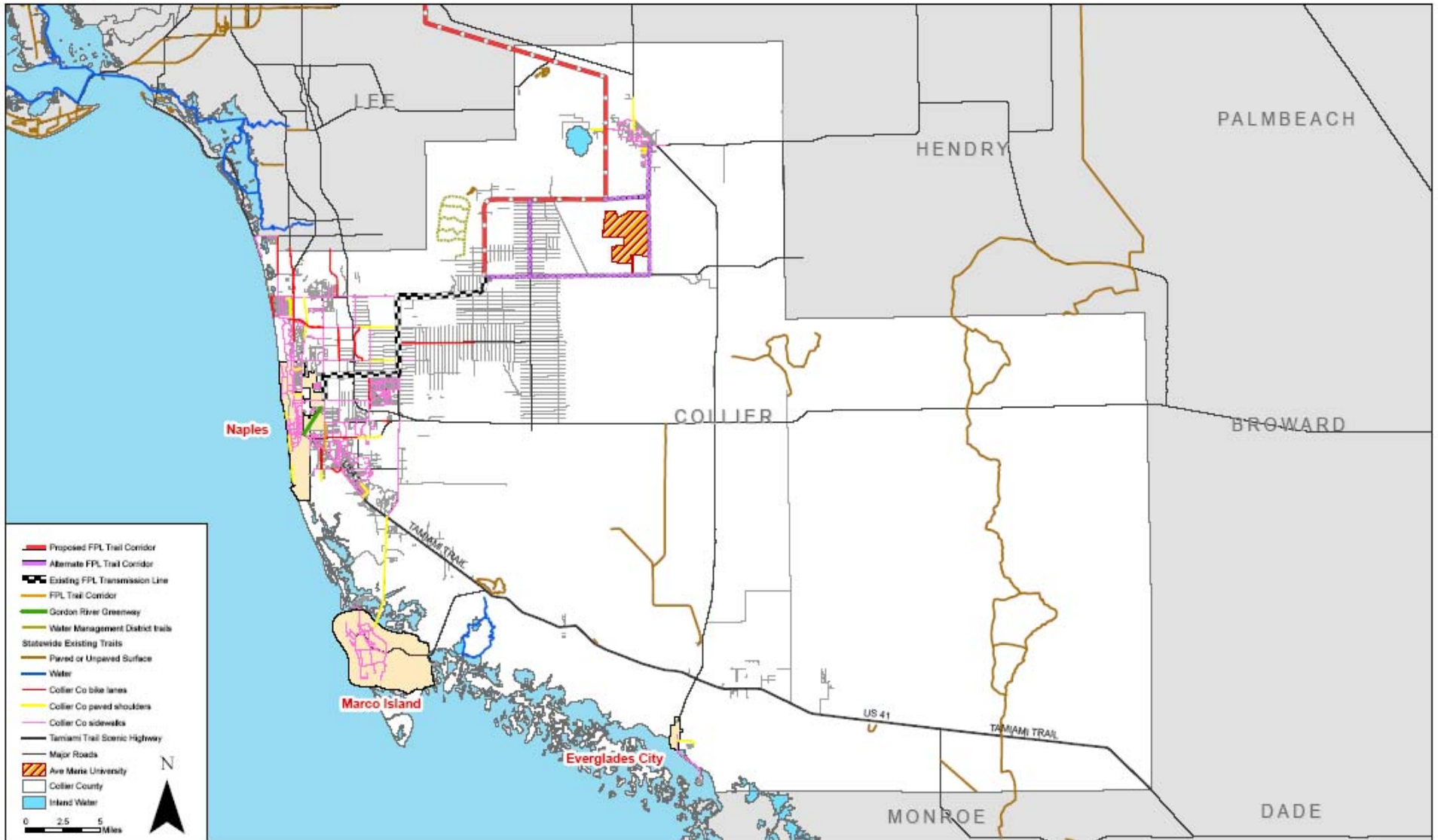
## **Appendix A-1: Local Area Trail Information**

Gordon River Greenway: “Taking advantage of natural beauty along the Gordon River in Naples, the proposed greenway would stretch north from US 41 up toward Golden Gate Parkway.”  
<http://gordonrivergreenway.org/index.htm>

Goodlette-Frank Greenway: “The Goodlette-Frank Greenway is a proposed multi-use greenway along Goodlette-Frank Road, initially starting at Pine Ridge Road going south. To be built essentially along the old railway bed, this greenway will connect neighborhoods to schools and activity centers, and will continue to U.S. 41.”  
[http://www.naplespathways.org/website\\_51606last\\_029.htm](http://www.naplespathways.org/website_51606last_029.htm)

River of Grass Greenway: “Parallel to the Tamiami Trail (US. 41), the ROGG will be a hard-surfaced 12-14 foot wide corridor (separated from the highway) suitable for a range of non-motorized recreation activities such as bicycling, walking, bird-watching, photography, fishing, and general enjoyment of the greater Everglades natural area. The goal of the ROGG is to extend from Collier-Seminole State Park (near Naples) to Krome Avenue at the eastern edge of Everglades National Park (near Miami).”  
<http://www.evergladesrogg.org/>

# Map 1: Existing Trails, Bicycle, & Pedestrian Facilities in Collier County



## Appendix A-2: *Opinion of Cost Assumptions*

1. Trail will begin at existing trail located along the North side of Immokalee Road. The terminus will be the western Collier County line along SR 82.
2. Pricing based on current market conditions.
3. Construction oversight and administration is not included in the costs.
4. Sod has been included 2 ft to each side of trail throughout its length.
5. No additional stormwater retention has been included beyond a swale parallel to the trail.
6. Assumes no relocation or temporary trail construction will be required for any existing trail and/or roadway crossings.
7. No relocation of existing or installation of future utilities has been included in this cost estimate.
8. Lighting has not been included in this cost estimate.
9. The mobilization/demobilization item includes full compensation for the required one hundred percent (100%) Performance Bond, one hundred percent (100%) Payment Bond and all required insurance for the project. It also includes all miscellaneous cleanup work including rubbish and spoil removal, restoration of fences and other existing items disturbed during construction. The cost for the movement of personnel, equipment, supplies and incidentals to and from the project site and for establishment of temporary offices, safety equipment, first aid supplies, sanitary and other facilities is also included in this item.
10. Clearing and Grubbing items include protection of existing trees, trees removal/disposal and other vegetation, muck, asphalt, curb and gutter, culvert pipes, general pipes and all other type of obstructions (direct or indirect) with the construction of the project. Also includes full compensation for all labor, materials and equipment required to complete this item, maintenance and eventual removal for tree barricades and cleanup as required.
11. Erosion Control item includes the furnishing and installation of Baled Hay, Floating Turbidity Barrier, Staked Silt Fence and all other miscellaneous erosion control devices as well as all required monitoring and ongoing dust abatement as required by any of the future applicable permits from Collier County, SWFWMD, or FDEP. Also includes the maintenance and eventual removal and cleanup. This item represents full compensation for all labor, materials and equipments required to complete this item.
12. Earthwork items represent full compensation for all labor, materials, excavation (including rock), dewatering, site finish grading, compaction, backfilling, testing and equipment required to complete these items.
13. Type S-III Asphalt Pavement items represent full compensation for all labor, materials and equipment required to complete this item. Includes all items and incidentals necessary to complete the pavement installation in accordance with the requirements of Collier County.
14. Concrete Trail item represents full compensation for all labor, materials

- and equipment required to complete this item. Includes all items and incidentals necessary to complete the pavement installation in accordance with the requirements of Collier County.
15. Limerock Base represents full compensation for all labor, materials and equipment required to complete this item.
  16. Stabilized Subgrade represents full compensation for all labor, materials and equipment required to complete this item.
  17. Drainage Improvements represent full compensation for all labor, materials, disposal of unsuitable or wasted material, excavation (including rock), dewatering, site finish grading, compaction, installation, and equipment required to complete this item as well as any applicable permit from Collier County, SWFWMD or FDEP. Also includes restoration of any plants, trees, sod, or existing asphalt or concrete driveways or roads damaged in the installation. Mitered End Section, Drop Structures, Pipes, sheeting and bracing, bedding, providing fill material as needed, backfilling, compaction and repairing any damage to existing lines is also included in this item.
  18. Trail Crossings items represent full compensation for all labor, installation, materials and equipment required to complete these items including landscaping and colored/textured pavement.
  19. Striping item represents full compensation for all labor, materials, application and equipment required to complete this item.
  20. Signage items represent full compensation for all labor, installation, materials and equipment required to complete this item.
  21. Removable Bollard item represents full compensation for all labor, installation, materials and equipment required to complete this item.
  22. Rest Stops items represent full compensation for all labor, installation, materials and equipment required to complete these items including landscaping, trash receptacles, benches, bench canopy and bike racks.
  23. Design and Permitting includes all items outlined in section V of the report.
  24. Wetland impacts will be minor, with some possible enhancements.
  25. Soil will be suitable for trail.
  26. No off site mitigation will be required for wetland impacts.
  27. Minimal soil for fill material will be imported to site.
  28. Wetland locations are approximate and based on the most recent GIS information.
  29. There will be minimal clearing and grubbing for the site.
  30. Major Drainage Improvements along Camp Keais Rd will not be required.
  31. No canal crossings are anticipated.

**Appendix A-3: Photo Inventory**



Orangetree Substation



Orangetree Substation with Concrete Path



FPL Easement along Immokalee Road



Intersection of Oil Well Road and Immokalee Road



Intersection of Oil Well Road and Immokalee Road



Corkscrew Elementary on Oil Well Road



Corkscrew Elementary on Oil Well Road – Bike Rack Facility



Corkscrew Elementary School





Intersection of Oil Well Road and Corkscrew Elementary School Entrance



Oil Well Road



Oil Well Road



Oil Well Road



Oil Well Road – Golden Gate Canal Crossing



Immokalee Road



Immokalee Road



FPL Easement off of Immokalee Road



Farmland near FPL Corridor



Immokalee Road



Immokalee Road



FPL Easement Road Crossing – Immokalee Road



Sidewalk and Drainage along Oil Well Road



Drainage Structure along FPL Easement – Immokalee Road



Sidewalk and Drainage at the Intersection of Oil Well Road and Immokalee Road



FPL Easement through an Orange Grove



Intersection of Lake Trafford Road and Little League Road



Drainage Feature, Sidewalk and FPL Easement along Little League Road



FPL Easement along Little League Road



Town of Ave Maria - Towncenter



Ave Maria University



Town of Ave Maria – Ave Maria Oratory



Town of Ave Maria - Towncenter

## **Appendix A-4: Funding Sources**

### Matching and Major Funding Sources - Federal/State Matching Requirements:

In general, the Federal share of the costs of transportation projects is 80 percent with a 20 percent State or local match. However, there are a number of exceptions to this rule. Additionally, FDOT, in most cases, does provide the 20% match on behalf of applicants, but an occasional exception does occur or a community may decide to provide a more significant portion of the cost in order to expedite a particular project.

Federal Lands Highway Program projects and Section 402 Highway Safety funds are 100 percent federally funded.

Bicycle-related Transit Enhancement Activities are 95 percent federally funded.

Hazard elimination projects are 90 percent federally funded. Bicycle-related transit projects (other than Transit Enhancement Activities) may be up to 90 percent federally funded.

States with higher percentages of Federal lands have higher Federal shares calculated in proportion to their percentage of Federal lands.

The State and/or local funds used to match Federal-aid highway projects may include in-kind contributions (such as donations). Funds from other Federal programs may also be used to match Transportation Enhancements, Scenic Byways, and Recreational Trails program funds. A Federal agency project sponsor may provide matching funds to Recreational Trails funds provided the Federal share does not exceed 95 percent.

### Federal Funding Resources:

Non-motorized transportation facility projects, including pathway projects, are broadly eligible for funding from almost all the major Federal-aid highway, transit, safety, and other programs. Non-motorized projects must be "principally for transportation, rather than recreation, purposes" and must be designed and located pursuant to the transportation plans of the Collier County Metropolitan Planning Organization.

Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFTEA-LU, Public Law 109-203) was signed into law August 10, 2005. SAFETEA-LU authorizes the Federal surface transportation programs for highways, highway safety, and transit for the 5-year period 2005-2009. It replaces TEA-21, its legislative predecessor.

### Nonmotorized Transportation Pilot Program (Sec. 1807)

The nonmotorized transportation pilot program is set to construct, in four selected communities, a network of nonmotorized transportation infrastructure facilities, including sidewalks, bicycle lanes, and pedestrian and bicycle trails, that connect directly with transit stations, schools, residences, businesses, recreation areas, and other community activity centers. The purpose of the program is to demonstrate the extent to which bicycling and walking can carry a significant part of the transportation load, and represent a major portion of the transportation solution, within selected communities. Each of the selected communities received \$25 million over the

four-year life of the program. While the communities have already been selected, it is expected that the program will be done again in the future with a significantly higher number of communities selected. As such, it is recommended that the County contact its legislators to express interest in this program.

#### Federal-aid Highway Program

National Highway System funds may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System, including Interstate highways.

Surface Transportation Program (STP) funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or non-construction projects (such as maps, brochures, and public service announcements) related to safe bicycle use and walking.

Ten (10) percent of each State's annual STP funds are set aside for Transportation Enhancements (TE). The law provides a specific list of activities that are eligible TE projects and this includes "provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists." Additionally, 10% all of the TE is retained by the Central Office for projects of statewide significance. Most of Florida's long distance trails have been assisted by the special source of funding. The State of Florida Enhancements Coordinator is Bob Crim and is located in the Tallahassee FDOT Offices.

Another ten (10) percent of Florida's STP funds are set aside for the Hazard Elimination and Railway-Highway Crossing

programs, which address bicycle and pedestrian safety issues. Each state is required to implement a Hazard Elimination Program to identify and correct locations which may constitute a danger to motorists, bicyclists, and pedestrians. Funds may be used for activities including a survey of hazardous locations and for projects on any publicly owned bicycle or pedestrian pathway or trail, or any safety-related traffic calming measure. Improvements to railway-highway crossings "shall take into account bicycle safety."

Recreational Trails Program (Section 1109) funds may be used for all kinds of trail projects. Of the funds apportioned to a state, 30 percent must be used for motorized trail uses, 30 percent for non-motorized trail uses, and 40 percent for diverse trail uses (any combination). Examples of trail uses include hiking, bicycling, and in-line skating.

Section 1117 of SAFTEA-LU, Public Law 109-203 authorized the TCSP Program through FY 2009. A total of \$270 million is authorized for this program in FY's 2005-2009.

Federal Lands Highway Program (FLHP) funds may be used to construct roads and trails within (or, in some cases, providing access to) federal lands, such as J.N. "Ding" Darling National Wildlife Refuge. FLHP funds total about \$800 million per year. Recreation interests often benefit from FLHP funds.

Job Access and Reverse Commute Grants are available to support projects, including bicycle-related services, designed to transport welfare recipients and eligible low-income individuals to and from employment.



High Priority Projects and Designated Transportation Enhancement Activities identified by SAFETEA-LU include numerous bicycle, pedestrian, trails, and traffic calming projects in communities throughout the country. Congressman Mario Diaz-Balart is in a unique position to potentially assist the County through his service on the Transportation & Infrastructure Committee.

### Highway Safety Programs

Pedestrian and bicyclist safety remain priority areas for State and Community Highway Safety Grants funded by the federal Section 402 formula grant program. The State is eligible for these grants by submitting a Performance Plan (establishing goals and performance measures for improving highway safety) and a Highway Safety Plan (describing activities to achieve those goals).

Research, development, demonstrations, and training to improve highway safety (including bicycle and pedestrian safety) are carried out under the Highway Safety Research and Development (Section 403) Program.

### Safe Routes to School Program

The Safe Routes to Schools Program, which is included in the Federal Reauthorization bill – Safe, Accountable, Flexible, Efficient Transportation Equity Act for the 21<sup>st</sup> Century – A Legacy for Users (SAFETEA-LU), is designed to enable and encourage children to walk and bicycle to school, and to “facilitate the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools.” Safe Routes to School projects include on-street bicycle facilities,

off-street bicycle facilities, and secure bicycle parking facilities.

The funds are apportioned to each state based on their relative share of enrollment in primary and middle schools. Not less than 10% or more than 30% of the funds are for non-infrastructure related activities to encourage walking and bicycling to school. Not less than 70% or more than 90% are for infrastructure related projects that will substantially improve the ability to safely walk and bicycle to school.

In Florida, Safe Routes to School applications (a.k.a. Safe Paths to School) are reviewed by each of the Florida Department of Transportation districts. Official applicants for Safe Routes to School projects are entities such as school boards, but most projects also need a sponsor such as a City or County.

### Other Federal Sources

Land and Water Conservation Fund (LWCF) Grants - This Federal funding source was established in 1965 to provide "close-to-home" parks and recreation opportunities to residents throughout the United States. Money for the fund comes from the sale or lease of nonrenewable resources, primarily federal offshore oil and gas leases, and surplus federal land sales. LWCF grants can be used by communities to build a variety of parks and recreation facilities, including trails and greenways. LWCF funds are distributed by the National Park Service to the states annually. Communities must match LWCF grants with 50 percent of the local project costs through in-kind services or cash. All projects funded by LWCF grants must be used exclusively for recreation purposes, in perpetuity. Projects must be in accordance

with Florida's Comprehensive Outdoor Recreation Plan.

#### State of Florida Funding Resources:

Florida Department of Transportation - State Safety Grant Program - Bicyclist and pedestrian safety remains a priority for the Florida Department of Transportation. The safety funds can be used to conduct safety studies as well as the reconstruction of roadways to enhance bicyclists' and pedestrians' safety.

Florida Department of Environmental Protection's Greenways and Trails Acquisition Program - is a component of Florida Forever, the successor to Preservation 2000. The Greenways and Trails Acquisition Program receives 1.5 percent of the Florida Forever annual distribution. Communities can apply to the program to receive funding to acquire land for greenways and trails projects. The purpose of this program is to acquire land to help create a statewide system of greenways and trails. Municipalities, non-profit organizations, and individual citizens of the state of Florida are eligible to nominate acquisition projects to this program. It is funded by bonds backed by taxes (documentary stamps) on the transfer of real estate. <http://www.dep.state.fl.us/gwt/acq/>

Florida Department of Community Affairs's Florida Communities Trust (FCT) helps local governments implement their comprehensive plans through the acquisition of land, utilizing funds from the state's Preservation 2000 Act and Florida Forever Act. The Florida Communities Trust differs from other acquisition programs, focusing exclusively on locally selected acquisition projects. Each year, the program makes grants to local governments to help them buy coastal, conservation, recreation,

greenways, and open space land. Since few local governments have land-buying experience, Trust staff also provides technical assistance. They help cities put grant applications together and are part of the negotiation and acquisition team during the purchase process. The program can also reimburse local governments for past investments made in acquiring lands consistent with the program's goals. <http://www.floridacommunitydevelopment.org/ct/>

Florida Recreation Development and Assistance Program (FRDAP) - is a competitive program which provides grants for acquisition or development of land for public outdoor recreation use. The Florida Department of Environmental Protection (DEP) administers the program. The Bureau of Design and Recreation Services of DEP's Division of Recreation and Parks has direct responsibility for FRDAP. Funds from FRDAP may be used to acquire or develop land for public outdoor recreation or to construct or renovate recreational trails. Municipal governments may apply for FRDAP funds. FRDAP grant applications may be submitted during an announced submission period, usually early fall each year. The applicant is required to supply a match at certain funding levels. The local match requirement is based upon the total project cost.

<http://www.dep.state.fl.us/parks/bdrs/>

#### Private Funding Resources:

Bikes Belong Coalition - seeks to assist local organizations, agencies, and citizens in developing bicycle facilities projects that will be funded by SAFETEA-LU. Bikes Belong Coalition will accept applications for grants of up to \$10,000 each, and will consider successor grants for continuing projects. Funding decisions are made on a

rolling basis.  
<http://bikesbelong.org/site/page.cfm?PageID=21> (grant applications due quarterly)

The Conservation Fund's American Greenways Awards program - is a program started by the Conservation Fund. The Fund works with private companies such as DuPont and Kodak to provide funding for greenway development.  
<http://www.conservationfund.org/?article=2372>

National Tree Trust (NTT) - has grants available for tree seedlings through the Community Tree Planting program. This is a great way to beautify the community, replant a neglected area, or simply a good excuse to get out in the fresh air. Visit the website at [www.nationaltreetrust.org](http://www.nationaltreetrust.org) for more information about the Community Tree Planting program and to download an application. Seedlings are allocated on a first come, first served basis.

The Robert Wood Johnson Foundation - seeks to improve the health and health care of all Americans. One of the primary goals of the Foundation is to "promote healthy communities and lifestyles." Specifically, the Foundation has an "Active Living by Design" grant program that promotes the principles of active living, including non-motorized transportation. Multiple communities nationwide have received grants related to promotion of trails and other non-motorized facilities. The Robert Wood Johnson Foundation is online at [www.rwjf.org](http://www.rwjf.org) (proposals accepted year-round).

## Appendix A-5: Public Survey Summary

1. Do you support the creation of greenways in Collier County?	
	Response Count
	187
	answered question 187
	skipped question 3

- |   |  |
|---|--|
| <p>1. Yes</p> <p>2. Yes.</p> <p>3. Yes. I would really appreciate more bike friendly routes around the county and a trail would be a great contribution.</p> <p>4. Yes, but it should really connect all of Collier County, including downtown, the beaches, shopping at the mall.</p> <p>5. Yes, if it's actually for walking or biking. No, if it's for political convenience/p.r. of private developments like Ave Maria or the town of Big Cypress.</p> <p>6. Yes</p> <p>7. Absolutely.</p> <p>8. Yes</p> <p>9. absolutely</p> <p>10. Yes!!</p> <p>11. Definitely!</p> <p>12. 1000 percent, yes, one thousand</p> <p>13. Yes</p> <p>14. Yes</p> <p>15. Yes</p> <p>16. Yes</p> <p>17. Yes</p> <p>18. Yes</p> <p>19. Yes, especially close to our neighborhood, or in our neighborhood</p> <p>20. Yes</p> | <p>21. Yes</p> <p>22. Yes</p> <p>23. Yes</p> <p>24. Yes</p> <p>25. Yes</p> <p>26. Yes</p> <p>27. Yes</p> <p>28. Yes</p> <p>29. Yes</p> <p>30. Yes, we have a great need of safe walk &amp; bicycle paths along Immokalee Road, especially near the Corkcrew Sanctuary.</p> <p>31. Yes</p> <p>32. Yes</p> <p>33. Yes</p> <p>34. Yes</p> <p>35. Yes</p> <p>36. Yes</p> <p>37. Yes</p> <p>38. Yes</p> <p>39. Yes</p> <p>40. Yes</p> <p>41. Yes</p> <p>42. Yes</p> <p>43. Yes</p> <p>44. Yes</p> <p>45. yes</p> <p>46. Yes</p> <p>47. Yes</p> <p>48. Yes!</p> <p>49. yes</p> <p>50. Only if it is done sustainably.</p> <p>51. Yes. This is even more important now with the unrestrained surge in gas prices.</p> |
|---|--|

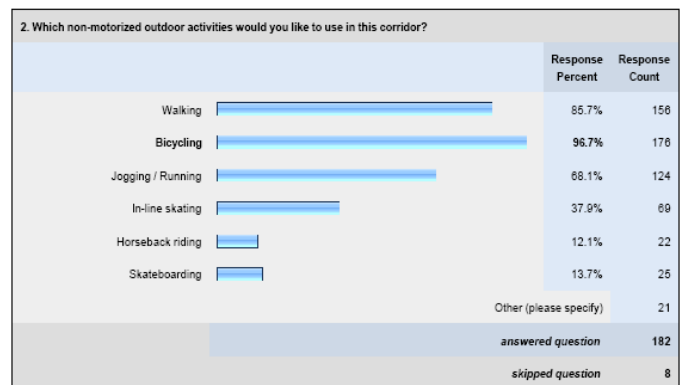
52. Yes.
53. yes
54. YES
55. Yes, definitely it is needed.
56. Yes
57. Fix this page, I can not exit.
58. No, this is too much expense for Collier County to incur at this time.
59. yes
60. possibly
61. Yes
62. YES!
63. Yes! Yes! Yes!....This sounds like North Naples! I agree with this, however what happened to the approved greenway trail between Rattlesnake & Radio in East Naples..It is hard to give support, then see the plan just fade away???? Please give me some feedback.
64. Yes.
65. YES!
66. Absolutely!!!!
67. Yes. Emphatically.
68. yes
69. Yes
70. Yes
71. yes
72. Yes!!
73. yes
74. Yes. My husband and I both would use the trail.
75. yes
76. YES.
77. yes
78. yes
79. Yes
80. Yes
81. Yes.
82. yes
83. yes
84. Yes, we need more safe greenways in Collier County for healthy recreation opportunities and alternative means of transportation.
85. Yes
86. yes
87. Yes
88. Most Definitely
89. YES
90. Yes - very much
91. As an avid bike rider and some time commuter by bike, I fully support the greenways project. As a bike shop management, I see so many benefits to cycling safely. Please consider Everglades Boulevard as possible pathway all the way to the Picayune Strand Forest.
92. yes
93. Yes, for many reasons: environmental, health, eco-tourism, recreational
94. ABSOLUTELY!
95. Yes. I think there is a great need for these greenways and a great idea.
96. Yes! Yes! Yes !!!
97. Yes, passionately. The best sport in the world.
98. Yes I do
99. Yes. I ride my bike throughout the County but we have no safe pathways from Naples to Immokalee or Naples to Marco Island or Marco Island to Everglades City. We would love to ride to other cities in our county.
100. Yes
101. Yes
102. Passionately

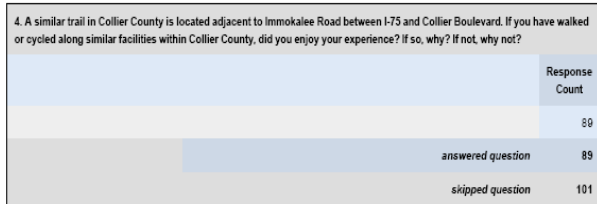
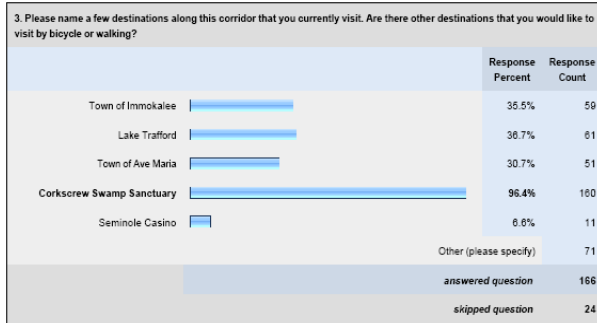
103. Yes we need this network and east/west route tot he City of Naples corridor.
104. Absolutely. Impressively important for safety reasons for workers and recreational riders who want to walk, ride + recreate with non-motorized venues. Families also looking for safe pathway to recreate. Rails-to-Trails options are well utilized.
105. I would prefer a trail that is not paved for running and horseback riding. Is it possible to have both paved and unpaved?
106. Yes. I believe it will greatly assist school district by providing students with a safe walk to school in some areas (they qualify for transportation over 2 miles) vs. riding a school bus depending on locations of future schools/communities.
107. It depends. What are the costs first of all? How much interest exists for such? Are they justified at this time of low tax revenue and budget crunches? I would not personally use such.
108. yes
109. Yes
110. yes
111. as a property owner I do
112. Yes
113. Yes
114. Yes, very much so. Southwest Florida is a beautiful place to live. Let's try our best to keep it that way now and for future generations...
115. YES
116. yes
117. yes
118. Yes, this would be wonderful.
119. Yes
120. Yes!
121. Most definitely
122. yes
123. Yes! We absolutely need greenways in our community!
124. yes
125. Yes!
126. YES!
127. Yes
128. yes
129. NO
130. Yes
131. yes
132. Yes
133. Yes
134. Yes
135. Yes.
136. Yes, very strongly!
137. YES
138. yes
139. It depends. I support them if it's not going to encroach on peoples land. I don't much care for the idea of people walking all hours of the night right up against our property, nor would most people.
140. Yes
141. Without a doubt!
142. I do support greenways. I am a regular cyclist and runner.
143. Yes
144. Yes! Especially linked to Lee County
145. YES
146. Yes
147. Yes
148. Yes. I would like safe bicycle access to Naples and all of Collier County. Paths must be separate and secure from vehicle traffic.

- 149. Most definitely
- 150. yes
- 151. Yes
- 152. yes
- 153. YES
- 154. yes
- 155. YES
- 156. no
- 157. Yes
- 158. Yes!!! Very very much
- 159. Yes
- 160. Yes, absolutely. Our beautiful County suffers from lack of past planning in this regard and as a result has fallen far behind others in this important amenity.
- 161. Yes, strongly
- 162. Yes
- 163. yes
- 164. Yes the entire county should be accessible by trails
- 165. yes
- 166. I think this is a fabulous idea and fully support it.
- 167. YES
- 168. Yes
- 169. Yes
- 170. No. We need roads to provide safe end efficient transportation for vehicular traffic. There are sufficient county parks with paved areas for the activities proposed for the greenways. Likewise, sidewalks and bike lanes on new roads would provide the same benefit as the greenways without requiring the purchase of additional land.
- 171. NO
- 172. Yes
- 173. NO! Not if the funds come from Transportation Dollars. This should be

funded with tourism dollars or funding should come from parks and rec.

- 174. Yes
- 175. Yes
- 176. Absolutely!
- 177. only w/ a surplus in the budget to pay for "non-essential" amenities.... which generate NO revenue
- 178. yes
- 179. I fully support the creation of greenways in Collier. As an avid walker, hiker and cyclist I am very enthusiastic regarding the possibility of a trail in Immokalee to Ft. Myers.
- 180. Yes. Last year we lived in Loveland, CO which has a 22 mile trail through the city. It was great for walking, riding, and socializing.
- 181. NO
- 182. Yes, This would be a great thing for the citizens to be able to get out exercise without have to deal with heavy auto traffic.
- 183. Yes
- 184. Yes
- 185. Yes, by all means!
- 186. yes - particularly if it is done as a partnership with land owners.
- 187. Yes





1. Yes – walked

2. I liked riding the trail but there are three problems with it currently. 1. The end of the trail near I-75 is hard to get to from the west, since Immokalee road lacks bicycle lanes, the sidewalks are not well suited for bicycles, and there is not crosswalk at Tarpon Bay Blvd, 2. At the east end of the trail at Rose blvd. there is no convenient way to cross Immokalee road to continue going east. 3. No part of the trail is shaded.

3. Bicycling this path is not the most 'fun' I've had. The pavement/concrete is separated in several spots, and it's quite bumpy. But it's better than nothing!

4. I didn't know it was there

5. I did not enjoy the experience in Immokalee. I prefer the dedicated bike lane on Immokalee from 951 east.

6. I have biked that trail many times, but since it does not connect with a biking friendly access, it is not very useful.

7. Immokalee Road Trail: No shade trees, only 4 uninterrupted miles of asphalt trails. Concrete sidewalks not traversable for running, biking, rollerblading as they are just that, Concrete.

Cracks, bumps, traffic interruptions are horrible. Asphalt trails on Vanderbilt Beach Road and 951 have been destroyed due to road expansion; concrete sidewalks are not acceptable replacements for activities other than walking. Collier Co is looking more and more like Dade Co with the lack of previous amenities.

8. Didn't know about it.

9. I have seen this trail but did not know it was all clear and open. I look forward to giving it a ride. I wish it were much longer.

10. Yes. Enjoyed the feeling of safety from traffic. Love the outdoors.

11. Yes

12. The biggest problem w/trails in Collier County is they don't connect which limits their use.

13. Bicycle use of sidewalks is dangerous and their abuse is so completely ignored by authorities.

14. I live close to Collier and Vanderbilt Beach Rd. Wish it were a bit easier to get to that path. The Collier & VB intersection is currently SO dangerous - even for cars.

15. No, most of the time trees and grass are over powering.

16. Have not tried it because it is too far from my home.

17. Yes.

18. N/A

19. didn't know it existed

20. Trails are not as long as we enjoyed in our home state of Iowa.

21. No....I haven't seen it....

22. no



- 23.** I have not used the trail. I am more likely to use a trail in the Corkscrew Island neighborhood where I work.
- 24.** Yes. It would be nice if there could be more separation from the roads but I understand this is often very difficult to achieve.
- 25.** Yes because of personal safety(not having to worry about motor vehicles)
- 26.** It is a pleasant walk, far enough from the road (I-75).
- 27.** yes, easy access for me
- 28.** Yes, ones separated from the road are most pleasant to use.
- 29.** It has been a good experience though somewhat diminished by the amount of traffic on Immokalee Rd.
- 30.** Yes, it was very pleasant.
- 31.** NA
- 32.** Yes
- 33.** I was almost killed this spring on Everglades Boulevard. Will not ride it again until road is bike friendly.
- 34.** Much more pleasant if part or all of the trail can go through natural sites rather than next to busy road
- 35.** I very much have enjoyed being off the road on a dedicated pathway like that on Immokalee Road from I-75 to Collier Boulevard.
- 36.** Too far away
- 37.** Yes because it was safe and smooth and connects developments with schools. Please make this trail happen.
- 38.** Not yet.
- 39.** Have not biked it yet
- 40.** I bicycled along the Immokalee Road greenway and Logan Boulevard and Oakes Boulevard when I commuted to work last week. Great to be safe, even at night.
- 41.** Somewhat enjoyable with too many crossings.
- 42.** Safe, smooth and connecting schools & residential developments. Also safe area for families with children to recreate safely.
- 43.** N/A
- 44.** no I have not yet
- 45.** N/A
- 46.** yes. any time I can bike somewhere safely, it's a pleasure
- 47.** Yes, it was a safe way to walk/jog/cycle along a busy roadway.
- 48.** The experience would be fine if they were safely connected. Some trails require the bicyclist to ride alongside traffic which is extremely dangerous.
- 49.** Yes, when the space is maintained attractively and safe from car traffic.
- 50.** yes - it put me out in nature, and kept clean.
- 51.** Where is this trail?!! Something similar I've done is biked Shark Valley. It's nice to have an area to bike/walk, etc. where you can enjoy the outdoors/scenery, and feel safe while doing it, not having to worry about being hit/killed by a vehicle.
- 52.** yes we need more alternatives to enjoy our area safely and get some exercise at the same time.
- 53.** Bicycles cause huge amount of damage to the land. Every state I have visited reports problems with recreational cyclists.
- 54.** Yes, it is wonderful!

**55.** I have biked this trail, and it is too short for any enjoyment, as well as dead end on both ends at a non-destination venue. Not much to look at except Immokalee Road, so the scenery is absent.

**56.** have not

**57.** You get very dirty from the road pollution - and it triggers my asthma attacks (set back from the road more would be better)

**58.** Yes. This trail could be improved significantly by connecting to the intersection of Immokalee Road & CR 951. Also a connection to the CR 951 trail would be a great improvement. It is a much more enjoyable experience to walk or ride with a nice separation from vehicles.

**59.** Yes, my wife and I have bicycled the new trail (and side walk) between I-75 and Rock Road several times. We like it because it connects us with so many locations via bikes.

**60.** YES, ENJOYED

**61.** No. There was no place to park and I wasn't confident that my car was safe. Still had to encounter traffic at road intersections. Trail needs to get away from roads. That is basically a really nice sidewalk.

**62.** I have not walked it

**63.** Too hard to safely get to the few trails that we have in Collier county. We need many more!

**64.** I have not used this trail because I do not live close to it and I would like a more extensive trail system to make it worth my trip.

**65.** did not know about it...would love to try it

**66.** Never been on this trail.

**67.** Yes, It is great. Nice to be away from the traffic so you don't have to worry about being run over.

**68.** yes, because we feel safe.

**69.** very much

**70.** YES . EASY TO USE , AWAY FROM THE ROAD( THE FURTHER AWAY THE BETTER), WELL MAINTAINED

**71.** I have used this pathway and found it an amazing change from the pathways that are nothing more then extended parts of the street. The shelter offered by a pathway of this nature allows you to truly enjoy the beauty of the ride... to get lost.. like a kid again

**72.** n/a

**73.** I use bike lanes (Vanderbilt Rd, Livingston, US41 occasionally) and have lots of biking experience so I am comfortable doing so, but I live part time in Colorado where separate bike paths are the norm. They are much more comfortable for the rider and don't invite auto/bike encounters.

**74.** I have used the Immokalee rd and Logan trails and enjoy using both of them it is great to be away from traffic

**75.** yes

**76.** Was not aware of the above mentioned trail. I have walked in Corkscrew Sanctuary and Seminole State Park.

**77.** IT'S FAR AWAY FROM ME. IT REQUIRES NO SPECIAL ATHLETIC GEAR TO WALK AROUND THE BLOCK.

**78.** I did not know there was such a trail

**79.** No Cannot safely access it from Star Grass Lane

**80.** I was unaware of its existence. Because I would need to drive to a "trail head" in order to use it, I wonder if you have any parking adjacent to it.

**81.** have not

82. No I have not tried these trails, but I plan to. I have only been living in Naples for 2.5 years and have much to see and do.

83. If this is the trail at Veterans I have not yet used. Otherwise I am unaware of this trail.

84. This would be a waste of my tax dollars

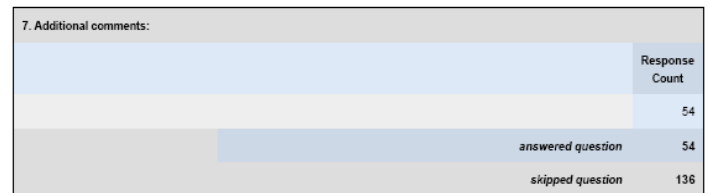
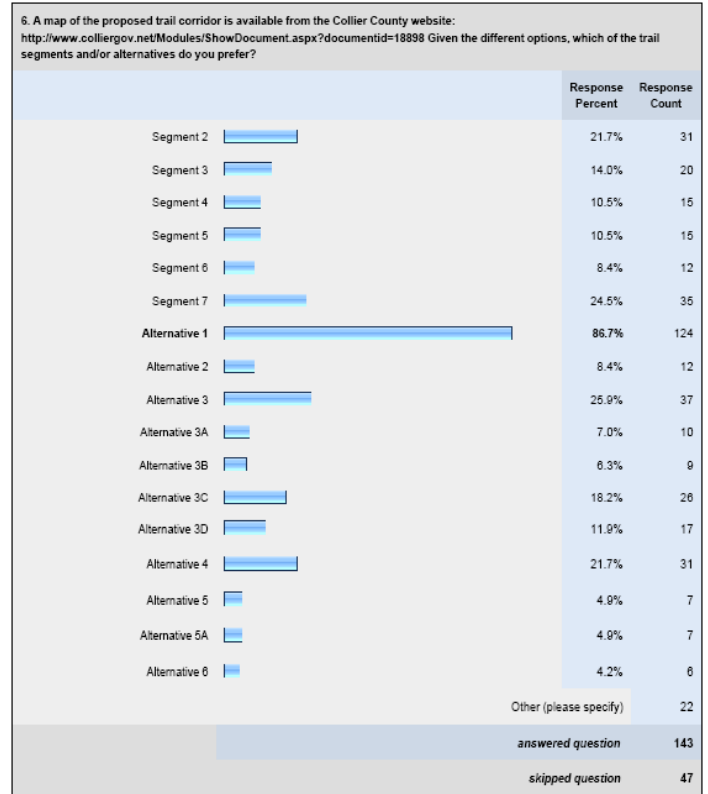
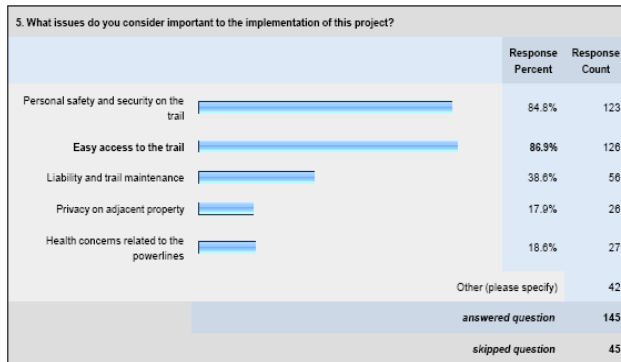
85. Did not know it was there.

86. Yes

87. Not yet....I did not know it existed!

88. In order for regular users (as opposed to long distance trail riders) the trail needs to have destinations at regular intervals. Additionally, there need to be multiple access points for residential users, or to access retail establishments. The current trail (mentioned above) has limited destinations, and is not integrated into the developments. Again, coordination/partnering with land owners and developers may result in a more meaningful experience.

89. Yes



1. I really support the expansion of the trail. That said, having a trail is most useful when it runs along road or routes where there is no bike lane, and when access to the trail is relatively easy. For example, I don't use the current trail along Immokalee as much as I might because it is hard to get to the trail from west of I-75 due to construction and lack of bike lanes on Immokalee road west of I-75.
2. Please replace asphalt trails destroyed by road expansion in N. Naples; Concrete sidewalks are not acceptable substitutes for biking, blading, wheelchair access etc.
3. I can't wait to try this out! When will it be ready? We have needed something like this for a very long time. I have been an avid cyclist here for many years.

4. Should come here first before Ave Maria
5. Collier County needs more projects like this and a master plan tying them together. Please don't "paint in" any more dangerous bike paths next to roads like US41.
6. Why not a trail that follows the Golden Gate canal? There is no where to bike/walk in the estates.
7. Whatever we can do in this type of recreation/transportation is just great! Supporting kayak routes is also a priority for me.
8. Do contact me, but I will leave my name. The county needs to maintain the outlying areas as much as they do around Naples and Marco.
9. Please give feedback on the greenway approved at least 2 years ago. ( Rattlesnake to Radio in the FPL easement) Why no action? Why not get it started as all the residents in the area were looking forward to? Thank You in advance for your response.
10. I'd prefer to ride along the easements than on Oil Well Rd.. I believe that the Alt. 1 route has more to offer (including route to Corkscrew Swamp) than the segment which places the bike route to Big Cypress and Ave Maria.
11. I'm just concerned about the wildlife and the amount of trees to be cut down for this project.
12. Keep it in natural areas as much as possible and away from roads and development.
13. We oppose putting the trail for public use through a religious community.
14. The Corkscrew Island neighborhood endures many impacts for the "greater good of Naples", including the ugly powerlines for FPL, the blasting from Jones Mining, many dump trucks hauling fill to Naples. Finally, there is a proposal for something good for the neighborhood. The neighborhood got the power lines, now give us the trail!
15. It seems important to provide a bike link between Immokalee Road and the Town of Big Cypress, Ave Maria and Immokalee. Also, it would be great to have the trail past the high school on Oil Well Road. Great Job !!!
16. This is Florida all of these a great start. Add Everglades all the way to the Picayune Strand to Immokalee Road.
17. Greenways are the obvious component of eco-tourism that we are missing. They also promote healthy activities for our youth as well as the rest of us. Many of our workers cannot afford cars let alone gas and they need a safe pathway to get to and from work. This sis a forward looking solution.
18. I think these particular segments would afford a great and pleasurable experience for those people who use these trails. I think it would be very popular. With the addition of 3C it would give the City of Immokalee good access to its use. A good investment for the health and well being of our citizens!!
19. Follow the FPL power line if possible!
20. Need more funding for bike paths and multi-use pathways. Need a traffic light that bicyclists could use. Riding a bicycle keeps one healthway.
21. Please follow the existing FPL powerline
22. Although I personally prefer to cycle/run away from roads (e.g. Alt 3) Immokalee deserves to have a multi-use trail. Corkscrew Island Neighborhood suffers impacts (from many mines (dump trucks) and the visual ugliness of FPL transmission lines. They deserve to finally get an amenity.
23. Improvements in east-west trail & corridor need to be provided.
24. Do not like Oil Well Road due to the fact entire road does not have continuous pathway. Offers confusion to recreationalists.
25. Suggest meeting with school board transportation and facilities department to

come up with a list of priorities in terms of walk zones or potential walk zones for students.

26. Are you really sure this is more important than enhanced sidewalks in the Town of Immokalee? There are no sidewalks to the clinic yet many people travel on foot pushing and carrying infants!
27. If trail goes beneath powerlines then use Alt 5 & Alt 6 if trail is NOT beneath powerlines, then use Segment 6 & Segment 7; Also a loop consisting of Alt. Seg 3d / Alt. Seg. 4/ Alt. Seg 5A/ Alt 5 / Seg 5; for Immokalee residents, this would be great
28. If Collier county is going to spend money on a project like this, they should ensure that it will serve the numerous bike riders that inhabit Immokalee and need safe access to paths.
29. I believe this trail should follow the FPL powerlines. ALT 1 travels near the Corkscrew Swamp Sanctuary and this is an excellent route to link-up with this environmental gem in our County.
30. Whatever Collier County can do to make bicycling safe (that is not running on the street in the path of vehicular traffic) would be appreciated in this time of increasing gasoline costs.
31. I would MUCH rather see money spent on greenways than on median landscaping!!!!
32. I would looooooooooooovvvvve to see this trail built!!!! Outdoor activities such as biking, etc. are good exercise, and can save me money by allowing me to ride my bike to the library, CSS, etc. instead of driving. The trail would also provide access for bird watching.
33. we need to make sure this benefits areas that show off our unique natural environments and not out of the way developments that are self motivated with their own agendas.
34. We have been paying our taxes for years, and years to the county. This is a fantastic opportunity for that tax money to benefit

our immediate neighborhood. Please don't give the project away to Ave Maria.

35. Build less roads and build more pathways and sidewalks.
36. I like all the proposed routes, the more bike trails the better (and safer).
37. I'd honestly rather see my tax dollars go to use finding someplace for people with ATV's to ride safely (and, no, I do not ride one myself) as opposed to through my back yard.
38. A future of high gas prices and health issues means we needed to develop recreational trails. Some trails may serve as transportation, but most will afford a low cost recreational experience that also improves personal health.
39. In the future, I would ultimately like to see all segments, lines on the map, for future preservation.
40. I would like to see a trail in the western part of Collier County.
41. All segments should be preserved eventually.
42. would LOVE TO SEE ALL SEGMENTS AND ALTERNATIVES BUILT THE MORE TRAILS THE BETTER FOR EVERYONE
43. Naples Pathways Coalition would ultimately like to see all segments, lines on the map, for future preservation.
44. The above are my minimum desires. More is better. Thanks for what you are doing!
45. It is important to me to have a connection from Bonita Springs Imperial River Trail to the SFWMD Corkscrew trails Other connections: Falka Union canal GG blvd to Immokalee rd with an underpass at 858 this would connect to Sabal Palm school Hogan Island road north into Peppers Ranch connecting to Lake Trafford rd
46. IN THIS ECONOMIC CLIMATE, THIS OR THESE PROPOSALS ARE FAR AFIELD OF THE NEEDS OF YOUR CONSTITUENTS, COMMISSIONER.

47. Why can't the county finish one project before moving on to another?
48. Good survey, but embedding the website link versus just the type would have been helpful. You could have had it open in a new window and warned people they would need Adobe Acrobat Reader to access it. I no longer walk or bike like I used to because there are few areas which are user friendly to get a safe work out. I am NOT a beach person. Too much traffic makes bicycling on any roadway dangerous even for an experienced rider. The side walks along the roadways are so close to the roadways with speeds of 45 MPH or more as to make a jog or powerwalk equally dangerous. My family does not live in a gated community. We don't want to live in a gated community, however, save for the suburbs of Tampa, everywhere else in Florida where I have lived have had some access for residents to more safely engage in bicycling, walking, running, etc. Glad you are looking into making this kind of activity available here. We don't need commercial/retail development in the Estates, we need some form of recreational access such as this trail!
49. Thank you for all your hard work and dedication to see such an exciting project completed. I applaud your efforts.
50. This needs to be stopped. There is no need to add trails that will need ongoing maintenance.
51. I did not give an opinion on the preferred route as I could see clearly on computer the options
52. Currently, the alt 3D is very dangerous. Going from New Market and crossing over Main to Westclox in a car is even dangerous sometimes.
53. This is a great step in the right direction! Keep up the good work!
54. Please do a more effective job of reaching out to major private land owners prior to solidifying any of your plans. Private land owners will most likely be willing to cooperate, if the County demonstrates they value the private land owner's input and opinions, and that the County will not turn this into another County mandate for land owners to pay for

## Appendix A-6: Draft Trail Easement

THIS TRAIL EASEMENT is made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2004 by and between \_\_\_\_\_ (hereinafter referred to as "Grantor"), and COLLIER COUNTY, a political subdivision of the State of Florida (hereinafter referred to as "Grantee"). Wherever used herein the terms "Grantor" and "Grantee" include all the parties to this instrument and their respective heirs, legal representatives, successors and assigns. Grantor is used for singular or plural, as the context requires.

### WITNESSETH:

Grantor, for and in consideration of TEN DOLLARS (\$10.00) and other valuable consideration paid by the Grantee, the receipt and sufficiency of which is hereby acknowledged, hereby conveys, grants, bargains and sells unto the Grantee, a perpetual, non-exclusive easement for the purpose of construction and maintenance of a public pedestrian and bicycling trail upon and across the following described lands located in Collier County, Florida, to wit:

See attached Exhibit "A" which is incorporated herein by reference.

Subject to easements, restrictions, and reservations of record.

The trail shall be constructed and maintained in conformance with generally accepted design standards, and may include paved and unpaved trail surfaces, at-grade shoulders, vegetative buffers (with irrigation), benches, and such improvements as necessary to comply with all lawful requirements, including the Americans with Disabilities Act. Grantor hereby declares and covenants that the general public shall have and be allowed regular access to the Trail Easement Area, for the purpose of walking, jogging, running, bicycling and like activities, but specifically excluding all motorized vehicles except as authorized by Grantee for maintenance, management, police and emergency purposes.

Grantee shall have the right to regulate public access to, and activities within, the Trail Easement Area, and shall further have the right to require Grantor to keep the Trail Easement Area free from obstructions which prevent reasonable public access to and along the Trail Easement Area, including but not limited to structures, fences and fallen trees.

The easement granted herein shall constitute an easement running with the land in perpetuity and shall burden the lands described above.

IN WITNESS WHEREOF, the Grantor has caused these presents to be executed the date and year first above written.

Signed, sealed and delivered in our presence as witnesses:     **Grantor(s)**

(1) \_\_\_\_\_  
Signature  
Printed/Typed Name: \_\_\_\_\_

\_\_\_\_\_  
Signature  
Printed/Typed Name: \_\_\_\_\_

(2) \_\_\_\_\_  
Signature  
Printed/Typed Name: \_\_\_\_\_

\_\_\_\_\_  
Signature  
Printed/Typed Name: \_\_\_\_\_

STATE OF FLORIDA COUNTY OF COLLIER

The foregoing Easement was acknowledged before me, the undersigned authority, on this day \_\_\_\_\_ of \_\_\_\_\_, 2004, by \_\_\_\_\_ who ( ) are personally known to me or ( ) produced \_\_\_\_\_ as identification.

Notary Public/State of Florida \_\_\_\_\_  
Name: \_\_\_\_\_ My Commission expires: \_\_\_\_\_

**Appendix A-7: FPL Use of Right-of-Way**

AGREEMENT BETWEEN COLLIER COUNTY FLORIDA AND  
FLORIDA POWER & LIGHT COMPANY  
FOR  
USE OF RIGHT-OF-WAY

**THIS AGREEMENT** is made this \_\_\_\_\_ day of \_\_\_\_\_, 2004 by and between, FLORIDA POWER & LIGHT COMPANY, a Florida corporation, whose mailing address is P.O. Box 14000, Juno Beach, Florida 33408-0420, Attn: Corporate Real Estate Department, hereinafter referred to as "COMPANY", and Collier County, a political subdivision of the State of Florida, whose mailing address is 3301 East Tamiami Trail, Naples, Florida 34112, hereinafter referred to as "COUNTY".

**WHEREAS**, this Agreement provides for the use by the COUNTY of certain LANDS within COMPANY's right-of-way as granted by those certain Agreements recorded in OR Book 193, Page 787, OR Book 194, Page 389, OR Book 194, Page 386, OR Book 194, Page 383, Or Book 513, Page 583, and OR Book 1360, Pages 166-168 of the Public Records of Collier County, Florida, which right-of-way is more particularly described in Exhibit "A" attached hereto; and

**WHEREAS**, the use of the LANDS by COUNTY, shall be solely for the purpose of creating a public trail as set forth in the plans and specifications submitted by COUNTY, attached hereto and incorporated herein as Exhibit "B"; and

**NOW, THEREFORE**, in consideration for COMPANY's consent and for the other mutual covenants set forth below, and for Ten Dollars and No Cents (\$10.00) and other good and valuable consideration, the receipt and adequacy of which is hereby acknowledged, the parties hereto agree as follows:

Section 1        COMPANY hereby consents to the use of the LAND for the purposes set forth in Exhibit "B". COUNTY agrees to obtain all necessary permission from the owner(s) of the LANDS to utilize such LANDS in the event that COMPANY does not own said LANDS; to obtain any and all applicable federal, state, and local permits required in connection with COUNTY's use of the LANDS; and at all times, to comply with all requirements of federal, state, and local laws, ordinances, rules and regulations applicable or pertaining to the use of the LANDS by COUNTY pursuant to this Agreement.

Section 2.        COUNTY understands and agrees that the use of the LANDS pursuant to this Agreement is subordinate to the rights and interest of COMPANY in and to the LANDS and agrees to notify its employee's agents, and contractors accordingly. COMPANY specifically reserves the right to maintain its facilities located on the LANDS; to make improvements, and additional facilities; maintain, construct or alter roads; maintain any facilities, devices, or improvements on the LANDS which aid in or are necessary to COMPANY's business or operations; and the right to enter upon the LANDS at all times for such purposes. COUNTY understands that in the exercise of such rights and interest, COMPANY from time-to-time may require COUNTY, to relocate, alter, or remove its facilities and equipment, including parking spaces and areas, and other improvements made by COUNTY, pursuant to this Agreement which interfere with or prevent COMPANY, in its opinion, from properly and safely constructing, improving, and maintaining its facilities. COUNTY agrees to relocate, alter or remove said facilities, equipment, parking spaces and areas, and other improvements within forty-five (45) days of receiving notice from COMPANY to do so. Such relocation, alteration, or removal will be made at the sole cost and expense of COUNTY and at no cost and expense to COMPANY; provided however, should COUNTY, for any reason, fail to make such



relocation, alteration, or removal of COUNTY's facilities, equipment, parking spaces and areas, and other improvements and COUNTY hereby agrees to reimburse COMPANY for all of its costs and expenses incurred in connection there within a timely manner.

- Section 3. COUNTY agrees that it shall not use the LANDS in any manner which, in the opinion of COMPANY, may tend to interfere with COMPANY's use of the LANDS or may tend to cause a hazardous condition to exist. COUNTY agrees that no hazardous substance, as the term is defined in Section 101 (14) of the Comprehensive Environmental Response Compensation and Liability Act ("CERCLA") (42 USC Section 9601 [14]), petroleum products, liquids or flammables shall be placed by COUNTY on, under, transported across, or stored on the LANDS, which restricts, impairs, interferes with, or hinders the use of the LANDS by COMPANY or the exercise by COMPANY of any of its rights thereto. COUNTY agrees further that in the event it should create a hazardous condition, then upon notification by COMPANY, COUNTY shall, within seventy-two (72) hours, at its sole cost and expense, correct such condition or situation; provided however that the COMPANY retains the right to enter upon the LANDS and correct any such condition or situation at any time and, by its execution hereof, COUNTY hereby agrees, to the extent permitted by law, to indemnify and hold harmless COMPANY from all loss, damage or injury resulting from COUNTY's failure to comply with the provisions of this Agreement
- Section 4. COUNTY hereby agrees and covenants to prohibit its agents, employees, and contractors from using any tools, equipment, or machinery on the LANDS capable of extending greater than fourteen (14) feet above existing grade and further agrees that no dynamite or other explosives shall be used within the LANDS and that no alteration of the existing terrain, including the use of the LANDS by COUNTY as provided herein, shall be made which will result in preventing COMPANY access to its facilities located within said LANDS. To the extent reasonably feasible, and as set forth in Exhibit "B," COUNTY agrees to maintain a twenty (20) foot wide setback, ten (10) feet on each side, from COMPANY's facilities.
- Section 5. Trees, shrubs, and other foliage planted or to be placed upon the LANDS by COUNTY are not to exceed a height of fourteen (14) feet above existing grade.
- Section 6. Outdoor lighting installed or to be installed upon the LANDS by COUNTY are not to exceed a height of fourteen (14) feet above existing grade and all poles or standards supporting light fixtures are to be of a non-metallic material.
- Section 7. Sprinkler systems installed or to be installed by COUNTY upon the LANDS are to be constructed of a non-metallic material and sprinkler heads are to be set so that the spray height does not exceed fourteen (14) feet above existing grade and does not make contact with any COMPANY's facilities. Above ground systems shall not be installed by COUNTY within or across COMPANY patrol or finger roads and any underground systems installed by the COUNTY crossing said patrol and finger roads shall be buried at a maximum depth of one (1) foot below existing grade.
- Section 8. COUNTY agrees to warn its employees, agents and contractors and invitees of the fact that the electrical facilities and appurtenances installed or to be installed by COMPANY within the LANDS are of high voltage electricity and agrees to use all safety and precautionary measures when working under or near COMPANY's facilities.

- Section 9. COUNTY is aware that COMPANY has buried fiber optic cable within the LANDS and agrees to contact Mr. Jerry Penny at (904) 947-6105, representative for COMPANY; prior to any construction within the LANDS so that COMPANY may install fiber markers and down guy guards to protect its facilities. (This paragraph can only be removed upon confirmation that FPL has no existing Fiber Optic facilities in this area of the right-of-way.)
- Section 9. COUNTY agrees, at all times, to maintain and keep the LANDS clean and free of debris. Except as provided herein, COUNTY further understands and agrees that certain uses of the LANDS are specifically prohibited; such uses include but are not limited to recreational purposes within fifteen (15') feet of COMPANY's facilities (This verbiage can be removed if approved by FPL's Transmission Operations Dept. upon review of specific detailed plans.), hunting and camping, and COUNTY agrees to notify its employee's agents, contractors, and invitees accordingly.
- Section 10. The use of the LANDS by COUNTY shall be at the sole risk and expense of COUNTY, and COMPANY is specifically relieved of any responsibility for damage or loss to COUNTY or other persons resulting from COMPANY's use of the LANDS for its purposes.
- Section 11. Notwithstanding any provisions contained herein, COUNTY agrees to reimburse COMPANY for all costs and expenses for any damage to COMPANY's facilities resulting from COUNTY's use of the LANDS and agrees that if, in the opinion of COMPANY, it becomes necessary as a result of COUNTY's use of the LANDS for COMPANY to relocate, rearrange or change any of its facilities, to timely reimburse COMPANY for all costs and expenses involved with such relocation, rearrangement or change.
- Section 12. COUNTY agrees it shall exercise its privileges hereunder at its own sole risk and agrees, to the extent permitted by law, to indemnify and save harmless COMPANY, its parent, subsidiaries, affiliates, and their respective officers, directors, agents and employees, from all liability, loss, cost, and expense, including attorneys' fees, which may be sustained by COMPANY to any person, natural or artificial, by reason of the death of or injury to any person or damage to any property, occasioned wholly or in part to the negligence of COUNTY arising out of or in connection with the herein described purposes by COUNTY, its contractors, agents, or employees; and COUNTY agrees to defend at its sole cost and expense and at no cost and expense to COMPANY any and all suits or action instituted against COMPANY, for the imposition of such liability, loss, cost and expense.
- Section 13. COUNTY shall, during the period of this Agreement, maintain at its sole expense a liability policy with minimum limits of \$1,000,000 for bodily injury or death of person(s) and \$1,000,000 for property damage arising out of a single occurrence. Said policy shall be endorsed to insure against obligations assumed by COUNTY in the indemnity (Paragraph 11). A certificate of insurance shall be furnished to COMPANY evidencing that said policy of insurance is in force and will not be cancelled or materially changed so as to affect the interest of FPL Entities until ten (10) days written notice has been furnished to COMPANY. Upon request, copies of policies will be furnished to COMPANY. COUNTY understands and agrees that the use of the LANDS for the purposes described herein is expressly contingent upon acceptance and compliance with the provisions contained herein.



Print Name: \_\_\_\_\_

Print Name: \_\_\_\_\_

Title: \_\_\_\_\_

\_\_\_\_\_  
Print Name: \_\_\_\_\_

Approved as to form and legal sufficiency:

By: \_\_\_\_\_

**Jeffry A. Clatzkow**  
**Assistant County Attorney**

## Appendix A-8: Florida Law Overview for Trail Liability

Andrea C. Ferster  
LAW OFFICES  
2121 Ward Court, N.W., 5<sup>th</sup> Fl.  
WASHINGTON, D.C. 20037  
TEL.(202) 974-5142 FAX (202) 331-9680

### Memorandum

**TO:** Jeff Ciabotti and Ken Bryan

**FROM:** Andrea C. Ferster, RTC General Counsel  
Itohan Omoregie, law clerk

**RE:** Florida Law as it Pertains to Trails Within Utility Corridors

---

The purpose of this memo is to provide a general overview of Florida law as it pertains to trail use of utility corridors.

#### I. State Law Affecting Ownership of Utility Corridors

##### A. Shifting Public Use

Florida does not have any clear statutory or case law indicating whether it is permissible to use a utility easement for a recreational trail. Ordinarily the plain language used in a conveyance will determine the scope of the interest granted. See Akers v. Canas, 601 So.2d 305, 306 (Fla. Dist. Ct. App. 1992). However, if the language used is ambiguous a court must look at the surrounding circumstances in order to ascertain the intent of the parties. See Robinson v. Feltus, 68 So.2d 815, 816 (Fla. 1953). See also Hillsborough County v. Kortum, 585 So.2d 1029, 1991 Fla. App. LEXIS 8199, at \*1, \* 5 (Fla. Dist. Ct. App. 1991), petition for review denied, 1992 Fla. LEXIS 124.

Florida case and statutory law appears more favorable to allowing easements acquired for other purposes such as a railroad or public road to also be used concurrently as power utility corridors, than allowing easements acquired for power utility purposes to be used for other purposes. In Davis v. MCI Telecommunications Corp., 606 So.2d 734, (Fla. Dist. Ct. App. 1992), the court held that a fiber optic telecommunications cable could be buried along a railroad right-of-way, without the consent of the underlying fee owners. Davis v. MCI Telecommunications Corp., 606 So.2d at 739. The court held that telephone and telegraph companies had a statutory right “to acquire from the railroad alone the right to place communication lines, whether above or below ground, along the railroad within the easement or right-of-way being used and maintained by the railroad.” Id.

In Nerbonne v. Florida Power Corp., 692 So.2d 928 (Fla. Dist. Ct. App. 1997), the court held that allowing a power line to be erected over a right of way granted to Orange County did not exceed the scope of an easement acquired for “public road purposes,” even though the court agreed that the plaintiff’s “position ha[d] the force of common sense and plain meaning.” Nerbonne v. Florida Power Corp., 692 So.2d at 928. The plaintiff argued that the language used in the conveyance showed that the easement was to be used for a public road only. Id. The court noted that although the issue had not been

directly decided in Florida, other jurisdictions had held that a power line running over a public highway did not create an additional burden. Id. at 928. The court went on to hold that public utilities were included in the original grant for public road purposes since the parties could have excluded public utilities from the original grant and the conveyance was silent on the issue. Id. at 930.

In Florida Power Corp. v. Silver Lake Homeowners Association, 727 So.2d 1149, 1149 (Fla. Dist. Ct. App. 1999), the appellate court reversed a lower court decision finding that Florida Power Corporation (“FPC”) had exceeded the scope of its easement for a power transmission and distribution line by replacing wooden H-frame support structures with steel monopole support structures. The terms of the easement gave FPC the right to maintain an H-frame line in connection with its easement. Id. at 1149. The appellate court found that the terms of the easement gave FPC “the right to alter, improve, repair and rebuild, as well as the right to increase or decrease the number of wires and voltage,” and therefore the replacement of the wooden H-frame structure was consistent with the terms of the original easement. Id. at 1150-51.

Nerbonne v. Florida Power Corp. suggests that in certain cases Florida courts may come up with a broad interpretation of the scope on easement. However, the court specifically noted that the additional utility use of the public road did not increase the burden on the servient estate. Nerbonne v. Florida Power Corp., 692 So.2d at 928. In Crutchfield v. F.A. Sebring Realty Co., 69 So.2d 328, 330 (Fla. 1954), the Florida Supreme Court held “that the burden of a right-of-way upon the servient estate must not be increased to any greater extent than reasonably necessary and contemplated at the time of initial acquisition.” As a result, it is possible that Florida courts may hold the recreational trail use increases that burden place on the servient estate for easements acquired for electric transmission and distribution, particularly in cases where the underlying fee owner was able to use the underlying fee estate in a way that did not interfere with the electric company easements. In Nerbonne v. Florida Power Corp., it is unlikely that the power line over the public highway interfered with use of the easement by the underlying fee owner. Where trail use interferes with the servient owner’s use of the underlying fee, and where the grantor of the utility easement specifically reserves the right of the grantor to use the underlying fee estate, the reservation language could be viewed as an explicit prohibition on additional uses of the easement, such as recreational trails that will interfere with use by the underlying fee owners.

Florida Greenways and Trails Act (the “Act”), Fla. Stat. Ann. §§ 260.011-260.018 “provide[s] the means and procedures for establishing and expanding a statewide system of greenways and trails.” Fla. Stat. Ann. § 260.012(1). While the Act mentions the legislative intent to encourage “the multiple use of public rights-of-way,” the Act does not specifically address the scope of utility easements. Id. at § 260.012(2). The Act also provides that “[n]o lands or waterways may be designated as a part of the statewide system of greenways and trails without the specific written consent of the landowner.” Id. at § 260.014. Therefore, the courts are unlikely to rely on this law as support for a broader interpretation of a utility easement as including trail use where trail use will interfere with the grantor’s use of the servient estate, and the language of the easement indicates that the grantor intended only to permit uses by the easement holder that did not additional burden the servient estate.

## B. Abandonment

“Abandonment is a question of intent.” Dade County v. City of North Miami Beach, 69 So.2d 780, 783 (Fla. 1953). Although nonuse may be used as evidence of abandonment, nonuse by itself does not necessarily constitute abandonment. Id. at 782-83. However, a conveyance may provide for the termination of an easement if the use for which it was granted ceases. See Florida Power Corp. v. Lynn, 594 So.2d 789, 792-93 (Fla. Dist. Ct. App. 1992) (holding that an easement did not terminate when the purpose for which it was original granted ceased temporarily while plans for future use where being considered).

In Florida Power Corp. v. Lynn, the trial court found that Florida Power Corporation (“FPC”) had lost easements acquired “for the transmission and distribution of electricity” through nonuse “for their intended purposes.” Florida Power Corp. v. Lynn 594 So.2d at 790, 791. The terms of the conveyance stated that FPC retained the easement while it was being used or until abandoned. Id. at 791. The appellate court found that the since the terms of the conveyance gave FPC the right to “rebuild or remove” its lines, FPC could temporarily deactivate its line while it worked on plans for future use. Id. at 792. Even though the line was deactivated for six years, FPC “continued to maintain, patrol and inspect the easements and tower located along [the underlying fee owners] lands in anticipation that it could utilize those easements for a new transmission line with increased voltage” after deactivating the line. Id. at 792.

### C. Marketable Title

“The purpose of [Fla. Stat. §§ 712.01-712.10], the Marketable Title Act, is to render marketable any estate in land recorded for thirty years or more and to make same free and clear of any interest arising from a title transaction, act, event or omission which occurred prior to the effective date of the root of title.” Whaley v. Wotring, 225 So.2d 177, 1969 Fla. App. LEXIS 5407, at \*1, \*12 (Fla. Dist. Ct. App. July 10, 1969). “‘Root of title’ is defined as the *last* title transaction recorded at least thirty years.” Id. at \*12 (emphasis in original). “‘Title transaction’ means any recorded instrument or court proceeding which affects title to any estate or interest in land and which describes the land sufficiently to identify its location and terms.” Fla. Stat. § 712.01(3). Section 712.03 contains exceptions to marketability. Id. at § 712.03. Easements, including public utilities are excepted from marketability as long as they are in use. Id. at 712.03(5).

Under Florida law, “[r]eversion clauses providing for the termination of an interest in real property upon discontinuance of the use of such property for specified purposes are not favored in law and will be strictly construed against the grantor.” Florida Power Corp. v. Lynn, 594 So.2d 789, 792 (Fla. Dist. Ct. App. 1992).

## II. State Law Affecting Liability of Trail Managers

Under the common law of most states, the liability of owners and occupiers of land is defined by the extent to which one person owes a “duty of care” to the person who sustained an injury. Trail managers, as a particular class of landowners, receive special protection from liability by state-enacted Recreational Use Statutes (RUS). Recreational Use Statutes, which are in effect in some form in all 50 states, alter common law tort principles regarding landowner liability to invitees, licensees, and trespassers by narrowing or obviating the owner's duty of care toward recreational users. Instead, RUS’s limit the liability of certain landowners who allow the public free use of their land for recreational purposes.

Fla. Stat. Ann. § 375.251 limits the liability of landowners who make their land available to the public for outdoor recreational purposes. The statute also limits liability for landowners who lease their land to the state for outdoor recreational use. Id. at § 375.251(3). Under the statute, such landowners and lessees owe no duty of care to keep the area “safe for entry or use by others, or to give warnings to persons entering or going on that park area or land of any hazardous conditions, structures, or activities thereon.” Id. at § 375.251(2)(a). Liability is also limited for injuries “to persons or property caused by the act or omission of a person who goes on that park area or land.” Id. at § 375.251(2)(a)(3). The statute applies as long as the public is allowed to use the property for an outdoor recreational purpose free of charge. Id. at § 375.251 (2)(b). The statute does not limit liability for “deliberate, willful or malicious injury to persons or property.” Id. at § 375.251(4).

Section 260.0125 of the Florida Greenways and Trails Act limits liability for private landowner whose property is designated as part of a statewide system of greenways and trails. Fla. Stat. Ann. § 260.0125. The provision in § 260.0125 are similar to those in Fla. Stat. Ann. § 375.251. There is also a provision for indemnification of private landowners under § 260.125(6) if the landowner and the Department of Environmental Protection agreed to such a provision. Fla. Stat. Ann. § 260.125(6). Liability is not limited for “willful, or malicious injury to persons or property.” Id. at § 260.125(7). Under § 260.125(2) a “private landowner who consents to designation of his or her land as part of the statewide system of greenways and trails pursuant to s. 260.016(2)(d) without compensation . . . shall be covered by state liability protection pursuant to s. 768.28, including s. 768.28(9).” Id. at § 260.0125(2).



## **Appendix A-9: Florida Law Overview for Trail Liability**

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2121 Ward Court, N.W., 5<sup>th</sup> Fl.  
WASHINGTON, D.C. 20037  
TEL.(202) 974-5142 FAX (202) 331-9680

### **Memorandum**

**TO:** Jeff Ciabotti and Ken Bryan

**FROM:** Andrea C. Ferster, RTC General Counsel  
Itohan Omoregie, law clerk

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