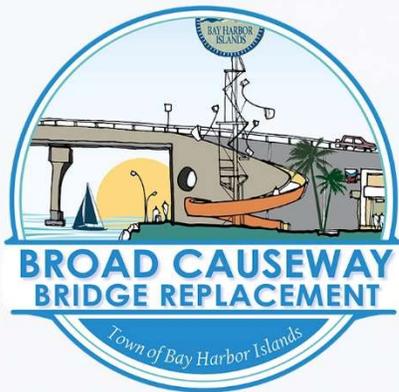


# Cultural Resources Research Design and Survey Methodology

TOWN OF BAY HARBOR ISLANDS

BROAD CAUSEWAY BRIDGE

PROJECT DEVELOPMENT & ENVIRONMENT (PD&E) STUDY



*Prepared for:*

Town of Bay  
Harbor Islands, Florida

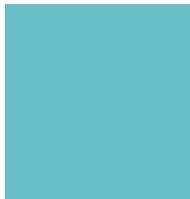
May 30, 2023





<b>Financial Management</b>	
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<b>Town of Bay Harbor Islands</b>	
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# Cultural Resources Research Design and Survey Methodology



May 30, 2023



*Prepared for:*  
Town of Bay Harbor Islands

*Prepared by:*  
Atkins



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## ACRONYMS AND ABBREVIATIONS

	<b>ADA</b>	Americans with Disabilities Act of 1990
	<b>APE</b>	Area of Potential Effects
	<b>Atkins</b>	Atkins North America, Inc.
<b>B</b>	<b>BAR</b>	Bureau of Archaeological Research
<b>C</b>	<b>CIP</b>	Capital Improvements Program
	<b>City</b>	City of North Miami
	<b>CFR</b>	Code of Federal Regulations
	<b>CRAS</b>	Cultural Resource Assessment Survey
<b>D</b>	<b>DOE</b>	Determination of Eligibility
<b>D</b>	<b>DSM</b>	Digital Surface Model
<b>E</b>	<b>ESRI</b>	Environmental Systems Research Institute
	<b>ETDM</b>	Efficient Transportation Decision Making
<b>F</b>	<b>FAC</b>	Florida Administrative Code
	<b>FDEP</b>	Florida Department of Environmental Protection
	<b>FDHR</b>	Florida Division of Historical Resources
	<b>FDOT</b>	Florida Department of Transportation
	<b>FHWA</b>	Federal Highway Administration
	<b>FR</b>	Federal Register
	<b>ft.</b>	Feet
	<b>FIND</b>	Florida Inland Navigation District
	<b>FMSF</b>	Florida Master Site File
	<b>FS</b>	Florida Statutes
<b>G</b>	<b>GIS</b>	Geographic Information System
	<b>GLO</b>	General Land Office
	<b>GPS</b>	Global Positioning System
<b>I</b>	<b>in.</b>	Inches
<b>L</b>	<b>LABINS</b>	Land Boundary Information System
	<b>LIDAR</b>	Light Detection and Ranging
<b>M</b>	<b>m.</b>	Meters



	<b>MiMo</b>	Miami Modern
	<b>mm.</b>	Millimeters
	<b>MHW</b>	Mean High Water
	<b>MLW</b>	Mean Low Water
	<b>MV</b>	Masonry Vernacular
<b>N</b>	<b>NHPA</b>	National Historic Preservation Act of 1966, as Amended
	<b>NOAA</b>	National Oceanic and Atmospheric Administration
	<b>NRHP</b>	National Register of Historic Places
	<b>No.</b>	Number
<b>P</b>	<b>PD&amp;E</b>	Project Development and Environment
	<b>PR</b>	Photorevised
<b>R</b>	<b>ROW</b>	Right-of-Way
<b>S</b>	<b>SHPO</b>	State Historic Preservation Officer
	<b>SR</b>	State Road
<b>T</b>	<b>Town</b>	Town of Bay Harbor Islands
<b>U</b>	<b>USACE</b>	United States Army Corps of Engineers
	<b>USCG</b>	United States Coast Guard
	<b>USDA</b>	United States Department of Agriculture
	<b>USGS</b>	United States Geological Survey
<b>Z</b>	<b>ZAP</b>	Zones of Archaeological Potential



## 1.0 Introduction

### 1.1 Purpose

On behalf of the Town of Bay Harbor Islands (Town) and the Florida Department of Transportation (FDOT) for the Broad Causeway Bridge (FDOT Bridge Number [No.] 875101) Project Development and Environment (PD&E) Study, Atkins North America, Inc., (Atkins) prepared this Cultural Resources Research Design and Survey Methodology. The Town allocated funds in the current Capital Improvements Program (CIP) for the PD&E study.

This Cultural Research Design and Survey Methodology is the initial phase of a Cultural Resource Assessment Survey (CRAS) which will undergo evaluation in compliance with Section 106 of the *National Historic Preservation Act* (NHPA) of 1966 (Public Law 89-665), as amended, as implemented by 36 Code of Federal Regulations (CFR) 800 (*Protection of Historic Properties*, effective August 2004), as well as Chapter 267, *Florida Statutes* (FS), Chapter 1A-46, *Florida Administrative Code* (FAC), and the *Programmatic Agreement among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation (ACHP), the Florida Division of Historical Resources (FDHR), the State Historic Preservation Officer (SHPO), and the FDOT Regarding Implementation of the Federal-Aid Highway Program in Florida* (Section 106 Programmatic Agreement, effective March 2016, amended June 7, 2017). All work will be performed in accordance with the standards outlined in the *Cultural Resources Management Standards and Operational Manual* (FDHR, 2003), the *Cultural Resource Management Handbook* (FDOT, 2013) and the *Project Development and Environment Manual* (FDOT, July 1, 2020).

The purpose of the CRAS is to locate, identify, and document historic and archaeological resources within the Area of Potential Effects (APE) and evaluate the resources for *National Register of Historic Places* (NRHP) eligibility per the criteria in 36 CFR Section 60.4 and Chapter 267, FS. Potential impacts the undertaking may have on the identified historic properties will be assessed in a Section 106 Consultation Case Report.

This Cultural Resources Research Design and Survey Methodology seeks approval for the proposed CRAS methodology from the Town, the FDOT, and the SHPO. This document presents an overview of pertinent archaeological and historical literature and data, identifies previously recorded cultural resources located within the project's APE, and discusses the potential for previously unrecorded cultural resources within the APE. Additionally, this document illustrates the preliminary zones of archaeological potential (ZAP) for the project corridor and presents the proposed methods for field survey and data analysis. Staff who meet the *Secretary of the Interior's Professional Qualification Standards* (48 Federal Register [FR] 44716) conducted this Cultural Resources Research Design and Survey Methodology.

### 1.2 Project Location

The Broad Causeway Bridge (FDOT Bridge No. 875101) PD&E study project corridor extends from Broad Causeway Island to east of West Broadview Drive, in the Town of Bay Harbor Islands, Miami-Dade County, Florida (see **Figures 1 and 2**). The Broad Causeway Bridge (FDOT Bridge No. 875101)



connects the Town to the City of North Miami (City) via the Broad Causeway. Broad Causeway is a toll road owned by the Town. This study segment is in Sections 26, 27, 28, 33, 34, and 35 of the Township 52 South, Range 42 East (United States Geological Survey [USGS], 1987, photorevised [PR], 1994) (see

**Figure 2).**

### 1.3 Project Description

Broad Causeway Bridge (FDOT Bridge No. 875101) connects the Town to the City via Broad Causeway. Broad Causeway is an “Urban Minor Arterial” and extends from the Village of Bal Harbor to the east, through the Town of Surfside, Florida, to the City on the western mainland. The specific limits of the project extend from Broad Causeway Island to the west, to just east of the West Broadview Drive and Broad Causeway Intersection. The project is approximately 0.78 mile long.

The purpose of this project is to address the structural and functional deficiencies of the existing bridge. The feasibility of continued rehabilitation and repair versus replacement of the bridge will be evaluated through the Project Development and Environment (PD&E) study. The need for the project is based on bridge deficiencies identified in a Bridge Inspection Report prepared in January 2022 by the FDOT.

The existing bridge was built in 1951, and it is approximately 0.35 mile long. It is undivided and consists of four 10-foot travel lanes (two in each direction). The two outer most lanes include shared-use pavement markings to accommodate bicycle traffic. Raised concrete sidewalks span the length of the bridge on both sides at inconsistent widths varying 22–36 inches (in.) wide. Currently, there are no guardrails separating the sidewalks from the travel lanes on either side of the bridge. The bridge has a maximum vertical clearance of 18 feet (ft.) at Mean Low Water (MLW) when crossing over the Intracoastal Waterway and a minimum vertical clearance of 16 ft. at Mean High Water (MHW) at the Bascule crossing.

The Broad Causeway Bridge (FDOT Bridge No. 875101) PD&E study will evaluate three bridge improvement alternatives. These alternatives, outlined below, include a No-Build (Repair) Alternative, a Mid-Level Moveable Bridge Alternative, and a High-Level Fixed Bridge Alternative. Presently, an additional right-of-way (ROW) is not likely to accommodate a potential replacement bridge; however, specific ROW requirements for the project will be determined during the PD&E study. These three alternatives are possible initial alternatives, and others may be developed as the PD&E study proceeds; however, these potential alternatives provide a range in vertical clearances that will be considered for a bridge replacement project.

Future bridge concepts may also include potential provisions for new dedicated bicycle lanes and sidewalks to comply with the *Americans with Disabilities Act* (ADA) of 1990 requirements and guardrails for the safety of pedestrians. Adjustments to the width and height of the bridge will likely be required to bring the structure to current design standards and United States Coast Guard (USCG) requirements.

As part of the Town Charter by the 1953 Senate Bill No. 865, the state of Florida surrendered and granted to the Town, any claim or control over all tidewaters and other lands; all bayous and bay bottoms; beaches; waters, waterways, and water bottoms; and all riparian rights within and adjacent to Town limits for municipal purposes only, a strip of 300 ft. wide from Kane Concourse, westwardly across Biscayne Bay, to approximately 123<sup>rd</sup> Street in the City of North Miami.

Bridge improvement alternatives to be evaluated in this PD&E study include the No-Build (Repair) Alternative, a Mid-Level Moveable Bridge Alternative, and a High-Level Fixed Bridge Alternative. The alternatives below are considered to be initial alternatives. Others may be developed as the PD&E study proceeds; however, these potential alternatives provide a range in vertical clearances that will be considered for a bridge replacement project.

### **Broad Causeway Bridge (FDOT Bridge No. 875101) Improvement Alternatives**

#### **1. No Build (Repair) Alternative**

The No-Build (Repair) Alternative consists of continuing the maintenance and repairs on the existing 71-year-old Broad Causeway Bridge (FDOT Bridge No. 875101) and to address ongoing structural repairs.

#### **2. Mid-Level Moveable Bridge Alternative**

The Mid-Level Moveable Alternative involves replacing the existing Broad Causeway Bridge (FDOT Bridge No. 875101), with a new drawbridge with a minimum vertical navigation clearance of 35–45 ft. above the MHW level at the fenders, when the Bascule levees are lowered. The USGS will set the established vertical guide clearance.

#### **3. High-Level Fixed Bridge Alternative**

The High-Level Fixed Bridge Alternative involves replacing the existing Broad Causeway Bridge (FDOT Bridge No. 875101), with a fixed-span bridge with a vertical navigational clearance of 55–65 ft. above the existing Intracoastal Waterway navigation channel. The USCG will set The established vertical guide clearance.

### 1.4 Areas of Potential Effects

As defined in 36 CFR Part § 800.16(d), the APE is the “geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist.” Based on the scale and nature of the activities, the archaeological APE has limits to the footprint of disturbance from the proposed project.

This bridge improvement project will involve alternatives that can potentially change the visual setting of the area. The historical APE was classified as the archaeological APE, as well as additional parcels which the installation of a new bridge could visually impact them. The number of parcels included in the historical APE is on the potential visual impacts — if a new bridge replaces the existing bridge. Thus, the historical APE extends out from the bridge ROW to include one of the two potential bridge replacement alternatives: a mid-level drawbridge or a high-level fixed bridge.

Because these anticipated changes could affect the existing historical districts and other cultural resources, the historical APE has a viewshed analysis. A tool that identified properties that displayed a view of the new bridge prepared this analysis. The tool is a proprietary software called the Geodesic Viewshed Tool in ArcGIS Pro by the Environmental Systems Research Institute (ESRI). The data sources for the viewshed analyses include a Light Detection and Ranging (LiDAR) based Digital Surface Model (DSM) (National Oceanic and Atmospheric Administration [NOAA] Digital Coast) that processed all returns from the LiDAR-based point cloud. The LiDAR DSM included tree crowns and building footprints, so they were part of the viewshed analyses. Atkins developed the potential concept designs extracted from the conceptual bridge locations. The tallest portion of the highest conceptual bridge is approximately 65 ft. high from the high water level. In simpler terms, the LiDAR DSM



identifies properties that displays a view of the new bridge structure. The result of this visual analysis is in **Figure 3**. Note that the viewshed analysis for the new bridge structure shows it should not be visible from most parcels in the previously recorded historic districts (Bay Harbor Island Historic District [8DA10515] and Keystone Island Historic District [8DA11549]), as well as the historic Town and some parcels in the City and along the coastline.

The archaeological APE is bound to the parcels, in which ground disturbance may potentially occur. However, the historical APE comprises the entirety of the project limits, as well as adjacent parcels, including parcels north and south of Broad Causeway Bridge (FDOT Bridge No. 8715101) and along the Intracoastal Waterway (see **Figure 3**). Parcels located immediately adjacent to the Intracoastal Waterway were most likely to be visually impacted from the bridge improvement activities, because views of the bridge are not blocked by vegetation or structures. The number of parcels included in the historical APE is on the potential visual impacts — if a new bridge replaces the Broad Causeway Bridge (FDOT Bridge No. 875101).

Figure 1. Project Location Map



Aerial View of Project Location and Limits

Figure 2. United States Geological Survey Quadrangle Map



Quadrangle Map Showing Project Location, Limits, and Historical Resources Area Potential Effects

Figure 3. Area Potential Effects Map





## 2.0 Background Research

### 2.1 Methodology

From an examination including the Efficient Transportation Decision Making (ETDM) No. 14520 (FDOT Project No. 452428-1-21-01 — Town of Bay Harbor Islands No. BC-160) Environmental Screening Tool GIS analysis report, the Florida Master Site File (FMSF), and the NRHP, a review of pertinent archaeological and historical literature and data conducted and identified any NRHP-listed or eligible properties, as well as other known cultural resources within and nearby the project's APE. Additional literature and data review, as the project proceeds, will include an examination of the United States Department of Agriculture (USDA) soil survey data for Miami-Dade County, USGS quadrangle maps, relevant CRAS reports, 19<sup>th</sup> century federal surveyors' plat maps and field notes, tract book records, Miami-Dade County Property Appraiser's Office records, and other documents pertaining to archaeological sites and historic resources within the vicinity.

Based on results of the data review, it formulated an archaeological site location predictive model, including the known patterns of settlement in the region and an analysis of environmental characteristics (e.g., local soils, topography, and water resources). Based on this data, the study corridor has a low potential for the occurrence of archaeological sites. In general, relatively elevated areas on well-drained soils and approximately 100 meters (m.) (330 ft.) of a freshwater source are likely to have the highest probability for site occurrence. Elevated areas of better-drained soils within about 100–300 m. (330–990 ft.) of freshwater are likely to have a moderate probability. However, neither of these conditions have historically existed or currently exist within the current project area. Furthermore, the construction of the road and bridge disturbed the area and likely destroyed any present archaeological sites. Therefore, the project area was likely to have a low probability for archaeological site occurrence.

Following completion of the background research and formulation of the predictive model, the Atkins archaeologist and architectural historian will conduct an architectural and archaeological reconnaissance survey of the corridor. The archaeological reconnaissance survey will focus on the high and moderate zones of archaeological potential (ZAP), as well as the locations of all previously recorded sites. Based upon the field observations, the validity of the predictive model will be assessed, and modifications will be made, as appropriate. The existing conditions will be noted for each previously recorded site. During the archaeological field survey, this model will guide the intensity of the fieldwork effort.

For the architectural reconnaissance survey, the study corridor will be assessed, and any property with features indicative of pre-1975 construction materials, building methods, or architectural styles will be recorded on the project maps. The cut-off date is 1975 because it coordinates with 50 years prior to the end date of the PD&E study (2025). Potential NRHP-eligible resources will be noted. Information will be gathered on the existing conditions for each previously recorded historic resource located within the project's APE.

The resulting data will develop the archaeological, historical, and environmental overviews for the CRAS report. The archaeological overview will identify the areas of recorded sites and archaeological potential for the survey corridor, and it will provide the necessary context for newly recorded pre-

contact and historic-period archaeological sites. The historic overview will determine the types of historic resources (50 years or older) that may be anticipated in the project's APE and will assist in the evaluation of each previously recorded historic resource to determine its eligibility for listing in the NRHP. The results of the background research, including the archaeological predictive model, are in Section 2.1.1 — Results of Background Research.

### *2.1.1 Results of Background Research*

As previously stated, a review of pertinent archaeological and historical literature and data, including an examination of the ETDM No. 14520 (FDOT Project No. 452428-1-21-01 — Town of Bay Harbor Islands No. BC-160), the Florida Master Site File (FMSF) Environmental Screen Tool GIS analysis report, and the NRHP conducted and identified any NRHP-listed or eligible properties, as well as other known cultural resources within and nearby the project's APE.

Created on September 21, 2022, the Environmental Screening Tool GIS analysis report, using a 500-foot project buffer area, indicated a substantial involvement with Historical Resources and a low involvement with Archaeological Resources because of recorded historic resources and potentially NRHP-eligible unrecorded historic resources within the project's vicinity. Thirty previously recorded cultural resources were identified within the 500-foot project buffer. These cultural resources include two resource groups: the Bay Harbor Islands Historic District [8DA10515] and the Broad Causeway Bridge (FDOT Bridge No. 875101) [8DA10123]; and 28 historic standing structures: 8DA10251-8DA10260, 8DA10268-8DA10270, 8DA10294, 8DA10297-8DA10306, and 8DA10433-8DA10436. There are no previously recorded archaeological sites within one-half mile of the Broad Causeway Bridge (FDOT Bridge No. 875101) project's APE. There have been five previous surveys that encompass or intersect the project area (see

**Table 1).**

During the desktop analysis, this information from the Environmental Screening Tool GIS analysis report informed of background research in the project’s historical APE. Additional analysis of FMSF data and GIS data revealed that the historical APE contains three previously recorded resource groups: the Broad Causeway Bridge ([FDOT Bridge No. 875101] [8DA10123], the Bay Harbor Islands Historic District [8DA10515], and the Keystone Islands Historic District [8DA11549]); and 26 previously recorded historic standing structures: 8DA10268-8DA10274, 8DA10407-8DA10410, 8DA10412, 8DA10414, 8DA10416-8DA10419, 8DA10422, 8DA10423, 8DA10425, 8DA10426, 8DA10430, 8DA10431, 8DA10433, 8DA10435, and 8DA10436. The locations for these 29 resources are in **Figures 4** and **5**. See Section 2.1.1.3 — Previously Recorded Historic Resources for a brief discussion of these resources. Relevant details of each resource are in Error! Reference source not found. below.

*2.1.1.1 Previously Recorded Archaeological Sites*

In September 2022, a search of the FMSF digital database indicated that no previously recorded archaeological sites are within one-half mile of the Broad Causeway Bridge (FDOT Bridge No. 875101) PD&E study project corridor (see

Figure 4).

### 2.1.1.2 Archaeological Site Potential

Based on previous surveys of the project area (Janus Research, 1997, 2013, 2014; SEARCH, 2018) and the results of the data review, including known patterns of settlement in the region and an analysis of environmental characteristics (e.g., local soils, topography, and water sources), they formulated an archaeological site potential predictive model. Many environmental factors had a direct influence on the site location and the selection of both pre-contact and historic populations. Among these variables are soil drainage, distance to freshwater, relative topography, and proximity to food and other resources. Archaeological sites are most often located near a permanent or semi-permanent source of potable water. In addition, archaeological sites are most often found on better-drained soils and at the better-drained upland margins of wetland features such as rivers, creeks, lakes, ponds, and freshwater marshes. A review of the General Land Office (GLO) historic plat map from 1870 and original surveyors' notes from the Florida Department of Environmental Protection (FDEP) show the Town of Bay Harbor Islands as "Island Number 2," with the current project's APE situated within an area described as "mangrove swamp" (see **Image 1** below). The 1870 plat map also shows no evidence of homestead settlements, or historical American Indian villages or trails located within or adjacent to the project's APE. The historic aerial from 1952 shows significant urban development of the Town, as well as the construction of Broad Causeway Bridge (FDOT Bridge No. 875101) and the man-made Broad Island (University of Florida [UF], 1952) (see **Image 2** below).

Image 1. General Land Office Plat Map from 1870

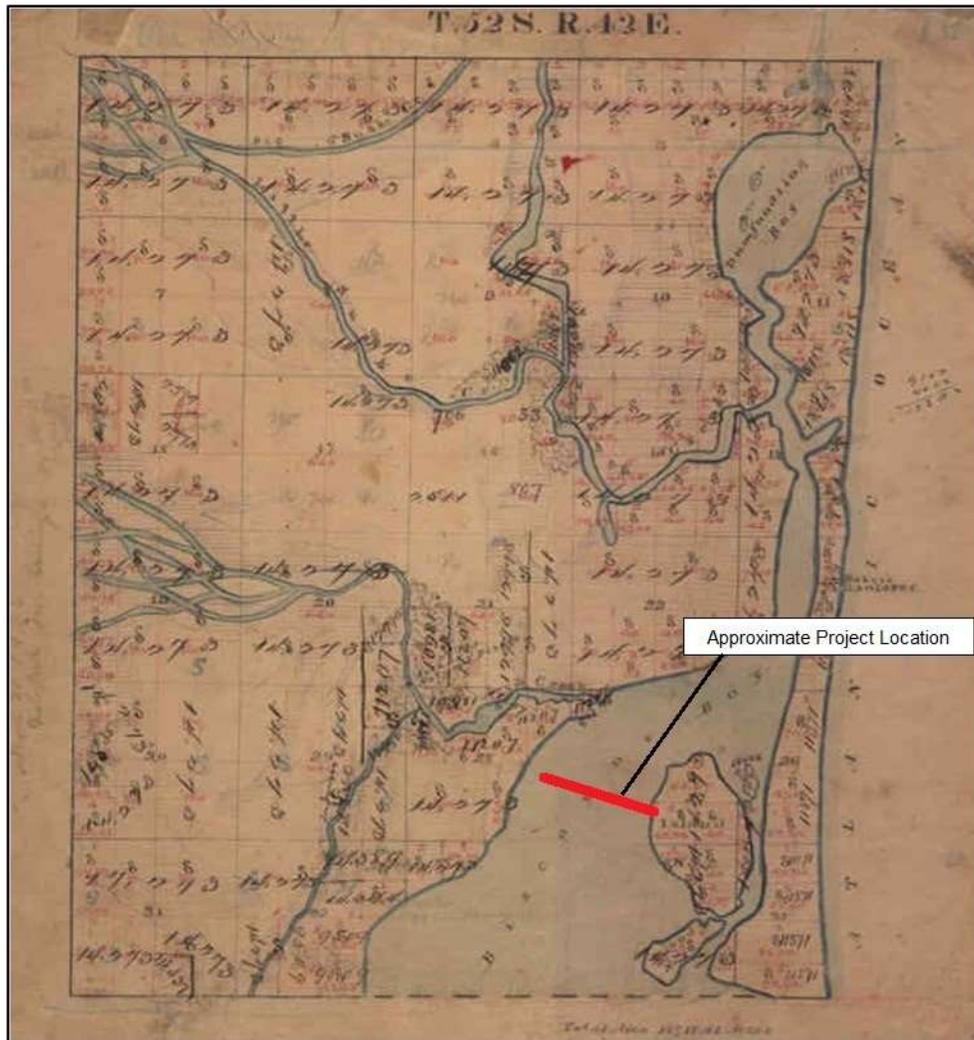


Image 2. 1952 Historic Aerial Photograph (University of Florida [UF], 1952)



Given these known patterns of pre-contact and historic settlement, combined with data from previous surveys of the project corridor and the immediate area (Janus Research 1997, 2013, 2014; SEARCH 2018) and soils information (USDA, 1996), it anticipated the project APE had a very low potential for archaeological site occurrence. The portion of the project corridor in the Town consists of “Urban Land,” which is in the Soil Survey of Dade County, Florida (USDA, 1996:22–23), located under structures, streets, sidewalks, parking lots, and airports. The natural soil cannot be observed. Soils on the man-made Broad Island at the western end of the APE are Udorthents that consist mainly of parks, vacant lot, or lawns (USDA, 1996:22). These are both highly disturbed soil types unlikely to contain bonded archaeological material. The remainder of the project corridor is part of the Intracoastal Waterway, which the United States Army Corps of Engineers (USACE) regularly dredges

it as part of their regular waterway maintenance (USACE, 2022). As such, the underwater soil stratigraphy of the waterway is highly disturbed and unlikely to contain intact archaeological material. Based on these environmental factors and given the construction of the Broad Causeway Bridge (FDOT Bridge No. 875101) and the development of the Town, the likelihood for intact archaeological sites is likely low.

### 2.1.1.3 Previously Recorded Historic Resources

There are 29 previously recorded cultural resources within the historical APE. These include three resource groups: the Bay Harbor Islands Historic District (8DA10515), Keystone Islands (8DA11549), and the Broad Causeway Bridge (FDOT Bridge No. 875101 [8DA10123]); and 26 standing structures: 8DA10268-8DA10274, 8DA10407-8DA10410, 8DA10412, 8DA10414, 8DA10416-8DA10419, 8DA10422, 8DA10423, 8DA10425, 8DA10426, 8DA10430, 8DA10431, 8DA10433, 8DA10435, and 8DA10436 (see Error! Reference source not found.). The 26 historic standing structures were built between 1947 and 1956, and they include the following represented architectural styles: Miami Modern (MiMo), Colonial Revival, Mediterranean Revival, Neo-Mediterranean, Tudor Revival, Ranch, Post-Modern, and Masonry Vernacular (MV). Currently, only one of these structures (8DA10436) has received a formal evaluation by the SHPO following a review for a previous road project, and it was determined eligible for NRHP listing.

The Bay Harbor Islands Historic District (8DA10515) is a well-preserved example of a post-World War II development and located on the eastern side of the current project's APE. In 1945, Shepard Broad and Benjamin N. Kane designed and planned the Town of Bay Harbor Islands, the resort-style community. The Town seeks to attract returning veterans who yearn a more relaxing, living community. In the following year, Broad and Kane assembled a team of engineers and surveyors who dredged and filled the land. Soon thereafter, lots were laid out and developed. On April 27, 1947, the Town of Bay Harbor Islands became official. As the Town became official, Broad realized he needed to connect the islands to the mainland, and in 1947, the Florida legislature authorized the construction of Broad Causeway.

Initially, Bay Harbor Islands was recognized as a potential historic district in 2006; therefore, it was recorded in the FMSF as the Bay Harbor Islands Historic District. Per the FMSF form, the district is bound by Indian Creek on the east; by Biscayne Bay and North Miami on the west; by Biscayne Bay on the north; and by Indian Creek Lake on the south. The district encompasses the Broad Causeway Bridge (FDOT Bridge No. 875101); Broad Causeway; 1501 Broad Causeway; both the East and West Bay Harbor Islands; and FDOT Bridge No. 875102. The district includes residential and commercial buildings in a variety of 1950s and 1960s architectural styles, with MiMo being the most notable.

The SHPO determined insufficient information existed to conduct a formal evaluation of NRHP eligibility on August 15, 2018.

Broad Causeway Bridge (FDOT Bridge No. 875101 [8DA10123]) was built in 1951, and it is a movable Bascule steel and pored-concrete bridge that connects Bay Harbor Islands to mainland North Miami. The bridge features art deco style elements, and two tender stations are west of the movable span. On August 15, 2018, the SHPO determined Broad Causeway Bridge (FDOT Bridge No. 875101 [8DA10123]) was presumably eligible for listing in the NRHP (under Criterion A) for its association to Bay Harbor Islands during the post-World War II boom. Additionally, Broad Causeway Bridge (FDOT



Bridge No. 875101 [8DA10123]) is also a contributing resource to the Bay Harbor Islands Historic District (8DA10515), as discussed above.

Of the 26 previously recorded standing structures within the APE, only one, Citgo (8DA10436), has been evaluated by the SHPO for NRHP eligibility. Citgo (8DA10436), currently a Chevron station, is a gas/service station which was constructed in 1951. It is a rectangular masonry vernacular building with modern and stylistic detailing. It retains much of its original design integrity, and it is a contributing resource to the Bay Harbor Islands Historic District (8DA10515). The SHPO determined it was eligible for NRHP listing on August 15, 2018.

There have been five previous cultural resource surveys conducted within the boundaries of the APE that are not specific to the current project (see



**Table 1).** These surveys were conducted between 1980 and 2018. Of the five surveys, two are associated with Broad Causeway (Survey Numbers 13458, [2006] and 25327, [2018]). The remaining three surveys are related to a countywide historic resource survey of Miami-Dade County (Survey Numbers 340, [1980] and 2127, [1989]) and roadway improvements to Kane Concourse/96<sup>th</sup> Street that extends from the east end of the Broad Causeway Bridge (FDOT Bridge No. 875101) and passes through the Town (Survey No. 20425, [2013]). The entire project corridor was previously surveyed for cultural resources.

Figure 4. Previously Recorded Cultural Resources Map

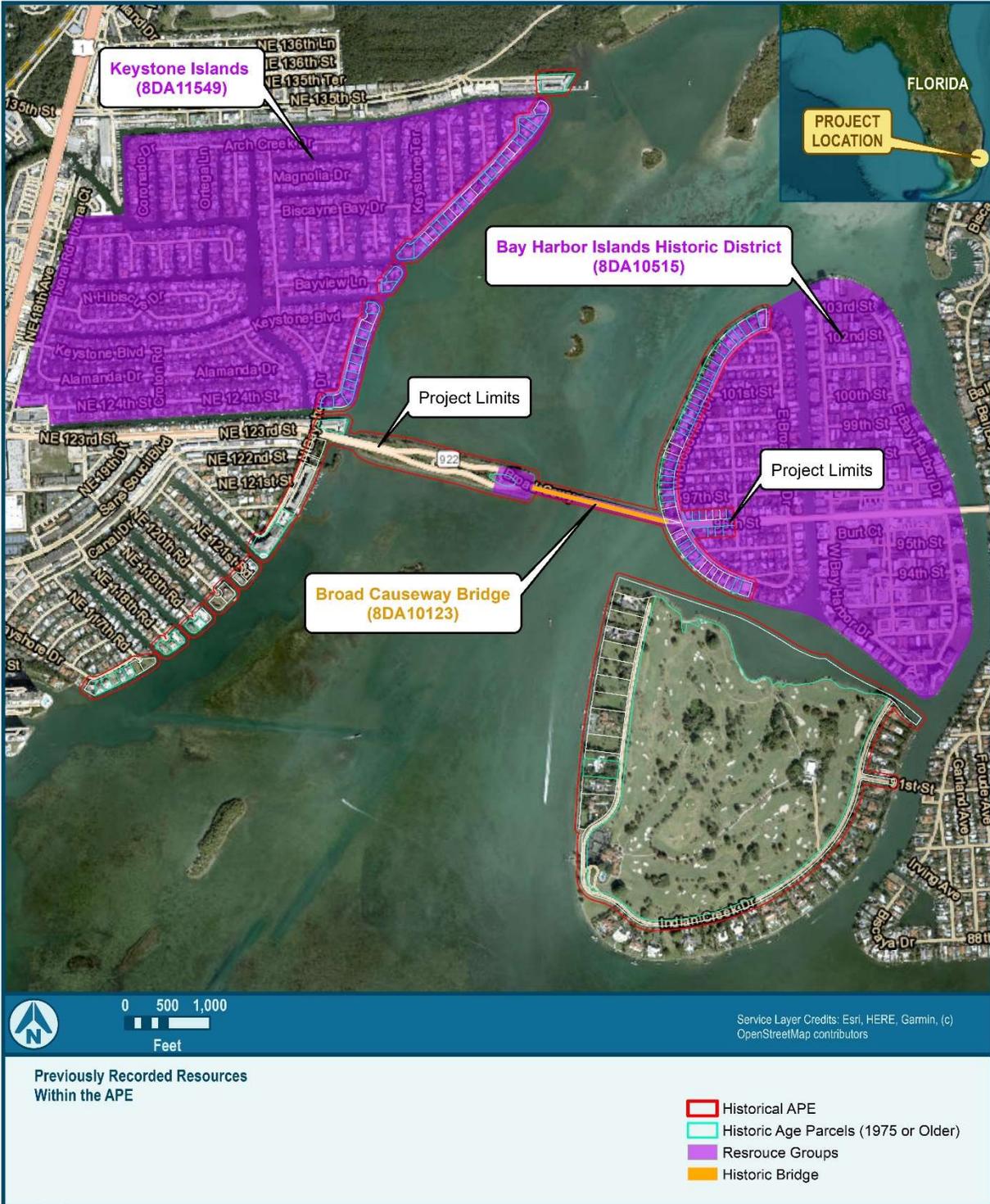


Figure 5. Previously Recorded Structures Map



Figure 6. Soils Map





**Table 1. Previous Surveys of Project**

<b>FMSF Survey No.</b>	<b>Year</b>	<b>Title</b>	<b>Author</b>
00340	1980	Dade County Archaeological Survey Interim Report	Robert S. Carr
02127	1989	Dade County Historic Survey Phase II Report	Historic Preservation Division of Metropolitan Dade County
13458	2006	Final Report – Historical Structure Survey, Town of Bay Harbor Islands	GAI Consultants, Inc.
20425	2013	Cultural Resources Desktop Analysis and Reconnaissance Survey for Kane Concourse/96 <sup>th</sup> Street from West of West Broadview Drive to East of East Bay Harbor Drive	Janus Research
25327	2018	Cultural Resource Field Review of the Broad Causeway Corridor Enhancement	SEARCH

**Table 2. Previously Recorded Cultural Resources within the Historical Area of Potential Effect**

<b>#</b>	<b>Site Name</b>	<b>FMSF No.</b>	<b>Resource Type and Style</b>	<b>Date</b>	<b>SHPO Eligibility Status</b>
1	Broad Causeway Bridge (FDOT Bridge No. 875101)	8DA10123	Linear Resource Bascule Bridge	c. 1951	NRHP Eligible August 15, 2018
2	9530 West Broadview Drive	8DA10268	Private Residence MV/Classical Revival	c. 1947	Not Evaluated by SHPO
3	9520 West Broadview Drive	8DA10269	Private Residence MV/MiMo	c. 1956	Not Evaluated by SHPO
4	9500 West Broadview Drive	8DA10270	Private Residence MV	c. 1956	Not Evaluated by SHPO
5	9434 West Broadview Drive	8DA10271	Private Residence MV	c. 1955	Not Evaluated by SHPO
6	9430 West Broadview Drive	8DA10272	Private Residence MV	c. 1955	Not Evaluated by SHPO
7	9418 West Broadview Drive	8DA10273	Private Residence MV	c. 1955	Not Evaluated by SHPO
8	9414 West Broadview Drive	8DA10274	Private Residence MV/Post-Modern	c. 1955	Not Evaluated by SHPO
9	10312 West Broadview Drive	8DA10407	Private Residence MV/Split Level	c. 1950	Not Evaluated by SHPO
10	10300 West Broadview Drive	8DA10408	Private Residence MV	c. 1949	Not Evaluated by SHPO
11	10250 West Broadview Drive	8DA10409	Private Residence Ranch	c. 1953	Not Evaluated by SHPO

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12	10236 West Broadview Drive	8DA10410	Private Residence MiMo	c. 1953	Not Evaluated by SHPO
13	10226 West Broadview Drive	8DA10412	Private Residence Ranch	c. 1952	Not Evaluated by SHPO
14	10200 West Broadview Drive	8DA10414	Private Residence MV/Post-Modern	c. 1953	Not Evaluated by SHPO
15	10140 West Broadview Drive	8DA10416	Private Residence MV	c. 1952	Not Evaluated by SHPO
16	10130 West Broadview Drive	8DA10417	Private Residence MV/Tudor Revival	c. 1954	Not Evaluated by SHPO
17	10120 West Broadview Drive	8DA10418	Private Residence Post-Modern/Neo- Mediterranean	c. 1950	Not Evaluated by SHPO
18	10100 West Broadview Drive	8DA10419	Private Residence MV/Split Entry	c. 1947	Not Evaluated by SHPO
19	10010 West Broadview Drive	8DA10422	Private Residence MV/Neo-Mediterranean	c. 1947	Not Evaluated by SHPO
20	10000 West Broadview Drive	8DA10423	Private Residence MV/Monterrey	c. 1951	Not Evaluated by SHPO
21	9930 West Broadview Drive	8DA10425	Private Residence MV	c. 1956	Not Evaluated by SHPO
22	9920 West Broadview Drive	8DA10426	Private Residence MV	c. 1956	Not Evaluated by SHPO
23	9800 West Broadview Drive	8DA10430	Private Residence MV	c. 1950	Not Evaluated by SHPO
24	9740 West Broadview Drive	8DA10431	Private Residence MV	c. 1953	Not Evaluated by SHPO
25	9720 West Broadview Drive	8DA10433	Private Residence MV/Post-Modern	c. 1950	Not Evaluated by SHPO
26	9700 West Broadview Drive	8DA10435	Private Residence MV/Ranch	c. 1955	Not Evaluated by SHPO
27	Citgo, 1501 Broad Causeway	8DA10436	Gas Station MV/Modern	c. 1951	NRHP Eligible August 15, 2018
28	Bay Harbor Islands Historic District	8DA10515	Historic District	c. 1946	Insufficient Information August 15, 2018
29	Keystone Islands	8DA11549	Historic District	c. 1948	Not Evaluated by SHPO

### 2.1.1.4 Historic Resource Potential

In conclusion, the background research findings indicate there are no previously recorded archaeological sites within the Town of Bay Harbor Islands PD&E study project's APE. Based on the archaeological site location predictive model, the project's APE has a very low potential for archaeological site occurrence. The remainder of the project corridor is a part of the Intracoastal Waterway, which the USACE regularly dredges it as part of their USACE regular waterway maintenance. As such, the underwater soil stratigraphy of the waterway is highly disturbed and unlikely to contain bonded archaeological material. Based on these environmental factors and given the construction of the Broad Causeway Bridge (FDOT Bridge No. 875101) and the development of the Town, the likelihood for intact archaeological sites is considerably low.

Further examination of USGS Miami-Dade Quadrangle and Topography Maps, Miami-Dade County Property Appraiser Data, and Environmental Screening Tool GIS data indicate several unrecorded historic resources potentially exist. The Broad Causeway itself, the associated man-made island, and the Kane Concourse were originally a part of the Town. These features were integral to the growth and success of the town, and they are a part of the same construction period as the Broad Causeway Bridge (FDOT Bridge No. 875101) and larger Bay Harbor Islands Historic District. These resources will be examined further during the CRAS stage. Additionally, there are approximately 40 parcels within the project's APE that potentially contain historic resources constructed in or prior to 1975. Each of these parcels will be analyzed during the field reconnaissance stage of the CRAS and, should any historic resources be identified, they will be photographed and documented appropriately, per Secretary of Interior guidelines.



## 3.0 Field Surveys

### 3.1 Archaeological Surveys

#### 3.1.1 Terrestrial Surveys

Archaeological survey will consist of shovel tests placed strategically in areas with lesser amounts of subsurface disturbance, where possible. Subsurface testing will measure all areas of discovered sites or isolated cultural materials in 10–25 m. (33–82 ft.) intervals and delineate site boundaries as contained within the project APE. All excavated soils will be screened through 0.25-inch (6.4 millimeter (mm.) mesh hardware cloth to recover artifacts. Locations of all shovel tests will be recorded with a handheld Global Positioning Systems (GPS) unit, plotted on the project aerial maps, and backfilled, following the recording of relevant data, such as stratigraphic profile and artifact findings.

If human burials or unmarked graves appear, the Town will receive notification and follow provisions and guidelines in Chapter 872.05 FS (Florida’s Unmarked Burial Law), Section 8.2.2.2 of the *Office of Environmental Management PD&E Manual* (Burials, Cemeteries, and other Sites Containing Human Remains or Associated Burial Artifacts), and Stipulations X and XI of the *Programmatic Agreement among the Federal Highway Administration (FHWA), the Advisory Council on Historic Preservation (ACHP), the Florida Division of Historical Resources (FDHR), the State Historic Preservation Officer (SHPO), and the FDOT Regarding Implementation of the Federal-Aid Highway Program in Florida*.

#### 3.1.2 Underwater Surveys

The Intracoastal Waterway, which crosses by Broad Causeway Bridge (FDOT Bridge No. 875101), has periodic, intensive dredging by the USACE as part of their regular maintenance of the waterway (USACE, 2022). This regular disturbance of the underwater soils in proximity to the project area removes the likelihood of encountering any existing, submerged archaeological resources. Additionally, no submerged historic resources located and identified in the vicinity of the Broad Causeway Bridge (FDOT Bridge No. 875101) APE would not impact the proposed bridge construction. Therefore, Atkins proposes that no maritime archaeological surveys with the current project.

#### 3.1.3 Historical/Architectural Surveys

Historical/architectural field methodology will consist of a survey of the historical APE to determine the location of any buildings and/or other structures potentially built over 50 years ago and to ascertain, if any, such resources could be deemed eligible for the NRHP. For this survey, the cut-off date is 1975, which coordinates with 50 years prior to the completion of the PD&E survey (2025). An in-depth study of each identified historic resource will follow the survey. Photographs will be taken and information from completed FMSF forms will be gathered. In addition to architectural descriptions, each historic property will assess style, historic context, and condition. Pertinent records housed at the Miami-Dade County Property Appraiser’s Office and public libraries will obtain



information concerning site-specific building construction dates and/or possible association with individuals or events significant to national, local, or regional history. Residents or other knowledgeable people may be contacted to obtain relevant information. Each recorded resource will be assessed, as per the NRHP eligibility criteria, and if applicable, both individually and as part of a potential historic district.

Should one of the bridge replacement alternatives be selected for construction after 2025, the historical/architectural survey will be updated.

## 4.0 Analysis and Report Preparation

### 4.1 Artificial Analysis

Atkins will process and analyze all recovered cultural materials. Laboratory processing will include cleaning, stabilization (if required), packaging, and storage. Laboratory analysis will consist of the morphological and functional (if possible) classification of artifacts, and, if diagnostic, the establishment of their cultural/temporal affiliations. Detailed documentation will be maintained regarding the artifact provenance, number, type, and description. Artifacts and associated records will be prepared for eventual transfer pending a decision on their final deposition.

The analysis phase of work will also include the preparation of all FMSF forms for archaeological sites and historic resources and complete them with photographs, location maps, and sketch maps, as appropriate. In the case of potentially eligible historic resources, Atkins will prepare expanded FMSF forms; no NRHP requests will be prepared for determination of eligibility (DOE), as per the Scope of Work.

### 4.2 Report Preparation

Atkins will prepare a draft CRAS report for the project with the methods, findings, evaluations, and recommendations of the background research and field surveys. The FMSF form will be prepared for all newly identified archaeological sites and historic resources, and updated forms will be completed for previously recorded sites located within the project APE, as required. The CRAS report will conform to the standards in Part 2, Chapter 12 of the *PD&E Manual* and the FDOT's *Cultural Resource Handbook* (FDOT, 1999), specifications set forth in Chapter 1A-46, *Florida Administrative Code*, as well as to the guidelines embodied in the *Cultural Resource Management Standards and Operational Manual* (FDHR, 2003).

The report's historic results section will contain a description for all NRHP-listed or eligible resources. For those resources surveyed as not eligible, an expanded table will provide pertinent details about the properties, including FMSF number, name, address, date of construction, alterations, additions, number of stories, architectural style, exterior fabric, roof type, windows, and NRHP eligibility recommendations.

The draft document will be submitted to the Town of Bay Harbor Islands and the FDOT and the SHPO for their review and comments. Following the review of the document and receipt of comments, a final report will be prepared and submitted to the Town and the FDOT, along with original FMSF forms and a Survey Log Sheet for the FDOT and SHPO to review.

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1997 A CRAS for SR A1A Harding and Collins Avenues from NE 94<sup>th</sup> Street and SR 9221 NE 96<sup>th</sup> Street from Bridge No. 875103 to Collins Avenue in Dade County, Florida. FMSF Survey No. 04741.

2013 Cultural Resources Desktop Analysis and Reconnaissance Survey for Kane Concourse/96<sup>th</sup> Street from West of West Broadview Drive to East of East Bay Harbor Drive, Miami-Dade County, Florida. FMSF Survey No. 20425.



2014 Cultural Resources Desktop Analysis and Field Review of SR 916/NW 135<sup>th</sup> Street from NW 6<sup>th</sup> Avenue to SR 5/Biscayne Boulevard, Miami-Dade County, Florida. FMSF Survey No. 20845.

SEARCH

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