
January 2006

Final Environmental Assessment

Florida Keys Water Quality Improvements Program (FKWQIP)

Key Colony Beach Lift Station Rehabilitation Monroe County, Florida



**U.S. Army Corps of Engineers
Jacksonville District**

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Key Colony Beach Lift Station Rehabilitation Project

Monroe County, Florida

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FINDING OF NO SIGNIFICANT IMPACT
KEY COLONY BEACH
LIFT STATION REHABILITATION PROJECT
MONROE COUNTY, FLORIDA

I have reviewed the Environmental Assessment (EA) for the *Proposed Action*. This Finding incorporates by reference all discussions and conclusions contained in the EA enclosed hereto. Based on information analyzed in the EA, reflecting pertinent information obtained from agencies having jurisdiction by law and/or special expertise, I conclude that the *Proposed Action* will not significantly impact the quality of the human environment and does not require an Environmental Impact Statement. Reasons for this conclusion are in summary:

a. The *Proposed Action*: Provide federal financial and technical assistance from the U.S. Army Corps of Engineers (Corps), as part of the Florida Keys Water Quality Improvements Program (FKWQIP), to rehabilitate thirteen aged and failing wastewater lift stations to eliminate pump failure and overflow of raw sewage into surface water. This project is being implemented under the FKWQIP, which is intended to alleviate water quality degradation resulting from the discharge of inadequately treated and untreated wastewater into nearshore waters of the Florida Keys National Marine Sanctuary (Sanctuary).

b. The proposed project will have significant environmental benefit and negligible construction consequences to the natural environment.

c. No wetland habitats, protected species, cultural resources or essential fish habitat will be impacted because all construction will occur below ground level within the confines of the thirteen lift stations. The Corps has determined that the *Proposed Action* will have no effect on listed species under the jurisdiction of the U.S. Fish and Wildlife Service or the National Marine Fisheries Service.

RM Carpenter for
Robert M. Carpenter
Colonel, U. S. Army
District Engineer

7 FEB 2006
Date

1.0 Purpose of and Need for Action

The United States (U.S.) Congress has directed the U.S. Army Corps of Engineers (Corps) to assist local municipalities in Monroe County, Florida in the planning and construction of wastewater and stormwater improvements designed to accomplish the goals listed below.

- Reduce nutrient loading to the nearshore waters of the Florida Keys National Marine Sanctuary (Sanctuary)
- Improve water quality throughout the waters of the Sanctuary
- Comply with relevant federal and state regulatory standards

A Programmatic Environmental Impact Statement (PEIS) was previously prepared by the Corps for the proposed Florida Keys Water Quality Improvements Program (FKWQIP) in accordance with the National Environmental Policy Act (NEPA) and the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508). These laws and regulations require the Corps to consider and address environmental issues when funding a major federal action.

The PEIS prepared by the Corps provides a framework to address potential environmental impacts associated with design and implementation of eligible wastewater treatment projects for the FKWQIP. This Environmental Assessment (EA) tiers from the PEIS for the FKWQIP and hereby incorporates the PEIS by reference, in accordance with 40 CFR Part 1508.28.

1.1 Authorization

Under authority of Public Law 106-554 dated December 21, 2000 (Appendix A of the PEIS), the Corps is authorized to provide technical and financial assistance to carry out projects for the planning, design, and construction of treatment works to improve water quality in the Sanctuary. Design and construction assistance may be provided only for projects owned by public entities. Typically, large programs of this nature are not in accordance with Administration Program priorities of the Corps (i.e. navigation, flood control, or environmental restoration). However, non-traditional projects are routinely undertaken by the Corps as “work for others.”

The Florida Keys Water Quality Improvement Act (Act) authorized Congress to appropriate up to \$100 million for FKWQIP projects for the planning and construction of wastewater and stormwater improvements. The City of Key Colony Beach would be responsible for 35 percent of the lift station rehabilitation costs and would receive credit for the reasonable costs of design work completed prior to entering into an agreement with the federal government. The total cost of the proposed project is an estimated \$335,000.

1.2 Purpose and Need

In recognition of the importance of improving water quality in the Sanctuary, the purpose of the *Proposed Action* is to assist the City of Key Colony Beach and other municipalities with the planning and implementation of the lift station rehabilitation that will support the goals and objectives of the Act and FKWQIP. The *Proposed Action* is needed to reduce nutrient and

bacteria loading to the Sanctuary, improve water quality in the Sanctuary, and comply with relevant federal and state regulatory standards.

The Sanctuary includes unique and nationally significant marine environments such as seagrass meadows, mangrove islands, and the only living coral barrier reef in North America. Similar to other Florida ecosystems, human activities during the past 100 years have affected water quality in the Sanctuary. Water quality is critical to maintaining the marine ecosystem of the Sanctuary and influences the coral reef and the organisms dependent on the reef. Numerous scientific studies have documented the contribution of failing septic tanks and cesspools to the deterioration of canal and nearshore water quality in the Florida Keys. In addition, research has suggested that increased nutrient loadings from wastewater into canals and nearshore waters are one of the major contributors to the decline of water quality within the Sanctuary.

1.3 Decision to be Made

Due to the high capital costs of implementing the proposed water quality improvement facilities, municipal governments in the Florida Keys have requested assistance from the federal government to develop and implement wastewater treatment and stormwater management actions that will reduce nutrient loadings and improve water quality in the Sanctuary. Based on the potential benefits of the City of Key Colony Beach lift station rehabilitation and the adverse effects on the natural and manmade environment if water quality improvements are not made, the Corps must decide whether to provide financial and technical assistance to rehabilitate thirteen lift stations for the City of Key Colony Beach. Once the proposed lift station rehabilitation is completed, Key Colony Beach residents and visitors can be assured of improved water quality protection in the surrounding Sanctuary and nearshore waters.

1.4 National Environmental Policy Act Requirements

Under the NEPA of 1969 and the CEQ regulations implementing NEPA (40 CFR Parts 1500 to 1508), the Corps must consider the environmental consequences of proposed federal actions (projects). Accordingly, the Corps has prepared this document to evaluate the environmental consequences of rehabilitating thirteen lift stations within the confines of the city limits. These project-specific improvements include replacement of existing infrastructure to upgrade the wastewater collection system. This Draft EA tiers from the PEIS for the FKWQIP as previously described.

2.0 Description of Alternatives

Lift station rehabilitation alternatives for the City of Key Colony Beach are described and evaluated in this section, providing the basis for decision making and thereby making up the core of this EA. While other funding sources are currently being evaluated to assist in implementing wastewater improvement projects in Key Colony Beach, the proposed federal funding would expedite rehabilitation of the thirteen lift stations.

2.1 Delineation of Alternatives

The enabling legislation for the Act directs the Corps to coordinate with local and state agencies as part of the planning process identifying and developing water quality improvement projects designed to decrease nutrient loading and improve the water quality of the Sanctuary.

Planning at the county level has also addressed water quality improvements in the Florida Keys, primarily in response to the mandated Florida Statutory Treatment Standards of 2010. In addition, local municipalities in Monroe County have prepared sanitary wastewater treatment master plans during the past eight years. Consequently, the water quality improvement projects proposed for Key Colony Beach have undergone an analysis of engineering alternatives to accomplish the lift station rehabilitation.

2.2 Description of Alternatives

Three alternatives have been proposed for the lift station rehabilitation in Key Colony Beach and are described in the following sections.

2.2.1 Alternative 1 (*No Action*): No Implementation of Wastewater Treatment Improvement Projects for Key Colony Beach

Under the *No Action* alternative, no state or federal funding would be provided to Key Colony Beach, as part of the FKWQIP, for needed improvements or upgrades to wastewater collection systems that would address state mandates to improve water quality in the Sanctuary.

2.2.2 Alternative 2 (*Proposed Action*): Provide Federal Financial and Technical Assistance to Develop and Implement a Wastewater Improvement Project for Key Colony Beach

The *Proposed Action* includes financial and technical assistance for Key Colony Beach and would accomplish the goals listed below.

- Meet objectives of the Act
- Address local and regional water quality issues
- Achieve nutrient loading reductions and commensurate improvements in water quality in nearshore waters of the service area and subsequently, the Sanctuary
- Comply with federal and state mandated regulatory water quality treatment standards in a timely manner

The project consists of rehabilitating thirteen aged and failing wastewater lift stations to eliminate pump failure and overflow of raw sewage into surface water. The *Proposed Action* includes replacement of the inside workings of the stations and sealing the inside of the stations to prevent any leakage of raw sewage. Currently pumps have failed causing overflows to occur throughout the City of Key Colony Beach. A total of 2,500 permanent residents in the City of Key Colony Beach will benefit from this project.

2.2.3 Alternative 3 (*Alternative Funding Sources*): Pursue Other Sources of Funding for the Key Colony Beach Wastewater Improvement Project

Under Alternative 3, *Alternative Funding Sources*, including state and federal funding alternatives (other than Corps funds), would be pursued to implement the Key Colony Beach wastewater improvement project. This alternative is not within the jurisdiction of the federal government and no monies would be obtained from federal sources. Consequently, the project would be implemented as funding became available, potentially delaying full implementation. The overall potential impacts of implementing *Alternative Funding Sources* are briefly summarized below.

- Fail to meet objectives of the Act until alternate funding is identified and obtained
- Delay addressing local and regional water quality issues
- Delay compliance with federal and state regulatory water quality standards until all funding is made available

2.3 Preferred Alternative

The preferred alternative is Alternative 2, the *Proposed Action*. Under the *Proposed Action*, the Corps would provide financial and technical assistance to the City of Key Colony Beach for implementation of a wastewater improvement project that would reduce nutrient loads and pollutants to nearshore waters in the Sanctuary.

3.0 Affected Environment

The FKWQIP PEIS was prepared by the Corps and published in the Federal Register in September 2004 and provides a framework to address potential environmental impacts associated with design and implementation of municipal actions under the FKWQIP. A Record of Decision for the PEIS was signed in June 2005. This Draft EA tiers from the PEIS for the City of Key Colony Beach *Proposed Action* and thereby incorporates the PEIS by reference, in accordance with 40 CFR Part 1508.28. The *Proposed Action* addressed by this Draft EA is the rehabilitation of thirteen lift stations.

Over the past six years the City of Key Colony Beach has initiated a rehabilitation program of its wastewater treatment system. Historically the City of Key Colony Beach treated municipal wastewater with a conventional activated sludge process. In 1999 the conventional system was nearing its operating life and the City of Key Colony Beach upgraded to a membrane bioreactor system. This new system has allowed the City of Key Colony Beach to meet more stringent discharge limits for biological oxygen demand, total suspended solids, total nitrogen, and total phosphorous that have been imposed by the State of Florida to protect the water quality of nearshore waters in the Florida Keys. In 2002-2003 the City of Key Colony Beach completed rehabilitation of its wastewater collection system by slip lining the existing sewer lines to prevent leakage and infiltration of raw sewage into the groundwater.

The City of Key Colony Beach proposes to rehabilitate thirteen aged and failing wastewater lift stations throughout the City of Key Colony Beach. All thirteen stations are existing

infrastructure used to collect the gravity flow raw sewage from residences then force the sewage to the wastewater plant for treatment. These lift stations are approximately 35 years old and are experiencing pump failure due to age, surrounding environment, and characteristics of raw sewage. Failure of the lift stations contributes to raw sewage spills and degradation of nearshore water quality. Currently pumps have failed causing overflows to occur. All construction activities would occur on publicly owned lands within existing rights-of-way.

Key Colony Beach is located in the heart of the Florida Keys at Mile Marker 53.5. There are 836 permanent residents, but the population peaks to about 3,600 in mid-winter and averages around 2,500 most of the year. The City was founded in the early 1950s and was incorporated in 1957. The City is situated on 286 acres and contains approximately 1,373 units of housing with approximately 119 undeveloped lots.

4.0 Environmental Consequences

This portion of the Draft EA presents an analysis of the environmental consequences anticipated as a result of implementing the *Proposed Action*. The detrimental environmental consequences of constructing the *Proposed Action* would be minimal and the completed project would have significant environmental benefits. As previously stated the lift stations are 35 years old and are experiencing pump failure leading to raw sewage spills and degradation of nearshore water quality. The *Proposed Action* would eliminate the raw sewage spills by sealing the inside of the lift stations and installing more reliable pumps. Nearshore waters of Key Colony Beach would no longer suffer from the periodic impulse of raw sewage and the degradation of water quality.

All construction would occur on public lands within existing rights-of-way and below ground-level within the existing lift station chambers. No direct impacts would occur to natural habitats or require wetland mitigation, because each lift station is located on disturbed lands that are maintained by the City of Key Colony Beach. The lift station rehabilitation would result in minor, temporary impacts to traffic in the immediate vicinity of each of the thirteen lift stations due to trucks accessing the construction site and temporary barricades limiting access and the flow of traffic. The *Proposed Action* may result in minor and temporary impacts to utility services for customers within the service territory of each specific lift station as it undergoes rehabilitation. Because the *Proposed Action* will be confined to repairs and equipment replacement within existing pump stations, it is highly unlikely that historical properties or sites would be impacted. In the unlikely event historic or archaeological items should happen to be found during project work, all activities would be terminated and consultation with the Corps, and the State Historic Preservation Officer and other appropriate agencies would occur to identify actions necessary to comply with NPHA Section 106 and other applicable requirements. The State of Florida Historic Preservation Officer was not consulted regarding this project due to the low probability of any surface disturbance.

Potential cumulative impacts of the proposed project are primarily beneficial and should be considered in the spatial and temporal context of the wastewater and stormwater improvement projects funded by federal, state, and local sources. Multiple wastewater projects in the Florida Keys would be closely located, both spatially and temporally, and the cumulative impact of these facilities would be beneficial in terms of improved water quality within the Sanctuary. Improved

water quality would in turn enhance marine habitats, and would increase recreation and tourism opportunities. The proposed project would not contribute to development as growth in Monroe County is strictly regulated by county ordinance and is based on several conditions, including hurricane evacuation times, public safety and environmental needs. The proposed project would not increase permit allocations and would not contribute to or support floodplain development beyond that which is already planned.

Because of the small size of the proposed project and the recognized environmental benefits, there are no known environmental controversies associated with this project.