



March 19, 2018

AGENDA ITEM 5 D

WAKULLA ENVIRONMENTAL INSTITUTE (WEI) TRAIL FEASIBILITY STUDY

TYPE OF ITEM: Action

STATEMENT OF ISSUE

The Wakulla Environmental Institute (WEI) Trail is one of several trails (proposed) that will link to the Coastal Trail (US 98) in Wakulla County (currently under construction). Since August of 2018 Kimley-Horn and Associates (KHA), under the General Planning Consultant (GPC) contract, evaluated several options to link the Coastal Trail to the WEI. CRTPA staff is seeking acceptance of the options and the report that will be presented by KHA.

RECOMMENDED ACTION

Option 1: Accept the Wakulla Environmental Institute (WEI) Trail Feasibility Study

HISTORY AND ANALYSIS

As the Coastal Trail projects continue to move forward, CRTPA staff initiated some smaller efforts that will link facilities to the Capital City to the Sea/Coastal Trail.

Wakulla Environmental Institute (WEI) Trail (Crawfordville Road to Coastal Trail)

A portion (.75 miles) of this trail was constructed (US 319 – Crawfordville Road to the WEI) when the WEI was built. However, a connection to the Coastal Trail would further WEI efforts of environmental conservancy, sustainability, and education.

The Wakulla Environmental Institute (WEI) Trail Feasibility Report, shown as **Attachment 1**, details the project activities, including the development of alternatives for Board consideration. However, for this trail project to move forward there are several steps needing to occur that are out of the purview of CRTPA staff and revolve around the development of an adjacent property.

When, and if, this property is developed obviously relies on the developer and Wakulla County. Therefore, any recommendation by CRTPA staff will be based upon the results of this effort.

NEXT STEPS

Waiting. CRTPA staff can provide better direction once the development process of the property adjacent to the WEI is completed. However, staff will continue to follow that effort to ensure that once a decision is made the item will be addressed.

OPTIONS

Option 1: Accept the Wakulla Environmental Institute (WEI) Trail Feasibility Study
(Recommended)

Option 2: Provide other direction.

ATTACHMENT

Attachment 1: Wakulla Environmental Institute (WEI) Trail Feasibility Study



WAKULLA ENVIRONMENTAL INSTITUTE (WEI) TRAIL FEASIBILITY STUDY

JANUARY 24, 2018

Prepared for:



Prepared by

Kimley»Horn



WAKULLA ENVIRONMENTAL INSTITUTE (WEI) TRAIL FEASIBILITY STUDY

Introduction



The Capital Region Transportation Planning Agency (CRTPA) is completing a trail feasibility study to connect the Wakulla Environmental Institute (WEI) to the Coastal Trail along U.S. 98 which is currently being constructed. The Coastal Trail is a shared-use path along U.S. 98 which will connect the existing Tallahassee-St. Marks Historic Railroad State Trail to the existing Ochlockonee Bay Trail in Panacea. This connection will create over 50 miles of shared-use paths between Leon County and Wakulla County.

The WEI is a branch of Tallahassee Community College (TCC) which focuses on environmental conservancy, sustainability, and education which is located in Wakulla County near U.S. 98. By developing a connection from the WEI to the Coastal Trail, opportunities for safe transportation to the institute in addition to recreational opportunities such as ecotourism, 5k, running events, and field trips will become a reality.

Photo 1: Coastal Trail Currently in Construction

This feasibility analysis is being conducted to identify the route that will be cost effective while maximizing the connection to educational services at the WEI from the Coastal Trail. The overall goal of this analysis will be to increase connections between the schools, neighborhoods, recreational areas, and the WEI with limited use of the roadways.



Photo 2: Wakulla Environmental Institute

The Importance the Regional Trail Network

The creation of this regional trail system presents the opportunity for significant economic and recreation benefits to both residents and visitors in the CRTPA Region. This regional trail network will draw visitors from around the country and even internationally to experience the natural and aesthetic beauty of the area. An increase in trail users will promote a positive economic impact to the area through increased visitation and tourism.

Tourism created by trails and other passive recreation resources (parks, conservation areas, etc.) will also draw visitors to nearby hotels and local businesses, while having little negative impact on the community. Typically, passive recreation tourists travel to experience the natural and aesthetic beauty of the trail systems and will likely strive to leave the local environment unimpacted. By connecting the WEI to this trail network, additional educational opportunities with the local schools and businesses will become a reality. **Figure 1** depicts the regional trail connectivity around the WEI.

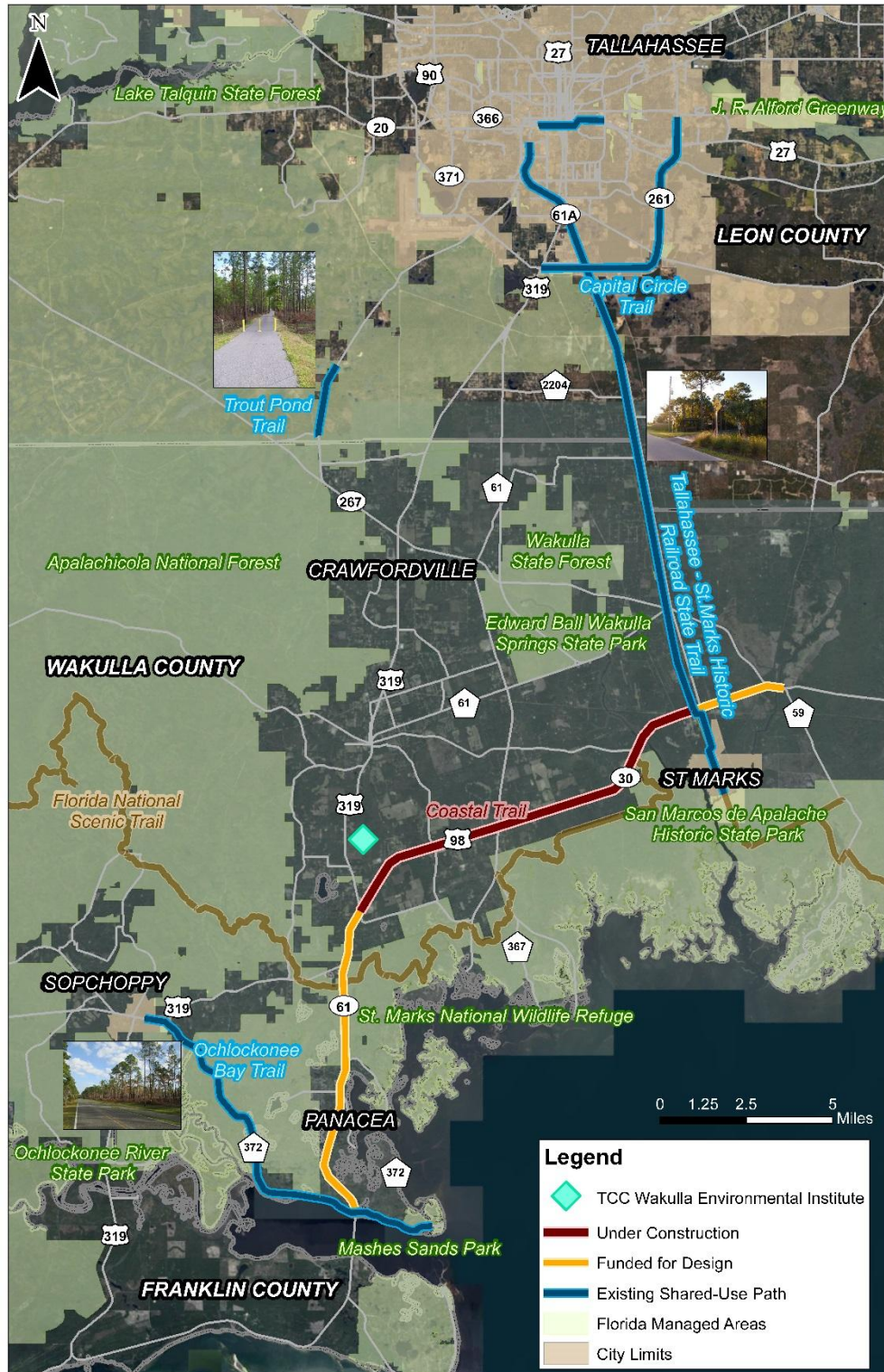


Figure 1: Regional Trail Network

Existing Conditions

Wakulla Environmental Institute

Representatives from WEI were a major stakeholder in the development of the Capital City to Sea Trail Master Plan (Adopted in 2013) and has continued to support the regional trail system. Prior to the completion of their first facility at WEI, they committed early in the planning stages to serve as a major trailhead to the growing trail network in Wakulla County. As construction on the WEI facility began in 2015, trail head amenities including bathrooms, a shared use path, water fountains, and bicycle parking were included. The main entrance road was even constructed with a shared use path that connects to U.S. 319

In addition to its current educational services, the WEI is planning the creation of a conference center with the intent of bringing visitors from around the world. Having a direct connection to the regional trail system will allow visitors to the WEI to explore the area and may generate new economic development in Wakulla County.



Photo 3: Shared use path along the WEI entrance road connects to U.S. 319

U.S. 319 Widening

U.S. 319 is currently under design for expansion to a 4-lane highway with 5-foot bike lanes/shoulders on both sides. With the planned expansion and bike facilities along U.S. 319, improved connectivity can be achieved between Crawfordville and WEI.

Trail Alternatives

Three trail alternatives (A, B, and C) have been identified as potential connections between the Wakulla Environmental Institute (WEI) and the U.S. 98 Coastal Trail. Each of the proposed alternatives will require the acquisition of right of way or easements to utilize small portions of public and private property. All three trail alternatives will begin at the trailhead facility on the eastern side of the WEI complex. The existing conditions and the three trail alternatives are described below and depicted within **Figures 1, 2, 3, and 4**.

General Conditions and Considerations

Land Use

Each of the trail alternatives will traverse the following three land use types:

- Agriculture
- Public
- Rural 1

Neither of the three alternatives are anticipated to negatively affect the land uses or the character of the area. The trail alternatives will provide increased access between two major public land uses in the area (Recreation Park and Wakulla Middle School Medart). Increased access to education and recreation facilities may greatly improve the safety and cohesion of the neighborhoods in the area. **Figure 2** depicts the three alternatives and the surrounding land uses.

Environmental

Much of the area surrounding the WEI has remained natural with light residential development and two public areas nearby (Medart Recreation Park and the Wakulla Middle School). The natural features of this

area create favorable conditions for a trail with the potential for much of the trail to remain under tree canopy.

The alternatives are within the Red Cockaded Woodpecker Consultation Area, meaning extra precaution will be necessary to ensure this species is not negatively impacted once design and construction begins. To the extent feasible, impacts to mature pine forests, including longleaf pines and southern pines will be avoided to reduce the potential for negative impact to these species. Additional analysis will be necessary to identify the potential impact to additional species in the area based on the chosen alternative. **Figure 3** depicts the three alternatives and the known species locations and consultation areas.

Flood Zone and Wetlands

Each of the proposed alternatives is primarily located within Flood Zone X, indicating a moderate flood hazard area susceptible to a 500-year flood event. Alternatives A and B may reach Flood Zone A at the connection with the Coastal Trail on Wildwood drive. The shared lane use markings from alternatives A and B will remain on the existing roadway and are not anticipated to have any effect on the flood zone.

National Wetlands Inventory (NWI) data was used to identify known wetlands in the project area. There are very few wetlands present nearby to Alternatives A and B but Alternative C will likely bisect an identified wetland that surrounds Sonja Lynn St. In this location, the proposed trail will remain on the existing roadway as shared lane use markings, so impacts to wetlands are not anticipated. A wetland evaluation will be conducted during the environmental phase of design. **Figure 4** depicts the three routes, flood zones, and the locations of known wetlands in the area.

Wakulla Environmental Institute Trail Feasibility Study: Land Use

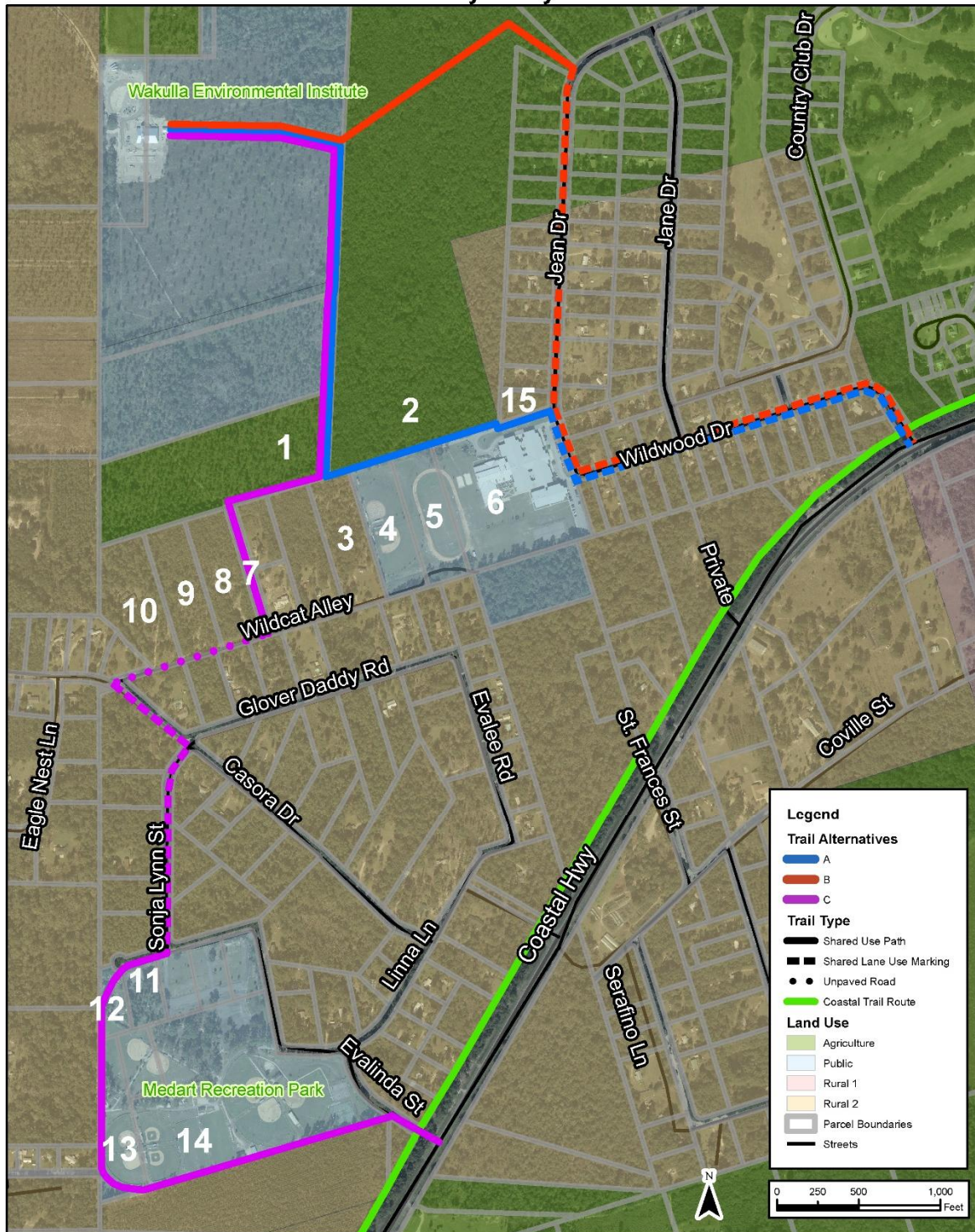


Figure 2: Land Use

Wakulla Environmental Institute
Trail Feasibility Study: Listed Species

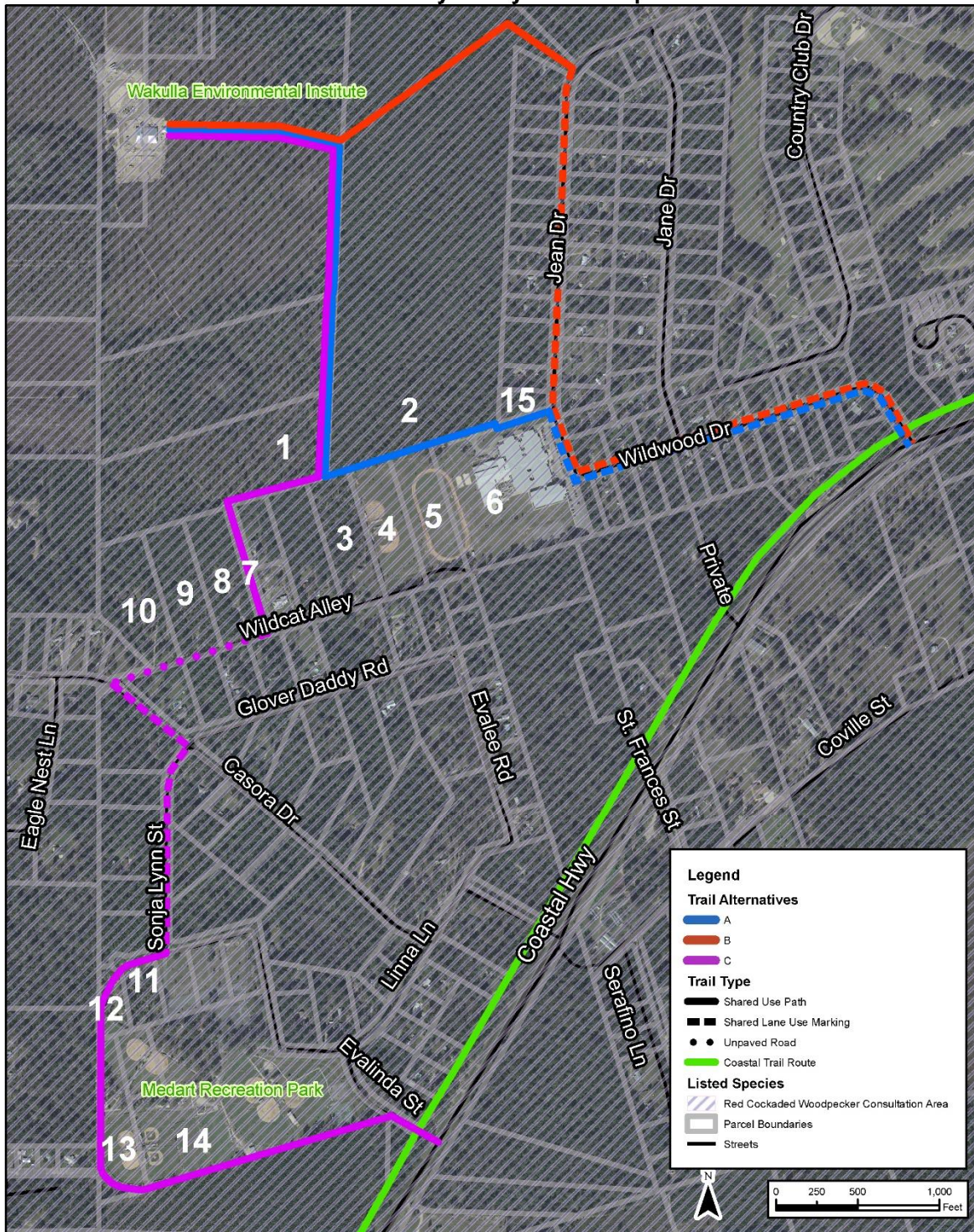


Figure 3: Listed Species

Wakulla Environmental Institute
Trail Feasibility Study: Flood Zone and Wetlands

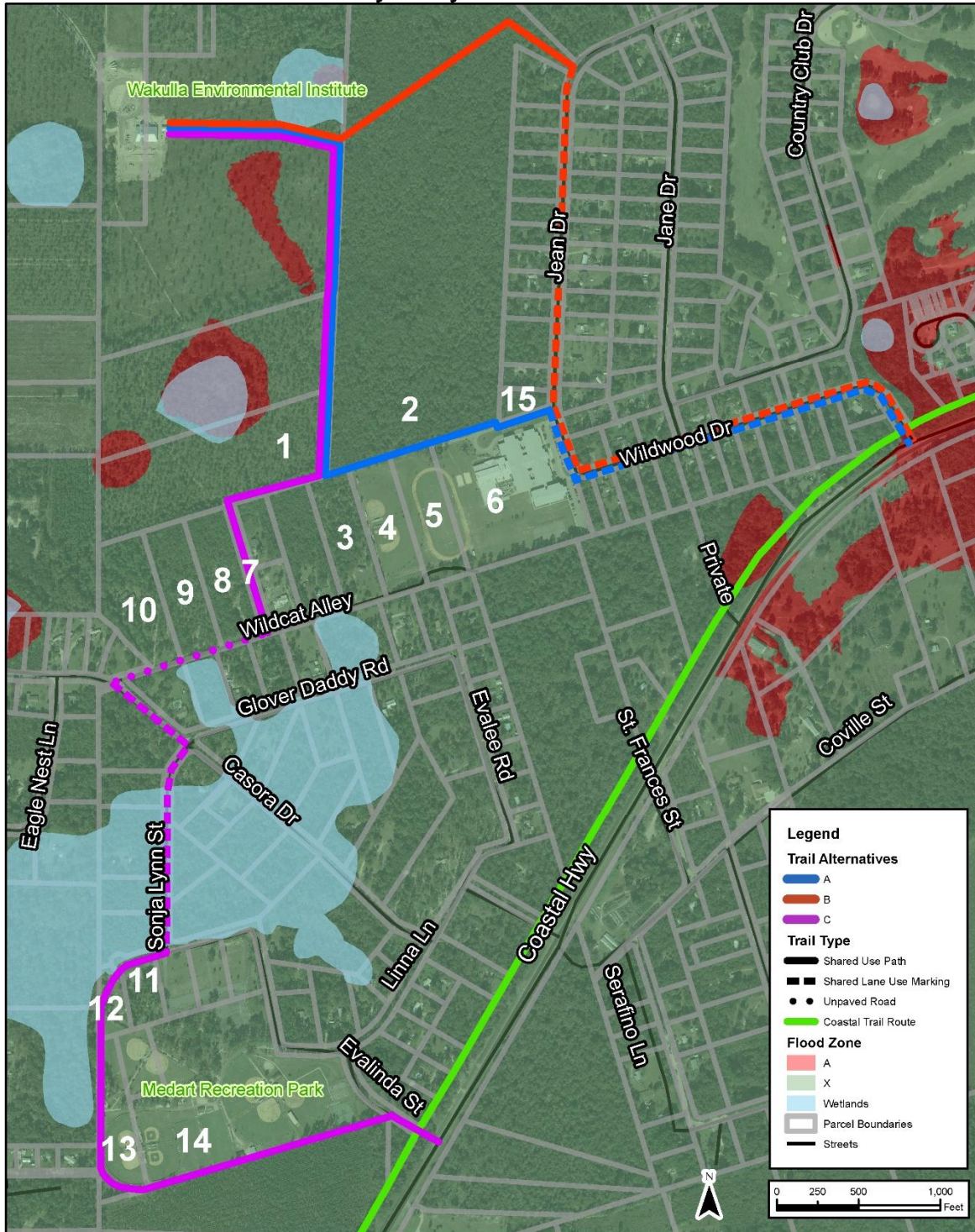


Figure 4: Flood Zone and Wetlands

Historic and Cultural

Available State Historic Preservation Office (SHPO) data was mapped to locate any known historic or culturally significant resources near the trail alternatives. The historic York Donaldson Cemetery is just south of the Wakulla Middle School, so the alternatives are not anticipated to negatively impact this resource. Several historic structures and an additional cemetery are located along Crawfordville Highway, but it is unlikely that the trail alternatives will impact these resources. A cultural resource assessment will be completed during the environmental phase of design to ensure no unknown resources will be impacted by the preferred trail alignment. **Figure 5** depicts the three alternative routes and the historic York Donaldson Cemetery.

Roadway Connections

Each of the trail alternatives proposes the use of roadways to minimize the purchase of, or impacts to private properties. By using the existing road network, the need for parcel acquisition or access easements will be greatly reduced, thereby decreasing the potential cost. Several connections are planned as transition points from shared use paths into shared lane markings on the existing residential roadways. Each of the paved roadways have a posted speed limit of 25 MPH, which allows for the safe implementation of shared lane markings. Because of the low speeds and low traffic volumes on these roadways, shared lane markings can be used to provide a safe and cost feasible option for the trail alternatives.

Wakulla Environmental Institute
Trail Feasibility Study: SHPO Sites

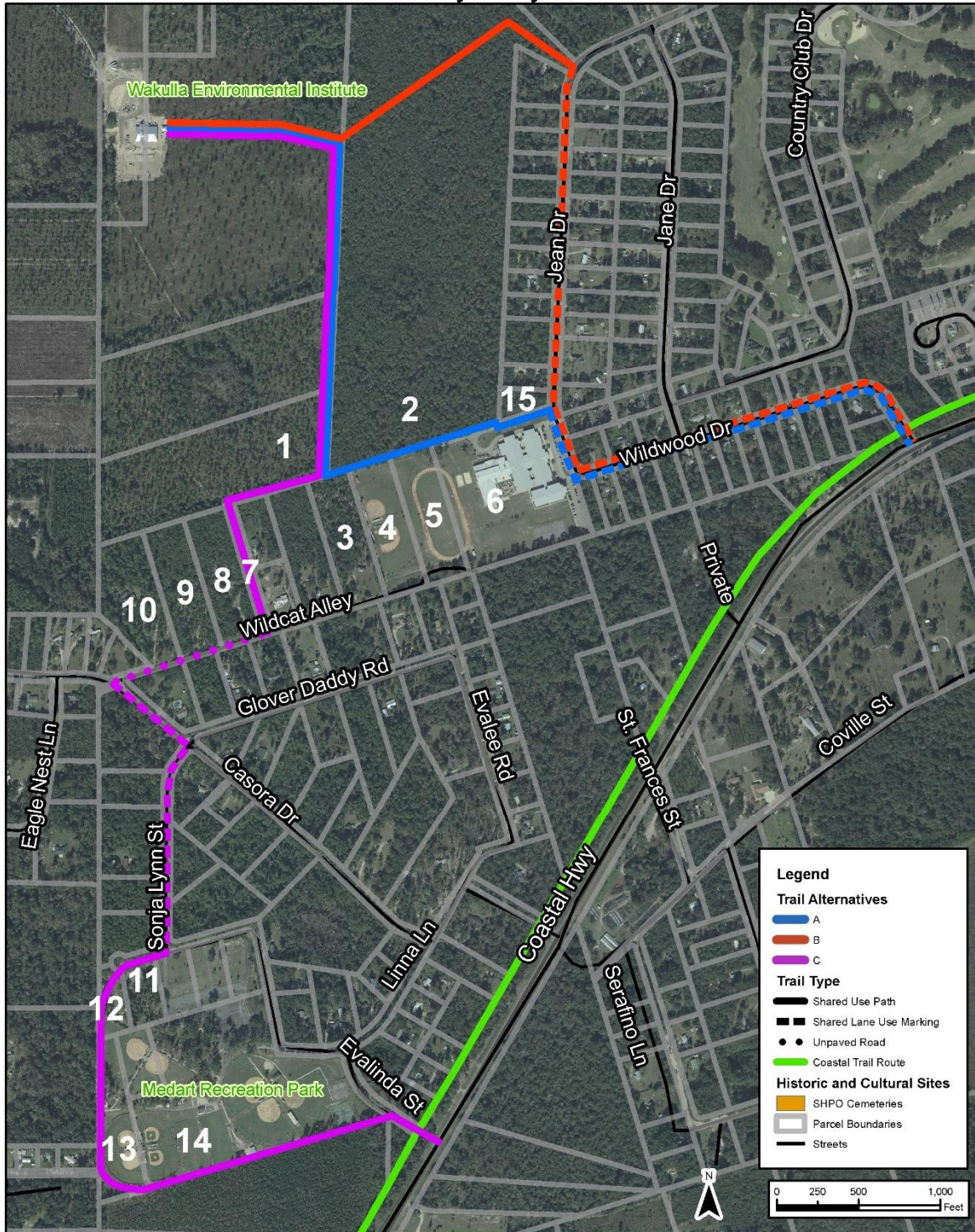


Figure 5: Historic and Cultural Features

Trail Alternative Descriptions

Trail Alternative A

Alternative A makes use of the existing WEI property, beginning at the eastern trailhead facility and heading south through the WEI owned property and continuing either through the adjacent private property south of the WEI or east of WEI. The property owner to the south, (1) has expressed a willingness to allow construction of the trail along the eastern border of their parcel. From this point, Alternative A may cross south into another owner's (2) property to make the connection with the northwestern corner of the Wakulla Middle School property (4-6). The Alternative will run east along the northern border of the school property until it reaches Jean Dr. At this location, the trail will transition from a shared-use path to shared lane markings running south along Jean Dr. onto Wildwood Dr. The alternative will follow Wildwood Dr. until it makes the connection with U.S. 98 and the Coastal Trail. **Figure 6** depicts Alternative A's route to the Coastal Trail. Additionally, this alternative also has the option to be placed within the property (2) east of the WEI property.



Photo 4: Northern Boundary of Wakulla Middle School

This alternative will allow for effective travel between the neighborhoods and nearby Wakulla Middle School while also increasing access to the WEI. The increased access to the middle school may promote the development of shared learning experiences and/or field trip opportunities being developed at the WEI. By connecting the Coastal Trail to the WEI, the alternative will help create a safe and effective east/west trail that provides an additional connection between Crawfordville Highway and U.S. 98. This route will provide additional transportation options to students located along Crawfordville Highway, who might not have a safe pedestrian route to school. **Table 1** identifies known benefits and challenges with this route.

Table 1: Alternative A – Benefits and Challenges

Alternative A	
Benefits	Challenges
Primarily within existing road ROW/public property	Limited space on middle school property may require additional properties to be impacted
A private owner has expressed interest in an access easement or limited acquisition	Security fencing will be required to separate the trail from Wakulla Middle School
Increased connectivity between the middle school and WEI	Trail may impact 5 parcels

Wakulla Environmental Institute
Trail Feasibility Study: Alternative A



Figure 6: Alternative A Route

Trail Alternative B:

Alternative B begins at the trailhead location on the eastern edge of the WEI complex and continues east through the property directly adjacent which is privately owned (2). Bisecting the private property through an easement, the alternative gains direct access to Jean Dr. Once on Jean Dr., the alternative will head south onto Wildwood Dr. to make the connection with U.S. 98 and the Coastal Trail. **Figure 7** depicts Alternative B's route to the Coastal Trail.

Alternative B will be shared use path from the WEI to Jean Dr., where it will transition to a shared lane markings until its connection with U.S. 98. This trail alternative will increase access between the WEI, the neighborhood, and Wakulla Middle School. Like Alternative A, the increased access to the WEI may improve the education opportunities with the middle school while also increasing the ability of the students to travel safely through the area and between the neighborhoods. This alternative will have the most significant benefit to the homes along Jean Dr. by providing access to the northern area of the existing neighborhood and becoming a potential amenity for nearby undeveloped parcels. A list of known benefits and challenges can be seen in **Table 2**.

Table 2: Alternative B Benefits and Challenges

Alternative B	
Benefits	Challenges
Impacts one private parcel	Bisects privately owned parcel and may impact the parcel owner's access to Jean Dr.
Increases access to the middle school without directly impacting its property	ROW/easement purchase will likely be necessary

Wakulla Environmental Institute
Trail Feasibility Study: Alternative B



Figure 7: Alternative B

Trail Alternative C

Alternative C begins by following Alternative A's route through the WEI and private parcels (1) to the south. Once at the southern boundary of the private parcel (1), the trail will continue west until it reaches an unpaved private road under the same ownership (7). This private road will be followed until the trail reaches Wildcat Alley, another unpaved private road with several owners (8-10). The proposed trail will continue until it reaches Casora Dr., where it will turn south onto Sonja Lynn St. The trail will then travel into the Medart Recreation Park property (11-14). Alternative C plans to travel along the perimeter of the recreation park heading toward Evalinda St. At Evalinda St. the trail will make the connection to U.S. 98 and the Coastal Trail. **Figure 8** depicts Alternative C's route to the Coastal Trail.

This trail alternative will provide increased access to the areas south of the WEI and provide an improved connection with the Medart Recreation Park. Sections of the alternative will run through private and unpaved roads which may require the installation of wayfinding signs or even paving the roadways to improve trail conditions. In lieu of wayfinding signs, Wakulla County and CRTPA may consider negotiating with the property owners to pave the private roads, which could allow for the use of shared lane markings. In addition to the challenges created by the unpaved roads, Sonja Lynn St. is surrounded by wetlands which could pose concerns for flooding.

To increase the impact of Alternative C, a small trail spur may be considered near Property 15 to provide a connection to Wakulla Middle School. This trail spur could greatly improve the use of the trail as it would connect the WEI, Wakulla Middle School, Medart Recreation Park, and the Coastal Trail. Though Alternative C is the longest of the proposed routes, the potential to connect these features represents a significant benefit to the community. Known benefits and challenges of the alternative being depicted can be seen in **Table 3**.

Table 3: Alternative C Benefits and Challenges

Alternative C	
Benefits	Challenges
Connects the Medart Recreation Park with the WEI	Sonja Lynn Street is surrounded by a wetland
Connection to the middle school may be a possibility (via trail spur)	Wild Cat Alley is an unpaved private roadway
Provides connections to the neighborhoods south of the WEI	Longest alternative
	May impact 9 parcels

Wakulla Environmental Institute
Trail Feasibility Study: Alternative C

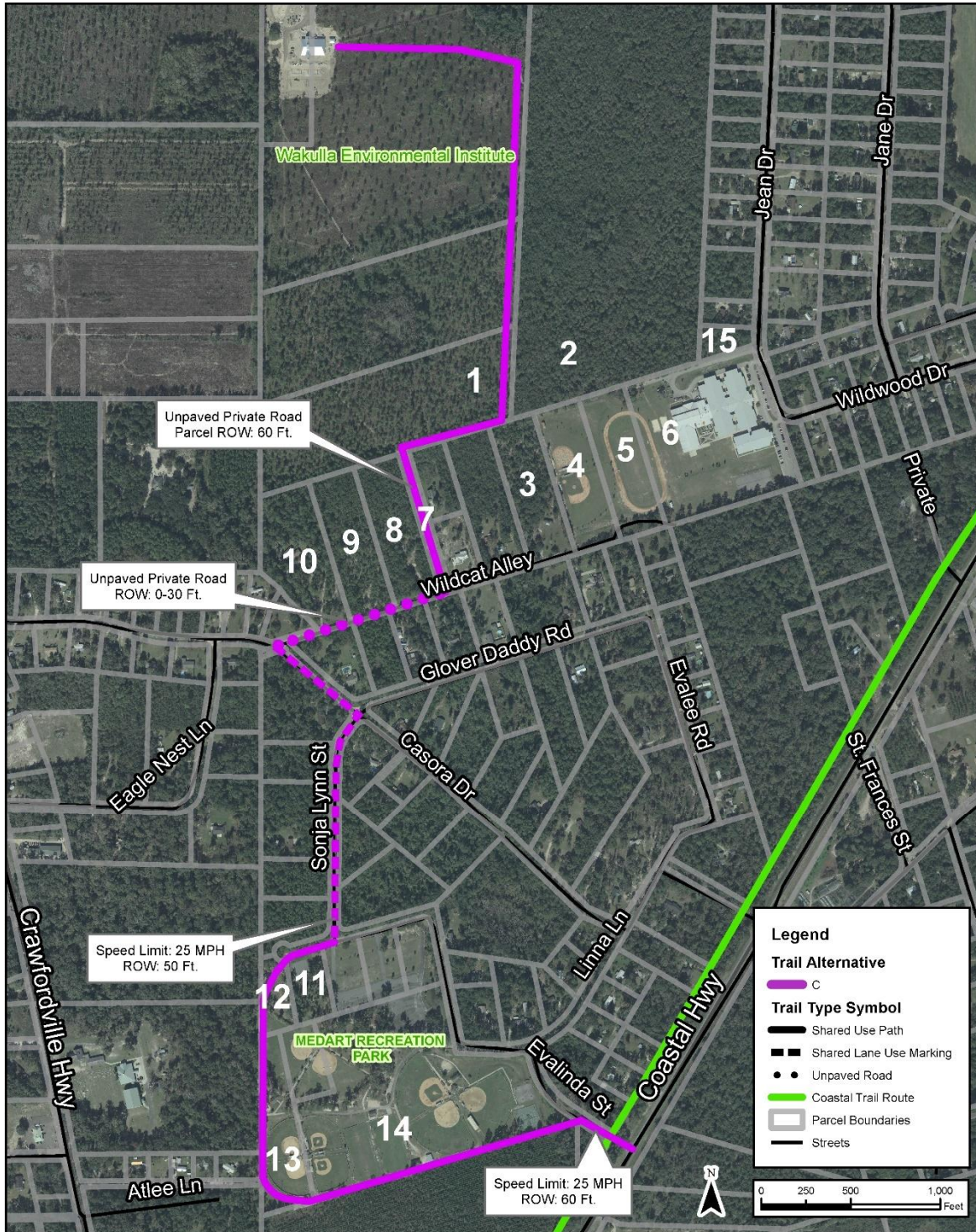


Figure 8: Alternative C Route

Future Residential Development

During this feasibility study, the parcel directly east of the WEI property was purchased by a local developer with the intentions of constructing a single family residential development. The project team met with the developer to discuss general coordination with the proposed trail. The developer stated that a road that connects this residential development over to U.S. 319 is desirable. The possible road route would be along the property boundary of this residential development, through the south perimeter of the Gaby property, then along the existing, unpaved road easement owned by Gaby to Wildcat Alley to Casora Drive and out to U.S. 319 (**Figure 9**). If this route was ever constructed, a shared use path (or shared lane marking) could be placed adjacent to the roadway for access to the WEI as well as the residential development. This opportunity may be furthered considered as comprehensive plan changes for this parcel occur and construction of the road is further evaluated.

**Wakulla Environmental Institute
Trail Feasibility Study: Potential Development U.S. 319 Access Road**

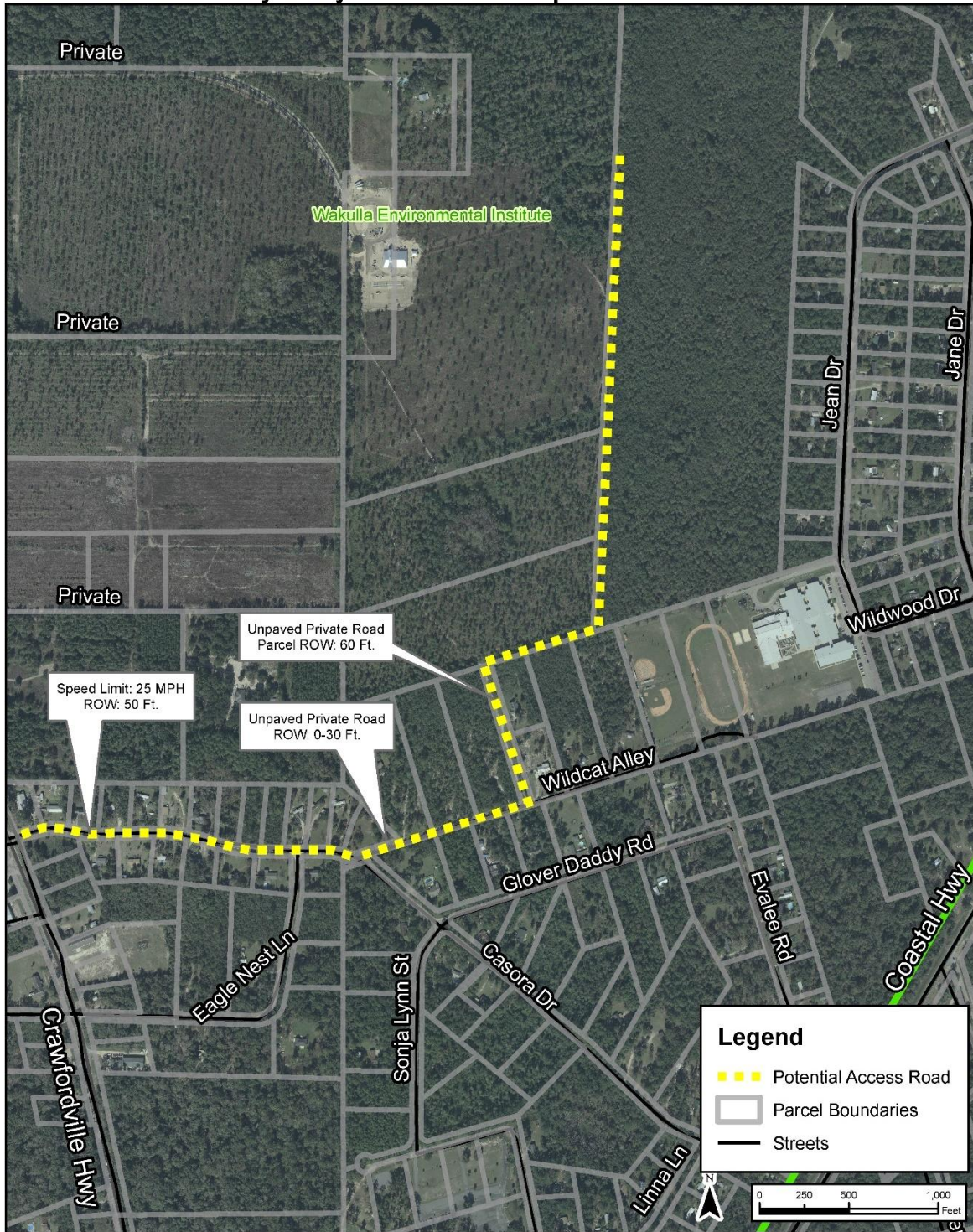


Figure 9: Potential Development U.S. 319 Access Road

Potential Costs

Using the proposed routes above, approximate costs have been developed detailing the trail distances and types. For these alternatives, three trail cost types have been considered. These types have been outlined in **Table 4**.

Table 4: Trail Type Costs Per Mile

Trail Type	Approximate Cost (Per Mile)
Road Paving*	\$ 2,200,000.00
Shared Lane Markings	\$ 30,000.00
Shared Use Path**	\$ 570,000.00

*FDOT LRE (2 lane 5 ft. shoulder)

** FDOT Actual Adjusted (\$450,000 + PE: \$60,000 + CEI: \$60,000)

The distances that the proposed alignments will vary between shared use paths and shared lane markings in each of the alternatives have been outlined in **Table 5**.

Table 5: Trail Type Distances

Alternative	Trail Type	Approximate Distance (feet)	Approximate Cost	Approximate Total Cost
Trail Alternative A	Shared Use Path	4,550	\$ 491,193.18	\$ 506,875.00
	Shared Lane Marking	2,760	\$ 15,681.82	
Trail Alternative B	Shared Use Path	2,790	\$ 301,193.18	\$ 328,693.18
	Shared Lane Marking	4,840	\$ 27,500.00	
Trail Alternative C	Shared Use Path	8,220	\$ 887,386.36	\$ 1,314,905.30
	Shared Lane Marking	1,910	\$ 10,852.27	
	Road Paving	1,000	\$ 416,666.67	

Based on the costs in **Table 5**, Alternative B will be the least expensive, while Alternative C represents the most expensive of the proposed routes. However, it should be noted that a part of Alternative C includes a road paving project that may be completed using funds outside of the anticipated trail funding. For example, Small County Outreach Program funding may be used. In addition, the local neighborhood would significantly benefit from this type of project, so for these reasons a portion of these costs will not be considered in the alternatives comparison.

Typical Sections

Typical section renderings have been created to depict the potential arrangement of the proposed alternatives in the area. These typical sections show how the shared-use paths and shared lane markings may be implemented through the different alternatives.

Figures 10 and 11 depict the how the implementation of shared lane markings could be implemented on the roadways. Shared lane markings represent the least amount of impact to the existing road network with relatively low cost. Shared lane markings should only be implemented on low volume roadways with speeds at or below 35 mph.

Figures 12 to 14 depict how a paved trail could be implemented through the wooded areas, Wakulla Middle School, and the Medart Recreation Park near the WEI. Where feasible, 10-12 ft. paved trails should be implemented to accommodate larger user volumes and types.

Figure 15 depicts the ideal development of the trail alongside the roadway. When feasible, the creation of a shared use path alongside the road should be implemented in order to provide a safer and more enjoyable trail system. In areas with low speeds and limited right of way, the trail can be placed directly alongside the travel lanes with a vertical delineator or similar buffer to clearly designate the separation of uses.

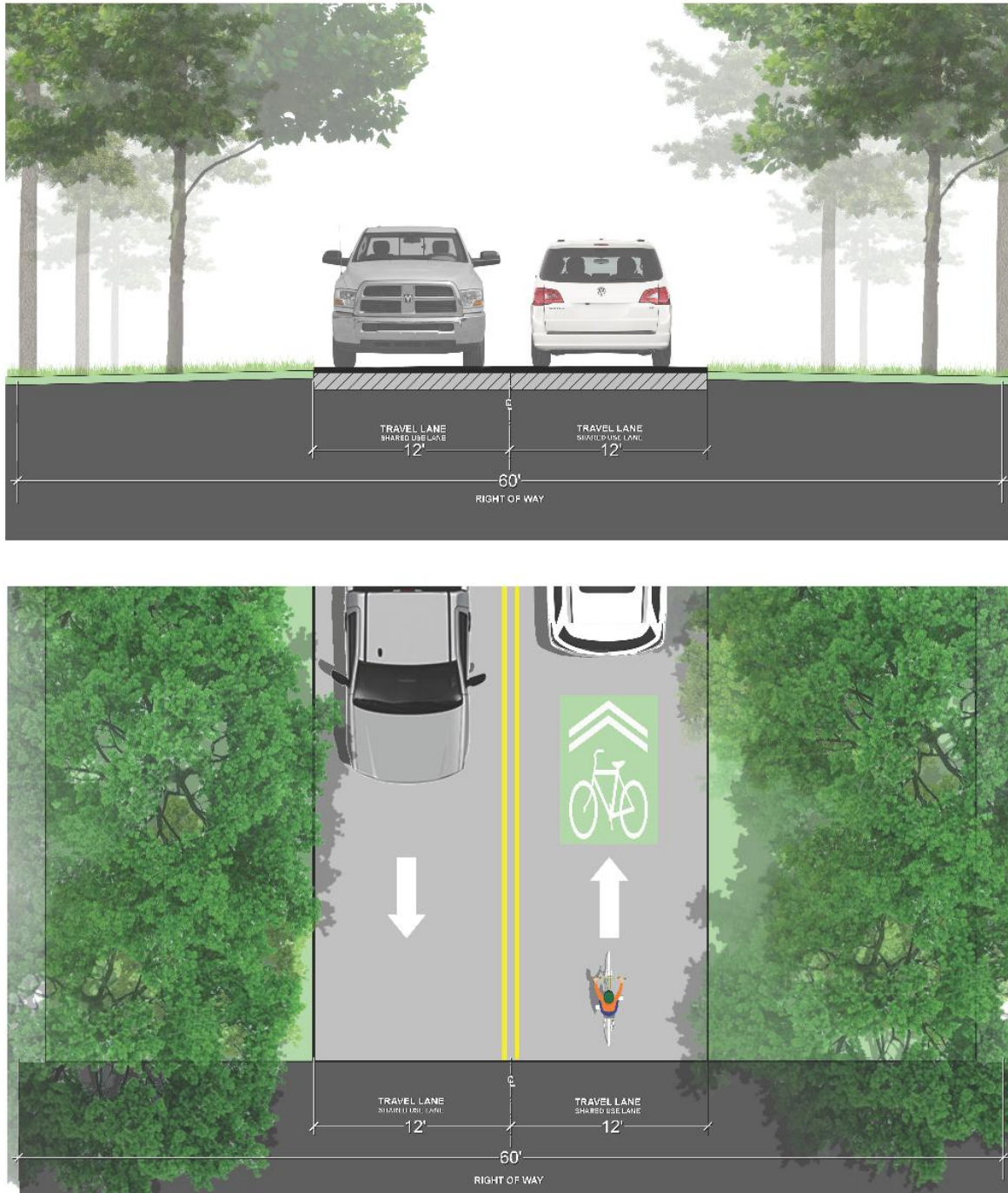


Figure 10: Shared-Lane Marking Typical Section

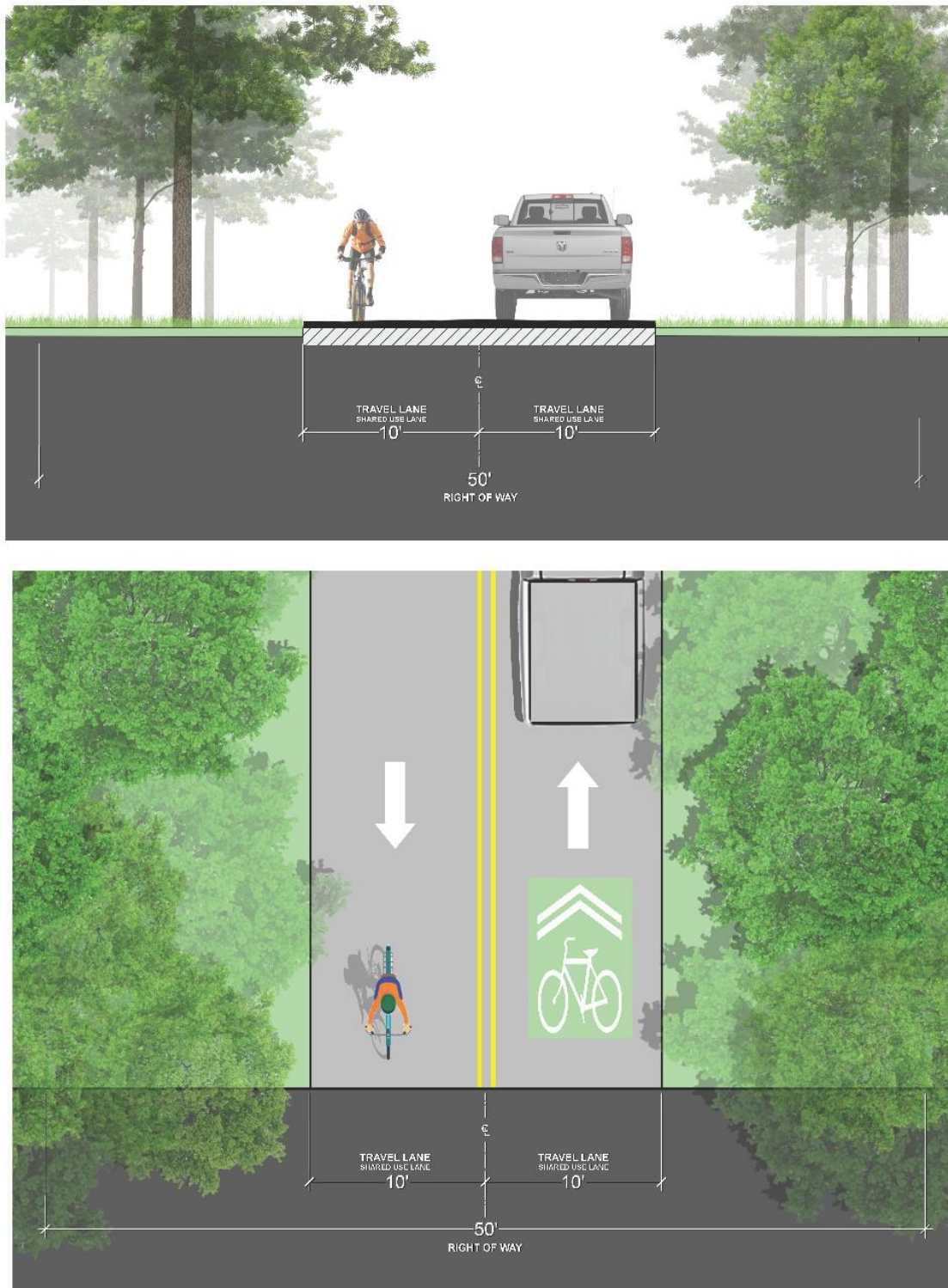


Figure 11: Shared-Lane Marking Typical Section



Figure 12: Shared-Use Path Typical Section

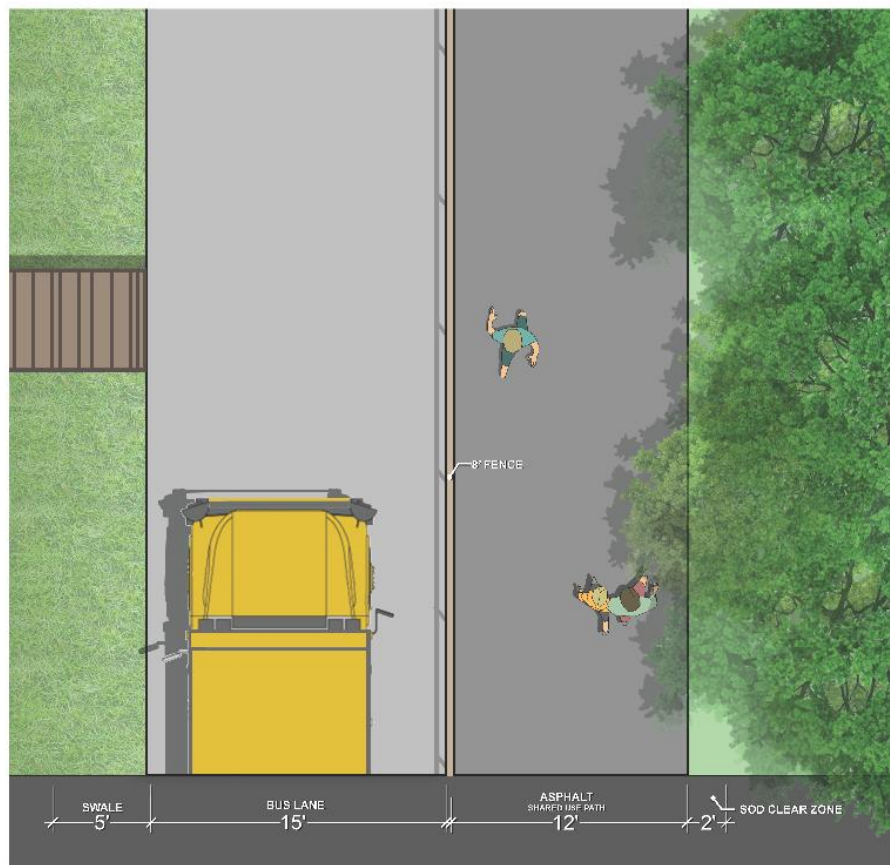
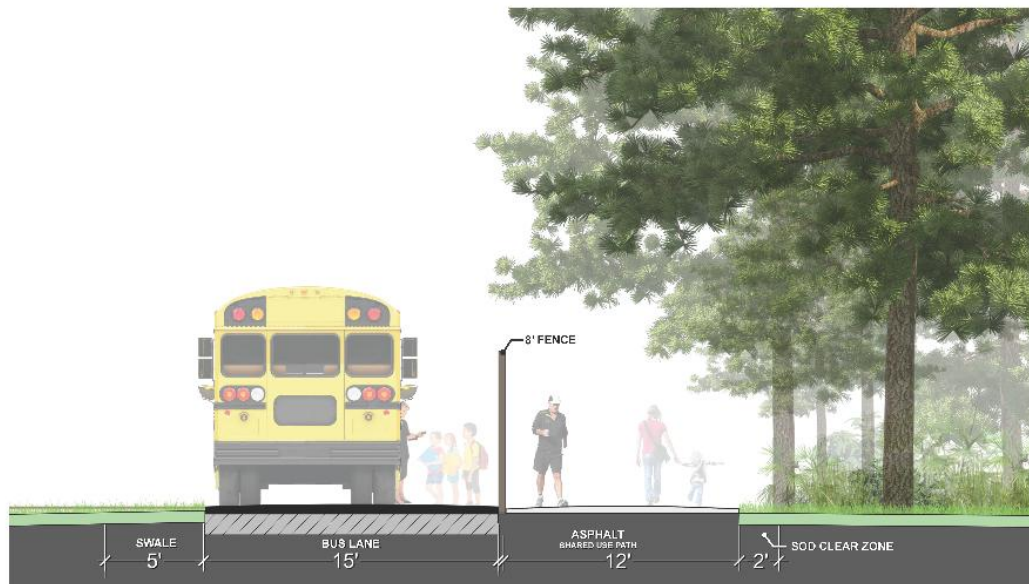


Figure 13: Shared-Use Path Typical Section



Figure 14: Shared-Use Path Typical Section



Figure 15: Shared-Use Path Adjacent to Roadway

Wayfinding and Signage

To help orient people better to this WEI trail connection, a unique symbol of a turkey may be used for the shared lane markings and wayfinding signage. This is a symbol used by the WEI and one that can easily recognizable so visitors to the area know what part of the regional trail system they are on. **Figure 16** and **Figure 17** show examples of potential shared lane markings and trail signage.



Figure 16: Wayfinding Options



Figure 17: Wayfinding Options

Preferred Alternative

Based on meetings with stakeholders, desktop review of existing conditions, and new development plans on adjacent properties, there are two viable options for this trail connection. Alternative C is viable through the potential road construction from the property east of the WEI. With the possible construction of a road through that property which is planned to be developed, then going through property 1 and property 7, the WEI trail would have an opportunity to be designed and constructed during that road construction. From that location, the trail would transition into shared lane markings along the neighborhood roads until reaching the Coastal Trail by way of Sonja Lynn St. This alternative would also give direct trail access to the new residential development in property 2. If it is determined that this property is not developable or that the new road is not feasible, placing the trail along the edge of this property, through the property owned by the Wakulla County School Board, Alternative A, would be another viable option. This alternative will require the construction of a security fence and ongoing coordination with the Wakulla County School Board on their lease of the property north of the middle school. Both preferred alignments would need easements on private land but property would not need to be purchased. Possible acquisition of property is also a possibility for these alternatives. With the possibility of the road design, construction, and paving being completed for the residential development, the estimated cost to implement the trail may be minimized. **Table 6** below summarizes the two viable options.

Table 6: Trail Type Distances

Viable Option	Approximate Total Cost	Modified Approximate Total Cost*	Property Acquisition	Number of Easements
Trail Alternative A	\$ 506,875.00	\$ 506,875.00	No	1 plus private road easement
Trail Alternative C	\$ 1,314,905.30	\$898,238.63	No	2

*Based on removing the cost of road pavement if already completed for the development of the new road connecting to Parcel 2.

Next Steps

The National Environmental Policy Act requires that all transportation projects complete an environmental assessment to determine the most appropriate alternative and environmental effects. Environmental refers to the natural environment, physical environment, and human environment. The type of environmental assessment is based on who is preparing the document, funding for the project, and preliminary analysis. Based on initial desktop analysis, it is anticipated that a minor environmental document will be required for this trail project, but that is dependent on whether or not it will be constructed along with the possible new road corridor. Coordination with appropriate agencies will need to take place during this stage of the project. The environmental assessment will look at the preferred alignment and make appropriate modifications to that alignment to reduce environmental impacts. Once the environmental document is approved, the project will move into design and construction.

Conclusion

The cost estimates found in this feasibility report are based on planning level cost estimates including costs for CEI and construction. The range of total costs for the viable alternatives found in this study are between \$500,000 and \$900,000 approximately. As stated above, if development occurs and the trail can be designed and constructed along with other projects, the cost to implement may be reduced as seen in the table above. The final trail alignment will be determined through near term coordination with private property owners, Wakulla County, and the Wakulla County School Board.