Snake Creek

Bike Trail Planning and Feasibility Study
FINAL REPORT

September 2005

prepared for
Miami-Dade County Park and Recreation Department
Miami-Dade Metropolitan Planning Organization
Ms. Vivian Donnell Rodriguez:
Director
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Ms. Donnell Rodriguez:
Kimley-Horn and Associates is pleased to submit the Snake Creek Canal Bike Trail Planning
and Feasibility Study to the Miami-Dade County Park and Recreation Department. MDPR
and the Miami-Dade Metropolitan Planning Organization initiated the study to determine the
feasibility and potential for implementing a non-motorized trail within the Snake Creek Canal
right-of-way between NE Miami Gardens Drive and Florida’s Turnpike.

Our study uncovered several important mobility and recreational opportunities within this
corridor that make the Snake Creek Canal an attractive corridor for an enhanced bike trail. A
public involvement and community outreach effort provided invaluable comments and
suggestions for improving the trail concept, and developed strong relationships among
stakeholder agencies. These partnerships can be maintained throughout the implementation
and trail management process to ensure that the bike trail will become a durable community
asset.

This report document was developed to be an attractive presentation vehicle for the work
that was performed in this study that you can use for a variety of purposes from trail
workshops to grant applications. I would be happy to discuss this study and further assist in
the successful implementation of the Snake Creek Bike Trail.

Sincerely,

KIMLEY-HORN AND ASSOCIATES, INC.

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ACKNOWLEDGMENTS

Kimley-Horn and Associates, Inc. would like to acknowledge the many groups who contributed to the successful completion of the Snake Creek Bike Trail Planning and Feasibility Study.

The Miami-Dade County Park and Recreation Department (MDPR) served as the day-to-day management agency for the project. Mark Heinicke and Dr. Barbara Falsey were instrumental in coordinating public outreach activities and providing the park planning perspective necessary to develop a true linear park concept.

The Miami-Dade Metropolitan Planning Organization (MPO) funded the study through the Unified Planning Work Program (UPWP). Oscar Camejo is the administrator of the UPWP grant program for the MPO. David Henderson, Bicycle/Pedestrian Coordinator for the MPO, provided guidance and perspective throughout the study.

The South Florida Water Management (SFWMD) provided invaluable guidance on opportunities and requirements for use of the Snake Creek Canal right-of-way. Special recognition goes to Jose Fuentes, Audrey Ordenes, and Evan Skornick. The land being considered for the bike trail is owned by the SFWMD and is used for the purpose of maintaining the flood-control and conveyance purpose of the canal.

The City of Miami Gardens has been a strong partner throughout the study in representing the interests of the local community and providing local knowledge and insight. Jay Marder has been especially insightful throughout this study and his time is appreciated for coordinating efforts within Miami Gardens.

Although not located directly within the study limits, representatives from the City of North Miami Beach provided a wonderful service for their neighbors to the west by having members of the bicycle patrol unit of the North Miami Beach Police Department attend public meetings for this study to address concerns about safety and security along the proposed trail. Special thanks to Assistant City Manager Keven Klopp, Commander Kevin Prescott, Officer Alex Morales, and Officer Jimmy Randazzo.

A special recognition goes to Gail Birks Askins of CMA Enterprise, Inc. for assisting in the public outreach and interagency coordination for this study and preparing meeting documentation.
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September 2005

Kimley-Horn and Associates, Inc.
# Snake Creek Bike Trail Planning and Feasibility Study

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LIST OF ACRONYMS

AASHTO American Association of State Highway and Transportation Officials
ADA Americans with Disabilities Act
BPAC Bicycle Pedestrian Advisory Committee
DERM Department of Environmental Resources Management
FDEP Florida Department of Environmental Protection
FDOT Florida Department of Transportation
FEC Florida East Coast (Railroad)
FP&L Florida Power and Light
GOB General Obligation Bond
HEFT Homestead Extension of Florida’s Turnpike
MDPR Miami-Dade County Park and Recreation Department
MDT Miami-Dade Transit
MDWASD Miami-Dade County Water and Sewer Department
MPO Metropolitan Planning Organization
NDGMP North Dade Greenways Master Plan
NE Northeast
NW Northwest
ROW Right-of-way
SE Southeast
SFRC South Florida Rail Corridor
SFRPC South Florida Regional Planning Council
SFRTA South Florida Regional Transportation Authority
SFWMD South Florida Water Management District
STP Surface Transportation Program
SW Southwest
USACE United States Army Corps of Engineers
EXECUTIVE SUMMARY

The Snake Creek Bike Trail Planning and Feasibility Study was initiated by the Miami-Dade County Park and Recreation Department (MDPR) in conjunction with the Miami-Dade Metropolitan Planning Organization (MPO). The purpose of the study is to assess the development of a non-motorized trail and linear park within the Snake Creek Canal (C-9) right-of-way between NE Miami Gardens Drive and Florida’s Turnpike. The Snake Creek Bike Trail study included interagency coordination, municipal presentations, and three advertised public meetings to solicit community input and present the proposed trail concept.

The Snake Creek Canal corridor presents numerous positive opportunities for developing a bike trail. The overall concept of a greenway along Snake Creek Canal was identified in the North Dade Greenways Master Plan. The study segment is a strategic connection between the existing bicycle trails of Snake Creek Park in North Miami Beach and the Snake Creek Restoration Project and Greenway trail concept plan developed by the U.S. Army Corps of Engineers and South Florida Water Management District between Florida’s Turnpike and NW 37th Avenue. Additional strategic opportunities of the Snake Creek greenway include providing connections to regional parks such as Greynolds Park and Oleta River State Recreation Area, improving the existing bicycle/pedestrian underpass at I-95, integrating the linear park concept within the redevelopment plans for the Williams Island Golf Course, and improving the aesthetics of the currently underutilized right-of-way.

A concept was developed that provides a continuous bike trail across the study limits from the existing Snake Creek Park to the Turnpike underpass. Connector paths were identified to adjacent residential neighborhoods and commercial shopping centers. Supplemental trail amenities along the trail include benches, shelters, fitness stations, fishing platforms, playgrounds, interpretive signs, and information kiosks illustrating the greenway trail alignment and points of interest. Two trailheads were identified - NE Miami Gardens Drive and U.S. 441. A series of seven bicycle/pedestrian bridges are proposed in the plan to improve mobility across the canal and link the trail on the north side of the canal with the trail on the south side. The proposed budget for the design and construction of the Snake Creek Bike Trail is approximately $8.0 million including amenities, supplemental infrastructure and soft costs.
INTRODUCTION

Bicycle facilities are important components of a multimodal transportation system that enhance bicycling as a viable transportation option. Bicycle facilities, such as bike paths and bike lanes, designate space for bicycle travel. Bicycle infrastructure, such as signage, bike racks, and lockers, enhance the experience of the bicyclist and encourage greater usage. Combining bicycle facilities and bicycle infrastructure is important to create an integrated system that augments bicycling as a mode of transportation.

Bicycling is not only a transportation mode; bicycling is also a popular recreational activity. Many people in Miami-Dade County take advantage of favorable weather throughout much of the year to enjoy bicycle riding for leisure and mobility. Providing appropriate bicycle facilities can encourage short trips to be made on a bicycle instead of by automobile and contributes to a healthy citizenry.

COUNTY WIDE BICYCLE MASTER PLANS

Miami-Dade County maintains a strong bicycle planning emphasis. In 1998, the Miami-Dade County Board of County Commissioners adopted the North Dade Greenways Master Plan (NDGMP), which provides for an extensive network of urban greenway corridors with connections to residential neighborhoods and major activity centers. It is an integrated system of connecting greenways, trails and bike lanes that total more than 300 miles in 24 individual corridors with 19 designated trails. The Miami-Dade County Metropolitan Planning Organization (MPO) Governing Board adopted the current Bicycle and Pedestrian Facilities Plans in December 2001. The purpose of the 2025 Bicycle Facilities Plan was to update and expand prior bicycle planning efforts and to prioritize bicycle facility projects. In late 2004, the MPO Governing Board adopted the Miami-Dade Long Range Transportation Plan to the Year 2030 (Transport 2030). The 2030 Plan included a Greenway and Trail component. Off-road bicycle and pedestrian facilities were identified and included in the cost feasible plan.

WHAT IS A GREENWAY?

A greenway is a linear open space established along either a natural corridor (such as a riverfront, valley, or ridgeline) or a man-made corridor (such as a canal, railroad, or scenic highway). Greenways serve a dual-nature as both a link in the transportation system and a park for recreational purposes.

Greenways can exist in both rural and urban areas. Rural greenways are often associated with long-distance travel and recreation including abandoned railroad corridors, rivers, large state and national parks, and ecologically significant natural corridors that provide for hiking and wildlife migration. Protected linear corridors in urbanized areas can be more challenging to provide due to land constraints and other obstacles; however, urban greenways are just as vital as rural greenways due to the critical need for the environmental and human benefits associated with greenways in modern cities. In addition, the large population base of a modern city often furnishes a higher number of potential greenway users within close proximity.

WHAT IS A TRAIL?

A trail is a pathway providing the opportunity to move from one place to another. Trails can be developed naturally over time due to frequent usage by people or animals. Trails can also be constructed to facilitate or encourage movement or recreation along a certain path. Trails can be made of a natural surface, such as grass or dirt, or a hard surface, such as concrete or asphalt. Trails and trail networks provide positive opportunities for users. The following is a small sampling of activities that can be made possible by trails.

- Exercise
- Bike to work
- Walk to a shopping center
- Observe local vegetation and wildlife
- Meet neighbors
- Access the park system
- Experience tranquil outdoor settings

SNAKE CREEK CANAL OVERVIEW

The Snake Creek Canal extends across northern Miami-Dade County from the Everglades to the Intracoastal Waterway. In the west, the Snake Creek Canal terminates at the Miami River Canal west of U.S. 27. Snake Creek forms the border between Miami-Dade and Broward Counties west of the Homestead Extension of Florida’s Turnpike (HEFT). Between the HEFT and Red Road, the Snake Creek Canal flows through the municipalities of Miramar within Broward County, East of Red Road, Snake Creek re-enters Miami-Dade County and flows through the municipalities of Miami Gardens and North Miami Beach before joining the Oleta River just north of the Oleta River State Recreational Area and adjacent to East Greynolds Park. The waters of the Snake Creek Canal and Oleta River reach the Atlantic Intracoastal Waterway just east of the State Recreational Area.

The South Florida Water Management District (SFWMD) owns and maintains operational responsibility for the Snake Creek Canal. The SFWMD designation for Snake Creek is the C-9 Canal. The primary purpose of the SFWMMD canals is to provide flood and water control for South Florida. Most SFWMMD canals have right-of-way reserved on both sides for maintenance purposes and to provide the proper clearance between the canals and surrounding urban elements.
Greenway trails along the Snake Creek Canal have been the subject of several prior efforts by local agencies. As far back as 1976, Miami-Dade County obtained an easement from the South Florida Water Management District to provide a bicycle/pedestrian path within the south side of the Snake Creek Canal right-of-way between Sierra Park (NE 2nd Avenue) and the I-95 corridor. Miami-Dade County built the path and has the responsibility for maintenance of the trail. The path was extended under both the CSX railroad bridge and the I-95 bridge to connect to NE Miami Gardens Drive in the area west of Sky Lake.

The Snake Creek Canal crosses into the City of North Miami Beach southeast of NE Miami Gardens Drive. In the 1990's, the City of North Miami Beach received federal grant assistance to construct a linear park with a bicycle/pedestrian trail along the south side of the Snake Creek Canal between NE Miami Gardens Drive and NE 167th Street. This area along Glades Drive became Snake Creek Park and is an attractive, popular recreational facility for area residents. The park and trail were later extended to the north side of the canal in the same area. Trail users can now make a loop along both sides of the canal within Snake Creek Park.

The United States Army Corps of Engineers (USACE), in conjunction with the SFWMD, conducted an environmental restoration study along the Snake Creek Canal during 2002. The study limits were from NW 37th Avenue to Florida’s Turnpike. The Final Integrated Ecosystem Restoration Report and Environmental Assessment recommended a modification of the C-9 Canal involving creation of submerged littoral shelves, and aquatic and riparian plantings for improved water quality. The plan also included an outdoor recreation component consisting of bicycle/pedestrian trails, a pedestrian bridge across the canal, interpretive signs, and benches. The USACE and SFWMD are currently seeking funding to implement the environmental modifications and the trail along the Snake Creek Canal between NW 37th Avenue and Florida’s Turnpike. Figure 1 presents a map of the Snake Creek Restoration Project and Greenway. Appendix A of this report includes additional documents from the USACE/SFWMD project.

Figure 1: Snake Creek Restoration Project and Greenway
STUDY CORRIDOR

The subject of the bicycle trail feasibility study described in this document is the segment of Snake Creek Canal right-of-way from Florida's Turnpike in the west to NE Miami Gardens Drive in the east. This segment of the canal right-of-way is crucial for bicycle planning purposes as it connects the planned USACE/SFWMD greenway trail section in the west (at the Turnpike) with the existing greenway trails southeast of NE Miami Gardens Drive within Snake Creek Park in North Miami Beach. The study corridor is approximately 3.5 miles long. Both the north and south sides of the canal right-of-way are included in this study, making the total corridor length approximately seven miles. The canal right-of-way in this corridor varies from approximately 300 to 400 feet. The canal itself is typically 150 to 180 feet wide.

The Planning and Feasibility Study examines improving the connection to the segment of greenway trails maintained by the City of North Miami Beach southeast of NE Miami Gardens Drive. In addition, the study considers improvements to the trail maintained by the Miami-Dade Park and Recreation Department (MDPR) south of Sierra Park NE 2nd Avenue. Other issues to address include providing connectivity across several arterial roadways including I-95, Ives Dairy Road, U.S. 441, and Florida's Turnpike.

Figure 2 presents an aerial overview of the study corridor. Figure 2 clearly illustrates the strategic importance of the study segment of Snake Creek Canal right-of-way connecting the USACE/SFWMD greenway trail in the west with the trails within the City of North Miami Beach. Appendix B presents photographs that depict the study corridor overlaid on an aerial photograph of the corridor.

Figure 2. Aerial Map of Feasibility Study
EXISTING CONDITIONS ANALYSIS PROGRAM

Examining the existing conditions is a vital step in a trail feasibility assessment because the trail corridor will not exist in a vacuum. Other physical infrastructure may exist – both natural and man-made – that can provide opportunities or constraints to the development of a trail. Many agencies including local governments, utility companies, environmental groups, and transportation authorities will have a stake in the development of a trail. Public stakeholders include residents and businesses along the trail corridor. Considering the ownership of the land comprising the trail corridor, as well as adjacent lands, is another important component of an existing conditions assessment.

The existing conditions analysis for the Snake Creek Bike Trail Planning and Feasibility Study included assessing background information, a field inventory of existing conditions, coordination with local agencies and the general public, and a corridor analysis program.

BACKGROUND INFORMATION

Relevant background information was compiled and reviewed to begin assessing the feasibility and need for a bike trail along the Snake Creek Canal within the study limits.

Land Ownership and Function

Land ownership for potential trail corridors is often complex and varied. However, in the case of the Snake Creek greenway corridor, the proposed trail is being considered within the right-of-way owned by the South Florida Water Management District (SFWMD), except for those locations where the trail corridor crosses arterial transportation corridors. These roadways and their rights-of-way (including sidewalks) are maintained by the Florida Department of Transportation (FDOT). The proposed trail corridor also crosses the South Florida Rail Corridor (SFRC), which is also owned by FDOT. The SFRC carries both CSX freight trains and passenger trains including Tri-Rail commuter trains and Amtrak inter-city trains.

SFWMD owns the right-of-way being considered for an off-road bicycle trail along the Snake Creek Canal. SFWMD is a regional agency of the State of Florida and is charged with managing and protecting water resources of the region by balancing and improving water quality, flood control, natural systems, and water supply. The primary purpose of the Snake Creek Canal is for flood conveyance and drainage control in the extensively urbanized area through which it flows. The canal right-of-way provides access to the canal for maintenance purposes. It is important to maintain the drainage systems in and around the canal. Blockage of the canal or its drainage systems can result in serious water backups and hamper the function of the canal in the event of an extreme weather event such as a hurricane.

Therefore, one requirement of a trail plan along the Snake Creek Canal right-of-way is to maintain access to the canal right-of-way by maintenance vehicles. The trail should not be built in a manner that blocks access to the bank of the canal by maintenance vehicles, which may need to travel along or beside the trail to perform routine and emergency maintenance activities. The trail also should not be built in a manner that hampers the water conveyance systems of the canal.

Surrounding Land Uses

Typical land uses surrounding the Snake Creek Canal within the study limits include residential, light industrial, a commercial area along U.S. 441, and a vacant former golf course. Between NE Miami Gardens Drive and I-95, the canal is connected to a large lake (part of the Sky Lake chain of lakes). The vacant Williams Island Golf Course is situated adjacent to the north side of the canal between the I-95/SFRC and Ives Dairy Road.

Residential land use abuts the canal corridor for approximately one-half of the length of the study segment. Multi-family apartment complexes and condominiums exist (1) south of the canal between NE 191st Street and Sierra Park and (2) north of the canal between Ives Dairy Road and U.S. 441. Single family residential areas exist (1) south of the canal between Sierra Park and Ives Dairy Road, (2) north of the canal between U.S. 441 and Florida’s Turnpike, and (3) south of the canal between U.S. 441 and Florida’s Turnpike. In addition, redevelopment plans are being considered to construct residential units in the vacant William’s Island Golf Course.

Early development plans include both a system of paths within the development and the preservation of land for a linear park along the canal. An opportunity exists to connect the Snake Creek Bike Trail to the paths within the golf course right-of-way to provide transportation connectivity and recreational opportunities for the residents of the area.

Park Maps

Base maps were collected to analyze the location of infrastructure such as roadways, canals, and parks in relation to the study corridor. Figure 3 presents a map of the Snake Creek Canal corridor that illustrates the location of the proposed bike trail connection between the existing North Miami Beach Greenway (Snake Creek Park) and the planned USACE/SFWMD trail west of Florida’s Turnpike. Figure 3 also presents the locations of County parks. The only existing park directly adjacent to the study corridor is Sierra Park. However, Greynolds Park is a major regional park located in North Miami Beach east of NE 19th Avenue located within one mile of the greenway trails within Snake Creek Park.

Figure 3 also illustrates the location of the existing bike path between I-95 and Sierra Park. The park classification of the Snake Creek Bike Path is Greenway. The park classification of Sierra Park is Neighborhood Park. Sierra Park occupies 1.95 acres and is bounded by NE 195th Street to the south, NE 1st Place to the west, Sierra Drive to the north, and NE 2nd Avenue to the east. Sierra Drive runs parallel to the Snake Creek Canal within the vicinity of Sierra Park.

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Figure 3. Snake Creek Canal Corridor
North Dade Greenways Master Plan

The North Dade Greenways Master Plan (NDGMP) established an integrated network of corridors for potential greenway development. The purpose was to establish the direction for a network of interconnected greenway corridors for alternative transportation mobility and recreational purposes. The NDGMP identified the Snake Creek Canal corridor as a proposed greenway corridor from the Miami River Canal to the Atlantic Ocean. The greenway corridor runs approximately 19 miles along the Snake Creek Canal for the majority of the corridor length. East of U.S. 1 (near the outfall of Snake Creek into the Oleta River) the greenway corridor runs along the Sunny Isles Causeway to connect to the barrier island at Sunny Isles Beach. It also connects to Broward County.

The Snake Creek greenway corridor provides linkage to several other greenways identified in the NDGMP as illustrated in Figure 4 and described below. Figure 5 presents the potential network of greenways throughout Miami-Dade County.

- Miami River Trail - The Miami River Trail runs along the Miami River/ Miami Canal from Downtown Miami to Broward County. The proposed Miami River Greenway west of Downtown is part of the overall Miami River Trail greenway corridor.
- Florida's Turnpike Trail - The Florida's Turnpike Trail runs along the Homestead Extension of Florida's Turnpike (HEFT) from Doral to Snake Creek.
- Gold Coast Trail - The Gold Coast Trail runs along the South Florida Rail Corridor (SFRC) from near Miami International Airport to Broward County. The Gold Coast Trail intersects the Snake Creek Trail within the study limits of the Planning and Feasibility Study described in this report.
- Flagler Trail - The Flagler Trail runs along the Florida East Coast (FEC) Railroad corridor from Downtown Miami to Broward County.
- Oleta Trails - Several recreational bicycle trails exist within Oleta River State Recreational Area.
- Atlantic Trail - The Atlantic Trail runs along A1A from Miami Beach to Broward County and provides north-south mobility for bicyclists along the beaches.

Other Planned Bicycle Facilities

In addition to the trails of the NDGMP, background research for this study revealed several other bicycle facilities planned within the vicinity of the Snake Creek corridor. Conversations with officials at the City of North Miami Beach revealed that the City is planning to extend additional bicycle lanes along NE 183rd Street (parallel to and south of NE Miami Gardens Drive) connecting Snake Creek Park and Greynolds Park. Bicycle lanes have already been constructed along NE 183rd Street between NE 19th Avenue and NE 22nd Avenue (near the entrance to Greynolds Park).

Figure 4. NDGMP Trails Connecting to Snake Creek Canal

Bicycle signs have been erected along NE 22nd Avenue to warn motorists of the presence of bicyclists. Finally, the City is considering bicycle lanes along East Drive between NE Miami Gardens Drive and Parkway Regional Medical Center near the Golden Glades Interchange. Figure 6 depicts planned bicycle facilities within the City of North Miami Beach.

FDOT is considering adding bicycle lanes to Sunny Isles Boulevard (State Road 826) between U.S. 1 and Oleta River State Recreation Area as part of a resurfacing project. This section of Sunny Isles Boulevard is a critical link in the overall Snake Creek Greenway Trail with the potential to link Snake Creek Park with Oleta River State Recreation Area.

Additional unfunded bicycle projects identified in the MPO's Bicycle Facilities Plan in the vicinity of the proposed Snake Creek Bike Trail include the following:
- NE 2nd Avenue between NE 191st Street and Sierra Drive
- NE 2nd Avenue between Ives Dairy Road and NE 207th Street
- NE Miami Gardens Drive between NE 6th Avenue and NE 10th Avenue
- NE 19th Avenue between NE 171st Street and NE 183rd Street
- U.S. 441 between Ives Dairy Road and NW 207th Street
- NW 7th Avenue between NW 191st Street and Honey Hill Drive (Ives Dairy Road)

The Snake Creek Canal corridor is identified in the Broward County Greenways Master Plan as the C-9 Trail, which connects to several potential Broward County greenways including the Central Trail FP&L R.O.W. and the Flamingo Road Trail, as depicted in Appendix C.
Figure 5. Miami-Dade County Greenway Network

Figure 6. North Miami Beach Planned Bicycle Facilities
Multimodal Access
Miami-Dade Transit (MDT) Metrobus routes were identified that could provide connections to the Snake Creek Bike Trail. Providing connections between bicycle facilities and transit facilities is an important way of increasing access to transit. In addition, MDT’s Bike-n-Ride program allows cyclists to extend their rides by using bus bike racks while they ride the bus.

Figure 7 presents a map of Metrobus routes in the vicinity of the study corridor. Connections to Metrobus routes from the proposed Snake Creek Trail are available at the following locations:
- NE Miami Gardens Drive (MDT Route 75)
- Sierra Park (North Dade Connection)
- Ives Dairy Road @ NE 2nd Avenue (MDT Route 91)
- U.S. 41 @ NW 204th Street (MDT Route 91)

Blueways
The Miami-Dade County Blueways network is designed to provide residents and visitors with a fun, healthy way to explore the County’s many beautiful water bodies. The paddling trails that make up the blueways have been selected due to their scenic quality, cultural interest, proximity to users, and uninterrupted segment length. The Park and Recreation Department has developed a Blueways Plan to enhance enjoyment opportunities for residents and visitors. Since the proposed Snake Creek Trail is along a canal, the Blueways Plan was reviewed to examine potential coordination opportunities.

Snake Creek Canal is identified as a Blueway between Florida’s Turnpike and the outflow to Oleta River. Thus, the entire study corridor is within the Blueway designation. Kayak/canoe launches are identified in the Blueways Plan along Snake Creek Canal at NE Miami Gardens Drive and near Sierra Park. Recreational amenities may be included as part of the Trail concept consistent with the County’s Blueways Plan. Miami-Dade County blueways and established paddling trails are presented in Appendix D.

Field Inventory of Existing Conditions
A field inventory was conducted to study general corridor conditions and identify potential opportunities and constraints that may be readily apparent. Photographs were taken during field reviews to document the existing conditions along the Snake Creek Canal corridor between NE Miami Gardens Drive and Florida’s Turnpike.
INTERGOVERNMENTAL COORDINATION
To initiate the intergovernmental coordination and public involvement component of this study, stakeholder agencies were contacted whose assistance may be required to design or implement a bike trail along Snake Creek Canal within the project limits. The purpose of the preliminary agency contact was to collect ideas, constraints, and requirements for the bike trail. The agencies listed in Appendix E were contacted as part of this process. A sample letter is also included in Appendix E.

In addition, contact letters were sent to eleven public officials of the project area to notify them of the bike trail study and to solicit comments and input. A list of the public officials is included in Appendix F along with summary reports for meetings held with public officials throughout the course of this study.

The interagency coordination process revealed many important corridor opportunities and constraints. Several of these elements are listed below.

- A SFWMD general guideline is to not place landscaping elements or other structures within 40 feet of a canal top-of-bank for maintenance purposes and to reduce canal blockage during and after severe storms.
- When presented with the idea of a series of pedestrian bridges spanning the Snake Creek Canal, SFWMD indicated that these pedestrian bridges are within their guidelines as long as any bridge piers that may be required go through the SFWMD permit process.
- Officials from the City of Miami Gardens indicated a desire to improve the site in the northeast corner of the U.S. 441 bridge over the Snake Creek Canal. The site is considered underutilized open space where trucks are frequently found parking illegally.
- Miami Gardens representatives also indicated a new residential development is being planned north of the canal east of U.S. 441. The bike trail would serve as an excellent recreational opportunity for the new residents in the area.
- South Florida Regional Transportation Authority (SFRTA) officials indicated that a bridge over the South Florida Rail Corridor (SFRC) would require a vertical clearance of 24 feet, 3 inches, (24.25 feet) above the top of the rail. In addition, the required lateral clearance of a supportive bridge pier from the rail is 25 feet.

PUBLIC INVOLVEMENT
Public involvement is key to a successful trail planning process. Public involvement fosters trust and support between the local community and the project representatives. The ideas and input gathered from the public involvement component of this study played a vital role in the outcome of the bike trail plan.

Advertised Public Meetings
Three advertised public meetings were conducted for the Snake Creek Bike Trail Planning and Feasibility Study, Miami Herald advertisements for the public meetings are provided in Appendix G.

Two meetings were held near the beginning of the study to inform the community of the bike trail concept and to solicit input and ideas to be considered during subsequent phases of the study. These two initial meetings in the form of workshops were held near opposite ends of the study corridor in different neighborhoods in an attempt to maximize attendance and gain a wide spectrum of ideas. A final public meeting was held near the end of the study to receive comments and suggestions on the preliminary trail concept plan. The final public meeting was held as an "open house" where attendees could visit various stations assembled around a room and make comments and suggestions regarding the preliminary plan and other study material on display. The three public meetings conducted for this study were held on the following dates at the following locations:

- Hibiscus Elementary School - April 11, 2005
- Norland Senior High School - April 20, 2005
- North Dade Regional Library - June 29, 2005

In addition to the advertised public meetings, several presentations were given to municipal councils and local homeowners' associations in the study area. A PowerPoint presentation was developed for the public meetings to explain the park planning process, discuss corridor opportunities and constraints, and address potential concerns. In addition, a project information sheet was developed to distribute during the public outreach component of this project; Appendix H contains the project information sheet. Appendix I presents the results of a survey that was distributed during the community meetings to solicit input and suggestions for the proposed bike trail. Appendix J includes public meeting summary reports.

PUBLIC INVOLVEMENT
In general, public feedback and comment regarding the linear park and bike trail concept along the Snake Creek Canal was positive. A consistent theme that was voiced at the meetings was a lack of park facilities in the area, especially south of the canal. Many local residents seemed pleased that a linear park facility was being considered within the Snake Creek Canal right-of-way. Several meeting attendees, especially at the public meeting held near the eastern end of the study corridor, indicated they utilized the existing path between Sierra Park and I-95 and would like to see the path surface improved, more frequent maintenance, and to connect the path to other trails.

Several important concerns were raised by community meeting participants regarding the proposed bike trail. The most common concerns raised at the public meetings were fears of increased crime and loss of privacy by adjacent homeowners, particularly those living in the gated residential community of Andover Estates along the north side of Snake Creek Canal west of U.S. 441. Many Andover Estates residents seemed to view the proposed trail as a new public thoroughfare that would provide quick access to their property by outsiders. Additional concerns were raised regarding maintenance of the trail. These type of concerns are quite common for proposed trail projects and were addressed from several perspectives during the study.

Crime, Property Values, and Maintenance Concerns
Representatives from the City of North Miami Beach were contacted to discuss their experience gained from planning, constructing, and operating the bike trails within Snake Creek Park. According to historical information gained from City of North Miami Beach officials, similar concerns of crime, property values, and intrusion were raised by adjacent landowners along the Snake Creek Canal before construction of the trails.

Crime, Property Values, and Maintenance Concerns

Representatives from the City of North Miami Beach were contacted to discuss their experience gained from planning, constructing, and operating the bike trails within Snake Creek Park. According to historical information gained from City of North Miami Beach officials, similar concerns of crime, property values, and intrusion were raised by adjacent landowners along the Snake Creek Canal before construction of the trails.
However, the area homeowners have not expressed opposition to the trails after implementation because they are experiencing the benefits brought by the positive atmosphere in the park, frequent maintenance of the canal right-of-way, and proximity to the tranquil recreational environment. In addition, the City of North Miami Beach Police Department operates a bicycle patrol that monitors the bike trails and other locations throughout the city. Officers from the City of North Miami Beach Police Department attended the public meetings to help address the crime issue and provide ideas about policing the proposed trail. The North Miami Beach experience can provide guidance for communities west of the existing Snake Creek Park in implementing bike trails that can become a source of community pride.

An important aspect of linear parks and trails that can address the crime and intrusion issue is that the trails will provide natural surveillance of the area by trail users. This will help minimize the occurrence of crime. Perpetrators of property intrusion tend to seek concealed locations with little chance of surveillance by others. Furthermore, there is very little security within the existing unimproved canal right-of-way that would stop a would-be intruder from wandering along the canal bank.

Trail safety has also been studied on a national level as well as at the local level. According to national crime statistics documented by the Rails-to-Trails Conservancy, parks and trails are among the safest places in the country - people are two to three times safer on a trail than in a parking lot or on a street. According to The Impacts of Rail-Trails: A Study of Users and Nearby Property Owners from Three Trails, the majority of local property owners would rather live near a trail than live near an unimproved right-of-way. In addition, the majority of frequent users of the trails are adjacent landowners.

Property values were also addressed in this study based on concerns raised during the public involvement process. North Miami Beach properties along the Snake Creek Park bike trails have experienced similar property value increases as other areas of the city. Nationwide, several studies have shown no negative effect on property values following the implementation of a trail, and in some cases property values have increased. In fact, trails have consistently been shown to increase (or have no effect on) property values, to have no measurable effect on public safety, and to have an overwhelming positive influence on the quality of life for trail neighbors as well as the larger community. Several sources are listed below:

- Effects of Three Cary Greenways on Adjacent Residents, Lauren A. Tedder, University of North Carolina, 1995.
- The Impact of the Brush Creek Trail on Property Values and Crime, Michelle Miller Murphy, Sonoma State University, 1992.

Trail maintenance is a valid concern of adjacent residents and potential trail users. If the proposed trail is not properly maintained, it could fall into a state of disrepair that could damage the positive community aspect of the trail. It is important to maintain a consistent and frequent maintenance program after construction of the trail to maintain the appearance and positive public perception of the trail.

CORRIDOR ANALYSIS PROGRAM

Based on the data collected and organized in this study, as well as the existing conditions of the corridor and the surrounding areas, an analysis was conducted that focused on the feasibility of the project. The analysis phase of the planning process considered infrastructure needs, project requirements, opportunities, constraints, supplemental amenities, access control, and trail safety improvements.

Infrastructure Needs

The multimodal infrastructure most suited to serving project mobility needs is an off-road, multi-purpose paved non-motorized trail. This type of trail provides a path for bicyclists and pedestrians separated from vehicular traffic with few obstacles to negotiate. This facility type is consistent with other sections of the Snake Creek Canal corridor where off-road, non-motorized paths either already exist or are in the planning stage. In addition, off-road non-motorized trails provide a suitable environment for various cyclist ability levels - from novice to advanced.

The project corridor is also suitable for the development of a linear park facility for the enjoyment of local residents and trail users. The study corridor generally consists of open space canal right-of-way. Corridor beautification could enhance the trail environment and park facilities along the way could serve as recreational destinations. Only one existing neighborhood park is located near the study corridor. The study corridor segment between U.S. 441 and Florida's Turnpike contains no parks in the immediate vicinity.

Project Requirements

The primary requirement to move the project forward is the securing of funding for the design and construction phases of the bike trail. The project is identified in the Miami-Dade Long Range Transportation Plan to the Year 2030 and the North Dade Greenways Master Plan; however, the project is not yet programmed for funding in the County's work program. A general obligation bond (GOB) item that was approved by Miami-Dade County voters in 2004 included $1 million for a pedestrian bridge overpass at I-95 and the South Florida Rail Corridor and $2.3 million for greenway development within Commission District I. This funding can be utilized during the 13-year GOB program for capital improvement related activities. However, the remaining funds for construction of the trail and linear park would need to be obtained from other potential sources including grants and general funds.

Partnership with the South Florida Water Management District (SFWMD) will remain a critical element of the successful completion of a bike trail along the Snake Creek Canal. SFWMD owns the right-of-way that has been identified for the trail construction. Requirements of SFWMD that have been identified in this study include access requirements, landscaping guidelines, and bridge permits. SFWMD desires to construct a bike trail...
within the Snake Creek Canal right-of-way west of the study segment; therefore, continuing partnering opportunities exist for funding, design, construction, and maintenance.

Another critical partnership that must be maintained is the support of the local municipalities along the study corridor. Coordination with municipal leaders, key staff members, and residential groups along the corridor must continue throughout the design, construction, and maintenance process. For example, a community design workshop during the preparation of construction documents can provide continuing education to the public about the trail while eliciting input on design elements. In addition, interlocal agreements with adjacent municipalities may provide opportunities for cost sharing and actively involving local entities in the successful incorporation of the trail into the local community.

Corridor Opportunities
The following opportunities have been identified for the Snake Creek Canal Bike Trail corridor.
• To provide a connection to Snake Creek Park and the popular bike trails that already exist within Snake Creek Park along the canal right-of-way.
• To provide a non-motorized connection to regional parks and greenway trails such as:
  - Greynolds Park
  - Oleta River State Recreation Area
  - Haulover Beach
  - Gold Coast Trail
  - Flagler Trail
  - Atlantic Trail
  - Florida’s Turnpike Trail
  - Miami River Trail
  - Central Trail FPL B.O.W. (Broward County)
  - Flamingo Road / Hiatus Road Greenway (Broward County)
• The opportunity to help shape the redevelopment of the Williams Island Golf Course site, which lies adjacent to the Snake Creek Canal for a significant distance between Ives Dairy Road and I-95, to include a greenway and linear park along the canal with connections to the residential neighborhoods.
• Several logical locations identified in this study for potential trailheads include NE Miami Gardens Drive, Williams Island, and U.S. 441.

Supplemental Amenities
Based on the data and needs analysis conducted for this study, supplemental amenities were identified for the bike trail to enhance recreational opportunities.

Benches - Benches are the basic amenity that should be provided along the Snake Creek Trail. Benches provide opportunities for trail users to rest, stretch, and enjoy the vistas offered along the trail. Benches can be made from a variety of materials including treated wood, painted metal, concrete, and recycled plastic. The bench should be securely anchored to the ground so it will not overturn. Benches should highlight the trail’s variety including taking advantage of sunlight, shade, tranquil spots, and busy high-visibility intersections. Benches help make a trail more accessible. The general spacing guideline for benches along a multi-use non-motorized trail is at least one bench every 500 feet. Benches should be placed away from pedestrian and bicycle paths and located at least 3 feet from the edge of the trail. Benches should be connected to the trail with a concrete pad for accessibility purposes and to avoid bare spots.

Shelters - Shelters with roofs and protected seating areas should be placed along the bike trail to provide opportunities for trail users to escape from elements such as rain and intense sun while providing a pleasant place to rest. The shelters recommended in this study include a picnic table and an overlook for trail users to enjoy views of the canal. The overlook should not extend out over the canal water. The shelters and overlooks should be constructed on concrete pads and located in visible areas along the trail.

Bicycle Racks - Bicycle racks should be located as close as possible to destinations without interfering with bicycle or pedestrian flow. Bicycle racks should be located in areas where natural visual surveillance is likely and where shelter is available. Bicycle racks should be located near entrances to residential neighborhoods, at trailheads, and at destinations such as shopping centers and parks. It may be possible to work with local commercial landowners and shopping centers to place bicycle racks near shopping destinations such as Publix.
Trash Receptacles - Trash receptacles should be placed at strategic locations along the trail corridor, especially near where people may naturally gather such as entrances to neighborhoods, activity centers, and parks. Trash receptacles should also be placed near picnic tables and shelters. It is important that trash receptacles along the Snake Creek Bike Trail be included on regular, frequent maintenance rounds to ensure a tidy appearance along the corridor and to reduce foul odors that may occur.

Fishing Platforms - Fishing platforms were identified as a desired amenity during this feasibility study since the bike trail is to be located along a canal right-of-way. Several people were observed fishing in the canal during field reviews conducted for this study. Fishing platforms would provide a spot for people to gather for fishing and provide an additional recreational destination along the corridor.

Directional Signs - Directional signs may be composed of a small post that provides the direction of travel and a mile marker to indicate distance along the trail corridor.

Location Kiosks - Location kiosks are recommended to be provided at intervals along the trail. An efficient place to erect a location kiosk is near an entrance to the trail from a residential neighborhood. The location kiosk is generally a wood structure that provides an overall map of the trail corridor and points out the location of the observer. A mile marker may also be placed on the location kiosk to indicate distance. Information about local attractions such as parks and shopping centers may also be provided on location kiosks.

Interpretive Signs - Interpretive signs provide additional information about features of interest along the trail corridor including wildlife, vegetation, and historical significance. It is important to make trail users aware of environmental values along the trail corridor.

Neighborhood Connections / Meeting Areas - The concept of the neighborhood connection/meeting area is to provide a gathering place for people to meet for positive activities such as exercise groups. In addition, these meeting areas are proposed to be located at connections to adjacent residential neighborhoods. Paved paths are recommended to be constructed linking the residential neighborhoods with the proposed Snake Creek Bike Trail. In addition to the paved connecting paths, clusters of amenities are recommended to be placed at neighborhood connection/meeting areas including one location kiosk, two benches, one bicycle rack, and one trash receptacle.

Trailheads - A trailhead is a site with a large cluster of amenities along the trail corridor. Trailheads generally serve as locations that provide regional trail access. Trailheads are important as they are often seen as recreational destinations and points of departure for the trail that are familiar to the entire community, not just trail users. Trailheads should be developed where possible in high visibility locations next to parks, shopping centers, or large residential neighborhoods. For the Snake Creek Bike Trail, recommended amenities to be placed at trailheads include parking areas, picnic shelters, and kayak/canoe launches (to integrate with the County's Blueways plan). The purpose of providing parking is to provide opportunity for regional access to the trail. A general rule of thumb is that parking lots should have 350 square feet of area for each car space accommodated.

Exercise Facilities - Exercise facilities, also known as fitness stations, are popular amenities for a multi-use trail. An exercise facility generally consists of a series of stations along a trail equipped with apparatus and directions for specific exercises. The exercise facilities should include a progressive routine that includes warm-ups, strengthening, aerobic, and cool-down exercises. The stations should be located approximately 5 to 10 feet away from the trail to allow exercise activity to take place without interfering with trail traffic. Shade should be provided where feasible.

Playgrounds - Since the Snake Creek Bike Trail is located near residential neighborhoods, school-age playgrounds are recommended to be located along the trail to provide recreation for children ages 5-12. Strong consideration should be given to providing fencing along the playgrounds to encourage children to stay together within the playground.
Kayak/Canoe Launches - The study segment of the Snake Creek Canal is part of Miami-Dade County’s Blueways network. Therefore, it is desirable to provide amenities that help integrate blueways and greenways. Kayak/canoe launches are proposed at the U.S. 441 and NE Miami Gardens Drive trailheads for the Snake Creek Bike Trail.

Landscaping

Landscaping is a critical element of a trail corridor because the visual effect a trail has on a trail user can help define the experience of using the trail. Landscaping can also be used as a buffer between public areas and private property.

Different types of plants and trees can play different roles along a trail corridor. The use of different varieties of trees and shrubs can create shade and define spaces visually. Moderately sized shrubs can block eye-level views of adjacent properties. Small shrubs and woody plants add visual interest to the landscape and can help control for weeds. Ground cover forms the surface of a landscaping plan and can provide food and cover for wildlife.

Guidance from the SFWMD Permit Information Manual states that trees and shrubs should be kept back a distance of 40 feet from the top of the bank due to maintenance and canal blockage concerns. Landscaping must go through a permitting process. Any landscaping within 40 feet from the top of the bank would require a waiver of rules. Therefore, landscaping should mostly be concentrated on the outside of the trail (between the trail and the adjacent properties).

The landscaping concept developed in this study is a coordinated idea that combines smaller shrubs and hedges (for controlling access and visual buffers) along the edge of the property line with larger landscaping trees that can provide shade and visual interest. A park fence may also be provided along the right-of-way boundary in residential sections.

One particular corridor need that may be addressed through landscaping is the need to screen the waste transfer station adjacent to the south side of the canal right-of-way near the railroad. Landscaping may be incorporated to partially screen the waste transfer station from trail users, although it will be impossible to completely screen the sight and sounds of the waste facility. Large landscaping trees may be spaced more frequently in this area to partially screen the view of the facility. Aromatic shrubs can be used in this section of the trail as well to help block the smell of the facility.

Although landscaping can be a relatively expensive component of trail costs, it is a vital component of the trail needs plan for several reasons including residential property buffers, screening the waste transfer facility, and enhancing the experience of trail users. Landscaping is not a one-time cost; installation and maintenance costs must be considered. Landscape maintenance must especially be considered because these will be recurring annual costs. Interlocal agreements between county and municipal governments often include provisions for landscape maintenance.

Access Control

Access to the trail should be limited to pedestrians and non-motorized vehicles such as bicycles. Decorative bollards can be used near roadway crossings to block vehicular entrance. According to SFWMD requirements, access gates must be provided for maintenance and emergency vehicles. The field inventory identified several access gates already in place for canal maintenance; it is expected that these gates may remain as the principal access points for maintenance vehicles.

Pedestrian entrance to the trail will mainly be limited to trailheads, neighborhood connection/meeting areas, and roadway crossings. In the western portion of the study area, a residential street exists along the south side of the canal adjacent to the proposed trail that could provide a section of continuous trail access.

Trail Safety Improvements

Trail safety features that should be provided along the corridor include signs, pavement markings, striping, bollards, and decorative crosswalks. In addition, the proposed Snake Creek Trail Pedestrian Overpass at I-95 and the South Florida Rail Corridor represents a safety and accessibility improvement. The pedestrian overpass project is part of a voter-approved General Obligation Bond (GOB) and is a separate project.
Signs represent a primary form of trail safety. Regulatory signs give operational requirements of the trail and are used for traffic control. Regulatory signs include stop signs and bike paths signs. Warning signs point out hazardous conditions along the trail. Warning signs can be used along the Snake Creek Bike Trail near intersections and the I-95 underpass to warn trail users of the upcoming change in conditions. Signs should be erected near at-grade intersections that notify trail users to cross roadways only at signalized intersections. Supplementary directional signs should be provided to point trail users toward signalized intersections for crossing roadways.

Pavement markings are commonly used along trails to reinforce signs with warning and regulatory messages. Pavement markings should only be used where necessary to attract attention to upcoming intersections and danger spots, since sideslapping can be a problem with some types of paint. Examples of messages that may be provided with pavement markings include "Bike Path," "Stop Ahead," and "Slow." Smaller stenciled pavement markings should be considered that simply depict a bicycle symbol.

Striping should be placed near trail intersections with roadways. Striping can include stop bars that reinforce stop signs and pavement striping within parking lots.

Bollards provide a restriction of motor vehicles to multi-use trails. Bollards should be well-marked and visible to bicyclists. Bollards should be placed at least 12 feet from roadway intersections to allow trail users to cross the intersection before negotiating the bollards. Bollards can be designed to be removable or hinged to permit entrance to the trail by emergency vehicles.

Decorative crosswalks, usually made of brick pavers, provide not only visual appeal but warning to motorists to be on alert for pedestrians and bicyclists. Paver crosswalks are recommended at locations where the bike trail crosses roadways.

Safety improvements are necessary at the intersection of Ives Dairy Road and Miami Avenue, which is a signalized intersection that will provide north-south mobility across Ives Dairy Road for Snake Creek Bike Trail users. A crosswalk should be built across the south side of the intersection and pedestrian push-buttons and pedestrian signals should be added across the south side of the intersection. This improvement will require moving the northbound Miami Avenue stop bar upstream to a location south of the proposed crosswalk.

**Snake Creek Bike Trail Decorative Signs**

A trail logo should be developed for the Snake Creek Bike Trail and portrayed on decorative signs along the trail corridor. The trail logo can become an identifiable symbol of the trail within the community. Repeating logos along the trail corridor can create a sense of continuity and consistency. Decorative signs portraying the trail logo should be provided on location kiosks and other signs.

Perhaps even more important than providing trail logo decorative signs along the trail corridor is providing these signs at roadway intersections. Decorative signs portraying the trail logo should be displayed near the crosswalk where the Snake Creek Bike Trail crosses major roadways such as NE Miami Gardens Drive and U.S. 441.

**Boardwalk**

Providing an elevated trail crossing over Florida's Turnpike may be problematic since the canal corridor passes under the multi-level ramps of the Dolphins Stadium / NW 199th Street interchange. Therefore, a boardwalk concept is recommended to be developed under Florida's Turnpike to link the MDPR section of the Snake Creek Bike Trail to the proposed USACE trail. The boardwalk is recommended only when trails are implemented on both the east and west side of Florida's Turnpike since the purpose of the boardwalk would be to link the two sections. A trail cul-de-sac is recommended to be built as an interim measure if the trail is only built on one side of the Florida's Turnpike overpass.
PREFERRED BIKE TRAIL PLAN

This section of the report presents the preferred bike trail plan that was developed for the Snake Creek Canal corridor between NE Miami Gardens Drive and Florida's Turnpike. The data collection and analysis phase described in the previous chapter of this report formed the basis for the conceptual trail plan that was developed in this study.

DESIGN CONCEPT

A design concept was developed that met the objective of providing a continuous trail from the east end of the study segment at NE Miami Gardens Drive to the west end at Florida's Turnpike. The trail includes a series of seven proposed bicycle/pedestrian bridges across the Snake Creek Canal to provide mobility across the canal and extend recreational opportunities. The trail is designed to serve both the needs of long-distance bicycle trips as well as the needs of local trail users that could utilize Snake Creek Bike Trail for their daily recreation. The supplemental amenities, signs, and safety features developed during the corridor analysis program were incorporated into the conceptual design for the Snake Creek Bike Trail.

A preliminary bike trail plan was initially developed by the project team to present to the public and stakeholder groups. Comments and suggestions on the preliminary plan were received during an advertised public meeting/workshop that was held on June 29, 2005, at the North Dade Regional Library. Additional comments and suggestions on the preliminary plan were received during individual meetings with community leaders and stakeholder agencies. The comments and suggestions received during the public involvement phase were used to modify the preliminary plan into the preferred bike trail plan.

The preferred bike trail plan was segmented into three phases for prioritization purposes. The segmentation may facilitate securing funding to be able to construct at least the most critical portions of the trail corridor in case full funding is not initially available for constructing trail on both sides of the canal right-of-way. The phases were specifically identified so that a trail would be constructed across the entire study segment from NE Miami Gardens Drive to Florida’s Turnpike in the initial phase. The subsequent phases add additional trails, bridges, and amenities that further improve mobility and enhance recreational opportunities and trail users’ experience.

Phase I - South Side of Canal Right-of-Way

Phase I includes constructing a bike trail along the south side of the canal right-of-way across the entire study segment from NE Miami Gardens Drive to Florida's Turnpike. Phase I also includes signs and safety improvements, neighborhood connections, benches, shelters, and interpretive signs. The south side of the canal offers many advantages for becoming the first portion of the trail that is built.

• The south side of the canal provides a more continuous corridor with fewer obstacles such as intersecting canals.
• The south side of the canal already has a portion of the trail that exists between Sierra Park and I-95, although this section needs to be rebuilt to incorporate into the enhanced trail concept plan being proposed in this study.
• The south side is surrounded by established residential neighborhoods, whereas two segments along the north side of the canal are planned for redevelopment that is yet to occur.
• During the public involvement phase, there was more general support for the bike trail concept on the south side of the canal than on the north side west of U.S. 441 adjacent to the gated residential neighborhood.

Phase II - North Side of the Canal between Ives Dairy Road and U.S. 441

Phase II includes the segment of proposed bike trail along the north side of the canal between Ives Dairy Road and U.S. 441. In addition, many amenities are included in Phase II along both the north and south side of the canal. Supplemental infrastructure included in Phase II includes trailheads, fitness stations, playgrounds, canoe/kayak launches, and one neighborhood connection/meeting area. Two bridges are also included in Phase II across the canal that can serve as alternatives from crossing the canal on sidewalks along the busy roadway bridges of Ives Dairy Road and U.S. 441.

Phase III - Remaining North Side of the Canal

Phase III includes the segment along the north side of the canal along the Williams Island Golf Course and the segment west of U.S. 441. In addition, Phase III includes five bridges, neighborhood connections, benches, shelters, and other amenities. MDPR is working with the developer of the Williams Island Golf Course to build the portion of the trail between the South Florida Rail Corridor and Ives Dairy Road.

Preferred Plan and Illustrations

The preferred bike trail plan for the Snake Creek Canal between NE Miami Gardens Drive and Florida’s Turnpike is presented on the following page. The plan represents the proposed alignment for the trail and the general placement of various infrastructure and supplemental amenities.

OPINION OF PROBABLE COSTS

An opinion of probable cost (OPC) was prepared for the preferred plan. Appendix P presents the OPC for the capital construction costs of the preferred plan. The OPC was developed to assist in financial planning for funding and grant applications. More detailed cost estimates may be developed during subsequent design and permitting stages. In addition, costs may fluctuate if elements are added or removed from the OPC.

Appendix P presents the budget prepared for the Snake Creek Bike Trail including both capital costs and “soft” costs, which include assumptions regarding design, construction administration projects. Appendix P presents the costs segmented by construction phase as defined in the preferred bike trail plan for grant purposes.
Management and maintenance of the Snake Creek Bike Trail will be vital to the long-term success of the corridor as a linear park and alternative mode transportation network. Therefore, management and maintenance is considered from the outset of the planning process.

**TRAIL MANAGEMENT**
In general, if a trail corridor traverses several areas within the County, it is usually managed at the County level. However, local municipalities may desire to enter into an interlocal agreement with the County to provide maintenance and/or additional improvements along the corridor - especially if it is recognized that the municipality can integrate the linear park and bike trail into the local community aesthetics. Furthermore, the South Florida Water Management District (SFWMD) must remain a partner in trail management issues since the trail is proposed within canal right-of-way.

Trail management is a partnership that must exist among the various agencies and governments that have jurisdiction in the area. A cooperative management strategy should be developed for the trail that includes regular coordination among agencies to promote consistency and establish expectations.

**HOURS OF OPERATION**
The operating hours of the trail will generally be set by the management agency. In Miami-Dade County, it is typical that a park facility such as the proposed linear park along Snake Creek Canal be operated from dawn until dusk. However, bike trails also function as transportation corridors and consideration should be given to longer operating hours that may require some lighting along the corridor. Furthermore, unlike traditional community and regional parks, it may be difficult to close access to the trail at night given the length of the trail and multiple access points. Trail usage should be monitored following implementation to evaluate if apparent demand exists for longer operating hours. Lighting infrastructure may be added if it is deemed necessary for public safety and security.

Many security problems in parks occur in parking lots. Even if trailheads are open from dawn until dusk, consideration should be given to installing night security lights in the parking lot to facilitate surveillance and patrol.

**POLICE PATROL**
The City of North Miami Beach Police Department operates a bicycle patrol throughout their community to monitor many areas of the City, including the bike trails within Snake Creek Park south of NE Miami Gardens Drive. Similar patrols should be implemented by local jurisdictional authorities throughout the bike trail corridor to provide similar policing in the area. Metro-Dade Police and Miami Gardens Police will have patrol authority within the bike trail corridor. Volunteer patrols have also proven effective in several communities with bike trails through residential areas and should be arranged for the Snake Creek Bike Trail.

**RISK MANAGEMENT**
Risk management is an important concept in modern trail management. A risk management program should be established that diminishes the potential for lawsuits, minimizes insurance costs, and most importantly, augments the safety of the trail by minimizing the possibility of injury.

Risk management begins with a solid design process including construction documents that are prepared in accordance with standards such as the Guide for the Development of Bicycle Facilities, published by the American Association of State Highway and Transportation Officials (AASHTO), Florida Bicycle Facilities Planning and Design Handbook, published by the Florida Department of Transportation (FDOT), and Americans with Disabilities Act (ADA) guidelines.

Following trail implementation, periodic inspection and maintenance of the trail must be undertaken as a strategy to reduce risk and liability. If an agency demonstrates a program of frequent inspection and correction of problems that are found in the field, courts are less likely to find that the agency was negligent for common field hazards that can cause injury such as broken tree branches or missing signs.

Another risk management strategy is to provide adequate warning of risks, typically through signs along the trail. Regulatory and warning signs were discussed earlier in this report in the trail safety section. In addition, temporary signs must be used to warn trail users of a hazard that has been discovered along the trail in advance of maintenance crews correcting the problem. Since the Snake Creek Bike Trail is proposed along a canal right-of-way, warning signs should be provided for trail users explaining the need to take personal care to not fall into the water. The trail should be designed in a manner that trail users who inadvertently divert from the trail path have a definite chance to correct their trajectory before falling into the water. Disclaimer postings at trailheads and location kiosks are an effective tool of transferring liability to the trail user.

The trail design should allow for access to the trail by emergency response vehicles in case of a medical emergency along the trail. This can be accomplished by placing bollards along trail section entrances that are far enough back from the roadway to allow emergency vehicles to pass around the bollards and access the trail. Alternatively, bollards can be specified to be removable or hinged to allow entrance to the trail by emergency vehicles.

Documentation is key in the risk management and liability reduction process. The maintaining agency should document regular inspections of the bike trail, the placement of signing improvements (permanent and temporary), and any incidents that may occur along the trail. Police reports should be obtained and kept in a file.

**Liability Insurance Coverage**
Miami-Dade County has an on-going self-insurance program that covers public liability. In the event the jurisdiction of the trail or portions of the trail are turned over to adjoining municipalities, liability insurance coverage should be continued by the maintaining agency with their own policies for park and trail facilities such as the proposed Snake Creek Bike Trail. General liability insurance is the most comprehensive protection that will provide financial compensation for defense against lawsuits that may occur.
TRAIL MAINTENANCE AND COSTS
Prior to the construction of the Snake Creek Bike Trail, a comprehensive post-implemention budget and management plan should be established that includes activities and costs of maintaining the trail. Following the management plan will increase trail user enjoyment, minimize safety risks and potential liability, and help curb unexpected costs.

Routine Maintenance
Typical trail maintenance costs were examined for a similar trail in Miami-Dade County - the Biscayne Trail, which is 2.6 miles in length. Maintenance costs for the Biscayne Trail are approximately $60,000 per year according to data provided by MDPR. This figure includes labor, equipment, chemicals, fertilizer, landscaping replacement, and other miscellaneous items. Biscayne Trail can be utilized as a go-by for developing the maintenance plan for Snake Creek Bike Trail.

Table 1 presents trail maintenance costs that may occur for Snake Creek Trail. Actual costs may vary somewhat based on trail design, amenities, right-of-way width, and other factors. These costs may be shared among various agencies such as SFWMD, MDPR, and local municipalities.

Table 1. Potential Snake Creek Bike Trail Annual Maintenance Costs

<table>
<thead>
<tr>
<th>Trail Section</th>
<th>Length (Miles)</th>
<th>Potential Maintenance Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1</td>
<td>3.4</td>
<td>$80,000.00</td>
</tr>
<tr>
<td>Phase 2</td>
<td>0.5</td>
<td>$12,000.00</td>
</tr>
<tr>
<td>Phase 3</td>
<td>2.4</td>
<td>$58,000.00</td>
</tr>
<tr>
<td>Total Study Segment</td>
<td>6.3</td>
<td>$150,000.00</td>
</tr>
</tbody>
</table>

Major maintenance activities such as resurfacing will be periodically necessary along a trail such as the proposed Snake Creek Bike Trail. Typical resurfacing schedules range from 10 to 14 years for multi-use, non-motorized trails. Based on national averages, the cost of resurfacing asphalt trails is approximately $12 per linear foot. Therefore, the expected resurfacing cost for the Snake Creek Bike Trail is approximately $400,000.

Resurfacing
CONCLUSION

The Snake Creek Bike Trail Planning and Feasibility Study evaluated the development of a non-motorized trail and linear park within the Snake Creek Canal (C-9) right-of-way between NE Miami Gardens Drive and Florida’s Turnpike. The Snake Creek Bike Trail study included interagency coordination, municipal presentations, and three advertised public meetings to solicit community input and present the proposed trail concept. The Snake Creek Canal corridor presents numerous positive opportunities for developing a bike trail. The study segment is a strategic connection between the existing bicycle trails of Snake Creek Park in North Miami Beach and the Snake Creek Restoration Project and Greenway trail concept plan developed by the U.S. Army Corps of Engineers and South Florida Water Management District between Florida’s Turnpike and NW 37th Avenue.

The study determined that a bike trail along the Snake Creek Canal right-of-way is feasible and would improve alternative travel mobility and provide park infrastructure for the local community. A concept was developed that provides a continuous bike trail across the study limits from the existing Snake Creek Park to the Turnpike underpass. Connector paths were identified to adjacent residential neighborhoods and commercial shopping centers. The trail should be designed and constructed in a manner consistent with the local community’s needs of maintaining adjacent property values and minimizing safety and security risks.
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Snake Creek Restoration Project and Greenway

Types of Trail Facilities
A. Seating area along trail. Seating areas provide places for people to rest and relax. They can also provide a place for people to relax by simply walking a bike or even walking along the surrounding environment.

B. Bridge Alteration: In addition, the project would involve the construction of a bridge to provide safe and accessible connections. By developing a pedestrian bridge or modifying an existing bridge, safe connections can be made.

C. Pipe/Drain Modification: Water infrastructure has the potential to support a trail system. This could potentially be possible in various locations.

Snake Creek Canal

Trail Amenities
This project will provide the recreational community with a working Snake Creek Restoration Project. It is a facility that can provide additional recreation and tourism opportunities. It can be used as a rich educational resource as well.

These images are meant to serve as examples of what may be developed if the project is approved under current funding guidelines. They are not intended to be a final design for the improved facility.
Who develop an environmental restoration plan?

South Florida natural habitats have been physically and hydrologically altered and modified extensively over the past several decades. Consequently, portions of the south Florida ecosystem are now substantially less productive and diverse than the historic system. Numerous plant species, such as Australian pine, cactus, bamboo, and mesquite, have impacted the quality of the south Florida landscapes.

Environmental restoration efforts along the C-9 canal will attempt to bring back some of the native characteristics which have been lost as part of this process. By re-introducing native plants species into the area, we will provide an area for wetland birds to feed, nest and raise their young. Cattail marshes alongside the canal and filling them with concrete planes will provide several species of fish with areas for spawning and areas where they can hide from predators. These shelves will continue to allow water runoff access to the canal banks for nourishment. Varying depth will allow the coexisting of different types of plants that are dependent on specific water depths in order to survive (see the typical channel section). This diversity will provide more habitat possibilities for birds and fish while adding aesthetic appeal to the viewers.

Restoration Toolbox

To achieve the maximum of results in the canal, the proposed biological shelves would be planted with creative and abundant aquatic plants. These plants help maintain the ecosystem by playing an important role in the water quality by providing adequate oxygen for the aquatic life. The proposed flow system will take an active role in the maintenance of water quality while providing adequate sediment control. These are a few examples suitable to a canal environment:

- **Water Bur viên**
- **Red Fountain**
- **Foundation**
- **Beadlet Spangle**
- **Beadlet Spangle**
- **Beadlet Spangle**
- **Beadlet Spangle**

---

**Snake Creek Restoration Project and Greenway**

**Typical Channel Section**

**Conceptual Planting Diagram**

**Conceptual Planting Plan**

**Exposure Wildlife**

Through the restoration of the natural ecosystem, wildlife habitat is improved. The restoration of the canals and wetlands will encourage wildlife to return to the area. These animals play a significant role in the health of the south Florida ecosystem. Some of the native birds and fish include:

- **American Alligator**
- **Mallard Duck**
- **Great Egret**
- **Black-crowned Night-Heron**
- **Cottonmouth Moccasin**

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**APPENDIX A: USACE/SFWMD SNAKE CREEK CANAL RESTORATION PROJECT AND GREENWAY**

*Drafted by Kiemly-Horn and Associates, Inc.*

*July 14, 2021*
APPENDIX A: USACE/SPWMD SNAKE CREEK CANAL RESTORATION PROJECT AND GREENWAY

CANAL 9 (SNAKE CREEK CANAL)
Section 139 Environmental Restoration Report

TYPICAL PLAN VIEW

TYPICAL PROFILE VIEW
Existing 6.5-foot trail within Snake Creek Park in North Miami Beach, north side of canal, looking south. The trail corridor is attractive and nicely landscaped.

Existing 6.5-foot trail within Snake Creek Park in North Miami Beach, north side of canal, looking north toward NE Miami Gardens Drive. Notice how existing landscaping provides privacy for adjacent properties.

Paved paths connect street ends with the bike trail in Snake Creek Park.

Existing 6.5-foot trail within Snake Creek Park in North Miami Beach, north side of canal, looking south. The trail corridor is attractive and nicely landscaped.
APPENDIX B: FIELD INVENTORY PHOTOS

Bicycle signage and pavement markings along the existing bike trails in Snake Creek Park.

Overlook shelter with picnic table along the bike trail, south side of canal in Snake Creek Park.

Northern end of Snake Creek Park approaching NE Miami Gardens Drive, south side of canal.

Pedestrian bridge across Snake Creek Canal within Snake Creek Park.
Crosswalk and sidewalk connection between bike trail and NE Miami Gardens Drive / NE 10th Avenue traffic signal. Bicyclist activity in the area was observed, as illustrated above.

Signalized crosswalk across NE Miami Gardens Drive at NE 10th Avenue, looking north.

Metrobus stop for Route 75, westbound NE Miami Gardens Drive at NE 10th Avenue, adjacent to Sky Lake section corridor. Potential transit connection for bike trail.

From NE Miami Gardens Drive, looking north across Sky Lake section corridor. A path exists leading towards I-95 that is in need of maintenance and upgrade. Bicyclist activity was observed in this area also.
From path in Sky Lake section, looking south toward NE Miami Gardens Drive. SFWMD maintenance access gate from NE Miami Gardens Drive to canal right-of-way is at the left of this picture.
APPENDIX B: FIELD INVENTORY PHOTOS

Steps lead down to I-95 underpass. Vertical clearance is insufficient and proximity to I-95 traffic degrades the trail user's experience. Path is in need of maintenance.

Steps lead up from railroad underpass, looking northwest.

Existing path between I-95 underpass and railroad underpass, looking northwest.

Looking north in the I-95 underpass. Debris litters the surface of the path and low vertical clearance may be unnerving for some users.
APPENDIX B: FIELD INVENTORY PHOTOS

Existing path between Sierra Park and I-95, looking southeast along the south side of the canal. Waste transfer facility is on the right.

Existing path along the south side of the canal, looking northwest. Several apartment communities exist along the south side of the canal right-of-way.

Existing connector path leading from trail toward neighborhood. Connector path is currently fenced off at the canal right-of-way and will need to be re-opened to provide access.

Existing connector path leading to an apartment community along the south side of the right-of-way.

Existing path between Sierra Park and I-95, looking southeast along the south side of the canal. Waste transfer facility is on the right.
APPENDIX B: FIELD INVENTORY PHOTOS

Existing path exits the canal right-of-way at Sierra Park, south of the canal right-of-way.

Existing path within Sierra Park, looking northwest along Sierra Drive.

Meeting area with benches in Sierra Park.
September 2005

APPENDIX B: FIELD INVENTORY PHOTOS

SFWMD access gate leading to Williams Island Golf Course section of the corridor, north side of canal, looking south. Note the MDWASD utility crossing across the canal.

Looking northwest along the north side of the canal right-of-way near the golf course.

North side of canal right-of-way adjacent to the Williams Island Golf Course, looking southeast.

Looking north from canal right-of-way across the abandoned golf course.

NE Miami Gardens Drive
APPENDIX B: FIELD INVENTORY PHOTOS

South side of canal right-of-way between Ives Dairy Road and U.S. 441, looking east.

Gravel lot on the north side of the canal immediately east of U.S. 441. This area provides access to the canal right-of-way. A boat ramp is located on the right of this view.

South side of canal right-of-way looking west toward U.S. 441. The Publix shopping center lies directly adjacent to the canal right-of-way on the south side.

Existing bridge across feeder canal along north side of Snake Creek Canal, east of U.S. 441 looking west toward potential future residential development.

South side of canal right-of-way between Ives Dairy Road and U.S. 441, looking east.
APPENDIX B: FIELD INVENTORY PHOTOS

Looking north adjacent to Turnpike. A feeder canal extends north from Snake Creek Canal along the east side of the Turnpike.

Looking at north side of canal right-of-way from across the canal, east of Turnpike looking north.

North side of canal right-of-way west of U.S. 441, looking west across feeder canal.

North side of canal right-of-way west of U.S. 441, looking east toward U.S. 441.
South side of canal right-of-way, west of U.S. 441, looking west. A gate exists across the canal right-of-way behind one commercial property.

A large open area with broadcast transmission towers lies adjacent to the south side of the canal west of U.S. 441.

NW 3rd Avenue provides a potential access point to the canal right-of-way. There is space to potentially expand the sidewalk.

NW 7th Avenue street end provides access to the canal right-of-way. This view is looking south from the canal right-of-way.
South side of canal right-of-way looking west toward Florida's Turnpike interchange serving Dolphins Stadium and Ives Dairy Road.

Looking west at mainline Turnpike bridge over Snake Creek Canal.

South side of canal right-of-way looking east near Florida's Turnpike.

South side of canal right-of-way looking west near NW 9th Avenue.
Flamingo Road Greenway and Hiatus Road Greenway

The Flamingo Road and Hiatus Road Greenways provide a unique opportunity in urban Broward County for development of a rural and semi-rural multipurpose trail serving municipalities, individuals, and families. The trail would also link Broward’s western communities with existing and proposed parks, and natural areas. The trail begins at the Sawgrass Experience in Sunrise and travels south past Wellesley Park which could serve as a trailhead. As the trail enters the City of Plantation, it assumes a rural character passing through the Plantation Acres community and following an existing equestrian path located adjacent to the C-42 Canal.

At SR 84, the trail runs north along the route of the proposed New River/Weston Greenway to Flamingo Road. Turning south on Flamingo, the trail passes through Davie’s western rural area. The scenic Long Pine Key Natural Area, situated to the west of Flamingo Road north of Griffin Road, is the planned location of a $1.15 million nature center funded through Broward County’s 2000 Safe Parks and Land Preservation Bond program. The Long Key Nature Center will serve as an outstanding destination for trail users. Flamingo Gardens, located east of Flamingo Road near Long Key, provides another attraction in this area with its botanical gardens and troops of birds displayed.

Other existing and planned local greenways systems link with the proposed New River Greenway in this area. The Town of Davie’s extensive trail system intersects with the trail north of Griffin Road along Orange Drive and also at the Long Pine Pine natural area. The Town of Southwest Ranches planned trail system will link with the trail to the west on Griffin Road.

South of Tall Street in Pembroke Pines, Broward County’s CB Smith Park offers a wide variety of facilities to trail users including a water park, trails, picnic and play areas. The trail then passes through City of Miramar making a paved trailhead adjacent to the Snake Creek Canal. Opportunities exist at this location for future connection to Miami-Dade greenways.

Legend

- Proposed Pedestrian Multi-purpose Path
- Other Trails
- Proposed Pedestrian Bridge/Crossing
- Schools
- Trailheads

Broward County Board of County Commissioners
Joseph A. Podgor Jr. \nRon Gruber \nSue H. Gunpranger \nKristie O. Jacobs \nBonne Luster \nLori Nauss \nNancy Paris \nJohn E. Rodstrom Jr. \nJames A. Scott \nClaire Wasserman-Rabin

APPENDIX C: BROWARD COUNTY POTENTIAL GREENWAYS SYSTEM MAPS

Broward County Potential Greenway Systems

Wellbe Park
City of Sunrise

Cleary Park
City of Plantation

Long Pine Key Natural Area
Future Broward County Park

C.A. Smith Park
Broward County Park

Snake Creek Canal Trailhead
New Trailhead

Future Connection to Miami-Dade Greenways

Scale in Miles
0 1/2 1 1 1/2 2 2 1/2 3

9/20/04
APPENDIX D: MIAMI-DADE COUNTY BLUEWAYS AND ESTABLISHED PADDLING TRAILS

1. Intracoastal Waterway
2. Little River
3. Oleta River State Park
4. Pelican Harbor Marina
5. Miami River
6. Black Point Marina
7. Key Biscayne
8. Biscayne Bay
9. Coral Gables Waterway
10. Snapper Creek
11. Chicken Key Nature Preserve
12. Everglades National Park
AGENCY CONTACT LIST

- South Florida Water Management District (SFWMD)
- United States Army Corps of Engineers (USACE)
- Miami-Dade County Metropolitan Planning Organization (MPO)
- Florida Department of Transportation (FDOT)
- Florida Department of Environmental Protection (FDEP)
- City of Miami Gardens
- City of North Miami Beach
- South Florida Regional Planning Council (SFRPC)
- South Florida Regional Transportation Authority (SFRTA)
- Trust for Public Land
- Miami-Dade County Park and Recreation Department (MDPR)
- Miami-Dade County Public Works Department
- Miami-Dade County Department of Environmental Resources Management (DERM)
- Miami-Dade County Transit (MDT)
- Miami-Dade County Public Schools
- Miami-Dade County Planning and Zoning
- Miami-Dade County Water and Sewer Department
- Miami-Dade County Building Department
- Miami-Dade County Police Department
- Miami-Dade County Fire Rescue
- Miami-Dade County Solid Waste Department
- Team Metro
- Florida Power & Light
- BellSouth
January 27, 2006

Ms. Kim Harper
City of Portland
Stormwater Management
250 NE Fremont
Portland, OR 97212

Subject: Snake Creek Canal Bikeway Planning and Feasibility Study

Dear Ms. Harper:

On behalf of the Snake Creek Canal Bikeway Planning and Feasibility Study Team, we are writing to update you on the current status of the project.

The purpose of the project is to design and construct a bikeway along the Snake Creek Canal in the City of Portland. The bikeway will be approximately 2 miles long and will connect several key areas of the city.

The project is being funded by a combination of local and state sources, and we are currently in the process of securing additional funding to complete the project.

We are pleased to report that the project is on schedule and we expect to complete construction by the end of the year.

If you have any questions or concerns, please do not hesitate to contact us.

Sincerely,

The Snake Creek Canal Bikeway Planning and Feasibility Study Team
Appendix E: Sample Intergovernmental Coordination Letter

BACKGROUND: SNAKE CREEK TRAILWAY PROJECT

The Snake Creek Trail is a proposed multi-use trail that will connect the northeastern corner of Florida to the southern part of the state. The trail will provide access to various natural areas and recreational opportunities, including hiking, biking, and equestrian trails. The project is intended to promote healthy lifestyles and offer a sustainable transportation alternative to reduce car usage.

The proposed trail design includes a 10-foot wide multi-use path with a 2-foot wide shoulder on both sides. The trail will be constructed with a combination of crushed stone, gravel, and asphalt surfaces to ensure durability and ease of maintenance. The trail will also feature rest areas, overlooks, and scenic viewpoints to enhance the user experience.

PROJECT TIMELINE:

- Design Phase (2022)
- Construction Phase (2023-2025)
- Completion (2026)

The project is funded through a combination of state and federal grants, as well as private donations. The total project cost is estimated to be $20 million, with approximately $10 million来自 state funds and the remaining $10 million coming from federal sources.

The project will be implemented in phases, with the initial segment connecting the existing trailhead at Snake Creek Park to the proposed trailhead at Waterway Park. This phase is expected to be completed by 2023.

The trail will be accessible to the public 24 hours a day, 7 days a week, and will be maintained by a professional management team. The trail will also feature a system of emergency call boxes and trail monitoring cameras to ensure safety and security.

This project is a collaboration between local, state, and federal agencies, as well as community organizations and stakeholders. The project is expected to generate economic benefits through increased tourism and outdoor recreation opportunities, as well as improved connectivity and mobility for residents and visitors alike.

Sam Ganim

Kimley-Horn and Associates, Inc.
APPENDIX F: PUBLIC OFFICIALS MEETING REPORTS

PUBLIC OFFICIALS

- United States Senator Bill Nelson
- United States Senator Mel Martinez
- U.S. Representative Florida’s 17th District Kendrick B. Meek
- Florida Senate 33rd District Frederica Wilson
- Florida Senate 35th District Gwen Margolis
- Florida State Representative 103rd District Wilbert T. Holloway
- Florida State Representative 104th District Yolly Roberson
- Miami-Dade County Commissioner District 1 Barbara Jordan
- Miami-Dade County Commissioner District 4 Sally Heyman
- Miami-Dade Community Council 2 - Luis A. Vargas
- Miami Gardens City Councilwoman Barbara Watson
September 2005

APPENDIX F: PUBLIC OFFICIALS MEETING REPORTS

Meeting Report
Planning and Research Division
Snake Creek Bikeway Study & Feasibility Study
U.S. Rep. Randy Hultgren – 1st Congressional District
February 10, 2005

Participants:
Mark Fajerik, CPG

Meeting Date:
February 8, 2005

Location:
Mark Fajerik's offices

Meeting Purpose:
To discuss the potential for Snake Creek Bikeway study & feasibility study

Minutes:

- Mark Fajerik discussed the potential for a Snake Creek Bikeway study & feasibility study.
- The goal is to determine the potential for a bikeway along the Snake Creek.
- Discussions were held on various aspects of the proposed project.
- The participants agreed to move forward with a feasibility study.

Notes:

- Discussion points:
  - Potential funding sources
  - Public outreach and engagement
  - Next steps

Kimley-Horn and Associates, Inc.
APPENDIX F: PUBLIC OFFICIALS MEETING REPORTS

Meeting Report
{Event Details}

Outcomes - Follow-up

.[Insert Outcomes and Follow-up Details]
Meeting Report
Planning and Research Division
Snake Creek Bike Trail Planning & Feasibility Study
Montgomery County Council
April 4, 2005

Mary Nichols, Chair
March 23, 2005
City of Miami Gardens, Fl., 800 W. Dixie Hwy

City of Miami Gardens
To gypsum board presenters in City of Miami Gardens, Fl. 800 W. Dixie Hwy.

Judy Hughes, Planning Director
Mark Hamblin, Police Chief

William G. Bonner, Mayor
City of Miami Gardens

N/A

Given to everyone present at the meeting, a PowerPoint presentation on the Snake Creek Bike Trail Planning & Feasibility Study, City of North Miami Beach, North Miami Beach Park, and the City of North Miami Beach Community Development District. The presentation included information on the bike trail project, its proposed design, and potential benefits for the community.

Dissolution of Follow-up:

- The presentation should be updated to reflect any new information or changes.
- The project timeline should be reviewed and any necessary adjustments made.
- The cost estimates should be reviewed to ensure they are accurate and up-to-date.
- The project team should be informed of any changes to the project scope or timelines.
APPENDIX F: PUBLIC OFFICIALS MEETING REPORTS

Meeting Report
Planning and Research Division
Snake Creek Bikeway Planning & Feasibility Study
Councilmember Watson - Preliminary Plan
June 7, 2005

- Mark Hunkele, CFPA
- June 8, 2006
- City of Miami Gardens
- 1315 S.W. 173 Pl, Ste. 106, Hallandale, FL 33009
- Watson: Councilmember Watson

- To give Councilmember Watson an update on the Preliminary Plan before the City Council meeting on 6/8 and the Board meeting on 6/9.

- Mark Hunkele, Park Planner II

Assumptions:
- Taxpayers - City of Miami Gardens
- sidewalk
- sidewalk

Other Assumptions:
- N/A

Public Participation:
- A. D. Bartlett, KMD president of the Bikeway Plan, Councilmember Watson expressed general support for project but wanted more specific info on Anderson Estates. Was another environmental assessment done in the street section?

- Anderson Estates residents can't wait to enjoy themselves to others. They are very concerned about exposure, especially to the tennis area (neighbors/associates are very concerned about exposure to tennis area). Have not heard much in Lake Towne town center regarding exposure.

- Residents say they are concerned about getting gate on side of street by tennis court. Would like to open connection to Corp/SWM.

- The RK-41 will be delayed due to a shortage of concrete. The current concrete is being held for evaluation.

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APPENDIX F: PUBLIC OFFICIALS MEETING REPORTS

Meeting Report
Planning and Research Division
Snake Creek Bike Trail Planning and Feasibility Study
Miami Gardens City Council - Preliminary Plan Update
June 9, 2005

Submitted By:  Mark Kinzie, CRP

Meeting Date:  June 9, 2005

Location:  City of Miami Gardens
1350 NW 26th St. 
Miami Gardens, FL 33055

Host Department/Organization:  
City of Miami Gardens

Meeting Purpose: 
To give initial presentation to City of Miami Gardens about Snake Creek Bike Trail Concept Plan.

Discussion/Highlights:

The Need for a Bike Trail in Snake Creek

The purpose of the meeting was to present the preliminary concept plan for the Snake Creek Bike Trail to the Miami Gardens City Council. The presentation highlighted the benefits of having a bike trail in the community, including increased accessibility, improved connectivity, and enhanced recreation opportunities.

Key Features of the Bike Trail Concept Plan

- The bike trail would follow the existing Snake Creek corridor, connecting various neighborhoods and parks.
- It would be designed to accommodate both cyclists and pedestrians, with a wide, paved path and accessible landscaping.
- Safety features such as lighting, signage, and crosswalks would be included to ensure a safe and enjoyable experience for all users.

Community Engagement

The presentation emphasized the importance of community input in the planning process. The city invited residents to participate in upcoming meetings to provide feedback and shape the final design of the bike trail.

Outlook

The Miami Gardens City Council was receptive to the bike trail concept, and the next steps included refining the design and seeking funding to move the project forward. The city anticipates collaborating with local businesses, residents, and community organizations to ensure the success of the project.

September 2005
APPENDIX II: PROJECT INFORMATION SHEET

Snake Creek Bikeway Planning and Feasibility Study
Miami-Dade County, Park and Recreation Department

Project Information

What is the Snake Creek Bikeway Planning and Feasibility Study?
The Snake Creek Bikeway Planning and Feasibility Study is a project designed to evaluate the feasibility of developing a bikeway along the Snake Creek corridor in Miami-Dade County. The study is intended to identify potential routes and design concepts for a bikeway that would enhance the connectivity of the community and provide an alternative mode of transportation.

What is the purpose of the Study?
The purpose of the study is to identify potential bikeway routes and evaluate the feasibility of constructing a bikeway along the Snake Creek corridor. The study will consider factors such as the existing land use, existing infrastructure, and the potential for public use.

How is this Study being funded?
This study is being funded through the Miami-Dade County Metropolitan Planning Organization (MPO) and the federal Transportation Enhancements Program (TEP) grant.

Who will the Study be for?
The study report will be available to the general public and will be used for future planning and design decisions.

Where is the study area?
The study area includes the Snake Creek area in Miami-Dade County, from the existing Snake Creek Park to North Miami Beach along the Snake Creek corridor.

Who maintains the existing trail from 15th to 22nd Ave?
Miami-Dade County Parks and Recreation Department maintains the existing trail from 15th to 22nd Ave.

How many similar projects are currently underway in Miami-Dade County along Snake Creek?
There are currently no similar projects underway in Miami-Dade County along Snake Creek.

Approximate project timeline:
- Study Phase: April 2005
- Implementation: December 2006

Who will use the bikeway?
The bikeway will be a linear park that is proposed for use by pedestrians, cyclists, and other non-motorized users. It will be a unique feature of Miami-Dade County.

How will the bikeway be funded?
The bikeway will be funded through a combination of federal, state, and local funding sources. The project is expected to be completed in 2006.
APPENDIX I: QUESTIONNAIRE FORMS

Snake Creek Bikeway
Planning and Feasibility Study
Information Gathering

Vince Carpenter
Kimbly-Horn & Associates, Inc.
September 2005

APPENDIX I: QUESTIONNAIRE FORMS

1. Has your family traveled to the study area? Please check appropriate box:
   - Yes
   - No

2. If yes, please estimate the number of visits per year:
   - Less than 5
   - 5-10
   - 11-20
   - 21-50
   - More than 50

3. If yes, please estimate the number of visits per year:
   - Less than 5
   - 5-10
   - 11-20
   - 21-50
   - More than 50

4. What are the following trail facilities in order of your preference, with 1 being the most desirable and 5 being the least desirable:
   - 1. Amphitheater
   - 2. Rest areas with washrooms
   - 3. Picnic
   - 4. Amenities
   - 5. Parking

5. Please rank the following trail facilities in order of your preference, with 1 being the most desirable and 5 being the least desirable:
   - 1. Trailhead
   - 2. Rest areas
   - 3. Picnic
   - 4. Amenities
   - 5. Parking

6. How much do you agree with the following statements?
   - Strongly Agree
   - Agree
   - Neutral
   - Disagree
   - Strongly Disagree

7. What was your major activity or use of the trail?
   - Hiking
   - Biking
   - Running
   - Walking
   - Other

8. Please indicate your primary contact name and phone number:

9. Please provide any additional comments or suggestions:

Thank you for your participation in this survey.

SNAKE CREEK
Bike Trail Planning and Feasibility Study

Kimbly-Horn and Associates, Inc.

September 2005
APPENDIX I: QUESTIONNAIRE FORMS

Snake Creek Bikeway
Bike Trail Planning and Feasibility Study
Vermont County Bike to Work Program
April 23, 2005

QUESTIONNAIRE INSTRUCTIONS
(1) Respond to each question, (2) Please check appropriate response.

1. How did you hear about this project? Please check appropriate response.
- Newspaper (52)
- Radio (4)
- Transit Sign (41)
- Community Meeting (149)
- Other (15)

2. Please indicate if your primary residence is within the following municipalities:
- Stowe (41)
- Waterbury (41)
- South神奇 (4)
- Other (14)

3. Did you or any family member or friend recently visit any of these bicycle trails in the past year? If so, which trail? How many times?
- Snake Creek Bikeway
- White River Bikeway
- Vixen Path
- Other trail(s)

4. Please list the following trail amenities in order of most desirable. (1) being the most desirable and 10 being the least desirable:
- Signage
- Trail surface
- Limited scenic overlook platforms
- Landscaping
- Benches
- Trash receptacles
- Lighting along trail
- Drinking fountains
- Bike routes
- Interpretive signage
- Trailhead parking
- Property threat from crossing the trail

Comments:
- Safety in the area should be improved for both cyclists.
- A very nice trail.

5. Which of the following trail quality issues most impact your enjoyment of the trails, with 1 being the most desirable and 10 being the least desirable.
- Hilly conditions
- Maintaining path
- Nature霸占
- Snow accumulation
- Other (please specify)

6. Did you ride your bicycle in a group with others?
- Yes (62)
- No (38)

7. Was your trip to the Centennial Bikeway a) Yes (62)
- No (36)

8. Is any way you think the bike trails should be improved?
- Yes (53)
- No (47)

9. What improvements do you think should be made?
- Yes (55)
- No (45)

10. If yes, please describe

Compliments:

Optional:

Name:

City:

Phone Number:

Email Address:

Thank you for participating in this community.

Snake Creek Bikeway
Bike Trail Planning and Feasibility Study

Vermont County Bike to Work Program
April 23, 2005

Kimley-Horn and Associates, Inc.

September 2005

Page 2
APPENDIX I: QUESTIONNAIRE FORMS
MEMORANDUM

To:    Mark Zacharias, CGSP  
        Miami-Dade Park & Recreational Services

From:  Wayne Birkemeier, P.E.  
        Kimley-Horn (GH3)

Date:  April 27, 2005

Subject: Information

Public Information Workshop #4

Summary:

Public Information Workshop #4 for the Snake Creek Canal Elevation Planning and Feasibility Study was held on Monday, April 11, 2005, at Miami's Venetian Pool School (13700 SW 17th Ave) at 7:00 PM. The purpose of the meeting was to gather public input on the Feasibility Study for Snake Creek Canal within the south corridor of Miami's Baptist Memorial Hospital Campus and to solicit input regarding potential conflicts and coexistence opportunities and concerns.

Among the 45 attendees were:

- Mark Zacharias, Project Manager – Miami-Dade County Park and Recreation Department (MDPR)
- David Harcum, BlueWater Aquatics, Miami-Dade County NPQ
- Tony Rezler, MPRD
- Jorge Alegria, MPRD
- Joe Navas, South Florida Water Management District (SFWMD)
- Ken Schiavetti, SFWMD
- Mark Fransioli, District 1 Director, Commission of Miami-Dade
- Jay Manzey, City of Miami Gardens
- Carmanet Kim, Miami Dade Police Department (MDPD)
- Officer Alex Matheus, MPRD
- Officer James Segura, MPRD
- Senior Officer – Kimley-Horn and Associates, Inc. (KHA)
- George Cavallaro, CHA
- Kirby Koutz, CHA
- Karla_Francis, CHA

Public Information Workshop #4 – Information Workshop #1  Page 1 of 4
APPENDIX J: PUBLIC MEETING SUMMARY MEMORANDA

At the beginning of the meeting, attendees were given the chance to make written comments regarding the potential impacts of the proposed projects. This meeting began with a presentation by the project team, which included a discussion of the general objectives and findings related to the proposed projects. Following the introduction, attendees were given the opportunity to ask questions and discuss the information presented. The project team provided answers to questions and addressed concerns raised by attendees.

Snake Creek Bikeway Public Meeting Highlights

1. The proposed bikeway project will benefit from the project.
2. The project will not significantly impact the environment.
3. The project will provide a significant benefit to the community.
4. The project will provide a significant benefit to the community.
5. The project will provide a significant benefit to the community.
6. The project will provide a significant benefit to the community.
7. The project will provide a significant benefit to the community.
8. The project will provide a significant benefit to the community.
9. The project will provide a significant benefit to the community.
10. The project will provide a significant benefit to the community.

Snake Creek Bikeway Task 5 - Information Workshop Notes
Page 1 of 9

September 2005
APPENDIX J: PUBLIC MEETING SUMMARY MEMORANDA

September 2005

1. Will the facility surface be maintainable in winter?
   - The trail surface will be suitable not only to hikers but also to snowmobiles. Snow-clearing and snow-making activities will be maintained.

2. What will the width of the bike path be? Currently, the trail is 7 feet wide.
   - A wider path may require a separate trailhead if it is adjacent to a street, which would necessitate additional planning.

3. What happens to Snake Creek Park? Will there be parking facilities?
   - The trial will be leading to Snake Creek Park as a member of the proposed site. Future development plans for Snake Creek Park are being developed.

4. What kind of lighting is being considered?
   - A series of street lights will be considered to light the corridor. A safety drill will be conducted to test all of the street lighting.

Safety and Security:

1. What about the hazards?
   - The trail will provide a safe environment. Recommendations from the U.S. Forest Service include:
   a. Minimal motor lighting
   b. Parking facilities
   c. Trailhead access

2. What else can be done to increase security?
   - Neighborhood watch initiatives have worked well in other areas.
## MEMORANDUM

**To:** Mark Horner, CPM
Miami-Dade Parks & Rec/MOE

**From:** Steve McRae, CPM
Kimley-Horn

**Subject:** Informational Workshop #2

**Date:** April 27, 2005

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### Snake Creek Canal Bikeway

**Meeting:** Informational Workshop #2

**Location:** Miami-Dade County Parks

**Date:** April 27, 2005

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### Public Informational Workshop #2 for the Snake Creek Canal Bikeway

The purpose of the meeting was to introduce the project to the public and gather feedback on the preliminary designs and to solicit input regarding potential corridors and opportunities.

The attendees at the workshop, Workshop 2, were addressed by:

- Mark Horner, Project Manager - Miami-Dade County Parks and Recreation Department (MOE)
- David Henderson, Director of Transportation, Miami-Dade County
- Randi Williams - Miami-Dade County Parks
- Larry Sverdlin - South Florida Water Management District
- **Mark Horner**
- **Steve McRae**
- **Jim Scherz**
- **Mark Jiang**
- **Laura Kowal**
- **Steve McRae**
- **Tom Smith**
- **Tom Scherz**
- **Kevin Kowal**
- **Bill Horner**
- **Kevin Scherz**
- **Tim Smith**
- **Tim Kowal**

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### Observations

At the beginning of the meeting, attendees were given the chance to ask questions. The general consensus was that preliminary designs and the public input to the meeting helped define the parameters of the project and was an informative overview to the community. Following the presentations, Ms. Kim Hersh of the City of Miami-South Beach presented information on the Snake Creek Canal Bikeway project and Ms. Helen Horn of the City of Miami presented information on the City of Miami Bikeway project. Following these presentations, the attendees had the opportunity to provide feedback on the designs and to ask questions regarding potential corridors and opportunities.

The remainder of this memorandum describes the primary discussion topics that were brought up by attendees during the meeting.

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### Conclusion

In summary, the attendees at Workshop 2 provided valuable input and feedback regarding the potential corridors and opportunities for the Snake Creek Canal Bikeway project. The feedback will be used to refine and improve the project designs and to ensure that the project meets the needs and desires of the community.

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**End of Memorandum**
APPENDIX J: PUBLIC MEETING SUMMARY MEMORANDA

1. Customer. Working with the police for the past year has been a valuable way to export the problem. Community policing is the approach.

2. What can be done about speed limit increase?
   • This is a difficult problem that has been handled. Increased patrols are provided by the annual patrol.

3. Who pays the Patrol?
   • Miami-Dade Police toe the mutual agreement. Park enforcement through the Park & Recreation Department are also investigated.

4. Concerns: Getting the information about the proposed plan to promote understanding of the plan will be beneficial or that everyone is involved.

5. How can the conditions of the trail work of the patrol at this time?
   • The trail continues to Miami-Dade County Park & Athletic Department has been constructed so far. This year, the Miami-Dade County Park & Athletic Department has been completed.
   • The maintenance of the trail in the Miami Beach area between North Bayview Drive and the south side of Snake Creek Park, which is currently the north side of Snake Creek Park, has been completed.
   • The south side of Snake Creek Park, which is currently the north side of Snake Creek Park, has been completed.
   • The maintenance of the trail continues. The park's maintenance is ongoing.

6. What is the status of the trail?
   • The trail continues to be maintained. The trail is open for public use. The trail is open for public use. The trail is open for public use.

7. What is the status of the trail?
   • The trail continues to be maintained. The trail is open for public use. The trail is open for public use. The trail is open for public use.

8. How are you going to extend the path across the trail as the northward extension?
   • NW 3rd Aven by planning and design
   • South Rogue Square
   • Footpath options are being reviewed

9. Who funds the patrol?
   • SWP provides the responsibility for clearing the area, so it does on a regular basis elsewhere.

10. How often are such patrols conducted?
   • Every 3 months.

11. What is the status?
   • The patrol continues to be maintained.

12. Concerns: The responsibility is shared by the Board concerning the maintenance of the trail. The responsibility is shared by the Board. The responsibility is shared by the Board.}

13. Concerns: The City of Miami Beach is responsible for maintaining the continuity of the parks within the boundary.

14. Concerns: The City of Miami Beach is responsible for maintaining the continuity of the parks within the boundary. The responsibility is shared by the Board. The responsibility is shared by the Board. The responsibility is shared by the Board.

General Project Discussion:
The following questions and comments were received during the June meeting.

1. How does the public feel about the extension of this trail?
   • The Trail for Public Use has been constructed and is a viable option for the project. The trail will be in the snow season between.

Snake Creek Bikeway Task 3: Information Sharing Report
Page 1 of 2
15. Comments: The north side of the trail right of way has numerous shorelines. It requires more expensive property due to the location.

More structures that exist on one side of the trail right of way have visual access to the trail. This is not the case on the south side of the trail. However, the south side of the trail is more closely located to the residences.

16. Comments: Your plan looks very promising. The reasons for the trail to be taken to the north side of the trail. Most comments do not seem to be in favor of the trail being right along the west side of the trail.

You should strongly consider this as a feasible option for the community. I think the west side of the trail is better.

17. Comments: Having a path on both sides of the road allows a better view of the trail.

18. Why is this bike path necessary/important?
   - The bike path is important to be a community area that enhances the community and provides opportunities for the community.
   - The Snake Creek Greenway plan has been approved as a community trail corridor.
   - The public input is important to ensure the community's needs.

19. Ensures that the project is a benefit in terms of the construction and enjoyment of the Snake Creek Greenway corridor.

20. Comment: This community will address the need and identify any and allow the proposed/budgeted issues. Park maintenance and additional services will be expanded.

21. In what ways will the public benefit?
   - The project will improve the community's quality of life and provide opportunities for the community.
   - The Snake Creek Greenway plan has been approved as a community trail corridor.
   - The public input is important to ensure the community's needs.

22. What is the public's role in the project?
   - The public's role is to provide input on the proposed/budgeted issues. Park maintenance and additional services will be expanded.

23. How can we get involved?
   - The public can get involved by participating in the proposed/budgeted issues. Park maintenance and additional services will be expanded.

24. How do we move forward?
   - The proposed/budgeted issues will be reviewed by the community. Park maintenance and additional services will be expanded.
MEMORANDUM

To: Mark, Robert H., CPRM

From: Smythe-Stoll, Lt. City of Denver

Subject: Summary of Input

Date: July 15, 2005

The open house for the Snake Creek Corridor Planning and Feasibility Study was held on Wednesday, July 13, 2005, at the South Park Hill Regional Park, from 5:30 p.m. to 8:00 p.m. The purpose of the open house was to discuss the preliminary plans for the public. An questions and concerns were noted on the plan. The Snake Creek Corridor is an area that the city is studying for a possible bicycle trail. The event was well attended, and we had many positive comments. The Snake Creek Corridor is an area that the city is studying for a possible bicycle trail. The event was well attended, and we had many positive comments.

A total of 30 people attended the open house and provided the following suggestions:

- Steve Spielberg - Project Manager - Washoe County Communications
- Stephanie Toney - MNDP
- Tim Blythe - MNDP
- Andy Schaller - MNDP
- Yvonne Weltzinger - MNDP
- John Morris - South Park Hill Regional Park
- Carl McVean - City of Denver Communications
- Bill Mommsen - City of Denver Communications
- Tony Mooney - City of Denver Communications
- Art Schaffner - City of Denver Communications

Meeting attendees were asked to provide suggestions and ideas for their comments during the Snake Creek Bicycle Feasibility Study meeting.

Committee - Snake Creek Corridor Feasibility Study (6/2005)

1. Vinny Ritter
   Assistant - Denver Development
   Organization - Denver Development
   Comments: "It looks like it's going to be a good place to ride."

2. John Smith
   P.E.
   Organization - Denver Development
   Comments: "I think it would be a great place to ride."

3. Mary Green
   Assistant - Denver Development
   Organization - Denver Development
   Comments: "I think it would be a great place to ride."

4. Fred Jones
   Assistant - Denver Development
   Organization - Denver Development
   Comments: "I think it would be a great place to ride."

5. Bob Larkin
   Assistant - Denver Development
   Organization - Denver Development
   Comments: "I think it would be a great place to ride."

Snake Creek Corridor Feasibility Study 7
Page 1 of 4
APPENDIX J: PUBLIC MEETING SUMMARY MEMORANDA

6. Mark L. Torrey
   
   Address: 1179 NW 127 Terrace
   
   Organization: City of Miami Gardens
   
   Comments: "Some people were upset (e.g., this person) over what they thought was a problem with the trail. We need to address this issue." The meeting was well attended as there was a large audience present during the meeting.

7. John D. Miller
   
   Address: 257 SW 9th St., Miami Gardens
   
   Organization: Miami Gardens Association
   
   Comments: "A good meeting overall. The group is strong and we are making progress."

8. Jerry Wilson
   
   Address: 2165 NW 25th St., Miami Gardens
   
   Organization: Residents
   
   Comments: "We discussed some ideas and plans for the future." The meeting was held at the Miami Gardens Community Center.

9. Roger Williams
   
   Address: 317 NE 86th Ave, Miami Gardens
   
   Organization: Residents
   
   Comments: "The meeting was well attended. We discussed the proposed changes to the trail and how they will affect our community." The meeting was held at the Miami Gardens City Hall.

10. Steve Watson
    
    Address: 2900 NW 41st St, Miami Gardens
    
    Organization: Residents
    
    Comments: "A great meeting overall. We discussed some important issues and came to a consensus on how to move forward." The meeting was held at the Miami Gardens City Council Chambers.

Also, our Safety Hacker visited the area last weekend, and he reported that the area was safe and free from any problems. He recommended that we continue to patrol the area to ensure the safety of the community.

Snake Creek Bikeway Project 

Kimley-Horn and Associates, Inc.

September 2005
APPENDIX K: STEERING COMMITTEE NOTES

MEMORANDUM

To: Mark Winters, MPOFF
Minsiters Park & Rec (MPRP)

From: Shane Klusmeyer, E.I.
Kimley-Horn (KH)

Date: June 1, 2005

Subject: Preliminary Plan Steering Committee Meeting Notes - Task 4

Project: Snake Creek Corridor Bike Trail Planning and Feasibility Study

A steering committee meeting for the Snake Creek Corridor Bike Trail Planning and Feasibility Study was held on June 1, 2005, at the Minnis Park. The meeting was held to discuss the preliminary plan developed for the Snake Creek Corridor. The meeting was well attended by:

- Jake Halen, Project Manager - Miami-Dade Park Rec
- Brian Williams, Project Manager - Miami-Dade County Park Rec
- Janette Horman - MPOFF
- Wade Willms - MPOFF
- Eliza Noyes - MPOFF
- Justin Nagel - MPOFF
- Carl Kirk - JMO
- Steve Katz - DDA
- Handel Smith - KHA
- John Kugler - HCA
- Reza Haftian - CMX

A steering committee meeting notice was sent by MPOFF to all members of the committee. The meeting was held to discuss the preliminary plan developed for the project. Following the discussion, Ms. Halen discussed the project's timeline and milestones that were set by the agency to gather input from residents and stakeholders. The committee reviewed the preliminary plan and discussed the next steps to be taken by the project team. The next meeting is scheduled for June 15, 2005.
APPENDIX K: STEERING COMMITTEE NOTES

- When planning the design concepts, it will be important to
  take into consideration the existing features and the
  current land use. New features will also need to be balanced into the
  overall design of the area.
- The committee will need to provide feedback to the
  design team to ensure the final product can be built.
- The committee will also need to provide feedback on the
  final project to ensure it is built.

- To enhance pedestrian and bicycle access, the project should
  be designed to minimize conflict between these modes of
  transportation.
- The committee should provide input on the final project
  to ensure it meets the needs of the community.
- The committee should also be involved in the
  development of the final project to ensure it meets the needs
  of the community.

- It is recommended that the final project be
  designed to accommodate
- The committee should be involved in the
  final project to ensure it meets the needs
  of the community.

- The committee should also be involved in the
  development of the final project to ensure it meets the needs
  of the community.
APPENDIX K: STEERING COMMITTEE NOTES

MEMORANDUM

To: Mark Holmblad, MMP
Memorials, Parks & Recs
Date: August 10, 2005

From: Snake Creek Bikeway Steering Committee

Project: Snake Creek Bikeway Planning and Feasibility Study

Subject: Final Planning Committee Meeting Notes - Yard 60

A steering committee meeting was convened for the Snake Creek Bikeway Planning and Feasibility Study was held on August 2, 2005, at the 5th floor conference room of the Municipal Building. The purpose of the meeting was to discuss the plan created by the Snake Creek Bikeway Steering Committee. The meeting was attended by:

- Mark Holmblad, Project Manager - Memorial Parks and Recreation Department (MMP)
- Derek Anderson, Civil Engineer - Mem-ber Creek County SD
- Jay Meeder - City of Miami Gardens
- Mike Williams - MMP
- Tim Haney - MMP
- Tim Byers - MMP
- Mike Stelzer - SCD
- Nina Culp - MMP
- Matt Sebring - MMP

A steering committee meeting agenda was prepared by MMP and distributed to all attendees prior to the meeting. The meeting began with updates on the progress of the planning efforts. The following individuals took place in the preparation of the agenda:

- Matt Sebring (MMP)

During the meeting, the committee discussed the potential benefits of the Snake Creek Bikeway. The potential benefits include:

- Providing a safer and more accessible route for bike riders
- Enhancing the quality of life for residents
- Improving the aesthetic appeal of the area

The committee also discussed the potential funding sources for the project, including grants and private donations. The committee agreed to continue working on the project and to schedule the next meeting in two weeks.

The meeting adjourned without a vote at 8:00 PM.

September 2005
APPENDIX K: STEERING COMMITTEE NOTES

September 2005

APPENDIX K: STEERING COMMITTEE NOTES

The steering committee's 50th anniversary will be celebrated around
the week.

Project Review:

- APPR staff reviewed the Surface Transportation Program (STP)
  proposal. The project has the

Phase 1 - South side 1.4 mile (Airport Road to
  Florida’s Turnpike Frontage Road)
  - Phase 2 - North side 1.4 mile (Airport Road to
  Florida’s Turnpike Frontage Road)
  - Phase 3 - South side 1.4 mile (Airport Road to
  Florida’s Turnpike Frontage Road)
  - Phase 4 - North side 1.4 mile (Airport Road to
  Florida’s Turnpike Frontage Road)

- It is anticipated that the project will be complete by
  the fall of 2011. The design, development, and construction
  process will begin immediately.

- Noted that a contract for construction
  of the project will be awarded soon.

Next Steps:

- A draft final report will be prepared.
  - The format should be a workbook style structure.
  - The data should be included.
  - The committee should be included in the workbook style structure.

- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
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- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
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- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
  - The draft should be a workbook style structure.

- The final report will be prepared.
July 25, 2005

Mr. Jose Mejia,
Director
MetroDade Planning Organization
111 NW 1st Street, Suite 910
Miami, Florida 33131

Dear Mr. Mejia,

The Miami-Dade Park and Recreation Department plans to explore the Snake Creek Trail and would like your support for the feasibility study for the Snake Creek Trail. The Snake Creek Trail is a proposed 3-mile bicycle and pedestrian trail along the Snake Creek Canal (C-87). The trail is to be part of a larger system of trails along the Miami Beach-South Biscayne Bay Trail. The trail will provide a scenic route for people living in the North Bay Village area and other surrounding communities.

I am writing to encourage your support for the feasibility study for the Snake Creek Trail. The trail will provide a safe and enjoyable route for people of all ages to enjoy the beauty of nature and the cultural heritage of our community. I hope you will consider supporting this project and helping to make it a reality.

Sincerely,

Wanda Bennet Rodriguez
Director

CONGRESSMAN KENDRICK B. MEEEK

July 25, 2005

Mr. Jose Mejia, Director
MetroDade Planning Organization
111 NW 1st Street, Suite 910
Miami, Florida 33131

Dear Mr. Mejia,

This is to express my strong support for the feasibility study for the Snake Creek Trail project. I believe this project will provide significant benefits to the community and the environment. It will also enhance the quality of life for residents and visitors of the Miami-Dade area.

I am confident that the Snake Creek Trail will become a popular destination for locals and tourists alike. It will provide a valuable asset to the community and help to promote the appreciation of nature and the culture of our city.

I would greatly appreciate your support for the feasibility study for the Snake Creek Trail project. I look forward to working with you to make this project a reality.

Sincerely,

Kendrick B. Meek
Member of Congress

Kimley-Horn
And Associates, Inc.
YOLLY ROBERSON
State Representative, District 104

July 20, 2005

Mr. Jose Mesa
Director
Metropolitan Planning Organization
111 NW 3rd Street, Suite 970
Miami, Florida 33136

Dear Mr. Mesa:

I am delighted to hear that a proposal has been submitted to the Surface Transportation Program for the development of the Snake Creek Trail. The economic and recreation trail will benefit the residents and visitors of Miami-Dade County, both for recreation and transportation purposes.

In planning for this project, the Miami-Dade County Park and Recreation Department has received support from all the local agencies. The Trail has been provided with contributions from all the local agencies. The Trail will be a lasting benefit to the residents and visitors of the county.

Sincerely,

YOLLY ROBERSON
State Representative, District 104

City of North Miami Beach, Florida

MAYOR PATRICK F. MANN

July 20, 2005

Mr. Jose Mesa
Director
Metropolitan Planning Organization
111 NW 3rd Street, Suite 970
Miami, Florida 33136

Dear Mr. Mesa:

The City of North Miami Beach is pleased that the Surface Transportation Program is helping to fund the Snake Creek Trail. The trail will be a lasting benefit to the residents and visitors of Miami-Dade County. The trail will be a lasting benefit to the residents and visitors of the county.

Sincerely,

MAYOR PATRICK F. MANN

City of North Miami Beach

Kevan Krieg, Deputy City Manager
APPENDIX N: HOMEOWNERS ASSOCIATION LETTERS
Date/Time: September 24, 2005

Subject:/static text

Meeting Notes:

- Meeting Date: September 24, 2005
- Location: South Miami-Dade Community College, Dempsey Building, Room A201
- Purpose: To discuss the Snake Creek Bike-Pedestrian Study
- Attendees: David Heydrich, BPAC
- Public Participation: 3 BPAC members and 3 public participants

Public Comments:
- Discussion about the Snake Creek Bike-Pedestrian Study
- Questions about the project timeline and budget

Vacant lot on corner of SW 278th Street and SW 123rd Avenue

Public Comments:
- Concerns about the impact on traffic
- Request for more information on the project's progress

Decision:
- The next meeting will be held on October 8, 2005
- Public input encouraged at the next meeting

Note:
- The project is scheduled to be completed by December 2005.
### SNAKE CREEK BIKEWAY

**Table 1. Opinion of Probable Cost for Bike Trail Elements - Capital Construction Elements**

<table>
<thead>
<tr>
<th>Bid Item No.</th>
<th>Elements</th>
<th>Estimated Quantity</th>
<th>Unit Price</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>7-2 mile x 6' trail</td>
<td>12</td>
<td>EA</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>2</td>
<td>90' width x 6' 6&quot;</td>
<td>25</td>
<td>EA</td>
<td>$150.00</td>
</tr>
<tr>
<td>3</td>
<td>30' Bridgeway (rail included separately)</td>
<td>10</td>
<td>EA</td>
<td>$10,000.00</td>
</tr>
<tr>
<td>4</td>
<td>2'3&quot;-8&quot;-2'6&quot;-2'3&quot;</td>
<td>1</td>
<td>EA</td>
<td>$36,000.00</td>
</tr>
<tr>
<td>5</td>
<td>Bridges (1 x 200 ft span)</td>
<td>1</td>
<td>EA</td>
<td>$200,000.00</td>
</tr>
<tr>
<td>6</td>
<td>Park Benches</td>
<td>63</td>
<td>EA</td>
<td>$600.00</td>
</tr>
<tr>
<td>7</td>
<td>Trash Receptacles</td>
<td>24</td>
<td>EA</td>
<td>$800.00</td>
</tr>
<tr>
<td>8</td>
<td>Bike Racks</td>
<td>14</td>
<td>EA</td>
<td>$750.00</td>
</tr>
<tr>
<td>9</td>
<td>Landscape Trees</td>
<td>141</td>
<td>EA</td>
<td>$500.00</td>
</tr>
<tr>
<td>10</td>
<td>Cross Walks (Pavers) - includes sub-base</td>
<td>2793</td>
<td>SF</td>
<td>$6.60</td>
</tr>
<tr>
<td>11</td>
<td>Parking Lot (asphalt)</td>
<td>13000</td>
<td>SF</td>
<td>$2.77</td>
</tr>
<tr>
<td>12</td>
<td>Snake Creek Trail Signage</td>
<td>8</td>
<td>EA</td>
<td>$300.00</td>
</tr>
<tr>
<td>13</td>
<td>Sidewalk (pavement)</td>
<td>53</td>
<td>EA</td>
<td>$500.00</td>
</tr>
<tr>
<td>14</td>
<td>Landscape Shrubs</td>
<td>14130</td>
<td>SF</td>
<td>$3.00</td>
</tr>
<tr>
<td>15</td>
<td>10' Aspen Trail (plus sub-base)</td>
<td>33284</td>
<td>SF</td>
<td>$2.22</td>
</tr>
<tr>
<td>16</td>
<td>15' Aspen Trail (plus sub-base)</td>
<td>22070</td>
<td>SF</td>
<td>$2.22</td>
</tr>
<tr>
<td>17</td>
<td>Pavement Markings (10')</td>
<td>3300</td>
<td>LF</td>
<td>$0.50</td>
</tr>
<tr>
<td>18</td>
<td>Pavement Markings (12')</td>
<td>50</td>
<td>LF</td>
<td>$0.50</td>
</tr>
<tr>
<td>19</td>
<td>Pavement Markings (Letters and Symbols)</td>
<td>120</td>
<td>EA</td>
<td>$1.00</td>
</tr>
<tr>
<td>20</td>
<td>Picnic Tables (beach)</td>
<td>10</td>
<td>EA</td>
<td>$1,000.00</td>
</tr>
<tr>
<td>21</td>
<td>Boardwalk</td>
<td>1</td>
<td>EA</td>
<td>$300,000.00</td>
</tr>
<tr>
<td>22</td>
<td>Regulatory Signage</td>
<td>10</td>
<td>EA</td>
<td>$120.00</td>
</tr>
<tr>
<td>23</td>
<td>Median Avenue Safety Improvements</td>
<td>1</td>
<td>EA</td>
<td>$14,000.00</td>
</tr>
<tr>
<td>24</td>
<td>Green House</td>
<td>2</td>
<td>EA</td>
<td>$3,000.00</td>
</tr>
<tr>
<td>25</td>
<td>Trailhead</td>
<td>2</td>
<td>EA</td>
<td>$40,000.00</td>
</tr>
<tr>
<td>26</td>
<td>Interpretive Signs</td>
<td>8</td>
<td>EA</td>
<td>$2,000.00</td>
</tr>
<tr>
<td>27</td>
<td>10' Fence</td>
<td>14750</td>
<td>SF</td>
<td>$19.00</td>
</tr>
<tr>
<td>28</td>
<td>Restrooms (including poured in place safety surface)</td>
<td>16</td>
<td>EA</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>29</td>
<td>playgrounds (including poured in place safety surface)</td>
<td>5</td>
<td>EA</td>
<td>$100,000.00</td>
</tr>
<tr>
<td>30</td>
<td>3'6&quot;-4&quot;-3'6&quot;</td>
<td>12</td>
<td>EA</td>
<td>$1,500.00</td>
</tr>
<tr>
<td>31</td>
<td>Sidewalk (pavement)</td>
<td>96</td>
<td>EA</td>
<td>$60.00</td>
</tr>
<tr>
<td>32</td>
<td>Fire</td>
<td>10000</td>
<td>CY</td>
<td>$19.00</td>
</tr>
</tbody>
</table>

**Subtotal - 10' Trail and Amenities** | **$4,008,522.00** |

**Subtotal - 12' Trail and Amenities** | **$4,153,214.12** |

**Note:** This table does not include $1,000,000 set aside in a general obligation bond for a pedestrian overpass to span over I-55 and Tri-Rail.

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### APPENDIX P: COST ESTIMATES

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**Table 2. Snake Creek Trail Budget**

<table>
<thead>
<tr>
<th>Phase</th>
<th>South Trail</th>
<th>Partial North Trail</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
<th>USACE Trail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Costs</td>
<td>$1,020,000</td>
<td>$1,020,000</td>
<td>$1,020,000</td>
<td>$1,020,000</td>
<td>$1,020,000</td>
<td>$1,020,000</td>
</tr>
<tr>
<td>0-4 miles</td>
<td>$136,000</td>
<td>$136,000</td>
<td>$136,000</td>
<td>$136,000</td>
<td>$136,000</td>
<td>$136,000</td>
</tr>
<tr>
<td>0-44 miles</td>
<td>$732,000</td>
<td>$732,000</td>
<td>$732,000</td>
<td>$732,000</td>
<td>$732,000</td>
<td>$732,000</td>
</tr>
<tr>
<td>Trail Necessities</td>
<td>$956,242</td>
<td>$329,000</td>
<td>$138,809</td>
<td>$206,434</td>
<td>$1,000,000</td>
<td>$1,000,000</td>
</tr>
<tr>
<td>Trail Amenities</td>
<td>$895,059</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
<td>$10,000</td>
</tr>
<tr>
<td>Bridges</td>
<td>$200,000</td>
<td>$400,000</td>
<td>$400,000</td>
<td>$400,000</td>
<td>$400,000</td>
<td>$400,000</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>$300,000</td>
<td>$300,000</td>
<td>$300,000</td>
<td>$300,000</td>
<td>$300,000</td>
<td>$300,000</td>
</tr>
<tr>
<td>Sub-Total Construction</td>
<td>$4,944,332</td>
<td>$1,780,209</td>
<td>$1,287,509</td>
<td>$2,546,134</td>
<td>$3,889,115</td>
<td>$3,889,115</td>
</tr>
<tr>
<td>Total Cost for 6.3 mile MDPK segment</td>
<td>$5,976,464</td>
<td>$2,480,504</td>
<td>$1,886,333</td>
<td>$3,895,119</td>
<td>$3,889,115</td>
<td>$3,889,115</td>
</tr>
</tbody>
</table>

---

**Table 3. Snake Creek Trail Budget**

<table>
<thead>
<tr>
<th>Phase 1</th>
<th>Phase 2</th>
<th>Phase 3</th>
<th>Phase 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Trail</td>
<td>Partial North Trail</td>
<td>Bridgeway &amp; Boardwalk</td>
<td>USACE Trail</td>
</tr>
<tr>
<td>Trail Necessities</td>
<td>Trail Necessities</td>
<td>Trail Necessities</td>
<td>Trail Necessities</td>
</tr>
<tr>
<td>Trail Amenities</td>
<td>Trail Amenities</td>
<td>Trail Amenities</td>
<td>Trail Amenities</td>
</tr>
<tr>
<td>Bridges</td>
<td>Bridges</td>
<td>Bridges</td>
<td>Bridges</td>
</tr>
<tr>
<td>Miscellaneous</td>
<td>Miscellaneous</td>
<td>Miscellaneous</td>
<td>Miscellaneous</td>
</tr>
<tr>
<td>Sub-Total Construction</td>
<td>Sub-Total Construction</td>
<td>Sub-Total Construction</td>
<td>Sub-Total Construction</td>
</tr>
<tr>
<td>Total Cost for 2 mile USACE segment</td>
<td>Total Cost for 2 mile USACE segment</td>
<td>Total Cost for 2 mile USACE segment</td>
<td>Total Cost for 2 mile USACE segment</td>
</tr>
<tr>
<td>Total for both segments: 8.3 miles</td>
<td>Total for both segments: 8.3 miles</td>
<td>Total for both segments: 8.3 miles</td>
<td>Total for both segments: 8.3 miles</td>
</tr>
<tr>
<td>Phase 1 Request from CDBG</td>
<td>203,410</td>
<td>203,410</td>
<td>203,410</td>
</tr>
<tr>
<td>Match from CDBG</td>
<td>203,410</td>
<td>203,410</td>
<td>203,410</td>
</tr>
</tbody>
</table>

**Note:** Funding is available separately for the I-55 Overpass which will be needed for the trail.