



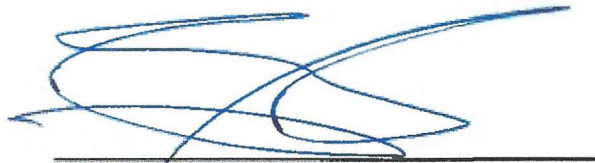
# Finding of No Significant Impact

## Shark Valley Site Plan

### Everglades National Park

March 2023

Recommended:

  
\_\_\_\_\_  
Superintendent  
Everglades National Park

  
\_\_\_\_\_  
Date

Approved:

**MARK FOUST** Digitally signed by MARK FOUST  
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Regional Director Date: 2023.05.01 15:48:25 -04'00'  
Interior Region 2, National Park Service \_\_\_\_\_  
Date

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## INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) prepared the Shark Valley Site Plan Environmental Assessment (EA) which evaluated proposed improvements to address issues related to visitor safety concerns as a result of unsafe parking conditions and flooding at Shark Valley Visitor Center within Everglades National Park (Everglades NP or “the park”). The EA tiers off the 2015 Final General Management Plan/East Everglades Wilderness Study/Environmental Impact Statement (GMP/EIS). The GMP/EIS selected alternative includes the improvements proposed at Shark Valley. The GMP/EIS identified desired resource conditions and visitor experiences to be achieved over a 20- to 30-year planning period, and specifically identified issues of congestion and crowding at Shark Valley, and the need for shelters/rest stops along Tram Road. This congestion affects visitor services and strains the existing infrastructure. NPS has determined that the environmental conditions and impacts described in the GMP/EIS are still valid.

This Finding of No Significant Impact (FONSI) is the decision document for the Shark Valley Site Plan EA dated February 2022. The EA and FONSI were prepared in accordance with the NEPA, as amended [42 United States Code (USC) 4332(2)(C)]; the 2020 implementing regulations of the Council of Environmental Quality [40 Code of Federal Regulations (CFR) 1500-1508]; the Department of the Interior NEPA regulations (43 CFR Part 46); and NPS Director’s Order (DO) 12: Conservation Planning, Environmental Impact Analysis and Decision-Making (DO-12) and the accompanying 2015 NPS NEPA Handbook. Attached to this document is the NPS determination that the Selected Alternative will support the desired conditions and visitor experience at Shark Valley and no impairment to park resources will result (Appendix A). The NPS will implement the Selected Alternative, Alternative C – Proposed Action and Preferred Alternative, along with Elements Common to All Action Alternatives, as presented in the EA and summarized below.

The statements and conclusions reached in this FONSI are based on documentation and analysis provided in the EA and associated decision file. To the extent necessary, relevant sections of the EA are incorporated by reference below.

## PURPOSE AND NEED FOR ACTION

The purpose of the Shark Valley Site Plan is to enhance visitor experience, improve safety and park operations at Shark Valley. The site plan is anticipated to make the Shark Valley roadway facilities more resilient to flooding impacts as a result of changes in intensity or frequency of tropical storm events. In addition, the Central Everglades Planning Project (CEPP) was developed to improve water quantity, quality and distribution to the Everglades which will result in rising water levels in the project area. The proposed improvements will also meet the need to minimize congestion at the Entrance Road and at the Visitor Center parking area, provide after-hours parking access, and provide high quality visitor experiences and services (see EA, Chapter 1, page 7).

## **SELECTED ALTERNATIVE**

Based on the analysis presented in the Site Plan/EA, the NPS selected Alternative C, Overflow Parking Lot Immediately North of Visitor Center for implementation. The selected alternative was defined in the EA as the NPS preferred alternative and is described below, and a full description can be found in Chapter 2, page 14 - 21 of the EA.

Under Alternative C, the overflow parking lot is proposed inside of the entrance gate, north of the visitor center. The existing traffic flow will not change along the Entrance Road and within the visitor center parking area. Visitors will be directed to the main parking lot first, then to the overflow parking lot when needed. The selected alternative will provide the safest vehicular and pedestrian access to the visitor center. The overflow parking lot will be located in the same general area as the visitor center and provides a natural extension of the existing development (the parking lot and visitor center). In addition, Alternative C will be the least visually intrusive to the surrounding environment.

In addition, the selected alternative includes elements common to all actions alternatives that were analyzed as part of the 2015 GMP/EIS:

### **Administrative Complex**

The developed footprint of the Administrative Complex will be raised to 11.5 ft. National Geodetic Vertical Datum of 1929 (NGVD) [10.0 ft. North American Vertical Datum of 1988 (NAVD)] from the existing 9.5 ft. - 10.67 ft. NGVD (7.99 ft. - 9.16 ft. NAVD). It will consist of a consolidation of law enforcement, maintenance, and interpretive operations into a new facility. The parking lot design at the Administration Complex will be improved to better serve staff, volunteers and concession staff parking needs.

### **Entrance Road**

Entrance Road will be widened to three lanes, two inbound and one outbound lane, and raising to 10.50 ft. NGVD (9.0 NAVD) to avoid flooding. In addition, the driveway to the Administrative Complex will be raised to match the Entrance Road elevations, reducing annual flood duration from the current 14% to 3.3% annually. Inductive loop wire counters will be imbedded into the roadway to count and monitor visitor use, which may support future dynamic/variable message signs.

### **Tram Road**

Specific portions of Tram Road will be raised to higher elevations to allow the road to be useable at all times of the year and ensure the road would be more resilient to storm events and seasonal flooding. The Tram Road pavement width and horizontal alignment would remain the same and the overall function of the road would remain unchanged. The existing Tram Road elevations vary along the course of the road with the lowest elevation of approximately 7.5 ft. NGVD (6.0 ft. NAVD) at the southern end near the Shark Valley observation tower. Two options for proposed elevations for the Tram Road to reduce or eliminate flooding are considered and analyzed in this EA. Option 1 is to reduce flooding, and Option 2 is to eliminate flooding.

## **Fee Station**

The existing fee station will remain in place with a finished floor elevation of approximately 10.66 ft. NGVD (9.16 ft. NAVD). In addition, the fee station will be expanded southward to accommodate a restroom for employees. A second ancillary fee station will be located to the west of the existing fee station to service the second inbound lane and facilitate traffic flow.

## **Rest Stops Along Tram Road**

Two rest stops with shade structures and benches will be provided along the eastern leg of Tram Road for bicyclists and hikers. The proposed shade structures and benches will be built to accommodate up to six persons at one time. Unlike the western leg of the Tram Road where natural resting or shade areas exist, currently there are no shaded areas along the eastern section of the road. The two proposed rest stops will be stationed approximately 3 miles apart on the eastern leg of Tram Road. Personal vehicles are not permitted on Tram Road.

Other alternatives considered included Alternative A, No Action Alternative and Alternative B, Overflow Parking Lot Immediately South of US-41/Tamiami Trail (see the EA, Chapter 2 for detailed descriptions of the alternatives).

## **RATIONALE FOR DECISION**

Alternative A, the No Action Alternative, does not adequately address the park's need to enhance visitor experience, safety and park operations at Shark Valley. In addition, resiliency improvements would not be provided, and Entrance Road, Tram Road and facilities would continue to flood due to rising water levels resulting from the Central Everglades Planning Project (CEPP) and tropical storm events.

Alternative B includes similar elements of Alternative C, except for the location of the overflow parking lot proposed just south of US-41/Tamiami Trail rather than north of the visitor center. While this alternative would have fulfilled the park's purpose and need, there were concerns related to visitor safety with the long walking distance to the visitor center and traffic disruptions on US-41/Tamiami Trail. Impacts to natural resources were similar to those described under Alternative C.

The NPS selected Alternative C, Overflow Parking Lot Immediately North of Visitor Center, for implementation because it meets the purpose and need of the project, which is to enhance visitor experience, safety and park operations at Shark Valley Visitor Center, and meets the objectives established in the GMP/EIS. This decision has been made after considering environmental impacts to resources including vegetation, wetlands and soils; wildlife and species of special concern; hydrology and water quality; visitor use and experience; human health and safety; and lightscapes and viewsheds.

## **MITIGATION MEASURES**

The NPS places a strong emphasis on avoiding, minimizing, and mitigating potentially adverse environmental impacts (see EA, Chapter 2, page 21). Therefore, the NPS will implement multiple

mitigation measures and best management practices (BMPs) to protect the natural and cultural resources that the project could affect. The Preferred Alternative incorporates several monitoring and mitigation measures and BMPs to avoid or minimize impacts to vegetation, wetlands and soils; wildlife and species of special concern; hydrology and water quality; and cultural resources. These measures and practices were described in Chapter 2 of the EA. Unless otherwise specified below, the authority for these mitigations comes from the NPS Organic Act and NPS Management Policies. The following mitigation measures and BMPs will be included for the selected alternative.

### **General Resource Management**

- Establishment of off-site staging areas on non-hardened surfaces requires consultation with the park's Environmental Planning and Compliance (EPC) Office and appropriate subject-matter experts.

### **Cultural Resources**

- In accordance with the 2008 National Park Service Programmatic Agreement Section VI, if cultural resources are discovered during project implementation all work in that area must stop and the Superintendent, Chief of Cultural Resources, or park archeologist must be notified immediately.
- If items protected by the Native American Graves Protection and Repatriation Act (NAGPRA) are discovered during project implementation, all activity must cease in the area of discovery and immediate notice made to the Superintendent and Chief of Cultural Resources. The Superintendent or Chief of Cultural Resources will notify the appropriate Federally recognized Indian Tribes/Organizations and State Historic Preservation Officer (SHPO).
- In consultation with the SHPO, a cultural resources monitor and/or fencing may be required for any work near archeological resources as determined by the Chief of Cultural Resources.
- The park will coordinate with the Miccosukee Tribe of Indians of Florida if any archeological, historical, or burial resources are inadvertently discovered during project implementation.

### **Vegetation and Wetlands**

- Mitigation for unavoidable wetland impacts will be offset through the purchase of wetland mitigation credits from the Hole-in-the-Donut (HID) Mitigation Bank which is located in the southeast portion of the Everglades. The HID project is an approved wetland mitigation project under the Clean Water Act and is also approved under the South Florida Water Management District (SFWMD) Environmental Resource Permit (ERP) process. This mitigation bank is the closest approved mitigation project to the site of impacts and mitigating at HID is consistent with guidance on selecting appropriate mitigation sites provided in the 2008 mitigation rule under the Clean Water Act. This site consists of the same wetland type (palustrine emergent wetlands) within the same watershed. Additionally, the mitigation site provides benefit to the same wildlife populations as those affected at the impact site; it lies within the foraging area of the same wood stork and wading bird colonies. The Compensatory Mitigation Plan will be further developed and

finalized in conjunction with, and as a requirement of, the Federal Section 404 permit process and the state Environmental Resource Permit (ERP) process.

- To avoid or minimize the introduction or spread of non-native, invasive plant and animal species, disturbed areas will be allowed to recover naturally. If necessary, and in coordination with the park Botanist, any fill, mulch, reseeding, and sod material brought into the park must be free of non-native, invasive plants and animals, and noxious weeds.
- Measures to further minimize impacts to wetlands will be identified in the detailed design process.

## Wildlife

- Implement the USFWS *Standard Protection Measures for the Eastern Indigo Snake* during project construction under the Endangered Species Act (ESA).
- Mitigate for unavoidable wood stork suitable foraging habitat (SFH) impacts associated with this project and fully address impacts in the Compensatory Mitigation Plan through the purchase of wetland mitigation credits from the HID Mitigation Bank, located in the southeast portion of the Everglades, as outlined in the Biological Assessment. The Compensatory Mitigation Plan will be further developed and finalized in conjunction with, and as a requirement of, the Federal Section 404 Clean Water Act permit process and the state SFWMD ERP process.
- Mitigate for unavoidable impacts to Florida panther habitat associated with this project and fully address impacts in the Compensatory Mitigation Plan as outlined in the Biological Assessment. The Compensatory Mitigation Plan will be further developed and finalized in conjunction with, and as a requirement of, the Federal Section 404 Clean Water Act permit process and the state SFWMD ERP process.
- Conduct a Limited Roost Survey for the Florida bonneted bat in the selected alternative's project area prior to construction to include a thorough inspection of the administrative buildings that will be impacted by the proposed consolidation of those facilities. Document survey results and provide report to USFWS. If the Florida bonneted bat is found to be roosting in structures identified for demolition, work will stop and consultation with USFWS will be reinitiated to determine next steps.
- Conduct pre-construction surveys for sensitive wildlife prior to implementing the project. This includes conducting snail kite surveys during the breeding season (January to May) and following the USFWS Snail Kite Survey Protocol (2004). If sensitive wildlife is detected, document the occurrence and modify construction activities to avoid or minimize impacts.
- Consultation with the USFWS, in accordance with the ESA, will be updated during the design process regarding the results of the necessary species surveys, final calculations for mitigation and reserved credits at mitigation banks. Work will be scheduled to avoid protected species during nesting or breeding seasons.

- If evidence of wood storks, Everglade snail kites, eastern indigo snakes, Florida bonneted bats, Florida panthers, American crocodiles, or other listed species are present or observed at a proposed work location during construction, work will be postponed until individuals leave the area. Park Biologists and appropriate representatives from the Biological Resources Branch will be notified immediately of the time and location of the sighting(s) to determine if further mitigations are necessary.
- All work should only be conducted during daylight hours to minimize disturbance to wildlife.

### **Visitor Use and Experience**

- Visitors will be informed of construction activities by posting information at the park website, social media, and visitor centers.
- Avoid or limit construction activities during peak visitor-use periods to the extent possible.
- Temporary short-term full closure of areas may be necessary on limited occasions. Such full closures will be for the minimal time required to complete the work activity. To the extent possible, partial and/or limited closures of visitor access should be used.
- Place construction fencing and closure signage around construction areas, as needed, to discourage visitors from entering an active construction site.

### **Hydrology and Water Quality**

- An Erosion and Sediment Control and Stormwater Pollution Prevention Plan (SWPPP) will be developed to comply with the current Florida Department of Environmental Protection (FDEP) National Pollutant Discharge Elimination System (NPDES) requirements and FDEP NPDES Construction General Permit coverage will be obtained. The SWPPP will be developed to address all stormwater management BMPs.
- Appropriate measures will be employed to prevent or control spills of fuels, lubricants, or other contaminants from entering waterways or wetlands. Actions will be consistent with state water quality standards and Clean Water Act, Section 401 certification requirements.
- Implement pre- and post-construction erosion control BMPs for drainage, erosion and sediment control to prevent or reduce sediment-laden runoff from entering the water column.
- Inspect and maintain erosion and sediment control BMPs on a regular basis and after each measurable rainfall to ensure they are functioning properly.
- Adhere to all BMPs resulting from required regulatory permits.
- Test fill material from the removed Old Tamiami Trail roadbed in compliance with FDEP permit requirements before using the material to fill the overflow parking area and raise the elevation of the Entrance Road, Administrative Complex, and/or Tram Road.



## **OTHER ALTERNATIVES CONSIDERED**

In addition to the selected alternative, Chapter 2 of the EA analyzes a no action alternative (Alternative A) and another action alternative that locates the overflow parking lot immediately south of US-41/Tamiami Trail (Alternative B) and their impacts on the environment.

Under the No Action Alternative, the NPS would maintain the existing conditions at the Shark Valley Visitor Center. The existing parking facility is one parking lot at the Visitor Center consisting of 120 parking spaces. The current typical section of the Entrance Road has two lanes, one inbound to the Visitor Center, and one lane outbound to US-41/Tamiami Trail. The existing elevation on Entrance Road and Tram Road, the typical section, traffic flow of the Entrance Road, and the number of parking spaces at the Visitor Center would not change. No overflow parking would be provided, and no improvements would be made except for existing routine maintenance of any feature or structure within the Shark Valley District.

Under Alternative B, a new overflow parking lot would be proposed immediately south of US-41/Tamiami Trail, east of the Entrance Road. The parking lot would include 105 parking spaces (Figures 4 and 5) and would be approximately 2,000 feet walking distance from the Visitor Center. The existing traffic flow would be maintained along Entrance Road and within the Visitor Center parking area. A new sidewalk would be constructed along the east side of the Entrance Road from the new overflow parking lot to the Visitor Center. Alternative B would provide a visual buffer between the overflow parking and the rest of Shark Valley. This alternative would provide visitors a parking lot to access Shark Valley outside of park visiting hours when the gate is closed. Cameras and dark sky friendly parking lot lights would be installed at the overflow parking lot for security. Alternative B would incorporate dynamic/variable message signs for parking condition updates to alert visitors to use the overflow parking lot before proceeding to the Entrance Road.

### **Options, Alternatives, and Elements Considered but Dismissed**

Based on the preliminary analysis and internal scoping with the NPS, the following options and alternatives were considered and dismissed from further analysis. These were dismissed from further analysis due to impacts to natural resources, viewsheds, conflicts between pedestrians and vehicles, visitor disruptions during construction, and/or not meeting the purpose and need of the project (see EA, Chapter 2, page 24).

- A new visitor parking lot near Dade Corners and providing transportation via mass transit for visitors to Shark Valley Visitor Center.
- Entering into an agreement with the Miccosukee Tribe of Indians of Florida to utilize an existing parking lot located 0.5 miles from the Shark Valley Visitor Center.
- Provide a new overflow parking lot just south of the Administrative Complex.
- Provide a new overflow parking lot near US-41/Tamiami Trail, west of Entrance Road.
- Provide a new overflow parking lot with bus/Recreational Vehicle (RV) parking spaces west of the Visitor Center.

- Provide a new overflow parking lot west of the Visitor Center and provide bus/RV parking spaces in the center island near the Visitor Center.

An alternative concept was presented to the public during civic engagement which included an overflow parking lot located west of the Visitor Center with a new circulation pattern into the Visitor Center. This alternative would be the closest to the wilderness boundary and would be a prominent feature in the landscape. Therefore, this alternative was dismissed due to impacts to natural resources and viewsheds. In addition, a new multilevel parking garage option was proposed by the public. However, this option was dismissed from further analysis due to impacts on viewsheds.

Elements such as a canoe/kayak launch were considered for implementation. However, due to resource protection concerns and the launch not providing an acceptable canoe/kayak experience during low-water periods, this element was dismissed. In addition, the construction of a carport for the Shark Valley Tram was considered; this element was dismissed because the location would inhibit tram operations and maneuverability and would block emergency access to Tram Road. Therefore, these elements were dismissed from further analysis (see EA, Chapter 2, page 25).

## **PUBLIC INVOLVEMENT AND AGENCY CONSULTATION**

### **Public Involvement**

In January 2021, the NPS announced the release of the EA to provide the public an opportunity to learn about the Shark Valley Site Plan and provide comments and input. The park posted a notice on the Planning Environment and Public Comment (PEPC) website and emails and letters were sent to federal, state, local and tribal governments. The park held two virtual meetings, and correspondence was received from the Miccosukee Tribe of Florida, Seminole Tribe of Florida, Florida Fish and Wildlife Conservation Commission, National Parks Conservation Association, Miami-Dade County Parks, Recreation and Open Spaces and Shark Valley Tram Tours.

On February 9, 2022, the park made the EA available for public review for a 30-day comment period, ending on March 11, 2022. The park posted the EA on the PEPC website for review and comment and notified the park mailing list via email. The NPS had hardcopies of the EA available at Everglades National Park headquarters. During the public comment period, 46 correspondences were received. The majority of the correspondence were from unaffiliated individuals, 30 of whom were from Florida. In general, commenters expressed support for the project. Most comments received asked to include additional improvements, such as bicycle repair stations or water bottle refill stations.

### **Agency Consultation**

In consultation with Florida SHPO under Section 106 of the National Historic Preservation Act, the NPS submitted a determination of eligibility to evaluate the Shark Valley Developed Area for listing in the National Register of Historic Places (NRHP) on June 21, 2021. The study found the Shark Valley Developed Area eligible for listing in the NRHP for its association with the NPS's Mission 66 Project, and its embodiment of the project's architecture and the Modern Architecture movement. The NPS requested

concurrence on the eligibility of the Shark Valley Developed Area Historic District (8DA1967) and a finding of no adverse effect on the historic property. The SHPO sent a letter of concurrence on June 27, 2022.

Consultation with the Seminole Tribe of Florida Tribal Historic Preservation Office (STOF THPO) and the Miccosukee Tribe of Indians (Tribe) has been ongoing throughout the project. The STOF THPO concurs with the park to employ a professional archeologist to monitor the fill, in addition to any ground disturbing activities that occur within the vicinity of the previously identified cultural resources. The Tribe had no objections to the project and requested to be notified if any archeological, historical, and/or burial resources are inadvertently discovered during project implementation. The park will continue to collaborate with the Tribe to create additional project opportunities in the Shark Valley surrounding areas for the mutual benefit to both the park and the Tribe.

In early consultation with the USFWS under Section 7 of the ESA, the park submitted a Biological Assessment (BA) that determined the selected alternative will have no effect on the American crocodile or Cape Sable seaside sparrow and may affect, but is not likely to adversely affect the Eastern indigo snake, Everglade snail kite, wood stork, Eastern black rail, Florida bonneted bat or Florida panther. The overflow parking lot proposed in wetlands may affect, and is likely to adversely affect Everglade snail kite critical habitat. Since the overflow parking lot location is a small fraction of the total critical habitat designation for the Everglade snail kite and is proposed immediately adjacent to the existing visitor center and parking lot and it would limit the area's utility to Everglade snail kites, the USFWS does not believe that the selected alternative would meet the criteria of destruction or adverse modification of critical habitat, as the project does not appreciably diminish the value of the critical habitat for the Everglade snail kite (50 CFR 402.02). The USFWS concurred on August 10, 2022 with the park's effect determinations for threatened and endangered species impacts under the selected alternative.

## **FINDING OF NO SIGNIFICANT IMPACT**

As discussed and analyzed in the EA, the selected alternative has the potential for impacts to vegetation, wetlands and soils; wildlife and species of special concern; hydrology and water quality; visitor use and experience; human health and safety; lightscapes and viewsheds. There is no potential for significant impacts to any of these resource topics that will require an analysis in an Environmental Impact Statement. The NPS used factors as defined in 40 CFR 1508.27 to evaluate whether the selected alternative will have a significant impact on the environment.

The EA analysis identified adverse impacts that range in intensity and duration. BMPs were developed to minimize adverse impacts. Many adverse impacts are construction related and will be temporary and short-term. Several special-status species have the potential to be affected during construction, including the Eastern indigo snake, Everglade snail kite, wood stork, Eastern black rail, Florida bonneted bat or Florida panther. As of September 20, 2022, the USFWS has proposed the tricolored bat (*Perimyotis subflavus*) to be listed as federally-endangered. The selected alternative may affect, but is not likely to adversely affect any of the above species. Adverse impacts on hydrology and water quality; wildlife and species of special concern; human health and safety; and visitor use and experience will be short-term due to the noise, disturbance to habitat, disruptions to traffic and pedestrian and vehicle circulation as a result of construction

related activities. Due to the short-term, temporary nature of the impacts, these impacts to resources will not be significant.

The selected alternative will not have significant impacts to lightscares compared to the overall regional trend of increased artificial lighting and decreased dark sky areas to the west and east of Shark Valley. The selected alternative will require less artificial lighting compared to Alternative B, since the only required lighting will be for safety purposes at the after-hours parking lot. Since the proposed lighting at the overflow parking lot will be similar to the lighting at the visitor center for use during the evening programs, short or long-term impacts to lightscares will not be significant.

Some impacts of the selected alternative will be longer term. One long term impact will be impacts to viewsheds. The location of the overflow parking lot will obstruct uninterrupted views of Shark Valley. However, this new viewshed will be similar to the existing viewshed because the visitor center is already obstructing the current viewshed. Ultimately, the selected alternative will have adverse impacts to viewsheds due to the construction of a new facility (overflow parking lot) at Shark Valley, but there are other unaltered and unobstructed views throughout Shark Valley. The overflow parking lot is not visible from the Observation Tower, a popular viewing area. In addition, it will only be visible when entering and exiting Tram Road. Therefore, the selected alternative will not have significant impacts to viewsheds.

Another long-term impact includes the permanent filling of 2.01 acres of herbaceous wet prairie-type wetlands associated with the construction of the overflow parking lot, 3.20-8.32 acres of wetland impacts associated with the Tram Road options, and 0.87 acres of wetland impacts as a result of the new drainage swale along the Entrance Road. However, the NPS will mitigate for all wetland impacts through mitigation credits at Hole in the Donut; therefore, there will be no net loss of wetlands associated with the selected alternative. In addition, the wetland type associated with the overflow parking lot continues for miles to the east, west and south of the project area. Overall, the impacts to wetlands will not be significant given the quantity of high-quality wetland habitat present throughout Shark Valley. Short- and long-term adverse impacts identified in the EA for all impact topics analyzed are not significant in either context or intensity with impacts being in local geographic context as defined in 40 CFR 1508.27.

A final wetland statement of findings (WSOF) was prepared in accordance with the requirements of Executive Order 11990 and NPS Director's Order #77-1 (Appendix C). The total amount of wetlands impacted in the final WSOF is approximately one acre greater than what was described in the EA and draft WSOF, which resulted from an error in the calculation of wetland impacts to the roadside canal. Although impacts to the canal wetlands are just a small amount larger in area, there is very little functional difference in the overall wetland impact. The final WSOF also clarified that wetland mitigation would be 5 credits at the Everglades NP Hole-in-the-Donut (HID) restoration area instead of the 4 credits proposed in the EA and draft WSOF.

## CONCLUSION

As described above, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an EIS. The selected alternative will not have a significant effect on the human environment in accordance with Section 102(2)(c) of NEPA and CEQ's implementing NEPA regulations

at 40 CFR 1500 et seq. Therefore, it has been determined that an EIS is not required for this project and, thus, will not be prepared.

# **APPENDICES**

# **Appendix A      Non-Impairment Determination**

## APPENDIX A: NON-IMPAIRMENT DETERMINATION

### INTRODUCTION

This non-impairment determination has been prepared for the selected alternative, as described in the Finding of No Significant Impact (FONSI) for the Shark Valley Site Plan Environmental Assessment (EA).

In order to manage and preserve national park lands, Congress passed the National Park Service (NPS) Organic Act in 1916. The Organic Act established the NPS as an agency under the discretion of the Secretary of the Interior with the stated purpose of promoting use of national park lands while protecting them from impairment. Sections 1.4.5 and 1.4.6 of the 2006 NPS *Management Policies* provide an explanation of impairment as “an impact, that in the professional judgement of the responsible NPS manager, would harm the integrity of park resources and values, including the opportunities that otherwise would be present for the enjoyment of those resources and values.” As stated in Section 1.4.5, an impact to any park resource or value may, but does not necessarily, constitute an impairment. An impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is:

- necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park; or
- key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park; or
- identified in the park’s general management plan or other relevant NPS planning documents as being of significance.

Section 1.4.6 of the 2006 NPS *Management Policies* identifies the park resources and values that are subject to the no-impairment standard:

- the park’s scenery, natural and historic objects, and wildlife, and the processes and condition that sustain them, including, to the extent present in the park: the ecological, biological, and physical processes that created the park and continue to act upon it; scenic features; natural visibility, both in daytime and at night; natural landscapes; natural soundscapes and smells; water and air resources; soils; geological resources; paleontological resources; archeological resources; cultural landscapes; ethnographic resources; historic and prehistoric sites, structures, and objects; museum collections; and native plants and animals.
- appropriate opportunities to experience enjoyment of the above resources, to the extent that can be done without impairing them;
- the park’s role in contributing to the national dignity, the high public value and integrity, and the superlative environmental quality of the national park system, and the benefit and inspiration provided to the American people by the national park system; and
- any additional attributes encompassed by the specific values and purposes for which the park was established.



This determination on impairment has been prepared for the NPS selected alternative, Alternative C, Overflow Parking Lot Immediately North of Visitor Center and elements common to all action alternatives. The significance of each resource based on the park's enabling legislation is discussed in the sections below. The resource impact topics carried forward and analyzed for the selected alternative in the EA and for which an impairment determination is made are vegetation, wetlands and soils; wildlife and species of special concern; hydrology and water quality; and lightscapes and viewsheds. An impairment determination is not made for human health and safety nor for visitor use and experience because impairment findings relate back to park resources and values, and these impact areas are not generally considered to be park resources or values according to the Organic Act. Therefore, these impact areas cannot be impaired in the same way that an action can impair park resources and values. Each resource or value for which impairment is assessed and the reasons why impairment will not occur is described below.

### **Vegetation, Wetlands and Soils**

Everglades NP is known for its large expanses of sawgrass marshes and is a unique subtropical wetland that serves a connection between central Florida's freshwater ecosystem and the marine systems of the Gulf of Mexico and Florida Bay. Shark Valley is surrounded by sawgrass-dominated marsh wetlands with hardwood tree island habitats with exotic/invasive vegetation encroaching the site. The selected alternative will result in more unavoidable permanent impacts to wetlands than Alternative B. However, the selected alternative will provide the greatest safety to the public and the most enhanced visitor experience. The selected alternative will impact the greatest quantity of wetlands, hydric soils and vegetation (6.45-11.36 acres). Best management practices will be implemented to avoid and minimize any secondary impacts to water quality which could impact adjacent wetlands.

Throughout Shark Valley, there is a high quantity of high-quality wetland habitat present. In addition, activities associated with the Central Everglades Planning Project (CEPP) is expected to enhance wetland communities in the vicinity of the project. As a result, since all wetland impacts will be mitigated and there will be no net loss of wetlands, there will be no impairment to this resource.

### **Wildlife and Species of Special Concern**

Everglades NP is home to an array of wildlife and species of special concern. The project area consists of low, flat sawgrass prairies, freshwater sloughs and estuaries. Eight federally listed species have the potential to occur within the project area. The occurrence of threatened and endangered species and other wildlife is dependent upon the availability of suitable habitat. In 2021, the Old Tamiami Trail Modifications Project was completed. This project enhanced sheet flow into the Shark River Slough by removing portions of the Old Tamiami Trail roadbed, which runs perpendicular to the Entrance Road at Shark Valley. The Old Tamiami Trail Modifications Project resulted in the conversion of upland habitat to wetland habitat and increased foraging opportunities near Shark Valley.

The overflow parking lot construction, Tram Road and Entrance Road improvements and short-term construction activities associated with the selected alternative will result in loss of wetland habitat which provides habitat for threatened and endangered species and wildlife. Impacts on species from the actions under the selected alternative will be within natural fluctuations to populations, habitat and natural processes that sustains wildlife and species of special concern in the project area. There is sufficient habitat

available adjacent to the project area and throughout the park to maintain the wildlife and species of special concern populations. The selected alternative will not result in impairment to wildlife or species of special concern because it will not prevent species from utilizing nearby suitable habitat and will not prevent the park from maintaining sustainable protected species populations.

### **Hydrology and Water Quality**

The waters throughout the Everglades provide water recharge for the Biscayne Aquifer, a drinking water source for most of South Florida and the Miccosukee Reserve just west of Shark Valley. In addition, the park serves as a hydrologic connection between the freshwater ecosystem between central Florida and the marine systems of the Florida Bay and the Gulf of Mexico. The selected alternative will result in adverse impacts during construction to hydrology and water quality because of the additional fill required to raise Tram Road, Entrance Road, the Administrative Complex and because of the construction of the overflow parking lot. However, the installation of a new drainage swale along the west side of Entrance Road to collect and treat stormwater run-off from the road, and the new overflow parking lot and Administrative Complex include drainage features that will provide long-term beneficial effects to water quality. The drainage swale will retain stormwater run-off before overflowing and releasing into the Everglades. By providing a swale, it allows stormwater pollutants to be held and filtered through natural percolation instead of releasing directly into adjacent surface waters. In addition, the raising of the roads and Administrative Complex will prevent flooding at those locations and reduce untreated stormwater run-off into adjacent surface waters.

During construction activities, best management practices will be installed to minimize potential impacts of stormwater runoff to prevent turbidity and degradation of water quality and wetlands. After construction is completed, temporary disturbed areas will be allowed to recover naturally. Areas will be restored to pre-existing conditions and replanted, as needed, with native wetland vegetation. In addition, the implementation of the Central Everglades Planning Project (CEPP) results in the restoration of water delivery within the park and reduces flooding in the area of Shark Valley. Since the project includes the installation of a drainage swale and drainage features that will collect and treat stormwater run-off from impervious surfaces, the selected alternative will not impair hydrology or water quality.

### **Lightscares**

The selected alternative was analyzed for impacts to night skies as a result of new lighting proposed at the after-hours parking lot and at the overflow parking lot. Shark Valley is located in a remote area and located away from the urbanized coastlines to the east and the west. Both action alternatives require lighting at the after-hours parking lot. However, the selected alternative will not require entry and exit lighting for security per Miami-Dade County Ordinance as the overflow parking lot will be closed to visitors after hours. Limited lighting will be installed at the overflow parking for use during evening programs, similar to the lighting at the Visitor Center. For these reasons, the selected alternative will not result in the impairment of dark skies at Shark Valley.

## **Viewsheds**

Shark Valley provides views of the sawgrass marsh and prairie. The selected alternative was analyzed for impacts to viewsheds because of the addition of the new overflow parking lot, including analysis of the views from US-41/Tamiami Trail and the Observation Tower. Popular views are from motorists along US-41/Tamiami Trail, Tram Road, and the Observation Tower. Since the overflow parking lot is proposed adjacent to the existing Visitor Center, the viewshed of Shark Valley Slough is already interrupted from various vantage points. The overflow parking lot will not be visible from the Observation Tower, a popular visitor attraction. Therefore, the selected alternative will not result in the impairment of viewsheds within Shark Valley.

## **CONCLUSION**

The NPS has determined that implementation of the selected alternative will not constitute impairment of the resources or values of the park. The impact analyses summarized above indicate that the selected alternative will not result in impairment to the extent that it affects a resource or value whose conservation is, 1) necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park, 2) key to the natural or cultural integrity for the park or to opportunities for enjoyment of the park, or 3) identified in the park's general management plan or other relevant NPS planning documents as being of significance. This conclusion is based on consideration of the park's purpose and significance, a thorough analysis of the environmental impacts described in the EA, comments provided by the public, and the professional judgement of the decision maker guided by direction of the 2006 NPS *Management Policies*.

# **Appendix B      Responses to Substantive Comments During Public Review**

## Shark Valley Site Plan – Comment Summary Report

The comment period for the EA occurred from February 9, 2022 to March 11, 2022. A total of 46 correspondences were received, 45 via web form and 1 via letter. All 46 correspondences were from unaffiliated individuals around the country with the majority (30 correspondences – 65.2%) coming from Florida. Comments on the EA included but were not limited to support for the Preferred Alternative, support for the No-Action alternative, concerns regarding resource impacts, comments on constructions methods, providing visitor access to Shark Valley outside of park hours, recommendations for the purpose and need and general questions. Many comments provided other ideas to include in the proposed improvements such as bicycle repair stations or sustainable water bottle refill station.

The following comments received during public review of the EA were considered substantive and thus the NPS has included a response below. Substantive comments 1) question the accuracy of the information in the EA, 2) question the adequacy of the environmental analysis, 3) present reasonable alternatives that were not presented in the EA, or 4) cause changes or revisions in the proposal.

Concern(s)		Response
1	Commenters would like to see eco-friendly and green improvements at Shark Valley, such as LEED certification for the administrative area, renewable energy, and the availability of electric vehicle charging stations for government and public use.	The NPS will utilize <i>Guiding Principles of Sustainable Design</i> or similar guidelines and consider LEED certification for structures in the design and construction phases of the project. The NPS is currently working on providing charging stations for visitors.
2	A commenter expressed concern regarding the site not including the storage sheds/trailers (e.g. bicycles, tram supplies) for the concessioners (Shark Valley Tram Tours).	The proposed centralized administrative facility incorporates the storage sheds and trailer space currently used for concession storage. The proposal will offer the concessioners better options for storage, and storage capacity will be further addressed in the detailed design.
3	A commenter expressed concern regarding disturbance and degradation of the ecosystem near the entrance to Shark Valley and the visitor center.	NPS is committed to minimizing impacts to natural resources near Entrance Road while still meeting the purpose and need of the project, which is to improve visitor safety. Through the detailed design process, the NPS will work to minimize and mitigate impacts to the extent practicable.

Concern(s)		Response
4	Commenters stated that the EA does not provide clear future actions with other partners on addressing the visitor safety concerns at Shark Valley, the user capacity goals would not be met, visitor experiences would not be improved and that the ongoing safety issues would continue.	The project will address issues related to visitor safety due to the unsafe overflow parking along Tamiami Trail. The NPS is committed, and will continue, to work with our partners (Miccosukee Tribe, Florida Department of Transportation, and other stakeholders) to include in the design features which ensure Tamiami Trail will not continue to be used for parking. While NPS recognizes that there may still be periods where parking overflows onto Tamiami Trail, this will be minimized by the project design and construction.
5	A commenter would like to ensure the proposed bus/RV parking is enforced so commercial vendors and paying park users do not have a priority over the bus/RV parking than schools, community and non-profit organizations.	The project includes additional bus parking over what is currently provided at Shark Valley. The NPS has the ability to manage commercial use; if the need arises, the NPS will address the use of the parking spaces to accommodate noncommercial services.
6	Commenters were in support of canoe/kayak launch facilities at Shark Valley. However, commenters also stated that canoeing/kayaking should not be proposed at Shark Valley due to sensitive resources and because there is water access nearby.	The canoe/kayak launch was removed from consideration in the EA due to resource protection concerns and because the launch may not provide a suitable kayak/canoeing experience compared to other launch points available in the area. The NPS will continue to evaluate viable canoeing/kayaking opportunities within this area of the park.
7	Commenters stated that any fill material should be scrutinized for seeds from exotic plants. A commenter also recommended the Park to reach out to National Park Service's Natural Sounds and Night Skies Division (NSNSD) regarding quiet pavement technology on the roadways.	The use of weed-free and weed-seed-free material on the project is included in the mitigation measures.  The speed limit in the project area is 15 mph, and road noise is not considerable. The NPS will follow up with the NSNSD during the detailed design of the project.
8	Commenters stated that raising Entrance and Tram Road was unnecessary.	Entrance Road is the only access point to Shark Valley and it is critical that access is maintained. Without improvements, sea level rise will result in more flooding events, particularly the southern

Concern(s)		Response
		portion of Tram Road. Elevating Tram Road and Entrance Road brings the roads to a consistent elevation which will mitigate the flooding while also providing more consistent access to the trails.
9	Commenters stated that providing an overflow parking lot and raising the roads would not improve accessibility and that the pull off stops for the trams should be maintained so trams can allow emergency and maintenance vehicles to pass by.	The proposed project will provide visitors an opportunity to park closer to the Visitor Center and provide safer access and improved visitor experience while also minimizing parking on Tamiami Trail. No changes are proposed to the tram pull-off stops other than paving the pull-off stops on the western leg of Tram Road.
10	<p>Commenters provided other ideas to consider as part of the EA. These ideas included:</p> <ul style="list-style-type: none"> <li>○ Adding bicycle repair stations and tire pumps along Tram Road</li> <li>○ Install water bottle refill stations</li> <li>○ Improved bathrooms for the public</li> <li>○ Increase the proposed sidewalk width to 8-ft.</li> <li>○ Expand the proposed sidewalk to provide a direct connection to the new overflow parking lot</li> <li>○ Install decorative crosswalks to increase safety and visibility of pedestrians/bicyclists</li> <li>○ Provide a seating area or pavilion at the new overflow parking lot</li> <li>○ Provide electric vehicle charging stations for visitors and employees</li> <li>○ Provide sustainable climate friendly measures wherever possible</li> <li>○ Provide fuel efficient trams at Shark Valley</li> <li>○ Provide a dumpster on-site for the concessioners</li> <li>○ Provide restrictions on bicyclists on Tram Road (such as not riding three abreast, pull over to the side of the road to stop, etc.)</li> <li>○ Install permeable pavers for the sidewalks and roadways</li> <li>○ Provide regional transportation partnerships to Shark Valley</li> </ul>	<p><i>Bike repair:</i> Bicycle repair stations are being considered by the NPS.</p> <p><i>Water refill station:</i> There is a water refill station at the visitor center and near the tower. Adding water refill stations along Tram Road will require significant new infrastructure as there is no existing water line along the road.</p> <p><i>Bathrooms:</i> Bathroom upgrades are not part of the purpose and need of this specific project. Upgrades are being considered under a separate parkwide water and wastewater rehabilitation project.</p> <p><i>Sidewalk:</i> Any new sidewalks will meet Architectural Barrier Act Accessibility Standards (ABAAS) for pedestrians and bicyclists will be encouraged to utilize the roadway rather than the sidewalk.</p> <p><i>Expanded sidewalk:</i> This element is included in the Selected Alternative.</p> <p><i>Decorative crosswalks:</i> During the detailed design, the NPS will consider a decorative crosswalk. All connections and crosswalks will meet ABAAS standards.</p> <p><i>Pavilion:</i> Due to the congested nature, adding a pavilion will be an additional impact to the viewshed and increase the development footprint. Covered areas currently exist at the Visitor Center.</p>

Concern(s)		Response
		<p><i>Climate friendly:</i> The NPS strives to include climate friendly improvements in its projects.</p> <p><i>Dumpster for concessioner use:</i> Due to the site limitations of the administrative area, the dumpsters for the NPS and concessioners will remain at their current locations.</p> <p><i>Restrictions on bicyclists:</i> This is an administrative issue that will continue to be monitored and addressed. Signage currently exists regarding bicyclist rules of the road.</p> <p><i>Permeable pavers:</i> The detailed design will tier off existing conditions, which include permeable pavers.</p> <p><i>Transportation:</i> NPS is committed to fostering regional transportation partnerships.</p>
11	<p>Commenters had questions regarding the following:</p> <ul style="list-style-type: none"> <li>○ Data/studies on the number of visitors to Shark Valley</li> <li>○ Impacts to vegetation as a result of added impervious surfaces</li> </ul>	<p>The number of cars at Shark Valley was derived from the visitor capacity studies provided in Chapter 5 of the 2015 Everglades National Park General Management Plan.</p> <p>The proposed improvements will include appropriate stormwater drainage considerations and will not impact adjacent vegetation outside of the project area.</p>
12	<p>Commenters expressed concern regarding the viewsheds being impacted by vegetation and that maintenance should occur to not impact the viewsheds. Commenters also stated that the rest stops should not block the views of Shark Valley.</p>	<p>The proposed action will avoid planting trees, shrubs, and other landscaped vegetation that impacts viewsheds and/or requires frequent maintenance. Vegetation maintenance at Shark Valley will continue, as needed. The NPS will consider minimizing the profile of the structures to not impact viewsheds.</p>



Concern(s)		Response
13	Commenters stated that the proposed improvements (i.e., rest stops, lighting) may negatively impact visitor experience and protected species.	<p>The purpose of the overflow parking lot, lighting, rest stops and other improvements proposed as part of this project is to improve visitor experience and safety by addressing the existing conditions which diminish the visitor experience. The project will not increase overall visitor capacity at Shark Valley.</p> <p>Lighting impacts to listed species were evaluated and impacts are not anticipated as a result of lighting changes on the project. The NPS will incorporate dark sky friendly lighting as described in the EA and will continue to coordinate with the NPS Natural Sounds and Night Skies Division (NSNSD) during the detailed design phase. Additional information on Best Management Practices for sustainable outdoor lighting is available at <a href="https://www.nps.gov/subjects/nightskies/sustainable-outdoor-lighting.htm">https://www.nps.gov/subjects/nightskies/sustainable-outdoor-lighting.htm</a></p>
14	Commenters stated that the proposed elevation of the roads should be conducted in a manner that enhances wetlands and habitat connectivity, such as through the use of culverts.	The proposed improvements include drainage considerations to facilitate wetland connectivity.
15	Commenters stated that rest stops are needed at Shark Valley. However, commenters also stated that the rest stops are not needed and would impact viewsheds.	The proposed rest stops along Tram Road will improve safety and enhance the visitor experience. Several shade structures/rest stops were located along Tram Road in the past but were damaged by a hurricane and removed. The project includes two rest stops, located three miles apart. These structures will be minimally visible so as to not impact viewsheds.

# **Appendix C      Wetland Statement of Findings**

United States Department of the Interior  
National Park Service

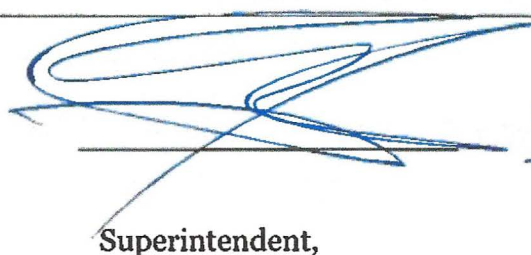
**Everglades National Park**

Shark Valley Site Plan

**Statement of Findings for Wetlands**

February 2023

Recommended:

 3/22/23

Superintendent,

Date

Everglades National Park

Certification of  
Technical Adequacy and  
Servicewide Consistency:



03/29/2023

Chief,

Date

Water Resources Division

Approved:

**MARK FOUST**

Digitally signed by MARK FOUST  
Date: 2023.05.01 15:49:34 -04'00'

Regional Director  
Interior Region 2

Date

## **INTRODUCTION**

The purpose of this Statement of Findings (SOF) is to comply with NPS Executive Order 11990 “Protection of Wetlands” which requires NPS and other federal agencies to evaluate the likely impacts of actions in wetlands. NPS Director’s Order #77-1: *Wetland Protection* and NPS *Procedural Manual 77-1* (NPS 2016) provide NPS policies and procedures to comply with Executive Order 11990. The National Park Service (NPS) is proposing to implement a site plan primarily to address issues related to visitor safety concerns as a result of unsafe parking conditions and flooding at Shark Valley Visitor Center within Everglades National Park (Everglades NP or “the park”) as envisioned in the park’s 2015 General Management Plan (GMP).

The purpose of this project is to enhance visitor experience, safety and park operations. This includes providing overflow parking and operational improvements at the Entrance Road for the Shark Valley Visitor Center. The project would minimize traffic congestion and enhance traffic circulation through the Visitor Center complex and allow emergency vehicle access during peak times; seek to mitigate flooding at the Entrance Road, the Administration Complex and the Tram Road. A tram pull-off area on Tram Road and two pedestrian rest stops on the eastern portion of Tram Road would also be provided to improve visitor experience.

The improvements proposed under the Site Plan are anticipated to meet the NPS need of enhancing visitor experience, safety, and park operations while making the Shark Valley facilities more resilient to flooding impacts that result from changes in intensity or frequency of tropical storm events as well as rising water levels resulting from the implementation of the Central Everglades Planning Project (CEPP) and other Everglades Restoration projects aimed at restoring natural hydrologic conditions. The proposed improvements would also enhance visitor experience and safety by providing on-site overflow parking; increase infrastructure resiliency by mitigating flooding at the Entrance Road, Tram Road and the Administration Complex; promote long-term viability of commercial services; and enhance visitor experience by providing pedestrian rest stops on the eastern portion of Tram Road.

Several design alternatives, including different locations, features, and design elevations were considered and evaluated within our Environmental Assessment (EA) for the project. This WSOE describes the wetland impacts and mitigations for the NPS preferred alternative and takes into account the existing quality of wetland habitat to be impacted, uniqueness of the habitat type within the general project area, prior disturbances/existing impacts, and habitat value for wildlife species expected to be present or observed while on site.

## **SITE DESCRIPTION**

The existing facilities at Shark Valley include approximately 2,200 feet (ft.) of park entrance roadway, administration facilities, a fee station, restroom facilities, a Visitor Center, an observation tower, and a 15-mile paved asphalt trail loop (aka Tram Road) (Figure 1). The Tram

Road is an elevated, paved loop trail leading from the Visitor Center south to the observation tower and back. The western leg of the tram road, an associated borrow canal, and observation tower occupy the footprint of former oil exploration infrastructure that was abandoned and repurposed to provide public access into Everglades National Park. The eastern leg of the tram road loop returns from the observation tower to the visitor center and consists of an elevated paved road adopting a sinuous path through the wetlands, but without an associated adjacent borrow canal. The entire region is wetlands, and this unique site, lying in the midst of contiguous high-quality Everglades wetlands offers a unique opportunity for visitors to travel far into the otherwise inaccessible vast wetland landscape.

With the existing 120 parking spaces at the visitor center, the parking is inadequate and does not accommodate the number of visitors to the park during periods of high visitation. With the current configuration, when the parking lot is full, visitors park along Tamiami Trail (US Hwy 41)– a major highway, which poses a safety hazard for moving vehicles and pedestrians walking along Tamiami Trail to enter Shark Valley. When parking is full, visitors who park along the highway have to walk approximately ½ mile along the entrance road to reach the visitor center.

The Shark Valley project area occurs within the “Shark River Slough” region of the park. The habitat within this Slough is primarily an oligotrophic freshwater marsh/inland slough and contains mixed wet prairie and sawgrass dominated slough supporting cyanobacteria-dominated periphyton and a diverse herbaceous wetland plant community interspersed with scattered wetland shrub- and tree- dominated hammocks present as small islands within the wet prairie habitats. The water depths in this region vary seasonally and are driven by rainfall in the region. In general, the wetlands in the project area retain water throughout most the year (i.e., long hydroperiod wetlands), but when they dry, water levels rarely recede below a foot below ground surface. The vegetative communities are typical of those found throughout the Shark River Slough region of the Everglades and vast expanses of wet prairie wetlands interspersed by deeper sloughs and tree islands extend for miles in all directions from the project area. The wet prairie habitat is dominated primarily by spike rush (*Eleocharis cellulosa*), maidencane (*Panicum hemitomon*), various sedges, grasses, and forbs with many open pockets where the underlying caprock is exposed. The slough habitats occupy longest-hydroperiod areas and are dominated by sawgrass (*Cladium jamaicense*) and white water lily (*Nymphaea odorata*), small clumps of cattails (*Typha spp.*), scattered leather fern (*Acrostichum danaeifolium*), coastal plain willow saplings (*Salix caroliniana*), and sparsely scattered small pond cypress (*Taxodium ascendens*).

The borrow canal adjacent to the western leg of the tram road is a shallow ditch resulting from excavation of material to build the elevated road. The canal is vegetated with primarily native long-hydroperiod wetland plants such as white water lily. It was not intended as a canal to convey water and is not maintained as a canal but may redistribute water to lower-elevation areas and therefore adversely affect wetland function and alter hydroperiods in the vicinity.

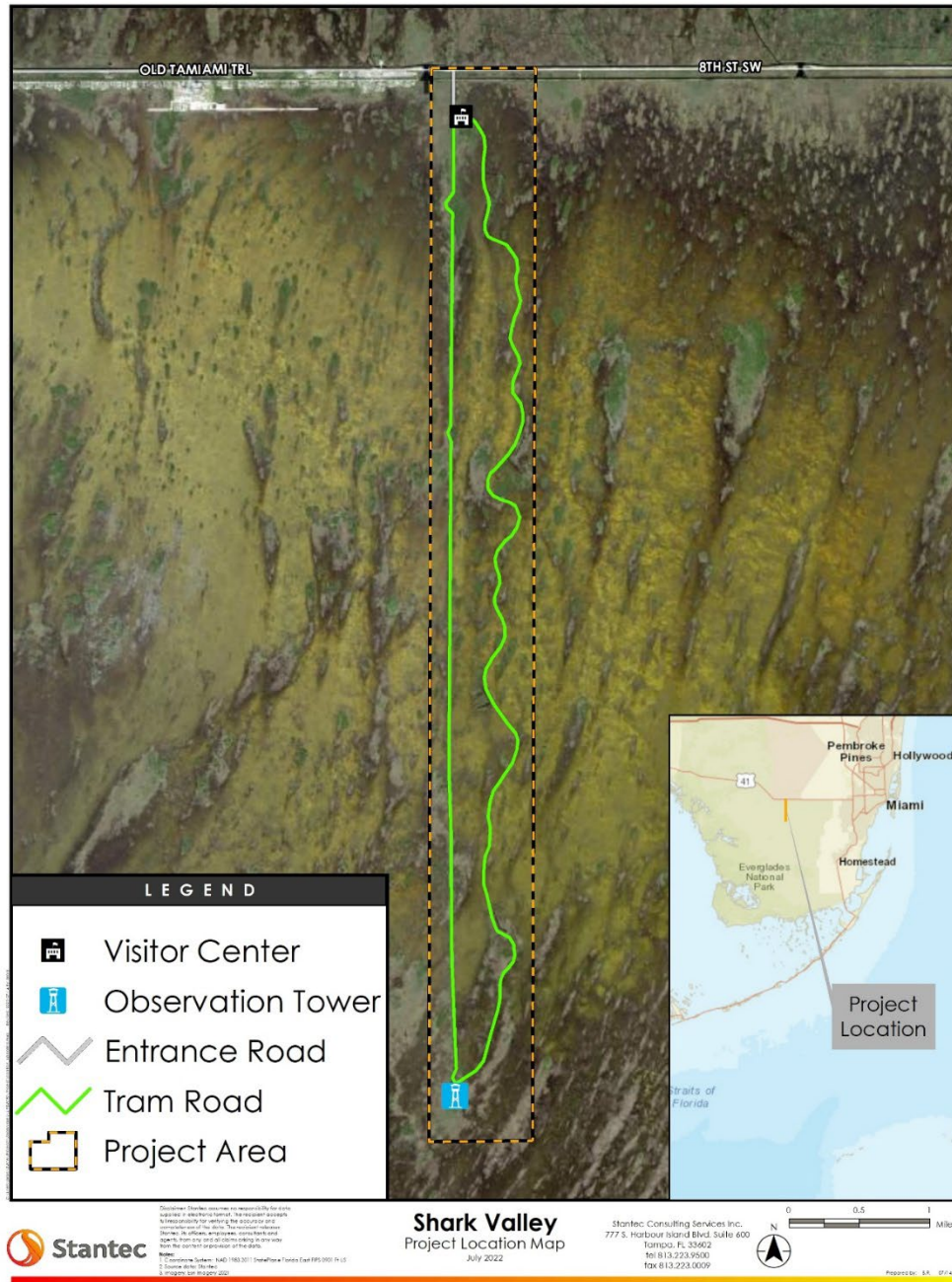


Figure 1. Project Location Map

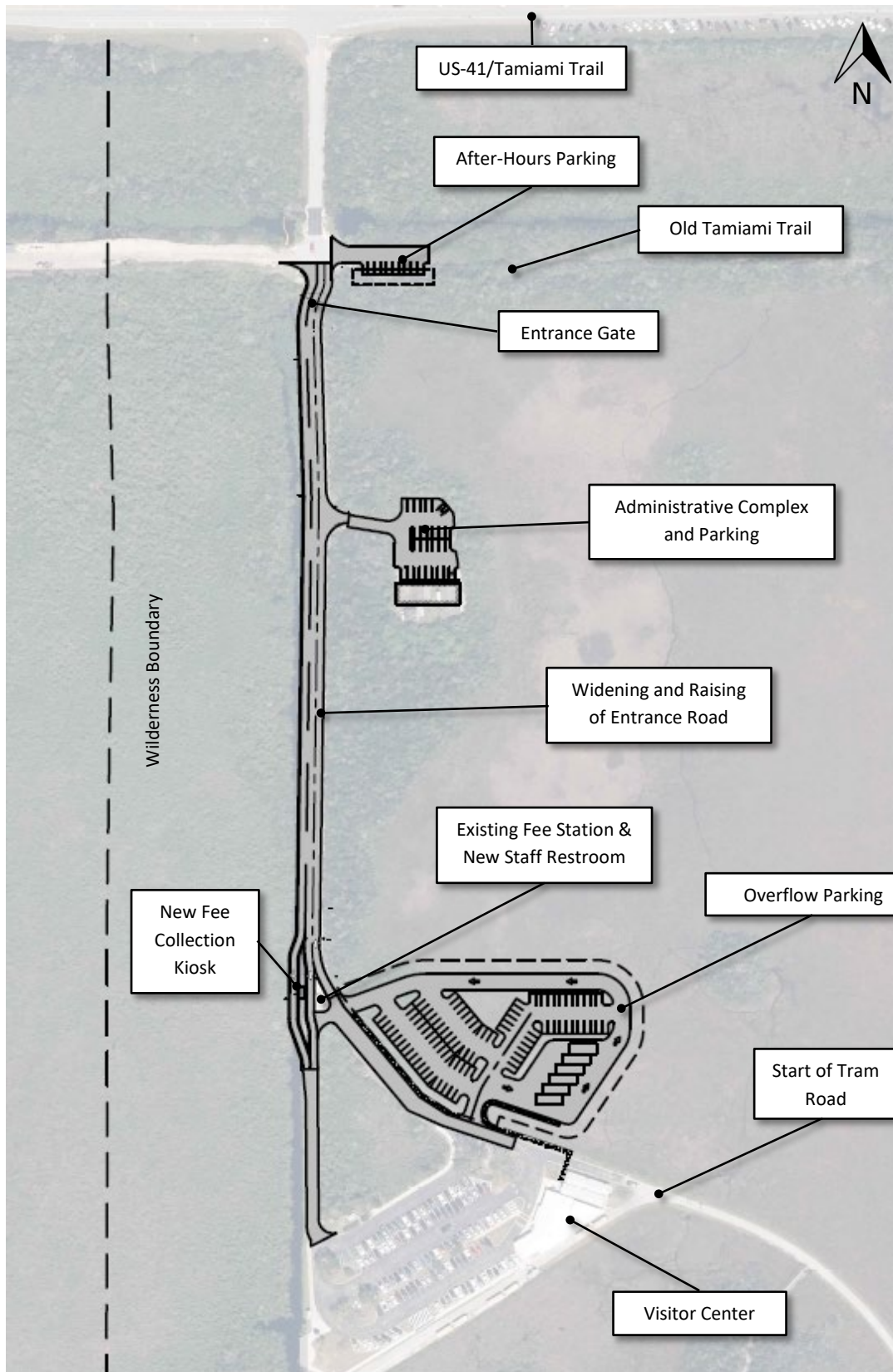


Figure 2. Features of the preferred alternative, Visitor Center to US41 at the northern extent

## **PROJECT DESCRIPTION**

Several alternative design elements were considered during the planning of this project, and two action alternatives and a no-action alternative were considered during National Environmental Policy Act evaluation. In addition, there were alternative roadway elevations considered as sub-alternatives. The description below represents only the preferred alternative with the highest final roadway elevation (and consequently the option least susceptible to future flooding impacts). When this project is implemented in the future, Everglades National Park may opt for a lower elevation or some minor differences in design elements, and this analysis represents a reasonable worst-case analysis of wetland impacts based on the current expectations for the project.

### **Elevating the Administration Complex**

The 2015 GMP identifies centralizing law enforcement, maintenance operations, and resource management administrative facilities in one new facility. This Site Plan includes improvements to raise approximately 0.47 acres of the previously developed site elevation to 11.5 ft. NGVD (10.0 ft. NAVD) to make the site less susceptible to flooding. All work would occur within the previously developed footprint of the Administration Complex, and the infrastructure would be reconfigured. The wetland habitat surrounding the existing administrative complex is a shrubby, cocoplum (*Chrysobalanus icaco*) dominated wetland. Because improvements being proposed are in the same footprint as the existing administrative complex, no wetland impacts are anticipated from these improvements.

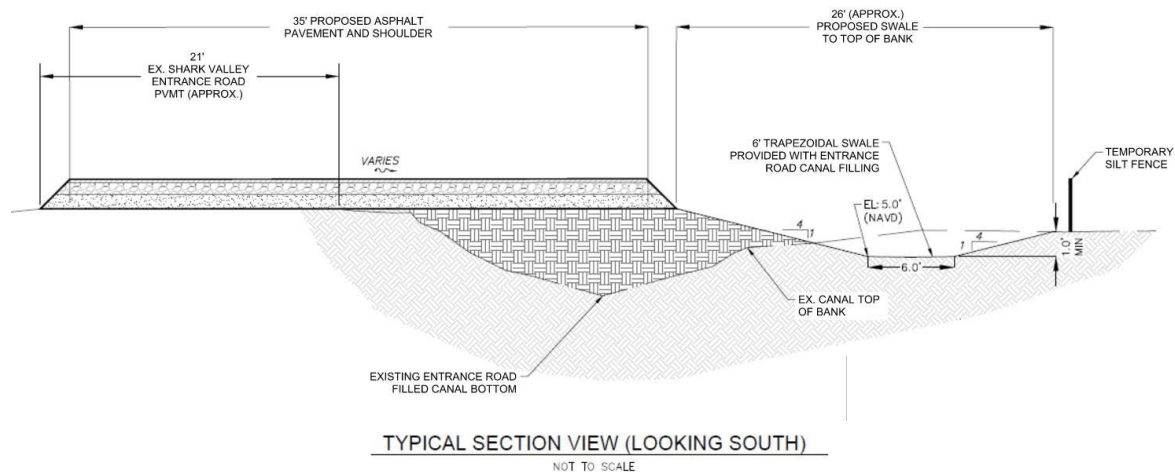
### **Entrance Road and Entrance Road Canal**

The improvements on Entrance Road includes widening the road to three lanes, two inbound lanes, and one outbound lane to reduce traffic backups from the fee both onto the highway, and raising the road bed to 10.50 ft. NGVD (9.00 ft. NAVD) to avoid flooding. The Entrance Road traverses a shrub dominated wetland habitat to the east with cocoplum being the most prevalent species, along with sparse pond apple (*Annona glabra*), royal fern (*Osmunda regalis*), dahoon holly (*Ilex cassine*), magnolia bay (*Magnolia virginiana*), swamp bay (*Persea palustris*), and coastal plain willow. Muscadine grape (*Vitis rotundifolia*), morning glory (*Ipomoea* spp.) and Virginia creeper (*Parthenocissus quinquefolia*) are growing throughout the general area. Just north of the existing gate to the park, a canal running east to west along the Old Tamiami Trail roadbed, much of which was recently removed, crosses under the Entrance Road and turns to the south. The Entrance Road Borrow Canal then parallels the Entrance Road and the west side of Tram Road. Vegetation west of the canal becomes typical of Everglades herbaceous wetlands with dominant sawgrass, cattails, scattered coastal plain willow, corkwood (*Stillingia aquatica*), and various other typical herbaceous species.

The proposed Entrance Road realignment would result in filling the Entrance Road Borrow Canal. The northern reaches of this canal were originally proposed to be filled to wetland grade as part of the Old Tamiami roadbed removal restoration project. However, some of the proposed improvements to the entrance road and new parking facilities being considered here will be



located in the footprint of the existing canal. Filling of the Entrance Road Borrow Canal would occur as part of this project and wetland impacts resulting from elevating the Entrance Road are considered here. The existing wetland along the Entrance Road, west of the canal, consists of a variety of herbaceous and mixed hardwood species which would facilitate the natural recruitment of this remaining filled area. Over time, a natural shrubby buffer, similar to the existing shrub dominated habitat on site, may establish along the roadway slopes and would likely include cocoplum, coastal plain willow, wax myrtle (*Morella cerifera*), swamp bay, red maple (*Acer rubrum*), dahoon holly and many of the fern species present in those existing communities throughout this project area. The widening of Entrance Road also includes the installation of a new drainage swale along the west side of the road to collect and treat stormwater runoff.



**Figure 3:** Entrance Road Typical Section

### Tram Road and associated improvements

The proposed improvements for the Tram Road include raising specific portions of the roadbed to higher elevations to allow the road to be useable at all times of the year and ensure the road would be more resilient to storm events and seasonal flooding. The existing Tram Road pavement width and horizontal alignment would remain the same and the overall function of the road would remain unchanged. However, the footprint of the overall typical section would increase to accommodate the higher elevation of the roadway and the proposed 4:1 (H:V) side slope into the adjacent wetlands. The impacted area would expand outward on both sides of Tram Road to accommodate elevating the road and grading the slope back to existing elevations, but the alignment could shift slightly westward so that the increased roadbed width impacts more of the degraded roadside ditch instead of the less-disturbed wetlands east of the road. In lieu of adding new culverts in locations that currently may have limited drainage, the roadway would be re-graded to help drain and reduce flooding.

The existing Tram Road elevations vary along the course of the road with the lowest elevation of 7.5 ft. NGVD (6.0 ft. NAVD) at the southern end, near the Shark Valley observation tower. The Summary of Flood Risk Analysis by the South Florida Natural Resources Center (SFNRC) provided flood analysis data to consider different proposed elevations for the Tram Road to reduce or eliminate flooding. The proposed elevation of 8.8 ft. NGVD (7.3 ft. NAVD) reduces flood risk to near 0% for both the longer period average as well as the wettest years. This elevation would significantly reduce the risk of flooding based on historic flood data, modelling of future water levels and flow paths that take into consideration the expected increases in water levels under the Comprehensive Everglades Restoration Plan's Central Everglades Planning Project (CEPP).

Currently, there are ten grassy/unpaved pull offs, as well as seven paved pull offs, for trams and bicycles to stop along Tram Road. Most of the existing pull offs areas are uncovered and unshaded. A single existing, grass tram pull-off area immediately north of mile marker four on the western leg of Tram Road would be stabilized with permeable pavers to allow year-round use of this area, including during the rainy season. Consistent with the guidance in the GMP, two rest stops with shade structures and benches would be provided along the eastern leg of Tram Road for bicyclists and hikers. To avoid impacts to wetlands, the rest stops would be located along Tram Road that are already (existing) widened/filled land masses on the interior side of the Tram Road. Unlike the western leg of the Tram Road where natural resting or shaded areas exist, currently there are no shaded areas along the eastern section of the road. The two proposed rest stops would be approximately 3 miles apart on the eastern leg of Tram Road.

The majority of the Tram Road passes through a large expanse of wet prairie habitat that contains grasses, sawgrass, spike rush, maidencane, and small clumps of individual hat-rack cypress. This area is typical of Florida Everglades wet prairie that also includes a moderate to dense mat of periphyton. Water levels are fairly shallow and consistent throughout this grassy

habitat due to the general flat topography throughout this habitat type. Trees are notably sparse primarily due to the high caprock throughout much of this area. In areas where the caprock subsides, small ponds and in some areas, small cypress communities are present. However, most of the cypress trees are hat-racked primarily due to the absence of soil over the underlying caprock. This habitat type is generally very abundant within the Everglades and is characterized by its contiguous and expansive nature. The seasonal fluctuations in water levels in this community provide for the seasonal concentration of small fish and crayfish as water levels recede that is a key foraging opportunity for many nesting wading birds.

### Overflow Parking

One of the larger design changes is the addition of an overflow parking area that consists of an additional 95 standard parking spaces and six bus/RV parking spaces located inside the entrance gate immediately north of the current Visitor Center and parking area. The overflow parking lot would be within primarily herbaceous wet prairie type wetland habitat. The northern edge of the proposed overflow parking lot would impact part of a shrub dominated wetland habitat, which is the least common habitat types in this general area. There are a few scattered hat-rack cypress present, as isolated individual trees throughout the wet prairie habitat proposed for filling. This wetland habitat type is the most common in the general vicinity of the Shark Valley area of the park.

As this design alternative is located immediately adjacent to the existing parking/Visitor's Center, it is anticipated that this alternative would concentrate the disturbances of this public access facility in one central location and thereby minimize the secondary and cumulative impacts on the Everglades. Implementing this alternative minimizes impacts to other wetland communities present on site that offer more potential uses for wildlife species while also being very productive and high functioning wetland communities.

### After-hours parking area

The design also includes a small parking lot of 10 standard parking spaces near the highway outside of the entrance gate at the north end of the project and east of the Entrance Road. This parking area will provide after-hours parking when the entrance gate is closed. The parking lot is mostly situated on the remnant roadbed of Old Tamiami Trail but will impact 0.06 acres of wetlands along the southern edge of the existing roadbed. This habitat has nuisance or exotic vegetation present.

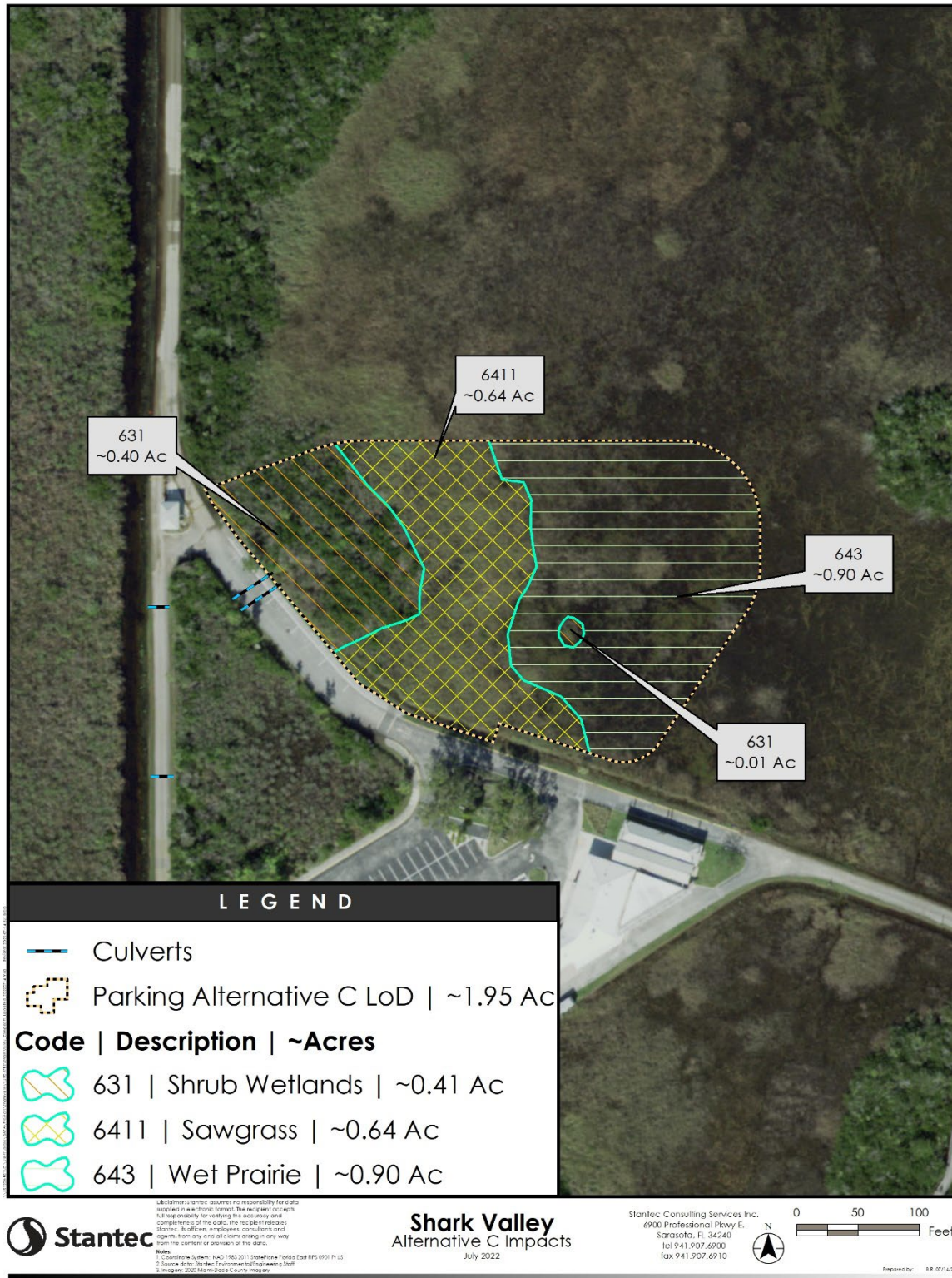


Figure 4. Overflow Parking Lot Wetland Impacts Map

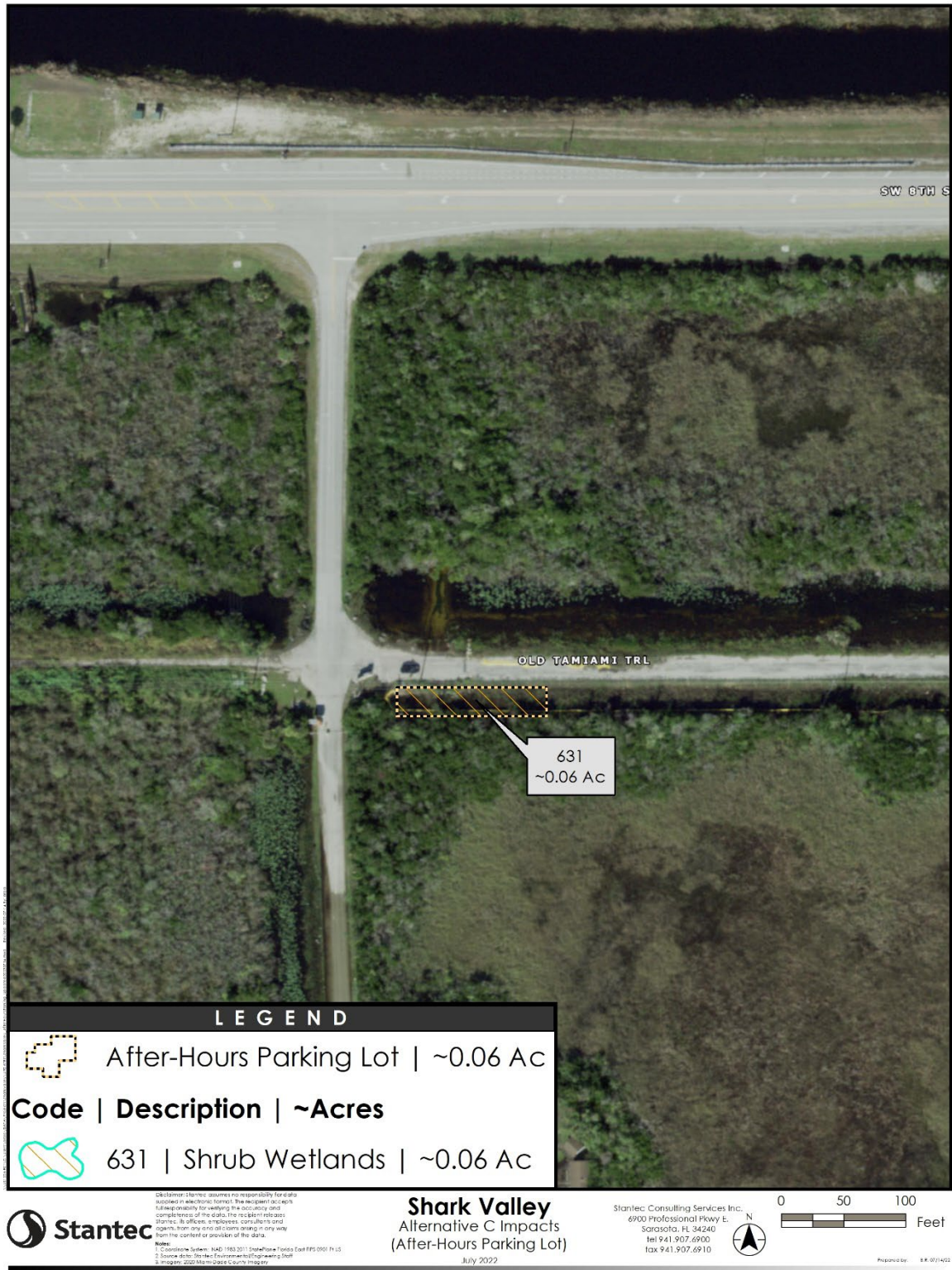


Figure 5. After-hours Parking Lot Wetland Impacts Map

## **NO-ACTION ALTERNATIVE (Continue with current infrastructure)**

The no-action alternative is presented for comparative purposes, and is also analyzed in the associated Environmental Assessment for the project. This alternative is practicable, and would continue with current operations at the site. Under this scenario, during busy periods, visitors would park along US Highway 41 and walk to the visitor center on the entrance roadway with traffic. Administrative areas would experience intermittent flooding that would interfere with operations. The tram road would also flood periodically and be closed to tram tours and other vehicular traffic for periods of 2-6 months when regional water levels are high. This condition will increase in frequency as Everglades Restoration projects work to restore the historical deeper water and longer hydroperiods that were characteristic prior to regional drainage. The wetlands on-site would continue to be maintained in their current condition, and the canal along the entrance road and tram road would locally convey and redistribute water resulting in local altered hydrologic conditions.

## **OTHER ALTERNATIVES CONSIDERED**

*Alternate location of overflow parking lot* - The primary action alternative besides the preferred alternative that was analyzed in our Environmental Assessment proposed locating the overflow parking lot near US highway 41, approximately ½ mile from the visitor center. A sidewalk would be added along the access road to improve safety. This selection of this location would reduce the wetland impact acreage by 1.01 acres, and the affected wetlands are mostly more disturbed due to their position adjacent to a canal and roadway. However, this location would impact a small area of high-quality pond apple forested wetland which is rare in the area. The other project features under this alternative would be the same as in the preferred alternative.

*Alternative tram road elevation* - As referenced previously, we also considered a lower finished elevation for the tram road loop. If the roadway was elevated to 8.2 ft NGVD (6.7 ft NAVD88) instead of the preferred 8.8 ft NGVD, the total acreage of wetlands impacted by the project would be reduced by 4.91 acres. The reduced wetland impacts would primarily be maintaining more of the roadside canal west of the current roadbed which is a relatively low-quality and disturbed wetland. Under this alternative, the road would still flood periodically for up to 1-2 months during wet periods.

*Alternatives considered but dismissed* - Additional parking options were considered in order to avoid and minimize impacts to wetland habitats on site. These options included construction of an off-site parking lot at the nearby Miccosukee Indian Village parking area. The eastern portion of the existing parking lot at the Village was considered but dismissed during the Value Analysis. This site would be located off of park lands and would require NPS to provide a shuttle for visitors to access Shark Valley. The shuttle would need to travel along Tamiami Trail and

Entrance Road to access the Visitor Center. Other off-site locations, such the implementation of a new visitor parking lot near Dade Corners, approximately 18 miles east of Shark Valley may be considered as part of a future planning effort as it also did not meet the goals of the project. Other options considered included a new overflow parking lot located just south of the Administration Complex; a new overflow parking lot located near Tamiami Trail, west of the Entrance Road; a new overflow parking lot with bus/RV parking spaces located just west of the existing Visitor Center and a new overflow parking lot located just west of the Visitor Center with bus/RV parking spaces installed in the center island near the Visitor Center. An on-site multi-level parking garage was also considered. However, these options were dismissed from further analysis due to impacts to natural resources, viewsheds, safety conflicts between pedestrians and vehicles, visitor disruptions during construction and not meeting the purpose and need for this project.

## **JUSTIFICATION FOR THE USE OF WETLANDS**

The preferred alternative for the Shark Valley site plan will result in unavoidable wetland impacts but will resolve the limited parking availability at Shark Valley and address the safety and operational issues at the site. The entire Shark Valley area is a wetland, and all current infrastructure occupied the footprints of formerly filled areas. The purpose for the visitor center, tram road and other infrastructure is to provide opportunities for visitors to experience the vast and contiguous Everglades wetlands and the abundance of wildlife they support. The result is that there are no available non-wetland sites in the area that could be used while meeting the need for this project. However, the project design emphasized avoidance and minimization of wetland impacts, which will also help to maximize the visitor experiences at this wetland-dependent recreation and education destination.

## **AVOIDANCE AND MINIMIZATION OF WETLAND IMPACTS**

Wetland impacts will be minimized to the greatest extent practical while achieving the project purposes. By maintaining the centerline of the existing road and utilizing the majority of the existing developed footprint, new impacts to jurisdictional wetlands will be greatly reduced. The proposed improvements will be designed to avoid higher quality wetlands to the greatest extent practical, especially along the west leg of Tram Road. Shifting the alignment of the road Placing fill on both sides of the Tram Road, avoiding the higher quality wetlands and directing impacts to the lower quality or disturbed wetlands such as the roadside canal will achieve this goal. In addition, the underlying caprock is near the surface throughout much of this proposed work area. The high caprock eliminates the need for de-mucking (which would result in a much wider footprint to stabilize the fill base) resulting in a reduction in the amount of fill required to reach the desired minimum road crown elevation. A detailed topographic survey to determine adjacent elevations will be performed once the final project details have been approved. Following the

completion of this survey, refined fill quantities and a definitive footprint of the wetland impacts will be generated during the design phase. This survey will precisely quantify the location and extent of all proposed fill impacts to jurisdictional wetlands associated with raising the crown elevation of the tram road.

Some wetland impacts will result from the proposed project; however, the benefit to the general public will be significant and justifies the minimal wetland footprint to be affected by these improvements. Wetland impacts are limited to the existing Tram Road footprint and a narrow strip of land on either side directly adjacent to the existing road footprint. These impacts would not be anticipated to affect the contiguous Everglades wetland habitat that will remain undisturbed.

## **PROJECT IMPACTS**

Due to the location of Shark Valley, which is centrally located in the park, construction of the proposed project features will result in unavoidable wetland impacts within the park. **Table 1.** below breaks down the anticipated wetland impacts by acreage and wetland type. In total, the preferred alternative includes a total of 11.36 acres of wetland impacts with the higher elevation for the Tram Road (elevated to 8.8 ft. NGVD or 7.3 ft. NAVD) and all other features.

Impacts to wetlands for Tram Road options were calculated based on the widening needed to create a 4:1 (H:V) side slope from the road edge to existing ground from the new finished road elevation (8.8 ft NGVD). The area of impact was calculated based on the width of fill needed to reach the desired elevation at a 4:1 (H:V) side slope multiplied by the length of road. See the summary table (**Table 1**) below used to calculate the impact acreage. The wetland impacts are 8.32 acres resulting from raising the Tram Road to 8.8 ft. NGVD (7.3 ft. NAVD).

## **PROJECT IMPACTS AND FUNCTION EVALUATION**

The Uniform Mitigation Assessment Method (UMAM) scoring system was used to calculate wetland functionality for the wetlands proposed to be impacted by this project since that is the standard required for wetland permitting in Florida. **Appendix A** details the UMAM scoring and total functional loss of each impacted wetland. The overall functional value scores for the impacted wetlands and the proposed compensatory mitigation wetlands were compared and used to determine the ratio of 1:1 (there needs to be a credit acre of restoration for every acre impacted by this action).

The majority of the wetland impact acreage, 75-80%, are associated with the Tram Road improvements, which will impact a thin strip of wetlands immediately adjacent to the existing Tram Road. These wetlands have been dredged to create unnatural conditions. They interfere with the natural hydrologic function and offer limited foraging opportunities for wildlife as they are used daily by people resulting in anthropogenic disturbances. Fill of these wetlands can be considered a restoration action.



The Entrance Road improvements associated with the alternatives result in impacts to the existing, moderate to low quality, Entrance Road Borrow Canal lacustrine wetlands and adjacent palustrine emergent wetlands on the west canal bank. The impact to the west canal bank is due to the installation of a new drainage swale along the west side of the road to collect and treat stormwater runoff (see Figure 3 for a typical section view). The proposed swale will encroach into the adjacent wetland and impact approximately 0.87 acres of wetland vegetation. The proposed Entrance Road improvements would also impact approximately 0.16 acres of impacts to existing mowed/maintained ROW associated with the existing entrance road. These wetlands provide very little in the way of habitat or foraging opportunities for wildlife species due to anthropogenic disturbances. The wetland functional quality is also moderate to low as a result of the frequent maintenance activities.

The proposed overflow parking lot is located within wetlands northeast of the existing parking lot/Visitor Center. This feature would result in impacts to 2.01 acres of wetlands. These wetlands currently provide seasonal foraging habitat for wading bird species and provide suitable freshwater wet prairie and sawgrass marsh habitat for an array of species that have the potential to occur in the project area. This parking lot would enlarge the existing footprint of the parking lot/Visitor Center and thereby centralize the impacts from human presence to one area.

Design Components		Land Cover		Impacted Acreage
Alternative C - Overflow Parking Lot		Shrub Wetlands		0.41
		Wet Prairie		0.9
		Sawgrass		0.64
Alternative C - After Hours Parking Lot		Shrub Wetlands		0.06
Canal Filling		Canal		0.87
Mowed/Maintained ROW		Roads and Highways		0.16
Impact Calculations for Elevating Tram Road to 8.8' NGVD /7.3' NAVD				
Average Proposed Fill Depth (ft.)	Length of Fill (ft.)	Width of Impact (includes both sides of road) (ft.)	Total Impact (ft. <sup>2</sup> )	Total Impact Acreage
0.5	23200	6	139200	3.2
1	9600	10	96000	2.2
1.5	9100	14	127400	2.92
<b>Totals</b>			<b>362600</b>	<b>8.32</b>
<b>Total Impacted Acres</b>				<b>11.36</b>
<b>Alternative C (Tram Option 1 Raise to 8.8') Total Functional Loss (per UMAMs)</b>				<b>3.31</b>

Table 1. Wetland Impact and UMAM Calculations for Each Element in the Preferred Alternative

## **MITIGATION**

NPS Procedural Manual 77-1 states that wetland compensation is required if adverse impacts on wetlands from the project total 0.1 acres or more (NPS 2016). Permanent impacts on the wetlands associated with the action alternatives would result in over 5 acres of impacts; therefore, compensatory mitigation is required. For this project, total compensatory mitigation will meet regulatory requirements associated with obtaining state and federal permits as well as meet the minimum NPS standard of 1:1 mitigation on a per acre basis. It is anticipated that mitigation for wetland impacts from this project will be offset through the purchase of wetland mitigation credits from the Hole-in-the-Donut (HID) Mitigation Bank. The HID Mitigation Bank is located in the southeast portion of Everglades National Park and services the project area in Shark Valley. The HID project is an approved wetland mitigation project under the Clean Water Act, as well as State law. This mitigation bank is the closest approved mitigation project to the site of impacts and mitigating at HID is consistent with guidance on selecting appropriate mitigation sites provided in the 2008 mitigation rule under the Clean Water Act. This site consists of the same wetland type (palustrine emergent wetlands), within the same watershed. Additionally, the mitigation site would provide benefit to the same wildlife populations as those affected at the impact site; it lies within the foraging area of the same wood stork and wading bird colonies.

In addition to meeting Florida Department of Environmental Protection and USACE UMAM based requirements for compensating for wetland impacts resulting from this work, NPS policy requires a minimum of 1:1 compensation on a per acre basis for new impacts to wetland plant communities that result from NPS actions. New impacts resulting from this project that must meet the 1:1 NPS requirement include wetland fill and disturbance from installation of overflow and after-hours parking lots. In addition, 1:1 compensation is required for any newly impacted areas resulting from the expanded footprint required to raise the elevation of the Shark Valley Tram Road. Impacts to wetlands resulting from backfilling the Entrance Road Canal are not required to meet the NPS requirement of 1:1 compensation as this component of the work is expected to reduce unnatural flows through the existing canal and improve hydrology within and around the project area. As such, it is considered to provide overall restoration benefits to wetlands.

The current UMAM analysis indicated that 3.32 mitigation credits within the HID will be required to meet regulatory requirements from the most impactful alternative. Based on the UMAM scoring for the HID mitigation project, this equates to 8.45ac of wetland restoration within the HID project. Purchase of 4.46 credits is required to ensure that the NPS 1:1 compensation requirement is met for the preferred alternative. The NPS plans to reserve at least 5 credits at HID to allow some buffer for regulatory agency negotiations. This credit total equates to a total of 12.35ac of wetlands restored, which provides sufficient compensation for any of the alternatives under consideration. Overall, NPS considers the restored wetlands resulting from mitigation in the Hole in the Donut to be functionally of higher value to the

wetlands that will be impacted by this project and concluded that a 1:1 ratio is sufficient. It is anticipated that the area of wetland impacts and UMAM scoring may change during final design and regulatory review. Wetland mitigation requirements will be modified, as needed, to ensure final compensation requirements for impacts will meet both regulatory and NPS requirements.

To further minimize impacts to wetlands, any disturbed areas will be allowed to recover naturally in order to avoid/minimize the introduction or spread of non-native, invasive plant and animal species. If necessary, and in coordination with the park Botanist, any fill, mulch, reseeded, and sod material brought into the park must be free of non-native, invasive plants and animals, and noxious weeds. Finally, NPS would mitigate wetland impacts associated with the Shark Valley Site Plan such that the project results in no net loss of wetlands and will continue to work to identify any measures to further minimize impacts to wetlands during the detailed design process. The Compensatory Mitigation Plan will be further developed and finalized in conjunction with, and as a requirement of, the Federal Section 404 permit process and the state Environmental Resource Permit (ERP) process.

## **COMPLIANCE**

In addition to Executive Order 11988, applicable laws and regulations pertaining to wetland impacts include Clean Water Act Section 401 and 404 and the National Environmental Policy Act (NEPA) of 1969.

## **CONCLUSIONS**

With the ongoing restoration of the historic Everglades hydrology through numerous projects including the removal of the Old Tamiami Trail roadbed, permanent water levels are rising, and seasonal inundation of the Shark Valley site has increased in duration. The current facilities at Shark Valley are inadequate to safely serve the number of visitors to the site during periods of high visitation. The proposed improvements associated with the preferred alternative will significantly benefit both park staff and visitors by locating the parking in one central location and maintaining existing traffic flow. NPS understands there will be wetland impacts to Everglades' wetland ecosystems as a result of the proposed improvements. However, the improvements will allow visitors to safely park within the park resulting in a project that is clearly in the public interest and in accordance with the park's GMP.

Shark Valley is comprised predominantly of jurisdictional wetland habitat. Wetlands were evaluated based upon several factors including previous disturbances, undesirable vegetation, existing hydrology, wildlife use and access to and from the existing facilities. All of the proposed action alternatives result in impacts to wetlands. The no action alternative would also avoid wetland impacts. However, the no action alternative fails to address the goals of the GMP to address parking and multi-modal traffic safety issues, flood resilience of the facilities, nor does it enhance visitor's experience. Mitigation and compliance with regulations and policies to prevent

additional impacts to wetlands and water quality would be strictly adhered to during and after construction following BMPs. No long-term adverse impacts to wetlands would result from the Proposed Action. Therefore, the NPS finds this project to be consistent with the policies and procedures of NPS Director's Order #77-1 (Protection of Wetlands) and Executive Order 11990.

## QUALIFICATIONS OF THE DELINEATORS

Craig Schmittler, Senior Environmental Scientist

Professional Wetland Scientist #776

Certified Senior Ecologist, Ecological Society of America

Master of Science, Zoology, Eastern Illinois University, Charleston, Illinois, 1984

Bachelor of Science, Eastern Illinois University, Charleston, Illinois, 1982

Scott McLeay, Environmental Scientist

Master of Science, Biological Sciences, Concentrations: Aquatic Ecology,

Biogeochemistry, University of Alabama, 2017

Bachelor of Science, Fisheries and Wildlife, Minor: Water Science, Concentration:

Fisheries Ecology and Management, University of Nebraska-Lincoln, 2015

## REFERENCES

National Park Service, US Department of the Interior (NPS)

2021 *Preliminary Design Report, Shark Valley Site Plan*

2021 *Draft Pre-NEPA Report, Shark Valley Site Plan*

2020 *Summary of Flood Risk Analysis, Shark Valley Site Plan, South Florida Natural Resources Center (SFNRC)*

2016 *Procedural Manual 77-1: Wetland Protection*

2015 *Everglades National Park General Management Plan*

US Fish and Wildlife Service (USFWS)

2020 “National Wetlands Inventory Wetlands Mapper.”

<https://www.fws.gov/wetlands/data/mapper.html>

Appendix A  
UMAM Score Sheets for all Impacted Wetlands

**PART I – Qualitative Description  
(See Rule 62-345.400, F.A.C.)**

Site/Project Name <p align="center">Shark Valley</p>		Application Number		Assessment Area Name or Number <p align="center">Alternative C</p>	
FLUCCs code <p align="center">631, 643 &amp; 6411</p>		Further classification (optional) <p align="center">Shrub wetlands, Wet Prairie &amp; Sawgrass</p>		Impact or Mitigation Site? <p align="center">Impact</p>	Assessment Area Size 631 - 0.41 ac, 643 - 0.90 ac, 6411 - 0.64 ac.
Basin/Watershed Name/Number <p align="center">Everglades National Park</p>	Affected Waterbody (Class) <p align="center">Class III</p>		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) <p align="center">Outstanding Florida Waters</p>		
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands <p align="center">Shrub Dominated Wetland Swamp within Everglades National Park, and the entrance to Shark Valley Visitor's Center</p>					
Assessment area description <p align="center">Shrub dominated Wetland Swamp within Everglades National Park, adjacent to the entrance to Shark Valley Visitor's Center. Area D has a single component, which is located east of the existing parking facilities near the existing visitor's center. The habitat to be affected includes shrub wetlands, sawgrass wetlands and wet prairie.</p>					
Significant nearby features <p align="center">Everglades National Park, US 41, Canal, existing park offices, existing internal roads and guard house and three filled roadways</p>			Uniqueness (considering the relative rarity in relation to the regional landscape.) Somewhat unique - the shrub wetlands contain several desirable shrub and tree species. The abundance of trees in the parts of this option make it less desirable to impact as forested wetland habitats in the general area of this project are not as common as herbaceous		
Functions High diversity of potential wildlife habitat types due to mix of herbaceous and forested components. Low exotic presence except in small areas near US 41 making it higher quality habitat. Variety of water levels in these habitats means greater wildlife utilization.			Mitigation for previous permit/other historic use <p align="center">N/A</p>		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) <p align="center">Typical wetland fish, reptiles and amphibians as well as small mammal species and wading birds found in the Everglades. Potential roosting / nesting for avian species due to abundant shrubs and trees. More diverse habitat offers potential use by wider range of wildlife species</p>			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) <p align="center">Potential forage habitat for several listed wading bird species, everglades mink, other species found in the Everglades. Potential roosting / nesting by avian species because of abundant trees.</p>		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): <p align="center">Numerous fish species, flame back turtle, cooter, alligator, brown rat, little blue heron, white ibis, mockingbird, cardinal, carolina wren</p>					
Additional relevant factors: <p>The shrub habitat within this option contains numerous shrubs and trees that are not present within most of the other options. There are a few exotics, but the area is generally vegetated by desirable native wetland species. These abundant shrubs and trees present could be used seasonally for nesting / roosting by avian species.</p>					
Assessment conducted by: C Schmittler / S McLeay			Assessment date(s): 9/24/2020 & 1/14/2021		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Rules 62-345.500 and .600, F.A.C.)**

Site/Project Name Shark Valley	Application Number	Assessment Area Name or Number Alternative C
Impact or Mitigation Impact	Assessment conducted by: C. Schmittler / S. McLeay	Assessment date: 9/24/2020 & 1/14/2021

<b>Scoring Guidance</b>
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>Post scores will be reduced due to loss of forested habitat in the general area around the entrance road and visitors center reducing the diversity of the wetlands habitats within this section of Everglades National Park. The proximity to large expanses of suitable habitat and a variety of habitats within the Everglades will remain the same pre and post development, however, due to the development of the parking lot, wildlife use of the actual property will be eliminated. In addition, the new fill slopes for the new parking lot will add habitat that will potentially allow the spread of nuisance and exotic species establishing on that newly created / disturbed area.</p>	<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td align="center">8</td> <td align="center">5</td> </tr> </table>	w/o pres or current	with	8	5
w/o pres or current	with				
8	5				
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>Pre scores will be slightly higher than post scores due to the increased potential for polluted runoff to enter the Everglades that was not previously present. Nutrient removal currently being provided by the vegetation in this parcel will be lost lowering the scores slightly in post condition. Potential for erosion and shoaling will increase in the post development phase due to newly filled slopes adjacent to the Everglades reducing the post scores slightly. Risk for turbidity / pollution from the three new sections of parking lots is also significantly increased in the post development condition.</p>	<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td align="center">6</td> <td align="center">4</td> </tr> </table>	w/o pres or current	with	6	4
w/o pres or current	with				
6	4				
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>Pre scores are high because of forested native wetland habitat which is unique to this area. There are very few exotic species present in these areas allowing for higher wetland function and wildlife use. Post scores drop to zero because all vegetation and wetland function has been lost in the developed wetland habitat.</p>	<table border="1"> <tr> <td>w/o pres or current</td> <td>with</td> </tr> <tr> <td align="center">8</td> <td align="center">0</td> </tr> </table>	w/o pres or current	with	8	0
w/o pres or current	with				
8	0				

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres	with
0.73	0.3

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 0.43 x 1.95 = 0.84

Delta = [with-current]
0.43

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =



**PART I – Qualitative Description  
(See Rule 62-345.400, F.A.C.)**

Site/Project Name Shark Valley		Application Number		Assessment Area Name or Number West Bank of Backfilled Canal	
FLUCCs code 510		Further classification (optional) west bank of backfilled canal which was wetland edge of canal prior to backfilling		Impact or Mitigation Site? Impact	Assessment Area Size 0.87
Basin/Watershed Name/Number Everglades National Park		Affected Waterbody (Class) Class III		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) Outstanding Florida Waters	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Western edge of existing canal that will be backfilled and restored to wetlands. Adjacent to non-forested wetlands within Everglades National Park, and the entrance to Shark Valley Visitor's Center					
Assessment area description The western bank (existing wetlands) of the existing roadside canal, which is permitted to be filled and converted to restored wetlands as part of the next phase of Next Steps restoration project for removal of Old US 41 road fill and restoration of historic hydrology					
Significant nearby features Everglades National Park, US 41, Shark Valley Visitor's Center, existing park offices, existing internal roads and guard house and associated roadways and parking lots			Uniqueness (considering the relative rarity in relation to the regional landscape.) Not unique - the historic canal currently conveys water from the US 41 drainage as a point discharge to the north and ultimately into the Everglades. The western back top to be impacted is the existing edge of the Florida Everglades		
Functions Existing canal is a point discharge of generally untreated stormwater runoff from US 41 directly into Everglades National Park, fish refugia in dry season, permanent water source for fish, reptiles and amphibians, forage habitat for numerous wading bird species including wood storks			Mitigation for previous permit/other historic use  N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Manmade canal that provides permanent water source for fish, reptiles and amphibians, forage habitat for wading birds in the Everglades. Refugia for numerous freshwater invertebrates including crayfish, snails, shrimp, etc. The western bank provides water quality benefits and wildlife habitat.			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area)  Potential forage habitat for several listed wading bird species including wood stork, limited potential for use by other listed species present in the Everglades.		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.):  Numerous fish species, flame back turtle, cooter, soft shelled snapping turtle, alligator, little blue heron, white ibis, American egret, great blue heron					
Additional relevant factors:  This is the only permanent waterbody in the immediate area around the Shark Valley visitors center. Source of fish, and forage species for wading birds; breeding habitat for reptiles, amphibians, and fish. Once the next phase of the Next Steps program is completed, this canal / permanent water source will no longer be present.					
Assessment conducted by: C Schmittler / S McLeay			Assessment date(s): 9/24/2020 & 1/14/2021		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Rules 62-345.500 and .600, F.A.C.)**

Site/Project Name Shark Valley	Application Number	Assessment Area Name or Number West Bank of Backfilled Canal
Impact or Mitigation Impact	Assessment conducted by: C. Schmittler / S. McLeay	Assessment date: 9/24/2020 & 1/14/2021

<b>Scoring Guidance</b>
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

<p>.500(6)(a) Location and Landscape Support</p> <p>Pre scores assuming the canal is back-filled and restored as wetlands habitat prior to this project being constructed, the habitat will be fairly high quality. Adjacent land uses are minimal except for the Miccosukee Village facilities to the northwest and the existing Shark Valley Visitor's center</p> <p>Post scores will be slightly reduced due to the addition of the park improvements, but other adjacent land uses will not change.</p>	<p>w/o pres or current</p> <p>8</p>	<p>with</p> <p>7</p>
<p>.500(6)(b)Water Environment (n/a for uplands)</p> <p>Pre scores are slightly lower due to the untreated point discharge of runoff from US 41 directly into the Florida Everglades.</p> <p>Post scores will be slightly higher as a result of the backfilling of the canal and creating wetlands habitat will provide water quality treatment for the runoff that will now sheet flow into the Everglades which will partially restore the historic sheetflow and hydrology in this general habitat.</p>	<p>w/o pres or current</p> <p>5</p>	<p>with</p> <p>6</p>
<p>.500(6)(c)Community structure</p> <p>1. Vegetation and/or 2. Benthic Community</p> <p>Pre scores are higher which reflect the restored wetland habitat where the open water canal was previously located. They also reflect the condition prior to the proposed road / swale impacts for the Shark Valley Visitor's center improvements.</p> <p>Post scores drop to zero as a result of fill placement in the wetlands for the improvements to the visitors center. This fill will result in the loss of wetland function and water quality treatment in the areas affected.</p>	<p>w/o pres or current</p> <p>7</p>	<p>with</p> <p>0</p>

Score = sum of above scores/30 (if uplands, divide by 20)
current
or w/o pres
with
0.67
0.43

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 0.24 x 0.87 = 0.21

Delta = [with-current]
0.24

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =

**PART I – Qualitative Description**  
**(See Rule 62-345.400, F.A.C.)**

Site/Project Name Shark Valley		Application Number		Assessment Area Name or Number Tram Road Option 1	
FLUCCs code 631, 643 & 6411		Further classification (optional) Shrub wetlands, Wet Prairie & Sawgrass		Impact or Mitigation Site? Impact	
				Assessment Area Size 8.32 Acres	
Basin/Watershed Name/Number Everglades National Park		Affected Waterbody (Class) Class III		Special Classification (i.e. OFW, AP, other local/state/federal designation of importance) Outstanding Florida Waters	
Geographic relationship to and hydrologic connection with wetlands, other surface water, uplands Wetland Swamp within Everglades National Park, and adjacent to the existing filled Tram Grade at Shark Valley Visitor's Center					
Assessment area description Wet prairie dominated wetlands within Everglades National Park, adjacent to the existing tram grade at the Shark Valley Visitor's Center. The habitat to be affected includes primarily wet prairie, but small pockets of sawgrass wetlands, a few shrub dominated wetlands and scattered hat rack cypress wetlands will also be affected byb the improvements to the tram facilities.					
Significant nearby features Everglades National Park, US 41, Canal, existing park offices, existing internal tram roads, guard house and three filled roadways			Uniqueness (considering the relative rarity in relation to the regional landscape.) not unique, most common wetland type at this site		
Functions moderate diversity of potential wildlife habitat types due to mix of herbaceous and forested components. Low exotic presence except in small areas near elevated ramp feature for viewing.			Mitigation for previous permit/other historic use N/A		
Anticipated Wildlife Utilization Based on Literature Review (List of species that are representative of the assessment area and reasonably expected to be found) Typical wetland fish, reptiles and amphibians as well as small mammal species and wading birds found in the Everglades. Potential roosting / nesting for avian species in scattered shrubs and trees. More diverse habitat offers potential use by wider range of wildlife species			Anticipated Utilization by Listed Species (List species, their legal classification (E, T, SSC), type of use, and intensity of use of the assessment area) Potential forage habitat for several listed wading bird species, everglades mink, other species found in the Everglades. Potential roosting / nesting by avian species because of scattered trees.		
Observed Evidence of Wildlife Utilization (List species directly observed, or other signs such as tracks, droppings, casings, nests, etc.): Numerous fish species, cooter, alligator, brown rat, little blue heron, American egret, snowy egret, white ibis, mockingbird, cardinal					
Additional relevant factors: Several old alligator nests were observed in the first inspection, wading birds were foraging throughout the site during both inspections					
Assessment conducted by: C Schmittler / S McLeay			Assessment date(s): 9/24/2020 & 1/14/2021		

**PART II – Quantification of Assessment Area (impact or mitigation)**  
**(See Rules 62-345.500 and .600, F.A.C.)**

Site/Project Name Shark Valley	Application Number	Assessment Area Name or Number Tram Road Option 1
Impact or Mitigation Impact	Assessment conducted by: C. Schmittler / S. McLeay	Assessment date: 9/24/2020 & 1/14/2021

<b>Scoring Guidance</b>
The scoring of each indicator is based on what would be suitable for the type of wetland or surface water assessed

<b>Optimal (10)</b>	<b>Moderate(7)</b>	<b>Minimal (4)</b>	<b>Not Present (0)</b>
Condition is optimal and fully supports wetland/surface water functions	Condition is less than optimal, but sufficient to maintain most wetland/surface waterfunctions	Minimal level of support of wetland/surface water functions	Condition is insufficient to provide wetland/surface water functions

.500(6)(a) Location and Landscape Support	Post score slightly lower due to loss of wetlands associated with fill placement for tram grade improvements
w/o pres or current 8	with 7
.500(6)(b)Water Environment (n/a for uplands)	Pre-Post scores will be relatively unchanged due to stabilizing fill slopes after construction to minimize erosion / runoff
w/o pres or current 5	with 5
.500(6)(c)Community structure	pre scores higher due to loss of vegetation in footprint of fill
1. Vegetation and/or 2. Benthic Community	
w/o pres or current 7	with 0

Score = sum of above scores/30 (if uplands, divide by 20)	
current or w/o pres 0.67	with 0.4

If preservation as mitigation,
Preservation adjustment factor =
Adjusted mitigation delta =

For impact assessment areas
FL = delta x acres = 0.27 x 8.32 = 2.25

Delta = [with-current]
0.27

If mitigation
Time lag (t-factor) =
Risk factor =

For mitigation assessment areas
RFG = delta/(t-factor x risk) =