HISTORIC STRUCTURE SURVEY
AND LIMITED ARCHAEOLOGICAL TESTING
SANIBEL LIGHTHOUSE AND KEEPERS' QUARTERS
(8LL00097)
LEE COUNTY, FLORIDA

Performed for:

City of Sanibel
Planning Department
2475 Library Way
Sanibel, FL 33957

Prepared by:

Florida's First Choice in Cultural Resource Management

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May 2024

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HISTORIC STRUCTURE SURVEY
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INTRODUCTION

This project was undertaken by Archaeological Consultants, Inc. (ACI) on behalf of the City of Sanibel to examine the debris related to the Sanibel Lighthouse site, examine the research potential related to the Sanibel Lighthouse archaeological site (8LL0097C), and provide recommendations regarding the National Register of Historic Places (NRHP) listed Sanibel Lighthouse and Keepers' Quarters (8LL00097). The Lighthouse, Keepers' Quarters, and Oil house were damaged or destroyed during Hurricane Ian in September of 2022.

Based on background research and a site visit, ACI recommends that the Sanibel Lighthouse site (8LL0097A) is still individually eligible for listing in the NRHP. Therefore, ACI recommends an amendment of the existing NRHP nomination to bring it up to current standards and reflect the changes to the resource. In addition, ACI recommends the use of salvaged debris in the interpretation of the historic property to help facilitate a continued understanding of the Keepers' Quarters (8LL00097B). The Sanibel Lighthouse archaeological site (8LL00097C) was previously recommended eligible for listing individually and as a contributing resource to the Lighthouse site; however, the archaeological site appears to have been destroyed and therefore appears to no longer be individually eligible or contributing. No additional archaeological work is recommended, but individuals working on the site should be mindful of the potential for artifacts and consider consulting with an architectural historian or historic archaeologist to evaluate if any artifacts found during reconstruction or future development are significant.

PROJECT LOCATION

The Sanibel Lighthouse is located within Lighthouse Beach Park at 110 Periwinkle Way (**Figure 1**). The property is located within Lee County, parcel number 21-46-23-T2-00038.0000, in Section 21 of Township 46 South, Range 23 East (United States Geological Survey [USGS] 1958). Lighthouse Beach Park is owned and maintained by the City of Sanibel and is located at the easternmost point of Sanibel Island. In addition to the Sanibel Lighthouse historic site, the approximately 44-acre park provides beach access, parking spaces, restrooms, drinking fountains, showers, picnic areas, a pavilion, and a fishing pier (City of Sanibel n.d.). However, the fishing pier was significantly damaged by Hurricane Ian and is closed to the public.

SURVEY METHODOLOGY

This project included research as well as written and photographic documentation of the Sanibel Lighthouse property and debris recovered from Hurricane Ian. Research focused on information available within the NRHP nomination, Florida Master Site File (FMSF) database, and Historic Resources Survey Reports. Additionally, a review of relevant historic USGS quadrangle maps and historic photographs found online through various digital archives was conducted, along with a detailed search of newspapers, scientific journals, and magazine articles. A site visit was conducted by ACI historians and archaeologists on April 16-17, 2024, and included an assessment of two main collections of debris – a collection of brick rubble relocated to the Sanibel Recreation Center – Sanibel School campus for storage and large debris collected from the shoreline and placed immediately adjacent to the lighthouse at Lighthouse Beach Park. The debris

was visually assessed to determine the origin of the materials within the Sanibel Lighthouse property prior to Hurricane Ian, determine the salvageability and/or possible uses in historic site interpretation, and measurements of the materials were taken for documentation.

The archaeological survey included surface reconnaissance and subsurface testing within the boundaries and vicinity of the Sanibel Lighthouse archaeological site (8LL00097C). ACI's testing methodology was informed by the history of hurricane activity over the last 100 years, which caused significant erosion in the area of the archaeological site. Moreover, the City of Sanibel relocated historic debris after recent hurricane damage. Most recently, Hurricanes Ian and Irma removed several feet of coastline according to Joel Caouette (2024), a conservation officer with the city in charge of beach renourishment efforts. The severity of the storm damage and the relocation of historic debris by the city made a traditional testing strategy inadequate. ACI tested the debris field with six judgmental tests and georeferenced 31 fragments of historic debris. Tests were placed in the vicinity of structures depicted on historic aerials that related to lighthouse operations and staff quarters. Specifically, an attempt was made to establish the location of the lighthouse keeper's midden, cistern structure, and oil house. Shovel tests were circular and measured approximately 50 centimeters (cm) in diameter by at least one meter (m) in depth. All soil removed from the tests was screened through 0.64 cm mesh hardware cloth to maximize the recovery of artifacts. The location of all tests was recorded using the ESRI data collection application, Field Maps, with an R2 antenna for sub-meter accuracy. Following the recording of relevant data such as stratigraphic profile and artifact finds, the shovel tests were refilled.

PAST SURVEYS

The Sanibel Lighthouse and Keepers' Quarters (8LL00097) Mixed District is recorded in the FMSF as a resource group comprised of four contributing resources: the Sanibel Lighthouse (8LL00097A), the Keepers' Quarters (8LL00097B), which includes two buildings documented under one FMSF number, and the Sanibel Island Lighthouse (8LL00097C) archaeological site (**Figure 2**). The Sanibel Lighthouse (8LL00097A) and the Keepers' Quarters (8LL00097B) were first recorded in the FMSF in 1973. When the Sanibel Lighthouse and Keepers' Quarters were listed in the NRHP on October 1, 1974, no NRHP criteria was indicated due to the age of the NRHP nomination; however, the date of significance is listed as 1884. Per the NRHP nomination, the resource is significant in the areas of Commerce and Transportation as the "scene of routine activities associated with the functions of a lighthouse station" and the resource "significance lies in regular and reliable service to the commercial life of the west coast of Florida rather than in any special event which occurred at or near the Sanibel Lighthouse" (Fryman 1973). The listing includes three resources: the lighthouse and two detached frame dwellings known as the Keepers' Quarters.

A review of information contained in the FMSF database noted that several cultural resource surveys were conducted in relation to the lighthouse between 1983 and 2014 (**Table 1)**. In 1984 the Lighthouse was surveyed by the National Park Service to assess cultural resources. The archaeological methods employed included pedestrian survey and light shovel scaping in areas of archaeological probability. The results of the pedestrian survey evidenced significant disturbance and modification. Large construction push piles, the result of mosquito control ditching, and modern rubble were scattered throughout the site boundaries (Garrett 1984). However, the archaeological site was not recorded at that time.

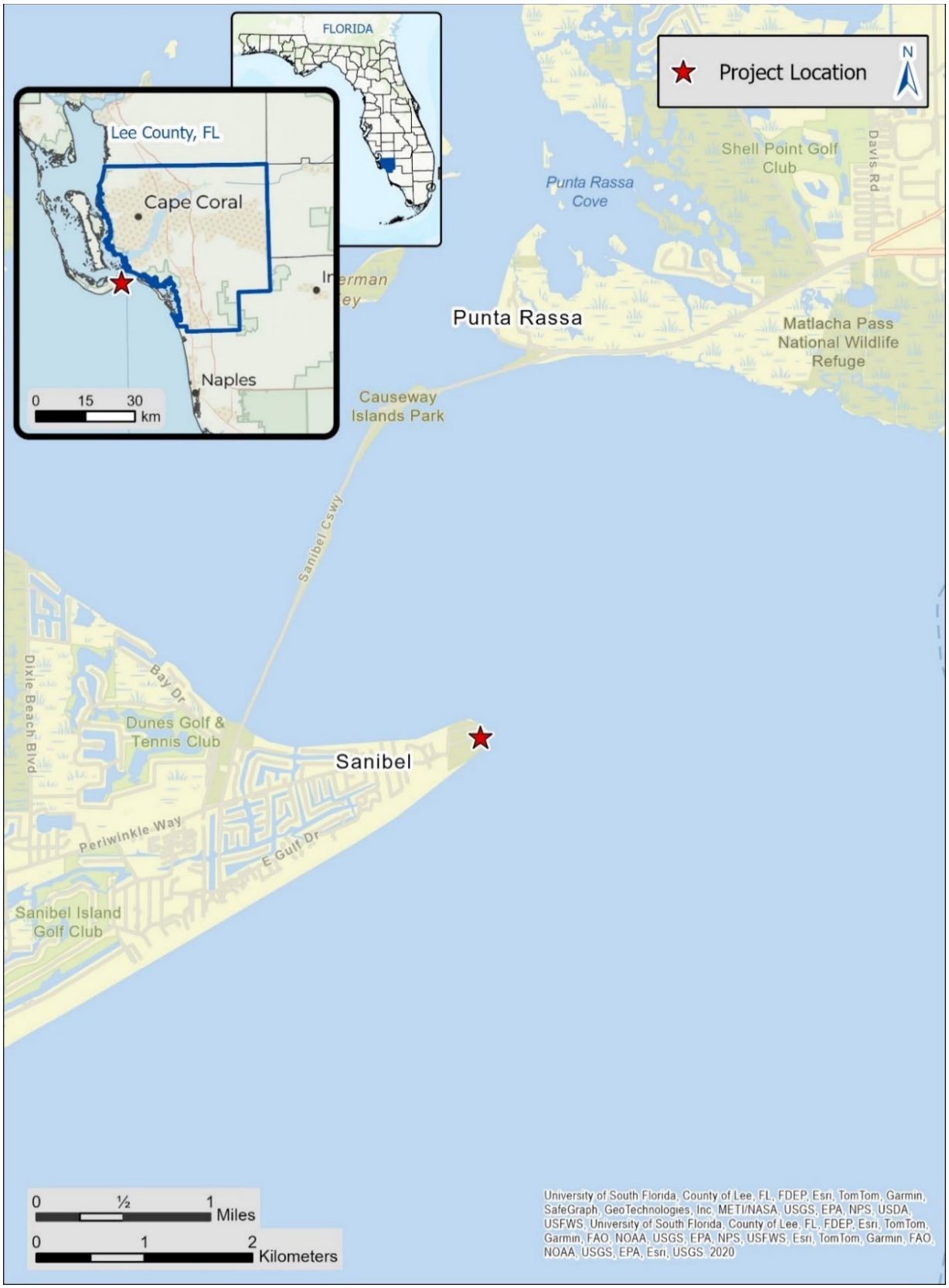

Figure 1. Location of the Sanibel Lighthouse and Keeper's Quarters (8LL00097).

Figure 2. Location of resource related to the Sanibel Lighthouse and Keepers' Quarters (8LL00097) Mixed District

In 2006, Panamerican Consultants Inc. (PCI) conducted archaeological monitoring of contaminated soil removal from within and around 8LL00097 (The Sanibel Island Lighthouse). Clean Harbors, Inc. hand excavated between 6 cm and 42 cm of contaminated soil for removal. PCI recovered 63 artifacts including ferrous metal, glass, brick, and mortar. PCI indicated that these were likely related to the various construction and repair episodes on the lighthouse and the keepers' quarters. PCI did not identify any domestic artifacts and suggested that those items may have been disposed of elsewhere. In addition, no Indigenous artifacts were recovered (Driscoll 2006). PCI recommended the archaeological site individually eligible for both local and NRHP listing; however, they indicated that it did not contribute to a district. The State Historic Preservation Officer (SHPO) concurred (FMSF).

Table 1. CRAS Projects conducted within and proximate to the property.

Reference	Project	Survey No.
Garrett 1983	An Archaeological Reconnaissance and Historic Structures Assessment at Seven U. S. Coast Guard Installations in Florida	0974
Driscoll 2006	Archaeological Monitoring of Contaminated Soil Removal at Sanibel Island Lighthouse, Lee County, Florida	12916
Cozzi 2005	Charlotte Harbor Shipwreck Survey for 2005	14844
Driscoll 2011	Archaeological Monitoring of the Sanibel Lighthouse Property in Lee County, Florida.	18188
Austin 2014	Archaeological Assessment Survey, Lighthouse Beach Park Restroom Facility, Sanibel, Florida	21301

The FMSF form for the Sanibel Lighthouse (8LL00097A) was updated in 2010 by City of Sanibel employees. Then in 2011, Florida History, LLC provided archaeological monitoring of the excavation of soil around two supports of the Sanibel Lighthouse (Survey No. 18188). The excavation was completed in order to assess the condition of the lighthouse following the transfer of ownership from the United States Department of Interior, Bureau of Land Management (BLM) to the City of Sanibel. During this project, soil around two of the supports was removed via hand excavation and heavy equipment. Inspection of the spoil piles and associated pits revealed "artifacts consistent with the previously recorded time period for the lighthouse and archaeological site" (Driscoll 2011:14). Driscoll reported no evidence of subsurface features and found no Indigenous artifacts. Florida History, LLC recommended the site eligible locally and in the NRHP and indicated that the site was a contributing resource to the NR-listed Sanibel Lighthouse 8LL0097A and the SHPO concurred (FMSF). The Sanibel Lighthouse and Keepers' Quarters (8LL00097) Resource Group FMSF form was updated during this survey, as well as the FMSF form for the Sanibel Lighthouse (8LL00097A) and the Sanibel Island Lighthouse (8LL00097C) archaeological site.

Southeastern Archaeological Research, Inc. (SEARCH) conducted archaeological monitoring at the lighthouse. This project removed soils and sands from the base of the metal supports so they could be evaluated, sand blasted, and cleaned. The excavation was conducted by City of Sanibel employees using shovels and heavy equipment. They excavated up to 120 centimeters below surface (cmbs). The monitoring efforts resulted in the discovery of five artifacts including historic brick and window glass, as well as three modern soda cans (SEARCH 2013). SEARCH made the same recommendations as the previous survey and the SHPO concurred (FMSF).

Overall, the Sanibel Island Lighthouse Archaeological Site (8LL00097C) is a low-density historic scatter that was recorded in 2006. Although it has been recommended as a contributing resource to the NRHP listed Sanibel Lighthouse and Keeper's Quarters Resource Group, the NRHP listing has not been updated to include the archaeology site.

The area around the site has been heavily disturbed by historic development activities and numerous hurricane and storm events. The lack of domestic artifacts recovered during these archaeological monitoring projects is likely related to environmental disturbances in the form of hurricanes and storms, historic development projects, and past deposition practices. The light keepers may have disposed of food trash in the Gulf. This practice would have allowed the natural process of the tides to remove trash that may have attracted unwanted pests.

CULTURAL AND HISTORIC CONTEXT

The project area lies within the Gulf Coastal Lowlands of the Florida Peninsula (White 1970). The lack of elevation creates the near surficial to exposed water table throughout the region. This high-water table results in the poor natural drainage and abundance of wetlands in the region (Davis 1943; McNab and Avers 1996). Based on the Indigenous cultural patterns of this regions as outlined in **Table 2**, these environmental patterns, and the extensive changes to the coastline and this point overtime, it is very unlikely that any evidence of Indigenous activities would remain. Therefore, the detailed pre-Contact culture history was omitted. A detailed historic context of the area is presented below.

Direct mention of Sanibel Island first occurs in the historic record in 1757 Spanish navigation notes. "Sanibel" is a derivation of S. Nibel (from Puerto de S. Nivel). This Spanish place name translates as "South Plane Harbor," a reference to the anchorage at the southeastern tip of the low-lying Sanibel Island. San Carlos Bay went through a rapid secession of names in the early days of European exploration. Eventually the name Bahia de San Carlos, after the Calusa chief Carlos, was chosen. Punta Rassa, where the Sanibel Bridge toll plaza is located, translates as "flat point," and was the likely location of sequential Native American Indian occupations prior to European contact (Dormer 1975; Board and Bartlett 1985). Spanish fishing communities, or "ranchos," were established on the islands of San Carlos Bay by the late 1600s. Some remaining Calusa may have joined the Cuban-Spanish fishermen who were active here during the first half of the 18th century. A rancho with 12 buildings and approximately 50 employees operated from Punta Rassa from 1796 through 1831. Most of the ranchos remained in existence until the mid-1830s but were hindered by the onset of the Seminole Indian Wars and customs control of the fisheries (Anholt 1998; Hammond 1973; Dormer 1975).

Prior to the American colonial settlement of Florida, portions of the Creek Nation and remnants of other Native American groups from Alabama, Georgia, and South Carolina moved into Florida and repopulated the vacuum created by the decimation of the Indigenous inhabitants. The Seminoles, as these migrating groups of Native Americans became known, formed, at various times, loose confederacies for mutual protection against the colonies to the north (Tebeau 1971). The bloody conflict between the Americans and the Seminoles over Florida first came to a head in 1818 and was subsequently known as the First Seminole War. Even though the First Seminole War was fought in north Florida, the Adams-Onis Treaty of 1819, and Treaty of Moultrie Creek in 1823 at the end of the war, affected the settlement of south Florida. The Seminoles relinquished their claim to the whole peninsula in return for occupancy of approximately four million acres of reservation south of Ocala and north of Charlotte Harbor.

Florida became a United States territory in 1821, but settlement was slow and scattered during the early years (Mahon 1967). Andrew Jackson, named provisional governor, divided Florida into St. Johns and Escambia Counties. At that time, St. Johns County encompassed all of Florida lying east of the Suwannee River, and Escambia County included the land lying to the west. In 1823, the legislature established Monroe County from the southern portion of St. Johns after Key West was annexed in 1821. In the first territorial census in 1825, some 317 persons reportedly lived in South Florida; by 1830 that number had risen to 517 (Tebeau 1971).

Table 2. Caloosahatchee chronology and cultural traits.

Culture Period / Time Frame	CULTURE TRAITS
Paleo-Indian 10,000 - 8000 BCE	Migratory hunters and gatherers traveled between permanent and semi-permanent sources of water; Oasis and River Crossing models correspond to periods of lower and higher water levels, respectively; hunted Pleistocene megafauna; only a few inland spring sites have been identified in south Florida; most sites are likely offshore as the sea level was significantly lower.
Early Archaic 8000-6000 BCE	Hunters and gatherers; most sites were small, seasonal campsites that followed a diffuse, yet well-patterned schedule in areas with access to both coastal and interior resources; sites found in a variety of locales; increase in population size and density, burials in wet environment cemeteries; fabric and cordage available. Sites in South Florida still focused near inland springs.
Middle Archaic 6000-4000 BCE	Occupation along the Gulf Coast; more evidence for coastal occupation; settlements shifted to a system of base camps with smaller satellite camps to maximize forest resources during parts of the year; increased variety of site types; burials continued in wet environment cemeteries; some evidence of ceremonialism and shell midden construction in coastal sites south of Charlotte Harbor.
Late Archaic 4000-1000 BCE	Preceramic and ceramic sites; point types include Culbreath, Clay, and Lafayette; Orange series ceramics, which appear around 2000 BCE, are fiber-tempered and molded; ceramics were plain or decorated with geometric designs and punctations; increased occupation of the coastal lagoons. Settlements in coastal areas grew a greater reliance on marine resources, especially shellfish and fish which resulted in the accumulation of coastal and riverine shell middens South Florida was sparsely settled during this time.
Caloosahatchee I 500 BCE –500 CE	Primarily a coastal manifestation with inland extractive camps; thick, sand-tempered plain sherds with rounded lips, some St. Johns Plain ceramics, the appearance of Pineland Plain ceramics, and the absence of Belle Glade ceramics; economically focused on the exploitation of marine resources; Small discrete shell middens located along the coast may have represented clustered habitation areas for extended kin groups or lineages. Through time, the lower lying areas were filled in to make a larger elongated shell work.
Caloosahatchee II 500 CE –1200 CE	Dramatic increase of Belle Glade ceramics and resurgence of ceremonial mound use; subsistence patterns same as the previous period; burials occurred in sand mounds and natural sand ridges; extensive trade networks; increased socio-political complexity; major sites located in the coastal areas, but many of these sites were apparently abandoned in the inland bays and barrier islands.
Caloosahatchee III-IV 1200 CE –1513 CE	No obvious changes in settlement and subsistence patterns; platform mound and village complexes as well as dispersed settlements; increase in the appearance of trade wares from adjoining regions and the greater southeast.
Caloosahatchee V 1513 CE - 1750 CE	Calusa people settled in a sedentary, non-agricultural, highly stratified and politically complex chiefdom along the coast with extensive shellworks and earthworks with European artifacts in association with Indigenous ones. Continued to subsist mainly on coastal resources; Burial patterns remained the same as earlier periods, but the most striking feature is the continuity of mortuary pattern and general lack of grave goods. European trade goods include glass beads, bells and trinkets recovered from village sites.

In 1819, the Duke of Alagon, recipient of one of the Spanish land grants, subdivided his claim and deeded a portion to Richard S. Hackley who had served as the United States Consul in Spain. The land Hackley claimed included the Charlotte Harbor area and Sanibel. Within a dozen years, Hackley sold an interest to the Florida Land Company, a New York development company, which started surveying and subdividing Sanibel, then called "Sanybel." Five hundred dollars purchased a lot in town and a tract of land from the

bay to the gulf. Edward Armstrong created the first plat of Sanibel in June 1833 which depicted a town common at the east end of the island (Armstrong 1833; Anholt 1998).

In January 1833, approximately 40 people arrived in Sanibel and established a settlement near the eastern point. Cubans had constructed five large palmetto houses, and the settlers built several wooden houses. The residents even requested a lighthouse in a "Petition to the Secretary of the Treasury by Residents of the Island of Sanybel" in December 1833. Dr. Benjamin Strobel, an army post surgeon and publisher of the Key West newspaper, journeyed to Sanibel with the other settlers in January 1833. Strobel wrote a series of articles on his explorations including the landing at Sanibel. During the trip, Strobel visited the Spanish rancho at Punta Rassa where he had dinner and attended a dance. Unfortunately, by 1837, the settlement at Sanibel had been abandoned, possibly due to uncertainty over the land ownership but also due to the outbreak of the Second Seminole War in 1835 (Anholt 1998).

As part of the effort to subdue Native American hostilities in southwest Florida, military patrols moved into the unchartered and unmapped wilderness of Lee County in search of Seminole concentrations. As the Second Seminole War escalated, attacks on isolated settlers and communities in southwest Florida became more common. To combat this, the combined service units of the U.S. Army and Navy converged on southwest Florida. This joint effort attempted to seal off the southern portion of the Florida peninsula against the estimated 300 Seminoles remaining in the Big Cypress Swamp and Everglades. The United States Army established Fort Dulaney at Punta Rassa in January of 1838, probably at the site of the fishing rancho. Colonel Persifer F. Smith, who commanded the fort, enlarged it during the summer of 1841 to include a barracks, large warehouses, and a hospital. On October 19, 1841, the fort was destroyed by a powerful hurricane. The troops and supplies were moved up the Caloosahatchee and a new fort was built at a less vulnerable site. The new fort, Fort Harvie, later developed into Fort Myers (Board and Bartlett 1985; Anholt 1998; Grismer 1949). Although many of the Second Seminole War military maneuvers in southwest Florida were unsuccessful in locating Seminole strongholds, they did initiate the exploration of Lee County's interior and coastal fringe before the War ended in 1842. As a result, the first accounts of the land lying south of the Caloosahatchee River were written (McCall 1974; Covington 1958). The federal government ended the conflict by withdrawing troops from Florida. At the war's end, some of the battle-weary Seminoles were persuaded to migrate west where the federal government had set aside land for Native American inhabitation. However, those who remained were pushed further south into the Everglades and Big Cypress Swamp.

Encouraged by the passage of the Armed Occupation Act in 1842, which was designed to promote settlement and protect the Florida frontier, Anglo-American pioneers and their families moved south through Florida. The Act made available 200,000 acres outside the already developed regions south of Gainesville to the Peace River, barring coastal lands and those within a two mile -radius of a fort. The Armed Occupation Act stipulated that any family or single man over 18 years of age able to bear arms could earn title to 160 acres by erecting a habitable dwelling, cultivating at least five acres of land, and living on it for five years. During the nine-month period the law was in effect, 1184 permits were issued totaling some 189,440 acres (Covington 1961; Dunn 1989). Finally, in 1845, the Union admitted the State of Florida with Tallahassee as the state capital.

In December of 1855, the Third Seminole War, or the Billy Bowlegs War, started as a result of pressure placed on Native Americans remaining in Florida to emigrate west (Covington 1982). The war started when Seminole Chief Holatter-Micco, also known as Billy Bowlegs, and 30 warriors attacked an army camp killing four soldiers and wounding four others. The attack was in retaliation for damage done by several artillerymen to banana plants belonging to Billy Bowlegs. This hostile action renewed state and federal interest in the final elimination of the Seminoles from Florida. The Third Seminole War degenerated into a series of skirmishes, raids, and ambushes in 1857 and 1858. Military action was not decisive during the war; therefore, in 1858 the U.S. government resorted to monetary persuasion to induce the remaining

Seminoles to migrate west. A total of 165 Seminoles migrated west, and, on May 8, 1858, the Third Seminole War was declared over. Although some Seminoles remained in Florida, little is known of the distribution of the Native Americans during the late nineteenth and early twentieth century. It is known that most of them lived in small groups on hammocks in the Big Cypress Swamp, the Everglades, and the Ten Thousand Islands (Tebeau 1966; Covington 1982).

In 1861, Florida followed South Carolina's lead and seceded from the Union as a prelude to the American Civil War. Florida had much at stake in this war as evidenced in a report released from Tallahassee in June of 1861. It listed the value of land in Florida's 35 counties as $35,127,721 and the value of the slaves in the state at $29,024,513 (Dunn 1989). Even though the Union blockaded the coast of Florida during the war, the interior of the state saw very little military action. The war lasted until 1865 when General Robert E. Lee surrendered to General U.S. Grant at Appomattox Courthouse in Virginia. Immediately following the Civil War, the South underwent a period of "Reconstruction" to prepare the Confederate States for readmission to the Union. The program was administered by the U.S. Congress, and on July 25, 1868, Florida officially returned to the Union (Tebeau 1971).

During the Civil War, one of Florida's major contributions to the war effort was the supply of beef to both the Confederate and Union governments. As the Union retook coastal areas of Florida toward the end of the war, the Union army reactivated Fort Dulaney as a port to ship cattle to feed the Union sailors stationed at Key West (Board and Bartlett 1985). Following the war, Confederate blockade runner Jacob Summerlin took over the barracks and wharf at Punta Rassa and became a middleman charging for the use of the pens and wharf. Cattlemen from throughout Florida drove their cattle to Punta Rassa for shipment to Cuba. Many Spanish Government cattle agents came directly to Punta Rassa to make their purchases. These negotiations resulted in a "patois economy" of both Spanish doubloons and American dollars. The gold pieces, however, were the preferred currency and quickly became the principal unit of exchange in the area (Board and Bartlett 1985). Business at Punta Rassa was so brisk that the community received a post office in 1872 (Bradbury and Hallock 1962).

Reports of agricultural and sporting opportunities led to further settlement of the San Carlos Bay area. Castor oil, used medicinally and industrially, was in short supply following the Civil War. The Allen brothers, who owned a drug store in Key West, started a castor bean plantation on the eastern end of Sanibel Island in 1868. In 1870, William Allen, who served as the census-taker and Assistant Marshall of the island, listed only his son, age 16, and himself as residing on "Sinnabel Island" (Anholt 1998). Another hurricane in 1873 led Allen to abandon the island. Continued cattle shipments and an increasing number of fishermen and new residents around San Carlos Bay prompted repeated requests for a lighthouse to aid navigation of the shallow bay (Anholt 1998; Fritz 1963). During the 1880s, the former army barracks were converted into an inn. Although cattle were still shipped from Punta Rassa, competition from Texas and Central America diminished the quantity of cattle shipped to Cuba. The cattlemen were slowly replaced by sports fishermen who sought kingfish, sea trout, Spanish mackerel, channel bass, and tarpon. In an effort to attract these fishermen, the inn was named the Punta Rassa Tarpon Hotel (or Tarpon House) (Board and Bartlett 1985). Typical visitors included Thomas Edison, Charles B. Hogg of Standard Oil Company, and John Jacob Astor.

The excellent fisheries of San Carlos Bay also meant that Sanibel Island would not remain uninhabited indefinitely. Commercial fish camps set up shop and remained on Sanibel Island until their eviction in the early 1880s (Anholt 1998). Although requests for a lighthouse had been made as early as the 1850s, appropriation of funds did not occur until 1881 and 1882 with construction beginning in 1884 (Fryman 1974). In February 1884, wharf construction on the bay side of Point Ybel started to allow lighthouse construction materials to be brought ashore and the first lighting occurred on August 20, 1884. In 1888, the federal government reserved only the eastern portion of Sanibel Island for lighthouse purposes and opened the remainder of the island to homesteading. Early homesteaders generally acquired 160 acres and planted

tomatoes, peppers, and citrus. By May 1, 1889, the population of Sanibel totaled 100 with 40 families residing on the island in 21 houses. A post office was established in 1889 and, although the name briefly changed to Reed, it reverted to Sanibel in 1895. Even though the name change did not stick, William S. Reed remained the postmaster until 1940 (Bradbury and Hallock 1962; Anholt 1998; Dormer 1975).

Early homesteaders included farmers, ship captains, retirees, and ministers. By 1894, the population of Sanibel totaled 120 with 100 acres devoted to truck farming (Anholt 1998). Although the Great Freeze of 1894-95 damaged the vegetables and citrus on Sanibel, it did not decimate the produce as it did throughout North and Central Florida. Farmers and growers from further north moved south to Lee County and Sanibel Island and as a result, 350 people resided on Sanibel by 1896 with 500 acres devoted to truck farming (Anholt 1998).

The growth of farming on Sanibel led pioneer Jane Matthews to build a wharf to facilitate the transportation of goods and produce. Although built on part of the lighthouse reserve, the government allowed the wharf to stay and permitted the construction of a road for access (now Bailey Road). By the late 1890s, Steele Doyle and Will Geraty had started operating a general store in several buildings at the end of the wharf. The Bailey family, consisting of brothers Frank, Harry, and Ernest Bailey and their mother, Mary White Beers Bailey, had moved to Sanibel in 1894 and, after farming for several years, purchased the store in 1899 (Bailey 2000). They named the store the Sanibel Packing Company, although locals generally called it Bailey's Store. The business served not only as a warehouse, packing center, distribution point, and store, but as a communication center with a telephone and telegraph in later years (Dormer 1975). By the 1890s, Sanibel boasted a school, a church, and a store and in 1900, Sanibel received one of the earliest Rural Free Delivery postal routes in the nation (Anholt 1998).

In 1898, the proximity of the Spanish-American War concerned the residents of San Carlos Bay. The telegraph station at Punta Rassa was the first in the nation to receive news of the sinking of the battleship U.S.S. Maine on February 15 which precipitated the war. During the conflict, a detachment of the U.S. Signal Corps took over operations of the Sanibel lighthouse and constructed observation towers along the shore of the island (Anholt 1998).

Tourism flourished along the southwest coast of Florida at the turn of the century. Steamers provided transportation to communities along the waterways. In 1904, George and Andrew Kinzie, who owned the Kinzie Brothers Steamship Line, won the contract to deliver mail to the islands (Dormer 1975). The Kinzie Brothers delivered mail, passengers, and freight as well as fresh meat, milk, and ice to Matthews Wharf and the Sanibel Packing Company. Hunting, tarpon fishing, and sailing the waterways lured an increasing number of tourists each year and an increasing number of fishermen used Sanibel and Captiva as a base of operations. Several families established inns on the island to take advantage of the tourist traffic. These included Anna Woodring who opened the Woodring House, the Barnes family who operated The Sisters (later renamed Casa Ybel), and the Matthews family who owned The Matthews. The view of the island as a tropical paradise was marred when a major hurricane hit the island in October 1910. Eighty percent of the fruit crop, the Church of the Four Gospels, and homes and docks were destroyed. Island residents rebuilt after the storm. Sanibel's Community Church was built in 1917 and a Baptist church formed in 1919. By 1913, a telephone system linking several homes and businesses on the island was inaugurated (Anholt 1998).

During the 1920s, developers planned the large-scale development of Sanibel Island. H.H. Ford purchased Silver Key for $100,000 in 1925 (Anholt 1998). On Sanibel, several subdivisions were platted during the 1920s land boom, including Sanibel Center, Sanibel Gardens, Suniland Beach, and Lantana del Mar. When MacGregor Boulevard was extended from Fort Myers to Punta Rassa during the boom, Cogsdell Development Company started a ferry in 1925 to run between Punta Rassa and Sanibel (Dormer 1975). The modest signs of growth on Sanibel were halted by the "bust" of the Florida real estate market which

prompted the withdrawal of investors' money from Sanibel. By 1926-27, the bottom fell out of the Florida real estate market and a hurricane devastated the island in 1926. Buildings, trees, and docks were demolished, Matthews Wharf and the Sanibel Packing Company were destroyed, and the Development Company ferry ceased operation (Dormer 1975). Although the residents rebuilt their homes and docks, the "Great Miami" hurricane of 1926 was the final blow to farming on Sanibel (Sanibel Historical Museum and Village 2024a). For years, farmers on Sanibel had a distinct advantage due to the proximity of the water routes which provided access to the railroad and markets. In 1924, Sanibel's advantage came to an abrupt end when the railroad extended south of Fort Myers, thereby opening large areas of farmable lands to easy rail access. Transporting Sanibel's fruit and vegetables to market was now more expensive than the crops grown on mainland farms. As a final blow, the vegetable fields on Sanibel were contaminated when the hurricane deposited massive amounts of salt water on them. Consequently, many Sanibel residents abandoned their farms and turned to tourism or moved to the mainland to farm (Anholt 1998).

Similarly, traffic and residents declined in the community of Punta Rassa across the bay to the extent that the post office was discontinued in 1924 (Bradbury and Hallock 1962). The following year, developer Barron Collier purchased the entire point with the exception of the International Oceanic and Telegraph Company property (Board and Bartlett 1998). Although the community of Punta Rassa virtually dissolved, Sanibel residents did band together to support each other during the trying times. During the 1920s, the Sanibel Community Association built the Sanibel Community House and wrote a charter in 1928 for the "civic, social, educational, and recreational wellbeing of the entire community" (Anholt 1998). Soon after, the October 1929 stock market crash and the onset of the Great Depression left Sanibel in a state of stagnation.

By the mid-1930s, federal programs, implemented by the Roosevelt administration, started employing large numbers of construction workers, helping to revive the economy of the state. The programs were instrumental in the construction of parks, bridges, and public buildings. The Works Progress Administration (WPA), one of the New Deal programs, completed projects throughout Florida such as the Edison Bridge, the Fort Myers Yacht Basin, and the Lee Memorial Hospital in Fort Myers (Board and Bartlett 1985:28). One program, the Federal Writers' Project (FWP) of the Work Projects Administration, recorded the following description of Sanibel Island in 1939:

> *Sanibel Island...opposite the mouth of the Caloosahatchee River, is reached by ferry from Punta Rassa...The island, 2 miles wide and approximately 12 miles long, is a State game preserve; native and migratory birds are plentiful and can be studied at close range...A large combination dredge and factory here gathers, cracks, cooks, and cans clams...Sanibel Island is notable for the number and variety of sea shells on its beaches. Every tide and storm wash ashore thousands of specimens of some 300 varieties...The Sanibel Sea Shell Fair is held annually in February* (FWP 1939:483).

During the 1930s, commercial shelling increased, and Sanibel's Shell Fair gained such popularity that Fort Myers suggested renaming it the "West Coast Shell Fair." A number of scientists, including "Ding" Darling, visited both Sanibel and Captiva to research and collect shells, wildlife, plants, trees, and fish. The ferry, which brought the visitors and allowed residents to travel between the mainland and the islands, moved their dock in January 1937 (Anholt 1998). The Kinzie Brothers Steamer Line completely removed their dock from its location in front of Sanibel Packing Company to a point closer to the lighthouse, diminishing the distance and time spent crossing the bay, and opened a restaurant at the new dock. Without the ferry traffic to boost business, Miss Charlotta's Tea Room closed (Bailey 2000).

In 1939, the population of Sanibel reached 100, but the population of the island dropped during World War II (WWII) (Anholt 1998). The north end of Sanibel Island became a bombing range during WWII with patrols walking the beaches looking for submarines and enemy infiltrators. During the war, the Coast Guard

issued identification cards to the residents due to fears of infiltration and blackout conditions were enforced on Sanibel and Captiva. Little farming or tourism occurred on the islands during the war as most residents were serving in the armed forces. In October 1944, another hurricane hit Sanibel with winds reportedly peaking at 163 miles per hour. Thus, the lighthouse and the island weathered yet another hurricane (Anholt 1998).

Many of the servicemen stationed in Florida returned with their families to vacation and reside after the war. The Kinzie Brothers added ferries, motels were built, restaurants and shops opened, and real estate was sold. In June 1950, the Intercounty Telephone Company "connected a telephone line to 'the other side' at the ferry landing" (Anholt 1998). After a hurricane again hit the island in 1947, the Coast Guard elected to automate the lighthouse. The property was turned over to the Sanibel National Wildlife Refuge, created in 1945, and the former Keepers' Quarters were used as an office and residence for the refuge manager. Although visitors and new residents still arrived by steamer, pontoon seaplanes and airplanes brought an increasing number of people to Sanibel after a grass airfield opened at Casa Ybel in 1953. In 1955, the refuge manager, Tom Wood, noted in a report that the ferry brought 33,945 visitors to the refuge from January through April, and approximately an additional 1,800 arrived by boat and plane (Anholt 1998).

Developers, which had ignored Sanibel for over 20 years, planned new subdivisions during the 1950s. Construction of a subdivision started by digging a canal which not only provided a waterway to increase the value of the property but also raised the elevation of the lot. Much of the island was thus "improved" during the 1950s and 1960s. In 1960, Hurricane Donna slammed through Sanibel destroying docks and buildings. Australian pines along the main road knocked down power lines which, due to the devastation in the entire region, took weeks for the power company to repair. The island community rebuilt after the storm, and a number of changes brought modernity to the island during the ensuing decade (Anholt 1998).

During the 1960s, a weekly newspaper started publication, the Sanibel Public Library was established, Periwinkle Way was paved, a new school was constructed, and the old school was converted into a community theater (Anholt 1998). The Sanibel National Wildlife Refuge was renamed for "Ding" Darling in 1967, and the Sanibel-Captiva Conservation Foundation, formed in 1967, started campaigning for the preservation of other wildlife acreage (Fritz 1974). Developer Hugo Lindgren wanted to develop his Sanibel properties but needed to attract more people to the island. He campaigned for better water, donated land for the construction of the Sanibel-Captiva Chamber of Commerce and was instrumental in the construction of the causeway across the bay. At the opening of the $2.8 million causeway in May 1963, 1,120 automobiles crossed to the island ushering in a new era (Dormer 1975; City of Sanibel n.d.). The pressures of development, loss of natural habitat and a growing number of residents and tourists led to the incorporation of Sanibel in November 1974 (Sanibel Historical Museum and Village 2024a).

In the years since Sanibel's incorporation, an increasing number of condominiums, motels, and service industries have developed on Sanibel Island. A number of condominiums and subdivisions have developed on the islands; however, Sanibel Island has been able to preserve a significant part of the natural beauty of the island in the J.N. "Ding" Darling National Wildlife Refuge by carefully controlling development. The interest of the residents in preserving their history is evident in the creation of the Sanibel Historical Village and Museum in 1984 (Sanibel Historical Museum and Village 2024b). The Sanibel Packing Company building, constructed in 1927, and Miss Charlotta's Tea Room, built in 1926, were relocated to the museum grounds in 1991 and restored through volunteer efforts in 1992-93 (Irwin 2000). The heritage of Sanibel Island is symbolized in the preservation of these buildings and its treasured lighthouse which was purchased by the City of Sanibel in 2010 (Sanibel Historical Museum and Village 2024a). On September 28, 2022, Hurricane Ian – a Category 4 major hurricane – made landfall on the Gulf Coast of Florida at Cayo Costa, just north of Sanibel Island. A catastrophic storm surge was produced by the storm with peak inundation levels on the eastern end of Sanibel Island reaching 9 to 13 ft above ground level and causing mass devastation, including but not limited to the partial destruction of the Sanibel Island Causeway and

destruction of the supporting buildings at the Sanibel lighthouse (Bucci et al. 2023). Hurricane Ian was the costliest hurricane to ever affect the state of Florida with an estimated $109.5 billion worth of total damage (Bucci et al. 2023). Recovery efforts on the island continue to this day, including the restoration of the Sanibel Lighthouse.

PROPERTY HISTORY

Despite the increase in seafaring commerce, maritime shipping, and the historic role of nearby Punta Rassa in the shipment of cattle, a navigational aid did not exist between Key West and Egmont Key prior to the construction of the Sanibel Lighthouse (Fryman 1973). A lighthouse was proposed several times during the 1800s with a request to the General Land Office (GLO) being made as early as December 1856 for the reservation of land to establish a lighthouse on Sanibel Island. Land for a lighthouse was not reserved until 1877 when the request was repeated and in 1878 and 1879, the U.S. Light-House Board recommended the appropriation of $40,000 for the construction of the lighthouse. The U.S. Congress provided $20,000 in 1881 and an additional $30,000 in 1882 (Fryman 1973). Construction on the 98-ft tall Sanibel Lighthouse began in February 1884 and was completed by the summer of that year with the first lighting of the Third Order Fresnel lens taking place on August 20, 1884.

The Sanibel Lighthouse was constructed as an iron skeleton tower, a design which became popular with the U.S. Light-House Board during the late nineteenth and early twentieth century due to its "relatively inexpensive coast, standardized components, and relatively short construction timetables" (Johnston and Jones 2002). The design, found mainly along the Gulf Coast in Florida, was more easily constructed on inadequate soils than masonry lighthouses, allowed for pre-fabrication and the relocation of the lighthouse due to erosion if deemed necessary, and offered less resistance against hurricane-force winds than masonry lighthouses. In addition, the height of the lighthouse could be altered by adding additional sections to the bottom of the structure (Browning n.d.). Skeletal lighthouses are typically comprised of a central vertical cylinder punctuated by windows that encases a stairway which leads to the lantern and rotation room. The cylinder and lantern are supported by skeletal legs that are reinforced with diagonal tension braces and typically rest on a concrete pad foundation or concrete caisson within the ground (Johnston and Jones 2002). During the construction of the Sanibel Lighthouse, the ship transporting the prefabricated iron skeleton structure by the Phoenix Iron Company of New Jersey wrecked and the materials were temporarily lost. Most of the materials were recovered from the wreckage and those parts that could not be recovered were replicated by a foundry in New Orleans (Fryman 1973). Several supporting buildings and structures were also constructed around the Sanibel Lighthouse, including two wood frame Keepers' Quarters and a brick oil house. Following completion of the Sanibel Lighthouse, Dudley Richardson and John Johnson arrived from Key West to serve as the Head Keeper and Assistant Keeper, respectively. In addition to Richardson and Johnson, Henry Shanahan, Eugene Shanahan, Clarence Rutland (Henry Shanahan's stepson), and William Robert England, Jr. served as the Sanibel Lighthouse Keepers from the establishment of the lighthouse in 1884 until the light was automated in 1949 (U.S. Coast Guard 2019).

In 1939, the U.S. Lighthouse Service and the U.S. Coast Guard were consolidated. Lighthouses throughout the country fell under the purview of the U.S. Coast Guard and lighthouse personnel were given Coast Guard commissions corresponding to their previous duties under the U.S. Lighthouse Service (Macy 1940). During World War II, Sanibel Island and the surrounding waters were utilized for military training operations and observation. In 1942, fisherman and other navigators were notified by officials that designated areas within the Gulf of Mexico would be utilized for bombing practice (News-Press 1942). A lookout quarters was constructed to the north of the lighthouse to accommodate soldiers that were stationed at a submarine observation tower which was constructed to the northeast of the lighthouse (Publication of Archival Library and Museum Materials [PALMM] 1943, n.d.) (**Photo 1**).

Photo 1. A ca. 1946 photograph of the Sanibel Lighthouse and Keepers' Quarters, facing southeast (State Archives of Florida 1946). The oil house is located immediately to the left of the lighthouse followed by the WWII-era lookout quarters at the far left. The submarine observation tower is not visible in this photograph.

These additions to the lighthouse complex remained in place until ca. 1958 when the quarters were demolished or relocated, and the lookout tower was destroyed by Hurricane Donna in 1960 (PALMM 1958; USDA 1958; D'Entremont 2001). The U.S. Coast Guard withdrew the last lighthouse keeper of Sanibel Lighthouse, William Robert England, Jr., in 1949 when the lighthouse was converted to automatic operation (News-Press 1949; U.S. Coast Guard 2019). The property was then leased to the U.S. Fish and Wildlife Service and the former Keepers' Quarters were utilized as an office and residence for the manager of the Sanibel National Wildlife Refuge – now known as the J.N. "Ding" Darling National Wildlife Refuge (Anholt 1998). The City of Sanibel expressed interest in acquiring and managing the Sanibel Lighthouse property as early as 1980 and in 1982 the City was granted a license authorizing use of the land and buildings (Stephens 1980; News-Press 1982). The operation of the lighthouse and ownership of the property remained with the U.S. Coast Guard and Bureau of Land Management until April 2010 when the Sanibel Lighthouse property was officially acquired by the City of Sanibel (News-Press 2010). Following acquisition by the City of Sanibel and prior to Hurricane Ian, the property immediately surrounding the Sanibel Lighthouse included the lighthouse, two Keepers' Quarters, the oil house, brick cistern, a ca. 1986 utility shed, and a ca. 1975 storage building (**Photo 2, Figure 3**).

Photo 2. A photograph of the Sanibel Lighthouse and Keepers' Quarters, facing southeast, taken October 2019 by ACI architectural historian, Savannah Y. Finch. The oil house is visible at the far-left edge of the photo.

On September 28, 2022, Hurricane Ian – a Category 4 major hurricane – made landfall on the Gulf Coast of Florida at Cayo Costa, just north of Sanibel Island. A catastrophic storm surge was produced by the storm with peak inundation levels on the eastern end of Sanibel Island reaching 9 to 13 feet (ft) above ground level and causing mass devastation, including the destruction of the supporting buildings at the Sanibel lighthouse and the loss of one iron leg supporting the lighthouse (Bucci et al. 2023) (**Figure 4 and Photo 3**). A temporary wooden leg was installed to support the lighthouse and shortly after the storm, pieces of the missing leg were discovered. The reinstallation of the original leg was considered; however, engineers determined that the lighthouse would not be structurally sound. As such, the leg was replicated and installed. A significant amount of debris was removed from the beach surrounding the lighthouse for public safety and large segments were relocated within the construction fencing surrounding the lighthouse. These segments were assessed by ACI in April 2024. A relighting ceremony was held at the Sanibel Lighthouse on February 28, 2023, and on June 16, 2023, Lighthouse Beach Park was reopened to the public (Williams 2023; Bickel 2023). At the time of the site visit in April 2024, corrosion remediation and coating application/exterior painting was being completed by Razorback LLC of Tarpon Springs (**Photo 4**).

Figure 3. A Google Earth aerial photograph taken in January 2021 prior to Hurricane Ian (Google Earth 2024). The oil house is located to the north of the lighthouse and the two Keepers' Quarters flank the lighthouse to the southwest and southeast. A ca. 1986 utility shed is located to the east of the oil house and a ca. 1975 storage building is located northwest of the lighthouse.

Figure 4. A Google Earth aerial photograph taken in May 2023 following Hurricane Ian (Google Earth 2024). Note the drastically altered shoreline and absence of supporting buildings, including the two Keepers' Quarters buildings and the oil house.

Photo 3. A photograph of the Sanibel Lighthouse following Hurricane Ian and prior to restoration work. Temporary wooden supports were installed and are indicated by the red arrows. Photo taken by Kim Ruiz, City of Sanibel Principal Planner, in August 2023.

Photo 4. The Sanibel Lighthouse during restoration, looking north. The location of an in-situ support pier from the Keepers' Quarters is indicated by the red arrow. The second Keepers' Quarters building was located to the right of the lighthouse. Remnants of the associated support piers were identified within the water due to the eroded shoreline.

ARCHAEOLOGY RESULTS

Archaeological field survey included surface reconnaissance and the excavation of six shovel tests throughout the property, none of which produced intact cultural materials or evidence of subsurface features (**Figure 5**). Testing followed the planned methodology with no significant shifts. The majority of identified cultural materials were on the surface. The surface scatter consisted of materials related to the lighthouse including large chunks of concrete, metal, footer posts, and wood beams. These results are consistent with the previous monitoring projects discussed above. Three shovel tests did evidence historic materials; however, they appeared to be in storm deposit and not in situ. Shovel test 1 did find part of the foundation related to one of the Keeper's Quarters supports (**Photo 5**). While this informative, it is not new or unexpected. The lack of material artifacts is likely due to hurricane and storm erosion of the coastline, past development and soil removal projects, and possible past deposition practices designed to keep pests aways from the light keeper's quarters. Historic aerials show significant change in the coastline over time. **Figure 6** shows significant erosion in the years between 1944 and 1958 (USDA 1944, 1958). The lighthouse, marked by a red dot, is closer to shore with structures extremely close to the water line. The current Google Earth imagery shows a higher degree of beach erosion following Hurricanes Ian and Irma. In this image the lighthouse is sitting at the edge of the high tide line (**Figure 7**) (Google Earth 2024). Joel Caouette (2024), a conservation officer with the city in charge of beach renourishment efforts, confirmed that Hurricane Ian removed several feet of coastline (2024), a change visible in **Figure 7**.

Photo 5. ST 1 with foundation.

Figure 5. Archaeological results. The yellow dots mark excavated storm debris, the red dots are the location of the Federal Survey markers, the teal dots are negative shovel tests, the dark blue dots are offshore pilings, and the blue line marks the highwater line.

Figure 6. Historic aerial photographs showing significant beach erosion between 1944 and 1958.

Figure 7. Present Google Earth imagery showing the proximity of the lighthouse to the waterline following Hurricanes Ian and Irene. The red arrow points to the lighthouse.

A reasonable and good faith effort was made to locate any historic properties on the parcel (Advisory Council on Historic Preservation n.d.). No further archaeological work is recommended because the site 8LL00097C (Sanibel Lighthouse Archaeological Site) appears destroyed due to development and natural disaster. Therefore, the site appears to no longer be eligible for listing in the NRHP individually or as a contributing resource to a resource group.

SALVAGEABLE MATERIALS

A site visit was conducted by ACI historians and archaeologists on April 16-17, 2024, and included an assessment of two main collections of debris – a collection of brick rubble located on the Sanibel Recreation Center – Sanibel School campus and large debris collected from the shoreline and placed immediately adjacent to the lighthouse at Lighthouse Beach Park. The debris was assessed for salvageability and/or possible uses in historic site interpretation following Hurricane Ian. These materials and background information regarding the history and/or likely source of the materials are summarized below.

Bricks:

Following Hurricane Ian, brick rubble was removed from the Sanibel Lighthouse property by City of Sanibel employees and relocated to a storage building on the Sanibel Recreation Center – Sanibel School campus. ACI architectural historians assessed the rubble and identified five general types of bricks. Descriptions and photographs of the brick types identified within the storage building are included below, as well as measurements of the bricks which are included in inches (length x height x depth) and the most likely sources of the brick types (**Photos 6 through 13**). During the manufacture of bricks, unfired bricks are placed within a kiln at varying distances from the heat source which causes variations in the physical properties of the finished brick, such as the appearance and strength of the brick (Young 2008). Typically, higher temperatures result in a stronger brick while lower temperatures result in a softer brick. The stronger bricks, known as "face bricks," were commonly utilized on exposed locations such as the exterior surface of walls or chimneys due to their more even and uniform shape and resistance to the elements (Young 2008). Furthermore, the strength of the bricks made them more suitable for lining fireplaces, chimneys, furnaces, or boilers (Phillips 1992). The softer bricks, known as "common bricks," were utilized for structural rather than ornamental purposes. Common bricks were used as infill on the interior of wall structures behind face bricks, or for exterior walls where appearance was not a priority (e.g. the surface would be painted, covered with stucco, etc.). These bricks are typically less uniform in shape and color (Young 2008, Phillips 1992). In addition to the manufacturing process, photos of the supporting buildings and structures at the Sanibel Lighthouse were reviewed to help identify the most likely sources of the different bricks within the rubble pile.

1. Common brick with white paint (**Photos 6 through 8**)
   Source: Oil house
   Dimensions: 8 ½" x 4 ¼" x 2 ¾" and 8⅛" x 4 ¼" x 2 ½"

Photo 6. A segment of the oil house wall comprised of common brick and intact mortar covered with paint on the exterior surface.

Photo 7. A segment of the oil house wall comprised of common brick and intact mortar covered with paint on the exterior surface. The exterior surface is located on the top of the pictured segment. Note the variations in brick color.

Photo 8. A segment of the oil house wall comprised of common brick and intact mortar covered with paint on the exterior surface. The exterior surface is located on the left side of the pictured segment. Note the variations in brick color.

2. Common brick – unpainted (**Photo 9**)
Source: Internal wall structure of oil house or oil house foundation
Dimensions: 8 ¼" x 4 ⅛" x 2 ⅝"

Photo 9. Three examples of individual unpainted common bricks.

3. Face brick – striated (**Photos 10 and 11**)
Source: Cistern
Dimensions: 8 ½" x 3 ⅞" x 2 ½"

Photo 10. Examples of face brick (striated) identified within the relocated rubble pile. Intact segments of the cistern walls can be seen in Debris Pile – Group No. 2 below.

Photo 11. Examples of face brick (striated) identified within the relocated rubble pile. Intact segments of the cistern walls can be seen in Debris Pile – Group No. 2 below.

4. Face brick – charred (**Photos 12 and 13**)
   Source: Keepers' Quarters chimneys (charred brick from interior top of chimney or inner hearth)
   Dimensions: 7 ¾" x 3 ⅝" x 3 ⅜"
5. Face brick – plain (**Photos 12 and 13**)
   Source: Keepers' Quarters chimneys (exterior)
   Dimensions: 7 ⅞" x 3 ¾" x 2 ⅛"

Photo 12. Three weathered examples of face brick (plain) (left) and face brick (charred) (right).

Photo 13. Examples of face brick (charred) (left) and face brick (plain) (right).

Lighthouse Beach Park Debris Pile:

Group No. 1 – Wooden girder with intact metal support post and wooden brackets (**Photos 14 and 15**)

The dimensions of the wooden girder are approximately 36' x 11 ¼" x 5 ½". The ends of the girder were broken during the destruction of the Keepers' Quarters and as such, the original length of the girder is unknown. The elements of Group No. 1 are an example of the structural building techniques utilized to construct the Keepers' Quarters in the coastal environment. Supporting buildings and structures found at light stations were typically raised three to five feet above the ground by continuous brick or brick pier foundations due to the proximity to water (Johnston and Jones 2002). The Keepers' Quarters at the Sanibel Lighthouse, however, rested on cylindrical metal support posts rather than brick. The wooden girder with intact metal support post and wooden brackets also utilized mortise and tenon joints; however, the joints were destroyed during the destruction of the Keepers' Quarters. An example of relatively intact mortise and tenon joints and a description of the construction method can be found in Group No. 3 below.

Photo 14. Wooden girder with intact metal support post and wooden brackets.

Photo 15. Wooden girder with intact metal support post and wooden brackets.

Group No. 2 – Intact segments of the brick cistern (**Photo 16**)

Two curved segments of the former brick cistern were identified within the debris pile. These segments are constructed with striated brick laid two wythes thick and held together with mortar. In addition to keepers' quarters, oil houses, and privies, light stations were commonly equipped with cisterns to hold freshwater, which was not easily accessible in remote, seaside locations such as Sanibel Island (Johnston and Jones 2002). This cistern was located behind the Keepers' Quarters at the Sanibel Lighthouse (**Photo 16**).

Photo 16. Two curved segments of the cistern walls comprised of striated face brick constructed two wythes thick with intact mortar.

Group No. 3 – Wooden girder with intact mortise and tenon joints (**Photos 18 through 20**)

The dimensions of the wooden girder are approximately 16' x 11 ⅞" x 5 ¾". One end of the girder (left end in **Photo 17**) was broken during the destruction of the Keepers' Quarters and as such, the original length of the girder is unknown. The elements of Group No. 3 are an example of the structural building techniques utilized to construct the Keepers' Quarters in the coastal environment, similar to Group No. 1; however, this wooden girder has intact mortises with wooden pegs and remnants of wooden tenons within the joints. In addition, two metal brackets are on the bottom side of the girder and likely would have attached to wooden structural brackets similar to those found on Group No. 1.

Historically, mortise and tenon joints were utilized in heavy timber frame construction to join two wooden members together (e.g. joists, girders, roof framing, etc.). A portion of one member would be removed to form a mortise, or hole, while the end of the second member would be cut to form a protruding tenon. When assembled, the mortise of the first member and the tenon end of the second member would interlock. To prevent the two members from coming apart, a hole would be drilled through the two interlocking members and a wooden peg, also known as a treenail or trunnel, would be inserted into the hole (Young 2008). The wooden peg was then trimmed flush to the surface of the wooden members or left protruding. With the increased availability of water-powered sawmills in the 1700s and steam-powered sawmills in the 1800s, lumber became more readily available and light-framing methods were introduced. This led to a decline in mortise and tenon timber framing practices over the years; however, the method of framing continued to be used into the late 1800s and early 1900s, typically for "small buildings, barns, and outbuildings" (Young 2008).

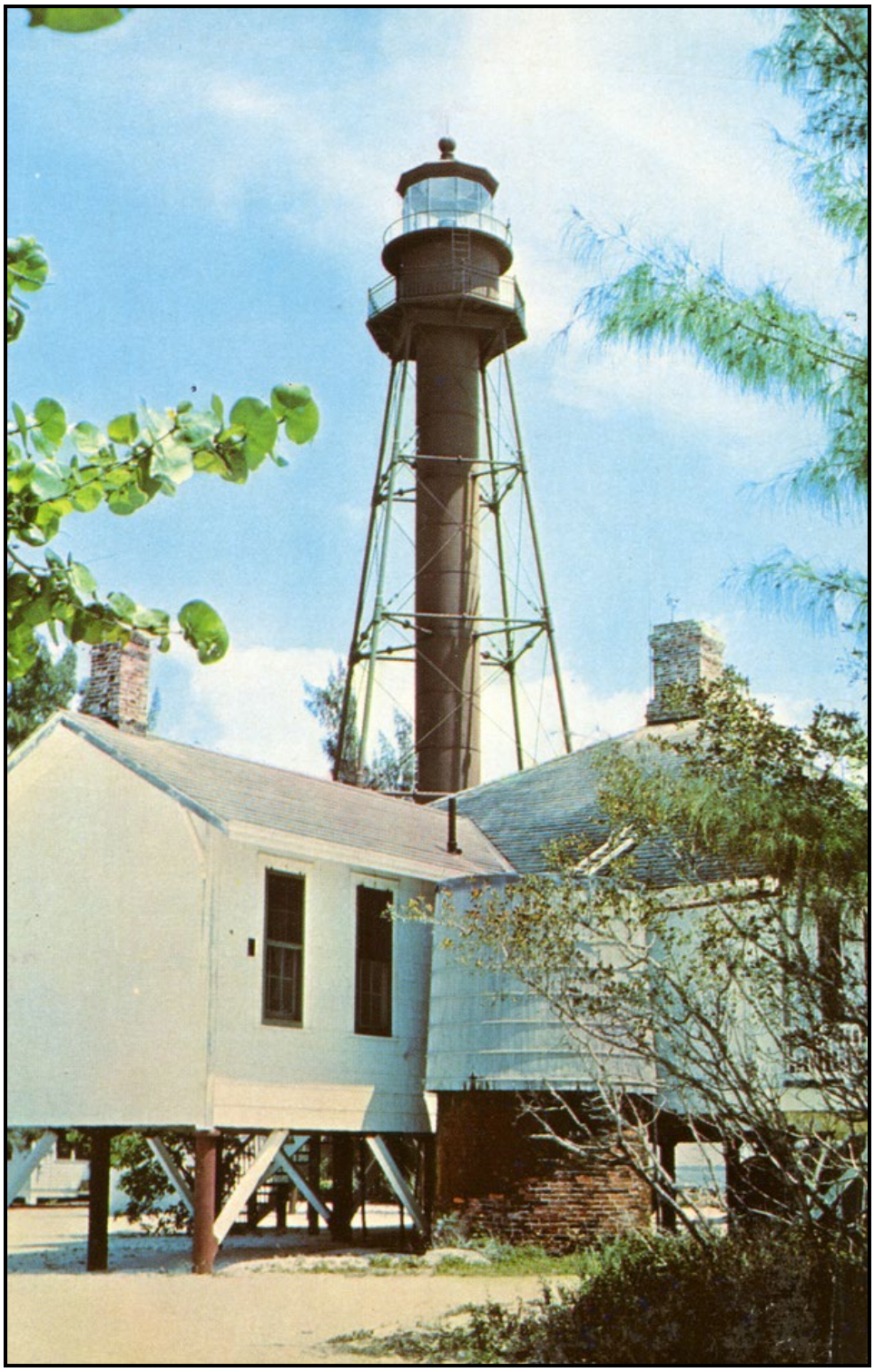

Photo 17. The brick portion of the cistern is visible in situ behind the Keepers' Quarters in this undated photograph (State Archives of Florida n.d.). The wooden portion of the cistern was no longer extant prior to Hurricane Ian.

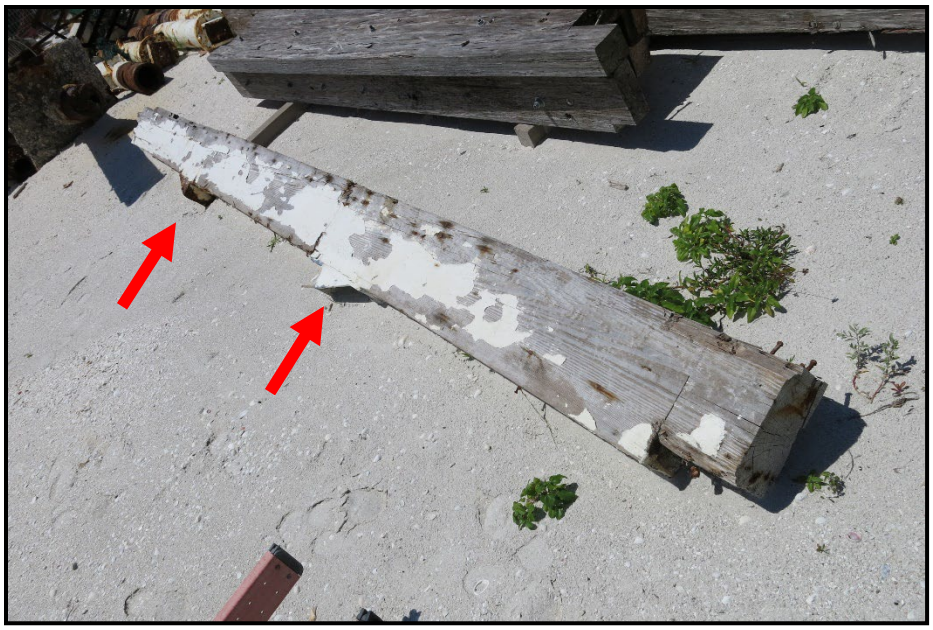

Photo 18. The wooden girder with intact mortise and tenon joints. The right end of the girder is intact; however, the left end of the girder in the photograph has been broken. The red arrows indicate the location of the metal brackets on the bottom of the girder. The mortise and tenon joints are located along the top of the girder.

Photo 19. An example of a partially intact mortise and tenon joint along the top of the wooden girder. The rectangular cavity to the right is the mortise and the cylindrical wooden peg to secure the tenon (broken off) is visible to the left and indicated by the red arrow.

Photo 20. An example of a partially intact mortise and tenon joint along the top of the wooden girder. The rectangular cavity is the mortise, and it is bisected by a cylindrical wooden peg to secure the tenon. The tenon has broken off and only a small segment remains within the mortise (red arrow).

Group No. 4 – Slate hearth (**Photo 21**)
Group No. 5 (aka Flag No. 6) – Cast iron fireplace surround (**Photos 21 through 23**)

Each of the Keepers' Quarters was equipped with two brick chimneys and at least one of the two chimneys per building was known to connect to a coal burning fireplace. The resources within Group No. 4 include five large segments of slate that served as the hearth of the fireplace. The resources within Group No. 5 include two segments of a cast iron surround that would have been installed on the coal burning fireplace. An example of an intact coal burning fireplace found within the Keepers' Quarters can been seen in **Photo 24**. During the mid-1800s, coal became the preferred method of heating buildings rather than wood. Fireplaces and chimneys were altered to accommodate the transition in fuel types, resulting in a smaller fireplace that was taller and shallower than the standard woodburning fireplace (Polson 2013, Duke 2022). In addition, coal burning fireplaces were typically embellished with cast iron surrounds and inserts which were equipped with metal grates for holding the burning coals. The horse-shoe arch shape was a common design as it was easily created during the metal casting process and surrounds included a "summer cover" to close off the fireplace when it was not in use (Duke 2022).

Photo 21. Three of the five recovered segments of slate from the Keepers' Quarters hearth (top) and two segments of the cast iron coal burning fireplace surround (bottom).

Photo 22. The larger of the two segments of the cast iron coal burning fireplace surround. Note the decorative curved detailing and the paint is peeling, revealing the bare cast iron.

Photo 23. The back side of the cast iron coal burning fireplace surround segment. This side of the segment is covered with shell and rust due to marine exposure.

Photo 24. A photograph of one of the Keepers' Quarters coal burning fireplaces. Note the decorative cast iron surround (painted white) and slate hearth (FMSF n.d.).

Group No. 6 (aka Flag No. 8) and Group No. 7 – Metal Girders from the Keepers' Quarters (**Photos 25 and 26**)

The two resources are each comprised of two metal members situated perpendicular to each other to form a right angle. A circular segment is located at the vertex of the two members and may have functioned as a fulcrum during construction, but this is unclear. The resources are painted and covered in a significant amount of rust. The dimensions of the metal girders could not be determined due to their placement under other large-scale debris. Group No. 6 and 7 are examples of the structural building techniques utilized to construct the Keepers' Quarters in the coastal environment, similar to Groups No. 1 and 3; however, these are examples of metal, rather than wood, construction methods. An example of these bracketed girders can be seen in situ in **Photo 27**.

Photo 25. Two bracketed metal girders located within the debris pile (Group No. 6 and 7).

Photo 26. Two bracketed metal girders located within the debris pile (Group No. 6 and 7).

Photo 27. An example of the metal girders in situ beneath the Keepers' Quarters resting on metal support posts (FMSF n.d.).

Concrete Footer:

During the site visit, ACI architectural historians and archaeologists identified a large concrete object protruding from the sand southwest of the lighthouse. The object was partially excavated and photographed. A review of historic photographs, as well as photographs taken pre-Hurricane Ian, revealed that the object was a concrete footer that had been displaced by stormwaters. A segment of the squared wooden foundational support post was visible beneath the sand as indicated in **Photo 28** by the red arrow. The footer was rotated onto its side, exposing the curved edge which was poured immediately adjacent to the brick cistern behind the Keepers' Quarters (**Photo 29**). As such, the concrete footer follows a partial contour of the brick cistern and is lined with impressions of the brick. The dimensions of the contour, combined with the extant segments of the cistern walls in Group No. 2, may provide an estimate of the cistern's original dimensions.

Photo 28. The concrete footer, partially buried beneath the sand and rotated onto its side by stormwaters. The squared wooden support post for which the footer was laid is indicated by the red arrow. The curved surface is lined with brick impressions from the brick cistern.

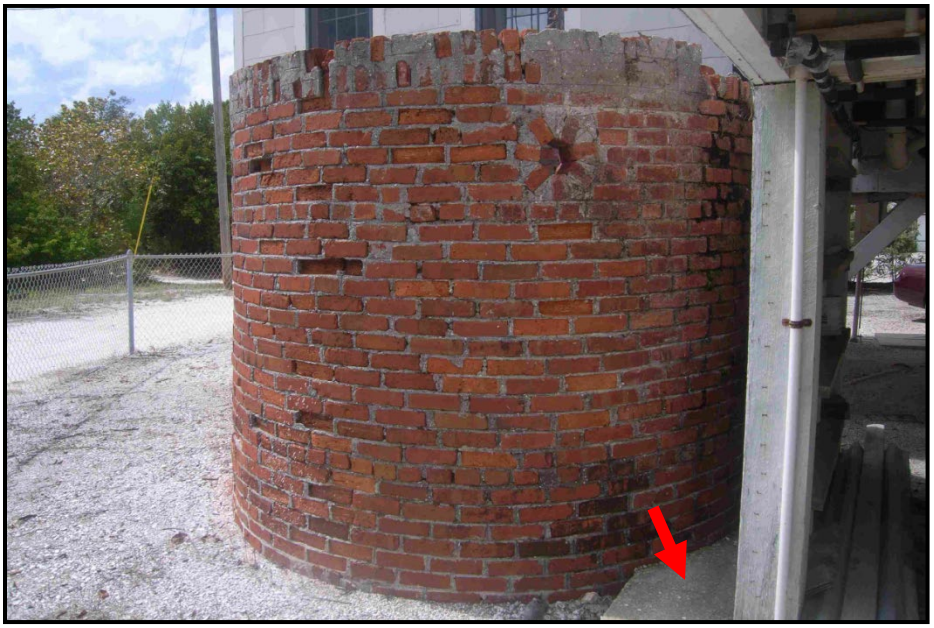

Photo 29. The concrete footer and attached squared wooden support post were installed immediately adjacent to the brick cistern to the rear of the Keepers' Quarters as seen in the above photograph (FMSF n.d.). As such, the concrete footer follows the contour of the cistern, and the curved edge is lined with visible brick impressions.

Oil House Foundation:

The Sanibel Lighthouse oil house was a rectangular brick building with a pyramidal roof covered in wooden shakes (**Photo 30**). The brick walls were painted white. A single wooden door entry was located on the south elevation, facing the lighthouse. No windows were present on the building; however, a metal vent was located on the east and west elevation beneath the roofline. A wooden sign on the building read:

> "1884 / OIL HOUSE/ RESTORED 1976 / NICHOLAS MERIWETHER CHAPTER / N.S. COLONIAL DAMES XVII CENTURY."

The majority of brick oil houses in Florida were constructed by the Light-House Board between 1888 and 1910 to store the highly volatile kerosene used to fuel the lighthouses. The oil houses were typically constructed adjacent to the lighthouse and were commonly rectangular in plan with brick structural systems and gable roofs. The buildings did not usually have windows and were equipped with an entryway that faced the lighthouse (Johnston and Jones 2002). The Sanibel Lighthouse oil house was destroyed during Hurricane Ian. During the site visit, aerial photographs and photographs of the building were consulted to determine the approximate location of the building prior to destruction. ACI archaeologist Nelson Rodriguez tested within this area and the foundation was determined to be present beneath the sand. Rodrguez continued the partial excavation of the foundation, resulting in three sides of the foundation being uncovered (north, south, and west) (**Photos 31 and 32**). The extant foundation is comprised of a rectangular concrete slab that is 98" x 105" and lined with common brick that is approximately 8 ½" wide, resulting in a foundation that is approximately 106 ½" x 113 ½" in total. The former entrance is marked by a granite threshold that is approximately 42 ¼" long and 10" wide but reduces to 8" wide to create a decorative recess.

Photo 30. The oil house, looking northeast, prior to destruction by Hurricane Ian (FMSF n.d.). The oil house was located immediately adjacent to the north side of the Sanibel Lighthouse.

Photo 31. The partially excavated oil house foundation, looking northeast.

Photo 32. The partially excavated oil house foundation, looking north. Note the granite threshold in the foreground, concrete slab, and continuous brick wall around the perimeter of the slab. The right corner and wall are covered with piled sand being utilized for erosion control/shore reconstruction and the temporary metal fencing separating Lighthouse Beach Park from the construction site.

RECOMMENDATIONS

Although the Keepers' Quarters have been destroyed, the property appears to remain eligible for listing in the NRHP with the lighthouse alone as the eligible resource. The Sanibel Lighthouse site appears to be individually eligible for listing in the NRHP under Criteria A and C in the areas of Exploration/Settlement, Maritime History, and Engineering for its association with the early settlement of Sanibel Island, navigational role in regional maritime commerce and recreation, and as an example of the iron skeleton lighthouse type. Despite the loss of the surrounding buildings, the Sanibel Lighthouse also meets the requirements found in the Florida's Historic Lighthouses Multiple Property Listing under property type F.3 – Iron and Steel Skeletal Lighthouses - as an extant example of late nineteenth century U.S. Light-House Board engineering along the Gulf Coast of Florida. As noted, many resources eligible for nomination under the F.3 property type will be eligible as individual resources, rather than contributing to a historic district, as they possess potential significance under Criteria A and C. The extant resource is a testament to the choice of lighthouse design for the surrounding environment and its continued success withstanding the effects of hurricanes and erosion along the coastline. Although previously recommended as individually eligible and a contributing resource, it appears that the Sanibel Light House Archaeological Site (8LL0097C) no longer appears to be eligible for listing under Criterion D due to the extensive destruction to the site caused by natural disaster, and while remnants may remain, they are unlikely to be *in situ*. Thus, it no longer appears to contribute to the overall eligibility of the resource.

Additional archaeological surveys may find artifacts related to the period of significance for the lighthouse; however, it is unlikely that those artifacts would be in intact context as the site has been heavily altered and moved over time. In addition, much of the historic trash including food refuse or broken items may have been disposed of offshore to prevent attracting pests. Therefore, it is unlikely that privy or outhouse pits could be identified, or any other sizable trash deposits would be found. It is unlikely that trash or other cultural items would have been discarded in the cistern since this was the source of drinking water; therefore, additional archaeological survey efforts are not recommended. However, individuals working on clean up or construction efforts in the area should be aware of the potential for artifacts and if notable items are found, consultation with an archaeologist or architectural historian is recommended to evaluate the potential significance of the finding.

Following the site visit and the assessment of extant resources and salvaged debris, ACI recommends the following:

1. Amendment of the existing NRHP nomination
   The City of Sanibel has notified the FMSF that the Keeper's Quarters are no longer extant, and this is reflected in the FMSF database. However, the NR listing has not been updated. The existing NRHP nomination for the Sanibel Lighthouse and Keepers' Quarters was added to the register in 1974. Due to the age and the evolution of documentation standards over the years, the existing NRHP nomination is considered deficient by today's standards (e.g. relatively vague descriptions, absence of NRHP criteria, no discussion of contributing versus non-contributing resources, etc.). In addition, the existing nomination includes both the lighthouse and the no longer extant Keepers' Quarters. ACI recommends that the existing nomination be amended through both technical and substantive amendments. Per the *Best Practices Review* published by the National Park Service (NPS), technical amendments "correct mistakes or provide new information about a property's physical nature" while substantive amendments "are those that require an opinion, such as adding a new criterion or new area of significance; changing the period or level of significance; or changing the property's boundary" (NPS 2023).

2. Use of salvaged debris in the interpretation of the historic property.
   ACI believes that the debris assessed during the site visit remains valuable for future site interpretation efforts. With the exception of possibly reconstructing the brick cistern, the salvaged materials would not be considered structurally sound for use in actual rebuilding of the destroyed resources but could be displayed at the Sanibel Lighthouse property or the Sanibel Historical Museum and Village. Some ideas related to the re-use and interpretation of salvaged debris include:

   a) Small debris/artifacts could be put on display within the museum setting.
   b) The excavation and maintenance of the oil house foundation as a part of the historic property would provide visitors the opportunity to visualize where supporting buildings and structures were located prior to Hurricane Ian.
   c) The cistern could be reconstructed from salvaged brick or replica brick as a way of illustrating early life for lighthouse keepers on Sanibel Island prior to modern infrastructure.
   d) Interpretive panels with photographs and descriptions of the former resources would provide additional context and could be placed around the property and/or at the location of each former resource.
      - Fragments from the fireplace could be displayed with photographs and a discussion of the lives of the lighthouse keepers.
      - The support beams with photographs can be used to discuss the various construction techniques.
   e) Interpretive panels displaying before and after photographs of the Sanibel Lighthouse property and discussing the devastation and subsequent recovery from Hurricane Ian could also be installed. In addition to the physical changes to the property, the strength of the historic lighthouse design and engineering regarding withstanding hurricanes, erosion, and other coastal conditions could be discussed.

3. Historic American Buildings Survey (HABS)/ Historic American Engineering Record (HAER) documentation.
   This is often done prior to demolition, but this could be conducted now for additional documentation of the Lighthouse in case it was to be lost in a future event.

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