DRAFT REPORT

CULTURAL RESOURCES ASSESSMENT

BAY POINT WASTEWATER TREATMENT SYSTEM FLORIDA KEYS, FLORIDA

Prepared for
FEMA Region IV
3003 Chamblee Tucker Road
Atlanta, GA 30341

August 2003

URS Group, Inc.
200 Orchard Ridge Drive, Suite 101
Gaithersburg, Maryland 20878
89-FR954414.00

TABLE OF CONTENTS

Figures

Plates

Appendices

URS Group, Inc. has completed a cultural resources assessment of the project area for the proposed Bay Point and Saddlebunch Key Wastewater Treatment System, in Monroe County, Florida. The project proposes to replace existing on-site residential wastewater treatment systems on Bay Point and Saddlebunch Key with a wastewater collection system, a wastewater transmission force main (from the wastewater collection system on Saddlebunch Key to the wastewater treatment plant on Bay Point) and a wastewater treatment plant on Bay Point. In response to damage and loss resulting from Hurricane Georges, Congress enacted Public Law 106-31, Emergency Supplemental Appropriations Act for Fiscal Year 1999, to fund long-term disaster recovery projects in the Florida counties whose needs were unmet by primary disaster relief funds. Monroe County was included among the counties eligible for "Unmet Needs" funding. The Federal Emergency Management Agency (FEMA), the State of Florida, and the affected counties determined the funding priorities. Monroe County requested that wastewater management improvement projects be considered for this funding because many existing wastewater facilities in the county were not storm-resistant. As a federal undertaking, this project must be reviewed in accordance with the National Environmental Policy Act of 1969, as amended (NEPA, 42 U.S.C. 4321-4347), and Section 106 of the National Historic Preservation Act (NHPA) of 1966, as amended, and its implementing regulations found in 36 Code of Federal Regulations (CFR) Part 800.

The scope of work for the review included a records search at the Florida State Historic Preservation Office (SHPO) and a pedestrian reconnaissance survey of the project Alternatives. The purpose of the assessment was to assist FEMA's project planning, and to ensure compliance with the NEPA and the NHPA by providing the Florida SHPO with information on possible impacts to cultural resources pursuant to Section 106.

Alternative 1 is the no build alternative and therefore will have no effect to historic properties. For Alternative 2, site files reviewed at the Florida SHPO indicated that there were no historic standing structures or archaeological sites in the project areas or within a one-mile radius of either project area (the proposed wastewater treatment plant and vacuum pumping station site, and the proposed wastewater transmission force main). Pedestrian survey of the proposed combined wastewater treatment plant and vacuum pumping station site identified no artifacts or cultural features within the project's Area of Potential Effects (APE). Furthermore, pedestrian survey of the proposed wastewater transmission force main alignment observed highly disturbed soils. Thus, this assessment indicates that there is a low potential for archaeological resources to be present within the two proposed APEs.

Fieldwork resulted in the identification of a bridge located within the APE for Alternative 2 that appears eligible for listing in the National Register of Historic Places. The bridge is part of the Overseas Highway. Three other bridges (Long Key Bridge, Knight Key Bridge, and Old Bahia Honda Bridge), which are not part of the proposed undertaking, were listed as the Overseas Highway and Railway Bridges in the National Register in 1979 following a previous determination of National Register eligibility in 1975. In addition, the Florida SHPO has stated that it considers Overseas Highway and Railway bridges that have not been previously listed in the National Register as being eligible for listing in the National Register.

For the purposes of project planning and compliance with Section 106 of the NHPA, the bridge located within the APE is being considered eligible for listing in the National Register. However, because the proposed work will involve minimal changes to the bridge, Alternative 2 of the proposed undertaking will have no effect to historic properties. It is recommended that

this effect determination be presented to the Florida SHPO in order to receive its concurrence with this report's finding that this alternative to the proposed undertaking will have no effect to historic properties.

For Alternative 3, site files research identified no archaeological sites within the project APE and pedestrian survey of the proposed vacuum pumping station site identified no artifacts or cultural features within the project's APE. However, a review of the APE for the wastewater transmission force main identified six bridges that may be eligible for listing on the National Register as components of the Overseas Highway and Railway Bridge network. For the purposes of project planning and compliance with Section 106 of the NHPA, the six bridges are considered eligible for listing in the National Register of Historic Places. However, because the proposed work will involve minimal changes to the six bridges, Alternative 3 of the proposed undertaking will have no effect to historic properties. It is recommended that this effect determination be presented to the Florida SHPO in order to receive its concurrence with this report's finding that this alternative to the proposed undertaking will have no effect to historic properties.

1.1 PROJECT BACKGROUND

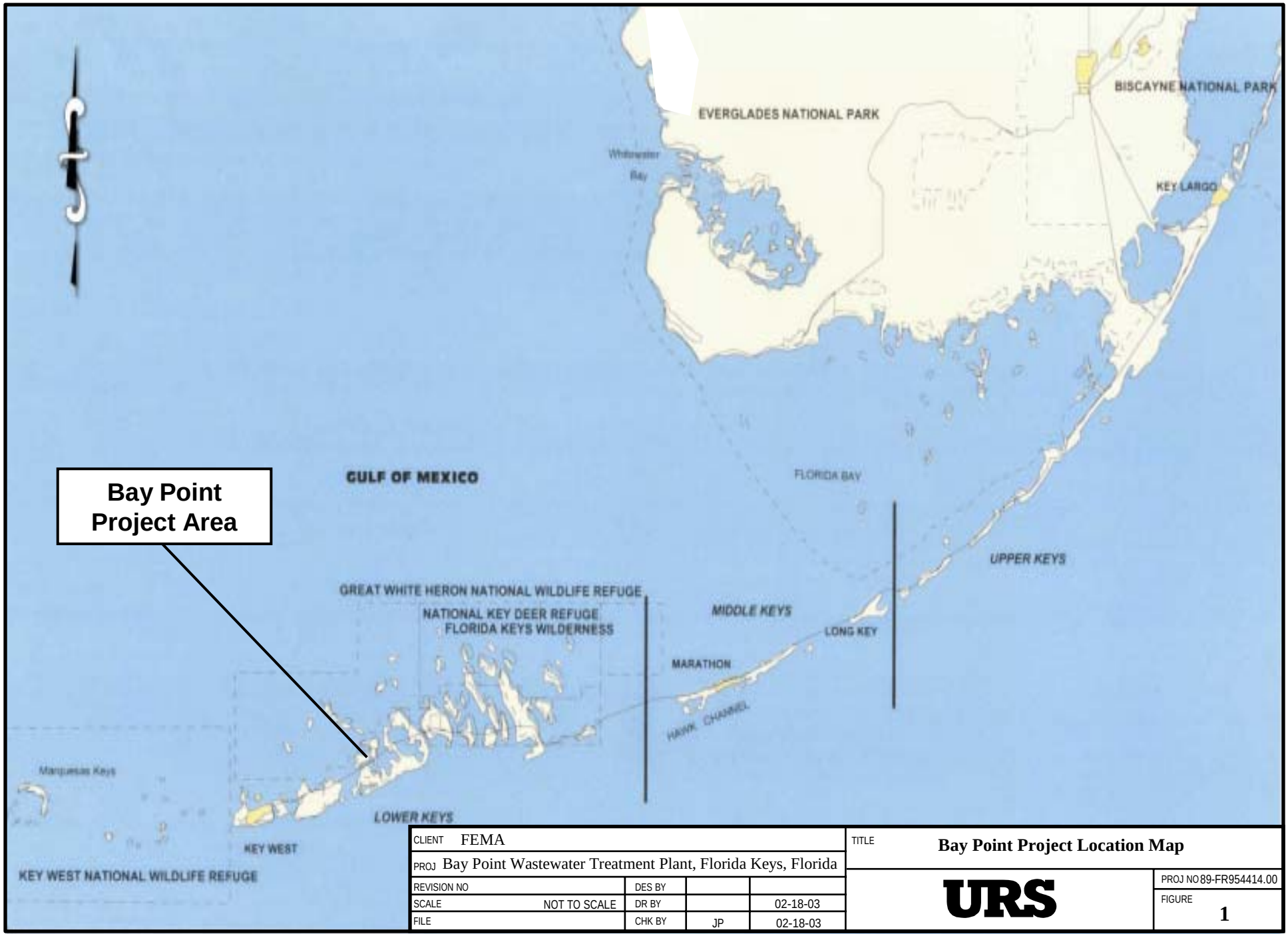
This Cultural Resources Assessment was conducted by URS Group, Inc., (URS) on behalf of the Federal Emergency Management Agency (FEMA). The purpose of this assessment was to assist FEMA in complying with the National Environmental Policy Act of 1969, as amended (NEPA, 42 U.S.C. 4321-4347) and with Section 106 of the National Historic Preservation Act of 1966, as amended (NHPA, 16 U.S.C. 470-470w-6).

In 1998, after Hurricane Georges, Congress enacted Public Law 106-31, Emergency Supplemental Appropriations Act for Fiscal Year 1999, to provide additional support for long-term disaster recovery projects in the State of Florida. The funds were allocated to assist counties whose needs were yet unmet through allocation of primary disaster relief funds. This Unmet Needs money was earmarked for the counties most impacted by Hurricane Georges, including Monroe County. The FEMA, State of Florida, and the impacted counties determined funding priorities.

FEMA has received a grant application from the Florida Keys Aqueduct Authority (FKAA) requesting federal assistance for construction of wastewater treatment system for Bay Point and Saddlebunch Key in Monroe County. Bay Point and Saddlebunch Key are located in the lower keys, immediately southeast of Sugarloaf Keys, between mile marker 14 and 15; Township 67 South, Range 27 East, Section 8 (Figure 1). The purpose of the proposed project is to install storm-resistant wastewater treatment facilities, improve wastewater treatment as well as assist residents in meeting State mandated water quality targets as set forth in the Florida Statutory Treatment Standards of 2010, thereby improving water quality in the Florida Keys. Residents of Bay Point and Saddlebunch Key currently use cesspools and septic systems. The undertaking includes removal of existing on-site systems on Bay Point and Saddlebunch Key, primarily septic tanks and cesspools, and construction of a wastewater system to serve residential and business needs. Because this project includes federal funds, Section 106 review of the project is required.

1.2 APPLYING NHPA AND NEPA

Compliance with Section 106 of the NHPA, as amended, is necessary for any federal undertaking that has the potential to affect historic properties. The procedures for Section 106 review are outlined in 36 CFR Part 800. Section 106 review includes identifying historic properties, including archaeological sites that may be affected by the proposed actions or any of its alternatives. For the purposes of Section 106, historic properties are defined as archaeological sites, buildings, structures, districts, objects, or sites that are listed in or are eligible for listing in the National Register of Historic Places (36 CFR 60.4). In cases where a federal agency determines that its undertaking would result in an adverse effect on a historic property, 36 CFR §800.6 requires that the agency consult with the State Historic Preservation Officer/Tribal Historic Preservation Officer (THPO), interested persons, the Advisory Council on Historic Preservation (ACHP), its applicant, local governments, Indian Tribes and Native Hawaiians, the public, and possibly others to seek ways to avoid, minimize, or mitigate the undertaking's adverse effect. If avoiding the adverse effect through re-design or other alternative means is not possible, the federal agency, the SHPO/THPO, the ACHP, and other consulting parties may enter



CLIENT	FEMA			TITLE	**Bay Point Project Location Map**
PROJ	Bay Point Wastewater Treatment Plant, Florida Keys, Florida				
REVISION NO		DES BY			
SCALE	NOT TO SCALE	DR BY		02-18-03	URS
FILE		CHK BY	JP	02-18-03	PROJ NO 89-FR954414.00
					FIGURE **1**

into a Memorandum of Agreement (MOA) that outlines various measures that the federal agency would employ to mitigate the adverse effect of the undertaking. In cases where the federal agency and the other consulting parties fail to agree on appropriate mitigation measures, the federal agency or the other consulting parties may terminate consultation, in which case the ACHP issues a final opinion and the project proceeds.

Section 106 review is being conducted simultaneously with review under NEPA and the results of the Section 106 review will be incorporated into NEPA documents. In regards to NEPA review, FEMA is preparing a Supplemental Environmental Assessment (SEA) on the likely effects of implementing three wastewater treatment alternatives that address Bay Point and Saddlebunch Key wastewater problems. Alternative 1 is called a No Action Alternative and proposes to make no changes to the current situation. Alternative 2, the Preferred Alternative, proposes to build: wastewater collections systems on Bay Point and Saddlebunch Key; a wastewater transmission force main from Saddlebunch Key to the wastewater treatment plant and vacuum pumping station on Bay Point; and a wastewater treatment plant and vacuum pumping station on Bay Point. Alternative 3 proposes to build a wastewater collection system on Bay Point and Saddlebunch Key, and a wastewater transmission force main from Saddlebunch Key to the wastewater treatment plant on Stock Island at a distance of approximately 17.7 km (11 miles).

1.3 ALTERNATIVES DESCRIPTION

Alternative 1

Under Alternative 1, no construction will take place and therefore there will be no change to the existing conditions.

Alternative 2

The preferred alternative proposed by FKAA for improving the treatment of wastewater for Bay Point and Saddlebunch Key consists of: construction of a combined wastewater treatment plant and vacuum pumping station on Bay Point; construction of a wastewater collection system on Bay Point and Saddlebunch Key (located southwest of Bay Point); and construction of a short transmission force main (for effluent) from Saddlebunch Key along U.S. 1 to the wastewater treatment plant on Bay Point, approximately 1.2 km (0.75 miles).

Under this alternative, the FKAA would utilize FEMA funding to construct a wastewater collection systems on Bay Point and Saddlebunch Key, a force main from Saddlebunch Key to the wastewater treatment plant on Bay Point, and the combined site containing both the vacuum pumping station and wastewater treatment plant on Bay Point. The wastewater collection system will consist of a vacuum sewer system and a vacuum pumping station. The sewer collection mains would be installed within existing portions of previously disturbed road right-of-ways (ROW) in front of the residences and businesses to be served. Service laterals would be provided up to the ROW edge for each residence or business owner. The property owner would be responsible for constructing individual connections to the service laterals. On both Saddlebunch Key and Bay Point, the ROWs measure between 30 and 50 feet in width.

The Saddlebunch to Bay Point transmission force main would move wastewater from the wastewater collection system on Saddlebunch Key to the wastewater treatment plant and vacuum pumping station site on Bay Point, a distance of approximately 1.2 km (0.75 miles). This

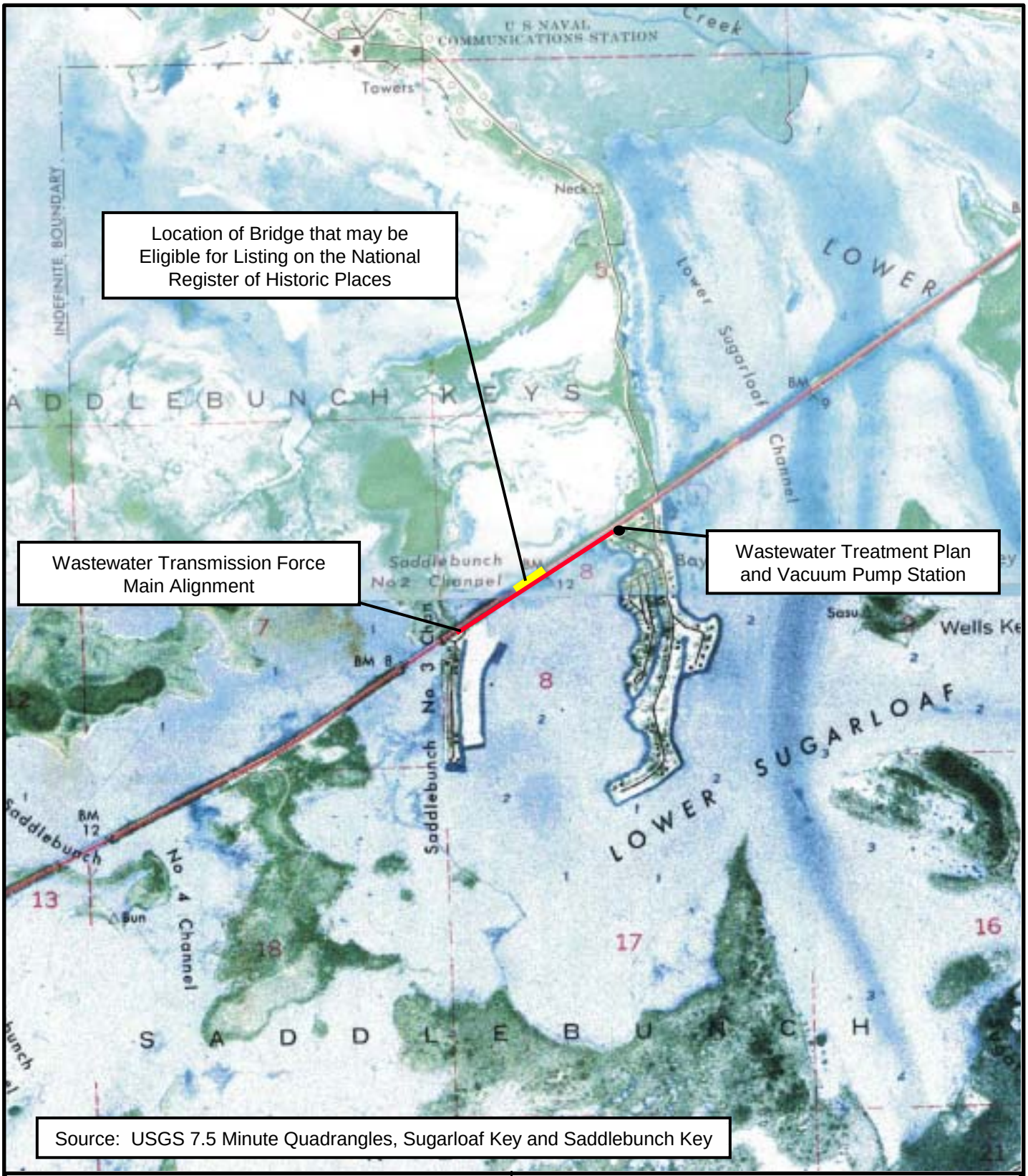
transmission main would be slip-lined through an abandoned 18-inch FKAA water main steel pipe within the U.S. 1 ROW (Figure 2). That portion of the FKAA abandoned water main attached to the fishing bridge over Saddlebunch No. 2 Channel (at approximately mile marker 14.5) will have its attachment fittings and hardware replaced.

The proposed vacuum pumping station and wastewater treatment plant site is located on an existing vacant lot on the ocean-side of U.S. 1 on Bay Point (Figure 2). The vacuum pumping station would draw raw sewage from residences and businesses through the collection mains and pump it to the treatment plant. The site would accommodate the new vacuum pumping station and wastewater treatment plant, storage facilities for maintenance equipment, treatment chemicals, and other operations materials, as well as administrative buildings, parking, and paved access roads. Effluent would be disposed of in shallow disposal wells. Figure 3 is a plan view of the proposed wastewater treatment plant and vacuum pumping station.

Alternative 3

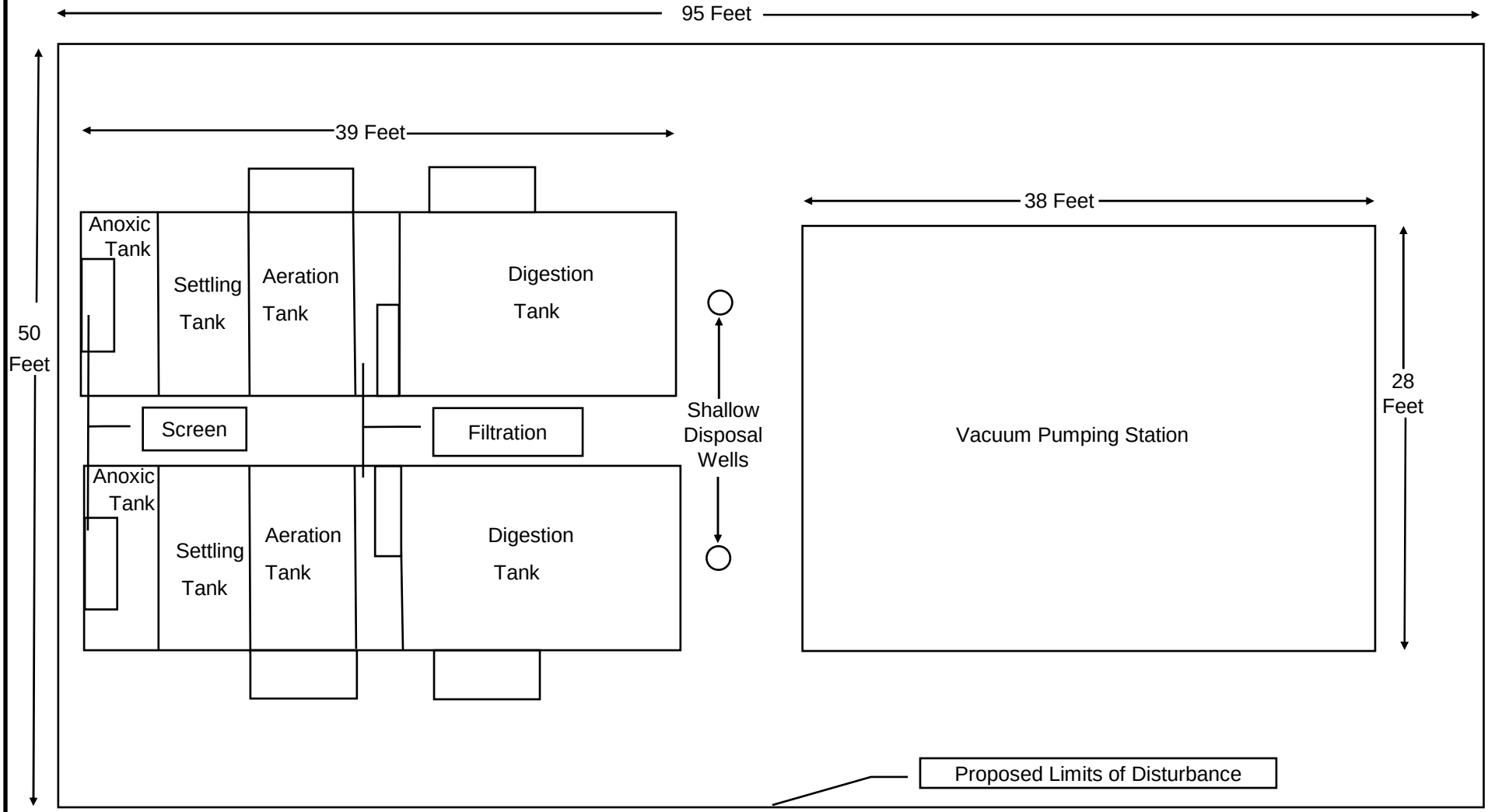
Under this alternative, FKAA would utilize FEMA funding to construct a Wastewater Treatment System. The Wastewater Treatment System would consist of a wastewater collection system at both Bay Point and Saddlebunch Key, the vacuum pumping station, and a wastewater transmission force main from Bay Point and Saddlebunch Key to the Key West Resort Utility (KWRU) wastewater treatment plant on Stock Island, a distance of approximately 17.7 km (11 miles).

The wastewater collection system is identical to the systems described in Alternative Two. The vacuum pumping station will be sited on Bay Point in the same location proposed for the combination vacuum pumping station and wastewater treatment plant. The wastewater transmission force main will be routed from the vacuum pumping station on Bay Point southwest, in the southern ROW of U.S. 1, to the KWRU wastewater treatment plant on Stock Island (Figure 4). The majority of the wastewater transmission force main will be slip-lined inside an existing FKAA 18-inch abandoned water main. Those sections not slip-lined will be trenched. The force main will also be attached to seven bridges and the bridge attachments will be replaced. Because this alternative is not the preferred alternative and was added after fieldwork was completed, no pedestrian survey was performed of the wastewater transmission force main.



CLIENT	FEMA			TITLE	**Proposed Location of Wastewater Treatment System Components, Alternative 2**
PROJ	Bay Point Wastewater Treatment Plant, Florida Keys, Florida				
REVISION NO		DES BY	5-27-03	URS	PROJ NO 89-FR9544144.00
SCALE	1:24000	DR BY	5-27-03		FIGURE 2
FILE	Reports\Draft\ Fig 2.PPT	CHK BY	5-27-03		

Bay Point – Conceptual Wastewater Treatment Plant Site Layout



Source: Florida Keys Aqueduct Authority, Environmental Services Department

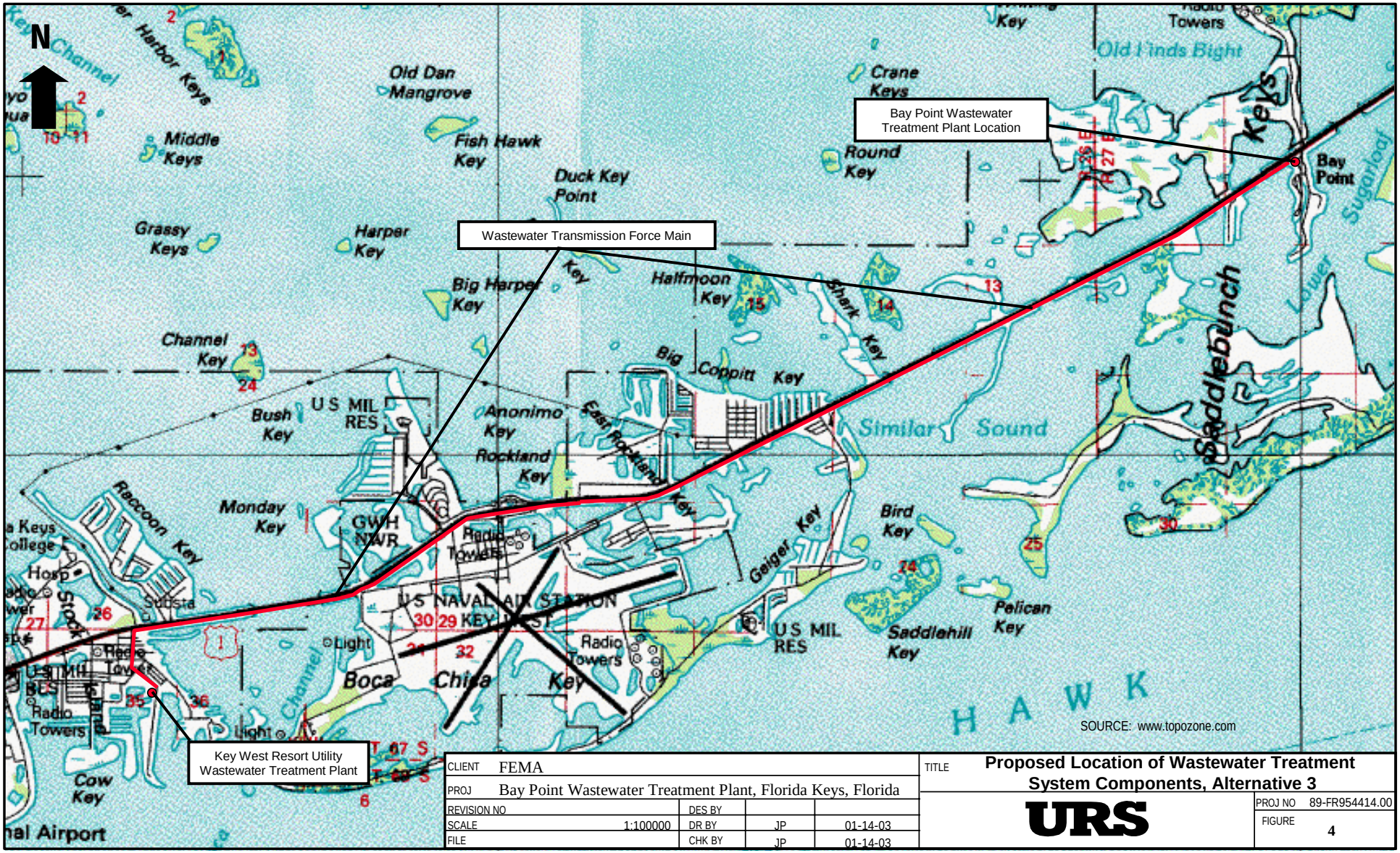
CLIENT	FEMA			
PROJ	Bay Point Wastewater Treatment Plant, Florida			
REVISION NO		DES BY		
SCALE	1 inch = 10 Feet	DR BY	JP	02-06-03
FILE		CHK BY	JP	02-06-03

TITLE **Proposed Wastewater Treatment Plant and Vacuum Pump Station**

URS

PROJ NO 89-FR954414.00

FIGURE **3**



CLIENT	FEMA			
PROJ	Bay Point Wastewater Treatment Plant, Florida Keys, Florida			
REVISION NO		DES BY		
SCALE	1:100000	DR BY	JP	01-14-03
FILE		CHK BY	JP	01-14-03

TITLE **Proposed Location of Wastewater Treatment System Components, Alternative 3**

URS

PROJ NO 89-FR954414.00

FIGURE 4

2.1 ALTERNATIVE 2

The wastewater transmission force main between Saddlebunch Key and Bay Point is sited on the south side of the U.S. 1 ROW on developed land that has been heavily altered, and is approximately 1.2 km (0.75 miles) in length (Plate 1). Soils consist of road fill. Vegetation consists primarily of grasses and weeds typical of maintained ROW grading south to a forested fringe of coastal wetland vegetation. An 8-foot wide bicycle and pedestrian trail extends between Bay Point and Saddlebunch Key on the south side of the U.S. 1 ROW.

The combined wastewater treatment plant and vacuum pumping station are located due west of the Bay Point Pizza restaurant on Bay Point. It is bounded on the north by U.S. 1, on the east by the Bay Point Pizza, on the south by a public park, and on the west by West Circle Drive. The site measures approximately 40 meters (130 feet) by 24 meters (80 feet) with a gentle slope towards the southwest. Approximately half the site is Australian Pine woodland with a dense understory of Brazilian Pepper and Queensland Umbrella trees. Potato trees are located on the periphery of the wooded area. A variety of grasses cover the remaining half. The soils are thin and appear to be between approximately 5 to10 centimeters thick, and overlay limestone bedrock. Exposed bedrock was observed in the northern portion of the project area adjacent to the U.S. 1 ROW. The project area has little relief and is approximately two feet above mean sea level.

2.2 ALTERNATIVE 3

The plans call for siting the wastewater transmission force main between Bay Point and the wastewater treatment plant on Stock Island in the southern ROW of U.S. 1. It is anticipated that soils and vegetation will be similar to those described for the U.S. 1 ROW in Alternative 2.

The vacuum pumping station is located in the same location as the proposed wastewater treatment plant and vacuum pumping station in Alternative 2 above (Plate 2). It is bounded on the north by U.S. 1, on the east by the Bay Point Pizza, on the south by a public park, and on the west by West Circle Drive. The site measures approximately 40 meters (130 feet) by 24 meters (80 feet) with a gentle slope towards the southwest. Approximately half the site is Australian Pine woodland with a dense understory of Brazilian Pepper and Queensland Umbrella trees. Potato trees are located on the periphery of the wooded area. A variety of grasses cover the remaining half. The soils are thin and appear to be between approximately 5 to10 centimeters thick and overlay limestone bedrock. Exposed bedrock was observed in the northern portion of the project area adjacent to the U.S. 1 ROW. The project area has little relief and is approximately two feet above mean sea level.

Physiographic Description

The Florida Keys are divided into two physiographic zones: the Upper and Middle Keys, and the Lower Keys (White 1970). The current project area is located in the Lower Keys on a landform that resulted from a once submerged oolite bank, referred to as the Miami Limestone formation (Scott 2001, Glasgow 1994). This formation has fewer lateral fissures than Upper and Middle Key formations and is characterized by the occurrence of freshwater lenses that can be reached by shallow wells (Carr and Fay 1990). Soils tend to be alkaline and are often less than 10 centimeters in depth. They are typically comprised of weathered coral or Miami limestone, shell, and organic matter (Butler 1997).

Plate 1: Proposed Wastewater Transmission Force Main Alignment, Alternative 2.

Plate 2: The Proposed Wastewater Treatment Plant and Vacuum Pumping Station on Bay Point, Alternative 2 and Proposed Vacuum Pumping Station for Alternative 3.

3.1 OBJECTIVES

The three goals of this assessment are:

1. Assess the archaeological potential of the proposed project area, focusing especially on prehistoric and historic archaeological resources within the Project's APEs.
2. Confirm the presence/absence of historic structures in the project APEs.
3. Assist FEMA's project planning efforts, to ensure compliance with NEPA as well as Section 106 of the NHPA, and to provide Florida's Division of Historical Resources, in the SHPO's office, with information on possible effects to cultural resources.

Background archaeological site records research was conducted on July 29-30, 2002, and on June 17, 2003, at the Florida Master Site File System in the SHPO's office to gather information on previously identified archaeological sites and historic properties listed, or eligible for listing, in the National Register. A review of cultural resource management reports for previous projects in Monroe County and the project area vicinity was also conducted to gain a general archaeological understanding of the area.

Archaeological investigations were conducted on August 1, 2002. There is no APE for Alternative 1 since there will be no construction. For Alternative 2, the APE for the proposed wastewater treatment plant and vacuum pumping station site on Bay Point is the entire project area, along with service area road rights-of way. The APE for the wastewater transmission force main from Saddlebunch Key to Bay Point is considered the force main alignment (approximately 1.2 km [0.75 miles] long and 3.1 meters [10 feet] wide). For Alternative 3, the APE for the vacuum pumping station is considered the entire project area, along with service area road rights of way. The APE for the wastewater transmission force main is the alignment for the force main from Bay Point to the KWRU wastewater treatment plant on Stock Island (approximately 17.7 km [11 miles] long and 3.1 meters [10 feet] wide).

Pedestrian survey of the APEs for Alternative 2 consisted of visual inspection of exposed surfaces. No subsurface testing was conducted during these investigations due to the thinness of soil deposits, the amount of disturbance. General field notes were recorded in field notebooks. Color digital photographs were taken of the project area. No artifacts were recovered, however, project records including field notes and photographs will be curated at the office of FEMA, Region IV, in Atlanta, Georgia.

All phases of the assessment were conducted by staff who meet *The Secretary of the Interior's Professional Qualification Standards* (for archaeology) as outlined in 36 CFR 61. The resume of the Principal Investigator is included in Appendix A of this report.

4.1 PREHISTORIC BACKGROUND

The purpose of this culture history is to provide a context in which to evaluate prehistoric and historic sites identified during fieldwork and to assess the archaeological potential of the project area. The culture history developed by Florida archaeologists for South Florida is applicable to the project area. The prehistoric culture periods are as follows:

- Paleoindian (12,000–10,500 BP)
- Archaic Period (10,500–2500 BP)
  - Early Archaic (10,500–8000 BP)
  - Middle Archaic (8000–6000 BP)
  - Late Archaic (6000–2500 BP)
- Glades Period (2500–500 BP)
  - Glades I Period (2500–1250 BP)
  - Glades II Period (1250–800 BP)
  - Glades III Period (800–500 BP)

Paleoindian (12,000–10,500 BP)

The earliest human inhabitants of Florida were Paleoindian and entered the region by about 12,000 years before the present (BP). The Paleoindian period is thought to have lasted through 10,000 BP Paleoindians are generally thought to have been hunter-gatherers who lived a nomadic existence, following game and exploiting seasonally available plant life. Generally, all that remains of Paleoindian sites are lithic artifacts including blades, projectile points, other tools, and the by-products of stone tool manufacture. Because of the high acidity of Florida soils, tools and artifacts made of bone or wood have decomposed and are not preserved at most terrestrial sites. There are, however, submerged Paleoindian sites in Florida, that because of their unique environment contain preserved wood, bone, ivory, and other artifacts not normally encountered in dry land sites (Milanich 1994).

The environment during the Paleoindian period was substantially different than that observed today. Based on pollen and fossil evidence, the climate appears to have been much drier (FSHPO 1993). One settlement model currently emerging from ongoing research in Florida, which is known as the Oasis Model, indicates the Paleoindian sites are clustered near deep sinks in the karst terrain and around other perched water sources. During this period, the vast glacial ice sheet that covered the northern hemisphere resulted in sea level elevations that were far lower than today. Thus, the Gulf coast of Florida is estimated to have been 40 to 70 miles west of its present location (Milanich 1994). As a result of the subsequent global warming and rising sea level, it is likely that a number of Paleoindian sites are now submerged beneath the Gulf of Mexico and Atlantic Ocean.

The Florida State Historic Preservation Plan suggests that Paleoindian sites that withstood the dramatic environmental shifts of the late Pleistocene period will most likely be found:

- Where erosion has exposed deeper and earlier strata or sediments;
- Where sediment accumulation has occurred at a slower rate;
- Near sinkholes where deep sediments are exposed to the present surface; and

- Along the central Gulf Coast, where sea-level rise has exposed Pleistocene limestone outcroppings (FSHPO 1993).

The Florida State Historic Preservation Office's Master Site Files database of archaeological sites records shows only one known Paleoindian site, Grass Key Rock Pit site (8MO1297), within the Keys region. That site is located in Monroe County. Though located some distance from the Keys, the Cutler Fossil Site (8DA2001) in Miami-Dade County is considered a significant Paleoindian manifestation in the Everglades cultural area.

Archaic Period (10,500–2500 BP)

The Archaic period extends from about 10,500 BP through about 2500 BP. This period is generally characterized by an increase in the diversity of resources exploited. Fishing, hunting, and gathering were strategies used to procure food. The Archaic period has been divided into three phases by archaeologists, based on stylistic changes in stemmed projectile points and the development of fiber-tempered pottery. The Early Archaic (10,500–7000 BP) is defined by the presence of Dalton, Hamilton, and Kirk serrated projectile points. The Middle Archaic (7000–5000 BP) is characterized by the presence of Marion and Putnam projectile points. Finally, the Late Archaic (5000–2500 BP) is defined by the presence of Clay and Lafayette projectile points, as well as fiber-tempered pottery.

According to the Florida Master Site Files database of archaeological sites, Key Largo 1 (8MO25) is a potential Late Archaic site located in Monroe County. It is the only Archaic Period site listed in Monroe County, and is a multi-component shell midden site. The Cutler Fossil Site (8DA2001) noted above also has evidence of Archaic Period occupation, but located in the Everglades.

Glades Period (2500–500 BP)

From about 2500 BP to European contact during the 16th century, the development of diverse cultural traditions occurred throughout Florida. In south Florida, the Glades tradition is divided into many sub-periods based primarily on differences in ceramic decoration styles. Because outcrops of lithic materials suitable for stone tool making are rare in south Florida, lithic artifacts were apparently uncommon. Other materials such as wood, bone, and shell were used to make tools. Ceramics during the Glades I period (2500–1250 BP) are normally undecorated (Glades Plain and Goodland Plain) (FDHR, 2001). During the Glades II period (1250–800 BP) ceramic types are characterized by quartz sand and grit temper. The presence of large earthen mounds during this time period indicates the appearance of stratified society (Butler 1997). The Glades III period (800–500 BP) included the appearance of punctated, incised, and stamped decoration on pottery, as well as at the end European artifacts (FDHR 2001). During the time period between 1000–800 BP, Griffin reports that there is virtually no occurrence of decorated pottery (1974). In general throughout this period, there appears to have been increased trade as indicated by the use of exotic materials for the manufacture of tools and ornaments.

The Glades Period is also characterized by a reliance on shellfish and marine resources, as well as hunting and gathering on the land. Generally, there are four types of Glades Period sites: primary habitation, secondary habitation, resources procurement/processing, and mound sites (FSHPO 1993). Important Glades Period sites include the Bear Lake Site (8MO33), Upper Matecumbe Key (8MO17), and Rock Mound (8MO26-27).

4.2 HISTORIC BACKGROUND

Spaniards in search of gold, silver, and other natural resources first arrived in Florida in the mid-1500s, marking the beginning of contact that would eliminate many of Florida's native cultures. Once the Spanish realized that the riches of South and Central America were not to be found in Florida, their focus turned to converting the native population to Christianity. Relations with the Timucua, the Guale, and the Apalachee were tumultuous at best, and aspects of this adversarial relationship are reflected in the archaeological record. The building, burning, and rebuilding of missions occurred with confusing frequency (FSHPO 1993). Chaotic relations between Native populations and Europeans were common throughout the southeast. European trade interests exacerbated group conflict and boundary squabbles. Florida eventually became home to the Seminole Indians, who were Creek Indians that arrived from the north fleeing British encroachment in that region. In the Keys, the Tequestas and Calusas, two early south Florida tribes, disappeared before the new Seminole population arrived. The Seminoles continue to inhabit parts of Florida today.

European control of Florida vacillated between the British and Spanish during these early years until Florida became part of the United States in 1821 (FSHPO 1993). The first settlers to the Keys arrived just a year later in 1822 at the same time that the United States established the Navy Pirate Fleet in Key West. These pioneers were known as "Conchs" and were fisherman who also salvaged shipwrecks along the reefs of the Keys. According to one account, "the English 'fisherman' began to grow wealthy from salvaging wrecked ships . . . and the shakier characters were helping the salvage business along by stringing lanterns from palm trees, tricking captains into the shallow water reefs" (Florida Keys Virtual Traveler 2001).

By 1845, Florida gained statehood. With the outbreak of the Civil War some 15 years later, Union forces blockaded Florida's ports and occupied Fort Zachary Taylor in Key West, Florida. Unfortunately, the restoration of peace did not automatically lead to the revitalization of commerce in Florida. With the economy already faltering, the end of the war only meant difficulty for industries and their recovery due to the vast destruction of infrastructure. It was not until after World War II that the state's economy began to rebound and Florida's "frontier" period ended (FSHPO 1993). The railroad entrepreneur Henry Flagler helped bring an end to this "frontier" period with his extension of the Florida East Coast Railroad, which extended from Homestead to Key West. Before the rail line's completion in 1912, transportation in the Keys was exclusively by boat. The rail line was partially destroyed in 1935 by the Labor Day hurricane and transportation in the Keys was again limited to boats (Florida Keys Virtual Traveler 2001). Today, the Overseas Highway follows the old Florida East Coast Railroad route to Key West and is the Keys' artery to the mainland.

5.1 RECORDS RESEARCH

Alternative 2

A search of the Florida Master Site File, in the Florida's SHPO office, found no recorded terrestrial archaeological sites, no underwater sites, and no architectural sites within the project area, or within a one-mile radius of the project area.

Records research on the internet located an early navigation map that shows Bay Point and Saddlebunch Key as islands (USCS 1862). A land bridge connecting Bay Point and Saddlebunch was completed when Henry Flagler built the Florida East Coast Railway Bridges in 1912. The railroad bridges were converted to automobile bridges by the Florida State Road Department after 1935. These bridges are now called the Overseas Highway and Railway Bridges. In depth searches for documents, such as plat maps, tract books, subdivision maps, city directories, building permits, and architectural plans were beyond the scope of assessment. The SHPO does not list a Certified Local Government for Bay Point or Saddlebunch key (FSHPO 2003). Additionally, no informant interviews were conducted. No Sanborn Fire Insurance Maps were ever made of either project area.

Alternative 3

A search of the Florida Master Site File system, in the Florida's SHPO office, found no recorded terrestrial archaeological sites, no underwater sites, and no architectural sites within the project APE, and 10 terrestrial and one underwater archaeological sites within a one-mile radius of the project APE (Table 1). The predominate site type is shell midden. Unfortunately, the culture affiliation and time period of most of these sites are unknown. There is more activity on Stock Island than on the keys northeast of Stock Island. This increased activity, as evidenced by the recorded prehistoric sites within the region, may be due to the availability of freshwater, or may be an effect of focused archaeological survey with the results skewing the archaeological record.

Records research on the internet located an early navigation map that shows the area of the wastewater transmission force main alignment as a series of isolated keys and islands (USCS 1863). A land bridge connecting the keys between Bay Point and Stock Island was completed in 1912 when Henry Flagler built the Florida East Coast Railway Bridges. The railroad bridges were converted to automobile bridges by the Florida State Road Department after 1935. These bridges are now called the Overseas Highway and Railway Bridges. In-depth searches for documents, such as plat maps, tract books, subdivision maps, city directories, building permits, and architectural plans were beyond the scope of assessment. Also, the SHPO does not list a Certified Local Government with jurisdiction within the APEs for Alternative 3 (FSHPO 2003). Additionally, no informant interviews were conducted. Two Cultural Resources Management reports did not locate above-ground resources adjacent to the Overseas Highway and Railway Bridge, which is also known as U.S. 1 (Butler 1997, Carr and Fay 1990). No Sanborn Fire Insurance Maps were ever made of the area.

Table 1: Previously Recorded Sites Within a One-Mile Radius of Alternative 3

State Site #	Type	Time Period	NRHP Eligibility
MO0002	Prehistoric-Midden	2500-500 BP	Undetermined
MO0003	Prehistoric-Stone Circle	Unspecified	Undetermined, Destroyed
MO1261	Prehistoric- Shell Midden	2500-500 BP	Undetermined
MO1267	Prehistoric-Burial Mound	Unspecified	Destroyed
MO1268	Prehistoric- Shell Midden	Unspecified	Undetermined
MO1289	Prehistoric- Shell Midden	Unspecified	Undetermined, Destroyed
MO1290	Prehistoric-Burial Mound	Unspecified	Undetermined
MO1448	Spanish Shipwreck	Unspecified	Undetermined
MO1477	Prehistoric-Coral Mound	Unspecified	Potentially Eligible
MO1478	Historic-Domestic Site	19th and 20th	Eligible
MO3433	Old State Route 4A	20th	Undetermined

5.2 FIELD RESULTS

Alternative 2

Pedestrian survey of the wastewater transmission force main alignment confirmed project area soils as consisting of fill used to build the Overseas Highway. No artifacts or cultural features were observed in the project area. Results of the pedestrian survey indicate the project area has low potential for subsurface cultural remains. No artifacts or cultural features were identified during the pedestrian survey of the combined wastewater treatment plant and vacuum pumping station site on Bay Point. A pedestrian survey was performed in the areas where the wastewater collection system is to be implemented and concluded that the road right of way had been disturbed and had a low potential for archaeological resources. This covers all the right of ways on Saddlebunch Key and on Bay Point. No freshwater source was observed on Bay Point or Saddlebunch Key. The lack of freshwater also indicates the area has low potential for prehistoric human habitation.

One above-ground historic resource was identified in the APE for this alternative and consists of a bridge over Saddlebunch No. 2 Channel (which connects Saddlebunch Key and Bay Point). The abandoned FKAA 18-inch water main is attached to this bridge. The bridge's construction appears to be similar to other bridges, which are also part of the Overseas Highway. This bridge

span is composed of concrete arches and is approximately 181 meters (594 feet) long and 6.7 meters (22 feet) wide (see Figure 2 for location; Plates 3 and 4). The Overseas Highway was originally designed as a railroad and was built for the Florida East Coast Railway between 1905 and 1912. After part of the railway was destroyed during the 1935 Labor Day Hurricane the Florida State Road Department (FSRD) decided to convert the railway to a roadway.

Three other structures associated with the Overseas Highway (Long Key Bridge, Knight Key Bridge, and Old Bahia Honda Bridge), which are not part of the proposed undertaking, were listed as the Overseas Highway and Railway Bridges in the National Register in 1979 following a previous determination of National Register eligibility in 1975. According to the statement of significance contained in the National Register nomination:

> The three bridges spanning the major water channels along U.S. Highway No. 1, which connects the island of Key West and other major islands in the Florida Keys chain with the mainland of Florida, are among the few significant surviving elements of the Key West Extension of the Florida East Coast Railway and the original alignment of the Overseas Highway, which replaced the railroad after it was abandoned in 1935. These bridges alone represent more than eleven percent of the 120-mile route between Key West and the mainland. The original bridges were of conventional designs, but the circumstances of their construction, e.g., the remote geographic location requiring extraordinary planning in the marshalling of labor and supplies and the often hazardous working conditions, plus the techniques required to convert the bridge to use by automotive vehicles, represent significant engineering accomplishments (Shiver:1979).

In addition to the National Register nomination for the bridges, a "National Register of Historic Places Travel Itinerary" found on the National Park Service website further summarizes the significances of the bridges:

> The construction of the Overseas Highway and Railway Bridges was very important to the economic development of the Florida Keys. The bridges are significant surviving elements of Henry Flagler's Florida East Coast Railway intended to open the Florida coast for development. Begun in 1905 and completed in 1912, the bridges were intended to connect the Florida Keys to the mainland. The construction of Key Bridge began in 1906 and was completed in 1907; the 6.7 mile long Knight Key Bridge was constructed from 1909 to 1912; and the Old Bahia Honda Bridge (no longer in use), was also constructed from 1909 to 1912. The railroad extension was short-lived. In 1935 a severe hurricane hit the area and destroyed more than 30 miles of track. In the following years, the bridges were restored and converted from rail to vehicular traffic. The bridges helped open the area to tourism and today are part of U.S. Highway 1 connecting the Florida Keys to the mainland. Because of their remote location and the construction techniques employed, experts consider the bridges to be significant engineering achievements (National Register of Historic Places Travel Itinerary Website 2003).

The Florida SHPO has previously stated that it considers much of the unlisted portions of the Overseas Highway and Railway Bridge network eligible for listing in the National Register. For the purposes of project planning and compliance with Section 106 of the NHPA, this resource is considered eligible for listing in the National Register of Historic Places under Criterion C for its engineering significance. The proposed alternative will involve the replacement of the metal hangers that will be used to attach wastewater transmission force to the bridge. Because the proposed alternative involves minimal changes to the bridge and will not change the

characteristics that make the structure potentially eligible for listing in the National Register, Alternative 2 of the proposed undertaking will have no effect to historic properties. It is recommended that this effect determination be presented to the Florida SHPO in order to receive its concurrence with this finding.

Alternative 3

Results of the pedestrian survey indicate the project area has low potential for subsurface cultural remains. No artifacts or cultural features were identified during the pedestrian survey. Additionally, no above ground cultural resources were observed that might potentially be eligible for the National Register of Historic Places. No freshwater source was observed on Bay Point and suggested a low potential for human habitation. A pedestrian survey was performed in the areas where the wastewater collection system is to be implemented and concluded that the road right of way had been disturbed and had a low potential for archaeological resources.

A review of photographs of the wastewater transmission force main alignment indicates that most of this alignment is situated within the disturbed southern ROW of U.S. 1. The photographs also indicate that the wastewater transmission force main (slip-lined through the FKAA 18-inch water main) will be attached to six bridges that may be eligible for listing on the National Register. These bridges appear to be similar to bridges built for or converted to use by the Overseas Highway and are Saddlebunch Channel No. 2 Bridge, Saddlebunch Channel No. 3 Bridge, Saddlebunch Channel No. 4 Bridge, Saddlebunch Channel No. 5 Bridge, the Shark Channel Bridge, and the bridge over Rockland Channel. The seventh bridge over Boca Chica Channel appears to be modern.

The SHPO has stated that it considers the unlisted portions eligible for listing on the National Register. For the purposes of project planning and compliance with Section 106 of the NHPA, these six bridges are considered eligible for listing in the National Register of Historic Places under Criterion C for their engineering significance. The proposed alternative will involve the replacement of the metal hangers that will be used to attach wastewater transmission force to each of the six bridges. Because the proposed alternative involves minimal changes to each of the bridges and will not change the characteristics that make each structure potentially eligible for listing in the National Register, Alternative 3 of the proposed undertaking will have no effect to historic properties. It is recommended that this effect determination be presented to the Florida SHPO in order to receive its concurrence with this finding.

Plate 3: Photograph of Old Bridge (with modern deck), Alternative 2.

Plate 4: Old Bridge Showing the Construction Techniques and Force Main, Alternative 2.

Alternative 1 is the no build alternative and there will be no effect to historic properties.

For Alternative 2, the APE for the proposed site for the vacuum pumping station and wastewater treatment plant exhibits a low potential for archaeological resources based on the thin soils, the lack of a freshwater source, and the paucity of recorded archaeological sites in the region. No additional archaeological investigations are recommended within the APE for the vacuum pumping station and wastewater treatment plant.

The APE for the wastewater transmission force main for Alternative 2 was found to consist of fill used for construction of the Overseas Highway and an old bridge over Saddlebunch No. 2 Channel to which the force main will be attached. Based on the disturbed soils, absence of freshwater, and paucity of recorded archaeological sites in the region, the land-based portion of the wastewater transmission force main APE has a low potential for finding archaeological resources. No additional archaeological investigations are recommended within the APE for the wastewater transmission force main.

The proposed construction plan is to replace the wastewater transmission force main bridge attachments on the bridge, which was built between 1905 and 1912 and appears to be eligible for listing in the National Register. For the purposes of project planning and compliance with Section 106 of the NHPA, this resource is considered eligible for listing in the National Register of Historic Places. However, because it will involve minimal changes to the bridge, Alternative 2 of the proposed undertaking will have no effect to historic properties.

In regards to Alternative 3, the APE for the vacuum pumping station was determined to have low potential for archaeological resources and no additional archaeological investigations are recommended. The APE for the wastewater transmission force main from Bay Point to the wastewater treatment plant on Stock Island contains six above-ground resources. The six resources are bridges that appear to be components of the Overseas Highway Railroad Bridge. These bridges may be eligible for listing on the National Register. The proposed construction plan is to replace the wastewater transmission force main bridge attachments on each of the six bridges. For the purposes of project planning and compliance with Section 106 of the NHPA, this resource is considered eligible for listing in the National Register of Historic Places. However, because it will involve minimal changes to the bridge, Alternative 3 of the proposed undertaking will have no effect to historic properties.

Should any unanticipated historic or archaeological resources be discovered during project construction, all activities on the site shall be halted immediately and the FKAA shall consult with FEMA, the SHPO, and other appropriate agencies for further guidance. In addition , if a human burial is discovered, Florida's unmarked human burial law will be implemented (Florida Statute Title XLVI, 872.05, Section 4).

Butler, C.S.
1997 *Archaeological Survey of Key West Naval Air Station Monroe County, Florida.* Brockington and Associates, Inc. Submitted to U.S. Army Corps of Engineers, Mobile District, Contract No. DACW01-94-D-0010, Delivery Order No. 0011. Copies available in the office of the State Historic Preservation Officer.

Carr, Robert S. and Patricia Fay
1990 *Archaeological Survey of the Lower Keys, Monroe County Florida.* Archaeological and Historical Conservancy, Inc., Miami.

State of Florida
2003 Florida Statute Title XLVI, Chapter 872: *Offenses Concerning Dead Bodies and Graves*. Accessed from http://dhr.dos.state.fl.us/bhp/compliance/index.html. Accessed April 21, 2003.

Florida Department of Historic Resources (FDHR)
2001 Florida Historical context. Accessed from http://dhr.dos.state.fl.us/bar/hist_contexts/wwwcalch.doc on July 17, 2003

Florida Keys Virtual Traveler
2001 "History of the Florida Keys." Information on Keys history gathered from http://www.vtraveler.com accessed on February 26, 2001.

Florida State Historic Preservation Office (FSHPO)
1994 The of Florida Comprehensive Plan accessed from http://dhr.dos.state.fl.us/barhistcontexts/comp-plan.pdf on July 17, 2003

2003 State of Florida List of Certified Local Governments. Accessed from http://dhr.dos.state.fl.us/bhp/compliance/CLG_LIST.pdf. Accessed April 17, 2003.

Glasgow, T. Niles
1993 *Soil Survey of Monroe County, Keys Area, Florida.* United States Department of Agriculture, Natural Resources Conservation Service, Washington D.C.

Milanich, Jerald T.
1994 *Archaeology of Precolumbian Florida*. University Press of Florida, Gainesville.

National Park Service
2003 "Florida Historic Places: Overseas Highway and Railway Bridges." National Register of Historic Places Travel Itinerary www.cr.nps.gov/nr/travel/geo-flor/48.htm accessed on September 15, 2003.

PBS & J
2002 *Plantation Key Colony/ North Plantation Key Wastewater Treatment System Conceptual Design Report.* Prepared by PBS & J. Submitted to the Village of Islamorada, Monroe County, Florida.

Scott, T. M.
2001 *Open File Report 80: Text to Accompany the Geologic Map of Florida*. Florida Geological Survey, Tallahassee, Florida.

Shriver, W. Carl
1979 Overseas Highway and Railway Bridges National Register of Historic Places Inventory Nomination Form, Florida State Historic Preservation Office, Tallahassee, Florida.

U.S. Coast Survey (USCS)
1863 *Preliminary Coast Chart No. 70, of the Western end of the Florida Reefs*. From a trigonometrical survey, under the direction of A. D. Bache, Superintendent of the Survey of the Coast of the United States. Library of Congress, Geography and Map Division, Washington, D.C. Call Number: G3932.F5P5 1863 .U5 CW 117.54-117.58.

White, William A.
1970 *Geomorphology of the Florida Peninsula.* Florida Geological Survey, Bulletin 51. Tallahassee.

Appendix A

RESUME OF PRINCIPAL INVESTIGATOR

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

a. Name & Title:

JUSTIN S. PATTON

SENIOR ARCHAEOLOGIST

b. Project Assignment:

_____

c. Name of Firm With Which Associated:

URS

d. Years Experience: With This Firm **2** With Other Firms **12**

e. Education: Degree(s) / Year / Specialization

M.A.A. / 2001 / Applied Anthropology

B.S. / 1988 / Anthropology

f. Active Registration: Year First Registered / Discipline

36 CFR 61 (Archaeology and History)

g. Other Experience and Qualifications Relevant to the Proposed Project

EXPERIENCE SUMMARY	
✓	**Cultural Resource Management**
✓	**Historic Archaeology of the Middle Atlantic Region**
✓	**Prehistoric Archaeology of the Middle Atlantic Region**
✓	**Historic Preservation**
✓	**Section 106 Compliance**

Mr. Patton has 13 years of experience in prehistoric and historic archaeology in the Mid-Atlantic, South, and Southwest regions of the United States, and preservation and protection of historic properties in Virginia. A majority of this experience is in cultural resources management (CRM) for private, state, and Federal compliance projects. Mr. Patton has implemented both research-oriented and CRM projects. Projects have included intensive and reconnaissance archaeological and historic resources management services performed in compliance with all federal and any applicable state laws. Specific experience includes report preparation; cultural resources literature research; designing research objectives; public programming and design of temporary interpretive displays; public interpretation; data recovery; and artifact analysis.

Representative examples of Mr. Patton's experience include the following:

Senior Archaeologist, URS Corporation, Gaithersburg, MD. Responsible for management of on-going cultural resources contracts for both private and public clients. Includes oversight responsibilities, as well as supervision of field projects, artifact analysis, and report preparation. All work is closely coordinated with SHPO and clients for compliance with federal and state requirements for cultural resource management. Contracts include:

Federal Emergency Management Agency (FEMA), Hazard Mitigation Technical Assistance Program (HMTAP) and National Infrastructure Technical Assistance Contract (NISTAC). Multi-year contract to complete environmental compliance documents for FEMA prior to new construction in aftermath of natural disasters, and to provide environmental consulting for mitigation alternatives. Various levels of archaeological assessment and field investigations completed in West Virginia, and Delaware.

- Texas Unmet Needs. Prepared Section 106 identification and evaluation for proposed flood control projects (stream channelization) for the cities of Schertz, La Vernia, and for the Guadalupe Blanco River Authority, all of which are located east of San Antonio, Texas.
- West Virginia Flood Disaster, FEMA-1378-DR-WV. Prepared section 106 identification and evaluation for historic properties affected by FEMA temporary group housing program. Prepared memorandum of agreement for the recordation of historic properties condemned as a result of flood damage.
- Delaware City, Delaware. Section 106 identification and evaluation for historic properties affected by FEMA Hazard Mitigation Grant Program.

Federal Highways Administration Woodrow Wilson Bridge Project. Multi-year cultural resource management prior to construction of the new Woodrow Wilson Bridge, Maryland and Virginia. Responsibilities include archival research and archaeological support for extensive Phase I and II investigations. Projects include:

- Various Phase I Archaeological Investigations, Proposed Compensatory Wetland Mitigation Sites in Virginia and Maryland.
- Phase II Archeological Testing of the Virginia Shipbuilding Corporation Site (44AX78) Alexandria, Virginia.

Phase I Archaeological Survey Of The Proposed Unified Communications Center on St. Elizabeth's Hospital Property, Washington, D.C. Prepared for Jacobs Facilities, Inc, Arlington, VA 22209.

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

(Justin S. Patton, Continued)

Lab Supervisor/Archaeological Lab and Field Technician, Parsons Project Services Inc., Parsons Engineering Science, Fairfax, Virginia. Responsible for field supervision of Phase I and Phase II excavations in compliance with federal and state guidelines for cultural resources management. Responsible for supervision of field laboratory.

- *SR-1 Delaware Department of Transportation Project.* Supervised field lab where identification and artifact counts were generated to assist in preliminary analysis of archaeological testing.
- *Avon Park Air Force Bombing Range, Avon Park, Florida*. Supervised Phase I excavation and survey of select areas of Air Force Base.
- *Portners Brewery, Alexandria, Virginia*. Served as Field Technician for Phase II excavation of a ca. 1870 beer brewery.
- *The Crossing Site, Freehold, New Jersey*. Served as Field Technician for Phase II excavation of a 1760's domestic site.
- *90th Army Reserve Centers.* Served as Field Technician for Phase I excavations and reconnaissance survey of 17 Army Reserve Centers in Texas, Arkansas and New Mexico.

Assistant Manager, Cultural Resources Protection Group, Fairfax County Park Authority Fairfax County, Virginia. Responsible for supervision of all fieldwork including reconnaissance survey, Phase I and Phase II excavation. Served as archaeological lab director and supervised all artifact cataloging, analyzing, and conservation of historic and prehistoric artifacts. Responsible for technical review and recommendations for Park development projects. Responsible for recruitment and supervision of volunteers and interns.

- *CRM-1, Fairfax County, Virginia.* Field Director for Phase I and II excavations at Colvin Run Mill, an 1801 water powered grist mill.
- *Hunt-1, Huntley Historic Site, Fairfax County, Virginia*. Field Director for Phase I and II excavations at Huntley Historic site an 1820's Federal style summer villa.
- *Jameson Cemetery, Mount Gilead, Fairfax County, Virginia.* Field Director for Phase I trenching to identify an early nineteenth century grave shaft cemetery.
- *Sully Structure 2, Fairfax County, Virginia.* Field Director for excavations on a eighteenth century slave quarter.
- *Sully Dairy House Excavations, Fairfax County, Virginia.* Field Director for Phase II excavations on a late eighteenth century dairy.
- *Walney Spring House Enhancement Project, Fairfax County, Virginia.* Field Director for Phase II excavations of a nineteenth century spring house.
- *Phase II Testing on Huntley Manor's North Dependency, Fairfax County, Virginia*. Field Director for Phase II excavations The 1820's summer home of Thompson Mason.
- *Marr 1, Fairfax County, Virginia.* Field Director for Phase I Testing on a Late Archaic reduction station.
- *Marr 2, Fairfax County, Virginia.* Field Director for Phase I and Phase II excavations on a Late Archaic quartz reduction station.
- *The Taylor Site, 44FX1988, Fairfax County, Virginia*. P Field Director for Phase I excavation of an early to mid-nineteenth century farm.
- *Green Spring Manor House, Green Spring Farm Park, Fairfax County, Virginia*. Field Director for Phase I and II excavations on a 1760's plantation.
- *Lee Graveyard Grave Shaft Identification*. Field Director for Phase I trenching of the original Lee Graveyard at Sully Plantation, Fairfax County, Virginia.

Archaeological Field Technician, Parsons Engineering-Science, Inc., Fairfax, Virginia. Responsible for field supervision, data recording, archival research, artifact analysis, report writing, and monitoring of construction sites on prehistoric and historic sites in compliance with federal and state guidelines for cultural resources management.

- *Continental Gas Pipeline Project, Virginia.* Phase II investigations of a prehistoric site in the Virginia Piedmont.
- *Martin State Airport, Maryland*. Phase I investigations and survey.
- *Baltimore Washington Airport, Maryland*. Phase I investigations and survey.
- *Dulles Airport; UAL hangar, and Air Cargo; Virginia*. Phase I investigations and surveying.
- *Cloverleaf, Fairfax County, Virginia.* Phase II and Phase III excavations of a mid-nineteenth century structure.
- *Keith's Warf and Battery Cove (44AX119) Ford's Landing, Alexandria, Virginia*. Phase II and Phase III trenching and excavations of an eighteenth century wharf, nineteenth century shipyard, shipway, and marine railway. Including the remains of industrial, and railway outbuildings, derelict barges,

7. Brief resume of key persons, specialists, and individual consultants anticipated for this project.

(Justin S. Patton, Continued)

and derelict ships.

- *Potomac Interceptor Extension, Loudoun County, Virginia.* Phase I, II and III excavations on prehistoric sites occupied from the Late Archaic through the Historic periods.
- *Quaker Village, Alexandria, Virginia*. Phase I investigations and survey of historic and prehistoric sites.
- *Harborside, Alexandria, Virginia.* Phase I trenching and excavation of a late eighteenth century wharf.
- *Arundel Ridge, Anne Arundel County, Maryland.* Phase II investigations of a Woodland prehistoric site.
- *Russett III, Anne Arundel County, Maryland.* Phase II excavations of four prehistoric sites.
- *Greystone Estate, Washington D.C.* Phase I investigations of historic and prehistoric sites.
- *Navy Yard, Washington D.C*. Phase II trenching and excavations of Building 36 of the Washington Navy Yard.
- *St. Timothy's Church, Fairfax County, Virginia*. Phase I location of unmarked graves on church property.
- *Russett III, Anne Arundel County, Maryland.* Phase III excavations of a Late-Woodland prehistoric site.
- *Jamestown on the Magothy, Anne Arundel County, Maryland.* Phase I investigations of prehistoric and historic sites.
- *Rock Creek Landing, Anne Arundel County, Maryland*. Phase I investigations of historic and prehistoric sites.
- *Montpelier, Prince Georges County, Maryland.* Phase II excavations of an eighteenth century plantation house.
- *Mexico Farms, Cumberland, Maryland*. Phase II excavations on three prehistoric sites.
- *McNair Farms, Fairfax County, Virginia*. Phase I investigations of a prehistoric site.
- *Dulles International Airport, Virginia*. Phase I investigations at several historic and prehistoric sites: Satellite, FBO, Horse Pen Branch, Cain Branch.
- *Winkler Tract, Fairfax County, Virginia.* Phase I investigations and survey.
- *Riversdale, Prince Georges County, Maryland.* Phase I investigations of a historic foundation.

Archaeological Field Technician, Longwood College, Summer Field School, Farmville, Virginia. Responsible for field supervision and excavation of prehistoric sites in.

- *Excavations at 44BK213, Jordan Site*. Survey and excavation of a multi-component historic site in Buckingham County, Virginia.
- *Excavations at 44BK212, the Morris Field Site, Buckingham County, Virginia.* Longwood College field school, assistant to Principal Investigator and field supervisor of excavations of a Woodland prehistoric site.
- *Excavations at 44BK212, the Morris Field Site, Buckingham County, Virginia.* Longwood College, field school, survey and excavation of Woodland prehistoric site.