North Carolina Department of Natural and Cultural Resources

State Historic Preservation Office

Ramona M. Bartos, Administrator

Governor Roy Cooper
Secretary Susi H. Hamilton

Office of Archives and History
Deputy Secretary Kevin Cherry

July 31, 2020

Braden Ramage
North Carolina Army National Guard
1636 Gold Star Drive
Raleigh, NC 27607

braden.a.ramage.nfg@mail.mil

Re: Demolish & Replace NC Army National Guard Administrative Building 116, 116 Air Force Way, Kure Beach, New Hanover County, GS 19-2093

Dear Mr. Ramage:

Thank you for your submission of July 8, 2020, transmitting the requested historic structure survey report (HSSR), "Historic Structure Survey Report Building 116, (former) Fort Fisher Air Force Radar Station, New Hanover County, North Carolina". We have reviewed the HSSR and offer the following comments.

We concur that with the findings of the report, that Building 116 (NH2664), is not eligible for the National Register of Historic Places for the reasons cited in the report. We have no recommendations for revision and accept this version of the HSSR as final.

Additionally, there will be no historic properties affected by the proposed demolition of Building 116.

Thank you for your cooperation and consideration. If you have questions concerning the above comment, contact Renee Gledhill-Earley, Environmental Review Coordinator, at 919-814-6579 or environmental.review@ncdcr.gov. In all future communication concerning this project, please cite the above referenced tracking number.

Sincerely,

Renee Gledhill-Earley

for Ramona Bartos, Deputy
State Historic Preservation Officer

cc Megan Privett, WSP USA megan.privett@wsp.com

Historic Structures Survey Report
Building 116, (former) Fort Fisher
Air Force Radar Station

New Hanover County, North Carolina

Prepared for:

North Carolina Army National Guard
Claude T. Bowers Military Center
4105 Reedy Creek Road
Raleigh, North Carolina 27607-6410

Prepared by:

Megan Privett, Architectural Historian

WSP USA Inc.
1001 Wade Avenue, Suite 400
Raleigh, North Carolina 27605

June 23, 2020

MANAGEMENT SUMMARY

In accordance with Department of Defense Instruction 4715.3 and AR 200-4, the North Carolina Army National Guard (NCARNG) implemented an Integrated Cultural Resource Management Plan (ICRMP) in 2001 (updated in 2019) covering all of its armories, organizational maintenance shops, and army aviation support facilities in Morrisville and Salisbury, Camp Butner Training Site, Snow Camp Field Exercise Site, Combined Arms School Brigade Asheville, and National Guard facilities at Fort Bragg and Fort Fisher. Among the high-priority actions recommended in the ICRMP was the completion of an inventory and a National Register of Historic Places (NRHP) evaluation for NCARNG armories and other resources built before 1958. The first studies were completed in 2004, and the survey project expanded in 2008-2009 to include 31 Cold War-era buildings built in the late 1950s and 1960s. The third phase of the project included the survey of 23 armories and FMS No. 9 in 2009. All 26 armories were recommended as eligible for the NRHP as a result of these surveys. In August 2019 the NCARNG requested WSP to continue the study with a Historic Structures Survey, including NRHP eligibility evaluation, for four National Guard armories, located in Nashville, Greenville, Roseboro, and Fremont. As a result three of the armories were recommended as NRHP eligible. Continuing measures outlined in the ICRMP to fulfill Section 110 and Section 106 requirements of the National Historic Preservation Act, NCARNG contracted with WSP USA Inc. to survey and determine NRHP eligibility for Building 116 of the (former) Fort Fisher Air Force Radar Station, owned by the Air Force but leased by the NCARNG.

In February 2020 NCARNG contracted with WSP USA Inc. (WSP) to document another property over 50 years old utilized for National Guard training purposes, Building 116 of the (former) Fort Fisher Air Force Radar Station, built in 1967 as the BUIC III Facility and the main operations building for the station. NCARNG requested WSP to survey Building 116 and evaluate its eligibility for the National Register of Historic Places (NRHP) to fulfill Section 110 and Section 106 environmental compliance regulations in anticipation of the building's proposed future demolition.

This report presents the results of the survey and documentation of Building 116, also known as the former BUIC III Facility, the operations building, and the "CEM Complex," the primary operational and command facilities for the radar station. Building 116 is recommended as not eligible for the NRHP because it lacks integrity.

TABLE MS-1: SURVEYED ARMORIES AND NRHP ELIGIBILITY RECOMMENDATIONS

RESOURCE NAME	SITE NO.	NRHP ELIGIBILITY RECOMMENDATION	SITE ADDRESS/PIN No.
Building 116, (former) Fort Fisher Air Force Radar Station	NH2664	Not Eligible	118 Air Force Way, Kure Beach, NC/3028-85-1791

1.0 INTRODUCTION

In accordance with Department of Defense (DoD) Instruction 4715.3 and AR 200-4, the North Carolina Army National Guard (NCARNG) implemented an ICRMP in 2001, updated in 2019, covering all of its armories, organizational maintenance shops (OMSs), and army aviation support facilities (AASF) in Morrisville and Salisbury, Camp Butner Training Site, Snow Camp Field Exercise Site, Combined Arms School Brigade (CASB) Asheville, and National Guard facilities at Fort Bragg and Fort Fisher. Among the high-priority actions recommended in the ICRMP was the completion of an inventory and an NRHP evaluation for NCARNG armories and other resources built before 1958. Multiple phases of documentation and NRHP evaluations studies completed in 2004, 2010, and most recently in January 2020 have brought NCARNG within close range of meeting the initiative and fulfilling federal environmental compliance regulations.

In February 2020 NCARNG contracted with WSP USA Inc. (WSP) to document another property over 50 years old utilized for National Guard training purposes, Building 116 of the (former) Fort Fisher Air Force Radar Station, built in 1967 as the BUIC III Facility and the main operations building for the station (Figures 1-3). NCARNG requested WSP to survey Building 116 and evaluate its eligibility for the National Register of Historic Places (NRHP) to fulfill Section 110 and Section 106 environmental compliance regulations in anticipation of the building's proposed future demolition.

The former Air Force Radar Station, located at Fort Fisher near the town of Kure Beach, has not previously been recorded, although archaeological surveys were carried out at the complex in 1996 by Panamerican Consultants, Inc. and by Susan Jackson and Linda Stein in 1989 (Reed-Hoffman 1996:31). The last county-wide architectural survey conducted in New Hanover County occurred in 1985.

FIGURE 1: Location Map, Building 116, Fort Fisher Air Force Recreation Area, New Hanover County, North Carolina (ESRI USA Topo Maps 2019)

FIGURE 2: Project Vicinity Map, Building 116, Fort Fisher Air Force Recreation Area, New Hanover County, North Carolina (NC OneMap 2016, 2020)

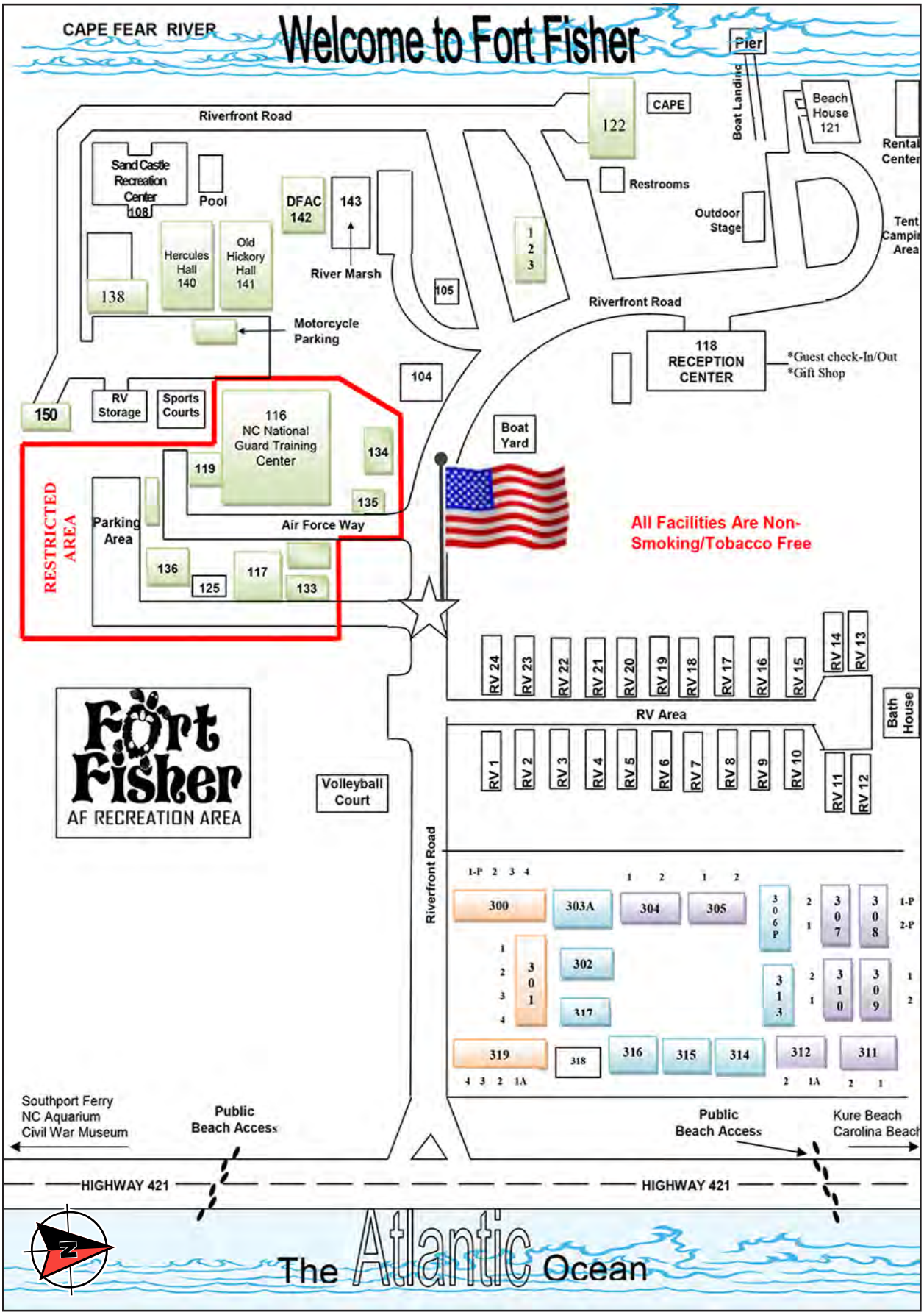

FIGURE 3: Current Site Map (2020) of Fort Fisher Air Force Recreation Area, New Hanover County, North Carolina (Fort Fisher Air Force Recreation Area, 2019)

2.0 METHODOLOGY

The scope of work proposed by the NCARNG, as partial fulfillment of Section 106 and Section 110 environmental compliance regulations, included the survey and NRHP-eligibility evaluation of Building 116 of the (former) Fort Fisher Air Force Radar Station in New Hanover County, North Carolina (see Figures 1-3). Because only a few buildings within the Fort Fisher Air Force Recreation Area are under the jurisdiction of the NCARNG through lease agreements, the entire Air Force-owned parcel could not be included in the survey and evaluation. NCARNG indicated that survey work for the remaining buildings in the former radar station complex would require a separate contract and subsequent survey work from the United States Air Force; therefore only Building 116 is included in the current survey and evaluation.

The project began with a kickoff meeting with NCARNG cultural resource and environmental staff at the Claude T. Bowers North Carolina National Guard Headquarters in Raleigh on February 26, 2019. NCARNG provided WSP with pertinent information and data helpful to the survey, and details of the project scope were discussed. The survey then proceeded through background research and development of historic contexts. Because of travel restrictions and social distancing measures induced by the Covid-19 pandemic, fieldwork was delayed but finally carried out on May 15, 2020.

In addition to the material provided by NCARNG, WSP consulted the North Carolina Historic Preservation Office's (NC HPO) survey files and online GIS mapping system (HPOweb), the GIS websites for New Hanover County, and the most recent county architectural surveys for basic geographical and contextual information for New Hanover County. WSP also reviewed sources in archival repositories, such as the North Carolina Collection at the University of North Carolina (UNC)-Chapel Hill's Wilson Library and the Fort Fisher Air Force Recreation Area Military History Museum. Key resources for Air Force contextual history during the Cold War included *Searching the Skies: The Legacy of the United States Cold War Defense Radar Program* (Winkler 1997) and the DoD Legacy Resource Management Program's *Historic Context for Evaluating Mid-Century Modern Military Buildings* (Hampton 2011). Other environmental compliance reports evaluating similar properties in North Carolina also proved to be key in determining NRHP eligibility (Brown 2016; Deiber et al. 2004; Kuhn and Yengling 2010). NC HPO (2018) provided further guidance.

Online sources, such as the UNC Maps Collection, newspapers.com, and online deed records for New Hanover County, were also consulted. Property information was acquired through Real Property records from the Civil Engineering offices of Seymour-Johnson Air Force Base as well as records, newspaper articles, and period photographs from the North Carolina Military History Museum at Fort Fisher Air Force Recreation Area. Oral history interviews with local residents who formerly served at the Fort Fisher Air Force Radar Station (Federal Point Historic Preservation Society 2007, 2011) helped provide further context.

WSP Architectural Historian Megan Privett conducted the fieldwork on May 15, 2020. Fieldwork consisted of surveying and photographing the exterior and interior of the resource, its associated outbuildings, and its surrounding setting, speaking with NCARNG officials and Fort Fisher Air Force Recreation Area staff, and reviewing on-site historical records and information. Ms. Privett also conducted brief windshield surveys of nearby comparable resources in New Hanover County and two other similar radar stations in North Carolina on April 21 and April 28, 2020, photographing the resources for architectural context. Ms. Privett wrote the report.

This report was prepared in accordance with the National Historic Preservation Act of 1966, as amended; the Secretary of the Interior's *Standards and Guidelines for Archeology and Historic Preservation* of 1983 (48 *Federal Register* 44716), as amended; and *Architectural Survey Manual: Practical Advice for Recording Historic Resources* (North Carolina Department of Cultural Resources [NC DCR] 2008). The architectural historian who conducted the survey and evaluation meets or exceeds the Professional Qualifications Standards specified in 36 CFR 61.

3.0 HISTORIC AND ARCHITECTURAL CONTEXT

3.1 Fort Fisher Radar Station History

Located in Federal Point Township in New Hanover County and owned by the United States Air Force, Building 116 stands within what is now known as the Fort Fisher Air Force Recreation Area, a complex that formerly operated as the Fort Fisher Air Force Radar Station. The physical setting surrounding the complex consists of coastal bottomlands and uplands, beaches, marsh lands, and shallow sounds. The complex is bound to the east and west by water, with the Atlantic Ocean and beachfront houses to the east and the Cape Fear Sound to the west. Installed by the Air Force in 1955 as one of 44 stations within the Air Defense Command, Fort Fisher's station was named "M-115" and was home to the 701st Aircraft Control and Warning Squadron. The Air Force placed three other radar stations in North Carolina, at Cherry Point Marine Corps Air Station (M-116), Roanoke Rapids (M-117), and near Winston-Salem (M-130). Fort Fisher's station was the earliest in the state and operated the longest period of time, from 1955 to 1988 (Winkler 1997:144).

The land has long been the site of military activity. A Confederate stronghold during the Civil War, Fort Fisher played an integral role in the South's war effort as the largest earthwork fortification in the Confederacy. The fort guarded the New Inlet entrance to the Cape Fear River (Figure 4) and ensured supply of the Confederate army via the Port of Wilmington. Fort Fisher fell to Union forces in January 1865, and the site suffered further damage from erosion and deterioration in the decades after (Rettig 1975:8-1–8-4). The Air Force would construct the radar station complex entirely within the former Confederate training facility known as Camp Wyatt.

Prior to the Air Force's ownership of the property, the parcel had belonged to the United States Army as part of a much larger tract of land. The Army obtained leases from many original local landowners during the 1930s and 1940s (*Raleigh News and Observe*r 1946a, 1946b; Reed-Hoffman 1996:22-27).

During the late 1930s the general region in south New Hanover County was the subject of media attention when its vulnerability to enemy invaders was exposed, when Col. William Gillette mapped the Carolina coastline and called it "…the unguarded front line of national defense" (Reed-Hoffman 1996:25). Perhaps Gillette's work brought Fort Fisher to the mind of top military officials, as they selected the area for use during World War II beginning in 1941 as a satellite firing range for nearby Camp Davis located in the small community of Holly Ridge. Camp Davis trained soldiers in anti-aircraft, seacoast defense, and barrage balloon training while providing all the basic necessities of life in a self-contained post that provided living quarters, recreation, dining, and services such as medical care. Likewise, the Army erected frame buildings to serve the firing range at Fort Fisher, including support facilities such as showers and latrines, tent frames, mess halls, warehouses, radio and meteorological stations, a post exchange, a theater, an infirmary, and recreational and administrative buildings. Additional facilities constructed to support the range were a 10,000-gallon water storage tank, a motor pool, a parade ground, and three steel observation towers along the beach. Further construction commenced in the summer of 1942 with the building of an anti-mechanized target range and a large airstrip (Plate 1). By 1944 the Fort Fisher auxiliary post of Camp Davis had grown to include a cafeteria, a 350-bed hospital, and a dental clinic (NC Historic Sites n.d.:1-7). Approximately 2,500 troops trained on top of the ruins of Fort Fisher's earthworks and battlefields during World War II.

After the Army closed Camp Davis and Fort Fisher in 1946, much of the land and buildings were sold off to local bidders, and many parcels returned to the local landowners from whom they were originally leased. (*Raleigh News and Observer* 1946b). The best known of these property owners, and the ones with the largest holdings, were brothers Thomas and Louis Orrell from Wilmington. The Orrells and other local entrepreneurs began eyeing the nearby beach community of Kure Beach for development opportunities

FIGURE 4: Map of Fort Fisher, 1903, New Hanover County, North Carolina (Lewis B. Hatch, 1903)

PLATE 1: Camp Davis During World War II, Holly Ridge, New Hanover County, North Carolina (Stallman 1990)

during the mid-twentieth century (*Raleigh News and Observer* 1946b). Kure Beach is the closest town to the Fort Fisher Air Force Radar Station, a small waterfront and recreational community first developed in the 1920s-1930s located north of the station along Route 421. At the time of the Fort Fisher Radar Station's construction in 1955, Kure Beach and the surrounding community were quaint but fast-growing vacation hubs for those seeking waterfront recreation.

Most of Fort Fisher's Civil War-era earthworks and any surviving structures were destroyed with the construction of the airstrip and ammunition bunkers that were part of the Army's training facility at Fort Fisher during World War II (Reed-Hoffman 1996:25). In 1958 the State of North Carolina would purchase the land where the remains of Fort Fisher were located, and during the 1960s word started to open the former fort to the public as a state historic site.

3.2 Cold War Air Defense in North Carolina

Initially functioning as a ground control intercept (GCI) and warning system, Fort Fisher's radar station provided tracking and surveillance during the Cold War as part of the Aircraft Control and Warning System. This system was developed by the United States military during the Cold War as one of the earliest coastal surveillance systems consisting of warning sites, interior ground control and intercept sites, and control centers. Initially, radar towers were rapidly set up as part of the "LASHUP" system using old World War II vintage AN/MPS-7 and AN/MPS-8 radars, which were gradually updated with newer and better radars as technological advances were made and funding challenges met, such as the highly accurate monopulse radar system with large, high powered radars and mechanically rotating antennas (Argonne National Laboratory 2013:111). Most sites like Fort Fisher utilized AN/FPS20 search radars during the Cold War, and many were designated as "mobile" sites despite the fact that with support facilities that accompanied the radars were anything but mobile. Eventually, many sites received new radar towers, or "radomes," that protected radar equipment from harsh weather in addition to providing technological upgrades to radar capabilities (Plate 2).

As the Cold War ramped up, increasing concerns over potential nuclear warfare and incoming intercontinental ballistic missiles (ICBMs), the missions of Air Force radar stations like Fort Fisher transitioned from coastal defense to global watchfulness and surveillance, with the capability to provide advanced warning of a Soviet attack (Argonne National Laboratory 2013:ix). Each station functioned as its own small military base, with approximately 250 people required for operations, maintenance, and support staff.

The announcement that the Soviet Union had detonated an atomic bomb in 1949 had provided the catalyst President Harry Truman needed to push forward his policy of mobilizing the nation's air defense forces and thus secure much needed funding during the early 1950s. As the Soviet Union continued to develop more sophisticated weaponry and technology, Americans grew increasingly concerned with how unprepared and vulnerable the United States could be to a nuclear attack. Particularly after the Soviets launched Sputnik in 1957, the alarm over the ability of the Soviet Union to spy on American military activity and unleash attacks of ICBMs against less than ideal American defenses reached a fever pitch. Focus soon shifted from bomber defense to ICBM prevention by early warning at most Air Force radar stations throughout the nation. The Cuban missile crisis of 1962, during which the Soviets attempted to deliver and station nuclear weaponry in Cuba, only intensified the American public's fear of the threat of nuclear war (Argonne National Laboratory 2013:5, 27). In August 1957 the North American Air Defense Command (NORAD) was informally established to provide air defense for the entire North American continent.

During the summer of 1952, the first computerized network for air defense was created, known as the Semi-Automatic Ground Environment (SAGE) network. The SAGE system coordinated all air defense

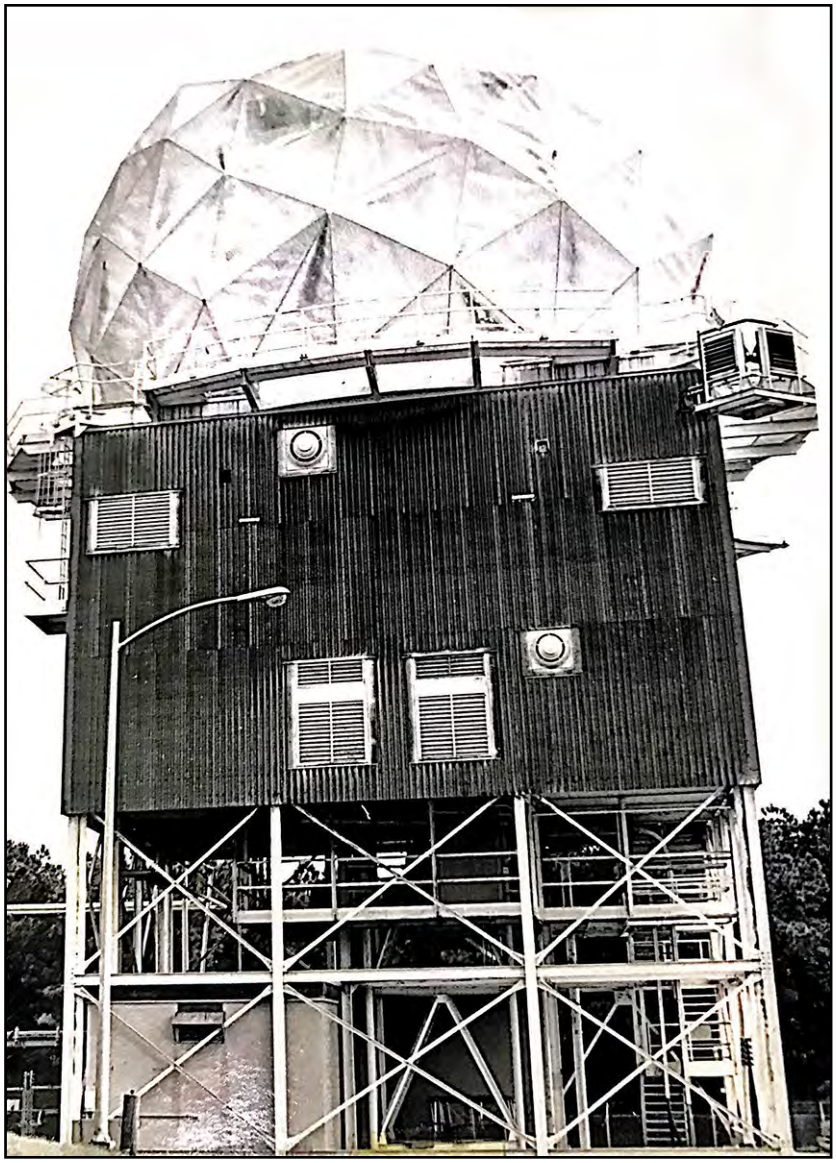

PLATE 2: Newly Constructed Radome Tower, Fort Fisher Air Force Radar Station, 1967 (North Carolina Military History Museum)

components for the military and became the world's first major command and control system to utilize computers extensively, accelerating the transmission and display of tracking data. The government spent $8 billion to develop and deploy the SAGE network from roughly 1952 to 1962, joining together long-range radar, communications, microwave technology, and digital computing using the newly developed Whirlwind II computer (Winkler 1997:32).

Fort Fisher's radar station in 1956, according to historical aerials and detailed maps of the complex, contained two "barracks" buildings and eight to 10 additional support structures, such as a mess hall, an NCO club, a recreation center, a bowling alley, a commissary, and a medical aid station. Construction was completed on Building 117, the power plant in support of the radar equipment, in 1957. Building 116 had not yet been constructed but an older, World War II-era operations building functioned as the primary radar operations facility until Building 116's completion in 1967 (Plate 3). The radome towers originally installed shortly after the station's construction after 1955, using World War II-era towers and equipment, were replaced during the 1960s with AN/FPS-7C and AN/FPS-26 radars and upgraded in 1967. By 1969 the complex had added some replacement support buildings, 27 single-family houses for married Air Force personnel, and recreational features such as baseball fields, a bowling alley, a swimming pool, and waterfront recreation facilities (Figure 5) (701st Radar Squadron Scrapbook var.; Nationwide Environmental Title Research, LLC [NETR] var.; *The Sunday Star News* 1962:1; *Wilmington Star News* 1955:1, 1969:5-C).

Fort Fisher was redesignated NORAD ID2-115 in July 1963, supported by Myrtle Beach Air Force Base. An AN/FSS-7 radar operated by the 4783 surveillance Squadron of the 14th Aerospace Force monitored for ballistic missile launches by Soviet submarines (Argonne National Laboratory 2014:24; NC Historic Sites n.d.).

In 1962 the station at Fort Fisher joined the SAGE system and reported tracking and surveillance activities to nearby Fort Lee in Virginia, which functioned as the control center for Fort Fisher's station (Argonne National Laboratory 2013:2-5; Winkler 1997:1-10). The system was designed for radar stations to give a one-hour warning to defense forces if an enemy weapon or aircraft was detected on radar. The system could then rapidly deploy intercepting aircraft and call on other sites to engage hostile aircraft with missiles. SAGE centers commanded a wide array of weaponry, including 41 interceptor squadrons with 800 aircraft, seven BOMARC missile squadrons, and Army Nike missile battalions (Winkler 1997:37). Around 200 airmen manned Fort Fisher's SAGE system complex in 1962, with a full crew on duty at all times and a second, backup crew on "standby." Surprise drills and alerts were often implemented to ensure that personnel could respond quickly to an emergency (*The Sunday Star News* 1962:1).

During the 1960s many SAGE centers were augmented by the Backup Interceptor Control (BUIC) system. Fort Fisher became the nation's first BUIC site in operation in early 1969 after the completion of the Building 116, a facility designed specifically for the BUIC system in 1967 (Plate 4) (*The Command Post* 1969; Pence 1968:1). The 701st Radar Squadron operated the BUIC facility, a backup to the SAGE control center at Fort Lee, Virginia, as a manual NORAD control center, where all systems were converted from manual operation to computerized operation (Plate 5). Maj. Samuel Schenk remarked of the new equipment installed at BUIC facility in 1968, "The big change is that we will have better capability for providing air defense and we will have much more modern and sophisticated equipment."

As a result of Fort Fisher's added roles, its personnel requirement increased to nearly double what it had been to accommodate additional maintenance work and operators. By the fall of 1968, 35 officers and 250 enlisted men served at the post (Pence 1968:1). The new BUIC facility garnered local media attention and curiosity from the public, described in news stories as "…a multi-million dollar command and control unit to afford protection of a sector of the United States from southern New Jersey to Savannah, Ga." and "…a vice-president, air defense-wise to the primary SAGE operation" (Plate 6). Fifteen other BUIC sites were

PLATE 3: Original Operations Building for Fort Fisher Radar Station with New BUIC Facility Operations Building Behind Nearing Completion, 1967 (North Carolina Military History Museum)

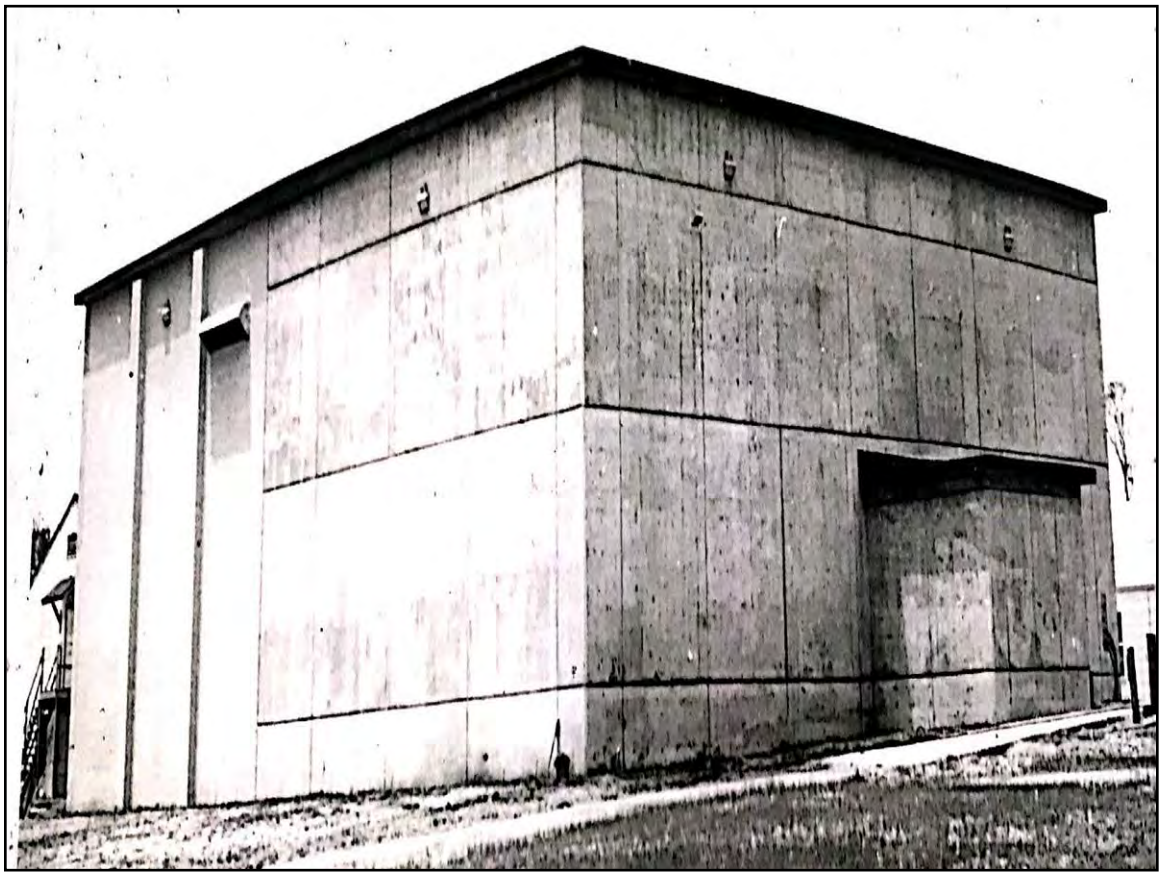

PLATE 4: BUIC Facility (Building 116, NH2664), 1969 (North Carolina Military History Museum)

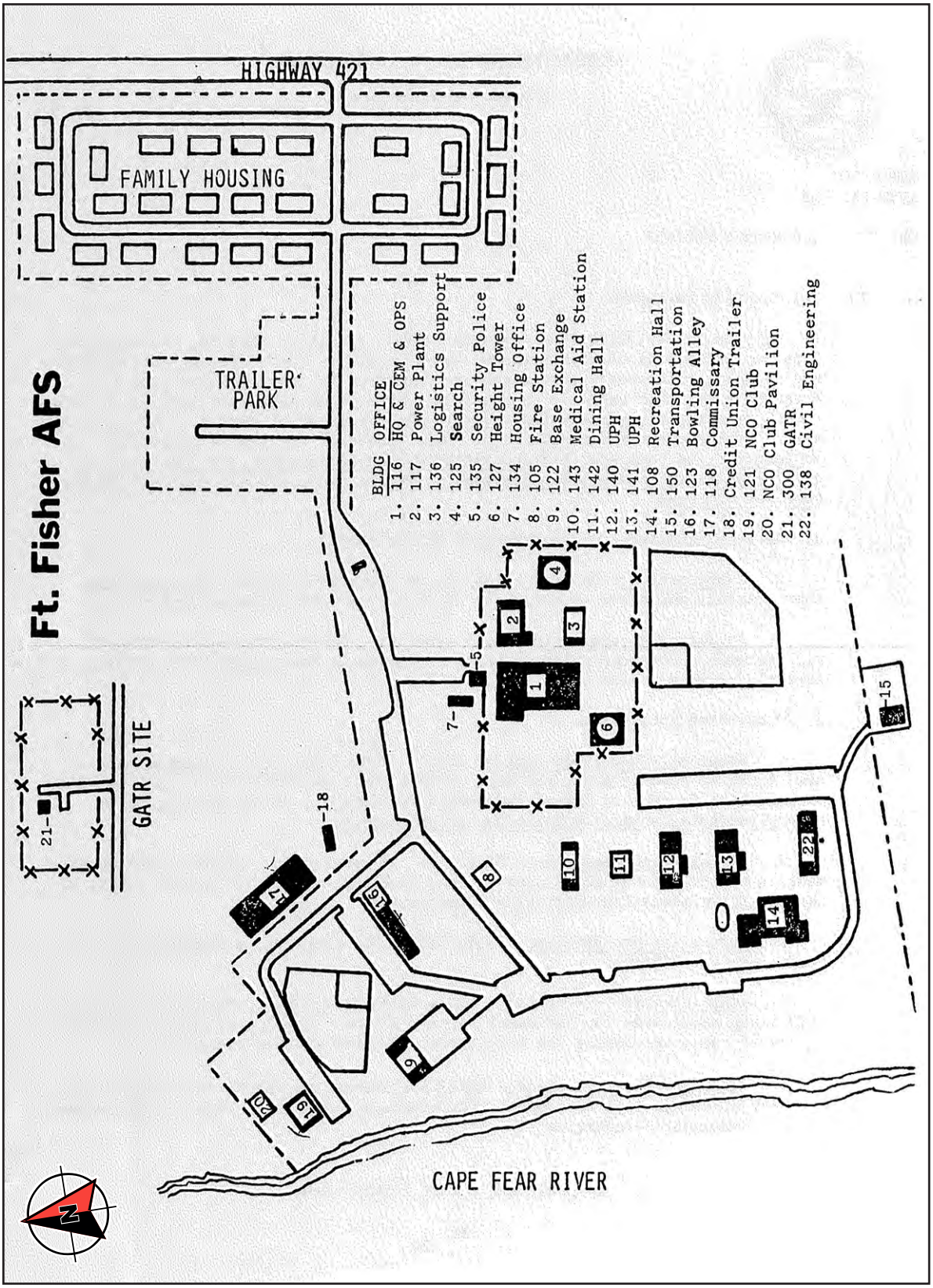

FIGURE 5: Site Map of Fort Fisher Radar Station, New Hanover County, North Carolina, ca. 1980 (Fort Fisher Air Force Recreation Area Military History Museum)

PLATE 5: Interior of Primary Operations/Control Room of BUIC Facility (Building 116), ca. 1969 (North Carolina Military History Museum)

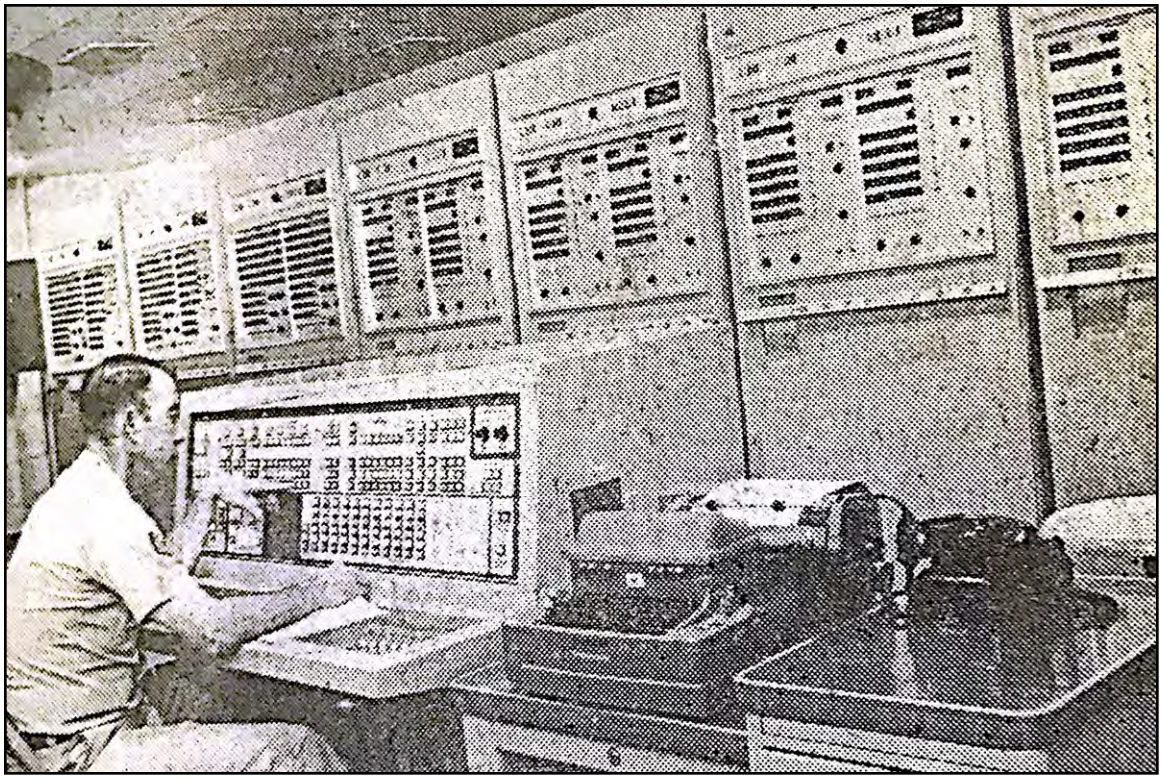

PLATE 6: Interior of Primary Operations/Control Room of BUIC Facility, Showing Built-in Computer Consoles (Building 116), ca. 1969 (North Carolina Military History Museum)

planned throughout the United States, including locations in Florida, Montana, Oregon, Washington, Minnesota, California, Nevada, and Maine (*Wilmington Star News* 1969:5C).

Despite the steep investment the Air Force had made in the sophisticated technology installed at the facility, by 1974 Fort Fisher had switched back to functioning as a non-BUIC site but still operating within the network of the SAGE system, providing early warning and detection against ICMBs. Fort Fisher's station duties in the 1970s also included tracking spacecraft as part of the 14th Missile Warning Squadron as far away as 850 nautical miles (Judd 1979:1A). It was also during this period that air defense declined as technical advances threatened their relevancy and spending cuts affected the systems' capabilities. In addition, the heightened concern and priority of fighting the Vietnam War took precedence. Secretary of Defense Robert McNamara recommended closing six of the SAGE command and control centers along with 17 radar stations by 1964. By 1968 only the radar stations located on the perimeter of the country remained under Air Force jurisdiction (Winkler 1997:44-46).

In 1970 the 701st Radar Squadron at Fort Fisher was inactivated and replaced by the 701st Air Defense Group, and the Army Air Defense was eventually absorbed into the Strategic Air Command (SAC) and Tactical Air Command. Only six SAGE centers remained operational in the United States, one of them at Fort Lee, Virginia (Winkler 1997:47).

As the Cold War threat diminished in the late 1980s, the improved technology had continued to boost United States air defense capabilities to the point that the radar stations did not remain as critical a priority for the military. Some strategists maintained that the Anti-Ballistic Missile Treaty of 1972 "...signified the ultimate triumph of the offense over defense advocates as national leaders acknowledged that missile defenses were futile" (Winkler 1997:47). In their heyday, however, the BUIC defense systems like those installed at Fort Fisher were touted as "a milestone in the history of the Air Defense Command" by Gen. J.L. Dickman, commander of the Eastern NORAD Region of the First Air Force (*Wilmington Star News* 1969:5C). In the 1980s and 1990s, many such defense sites were abandoned or converted to other uses. During the 1980s the 701st Air Defense Group at Fort Fisher provided the 23 NORAD Region/Air Division Operational Control Center (ROCC) with height and search radar data in addition to providing data support to Virginia-based Fleet Area Control and Surveillance Facility and the air traffic control centers of the Federal Aviation Administration (FAA). Radars operated during this period at Fort Fisher included the AN/FPS-91A, a search radar; AN/FPS-116, a height finder radar; and the AN/FYQ-47 Common Digitizer (Faison ca. 1980:1). Fort Fisher Radar Station was deactivated and closed in June 1988, but the FAA still operated radar on the site as part of the Joint Surveillance System (JSS) network, named Site J-02. Far less manpower was necessary for these JSS stations, however, and hundreds of structures across the country, such as administrative and operations buildings, housing, and recreational facilities built for the radar stations, were converted to other uses or sold to private owners.

In 1995 the former radar station at Fort Fisher officially closed and portions of the property were returned to the State of North Carolina for use as a state recreation area. A small part of the property containing most of the former radar station facilities was retained by the Air Force as its own recreational complex with beach and waterfront access, water sport activities, and lodging, conveniently located close to the Fort Fisher State Historic Site and the North Carolina Aquarium. During the 1990s, after the Air Force had closed the radar station, the NCARNG began leasing Building 116 and a few additional buildings for training purposes from the Air Force, which retains ownership of the complex. Land immediately north and south of the complex is also utilized for training purposes by the United States Army and the North Carolina National Guard (Myles, personal communication 2020).

3.3 Architectural Context

During the mid-twentieth century United States military architecture predominantly embodied modernism in its designs, and buildings of lesser significance especially took the form of durable, economic construction using advanced building technology and high-tech materials to minimize construction time and costs. Modern buildings held little to no architectural detail except for the materials of the structures themselves, which often hinted at the scientific advancement of the modern era. This made massive, modern structures easier to replicate and construct by builders of any skill level, and thus new construction technologies were welcomed.

During the years of the Cold War, the abstract forms inspired by the Bauhaus movement coming out of European Modernism were more fully accepted and embraced. Much of early modern architecture in the United States was influenced by German-born architect Ludwig Mies van der Rohe, whose work emphasized symmetry and regular cubic forms, large expanses of grid-like glass metal walls, and exposed structural elements. Site planning was of particular importance to the Miesian movement, with military base planners taking cues from not only Mies but also from other notable modern architects like Walter Gropius, Eero Saarinen, Louis Kahn, and others (Hampton 2011:36-40). Military campuses planned in this manner featured buildings that "…tended to be long and narrow in shape to take advantage of natural light, and were often arranged together in fairly tight, asymmetrical compositions, with lawn space between them to provide green space and ensure that natural light was available for each building" (Hampton 2011:41).

Granted, the United States military constructed far more subdued, mediocre buildings with modernist elements than high-style Modernist works, as exemplified in Fort Fisher's Building 116. The simpler buildings employed more practical floor plans, featured walls less of glass and more of brick veneer and concrete, and paid less attention to geometry, careful proportioning, and visual impact (Hampton 2011:56). Architecturally, they are conservative, unexciting, and much more common throughout the country, which lends them a lower degree of artistic significance.

In New Hanover County, however, high-style architecture is clustered in and around Wilmington, which contains a rich collection of handsome nineteenth-century urban architecture but not nearly as impressive a collection of modern buildings, which reflects the period of its economic prominence. Consisting of lowlands in the farthest southeast portion of North Carolina, the county historically supported an economy of lumbering, shipping, shipbuilding, and naval stores, all dependent on the Port of Wilmington. The construction of the Wilmington and Weldon railroad brought new economic opportunities and exposure to fashionable architecture and nationally popular styles. After the Civil War New Hanover County grew to be a considerable trade center with economic drivers like lumber, fertilizer, and truck farming providing a more diverse workforce in addition to trade and shipping (New Hanover Co. Planning Dept. 1986:2-6). By the early twentieth century, however, Piedmont cities and counties quickly surpassed Wilmington's population.

During the twentieth century much of the county's building stock outside Wilmington was largely vernacular in form, and the county's coastal communities, such as Carolina Beach and Kure Beach, were beginning to experience robust growth partly because of the automobile (New Hanover County Planning Department 1986:10-16). A slight boom in population and town growth during World War II boosted the county temporarily (Figure 6), and later the construction of I-40 allowed travelers easy access to the county's beaches and vacation destinations. Waterfront towns began to exhibit some architectural representation of styles like Art Moderne, followed later by a handful of modernist commercial and hotel buildings (Bishir and Southern 1996:236-260). A survey of modern architecture has not been completed in New Hanover County, and thus it is difficult to accurately portray how rare its surviving modern buildings actually are. But, on the whole, modern architecture in the county is less common that in counties farther inland with large, urban, and diverse populations, making surviving modern buildings somewhat of an anomaly.

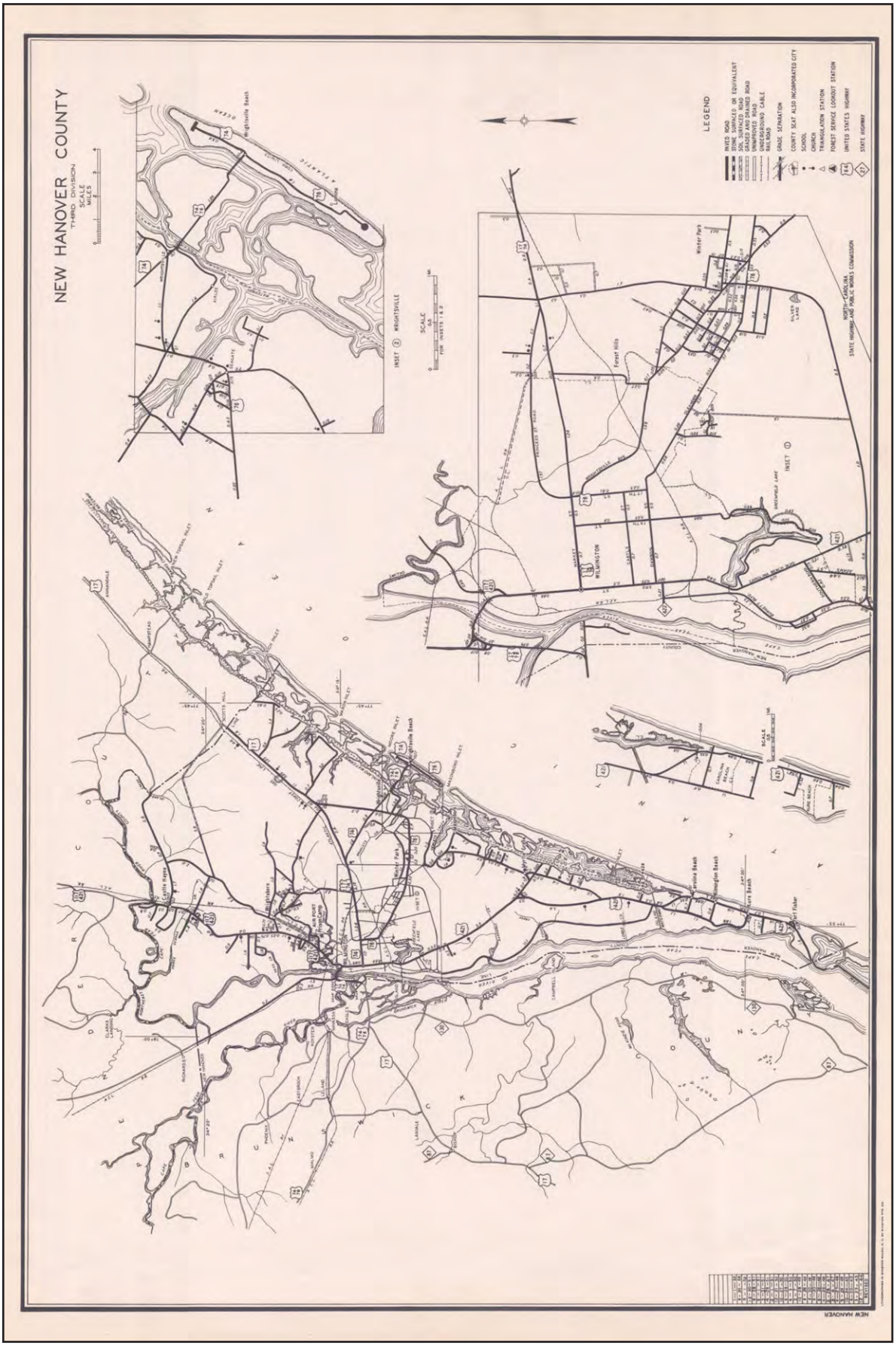

FIGURE 6: Map of New Hanover County, North Carolina State Highway and Public Works Commission, 1953 (Winston Printing Company, 1953)

Fort Fisher Radar Station's Building 116 was built in 1967 to house the earliest BUIC III system that supported the SAGE center at Fort Lee, Virginia. The facility was one of multiple Air Force radar stations throughout the United States built as administrative and operations headquarters buildings and appears to have been adapted from Air Force-designed standardized plans. The architect of Fort Fisher's BUIC III facility (Building 116) is not known, but considering that GE or AVCO most likely designed the radomes, it is possible that they played a role in designing the BUIC facilities, which were built around the same time. The Burroughs Corporation of Detroit, Michigan, supplied equipment for the AN/GSA-51 Radar Course Directing Group to support air surveillance and weapon control in general. At Fort Fisher specifically, the "305 Switching System" that helped operated the BUIC III system was collectively installed by Southern Bell, Western Electric, Bell Labs, and AT&T (*Air Force Magazine* 1958:41; *The Command Post* 1969; Russey 1968:1-5).

At Fort Fisher the building and its support structures were referred to with multiple names, including "Headquarters," "Operations Building," "BUIC III Building," and the "Communication Electronic Maintenance (CEM) Complex," which held nearly half of all personnel assigned to Fort Fisher and were manned 24 hours a day. Shortly after its completion, a blue panel affixed to the exterior of Building 116 identified it as "Fort Fisher NORAD Control Center." The facility housed functions such as computer maintenance, radar maintenance, quality assurance, and material control, among other operational and digitization work for radar communications, coordinating with the regional control center located at Fort Lee, Virginia.

According to retired Airman Barry Robertson, who was stationed at Fort Fisher during the 1980s, Building 116 was constructed with 4-foot-thick concrete walls and was also designated as the station's bomb shelter. Surrounding the CEM complex (Building 116) were immediate support and logistical structures such as the radar towers themselves, one search tower and one height finder tower, logistics support buildings, security checkpoints, and a power plant. Approximately 0.25 mile north of the headquarters building at Fort Fisher stands the former Ground to Air Transmit/Receive (GATR) site, at which a third tower operated the An/GRT-22 and GRR-24 UHF radios and two types of transceivers (Figure 7). Housing, recreational, and support buildings were located north and west of Building 116, except for family housing and a camper park, which stood to the east just off the entrance to the complex from Route 421.

Most of the buildings were constructed in a utilitarian fashion of durable, economic materials like concrete block or even metal, with little architectural detail or ornament. Flat roofs and canopies often topped and extended from buildings, although some had basic gabled roofs with overhanging, boxed eaves. Window bays were minimal and either composed of fixed bays or divided-light metal sash in various configurations. Doors were typically plain, steel, single-leaf versions. Interiors also lacked ornamentation and emphasized utility and function more than evoking any type of style. The NCO Club and Mess Hall were among the most architecturally unusual from the other support structures and even these, completed in the 1970s, were rather plain. The NCO Club, funded by the Non-Appropriated Welfare Fund, was an early example of the common military "modular" structure in the Air Force, as it was built from prefabricated modules from Baltimore and put together by airmen volunteers (*Rampart* 1973:6).

More than the support structures, by far the most architecturally remarkable and interesting component of most radar stations, as was the case at Fort Fisher, were the radar towers, or "radomes." Fort Fisher's three radomes consisted of an open, steel-framed support structure holding a box-like maintenance workstation for each tower and a surrounding catwalk, topped with a geodesic dome or "bubble" made of a thick, white, tarp-like material that housed the revolving radio antennae (Plate 7). These easily recognizable structures could be seen from afar and were not only the most important logistically to each station's work, but visually the most commanding and impressive buildings at each station. Two of the towers stood directly outside Fort Fisher's Buildings 116 and 117, and the third stood at the GATR site north of the main post (Plate 8). Not all radomes, however, were constructed using the same plans or materials. Some had large, solid

FIGURE 7: Aerial Map Showing Former GATR Site, Now Used by the FAA, 2020 (NC OneMap 2016, 2020)

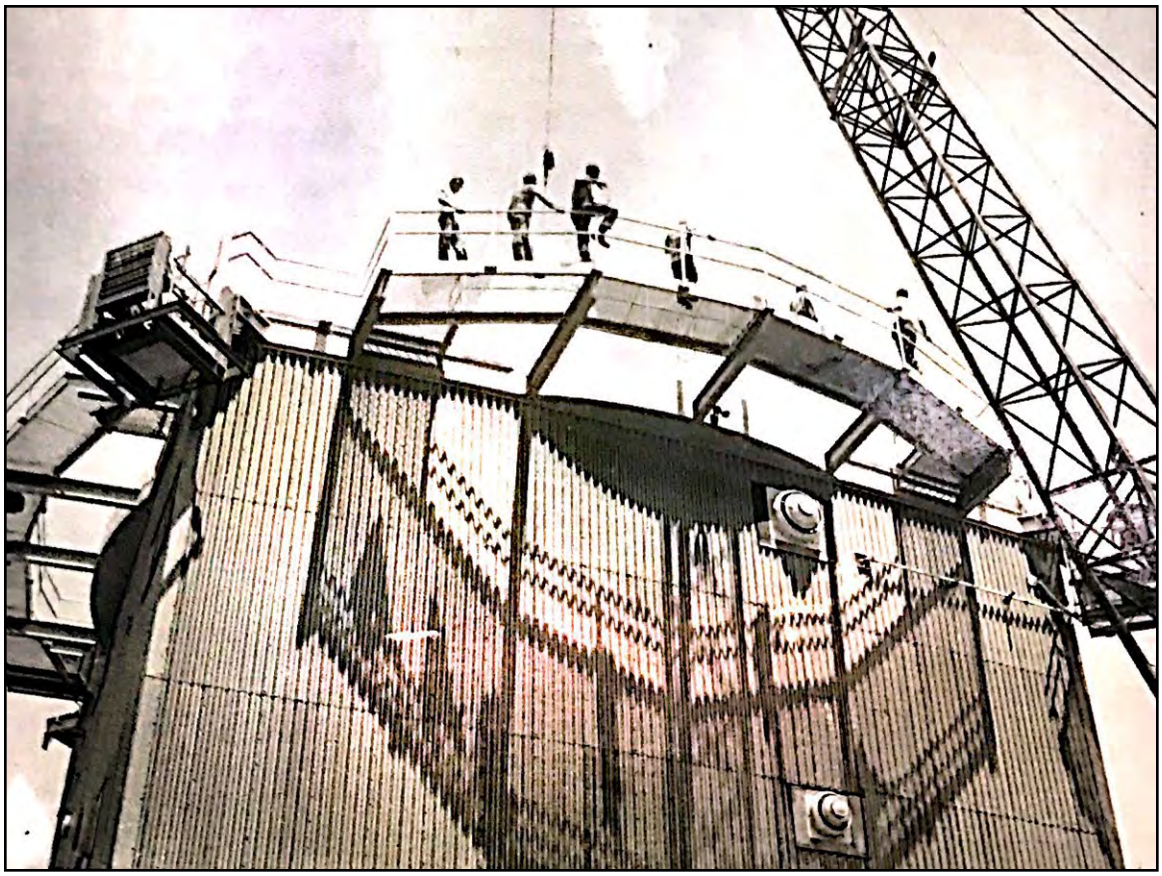

PLATE 7: Construction of New Radome Tower, Fort Fisher Radar Station, 1967 (North Carolina Military History Museum)

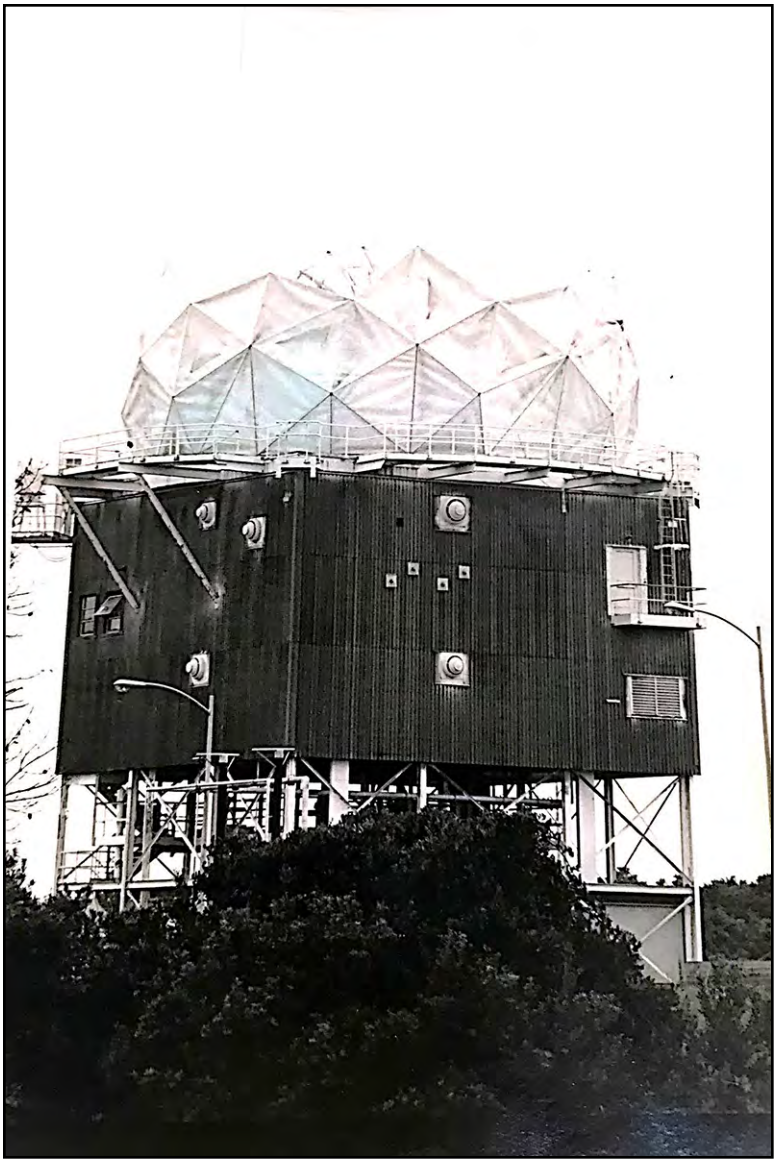

PLATE 8: Radome at Fort Fisher Radar Station, ca. 1969 (North Carolina Military History Museum)

concrete or steel towers with no open framing structure underneath and no window openings, as seen in Winston-Salem (Argonne National Laboratory 2013:18-21; Fiason ca. 1980; Robertson 2020).

The majority of airmen stationed at Fort Fisher lived on post either in the dormitories provided for enlisted men and officers or in the family housing units. Fort Fisher's 27 houses built for Air Force service members and their families were likely built during 1958-1959 according to a 1958 supplemental agreement to combine FY57 and FY58 housing projects at Fort Fisher (Plate 9). Constructed by contractor McGaughan & Johnson of Washington, D.C., the housing was contracted not to exceed a total of $71,524.00 (United States Air Force 1958). These were simple, unadorned, minimal traditional-style houses in which form followed their function, built with durable, cost-effective materials. A far cry from earlier 1930s and 1940s military housing found at larger Air Force and Army bases, these houses were more austere but still practical, with integrated carports for the automobiles. While not engaged with work-related duties, Fort Fisher's airmen enjoyed spending time on the water and on nearby Kure Beach. Recreation activities included fishing, softball, bowling, swimming, handball, ping pong, tennis, and basketball (Faison ca. 1980:19; Robertson 2020).

According to aerial photography and Air Force real property records, demolition began in the 1980s for facilities built at the time of Fort Fisher Radar Station's initial construction during the 1950s, as their functions were no longer needed and/or they had fallen into disrepair. Support structures were the earliest to be razed, followed by radome towers during the 1990s, and later the family housing cottages by 2014. New infill was constructed in 2016 in the form of rental cottages used by the military for recreational purposes, with beach access and on-site amenities. Many buildings remaining within the complex appear to date from the radar station's period of significance despite having been significantly altered and utilized for new purposes. Buildings 140, 141, 143, and 145 also appear to have been present during the station's heyday but have been heavily modified beyond recognition and possess a low degree of the seven aspects of integrity for NRHP listing (see Figure 5).

3.3.1 Comparable Resources

Air force radar stations are a rare architectural resource, yet remnants of four survive in North Carolina. The Air Force located four stations out of 44 total within the United States in North Carolina: the stations at Winston-Salem, Roanoke Rapids, Cherry Point Marine Corps Air Station, and Fort Fisher. Despite the rarity in type, distinguishing architectural details or remarkable modern design are almost non-existent, which was typical in planning for many United States military buildings that were intended to be low-profile and utilitarian. Quonset huts and plain metal or concrete-block buildings are still commonly found at former stations, used for a variety of purposes. High-style, architect-designed modernist buildings were reserved for highly significant military complexes such as major training and command centers, military academies, chapels, hospitals, and other buildings of elevated stature. Technology, utility, and function mattered more to the Air Force in their designs for Air Defense stations, and maintaining modest and low-profile architecture furthered their mission in covertly but securely surveilling the skies during the Cold War.

Other Air Force radar stations in North Carolina contain buildings similar to those at Fort Fisher, generally using standardized plans but slightly different layouts. Building 116's plan is not found at Roanoke Rapids or Winston-Salem; however, the power plant (Building 117) is identical to buildings located at other North Carolina radar stations. Likewise, housing constructed on-site at each complex is also standardized with identical plans, scale, and a similar layout arranged in a circular pattern. Each complex also contained scores of support and recreational buildings in addition to administrative, maintenance, and operational buildings, although these were not arranged in a standardized site plan and each post had a different number of structures. Quonset huts were utilized in each station's early operation during the 1950s, and some stations

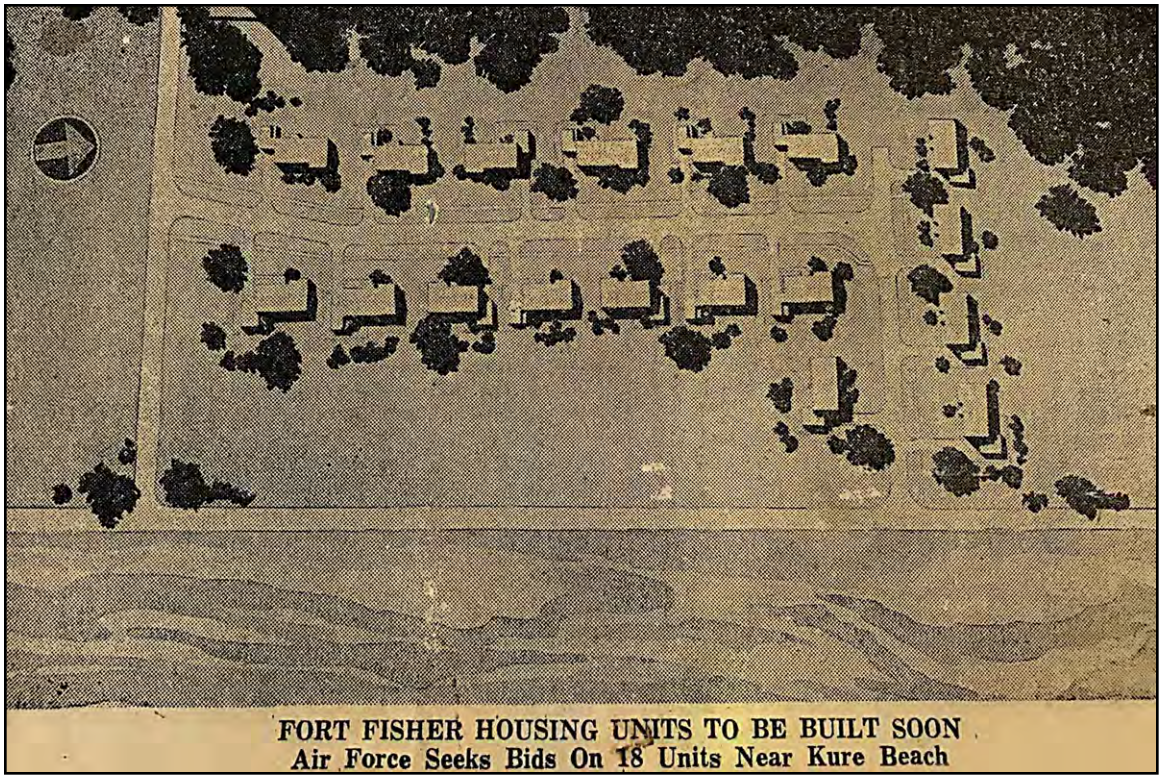

PLATE 9: Newspaper Clipping of Plan for New Housing Units, ca. 1957 (North Carolina Military History Museum)

retained these structures for use throughout their existence. Most prominently, each station contained at least two radomes placed within the complexes as the centerpiece for operational activity.

3.3.1.1 Winston-Salem Air Force Radar Station

The Winston-Salem Air Force Radar Station (FY3407), determined NRHP-eligible in 2006 under Criterion A, operated from 1955 to 1970. It survives intact to a fair degree, with concrete-block barracks, Quonset huts, operations buildings, and various multi-purpose structures that functioned as both administrative and recreational facilities (Plate 10). One radar tower's massive concrete base also survives, in addition to the GATR emplacement. Winston-Salem's station originally possessed four "skysweeper" radars that, like those at Fort Fisher, monitored air traffic, estimated the height of the traffic, and assisted anti-aircraft defense activities by transmitting data to Washington Air Defense Section at Fort Lee, Virginia (Plate 11). Twenty officers and 160 enlisted airmen were stationed at Winston-Salem, and those that did not live on-site commuted from the city and its surrounding suburbs. Winston-Salem's station joined the SAGE system in 1963, one year after Fort Fisher, and supplied data with the goal of intercepting enemy aircraft in North American airspace, until its closure in 1970 (Cathey 2005:23-26). The former radar station's grounds and commanding radome base have been converted by Forsyth County to a public park, and the remainder of the complex remains fenced for use as an addiction and recovery center.

Nearly identical to Fort Fisher's on-post housing, the Air Force constructed 27 houses for military families arranged in pairs around Woodgate Circle at Winston-Salem, each costing approximately $17,000. The houses are identical in form to those previously located at Fort Fisher: one-story, side-gabled, frame cottages on concrete slab foundations with integrated carports and shed-roofed awnings sheltering front entries (Plate 12). Houses typically are sheathed in asbestos-shingle siding and have horizontal-light sash windows, but many possess later modifications, such as replacement windows and doors, vinyl or replacement siding, and alterations to carports and entryways. In addition to housing, administrative, and operations buildings, local newspaper accounts report that the station contained an automobile maintenance building, an engineering building, a supply warehouse, and an NCO Club.

The Winston-Salem Air Force Radar Station Military Housing (FY4199), now under private ownership, was determined NRHP-eligible in 2009 under Criterion A for its association with Cold War-era defense in the United States, with significance at both the state and national level (Cathey 2005:23-26). A portion of the Winston-Salem Radar Station now functions as a public park, and the resource possesses a higher degree of integrity than Fort Fisher considering it retains one radome base, most of its original housing, and a large degree of administrative, operations, and support buildings.

3.3.1.2 Roanoke Rapids Air Force Station

Constructed adjacent to the Halifax County Airport in 1955, like its counterparts at Fort Fisher and in Winston-Salem, the Roanoke Rapids Air Force Station (HX0315) operated until 1981. The main operations and support structures for the station were located slightly west of the military housing constructed in tandem for personnel, flanking either side of the far west end of Airbase Road (Figure 8). Like the Winston-Salem station, metal Quonset huts were utilized for various functions in addition to barracks buildings. Support buildings, most of which were utilitarian in design and material, included recreational and dining facilities as well as maintenance and storage structures. The station possessed two metal and concrete radomes with radarscopes housed in one-story buildings; however, it appears that only one of these radome bases survives. Some of the station's command, control, and operations facilities also survive, including one that is identical to Building 117. The former radar station is currently privately owned, and all buildings have been abandoned and are in a severe state of disrepair. Access to the far west end of Airbase Road containing these structures previously serving the radar station is blocked to through traffic, and public access is prohibited (Plate 13).

PLATE 10: Winston-Salem Air Force Radar Station (FY3407), Forsyth County, North Carolina, Looking North

PLATE 11: Surviving Radome Tower Base, (former) Winston-Salem Air Force Radar Station (FY3407), Forsyth County, North Carolina, Looking South

PLATE 12: Military Housing Units Constructed for (former) Winston-Salem Air Force Radar Station (FY4199), Forsyth County, North Carolina, Looking North

PLATE 13: Main Access Road (Airbase Road) with Former Buildings and Facilities Blocked, at (former) Roanoke Rapids Air Force Radar Station (HX315), Halifax County, North Carolina

FIGURE 8: Aerial Map Showing Former Roanoke Rapids Air Force Radar Station (HX315), Halifax County, North Carolina (NC OneMap 2017, 2020)

The former Roanoke Rapids station retains its original military housing, also now privately owned, which, like that at Winston-Salem and Fort Fisher, consists of one-story, minimal traditional houses arranged in a circle close to the station (Plate 14). The houses contain integrated carports, side-gable roofs, and a similar scale and plan to the housing found at other North Carolina stations. The house also exhibit some slight differences, including brick knee-walls, three-part picture windows, and slightly larger front porches (Plate 15).

Roanoke Rapids was home to the 632nd Radar Squadron of the Army and Air Force Exchange Service; its mission, like the other North Carolina stations, was to monitor regional airspace and warn of any oncoming enemy attack. In 1981 the property was sold after the station's closure. Not yet evaluated for NRHP eligibility, the station retains many of its former structures, but some key structures have been lost and the setting has changed dramatically because of abandonment, traffic pattern changes, overgrown vegetation, and neglect (Taves 1987:1-8). The resource lacks integrity of setting, feeling, and association.

3.3.1.3 Building 4909, Seymour Johnson Air Force Base

Another North Carolina military building that was determined significant in the area of Cold War history but ultimately not eligible for listing in the NRHP is Building 4909, a former maintenance aircraft hangar for the Strategic Air Command located at Seymour Johnson Air Force Base in Wayne County, North Carolina. Constructed in 1957, the hangar possesses Cold War significance: "Its original construction reflects the brief period during the Cold War that such structures were being built at strategically placed SAC installations based on the perceived performance, capabilities, and threat of Soviet bombers" (Seymour Johnson AFB 2016:38). Like Building 116, however, the hanger has since undergone numerous alterations that have diminished its integrity, and the resource was determined not eligible for NRHP listing.

3.3.1.5 LORAN-C Station Historic District

More locally, in New Hanover County, the LORAN-C Station Historic District (NH3480), which served the Unites States Coast Guard from 1957 to 2010, was determined eligible for the NRHP under Criterion A in 2011 (Plate 16). The LORAN-C station served as an experimental transmitting station for early navigation efforts operating with the low frequency CYCLAN system and long range tactical system known as CYTAC. The station contains the only TIP (top inverted pyramid) antenna array tower system with four towers constructed in the continental United States. Much smaller in terms of the number of structures and required servicemen than Fort Fisher Radar Station, LORAC-C nonetheless retains a majority of its original equipment and structures, enabling the district to convey its significance. These structures include a tower, a former barracks building, and two other operational mid-twentieth-century buildings in addition to large antennae and other station equipment. Like Fort Fisher, the resource acquires its significance more from the sophisticated technology implemented in its construction than from its architectural features; however, the LORAC-C station retains a far higher degree of the seven aspects of integrity for NRHP listing (Foley 2013:2-11; HPOweb 2017) (Figure 9).

PLATE 14: Military Housing Units Constructed for (former) Roanoke Rapids Air Force Radar Station (HX315), Halifax County, North Carolina, Looking South

PLATE 15: Typical One-story House Constructed for Family Housing at (former) Roanoke Rapids Air Force Radar Station (HX315), Halifax County, North Carolina, Looking North

PLATE 16: Entrance to the LORAN-C Station Historic District (NH3480), River Road, New Hanover County, Looking North

FIGURE 9: Aerial View of LORAN-C Station Historic District (NH3480), New Hanover County, North Carolina (Google Earth, 2020)

4.0 ELIGIBILITY EVALUATION

4.1 Building 116, (former) BUIC III Facility and Operations Building

118 Air Force Way, Kure Beach, NC 28449
Parcel No. 3028-85-1791
1967

4.1.1 Setting

Building 116 stands within the Fort Fisher Air Force Recreation Area on a 42.45-acre parcel located in southern New Hanover County near the town of Kure Beach. The parcel is bound to the east by Route 421 (Fort Fisher Boulevard) and to the west by Cape Fear Sound; to the north and south are heavily wooded portions of the Fort Fisher State Recreation Area managed by the State of North Carolina. Farther south is Fort Fisher State Historic Site, and parallel to Route 421 is the Atlantic Ocean. The parcel forms an irregular polygon, accessed from Route 421 by Riverfront Road, which extends west and then north through the parcel to wrap around the west edge to connect various driveways and parking lots of each building within the complex. Building 116 is centrally located in the parcel, with former Air Force base support buildings located to the north and former barracks and recreational/support facilities located to the west and south (Figure 10). The parcel remains relatively cleared, dotted with a few trees and paved with parking areas and driveways connected via sidewalks to the various buildings. Immediately surrounding Building 116 are several smaller support buildings and offices, such as Buildings 134, 135, 136, and 125. To the east is Building 117, built in 1957 as the power plant in support of the radar station. Building 116 is accessed from Riverfront Road by a driveway that leads to a small parking area that continues to wrap around both Building 116 and Building 117. The west side of Building 116 is buffered with trees and mulched landscaping beds. Other site features include wood gazebos, metal telephone poles, metal flagpoles, wood signage, paved areas for loading docks, and small trees (Figure 11).

4.1.2 Architectural Description

4.1.2.1 Building 116, (former) Headquarters and Operations Building

Building 116, constructed in 1967 as the nation's first BUIC III Facility, is a two-story, concrete box-like structure void of any window bays except for those on a later addition and its glass and metal replacement doors (Plate 17). Built on a concrete foundation with heavy concrete framing designed to withstand an enemy attack, Building 116 functioned as the station's bomb shelter and safe space/shelter from hurricanes from the Atlantic Ocean. The building possesses a flat roof with wood and metal flashing and very little architectural detail except for shed-roofed wings protruding from side elevations of the building and concrete walls clad with a paneled design pressed into the concrete (Plate 18). One-story, concrete-block additions have been constructed onto the west and south elevations of the building. Other, later additions include wood awnings or porches tacked onto side elevations. Doors consist of plain, steel, single- and double-leaf entrances with vented transoms and are accessed by concrete stairs with metal- or concrete-pipe railings. Building 116 was heavily damaged by Hurricane Florence in 2018, which severely harmed the roof and consequently a majority of the building's interior.

Building 116's north elevation (façade) contains two entrances located at the west end of the elevation: one consisting of a double-leaf, steel entrance with vented transom, and the second a single-leaf, steel entrance with vented transom sheltered by a flat, metal awning and accessed by concrete steps (Plate 19). At the top of the elevation near the roof are small, attached light fixtures; metal lettering at the east end spells out, "North Carolina National Guard Training Center," and "116." A small, flat-roofed shelter with angled walls

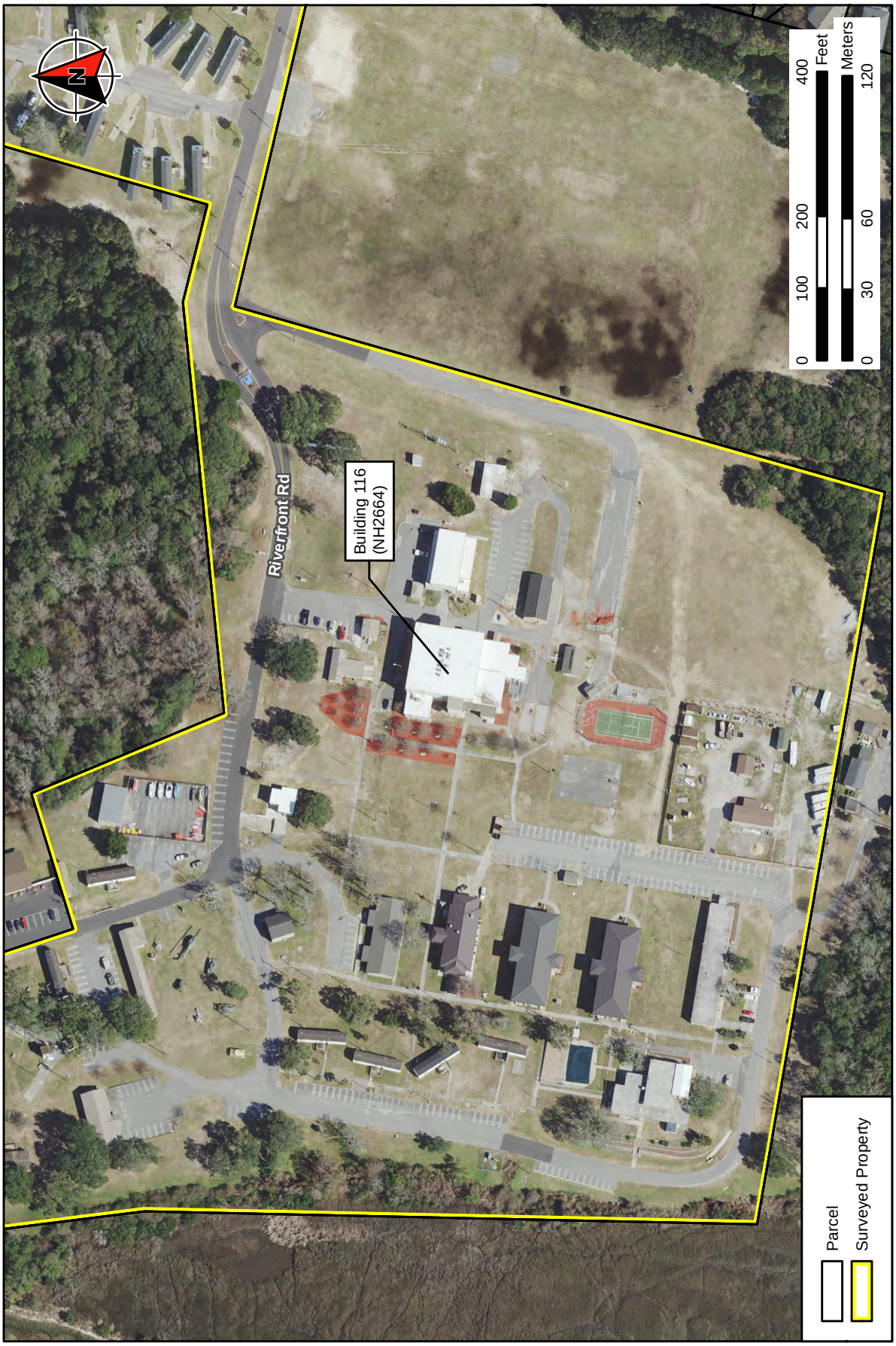

FIGURE 10: (Former) Fort Fisher Radar Station Building 116 (NH2664) Site Plan, New Hanover County, North Carolina (NC OneMap 2016, 2020)

FIGURE 11: Aerial 3D View of Fort Fisher Air Force Recreation Area, Showing Building 116 and Surrounding Buildings, Looking Northwest (Google Earth, 2020)

PLATE 17: Building 116 (NH2664), North Elevation, Looking South from Parking Lot of Entrance to Buildings 116 and 117, New Hanover County, North Carolina

PLATE 18: Building 116 (NH2664), Oblique View of North Elevation, Looking South, New Hanover County, North Carolina

PLATE 19: Detail of Exterior Door on North Elevation of Building 116 (NH2664), North Elevation, New Hanover County, North Carolina, Looking South

attached to the elevation that may have functioned as a shelter for a piece of equipment stands in the center of the elevation. A one-story, concrete-block addition extends from the elevation's west end and is pierced by a single-leaf, metal entrance sheltered by a flat awning in addition to two, two-light, metal window bays (Plate 20). Landscaped beds with wood and concrete edging front this elevation.

The east elevation features a two-story, shed-roofed wing protruding out from the center. At the north end of this wing, a frame, hip-roofed porch is attached, set in the corner and supported by plain wood posts, sheltering the main entrance to the building (Plate 21). The entrance itself consists of a modern, glass and metal replacement door with sidelight. A one-story, concrete-block addition extends from the south side of the east elevation and contains two bays consisting of a single-leaf, metal entrance illuminated by a single light in the upper half and a large, four-light metal window bay with concrete sill. The entrance is sheltered by a frame, gabled porch that extends to cover the sidewalk until it meets the driveway (Plate 22).

The south elevation of the main block is left plain and unfenestrated except for the one-story addition with various wings that protrude from the elevation (Plate 23). A two-story, flat-roofed wing that is part of the original 1967 construction also protrudes from the elevation. The southernmost projecting wing is pierced with a metal garage bay, and the west elevation of the wing contains two single-leaf, metal entrances. A single window bay consisting of one-over-one, metal replacement sash pierces the east side of the south elevation. Wood framing that appears to have once supported a deck is also attached to the south elevation, west of the southernmost wing (Plate 24).

The west elevation features two shed-roofed, projecting wings as well as a one-story, concrete-block addition located on the north end of the elevation (Plate 25). The two projecting wings are connected by a flat-roofed canopy forming a porch supported by plain wood posts sheltering an entrance for each wing, both modern replacement doors accessed by sets of concrete steps (Plate 26).

The interior of the building is partitioned to form classrooms, hallways, training areas, a kitchen space, storage, and rest rooms (Plate 27). The original plan has been altered, but it still contains recreational spaces, such as a small, wood-floored basketball court. Very few of the original interior finishes survive, and most if not all have been remodeled except for stairwells (Plate 28). Current interior finishes mainly consist of carpeting or tile flooring, some wood paneling surviving underneath chair rails, acoustical-tile drop ceilings with fluorescent lighting, and little to no architectural trim (Plate 29). Any original interior doors that remain are solid steel versions. Stairwells consist of metal stairs with plain metal railings and rubber, non-slip coatings on stair treads. The attic of the building, which contains much of the HVAC equipment, reveals the large, solid concrete girder beams that make up the framing of the building (Plate 30). The interior of the building suffers damage from the collapsing roof as well as heavy mold growth in many rooms, and nearly all interior finishes need replacement. The interior has lost all its original radar computer equipment, consoles, and built-in wall panels for radar operation that would have originally been included at the building's completion in 1967 (Plate 31).

Building 117, situated east of Building 116, appears to be constructed from a standardized plan for radar stations throughout the United States, as at least two other former radar stations in North Carolina possess the same building. The one-story, rectangular, concrete-block building features a band of clerestory windows consisting of six six-light double-windows with metal, operable awning sash on the north and south elevations of the building. Concrete-block soldier courses run beneath the roofline and at the second-story level. A shorter, one-story addition is constructed onto the south elevation and is pierced by three double windows of six horizontal sash lights each in addition to a single, three-light horizontal sash window (Plate 32). All windows are underlined with concrete sills. The east elevation features a single-leaf, replacement entrance door sheltered by a flat awning, and two large square vents pierce the upper portion of the elevation; another single-leaf modern entrance pierces the addition to the south of the main block. The north elevation also has a shorter, projecting portion beneath the clerestory windows that is pierced by

PLATE 20: One-story Addition Extending off North Elevation of Building 116 (NH2664), New Hanover County, North Carolina¸ Looking Southwest

PLATE 21: Building 116 (NH2664), Oblique View of East Elevation, New Hanover County, North Carolina, Looking Southwest

PLATE 22: One-story Addition Extending off East Elevation of Building 116 (NH2664), New Hanover County, North Carolina, Looking West

PLATE 23: Building 116 (NH2664), South Elevation, New Hanover County, North Carolina, Looking North

PLATE 24: Oblique View of South Elevation, Building 116 (NH2664), New Hanover County, North Carolina, Looking Northwest

PLATE 25: Oblique View of West Elevation, Building 116 (NH2664), New Hanover County, North Carolina, Looking Northeast

PLATE 26: Detail of West Elevation, Building 116 (NH2664), New Hanover County, North Carolina, Looking East

PLATE 27: Interior Hallway, Building 116 (NH2664), Looking East, New Hanover County, North Carolina

PLATE 28: Detail of Interior Stairwell, Building 116 (NH2664), New Hanover County, North Carolina, Looking Northeast

PLATE 29: Interior of Classroom, Building 116 (NH2664), New Hanover County, North Carolina, Looking North

PLATE 30: Detail of Concrete Framing Structure in Attic, Building 116 (NH2664), New Hanover County, North Carolina

PLATE 31: Interior of Control/Command Room of Building 116, 1969
(North Carolina Military History Museum)

PLATE 32: Oblique View of South Elevation, Building 117, New Hanover County, North Carolina, Looking Northwest

PLATE 33: Oblique View of East and North Elevations, Building 117, New Hanover County, North Carolina, Looking Southwest

one single, metal roll-up garage bay; however, at one time it appears that there were six large garage bays (the rest now infilled) (Plate 33). The north elevation also contains a small window bay at the far west end of the elevation. The west elevation features a large, metal garage bay and a metal-sash window filled with an HVAC unit. Electrical equipment is also attached to the west elevation (Plate 34).

The interior of Building 117 reveals its metal framing structure and its open, metal-truss roof framing. The clerestory windows and metal hanging pendant lights illuminate the interior. Large fans are built into the wall of the east elevation (Plate 35). A frame, makeshift partition forms an office, with the remainder of the building left open, except for the south portion. Raised, concrete pads are constructed into the concrete floor for the purpose of holding the generators that powered the radar station (Plate 36). A narrow, concrete-block hallway runs along the north side of the interior. One interior door, which appears to be original and leads to the south office wing, is a single-leaf, metal door with three vertical lights in the upper half. The building currently is mostly used for storage.

In addition to Building 117, a handful of smaller structures surround Building 116, including a small office building (Building 134), a former security checkpoint (Building 135), a former search tower support building (Building 125), a former Logistics Support Building (Building 136) (Plates 37-40), and a gazebo.

4.1.3 NRHP Evaluation

Building 116 possesses integrity of location, as it has remained in its original location since the time of its construction in 1967. The integrity of setting is only moderate, however, as new infill and development in Kure Beach continues to change the complex's surroundings from one of light residential and recreational use to a heavily developed, commercialized vacation destination. In addition, the immediate setting of the former Air Force Radar Station has also changed with the loss of the complex's original family housing, other structures, and major remodeling of many surviving original structures (Plate 41). The integrity of design, materials, and workmanship have all been significantly compromised owing to later additions to Building 116, the replacement of most original doors, and the nearly complete loss of original interior finishes, wall computer consoles, and radar equipment. The loss of so much of the building's interior historic fabric makes it difficult to convey its original purpose as a highly sophisticated radar computer surveillance facility playing a key role in defending the Atlantic coast from an oncoming, airborne enemy attack. Likewise, Building 116 fails to retain integrity of feeling and association because the complex no longer serves or visually reflects a radar station with buildings that function to support the roles of the Air Force personnel operating the radar system. Rather, the complex is now solely associated with a recreational purpose for military service men and women, as well as an entirely new purpose for NCARNG training. Jeopardizing Building 116's integrity even further is the current deterioration suffered as a result of Hurricane Florence, resulting in a failed roof that has led to severe mold and interior damage in many if not all rooms of the building.

Fort Fisher Radar Station's Building 116 is recommended as not eligible for the NRHP under Criterion A. Despite its association with United States air defense during the Cold War and the station's significance to the growth of radar and surveillance technology as the country's earliest BUIC III facility, it does not retain the necessary level of integrity needed to qualify for NRHP eligibility. Other radar stations in North Carolina, like the Winston-Salem Air Force Radar Station, retain a higher degree of integrity and are able to convey their Cold War military significance through the retention of original radome towers and support facilities that have changed little architecturally (Whorton 1999:7-8). To qualify for the NRHP, a property must not only possesses significance under at least one of the National Register Criteria but must also retain an appropriate degree of the seven aspects of integrity (National Park Service 1990).

PLATE 34: West Elevation, Building 117, New Hanover County, North Carolina, Looking East

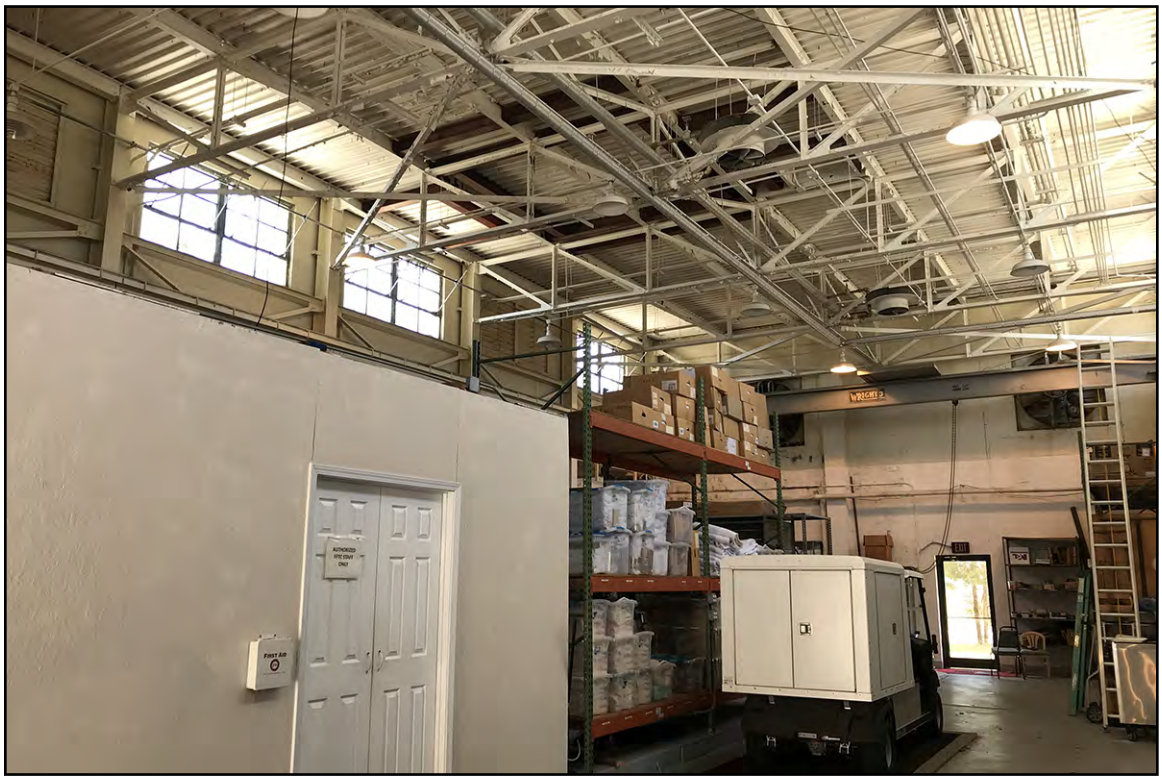

PLATE 35: Interior of Building 117, New Hanover County, North Carolina, Looking East

PLATE 36: Detail of Raised Concrete Platforms for Holding Generators in the Power Plant, Building 117, New Hanover County, North Carolina, Looking Northwest

PLATE 37: Building 134, New Hanover County, North Carolina, Looking Southwest

PLATE 38: Building 135, New Hanover County, North Carolina, Looking East

PLATE 39: Building 125, New Hanover County, North Carolina, Looking East

PLATE 40: Building 136, New Hanover County, North Carolina, Looking Northeast

PLATE 41: Cottages Constructed in 2014 for Fort Fisher Air Force Recreation Area, New Hanover County, North Carolina, Looking North

Building 116 is not recommended as eligible under Criterion B. There are no individuals associated with the property who are known to have contributed significantly to the history of New Hanover County or to the Air Force in North Carolina or the United States. Building 116 is therefore not recommended as eligible for Criterion B for association with significant individuals in history.

Fort Fisher Radar Station's Building 116 was found to be not eligible under Criterion C for architecture because it lacks integrity. The Fort Fisher Air Force Radar Station has lost all its original radome towers, all of its original housing, and some operational and support buildings that originally stood within the complex. Furthermore, many of the original support structures that do remain have been modified and renovated drastically, rendering them almost unrecognizable from their original design (Plate 42). Building 116 is recognizable from the exterior, but it now possesses exterior additions and new replacement doors, and the interior has been completely remodeled from its 1967 appearance with modifications to the floor plan, finishes, and the loss of original built-in radar consoles and equipment (Plate 43). The loss of these structures and the addition of new infill make it difficult for the former radar station to convey its historical significance even though many support structures remain. Architecturally, Building 116 is interesting and notable as a Cold War military building constructed nearly entirely of concrete to withstand an enemy attack, but it is not necessarily remarkable for its architectural design in comparison with other military buildings from the same period. Air Force radar stations tended to exhibit modest, economical, but durable designs over ones that might make a bold architectural statement. Building 117, the power plant supporting the radar station, appears to be a standardized plan used at other stations in North Carolina and throughout the United States. It appears from preliminary research that Building 116's design was also based on a standardized plan for other BUIC facilities nationwide.

A building may be eligible under Criterion D if the buildings and/or structures have the potential to yield important information pertaining to undocumented or rare local building traditions. Building 116 of Fort Fisher Radar Station does not meet Criterion D.

PLATE 42: Former Barracks and Dining Facility Buildings Dramatically Remodeled from Their Original Designs, Fort Fisher Air Force Recreational Area, New Hanover County, North Carolina, Looking Northwest

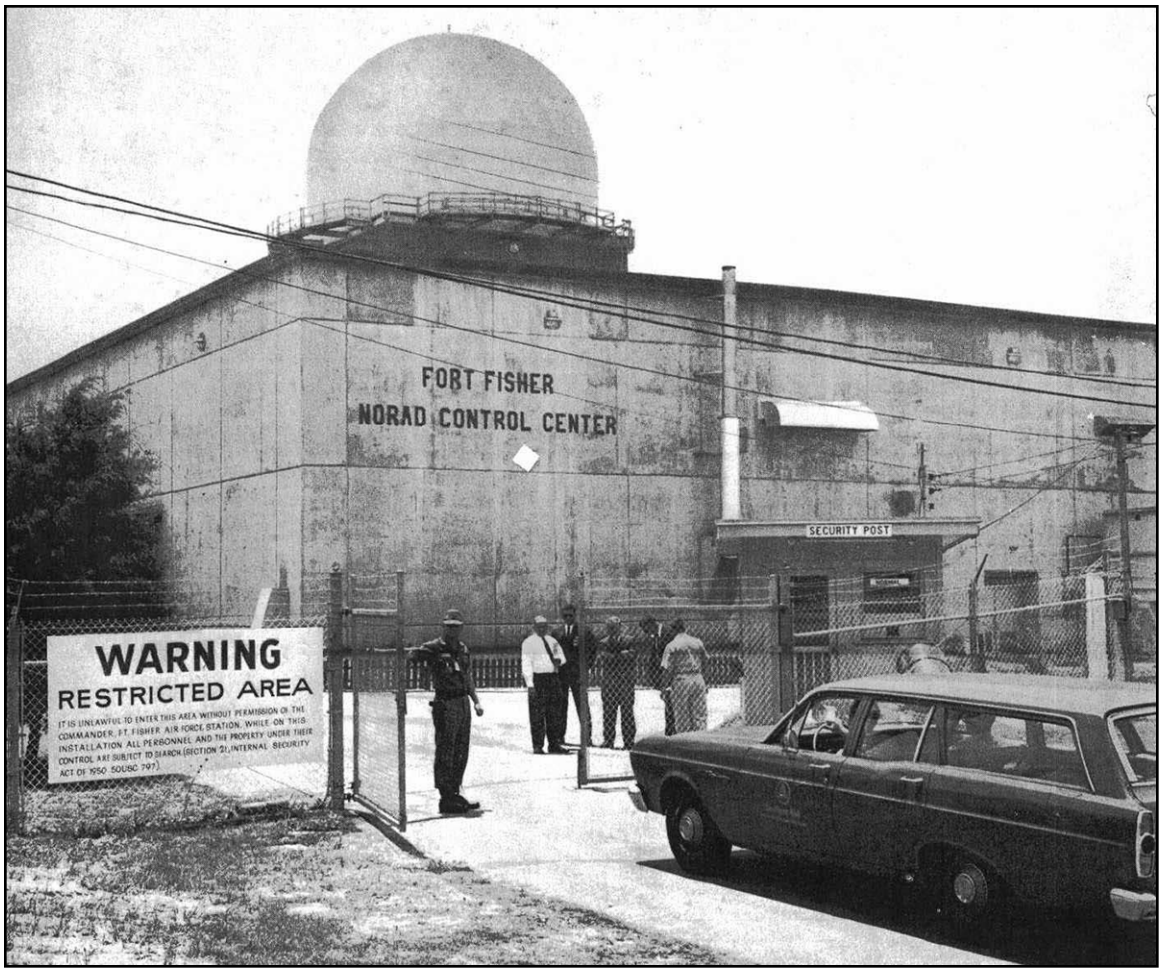

PLATE 43: BUIC III Facility (Building 116) at Fort Fisher, 1968 (North Carolina Military History Museum)

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