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NATIONAL HISTORIC CONTEXT FOR DEPARTMENT OF DEFENSE INSTALLATIONS, 1790 - 1940

Volume III of IV

August 1995

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Prepared for

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NATIONAL HISTORIC CONTEXT FOR DEPARTMENT OF DEFENSE INSTALLATIONS, 1790 - 1940

FINAL REPORT

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INTRODUCTION TO PART IV - INSTALLATION SITE REPORTS

The *National Historical Context for Department of Defense (DoD) Installations, 1790 - 1940* is a Legacy Program demonstration project designed to assist the Department of Defense (DoD) in executing its responsibilities for cultural resources under the National Historic Preservation Act of 1966, as amended, applying the Secretary of the Interior's Standards for Preservation Planning and the guidelines of the National Register Program. The purpose of the project is to examine the complex historical and architectural relationships among DoD construction on a nationwide basis to provide comparative information on the historic significance of military construction in the contiguous United States between 1790 and 1940.

The National Military Context integrates the three components of an historic context: time period, geographic area, and theme. The overall study is organized into five sections:

Part I - Chronological Overview;
Part II - Theme Studies;
Part III - Property Types;
Part IV - Installation Site Reports; and,
Part V - National Register Nomination Case Studies.

Part IV - Installation Site Reports is presented in the following section and demonstrates how specific examples of military installations relate to the Overview, Themes, and Property Types. This section of the report illustrates how the components of the context are tied to DoD real property. Data are presented for seventy-five active-duty installations that will enable the reader to place the installation within its appropriate context and will enable comparisons among similar installations . The information for the Marine Reservation at Puget Sound is incorporated into the Puget Sound Naval Shipyard and Marine Reservation installation site report.

The site reports consist of the following sections:

1. Time Period: This section lists the dates of military activity at the installation, to 1940. The relevant sections and sub-sections of the Chronological Overview are listed to enable the reader to place the installation it its historical context. For example, the Naval Radio Transmitter Facility Chollas Heights installation reports lists two relevant sections within the Overview: (1) Military and the Progressive Era, 1890 - 1918 (New Technology: Submarine, Aircraft, and Radio) and (2) Inter-war Years, 1918 - 1940 (War Plans and the Shift to the Pacific). These cross-references enable the reader to relate the activities at Chollas Heights to the overall military developments during those time periods and to locate comparative information in the relevant sections of Part I of the report, Chronological Overview.

2. Relevant Themes: This section lists the topical themes related to each installation's historical development included in Part II of the report, Theme Studies. For example, the Ft. Monroe installation report lists the themes Technology, with the specific sub-headings of weapons and fortifications, and Education. These cross-references provide background and comparative information on the missions and designs of installations. The themes were drawn from the National Register of Historic Places "Areas of Significance" to facilitate evaluation of the installations' historic significance.

3. Installation History and Context: This section provides a narrative summary of the historical development of each installation, with particular emphasis on construction associated with different periods and activities. The summary draws connections between the site-specific history of each installation and broader trends that influenced U.S. military development. Specific

buildings related to historical trends and events are identified. The summaries are not definitive histories of each installation. Portions of the Overview and Themes were incorporated into the installation histories to highlight the shared contextual framework among similar installations. For example, similar information on the Army Air Corps Act is presented in the installation reports for early airfields.

4. Sources Consulted: The sources listed in this section provided the background for the "Installation History and Context" section. The lists are not exhaustive bibliographies of available sources for each installation; instead, the sources listed are those available at the installation. This approach was selected to illustrate that information often readily obtainable at the installation combined with the historical framework provided by the Military Historic Context provides sufficient information to evaluate the significance of most installations. In cases where site-specific information was not available at the installation, standard military histories were consulted.

5. Property Types: This section lists each installation's existing pre-1940 military buildings and structures, categorized by historical function. Part III of the report, Property Types, describes the evolution and character-defining features of pre-1940 properties typically found on military installations. Through cross-referencing the description of property types in Part III and the property type lists for specific installations, the report can provide general definitions of property types, specific examples, and direction on where to find comparable examples. For example, general information about hangars is located in the Transportation (air-related) chapter in Part III, while the installation site reports list specific examples.

6. Maps: Maps at 1:800 scale of each installation were produced using computer-aided drafting and design (CADD) programs, both AutoCad and Intergraph. The maps illustrate the areas on each installation that possess a concentration of pre-1940 buildings and structures. The boundaries do not correlate necessarily with historic district boundaries. They depict areas that are related to the pre-1940 history of the installation that merit further evaluation for their significance within the pre-1940 Military Historic Context. Maps were produced at a single scale to enable comparisons of installation design and layout. The maps will facilitate comparisons among installations from different time periods, from the same time period, or with similar functions.

The information described above is included consistently in the site reports, except for several special cases. Maps are not included for Naval Air Station Key West, Ft. Indiantown Gap, Wurtsmith AFB, or Naval Ordnance Station Indianhead. In the first three cases, no buildings constructed prior to 1940 by the military remain in the area currently controlled by the installation. At Key West, the Navy has transferred the pre-1940 historic building formerly under its control to other owners. At Ft. Indiantown Gap, the Army did not lease the land until 1940; the pre-1940 buildings are farmhouses and agricultural buildings unrelated to the Historic Military Context. Few permanent buildings were constructed before 1940 at Wurtsmith AFB; no pre-1940 buildings remain standing at the base. Insufficient information on dates of construction was available for the building at Indianhead.

The maps, historical summaries, and cross-references to the Overview, Theme Studies, and Property Type sections of the report contained in this section will enable DoD to apply the Historic Military Context to its property and make substantive connections between real property and important historic events and patterns of events.

TIME PERIOD 1918-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Development of Logistical Functions
  - Wartime Cantonments

The Inter-war Years, 1918-1940
- Army
  - War Planning and Institutional Development
  - Installation Improvement
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
- Military Education between the Wars, 1919-1940

Planning and Architecture
- World War I: Temporary and Permanent Construction
- Inter-war years: Regional Architecture and Community Planning
  - Army Construction

Technology
- Weapons and Ammunition

INSTALLATION HISTORY AND CONTEXT

Aberdeen Proving Ground is located along the western shore of Chesapeake Bay approximately four miles south of the mouth of the Susquehanna River, near Aberdeen, Maryland. It is the headquarters of the U.S. Army Test and Evaluation Command (USATECOM) in the U.S. Army Material Command (USAMC). The installation is composed of two distinct areas: Aberdeen Proving Ground, located on Bush Neck; and, Edgewood Arsenal, sited on Gunpowder Neck. Both facilities were established during World War I and have evolved as two separate entities with two distinct purposes.

Aberdeen Proving Ground

Aberdeen Proving Ground was founded in 1918, when the Army required more land to test ordnance. Ordnance had been tested at the Sandy Hook Proving Ground in New Jersey, but the Ordnance Department outgrew that facility. Aberdeen served as the Army's pre-eminent ordnance testing facility until World War II. Permanent buildings are located on northern Bush Neck, while the southern portions of the peninsula contain the Main Front firing ranges and impact areas.

The Army intended to maintain Aberdeen Proving Ground as a permanent installation after World War I, and consequently constructed wood and brick permanent buildings, in addition to the standard World War I temporary buildings. By January 1918, barracks, a post hospital,

officers' quarters, mess halls, an administration buildings, a power plant, assembly sheds, and timekeeper towers were constructed. The Army transferred its ordnance testing to Aberdeen from Sandy Hook. The Army also tested aviation ordnance at Aberdeen.

After World War I, Congress halted most military expenditures for construction. However, some construction projects at Aberdeen were completed to continue its ordnance testing mission. These included housing, infrastructure, and an airfield.

During the 1930s, Congress authorized military construction through Public Works Administration funds. Aberdeen Proving Ground was included in the Army's permanent construction program to upgrade World War I facilities. New projects included officer and NCO housing, using Quartermaster-standardized plans of Colonial Revival designs. The Army also constructed support buildings along the main firing line, including shops, warehouses, and magazines.

The War Department consolidated the two Ordnance Department schools, at Raritan Arsenal and at Watertown Arsenal, into the Army Ordnance School at Aberdeen Proving Ground. The school's purpose was to train officers for the Ordnance Department. Funding constraints prevented construction of the new school buildings until after 1938. By 1941, three permanent buildings (Buildings 3071, 3072, and 3073) were completed.

With the outbreak of World War II, one proving ground could not keep up with the increased pace of testing. The Army opened other proving grounds to perform acceptance testing of ordnance produced by manufacturers. Work at Aberdeen Proving Ground focused on research and testing of new equipment. Workers at Aberdeen Proving Ground conducted research on ammunition, armor, aviation armament, ballistic research, rockets, and automotive engines. The research and testing mission has continued to define the work at Aberdeen Proving Ground since World War II.

Edgewood Arsenal

Edgewood Arsenal was established in 1918 in response to Germany's introduction of chemical warfare on the European battlefields during World War I. The absence of a peacetime market for the chemicals and their inherent danger deterred commercial manufacturers from producing the components of chemical warfare. The Army decided to construct its own chemical production plant to produce chlorine, mustard gas, chloropicrin, and phosgene. Edgewood Arsenal was designed as a complete industrial complex to facilitate production, assembly, storage, and shipment of chemical weapons. The buildings are utilitarian and arranged by functions, to facilitate the production process. Permanent manufacturing facilities form the core of installation. Shell assembling plants and storage facilities are located north of the industrial area. Housing also was provided for military personnel employed at the production facilities and include a permanent barracks complex for enlisted soldiers. Additional facilities include a hospital and post headquarters.

Following World War I, Edgewood Arsenal became the headquarters of the Chemical Warfare Service and all its activities were consolidated at the installation. The Chemical Warfare

School, which trained both Army and Navy personnel, was relocated to the installation in 1922 to train chemical warfare specialists. The peace-time applications of chemical research were emphasized, and defensive measures such as gas masks and protective clothing were tested and refined. Other activities included the development of insecticides, especially for use on ships. The southern portion of the reservation became an artillery post, known as Ft. Hoyle. Construction during the inter-war period consisted primarily of housing. Wood-frame officers' housing was constructed before 1926. During the 1930s, brick cottages, following Quartermaster standardized plans, were constructed for non-commissioned officers. Recreational facilities also were constructed and included a riding hall.

As the possibility of war increased between 1939 and 1941, facilities at Edgewood were placed on stand-by status as the Army repaired production plants and updated manufacturing equipment. Though chemical weapons only were to be used defensively, Edgewood Arsenal was prepared for major activity. New chemical, industrial, and shell-loading plants were constructed to produce toxic chemicals weapons. Two large warehousing districts were constructed, and a portion of Edgewood Arsenal was designated at the East Coast Chemical Depot. Other construction included new laboratories, administrative buildings, and a temporary cantonment.

In 1946, Edgewood Arsenal was renamed the Army Chemical Center. Chemical production at Edgewood ceased, and the center concentrated on research and development, especially for defensive measures. Edgewood became a part of the Aberdeen Proving Ground in 1971, and continues to be an important facility for the Chemical Corps.

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Grandine, Katherine, Irene Jackson Henry, and William R. Henry Jr. "DARCOM Historic Building Inventory: Aberdeen Proving Ground, Maryland." MSS, Aberdeen Proving Ground, 1982.

Mariani and Associates. "Study/Survey of Historically Significant Army Family Housing Quarters: Quiet Lodge." MSS, Aberdeen Proving Ground, 1988.

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PROPERTY TYPES

Aberdeen Proving Ground

Administration
- -Fire Station
- -Guardhouse
- -Headquarters

Communication
- -Telephone Exchange

Education
- -Classrooms
- -Applied Instruction buildings

Health Care
- -Hospital

Industrial
- -Maintenance and Repair Shops
  - -Repair and maintenance shops
  - -Gun shops
- -Storage (General Installation)
  - -Ammunition storage
  - -Quartermaster storage

Infrastructure
- -Sewage treatment plant
- -Water towers
- -Incinerator
- -Transformers

Recreation/Social/Cultural/Religion
- -Club (Officers')

Research and Development
- -Laboratories
- -Testing facilities

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters

- -Family Housing
  - -NCO Housing
  - -Commanding Officer's Quarters
  - -Officers' Housing
  - -Garages

Transportation
- -Air-related
  - -Airplane Hangar
  - -Maintenance facility
  - -Garage

<u>Edgewood Area</u>

Administration
- -Fire Station
- -Headquarters

Communication
- -Telephone Exchange

Education
- -Classrooms

Health Care
- -Hospital
  - -Wards
  - -Support Buildings
    - -Power Plant

Industrial
- -Maintenance and Repair Shops
- -Manufacturing
  - -Chlorine Liquification Plant
  - -Mustard Gas Plant
  - -Mustard Redistillation Plant
  - -Phosgene Plant
  - -Shell Assembly Buildings
  - -Smoke Munitions Plant
  - -Pilot Plant
  - -White Phosphorous Processing Plant
- -Storage (Depots and Supply Centers)
  - -Ammunition Storage
  - -Chemical Storage
- -Storage (General Installations)
  - -Quartermaster Storage

Infrastructure
- -Power Plants
  - -Transformers
- -Water and Sewage Systems
  - -Sewage Treatment Plants
  - -Water Towers
  - -Incinerators

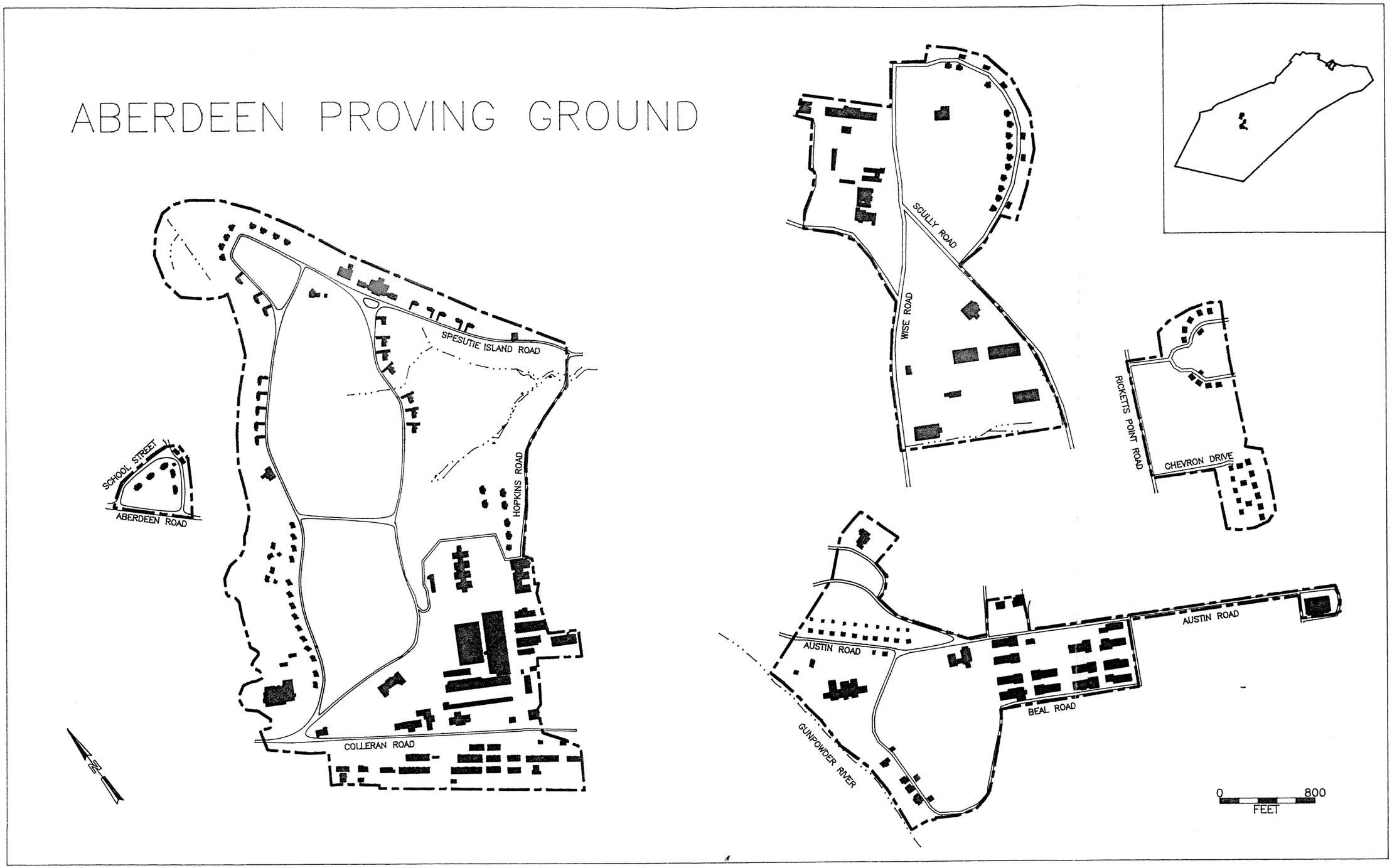
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Riding Hall
- -Chapel
  - -Gunpowder Meeting House (predates military acquisition)
- -Clubs
  - -Officers' Club
  - -NCO Mess
- -Theater

Research and Development
- -Laboratories
- -Testing Facilities

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officers' Housing
  - -Garages

Transportation
- -Air-related
  - -Airplane Hangar
- -Water-related
  - -Lighthouse (predates military acquisition)

ABERDEEN PROVING GROUND



TIME PERIOD 1918-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Wartime Cantonments

The Inter-war Years, 1918-1940
- Army
  - Installation Improvement

RELEVANT THEMES

Medicine
- Military Medicine during the Progressive Era, 1890-1918
- Military Medicine during the Inter-war Years, 1919-1940

Education
- Military Education between the Wars, 1919-1940

INSTALLATION HISTORY AND CONTEXT

The Fitzsimons Army Medical Center is located in Aurora, Colorado, eight miles east of Denver. The installation contains 576.51 acres and is bounded on the southwest by East Colfax Avenue and Peoria Street and on the east and north by Toll Gate Creek.

During the early twentieth century, Army General Hospitals were designed to treat both general and special patient injuries and diseases, especially those from overseas. Usually, they contained better facilities for treatment of serious and complicated cases than did field hospitals. These hospitals also were used to train junior medical officers.

At the beginning of World War I, the U.S. Army needed expanded medical facilities to care for war-related casualties. Many soldiers returning from the front suffered from tuberculosis and other respiratory diseases that resulted from life in trenches and bunkers. Civic leaders in Denver, Colorado lobbied for the establishment of a sanatorium in Denver, where the climate was believed to be especially beneficial.

The Army sent Colonel George E. Bushnell to Colorado to locate a possible site for the government to lease for the construction of a general hospital. Bushnell was particularly impressed with the grounds of Gutheil's Nursery in Aurora, near Denver. The Denver Civic and Commercial Association, which had promoted the construction of the hospital, raised the necessary funds, purchased the land, and leased it to the U.S. government for $1 per year. Construction of Army Hospital No. 21 began in May 1918.

The buildings at Fitzsimons Army Medical Center (AMC) were based on standardized plans issued by the Quartermaster Corps and Construction Division. There were five classes of buildings: 1) general administration; 2) care and treatment wards; 3) special care and treatment buildings, such as surgery, laboratories, etc.; 4) food, housing and supply buildings; and, 5) utility

and physical operations buildings, such as laundry, shops, powerhouse, and fire station. The original plan called for the construction of forty-eight buildings in a simplified Mission Revival style. Two buildings already on the site, the Gutheil House and stables, became the post commander's quarters. Another twenty-five buildings were constructed in 1919.

Of the World War I-era buildings, sixty-three survive, including an administration building, quartermaster office building, tubercular wards, operating pavilion, bachelor officers' quarters, nurses' dormitories, hospital corps barracks, mess halls, officers' recreation center, Red Cross building, school buildings, motor pool shops, guardhouse, laundry, and storehouses. The layout of the installation reflects the early twentieth-century practice of building hospitals with low, widely spaced buildings that maximized light and ventilation. Staggered rows of ward buildings flank the central core of administration and service buildings.

The local community feared that the Army would close the hospital at the end of the First World War; however, the Surgeon General's Office supported the selection of Denver as the site of a permanent hospital. By the 1920s, Fitzsimons had evolved into the largest tuberculosis hospital in the United States. The Army renamed the installation Fitzsimons General Hospital. During the 1920's, minimal construction was undertaken to supplement World War I - era buildings. Housing recreation and storage facilities were built during this period. In 1929, the U.S. government signed a long-term lease for the property for $1 per year.

By the 1930s, many of the World War I buildings had deteriorated significantly. Due to the extensive funding required to repair the installation and the dwindling number of patient admissions, the Surgeon General ordered the hospital closed in 1933. Local leaders lobbied to keep it open, as did General Douglas MacArthur, then Army Chief of Staff. In 1935, the Surgeon General tried to transfer the hospital to the Veterans Administration, but Congress channeled funds through the Works Progress Administration (WPA) for the rehabilitation of the facility. Construction during the 1930s, undertaken as WPA projects, was minimal; it included improvements to the water, sewer, and electrical systems, rehabilitation of hospital structures, and construction of garages.

With the deterioration of the world political situation during the late 1930s, Congress dramatically increased military funding from the low post-World War I funding levels. New installations were established, including an Army Air Corps technical school at Lowry Field (now Lowry Air Force Base) in Denver. The selection of Denver as a site for a permanent army air field, coupled with the rising military expenditures, increased the likelihood of new, permanent construction of modern hospital facilities at Fitzsimons. In late 1936, the Surgeon General ordered military planners to develop plans for a new hospital building at Fitzsimons. The new building was to follow the recent practice of concentrating wards in a single tall building, rather than the dispersed plan followed by the World War I hospitals. In 1938, Congress approved funds for construction of the new 610-bed hospital, which at the time was the largest single hospital structure ever built by the Army.

The new hospital was completed in 1941, under Supervising Architect L. M. Leisenring of the Quartermaster General's office. It was constructed of concrete faced with brick and marble and had a central tower of ten stories. The building exhibited Art Moderne design influences, including streamlined detailing, stepped setbacks, bas-relief sculpture, and interior aluminum

finishes. Although the primary function of the new hospital was as a tuberculosis sanitarium, all diseases and injuries were treated.

During World War II, Fitzsimons served as a school for medical technicians, as well as a hospital. Since World War II, medical care has continued to be the installation's primary function. Today, Fitzsimons Army Medical Center provides general hospital support to military installations in the region.

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PROPERTY TYPES

Administration
- -Administration Building
- -Guardhouse
- -Quartermaster Office Building

Education
- -Classroom Buildings

Health Care
- -Hospital (General)
  - -Infirmary
  - -Operating Pavilion
  - -Tuberculosis Wards
  - -Hospital Corps Barracks
  - -Nurses' Quarters
  - -Pharmacy
  - -Support Facilities
    - -Paint Shop
    - -Tool House
    - -Greenhouse
    - -Root Cellar

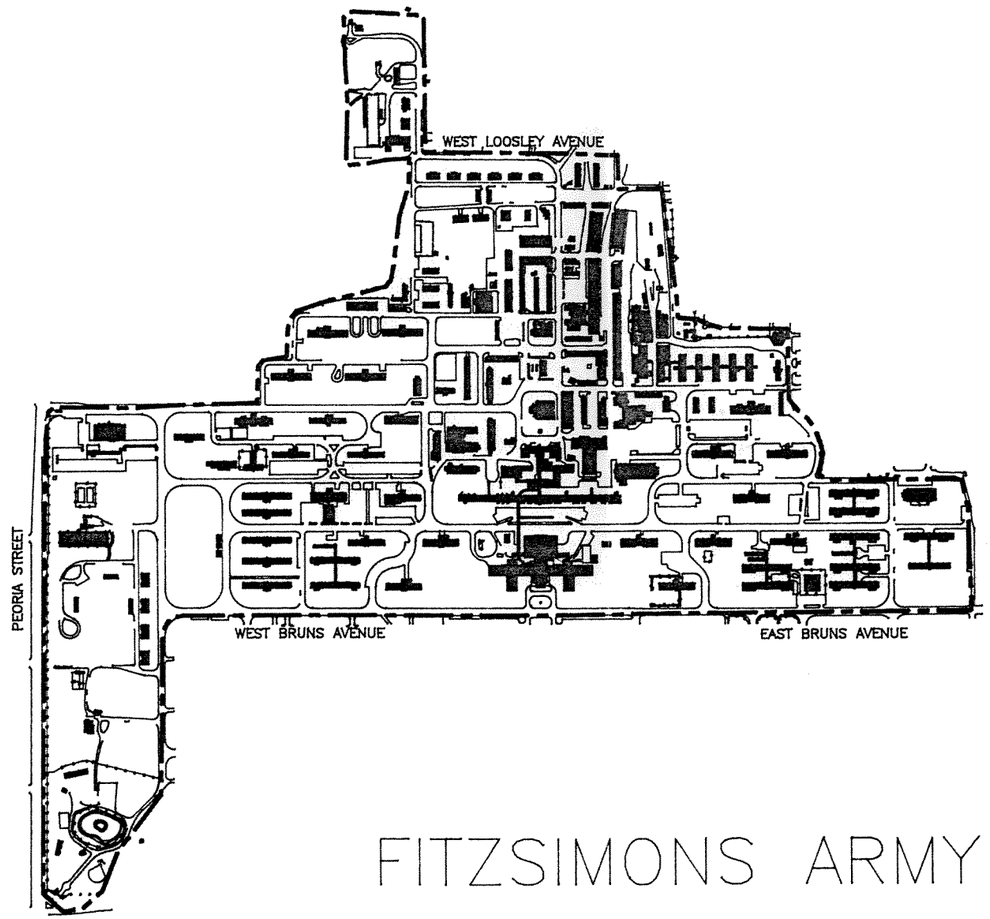
Industrial
- -Service Facilities
  - -Laundry
- -Storage (General Installation)
  - -Quartermaster Storehouse
  - -Red Cross Warehouse
  - -Signal Corps Storehouse

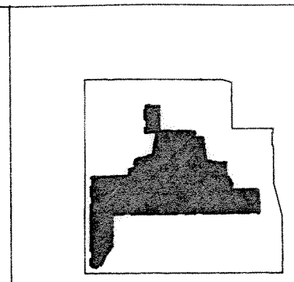
Infrastructure
- -Power Plant
- -Water and Sewage Systems
  - -Reservoir
  - -Water Tank
- -Incinerator

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Gymnasium
  - -Swimming Pool
  - -Tennis Courts
- -Exchange
- -Schoolhouse

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
  - -General Mess and Kitchen
- -Family Housing
  - -NCO Housing
  - -Officer Housing
  - -Civilian Employee Housing
  - -Garages
  - -Special Residence-Gutheil Residence

Transportation
- -Animal-related
  - -Stables
- -Vehicle-related
  - -Gas Station





FITZSIMONS ARMY MEDICAL CENTER

TIME PERIOD 1912-1940

The Military and the Progressive Era, 1890 - 1918
- Army
  - Wartime Cantonments

The Inter-war Years, 1918 - 1940
- Army
  - Installation Improvement
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890-1917
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

Ft. Belvoir is located on a small peninsula that extends into the Potomac River between Dogue Creek and Gunston Cove. It is approximately 10 miles south of Alexandria, Virginia.

During the first half of the nineteenth century, military education largely consisted of initial entry training, and even that was often haphazard. A structured system of military education evolved through the second half of the nineteenth century, as part of the increased sophistication of the military, and in response to the growing technical requirements of the military as the armed services adopted rapidly developing technology to military uses. Programs for junior officers and enlisted personnel were added to the system at the turn of the century. The new technological sophistication of all the services produced new schools. With the arrival of World War I, the services' educational requirements multiplied, as the military inducted millions of new soldiers, sailors, and marines.

Since 1901, the U.S. Army's Engineer School had been situated at the Washington Barracks, at what is now Ft. McNair in Washington, D.C. The site in Washington provided ample classroom facilities, but lacked adequate field training areas and rifle ranges. In 1910, the Army acquired land along the Potomac in Virginia as a training area for students at the Engineer School. In the years before World War I, engineer students practiced demolitions, field fortification construction, and small arms marksmanship at the training ground. They also constructed pontoon bridges at the training ground.

American entry into World War I brought the first wave of military construction at the Virginia training site. To train the thousands of new engineers required, the Army constructed a temporary cantonment, named Camp Humphreys in honor of a former Chief of Engineers. On

January 14, 1918 camp construction began for a cantonment that contained 790 buildings for 19,636 soldiers. The Army acquired the original neck of land, including land near Pohick Bay.

By May 1918, the Engineer Replacement and Training Center began operations at Camp Humphreys, and had trained over 57,000 enlisted men by the time it ceased operations in December 1918. An Engineer Officers' Training Center trained over 4,900 officer candidates during the war. At the close of the war, Camp Humphreys served as a separation center.

In 1919, the Army Engineer School relocated from the Washington Barracks to the Cantonment at Camp Humphreys. Throughout the inter-war years the Engineer School trained new Engineer officers in the technical requirements of their duties. In 1920 it began a Company Officers' Course to provide advanced training to officers with some troop experience. The school also provided compressed courses for National Guard and Reserve officers. An Engineer Board, to make recommendations on new equipment, was co-located with the school. In 1922, the Army converted Camp Humphreys to a permanent post. With the change in status, came a designation as Ft. Humphreys. Two groups of wood frame, bungalows, which served as officers' housing, were built during the 1920s.

Despite some new construction undertaken after becoming a permanent post, the post remained a collection of rapidly deteriorating World War I temporary buildings. The situation was common throughout the War Department, as many of the training cantonments and airfields that had been constructed hastily began to deteriorate. Approximately, one-third of Army personnel in the continental United States lived in temporary structures built in 1917. In 1926, the U.S. Congress enacted Public Law No. 45, authorizing the Secretary of War to dispose of forty-three military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. Later in the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations. Army and Air Corps installations throughout the nation profited from the new construction program.

Ft. Humphreys' improvements began in the early 1930s and continued throughout the decade. The new post layout called for separate functional areas, united in a formal plan. Administrative and instructional buildings were arranged along one side of the parade ground, with barracks, theater/gymnasium, post exchange, and post office in two squares on the opposite side of the parade ground. NCO family housing was arranged in two blocks around rectangular parks, while officers' housing lined a picturesque, curving road in a park-like setting. The officers' housing area culminates in the officers' club overlooking the Potomac river. Warehouses and other support buildings are located at the edge of the new post plan. Like other posts throughout the northeast, Ft. Humphreys featured Colonial Revival buildings.

During the 1930s, archaeologists began to excavate the ruins of Lord Fairfax's old Belvoir plantation on Ft. Humphreys. As interest in the Fairfax family grew, the name of the post was changed from Ft. Humphreys to Ft. Belvoir in 1935.

With the military build-up before and during World War II, Ft. Belvoir again exploded with a new wave of temporary construction. The post again became the home of an Engineer Replacement Training Center and an Officers' Candidate School. The post offered a variety of other engineer-related courses to soldiers during the war. Following the war, Ft. Belvoir remained the home of the Engineer School until 1989, when the school moved to Ft. Leonard Woods, Missouri. In the post war years the school trained engineers for the Cold War, Korea, and Vietnam. After the Engineer School departed, Ft. Belvoir came under the control of the Military District of Washington, where it has supported a wide variety of tenant activities.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Headquarters Building
- -Post office

Education
- -Classroom building (Engineer School)

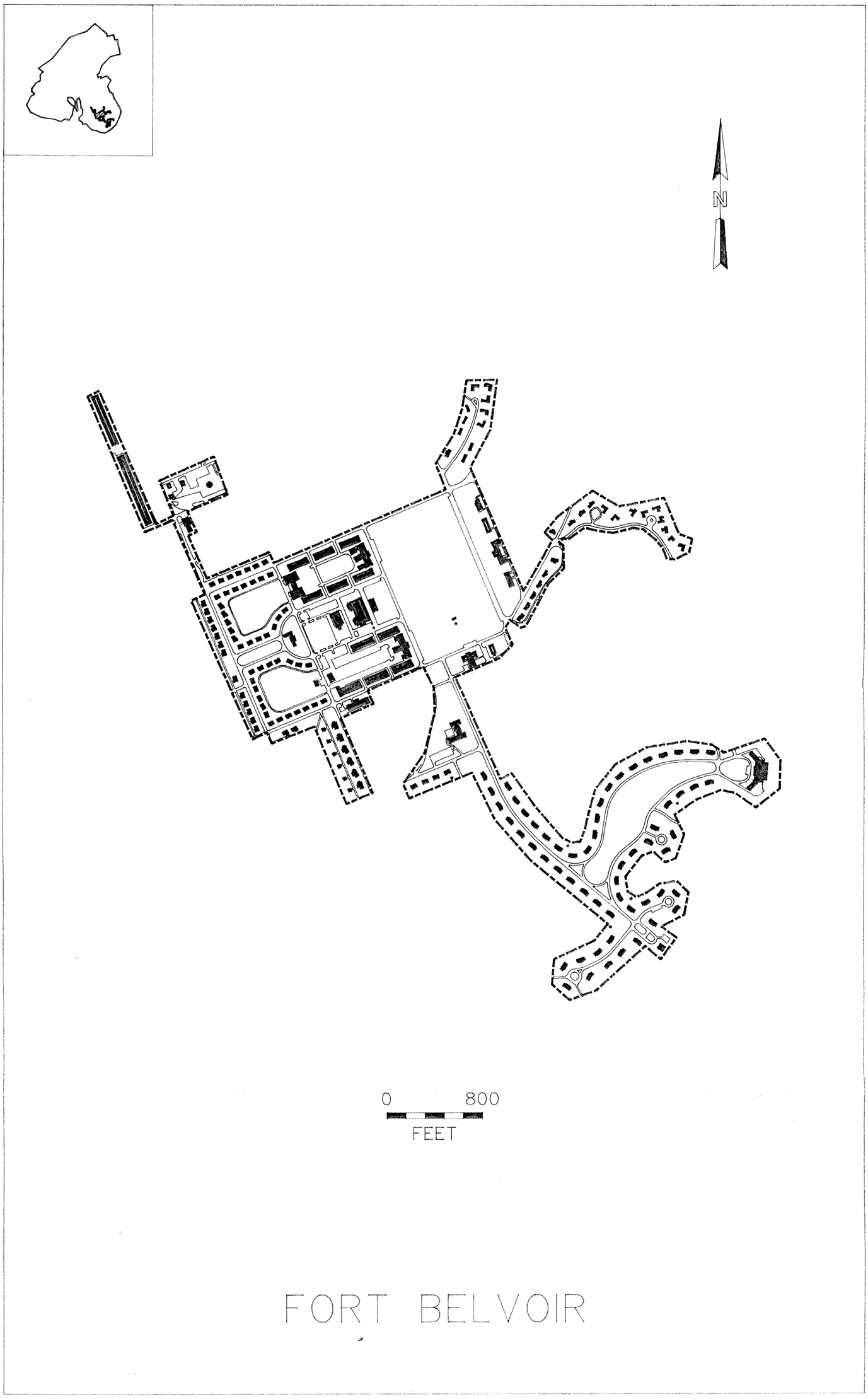
Health Care
- -Hospital

Industrial
- -Manufacturing
  - -Photo-Lithographic Plant
- -Storage (General Installation)
  - -Warehouses

Landscape
- -Recreation fields
- -Parade ground

Recreation/Social/Cultural/Religion
- -Clubs
  - -NCO Club
  - -Officers' Open Mess
- -Elementary School
- -Exchange
- -Theater/Gymnasium

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO housing
  - -Officers' Quarters
  - -Garages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FORT BELVOIR

TIME PERIOD 1903-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Closing the Frontier and Consolidating Posts
  - Wartime Cantonments

The Inter-War Years, 1918-1940
- Training Coasts Defense, Schools and Logistics

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890-1918
- Military Education between the Wars, 1919-1940

Medicine
- Military Medicine during the Progressive Era, 1890-1918

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Standardization of Army Construction
  - Beaux Arts Architecture and Planning
- World War I: Temporary and Permanent Construction, 1917-1918
- Inter-war Years: Regional Architecture and Community Planning, 1918-1940

INSTALLATION HISTORY AND CONTEXT

Located on the northwest outskirts of Indianapolis, Indiana, Ft. Benjamin Harrison is bounded on the west by Route 421, on the south by Pendleton Pike, and on the northeast by Fall Creek Road. The post was established at the instigation of Lt. Col. Russell B. Harrison, son for former President Benjamin Harrison, after learning that the federal government was closing the U.S. Arsenal in Indianapolis.

During the period between 1906 and 1910, the post was constructed under the direction of Captain B.F. Cheatham of the Quartermaster Corps. The new fort was laid out in a horseshoe shape, around the parade ground. The construction followed the pattern of the larger, consolidated army posts of the turn-of-the-century that exhibited unified planning elements and permanent brick, Colonial Revival buildings based on standardized quartermaster general plans. At Ft. Benjamin Harrison, the original construction was separated into three functional areas: 1) residential and administrative structures lining the curvilinear parade ground; 2) administrative and service, to the southwest of the parade ground area; and, 3) hospital and residential, northwest of the parade ground. The main residential and administrative area contained officer's quarters, barracks, administrative buildings, guard house, post exchange, bakery, railway station, and fire station. The service area included a commissary, quartermaster office and warehouse, wagon sheds, stables, teamster barracks, blacksmith shop, and pumping station. The hospital area consisted of the post hospital and family quarters for the hospital steward, the Engineer Officer, and two noncommissioned officers.

The post initially served as a training ground for joint maneuvers of Army infantry and National Guard units. In 1908, the Tenth Infantry Regiment arrived from Ft. Seward, Alaska to take up garrison duty, but then was sent to Panama. The Twenty-third Infantry Regiment manned the garrison until 1913, when they were sent to patrol the Mexican border in Texas. Ft. Benjamin Harrison was placed on caretaker status between 1913 and 1917.

Due to the impending U.S. entry into World War I, activity increased at the fort. In 1917, officials chose the post as one of the key mobilization centers and specialist training sites for the war effort. The three special-function Officer Training Camps included training in trench warfare, the Medical Officer Training Camp, and the Engineer Training Camp.

In August 1918, the post was designated General Hospital No. 25; it treated wounded and disabled soldiers from Indiana, Kentucky, and southern Illinois. The medical department assumed control over the majority of the buildings. The Army originally planned to convert the permanent buildings to hospital use, and to invest $500,000 in new construction. After the hospital began to admit patients, the plan for new construction was dropped in favor of limited alterations to existing buildings. The hospital first treated general medical and surgical patients, but by the end of 1918, the facility had become a neuropsychiatric hospital that treated "shell shock" patients. It resumed the treatment of general medical and surgical patients in 1919. In September 1919, General Hospital No. 25 was discontinued and the main hospital building was returned to use a station post hospital.

The overwhelming majority of military buildings constructed during the First World War were wood frame, often of a temporary nature. Hundreds of frame buildings were erected at Ft. Benjamin Harrison to house the additional troops and services. Only one building, a frame building constructed to house offices in the support services area, remains from the World War I period.

During the immediate post-war period, Ft. Benjamin Harrison, like many other military posts, faced an uncertain future as the U.S. military reduced its strength to pre-war levels and tried to define its peacetime role. Under the terms of the Defense Act of 1920, the six territorial departments were abolished and replaced with nine corps areas. Between August 1920 and 1922, Ft. Benjamin Harrison was the headquarters for the Fifth Corps. A few buildings remain from this period, including two frame vehicle storage buildings and two brick warehouses.

Between 1925 and 1941, the post took on several new training missions. Starting in 1925, a Citizens Military Training Camp was held yearly at Ft. Benjamin Harrison. The Citizens Military Training Camp (CMTC) was based on the "Plattsburgh Idea" of General Leonard Wood, who favored maintaining a reserve of trained civilians to draw upon in the case of war. Wood established the first of these citizen-soldier camps at Plattsburgh Barracks in 1915; these training camps formed the basis of modern reserves training that aided in military preparedness before both World Wars. The CMTC at Ft. Benjamin Harrison was a summer camp program that trained young men, aged 17 to 24, to prepare them for commissions in the Army Reserve Corps. The 1925 CMTC had an enrollment of 1,500. Over the years, the enrollment expanded, including a separate CMTC for black reserves in 1928. By 1935, 3,500 young men attended the Ft. Benjamin Harrison CMTC. The post also conducted Reserve Officer Training summer camps.

Ft. Benjamin Harrison received additional duties when the Civilian Conservation Corps (CCC) was established in 1933. The post became the CCC Indiana District Headquarters where thousands of young men received training. Both the CMTC and the CCC training camps remained active until 1941.

These new training functions caused the installation's second major building phase during the 1930s. Permanent, brick buildings were constructed, using Army standardized plans. In 1931, two new housing areas were built for noncommissioned officers and for officers family quarters. Permanent recreation facilities also were constructed, including a theater and recreation center. Several support facilities also were built including riding stables, garages, and storehouses in an area east of the original cantonment. Two large brick barracks were built near the original cantonment area.

Immediately before and during World War II, Ft. Benjamin Harrison served as an induction and reception center for draftees and as the site of several special-function training centers. The lack of large expanses of open land precluded its use as a tactical training base. The post trained chaplains, cooks, and financial officers. The post also served as a general hospital, prisoner of war camp, and the Midwestern Branch of the U.S. Army Disciplinary Barracks.

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PROPERTY TYPES

Administration
- -Headquarters
- -Fire Station

Health Care
- -Hospital
  - -General Hospital

- -Support Facilities
  - -Hospital Steward's Quarters

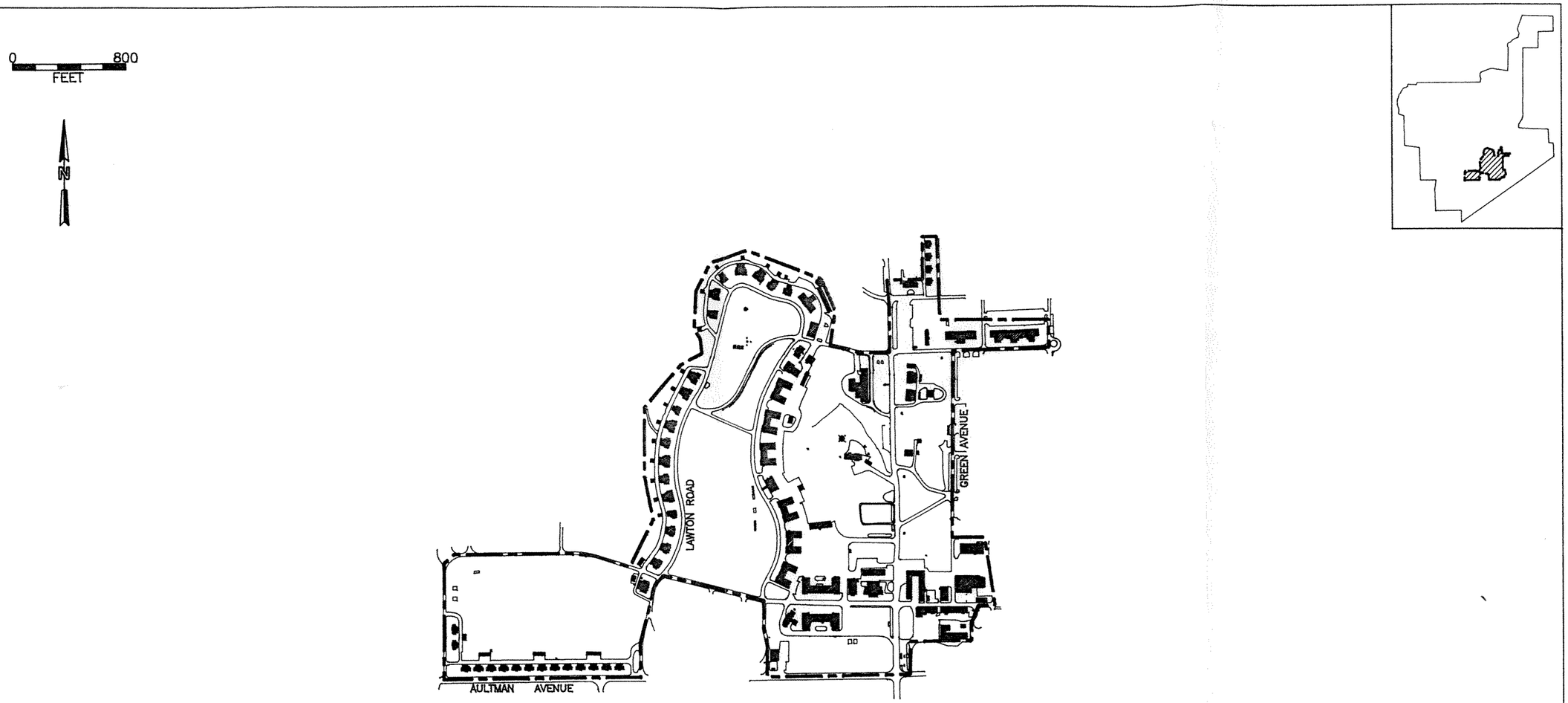
Infrastructure
- -Water and Sewage Systems
  - -Water Tower

Industrial
- -Maintenance and Repair Shops
  - -Blacksmith Shop
- -Service Facility
  - -Bakery
- -Storage (General Installation)
  - -Commissary Warehouse
  - -Flammable Materials Storage

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Recreation Center
- -Exchange

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Band Barracks
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -Multi-family Housing
  - -NCO Quarters
  - -Officers' Quarters

Transportation
- -Animal-related
  - -Stables
- -Rail-related
  - -Railway Station
- -Vehicle-related
  - -Gas Station



FORT BENJAMIN HARRISON

TIME PERIOD 1919-1940

The Inter-war Years, 1918-1940
Army
Installation Improvement
Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
Military Education between the Wars, 1919-1940
Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940

INSTALLATION HISTORY AND CONTEXT

Ft. Benning is located south of Columbus, in western Georgia. The installation occupies approximately 187,000 acres. It is the home of the U.S. Army Infantry School. The Infantry School traces its history back to the School of Musketry that was established at the Presidio of Monterey in 1907. In 1913, the school was moved to Ft. Sill, Oklahoma, along with the artillery school. During World War I, training facilities required additional expansion to accommodated the increased numbers of troops. The Army moved the U.S. Army Infantry School to a temporary camp on leased land near Columbus, Georgia, in 1918.

After the Armistice, troop strength and appropriations were reduced dramatically. Due to the contributions of infantry during the war and the desire to reduce casualties through better training, the Army decided to retain the Infantry Training School. The school moved beyond simply teaching marksmanship, to teaching a broad range of skills necessary for infantry weaponry and tactics. Camp Benning moved to its present location south of Upatoi Creek when the Army purchased the former Bussey plantation "Riverside" in 1919. The plantation house serves as quarters for the commanding officer. Construction was undertaken on semi-permanent buildings to accommodate the school's population, including barracks, classroom buildings, bakery, laundry, post exchange, headquarters, hospital, and warehouses, utilities, and rail lines, but construction was halted several times as the Army considered closing the camp. Most of these buildings do not survive.

In 1922, Ft. Benning became a permanent military installation by War Department Order. The development of Ft. Benning reflects the changes in permanent Army design during the 1920s and 1930s. In 1919, basic land use patterns of post were established. Officers' quarters were located around the plantation house "Riverside;" enlisted barracks where the permanent barracks (known as cuartels) now stand; the "civic" area around what is now Stilwell Field; and the warehousing district north of Vibbert Street. The airfield was located apart from the main cantonment. Buildings that remain from 1919 include warehouses 10 through 15, and balloon hangars 303 and 304, located at the air field.

Permanent construction began in 1923, and followed a revised 1919 post plan. Officers' housing reflected Dutch Colonial Revival architecture and featured brick and stuccoed construction with steep roofs. In 1924, a new master plan was devised by Ft. Benning's new commandant, Brigadier General Briant H. Wells. This plan shaped the permanent construction of the main post. The basic land use patterns remained the same, though the post was expanded in general. The original civic area was planned to include both recreational and academic buildings. Recreational facilities were constructed under the Recreation Center Board created at Ft. Benning in 1924.

Meanwhile, the military struggled with a nationwide military housing shortage. Approximately one-third of Army personnel in the continental United States lived in temporary structures built in 1917; the living conditions at Ft. Benning fit this description. In 1926, the U.S. Congress enacted Public Law No. 45, authorizing the Secretary of War to dispose of forty-three military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. In 1927, the first monies were expended, and Ft. Benning was one of the recipients. Later in the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations. For example, at Ft. Benning, the Dutch Colonial Revival designs had been criticized because they collected heat during the summer.

Ft. Benning is an excellent example of the results of the Army's program for new posts; due to the Infantry School, it was among the first to receive funds for permanent construction. Prominent city planner George B. Ford designed the new plan for Ft. Benning. The War Department retained Ford as a consultant for the new posts built with the Military Post Construction Fund. His planning concepts are evident in his plan for the new post. Ford incorporated the existing permanent buildings with a master plan based on concepts used in the City Beautiful and Garden City movements. Housing remained grouped along curving streets. Ford introduced strong visual axes between the commanding officers quarters and the new headquarters building, as well as between various administration buildings. The new buildings constructed during the 1930s reflect the Spanish Colonial Revival architectural tradition and featured stuccoed exteriors and red clay tile roofs. The barracks are large three-story structures with wide concrete porticos. Two architect-designed buildings also were completed during the 1930s: the Infantry School (Building 35) designed by the architectural firm of McKim, Mead, and White and the post chapel (Building 101) designed by regional architects Hentz, Adler, and Schutze. Other installations of this era where the Spanish Colonial Revival architectural style was used include Ft. Mason, Ft. Bragg, Pope Air Force Base, Presidio of San Francisco, Ft. Sam Houston, Ft. Bliss, Ft. Sill, Maxwell Air Force Base, and Randolph Air Force Base.

The physical growth at Ft. Benning reflected the growth of the Infantry School. School personnel trained troops, improved tactics and equipment, and integrated these improvements into operational doctrine. In 1932, the Tank School was transferred from Ft. Meade to Ft. Benning.

The Army's increasing use of aviation is evident in the new construction at the airfield of a modern, new concrete and steel hangar. The continued reliance on animal transport is evident in the construction of a new stable and veterinary complex during the 1930s.

When war erupted in Europe in 1939, Ft. Benning became a national military training center and its facilities were expanded further. Since World War II, Ft. Benning has remained a vital center of infantry training.

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PROPERTY TYPES

Administration
- -Fire Station
- -Headquarters Building

Education
- -Classroom Buildings

Health Care
- -Hospital
  - -Wards
  - -Nurses' Quarters
  - -Secondary Support
    - -Mess
    - -Power Plant

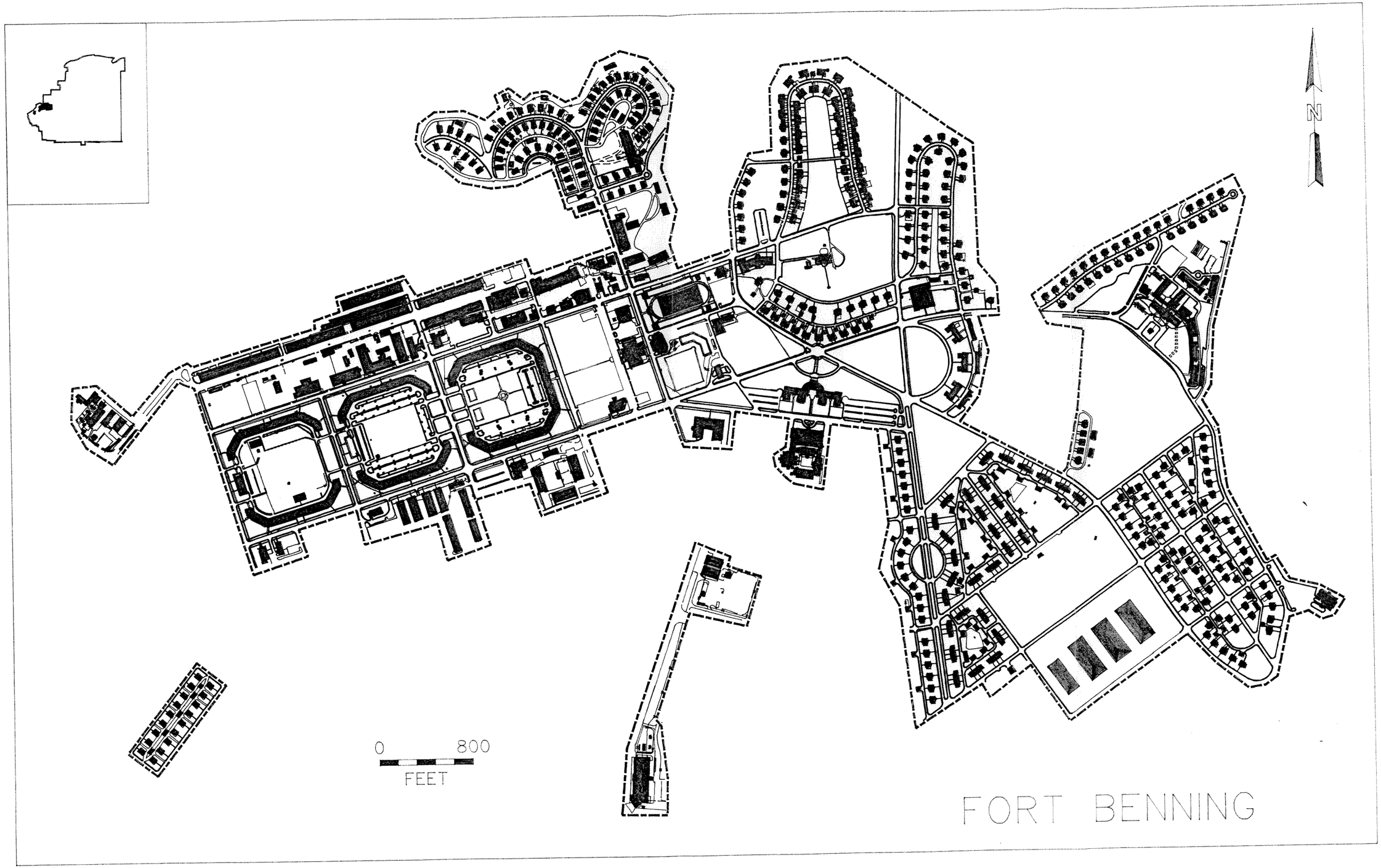
Industrial
- -Maintenance and Repair Shops
  - -Utility Shop
- -Service Facilities
  - -Bakery

- -Storage (General Installation)
  - -Storage Buildings
  - -Warehouses/Commissary

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Athletic Fields
  - -Bowling Alley
  - -Golf Course
  - -Gymnasium
  - -Stadium
- -Chapel
- -Clubs
  - -Officers' Mess
  - -NCO Club
  - -Enlisted Men's Club
- -Library
- -Theater

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
  - -Visiting Officers' Quarters
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Air Field
  - -Airplane Hangars
  - -Balloon Hangars
- -Vehicle-related
  - -Gas Stations
  - -Quartermaster Garages/Motor pools
  - -Tank Repair Shops
- -Animal-related
  - -Veterinary facilities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FORT BENNING

TIME PERIOD 1890-1939

The Military and the Progressive Era, 1890-1918
- Army
  - Army Operations
  - Closing the Frontier and Consolidating Posts

The Inter-war Years, 1918-1940

RELEVANT THEMES

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Army Consolidation of Posts
  - Standardization of Army Construction
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940

Transportation
- Benefits of Transportation Systems to the Military

INSTALLATION HISTORY AND CONTEXT

The main cantonment of Ft. Bliss is located east of El Paso, Texas, on a rise overlooking a valley. This site was the sixth location for Ft. Bliss, which first was established in the El Paso area in 1848. The post was named for Wallace Bliss, who was Zachary Taylor's adjutant during the Mexican War. It served as a small infantry post in a chain of posts between San Antonio and El Paso that provided safe southern overland route. In 1890, the U.S. government authorized the purchase of land on the La Noria Mesa, the installation's current location. During this period, at the close of the Indian Wars, the army was consolidating its posts into larger, permanent facilities. El Paso was chosen as the site of a permanent post for its strategic location on the United States-Mexican border, proximity to the junction of five railroad trunk lines, availability of land for expansion, and adequacy of water supplies. The first two site considerations indicated the army's increasing reliance on railroads for transportation and its changing role as guardian of international borders, rather than as a domestic security force.

The Army started plans for the new post 1890. The post was planned to house three infantry companies, with the capability of future expansion. Construction began in 1892, and was substantially completed in 1893. The first troops arrived in 1894.

The original section of Ft. Bliss was laid out around a central parade ground that followed the curve of the mesa; officers' quarters lined the west side of the parade ground, while the barracks, mess hall, and hospital lined the east side. Both ends of the parade ground were left open for future expansion. Credit for the design of the buildings has been given to Captain George Ruhlen, assistant quartermaster; Ruhlen submitted plans to the Quartermaster General's Office in Washington, D.C, for approval. F.A. Gartner, an architect and civil engineer, assisted Ruhlen.

During this consolidation period, the Army issued standardized plans, but an installation retained a large amount of discretion over design. In several cases, local architects were chosen to design the buildings at individual installations. The buildings constructed in the late 1880s and 1890s represented a high degree of individuality; those constructed at Ft. Bliss are part of this pattern. The officers' houses are two-storied buildings with front-facing gables. Ornamentation is restricted to terra cotta panels on the front facades. The earliest housing and barracks were constructed of yellow brick; subsequent officers' quarters and a second barracks were of red brick. The quartermaster support buildings, including the commissary, warehouses, and shops, were located north of the main parade area. During the initial construction, the site of the commanding officer's quarters was left vacant. In 1910, a Colonial Revival, standardized plan house with a two-tier, full-facade portico was built facing the parade ground.

In 1895, the first company of cavalry was assigned to the installation, foreshadowing the future growth of Ft. Bliss as a major cavalry installation during the twentieth century. When the Mexican Revolution started in 1910, Ft. Bliss became a strategic installation for monitoring the crisis and for deployment of troops as needed. In 1912, the post was transferred from the infantry to the cavalry. As troop strength increased, the installation facilities became overcrowded. Between 1913 and 1917, more barracks and officers' bungalows were added, and the post became a regimental installation. The new buildings were added in rows along the parade ground, which was extended north and south. Ft. Bliss became the command center for Pershing's punitive expedition against Pancho Villa into Mexico in 1916; over 4,000 troops participated in the expedition.

When the United States entered World War I, Ft. Bliss became a recruitment and training center. After World War I, Ft. Bliss became the home of the First Cavalry Division. Due to its strategic location along the U.S.-Mexican border, Ft. Bliss maintained a large number of troops and even increased its acreage during the otherwise lean years for military expenditures during the 1920s. This period of expansion included Beaumont Hospital (1921), Biggs Field (1925), and Castner Range (1926).

Ft. Bliss expanded again during the 1930s. New buildings included several complexes of NCO family housing constructed according to standardized Quartermaster plans in the Spanish Colonial Revival style, barracks, and stable complexes. Ft. Bliss remained a cavalry post until 1943; it was one of the Army's largest and last horse cavalry post with a strategic military mission. Other cavalry installations included Ft. Riley, the home of the cavalry school and a traditional home of the cavalry and Ft. Myer, the home of ceremonial cavalry units. Today, Ft. Bliss is the center for anti-aircraft artillery and guided missile development and training.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Headquarters Building

Health Care
- -Hospital (General)-Beaumont
  - -Housing
  - -Mess hall
  - -Wards
- -Hospital (Post)
  - -Isolation Ward

Infrastructure
- -Water Tank
- -Sewage Plant

Industrial
- -Maintenance and Repair Shops
  - -Quartermaster Maintenance Shops
  - -Blacksmith Shop
- Storage (General Installation)
  - -Ammunition Storage
  - -Commissary Warehouse
  - -Quartermaster Warehouse
  - -Storage Buildings
  - -Warehouses Complex

Landscape
- -Parade Ground

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Polo Field
- -Chapel
- -Clubs
  - -Officers Mess
- -Theater

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarter
  - -Barracks
  - -Mess Hall
  - -Latrines/Bath houses

- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation

- -Animal-related
  - -Stables
  - -Stable Guard
  - -Blacksmith and Saddle Shop
  - -Stable Masters' Quarters

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FORREST ROAD
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PARADE GROUND
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FORT BLISS

TIME PERIOD 1918-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Wartime Cantonments

The Inter-war Years, 1918-1940
- Army
  - Installation Improvement

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890-1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- World War I: Temporary and Permanent Construction, 1917-1918
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

Technology
- Weapons and Ammunition

INSTALLATION HISTORY AND CONTEXT

Ft. Bragg is located in the central region of North Carolina near Fayetteville and contains 214 square miles. The installation was founded during World War I as an artillery training installation.

In the spring of 1918, Major General William J. Snow, Chief of Artillery, requested Field Artillery brigade commanders to provide areas near existing posts suitable for field training. Three firing centers and one replacement depot were located at existing facilities: Camp Jackson, South Carolina; Camp Taylor, Kentucky; Camp Lewis, Washington; and, Camp McClellan, Alabama. An additional firing center was desired. Requirements for the firing center included adequate water supplies, suitable soil, preferably sandy foothills like Camp Jackson, nearby rail transportation, and a site as far north as possible possessing a climate suitable for year-round training.

On 21 August 1918, the War Department established Camp Bragg near Fayetteville, North Carolina, as its fifth field artillery training center. The installation was named in honor of Captain Braxton Bragg, a North Carolina native, graduate of West Point, decorated veteran of the Mexican War, and general in the Confederate Army. Construction of the World War I cantonment began on 16 September 1918.

By 1 February 1919, the camp was ready for occupancy. Men arrived from Camp McClellan, including artillery forces, the 32nd Balloon Company, the 84th Photographic Section, the 25th Radio Detachment, and one air squadron. Construction was completed on 24 May 1919, with a capacity for 536 officers, 15,713 enlisted men, 51 nurses, and 5,780 animals.

After World War I, the number of troops at Camp Bragg decreased rapidly as the country demobilized. During the early 1920s, the War Department reorganized the Field Artillery and ordered Camp Bragg deactivated. However, the Commanding Officer, General Albert J. Bowley, determined to save Camp Bragg. After extensive lobbying, Bowley persuaded the Secretary of War not to close Bragg and to return the Field Officers' Course to Bragg. In April 1922, Ft. Bragg was designated a permanent installation. A massive fire at Ft. Bragg and the surrounding countryside destroyed many buildings and natural ground cover in 1925.

In 1926, the Congress enacted Public Law No. 45, authorizing the Secretary of War to dispose of forty-three military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. In 1927, the first monies were expended, and Ft. Bragg was one of the recipients. During the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations. At Fort Bragg, construction designs incorporated elements of the Spanish Colonial/Mission Revival architectural style. The Construction Division selected the Mission Revival style for use at installations south of Virginia; though not part of the regional architectural heritage of the Southeast, the Quartermaster architects found the Mission style suited to the hot climate.

During the 1930s, the new phase of construction at Fort Bragg was completed. By 1938, the following permanent facilities existed at Fort Bragg: officers' quarters, NCO quarters, enlisted men's barracks, stables, artillery gun sheds, hospital, nurse's quarters, and administration buildings. In addition, landscaping included the planting of lawns and shrubs. In 1939, the population of Fort Bragg, including dependents, was 6,200.

In 1939, plans to increase the size of the U.S. Army were announced. The 155mm Howitzer was unveiled at Fort Bragg in the same year. This weapon fired the largest shot ever fired by a standard field gun of the U.S. Army. It was designed for bombardment of enemy reserves, supply centers, and communication facilities located far behind enemy lines.

During World War II, training of airborne units began at Fort Bragg. That mission has continued until the present day and involves the training and mobilization support for the XVIII Airborne Corps.

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Letter of Brigadier General Albert J. Bowley to his sister Mrs. Hoffman, Palo Alto,, California. Date September 16, Pennsylvania Railway, no year. In the historical files of Fort Bragg.

PROPERTY TYPES

Administration
- -Fire Station
- -Headquarters Building

Communication
- -Telephone Exchange

Health Care
- -Hospital
  - -Nurses' Quarters

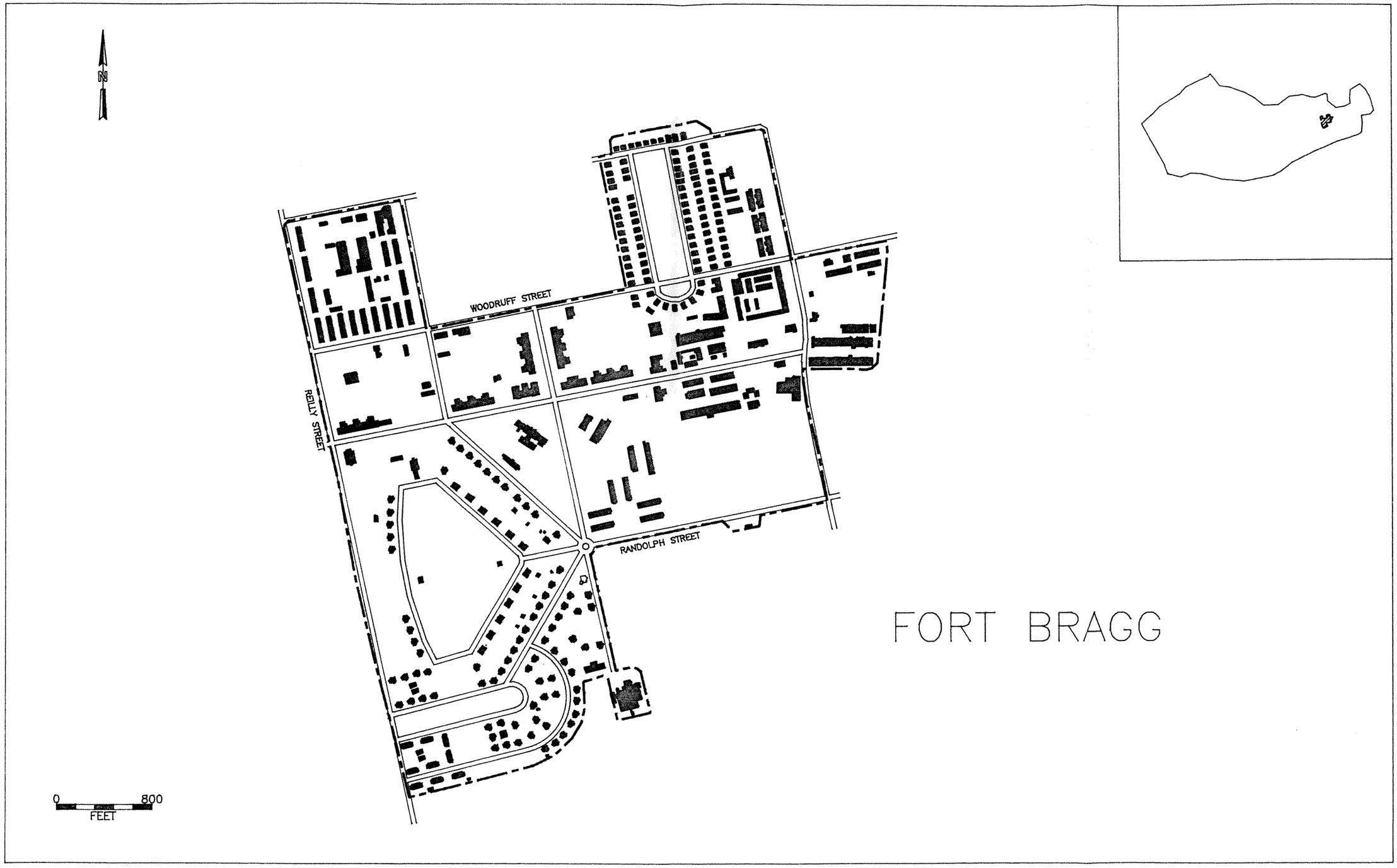
Industrial
- -Service Facility
  - -Bakery
- -Storage (General Installations)
  - -Ammunition Storage
  - -Quartermaster Warehouse
  - -Warehouses

Infrastructure
- -Water and Sewage System
  - -Sewage Pump Station
  - -Water Treatment Plant

Recreation/Social/Cultural/Religion
- -Chapel
- -Theater

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation
- -Animal-related
  - -Artillery Stables
  - -Stable Guard Quarters
  - -Gun Sheds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TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Wartime Cantonments

The Inter-war Years, 1918-1940
- Army
  - Installation Improvement
  - Training, Coastal Defense, Schools and Logistics

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890-1917
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

Fort Devens, Massachusetts, is a 9,338-acre facility located adjacent to the towns of Ayer, Shirley, and Harvard in northeastern Massachusetts. The largest military installation in New England, Fort Devens was first established in 1917, as Camp Devens. It was one of sixteen temporary training cantonments. Most troops from New England and northern New York received their initial training here and all New England troops were discharged from Fort Devens after World War I.

To prepare Camp Devens and other training facilities for the influx of troop trainees during World War I, the Army built mostly standard, temporary, frame structures and some permanent, masonry structures. The temporary structures included barracks, laundries, bakeries, mess halls, hospitals, infirmaries, gymnasiums, latrines, and administrative buildings, while permanent buildings included heating plants, electric substations, and offices. Presently, eight World War I buildings, divided evenly between temporary and permanent structures, remain standing on Fort Devens. The group of temporary buildings include four one-story, wood frame service buildings: a bakery (Building T-216), Quartermaster warehouse (Building T-1413), storehouse (Building T-1418), and blacksmith shop/electric shop (Building T-1420). The permanent structures consist of an electric substation (P-28) and two heating plants (Buildings P-211 and P-1425). The World War I post exchange (Building P-14) remains, but the original wood frame building was encased in brick.

After the First World War, Congress cut back significantly on funding for the military. The isolationism of the 1920s reduced military expenditures for personnel, building maintenance, and new construction. Within this budgetary austerity, both Congress and the Army worked to promote better military preparedness in the event of another war, by establishing nine corps areas within the United States comprised of active Army, Reserve, and National Guard divisions. By the

mid-1920's, the hastily erected temporary World War I buildings still in use by the Army had deteriorated severely. Congress passed Public Law No. 45 in March, 1926, which allowed the Secretary of War to dispose of forty-three complete or partial military installations. The savings accruing from these closures then would be used to create permanent housing and hospital buildings at selected retained posts.

The Army placed Camp Devens, like the majority of other training camps, on caretaker status after the demobilization at the end of World War I. During the 1920s, the installation was used as a summer training camp for National Guard, Reserve, and Regular Army troops. In 1927, Camp Devens was chosen as one of the posts to receive funding for permanent construction. Several barracks were completed by 1929; nevertheless, the Army considered closing the post in 1930 in response to the fiscal crisis after the stock market crash of 1929. The lobbying efforts of the local community and Congresswoman Edith Nourse Rogers of nearby Lowell, Massachusetts, prevented the closing of the installation. In 1931, Camp Devens was made a permanent Army post and its name changed to Fort Devens.

The earliest extant plan for permanent construction at Ft. Devens is a formal, symmetrical, and complex plan developed by the Quartermaster Officers Reserve Corps in 1926. The actual construction utilized a much simpler, less symmetrical design based on the existing layout of the post, while still incorporating formal, hierarchical planning elements. The overall plan is U-shaped with the commander's house at the curved western end of the U. The eastern end of the U-shaped parade ground remained open. Two rows of officers' housing line the south side of the parade ground opposite the barracks quadrangle, post headquarters, and theater along the northern parade ground edge. NCO housing is located east of the parade ground. The Civilian Conservation Corps (CCC) provided extensive landscaping, which creates a suburban atmosphere. The landscaping and planning at Fort Devens owed much to the City Beautiful, Garden City and park planning movements of the period.

The Quartermaster Corps designed standardized plans for the new post construction resulting from the 1926 legislation. These standardized plans were designed to be both economical and attractive. The Army differentiated the standard plans through the use of regional architectural styles; Colonial Revival was used from the Canadian border to Virginia. The funds for this construction came from the Public Works Administration and the Works Progress Administration.

Over 100 buildings, constructed primarily of brick, in a simple Colonial Revival style, remain from the 1927-1940 period. These structures include a post headquarters, four Infantry Regiment barracks, officers' housing (single family houses and apartments), NCO family housing, bakery, theater, guardhouse/fire station, Quartermaster warehouses, concrete fixed ammo magazines, and hospital.

In 1940, after the institution of the first U.S. peacetime draft, the Army designated Fort Devens as the reception center for all New England draftees. Approximately 1,200 temporary wooden buildings were erected on the post to accommodate the influx of troops. After World War II, Fort Devens first served as a demobilization center and was then placed on caretaker status. The Army reopened the installation at the start of the Korean War.

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PROPERTY TYPES

Administration
- -Fire Station and Guard House
- -Financial Administration Building
- -Headquarters
- -Sentry Station

Communications
- -Radio, Telephone, and Telegraph Building

Health Care
- -Hospital

Industrial
- -Maintenance and Repair Shops
  - -Blacksmith Shops/Electric Shop
- -Service Facilities
  - -Bakery
- Storage
  - -Quartermaster Warehouse
  - -Fixed Ammo Magazine
  - -Storehouse

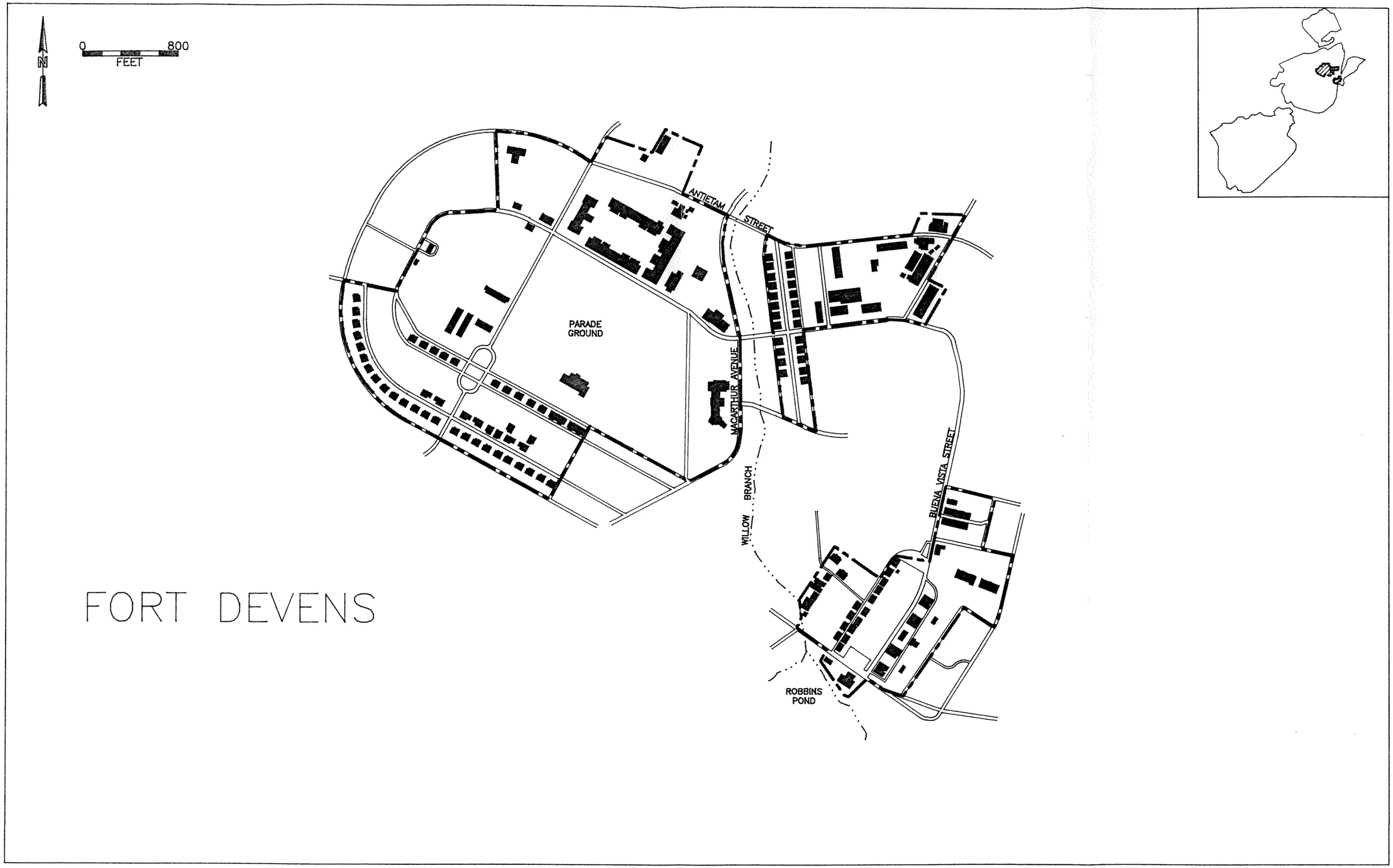
Infrastructure
- -Heating Plant

Recreation/Social/Cultural/Religion
- -Exchange
- -Theater

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters

-NCO Housing
-Officer Housing
-Garages

Transportation
-Animal-related
-Stables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PARADE GROUND
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MACARTHUR AVENUE
WILLOW BRANCH
BUENA VISTA STREET
ROBBINS POND
FORT DEVENS

TIME PERIOD 1877 - 1940

The Civil War and National Expansion, 1860-1890
- Army
  - Frontier Posts

The Military and the Progressive Era, 1890-1918
- Army
  - Army Operations
  - Closing the Frontier and Consolidating Posts

The Inter-war Years, 1918-1940
- Army

RELEVANT THEMES

Communications
- Military Telegraphy and the Development of the Army Signal Corps

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Army Consolidation of Posts
  - Standardization of Army Construction
- Inter-war Years: Regional Architecture and Community Planning
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

Fort Huachuca is located near the United States-Mexico border, at the mouth of Huachuca Canyon at the northeastern base of the Huachuca Mountains about 50 miles southeast of Tucson, Arizona. The post was established as a cavalry camp in 1877. It served as part of a network of Army posts located along the southwestern frontier to guard the United States-Mexican border, to contain the Apache and other southwestern tribes on reservations, and to prevent Indian raids into Mexico. Between 1868 and 1890, federal troops and native tribes engaged in hundreds of battles, known as the Indian Wars, throughout the western territories. During the this period, the U.S. Army established nearly seventy posts in the Arizona Territory; of these, only Fort Huachuca is an active-duty installation.

In 1881, funds were appropriated for permanent construction at the camp. Fort Huachuca troops constructed the buildings, which included barracks, officers' quarters, a hospital, an administration building, and a bakery, between 1882 and 1891. Fort Huachuca was constructed from the post plan common to frontier Army garrisons. Buildings are arranged around a rectangular parade ground, which narrows at one end, reflecting the geographic confines of its canyon location. Officers' quarters were constructed along the south side of the parade ground, and barracks along the north side. The hospital and administration buildings were constructed at the east end; post recreation facilities, at the west. Cavalry stables, warehousing, and a corral were located apart from the main parade ground. The buildings, including housing and barracks, are examples of early Quartermaster-standardized plans, promoted by Quartermaster General M.C.

Meigs during the 1870s. The construction materials are adobe bricks, a locally-obtained material. The old post is remarkably intact and strongly conveys the feeling of an isolated frontier post.

During the 1880s, Fort Huachuca troops fought in the military campaign against Geronimo and the last non-reservation Apache. In 1885, Geronimo and other Apache escaped from their reservation and terrorized areas in the southwest and Mexico. In 1886, a military expedition under the command of Captain Henry W. Lawton left Fort Huachuca to find Geronimo. After eluding capture for four months, Geronimo finally surrendered, ending the last major military campaign against Indians on the southwestern frontier.

After Geronimo's capture, the Army deactivated most of the camps and forts in the southwest. However, the War Department retained Fort Huachuca because of its proximity to the Mexican border. From here, troops guarded the Mexican-United States border. Fort Huachuca was also an important station in the experimental heliograph network that extended across the southwest.

During the era of racial segregation in the military, the Army tended to station African-American troops at remote locations. Fort Huachuca was one of the country's foremost centers of African-American military service and troops garrisoned there have included soldiers from all four of the Army's African-American regiments: the 10th Cavalry (1913-1916), the 9th Cavalry (1898-1900), the 24th Infantry (1892-1896), and the 25th Infantry (1898-1899).

As the 1911 Mexican Revolution progressed, relations between the United States and Mexico deteriorated. Following an incident with American sailors in Tampico, war appeared to be a real possibility. Relations temporarily were calmed until the Mexican revolutionary Pancho Villa crossed the United States border and attacked U.S. citizens. In response, President Woodrow Wilson ordered Brigadier General John J. Pershing into Mexico in what proved to be futile pursuit of Villa. The Americans withdrew from Mexico in January 1917 in the face of impending entry into World War I and failure to accomplish their objective. From this time until the beginning of World War II, the Army continued to patrol the Mexican border.

Facilities at Fort Huachuca were expanded between 1912 and 1917 to accommodate the increased troop strength along the Mexican border. Additional wood-frame barracks and double officer's quarters were constructed.

Fort Huachuca remained primarily a cavalry post until 1931, when it became an infantry post. During the 1930s, modest expansion occurred at the installation. Public works projects funded the renovation of existing quarters and the construction of a large new barracks. The barracks is a Quartermaster- standardized plan in the Spanish Colonial Revival style. Other standardized construction included a Mission Revival style theater, one NCO quarters, garages, warehouses, and support buildings.

After World War II, Fort Huachuca was deactivated and transferred to the Arizona National Guard. Re-activated during the Korean War, it was closed again in 1953. It was reopened in 1954 as an electronics proving ground and has served as headquarters of the Army Communication Command since the establishment of the Strategic Communications Command in 1967.

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The Smoke Signal. "History of Fort Huachuca, 1877-1890." Tucson Corral of the Westerners, 1974.

PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Headquarters (Post)

Health Care
- -Hospital
  - -Hospital Annex
  - -Morgue

Industrial
- -Maintenance and Repair Shops
  - -Quartermaster Shop
- -Service Facilities
  - -Bakery
  - -Laundry
- -Exchange
- -Storage (General Installation)
  - -Warehouses
  - -Storage Sheds

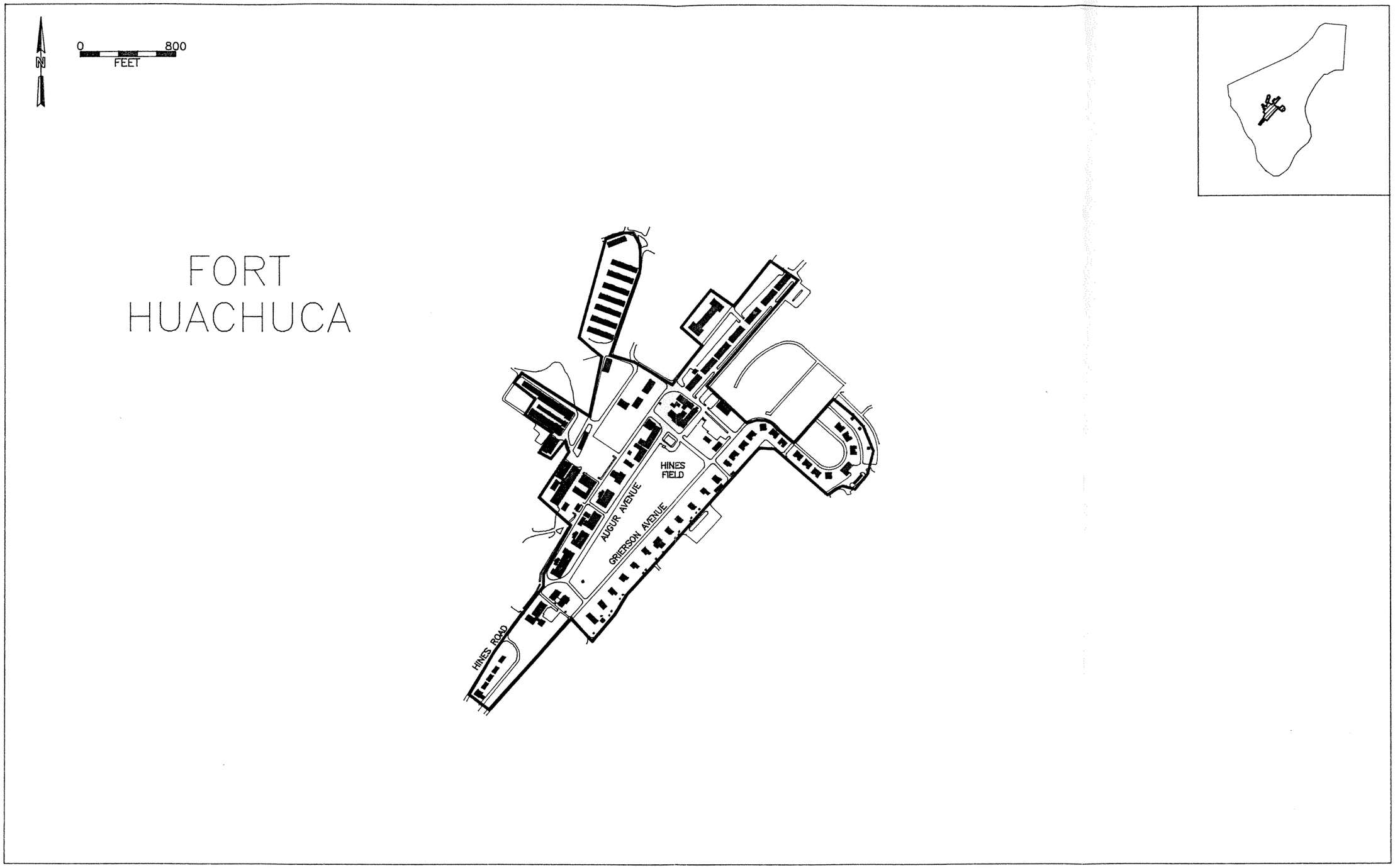
Infrastructure
- -Power Plant
- -Water and Sewage System
  - -Reservoir
  - -Well House
  - -Pumphouse

Landscape
- -Parade Ground

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Bowling alley
  - -Golf Club House
  - -Gymnasium
- -Schoolhouse
- -Theater

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
  - -Latrines/bathhouse
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officers' Quarters
  - -Servant's Quarters
  - -Garages

Transportation
- -Animal-related
  - -Stables/Corral
- -Vehicle-related
  - -Quartermaster Gas Station
  - -Auto Repair Garage/Maintenance Shop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FORT
HUACHUCA
HINES
FIELD
AUGUR AVENUE
GRIERSON AVENUE
HINES ROAD

TIME PERIODS 1931-1940

The Inter-war Years, 1919-1940
Army
Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
Military Education between the Wars, 1919-1940

INSTALLATION HISTORY AND CONTEXT

Fort Indiantown Gap is located in the eastern half of Pennsylvania in Lebanon and Dauphin Counties. It is situated in the Lebanon Valley at the foot of the Blue Mountains. In 1931, the Commonwealth of Pennsylvania acquired the agricultural land for a military reservation to train the Pennsylvania National Guard. Six older farmhouses (T-9-55, Quarters 6, 28, 29, 30, and 32) and the remains of two barns (24-22 and 0-01) remain from the previous settlement of the land. Building T-9-55 is a good example of a locally significant eighteenth-century, German log house.

A 1939 map depicts the major development of the installation; a thin line of National Guard buildings was situated along State Route 934 and Clement Avenue. In September 1940, the U.S. Army leased the installation, which was occupied in 1941 by the 28th Infantry Division, Pennsylvania National Guard. When the 28th Division arrived, it moved a wood frame chapel (Building T-9-76) constructed in 1937 at Mount Gretna to the site. It is not known if any other buildings were moved with the unit at that time.

In 1941, the troop facilities were greatly expanded by the U.S. Army under the emergency preparedness measures that were implemented in case the United States joined the war in Europe. Throughout 1941, temporary standardized buildings were constructed and arranged in symmetrical squares based on troop size. According to the real property records, the majority of extant buildings at Fort Indiantown Gap date from this construction effort.

During World War II, Fort Indiantown Gap provided basic training for the armor and infantry troops. The installation was deactivated in 1953. It continues to function as a training site in support of weekend and annual training exercises for Army Reserve, Reserve Officer Training Corps, and active Army units.

The Commonwealth of Pennsylvania retains title to the land on which the installation is located, but leases it to the U.S. Army. Large sections of the installation are operated, and several buildings are owned by, the Pennsylvania National Guard or the Commonwealth of Pennsylvania. These buildings include all of the farmhouses now used as quarters.

After the site's selection for inclusion as a case study for this project, archival and field investigation revealed that the installation contained no buildings constructed by the U.S. military

on the site before 1940. The historic context developed for this project is not directly relevant to the structures at Fort Indiantown Gap. The state and local contexts of agriculture, regional architecture, and development of the state National Guard are the relevant historic contexts to assess the pre-1940 buildings. World War II military construction and training is the appropriate historic context for the 1940 - 1945 buildings. No map of the installation was produced, as no pre-1940 historic area relevant to the historic context developed under this project was identified on the facility.

SOURCES CONSULTED

Real Property Office, Fort Indiantown Gap. Office files, maps, real property records.

Pennsylvania National Guard, Administration Office. Historic map on display.

PROPERTY TYPES

Residential
- -Family Housing
  - -Farmhouses
  - -Barns

Recreation/Social/Cultural/Religion
- -Chapel

World War II Temporary Cantonment
- -Barracks
- -Support buildings
- -Administration
- -Mess Halls

TIME PERIOD 1918-1921; 1931-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Wartime Cantonments

The Inter-war Years, 1918-1940
- Army
  - Installation Improvement
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890-1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

Technology
- Weapons and Ammunition

INSTALLATION HISTORY AND CONTEXT

Fort Knox, a 40,000 acre facility, is located near Radcliff, Kentucky, 35 miles south of Louisville. It was purchased in 1918 as an artillery training camp. The camp consisted of temporary wooden mobilization structures and included airfield. No buildings exist from this initial construction period.

After the Armistice, the Army closed the artillery training camp. From 1922 to 1932, the Army used the site for summer training within the Fifth Corps Area. Three different types of training programs operated at Camp Knox: the Citizens Military Training Camp, Reserve Officers' Training Corps, and the National Guard. The National Defense Act of 1920 established the citizen's military training camps to produce citizen soldiers.

In 1931, Camp Knox became home to the cavalry's mechanized force and proved crucial in the development and acceptance of the tank during the inter-war era. The tank had appeared in World War I, as part of an effort to break the stalemate of trench warfare, but slow speed and short range limited the usefulness of the earliest versions.

After the war, development of armored warfare in the United States suffered from both a lack of funds and a constricted vision of the possibilities of tanks. Nonetheless, armored doctrine continued to progress slowly. Its most important development came in 1928, when the War Department organized a Provisional Mechanized Force at Camp Meade, Maryland; however, the new Chief of Staff, Douglas MacArthur, later disbanded the force to allow each branch to develop armored warfare in its own way.

After the disbandment of the Provisional Mechanized Force at Camp Meade, both the infantry and cavalry experimented with tanks. In 1931, a mechanized cavalry force was organized at Camp Knox. The facility was renamed Ft. Knox in 1932, in recognition of its new permanence as home of the mechanized cavalry.

The permanent buildings at Ft. Knox were constructed during the nationwide Army construction program of the 1930s. In response to nationwide military housing shortage, the U.S. Congress enacted Public Law No. 45 in 1926, authorizing the Secretary of War to dispose of forty-three military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. Later in the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the different regions of the country.

At Ft. Knox, the post plan combines both the traditional Army plan with planning concepts used in the City Beautiful and Garden City. The plan has a traditional center around a quadrilateral parade ground. Barracks are located along the south side of the parade ground; officers' quarters, along the north side. Administrative buildings and community support buildings are located on the west side of the parade ground. On the east side is the hospital. Additional officers' housing is located along a curvilinear street that follows the site's topography. Additional barracks are located beyond the officer housing area. Other housing areas are dispersed throughout the main post area, as well as a warehousing district and operations support buildings.

The permanent buildings construction during the 1930s used standardized Quartermaster plans reflecting the Georgian Colonial Revival architectural style. The buildings are constructed of red brick and feature Classical detailing in white trim.

During the 1930s, the 7th Cavalry Brigade at Ft. Knox demonstrated the effectiveness of mechanized forces and tested new tactics. Officially, the brigade was confined to traditional cavalry missions of reconnaissance, raiding, and screening, but its commander, Adna Chaffee, developed it into a combined arms force capable of conducting sustained combat.

In 1940, the Armored Force was created as a separate command with its headquarters at Ft. Knox. During World War II, Ft. Knox provided training in tank warfare and developed technological improvements in the tank. Today, Ft. Knox trains all armor officers and enlisted personnel and is one of the largest of the Army's Training and Doctrine Command installations.

SOURCES CONSULTED

Directorate of Engineering and Housing. Information files.

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Patton Museum. The History of Fort Knox and Armor, n.d.

PROPERTY TYPES

Administration
- -Fire Station/Guardhouse
- -Headquarters (Post)

Communications
- -Radio Building
- -Telephone Exchange

Education
- -Classrooms
- -Applied Instruction Buildings

Health Care
- -Hospital
  - -Ward
  - -Medical Detachment/Nurses' Quarters

Industrial
- -Maintenance and Repair Shops
  - -Maintenance Building/Utility Shop
- -Service Facilities
  - -Bakery
  - -Laundry
- -Storage (General Installation)
  - -Warehouses
  - -Quartermaster Warehouse/Commissary

Infrastructure
- -Power Plant
  - -Heating Plant
  - -Transformer Stations
- -Water and Sewage Systems
  - -Sewage Treatment Plant
  - -Water Tanks

Landscape
- -Parade Ground

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Golf Clubhouse and Course
  - -Gymnasium
  - -Swimming Pool
- -Chapel
- -Clubs
  - -Officers' Club/Mess
  - -NCO Club
- -Elementary School
- -Red Cross building
- -Theater

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Air Field
  - -Airplane Hangar
  - -Storage Building
- -Vehicle-related
  - -Gas Station
  - -Quartermaster Garages/Motor Pools
  - -Tank Garages/Repair Shops

FORT
KNOX
REGIMENT RD.
FIFTH AVE.
IRONSIDES AVE.
KNOX ST.
BLACK HORSE AVE.
PARK RD.
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TIME PERIOD 1827-1940

- The Military in the Early Republic and Antebellum Era, 1790-1860
  - Army
    - Frontier Forts West of the Mississippi
- The Civil War and National Expansion, 1860-1890
  - Army
    - Frontier Posts
    - Ordnance Department
    - Quartermaster Depots
    - Education
- The Military and the Progressive Era, 1890-1916
  - Army
    - Closing the Frontier and Consolidating Posts
    - Development of Professional Educational and Training
- The Inter-War Years, 1918-1940
  - Army
    - War Planning and Institutional Development
    - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

- Communications
  - The Army Signal Corps during the Twentieth Century
- Education
  - Beginnings of Military Education, 1860-1890
  - Military Education during the Progressive Era and World War I, 1890-1918
  - Military Education between the Wars, 1919-1940
- Medicine
  - Military Medicine during the Progressive Era, 1890-1918
- Planning and Architecture
  - Early Frontier Posts, 1790-1875
  - Consolidation and Modernization, 1875-1917
    - Army Consolidation of Posts
    - Standardization of Army Construction

INSTALLATION HISTORY AND CONTEXT

Ft. Leavenworth stands on a bluff on the west bank of the Missouri River in eastern Kansas, approximately 23 miles north of the mouth of the Kansas River. Since its establishment in 1827, Ft. Leavenworth has served the Army as a base of operations for westward expansion, and later as the home of some of the Army's most important schools. Throughout its 166-year history, Ft. Leavenworth has exemplified many of the important traditions of the United States Army.

In 1827, Colonel Henry Leavenworth selected the site for a new cantonment on the western bank of the Missouri River along a bluff overlooking the high ground, which he named Cantonment Leavenworth. With its strategic location near the Santa Fe Trail, the new post became a center for military activities in support of westward expansion, including expeditions to survey new trails leading west. When the Army re-established a cavalry branch in 1833, Ft. Leavenworth became the Cavalry Headquarters. During the Mexican War (1846 - 1848), Stephen W. Kearney's expedition to California through Santa Fe used Ft. Leavenworth as a staging area. In the aftermath of the Mexican War, the area encompassed by the American west vastly increased. Ft. Leavenworth became the main quartermaster depot and cavalry station for new frontier posts the Army was establishing along the Santa Fe, Oregon, and California Trails, as well as the one of the starting points for the Oregon and Santa Fe Trails.

Like other Army posts in the trans-Mississippi west, Ft. Leavenworth provided notoriously poor living conditions for its soldiers. The first buildings were constructed of logs; frame and masonry buildings were erected beginning in the 1830s as the post increased in size and strategic importance. Two masonry officers' quarters (Buildings 17 and 19) from this period remain facing the original parade ground. The other officers' quarters, barracks, and stables that originally lined the parade ground gradually were replaced with new buildings over time. A wood frame sutler's house (Building 5) from c. 1841 also remains standing and is located apart from the original core of the post. During the 1850s, stables and officers' quarters were constructed to accommodate the post's growing number of troops. The quartermaster depot area was immediately northeast of the main parade ground.

The increasing numbers of white settlers in the vicinity of Ft. Leavenworth brought new problems for the soldiers. During the mid-1850s, Kansas was a battleground between pro and anti-slavery forces. For a time, the post served as the territorial capital, to provide protection for the governor.

Even after the frontier had moved away from eastern Kansas, Leavenworth's location near transportation routes enabled it to remain a viable post. The Ordnance Department established a depot at Leavenworth in 1858, which serviced western units until 1873. Two ordnance warehouses were built southeast of the main parade ground. By 1860, the depot was designated an arsenal. The arsenal complex of storehouses, commandant's quarters, and munitions workshops formed a separate complex on the post. Between 1870 and 1890, Leavenworth was the headquarters for the Department of the Missouri, an administrative district commanded by a brigadier general. The headquarters staff directed the military's campaigns during the Indian Wars. When the arsenal was closed, the Department Headquarters took over the many of the buildings vacated by the Ordnance Department.

In 1867, the 10th Cavalry, one of two African-American Cavalry regiments, was activated at Ft. Leavenworth. It left the post that same year and did not return until 1931. The 7th Cavalry and the 5th Infantry also were stationed at Ft. Leavenworth during part of their Indian War service.

In 1875, the Army established a military prison using the quartermaster depot buildings northeast of the main parade at Leavenworth, which served as a penitentiary for soldiers east of the Rocky Mountains. A separate officers' housing area was built along Riverside Avenue, near

the prison, to house its officers. The prison, expanded many times, remains in existence today as the United States Army Disciplinary Barracks.

As problems with the Native Americans receded in the 1880s, Army leaders turned their attention towards transforming the Army into a modern fighting force. This effort included the improvement of the professional education of officers. For the remainder of its history, Ft. Leavenworth would be recognized primarily for its role in military education. In 1881, General Sherman, then the Commanding General of the Army, ordered the establishment of the School of Application for Infantry and Cavalry at Leavenworth. This school trained lieutenants in the elementary principles of tactics and in the performance of garrison duties. During the 1890s, the focus of the curriculum changed to instruction in the general principles of war. One of the school's most noted instructors, Arthur L. Wagner, tried to emulate the Prussian ideal of a military education as an examination of higher level tactics. The school was first housed in Building 44, originally constructed in 1881 as the new post headquarters.

The Spanish-American War halted instruction at Leavenworth until 1902. Because the war had revealed problems in virtually every aspect of Army operations, the need for advanced military instruction became apparent. The school began accepting senior captains and majors and training them in both field and logistical command. In 1907, the name changed to the School of the Line, and later it changed, again, to the General Service School. Ft. Leavenworth also housed other Army schools during the early twentieth century. These included a Signal School, a Field Engineer School, and a Field Medical School. During the period between 1900 and 1910, Ft. Leavenworth underwent a vast expansion to house, supply, and educate the staff and students of the new schools. The school was moved to the old arsenal storehouses, which were completely renovated and were linked by a new building, Grant Hall, with its imposing clock tower. Due to this period of sustained construction, the post received little new construction during the inter-war period.

The value of a Leavenworth education was demonstrated during World War I, when field-grade officers demonstrated competence in managing larger-sized bodies of troops. After the war, the Command and General Staff School, the successor to the General Service School, became a key component of Army education, teaching such future generals as Dwight D. Eisenhower, George S. Patton, and Omar Bradley. Today that mission continues, under the Command and General Staff College, and the Combined Arms Center.

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PROPERTY TYPES

Administration
- -Firehouse
- -Gate House
- -Guardhouse
- -Headquarters
- -Post Office and Masonic Hall

Communications
- -Communication and Telephone Exchange

Education
- -Classroom Buildings
- -Cavalry Riding Halls

Health Care
- -Hospital
  - -Post Hospital (1883)
  - -Post Hospital (1902)
  - -Hospital Ward
  - -Nurses' Quarters
  - -Hospital Steward's Quarters
  - -Hospital Dispensary

Industrial
- -Maintenance and Repair Shops
  - -General Purpose
  - -Machine and Sheet Metal Shop

- -Ordnance Workshop
- -Quartermaster Shops
- -Service Facilities
  - -Bakery
  - -Post Trader
- -Storage (General Installation)
  - -Carriage Storage
  - -Commissary
  - -Commissary Warehouse
  - -Granary
  - -Gun Shed
  - -Hayloft
  - -Lumber Shed
  - -Quartermaster Clothing Warehouse
  - -Vegetable Cellar
  - -Wagon Shed
  - -Wagon - Pontoon Shed
  - -Warehouses

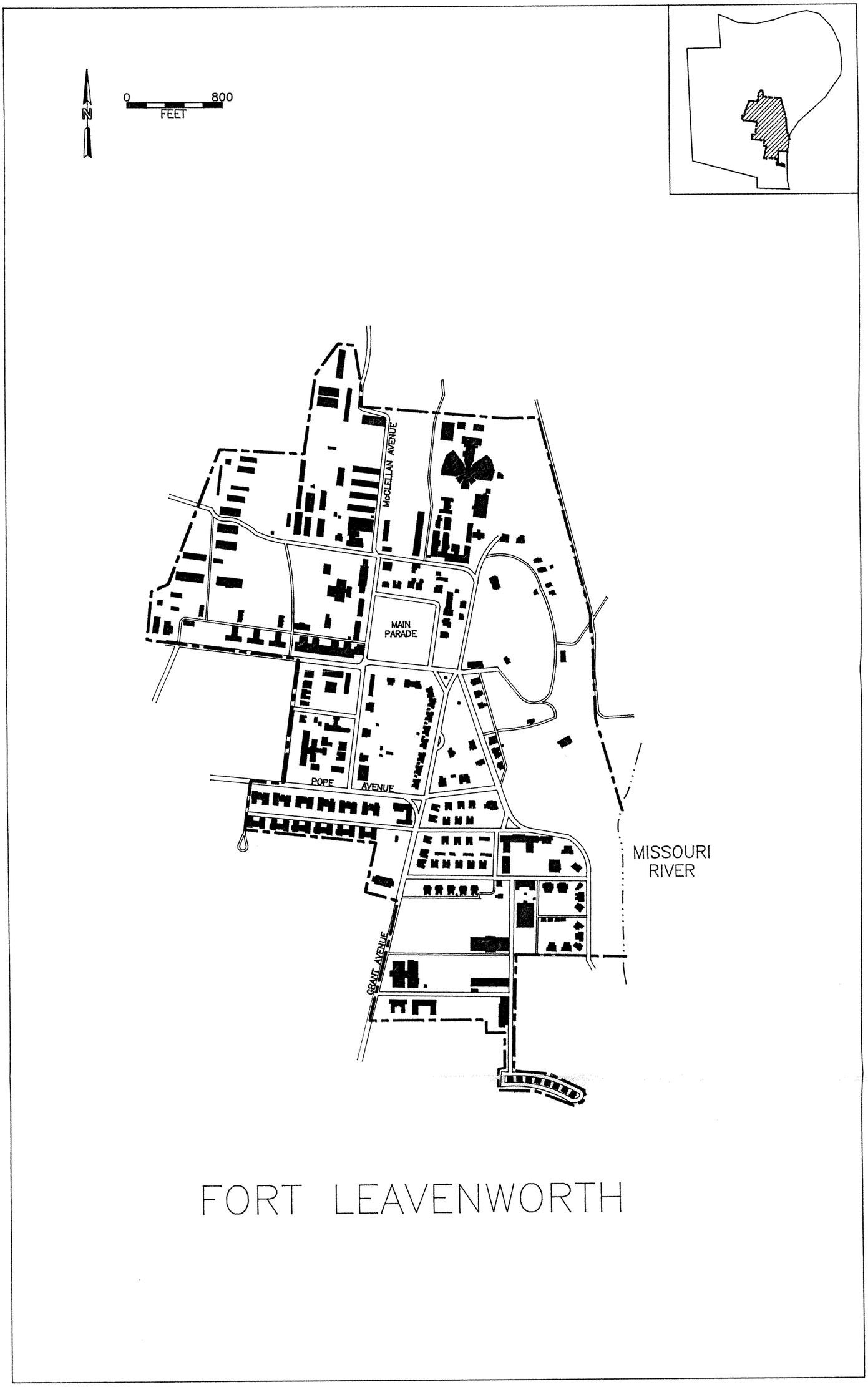
Infrastructure
- -Power Plant
  - -Electric Substation
  - -Heating Plant
- -Water and Sewage Systems
  - -Water Treatment Plant

Prison
- -Office Building and Gate
- -Administration Building
- -Cell Blocks
- -Vocational Greenhouse
- -Parole Barracks
- -Civilian Employee Quarters
- -Guard Barracks
- -Hospital
- -Mess Hall
- -Dry Cleaning Plant

Recreation/Social/Cultural/Religion
- -Chapel (Catholic)
- -Chapel (Post)
- -Club
  - -Officers' Club
- -Theater
- -YMCA Building

Residential
- -Institutional Housing
  - -Bachelor Officers' Housing
  - -Barracks
  - -Bathhouse
  - -Mess Hall
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Sutler's House
  - -Civilian Employee Housing
  - -Garages

Transportation
- -Air-related
  - -Hangar and Control Tower
- -Animal-related
  - -Riding Hall
  - -Stables (Artillery, Cavalry, Engineer, Quartermaster, Signal Corps)
  - -Stable Guardhouse
  - -Veterinary Hospital and Stable
- -Rail-related
  - -Railroad station
- -Vehicle-related
  - -Gas station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FEET
McCLELLAN AVENUE
MAIN PARADE
POPE AVENUE
GRANT AVENUE
MISSOURI RIVER
FORT LEAVENWORTH

TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Wartime Cantonments

The Inter-War Years, 1918-1940
- Army
  - Installation Improvement
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890-1917
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

Ft. Lewis is situated five miles south of Tacoma, Washington. A portion of the facility borders the southern shore of Puget Sound. The Nisqually River flows north through Ft. Lewis into Puget Sound. The Pacific Ocean lies eighty miles to the west.

In the summer of 1914, the First World War erupted in Europe. The United States remained neutral until April 1917, but there was increasing concern about military preparedness. Spurred by sporadic outbreaks of violence along the Mexican border and the continuing war in Europe, Congress passed the National Defense Act in 1916. Among other provisions, this act allowed for an increase in the number of regular Army soldiers and provided for officer's training camps.

Part of this program for national preparedness during this period was planning for military expansion. In 1916, a group of Tacoma businessmen persuaded the Army to locate a military post on donated land. In 1917, the citizens of Pierce County approved a $2 million bond issue to purchase 70,000 acres to donate to the Army. By the end of May 1917, Captain David L. Stone and his staff had arrived to establish a new camp. Three months later, over 1,700 buildings with the capacity to receive 60,000 troops had been completed. Camp Lewis was one of sixteen temporary cantonments constructed to train troops for service during World War I; it was the only one of those camps located west of the Rocky Mountains, and the largest U.S. military post built up to that time. The first troops arrived in September 1917. The 91st Infantry Division, recruited largely from the Pacific Northwest, was trained at Camp Lewis. At the time hostilities ceased in November 1919, Camp Lewis supported 48,000 men.

During this period, workers completed construction on the large number of temporary and smaller volume of permanent buildings which composed the post. Fourteen structures remain from this period, including a frame shed (Building 4065), frame warehouses (Buildings 1209, 1210, 1211, 1212, 1227, 1228, 4078, 4079, 4170, 4171, 4172, and 4173), and the main gate (Building 5903).

In 1919, the title to the land was transferred to the United States government with the proviso that it revert to Pierce County ownership should the Army cease to use the post as an active establishment. Built for the Salvation Army in 1919, the Red Shield Inn (Building 4320) is a two-and-one-half-story, wood-frame, Swiss chalet style building that the Army acquired in 1921. A second 1919 building (Building 4272) is a two-story, wood-frame structure, opened by the Red Cross as a recreation facility.

Military funding dramatically decreased following World War I. As a result, the Army stationed its small garrisons at the hastily-constructed World War I cantonments and was unable to maintain the buildings. Camp Lewis was garrisoned by 1,000 men during this time. The military struggled with a nationwide military housing shortage. Approximate one-third of Army personnel in the continental United States lived in temporary structures built in 1917. The Army and populace at large, complained about the inadequate maintenance at facilities. The citizens of Pierce County began to demand implementation of the reversionary clause.

In response to the public outcry, Congress authorized the Secretary of War to submit a comprehensive plan for permanent construction. In 1926, the U.S. Congress enacted Public Law No. 45 authorizing the Secretary of War to dispose of forty-three military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. Two years later, Congress appropriated $800,000 for barracks construction at Camp Lewis as part of the general Army housing program. Shortly after the appropriation was made, the post was designated a permanent Army installation, and renamed Ft. Lewis. Later in the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The Construction Service strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations.

The 1926 housing program had an enormous impact on Army installations throughout the country. By 1933, total appropriations for the program totaled $80,000,000. The program was directed by the Construction Division of the Quartermaster General's Office and employed many professional architects, engineers, and designers. One of the consultants was George D. Ford, noted international city planner who advised on the design of the plans for several military installations, including Ft. Lewis.

As described by Ford in an article in *The Quartermaster Review* (1929), the new parade ground at Ft. Lewis was planned so that the commanding officer and his staff could enjoy a splendid view of Mount Rainier, forty miles away. The officers' quarters and the barracks on either

side of the parade ground also were planned to enjoy a view of Mount Rainier. Consideration was given to the overall cohesive plan of the installation as well as to the siting of individual structures. This was consistent with the Army's program to develop moderately priced, efficient, cohesive, and pleasant environments that could provide healthful conditions and positive social interaction as well as meet the needs of troop training.

Approximately 250 buildings were constructed at Ft. Lewis between 1927 and 1939. A complete new post consisting of post headquarters, hospital, barracks, officer and NCO family housing, storage, and other support facilities was erected. Landscaping was incorporated into the overall site plan. Housing for married personnel was constructed around the core of the post and consisted of several neighborhoods. The house sizes and settings were designed to reflect the hierarchy of military command; larger houses and lots reflected higher rank.

Ft. Lewis served as the Army's West Coast induction center after its renovation. Like other training centers around the nation, the facility was greatly expanded on the eve of World War II.

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PROPERTY TYPES

Administration
- -Fire Station/Guardhouse
- -Headquarters
- -Offices

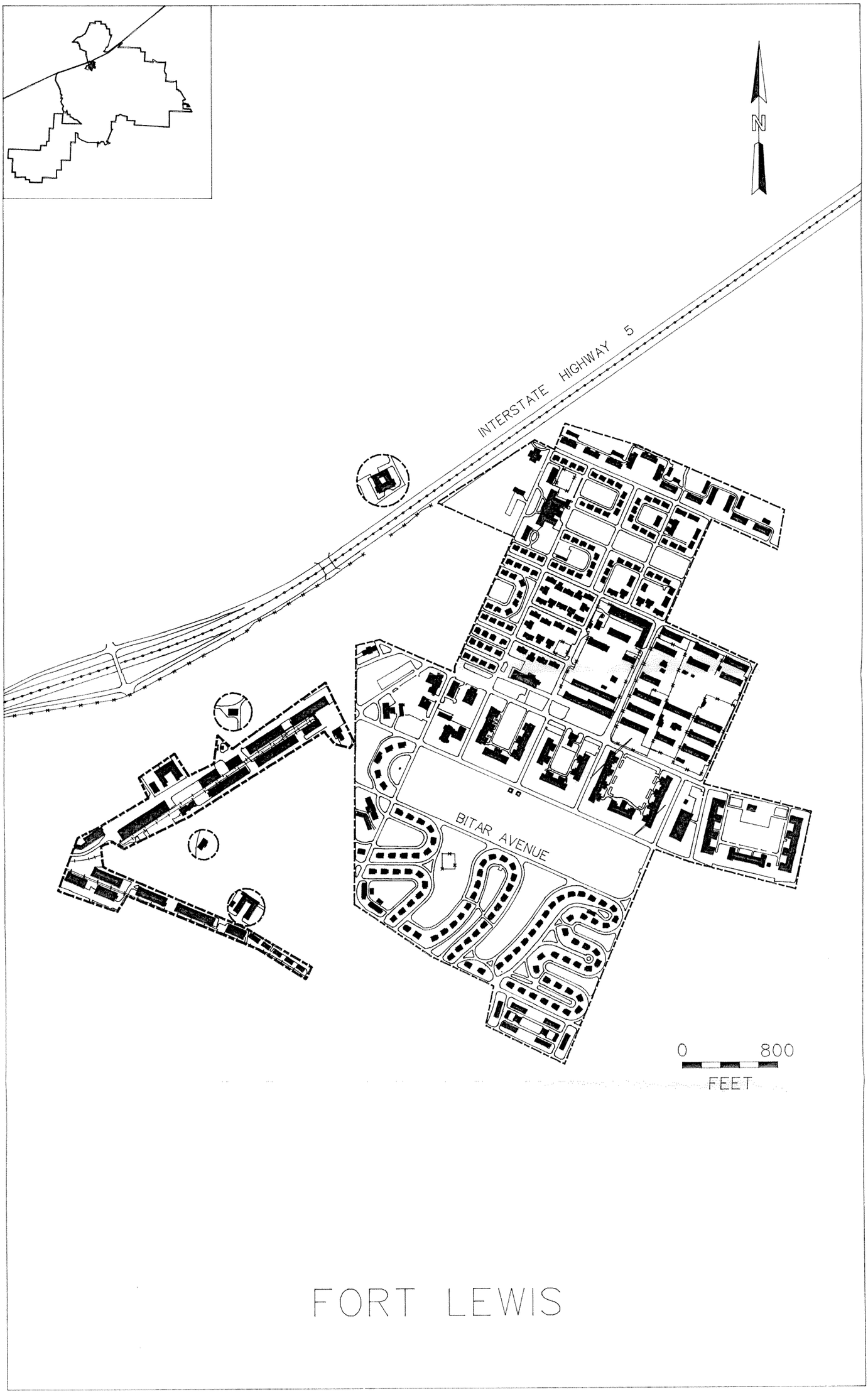
Health Care
- -Hospital
  - -Medical Detachment Barracks
  - -Nurses' Quarters

Industrial
- -Maintenance and Repair Shops
  - -Ordnance Repair Shop
- -Storage (General Installation)
  - -Gun Sheds
  - -Quartermaster Warehouse
  - -Warehouses

Recreation/Social/Cultural/Religion
- -Bank
- -Chapel
- -Red Cross Hostess House
- -Theater

Residential
- -Institutional Housing
  - -Bachelor Officer Quarters
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO quarters
  - -Officers' quarters
  - -Garages
- -Hotel
  - -Salvation Army Inn

Transportation
- -Animal-related
  - -Stables
- -Vehicle-related
  - -Gas station
  - -Gun Shed



FORT LEWIS

TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
Army
Wartime Cantonments
The Inter-war Years, 1918-1940
Army
Installation Improvement

RELEVANT THEMES

Education
Military Education during the Progressive Era and World War I, 1890-1918
Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940
Army Construction

INSTALLATION HISTORY AND CONTEXT

Ft. McClellan is located three miles north of the town of Anniston, Alabama. The Choccolocco foothills surround the post. The Army first became interested in the area in 1898, when it determined that the area's foothills provided an excellent background for firing shells. The Army established Camp Shipp on the site in 1898, but closed it the next year.

The next phase of military activity on the site came with the mobilization for World War I. The Army established Camp McClellan as a temporary National Guard camp in 1917. During World War I, the post served as an infantry training camp to train recruits.

The constructing Quartermaster at Camp McClellan was Charles L. Dulin. He created an approximately linear layout of twenty-six blocks, each with a specific function and a fixed number of buildings. The overall plan was irregular, possibly because of the topography of the site. Like the other World War I mobilization and training camps, the buildings constructed at Camp McClellan were wood frame that were classified as temporary construction.

During the 1920s, military funding was cut back, and little military construction activity occurred. Camp McClellan was placed on caretaker status and used as a training area; however, sufficient funding was not provided to maintain the installation.

In 1924, Secretary of War Weeks submitted a plan to Congress for permanent construction over a ten-year period, and in 1926 Congress authorized the largest military expenditure since the end of World War I. Major General B. Frank Cheatham, Quartermaster General, gathered noted architects for new post development. With advice from city planners and influenced by the City Beautiful Movement, basic designs were drawn up that could be executed in regional styles appropriate to each installation's location.

In 1929, Camp McClellan became a permanent facility and was renamed Ft. McClellan. Ft. McClellan was one of several World War I temporary training cantonments that received funding for permanent construction. Construction at Ft. McClellan began in 1930, starting with officer and NCO family housing and barracks. With the advent of the Great Depression, funding for permanent construction at first halted, then became available again in 1936 through New Deal programs such as the Public Works Administration (PWA) and the Civil Works Administration (CWA). The Army selected Spanish Revival as the architectural style, as it did for other posts in the southeast, including Ft. Bragg, North Carolina, and Ft. Benning, Georgia. Landscaping was added to the new post layout in 1931.

Buildings erected during this period included officer housing, NCO family quarters, barracks, post headquarters (Building 61), fire/guard house (Building 69), bakery (Building 252), brick and stucco chapel (Building 67), assembly hall (Building 161), hospital, stables, ordnance warehouses, repair shops, quartermaster warehouses, post exchange, latrines, bachelor officer's quarters, radio building, garages, and general and specialized storage structures. The officers' housing was arranged around a horseshoe-shaped parade ground with administration buildings at the narrower, straight end of the horseshoe. Barracks were arranged around three sides of a quadrangle behind the administration building. NCO housing was located to the west of the barracks. The warehouse and shop area, located west of the parade ground, was physically distinct from the housing and administration area.

During World War II, Ft. McClellan served as a training camp for army recruits and as a prisoner of war camp. The installation was greatly expanded during World War II. The Army placed the post on inactive status in 1947, and reactivated it in 1950. The installation has housed a number of training centers since then, including the U.S. Women's Army Corps Center and the U.S. Army Chemical and Police Centers.

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PROPERTY TYPES

Administration
- -Fire Station/Guard House
- -Headquarters

Communications
- -Radio Building

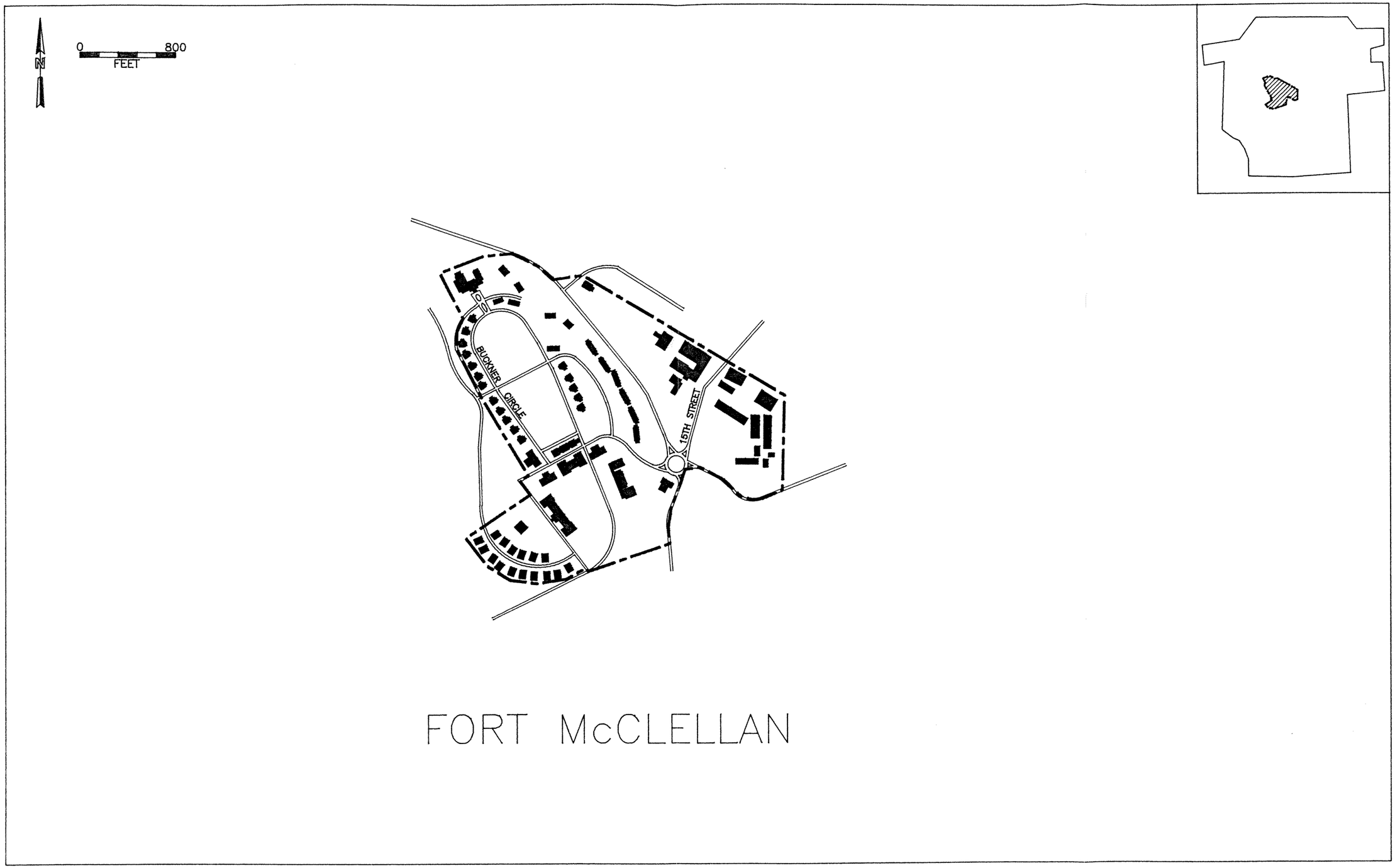
Health Care
- -Hospital

Industrial
- -Maintenance and Repair Shops
- -Service Facilities
  - -Bakery
- -Storage (General Installation)
  - -Ordnance Magazine
  - -Ordnance Warehouse
  - -Quartermaster Warehouse

Recreation/Social/Cultural/Religion
- -Assembly Hall
- -Chapel

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation
- Animal-related
  - -Stables
  - -Quartermaster Stables
- Vehicle-related
  - -Garage
  - -Truck Park and Repair Shop
  - -Wagon Shed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BUCKNER CIRCLE
15TH STREET
FORT McCLELLAN

TIME PERIOD 1791 - 1940

The Military in the Early Republic and Antebellum Era, 1790-1860
- Army
  - Arsenals and Armories

The Civil War and National Expansion, 1860-1890
- Army
  - Ordnance Department

The Military and the Progressive Era, 1890-1918
- Army
  - Development of Professional Education and Training

The Inter-war Years, 1918-1940
- Army
  - War Planning and Institutional Development
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890 -1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Beaux Arts Architecture and Planning

INSTALLATION HISTORY AND CONTEXT

Ft. McNair occupies 89 acres on a narrow peninsula at the southern point of the District of Columbia, at the junction of the Anacostia and Potomac Rivers. The site has a long association with military use, though its current configuration dates from the turn of the century.

In Pierre L'Enfant's 1791 plan for Washington, the southern tip of the District is indicated as the location of defenses for the new capital. By 1794, the government had placed a single-gun battery at the site, then called Greenleaf Point. In 1803, the Ordnance Department placed an arsenal, called Washington Arsenal, at the site. It served as a storehouse for munitions until the British captured Washington, in 1814, and burned the arsenal. The Army rebuilt the Arsenal in 1816, and expanded it functions to include production of material. One building (Building 21) constructed for the arsenal (1838) remains on the site. In 1857, the size of the Arsenal increased to 69 acres. During the Civil War, activity at the arsenal increased dramatically, as workers manufactured ammunition and stored weapons. The Army also established a 1,000-bed hospital at the site.

Greenleaf Point served as the site of a federal prison from 1826 to 1862. The penitentiary closed in 1862 because of the Army's wartime needs for an expanded arsenal. Yet, the facilities were used in one of the most dramatic incidents in the history of the post. In 1865, the post was

the site of the trials of eight of those accused in the assassination of President Abraham Lincoln. Four of the convicted conspirators were hanged at this post, including Mary Surratt. The prison structures except for the administration building (Building 20), were removed.

The arsenal ceased operations in 1881 and the post was redesignated Washington Barracks. The post housed artillery units and a Commissary Department storage facility.

With the close of the Spanish-American War the history of Washington Barracks changed decisively. The war had uncovered serious weaknesses in the ability of Army leadership to manage the logistics of moving large bodies of men or to operate large than regimental size formations. As a result, the new Secretary of War, Elihu Root, initiated a number of reforms within the Army. His efforts included the creation of an Army General Staff and an Army War College.

The War College proved to be one of Root's most important innovations. At first, it operated in conjunction with the General Staff to develop war plans. As the school evolved, it became a center where senior officers studied the art of war at the strategic, or national, level. Washington Barracks was designated as the location of the new school. The name of the post changed to the Army War College to reflect its new mission.

As an educational installation, Washington Barracks also served as the home of the Engineer School after 1902, when the school was relocated from Ft. Totten to Washington. The school remained at the post until it moved to Camp Humphreys (later Ft. Belvoir) near Alexandria, Virginia in 1919.

To re-model the post for the Army War College, the Army engaged one of the nation's pre-eminent architectural firms, McKim, Mead, and White. Charles McKim served on the Senate Park Commission, which was developing a new master plan (McMillan Plan) for the nation's capital; he became involved with the redesign of Washington Barracks at the same time. He developed a symmetrical plan for the installation, using the parade field as the central axis. The terminal point of the parade ground was dominated by the War College building, an impressive Beaux Arts building, defined by monumental columns and a central dome. Eschewing the standardized quartermaster plans, McKim designed the residential and supporting buildings, including the officer and NCO housing located along the parade field and the barracks, guardhouse, Engineers School, and shops located opposite the War College building. The most imposing buildings were located directly on the parade field. The majority of the earlier structures were removed during the rebuilding.

At the War College, officers studied the art of war, through a problem solving process. They analyzed logistical, manpower, political, mobilization, and operational aspects of military problems. These efforts were applied during World War II. Another school, the Army Industrial College, concentrated upon the economic aspects of war-time mobilization.

Following World War II, the Army War College moved to Carlisle Barracks. The post then became home to the National War College, a joint service counterpart to the Army War College. In 1976, the National War College, the Industrial College of the Armed Forces, and the Armed Forces Staff College were combined into the National Defense University, also headquartered at Ft. McNair.

The post was re-named Ft. Leslie J. McNair in 1948 to honor the former Commanding General of the Army Ground Forces who died in Europe during World War II.

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PROPERTY TYPES

Administration
- -Administration Building-Engineering
- -Guardhouse
- -Gatehouse
- -Post office

Education
- -Engineers School
- -Army War College

Health care
- -Dispensary
- -Hospital
  - -Dead House (Morgue)
  - -Hospital Steward's Quarters

Industrial
- -Maintenance and Repair Shops
  - -Blacksmith Shop
  - -Quartermaster Shop
- -Manufacturing
  - -Arsenal Model House (predates Army War College)

- -Storage (General Installation)
  - -Quartermaster/Commissary Storehouses and Offices
  - -Warehouse

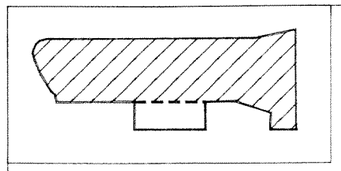
Landscape
- -Parade Ground

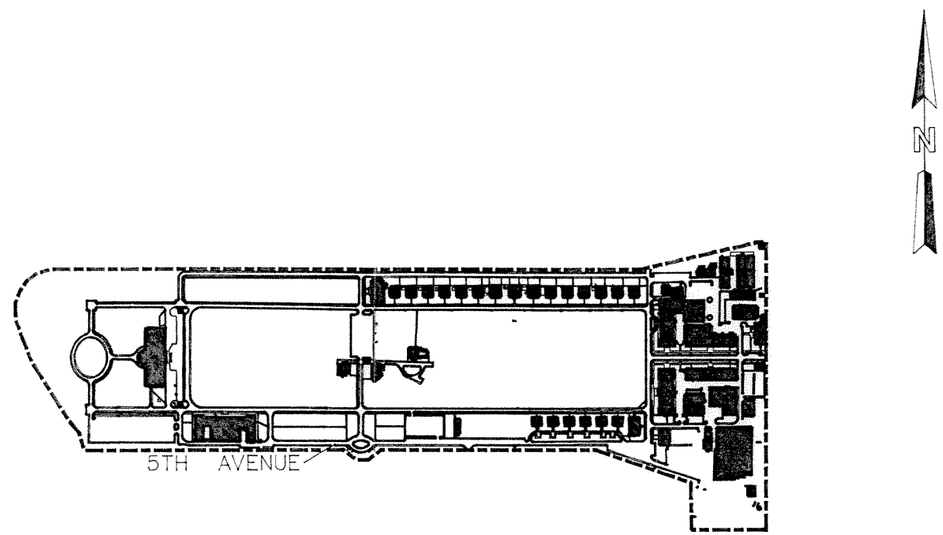
Prison
- -Federal Penitentiary Administration Building (predates Army War College)

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Gymnasium and Post Office
- -Club-Officer's Mess

Residential
- -Institutional
  - -Band Barracks
  - -Barracks
  - -Barracks and Chapel
  - -Mess Hall
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing

Transportation
- -Animal-related
  - -Engineer Stables
  - -Stable Guardhouse
  - -Quartermaster Stable





FORT LESLIE J. McNAIR

TIME PERIOD 1885-1940

The Civil War and National Expansion, 1860-1890
- Army
  - Civil War

The Military and the Progressive Era, 1890-1918
- Army
  - Closing the Frontier and Consolidating Posts

The Inter-war Years, 1918-1940
- Army
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Medicine
- Military Medicine in the Progressive Era 1890-1918
- Military Medicine during the Inter-War Years 1919-1940

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Army Consolidation of Posts
  - Standardization of Army Construction

INSTALLATION HISTORY AND CONTEXT

Ft. McPherson was established in 1885 near Atlanta, Georgia, to garrison an artillery regiment. It consists of approximately 504 acres adjoining the southwest city limits of Atlanta, Georgia. The general site was selected by General Winfield Scott Hancock, Commanding General of the Department of East; the specific site plan was designed by Captain Joshua West Jacobs, Constructing Quartermaster. The installation is rectangular in shape. At the center is the parade ground. Officer's quarters are on the north of the parade ground while to the south, lie the barracks. At the eastern end of the parade ground is the Headquarters building.

The majority of buildings located on the Main Post were constructed between 1889 and 1900. They are of brick and represent a panoply of architectural styles popular in the Victorian Era. One of the most imposing buildings is the Commanding Officer's Quarters (Building 10), a Queen Anne-style building with ornamental terra cotta panels, decorative brickwork, and massive chimney. Other quarters feature Italianate bracketed cornices. The history of construction at Ft. McPherson mirrors national Army construction during the 1890s. Some of the earliest buildings completed at the installation were designed by civilian architects. However, during the 1890s, the Quartermaster Department tried to standardize building plans, in order to control costs. The barracks buildings and the Post Headquarters were examples of some of these early standardized plans. Those buildings constructed during the first decade of the twentieth century were standardized plans, built according to using Colonial Revival detailing.

During the Spanish-American War, Ft. McPherson served as a general hospital, a prisoner-of-war camp, and an Army recruit training depot. Early in the twentieth century, the installation became home to the 17th Infantry, which was subsequently deployed for several years to Texas to fight Pancho Villa, leaving only a caretaker staff at Ft McPherson. The 17th Infantry returned to its home base just prior to the entry of the United States into World War I.

During World War I, Ft. McPherson again became a general hospital, a prisoner-of-war camp and an officers' training camp. The barracks were converted to hospital wards; the gymnasium was converted into a mess hall; and new buildings were constructed to serve as hospital wards. The medical and surgical staffs not only cared for patients, but also trained officers for work in the hospital and the field. Nurses at Ft. McPherson trained student nurses. The POW camp was closed on 10 November 1919, and the buildings were sold.

During the inter-war period, new facilities were added to the Post Hospital at Ft. McPherson; and, for many years, Ft. McPherson was a rehabilitation center. From 1920 to 1924 and 1927 to 1934, Ft. McPherson served as headquarters for the Corps IV Area, comprising the southern states. A major responsibility of the installation became the training of the civilian components of the Army; and, between 1933 and 1942, one of the major activities was overseeing the Civilian Conservation Corps (CCC) program. During World War II, the post served as a reception center for draftees and a convalescent hospital.

After the war, Ft. McPherson became administrative center for Headquarters Third U.S. Army. In 1973, an Army reorganization created the U.S. Army Forces Command (FORSCOM), which is headquartered at Ft. McPherson.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Headquarters

Communications
- -Radio Building

Health Care
- -Hospital (Post)
- -Hospital (General)
- -Laundry
- -Nurses' Quarters
- -Hospital Steward's Quarters

Industrial
- -Service Facilities
  - -Bakery
- -Storage (General Installation)
  - -Magazine
  - -Ordnance storage
  - -Quartermaster Storehouse
  - -Subsistence Storage

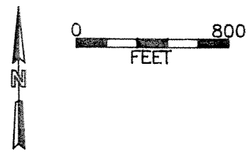
Infrastructure
- -Power Plant
- -Water and Sewage Systems
  - -Pump house

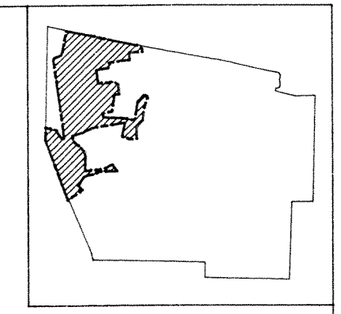
Landscape
- -Parade Ground

Recreation/Social/Cultural/Religion
- -Club (Officers')
- -Chapel
- -Red Cross Building
- -Theater

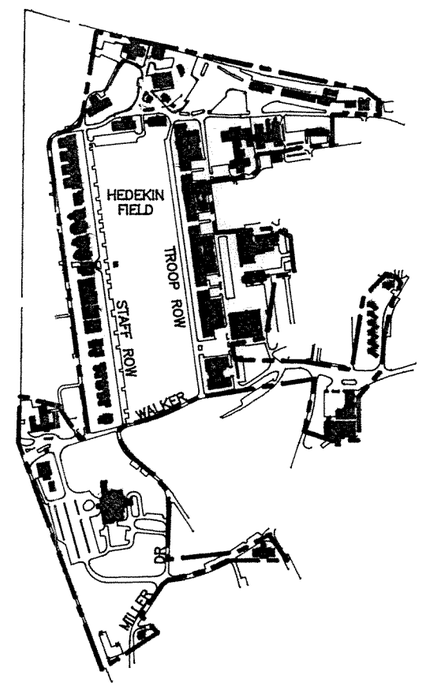
Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
  - -Mess Hall
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Engineer Quarters
  - -Garage

Transportation
- -Animal-related
  - -Quartermaster Stable





FORT McPHERSON



TIME PERIOD 1877 - 1940

The Civil War and National Expansion, 1860-1890
- Army
  - Frontier Posts

The Military and the Progressive Era, 1890-1916
- Army
  - Closing the Frontier and Consolidating Posts

The Inter-War Years, 1918-1940
- Army
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Standardization of Army Construction

INSTALLATION HISTORY AND CONTEXT

Ft. Missoula is situated in a bowl formed by the confluence of four Rocky Mountain valleys. The fort is bounded to the south by the Bitter Root River, to the west by Macauley Butte, to the north by suburbs of the town of Missoula, and to the east by recreational fields and golf facilities.

During the mid-nineteenth century, the steel plow and barbed wire made settlement of the territory between the Mississippi River and Rocky Mountains viable. Americans, though, were preoccupied with issues of national unity during this period. After the Civil War, the national focus turned to the country's "Manifest Destiny," the settlement of the west. While pre-Civil War white settlement of the frontier had caused friction with the Indian inhabitants, the post-war inundation of colonists in the west ignited the Indian Wars. The federal government's solution to the conflict was to create Indian reservations on which to confine the tribes. The U.S. Army was given the task of escorting Indian tribes to their reservations, and of subduing tribes that refused to comply with federal orders. New frontier posts were erected to complement those existing and to provide rapid military deployment over a greater range of territory.

The construction of Forts C.F. Smith, Kearny, and Reno along the Bozeman trail, to counter Sioux activity, actually precipitated a war with the Cheyenne. The citizens of western Montana responded by forming volunteer militia units and petitioning the federal government for the construction of more forts. The War Department was reluctant to establish posts it deemed unnecessary, but bowed to political pressure from residents of the Missoula Valley in 1876. Construction of Ft. Missoula began in June 1877; two companies from Ft. Shaw, 217 miles east, carried out the construction.

The only Indian War activity to affect Ft. Missoula occurred late in the summer of 1877 in connection with the pursuit and capture of the Nez Perce Indians. Troops from Ft. Shaw were called to intercept the Nez Perce and return them to an Idaho reservation. Included in the Ft. Shaw contingent were the troops assigned to the construction of Ft. Missoula.

Ft. Missoula was officially named on November 8, 1877. A permanent garrison composed of troops from the 3rd Infantry Regiment was assigned to the post. These troops resumed building the fort, which was completed in the summer of 1878. The Army intended the post to serve as a base for patrol and police missions.

In May 1888, one of four African-American Regiments in the Army, the 25th Infantry, was transferred to Ft. Missoula. During their ten-year tenure at the fort, the troops of the 25th Infantry helped quell the outbreak of "Ghost Dances" among reservation Indians during the early 1890s.

The Army formed an experimental corps at Ft. Missoula in the late 1890s. The 25th Infantry Bicycle Corps was established to determine the military applications of bicycles. The experiment culminated in 1897 with a 1,900-mile trek from Ft. Missoula to St. Louis, Missouri. Though the trip was completed successfully, the troops returned to the fort by train and the program was halted.

The 25th Infantry left Ft. Missoula in 1898, and was not replaced. Though a local unit raised to serve in the Spanish-American War garrisoned the post briefly later in 1898, they soon were transferred. The Army explained that the lack of need for the post and an unclear land title were the causes of the abandonment. The buildings remaining from this first period of the fort's history are a non-commissioned officers' quarters (Building 201), carriage house (Building 202), and a stone powder magazine (Building 334).

The business community of Missoula saw the fort as a reliable source of revenue, and raised the funds necessary to gain ownership of the 320 acres with hazy title. This group also received a donation of 240 acres from the Northern Pacific Railroad. The entire land package was donated to the Army. As a result, the fort was not abandoned officially. In 1902, the Quartermaster General of the Army recommended that the fort be completely abandoned or rebuilt.

Congress appropriated the funds necessary to rebuild Ft. Missoula in 1904, despite its lack of military mission, thanks to the efforts of Montana Senator Joseph Dixon, of Missoula. Construction was completed by 1912. Buildings remaining from this period include the post headquarters (Building 2), the housing of Officer's Row (Buildings 27, 28, 29, 30, 31, 32, 33), company barracks (Buildings 24, 26), non-commissioned officers' quarters (Buildings 14, 16), a bakery (Building 105), the post hospital (Building 9), the quartermaster's storehouse and root cellar (Buildings 322, 323), and a water tower (Building 19). The new buildings followed the architectural vocabulary of the Spanish Colonial Revival or Mission style. At the completion of the rebuilding, the fort was suitable for use as a regimental headquarters.

However, no regimental force was ever stationed at Ft. Missoula. Between 1900 and 1917, the U.S. Army demobilized most of its active facilities in Montana, and in 1917, the Army succeeded in officially abandoning Ft. Missoula. During World War I, the University of Montana

operated a federally-funded school in the fort buildings, where two-month courses were taught in automotive repair, black smithing, radio operation, and general mechanics.

The Army resumed activity at the fort in 1921, and stationed a small garrison there. In 1926, the fort was designated a summer Civilian Military Training Camp, but in 1933 was abandoned again.

Occupation at Ft. Missoula was immediately resumed by the Civilian Conservation Corps (CCC), which used the facility as its Rocky Mountain Region Headquarters. The CCC was a New Deal public works program that provided work to thousands of young men through the construction of roads, water projects, bridges, fences, and other public improvements. Though the men received no military training, the Army was responsible for mobilizing and supplying the men, while other federal agencies developed the CCC projects.

Ft. Missoula was the largest CCC district headquarters in the United States. It was the administrative center for all of the camps in Montana, Wyoming, Idaho, and Yellowstone and Glacier National Parks. Enrollees who worked at camps in these areas were all trained at, and assigned from, Ft. Missoula. During the tenure of the CCC at the fort, approximately 200,000 men were trained there.

Buildings remaining from the CCC occupation of the fort, 1933 - 1941, are the CCC administration building (Building 316), a recreation hall (Building 150), two residences (Buildings 12, 214), a storage building (Building 327), and the Motor Pool Shop (Building 328). The Army also constructed an Administration Building (Building 1), and a fire station/guard house (Building 46) during this period.

During World War II, the U.S. Immigration and Naturalization Service assumed control of Ft. Missoula. The post served as an internment camp for Italian nationals and Japanese-Americans. After the war, several federal, state, and local agencies used the property for various functions. Currently, the old post houses Army Reserve units and several government agencies.

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PROPERTY TYPES

Administration
-Fire Station/Guardhouse

- -Headquarters
- -CCC Administration Building

Health care
- -Hospital (Post)
  - -Hospital Staff Quarters

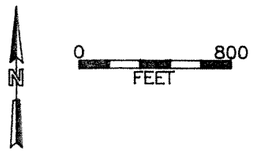
Industrial
- -Service Facilities
  - -Bakery
- -Storage
  - -Oil Storage Building
  - -Quartermaster Storehouse
  - -Powder Magazine
  - -Warehouse
  - -Root Cellar

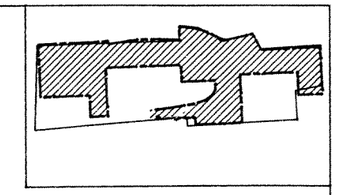
Infrastructure
- -Water and Sewage Systems
  - -Water Tower

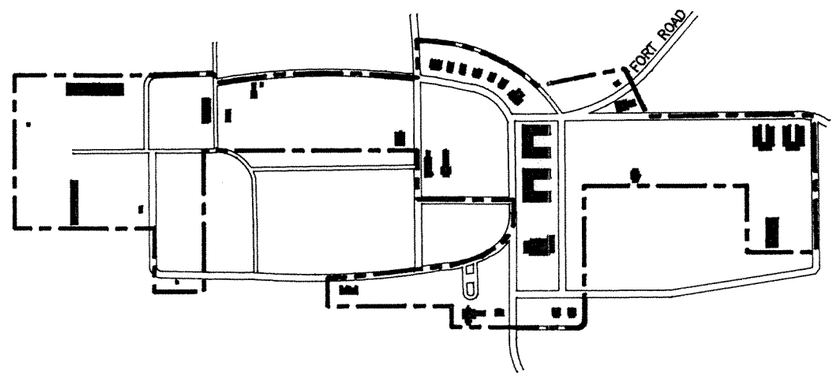
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Recreation Hall/Gym

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing

Transportation
- -Animal-related
  - -Quartermaster Stable
- -Vehicle-related
  - -Carriage House
  - -Motor Pool Shop







FORT MISSOULA

TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Wartime Cantonments

The Inter-war Years, 1918-1940
- Army
  - Installation Improvement
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Communications
- The Army Signal Corps during the Twentieth Century

Education
- Military Education during the Progressive Era and World War I, 1890-1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

Ft. Monmouth is located near Eatontown, New Jersey, 45 miles south of New York City. It originated as Camp Vail, a Signal Corps camp, in response to the entry of the United States into World War I in 1917. It occupied the site of the former Monmouth Park Racetrack which operated between 1870 and 1893. The site was chosen because of its transportation advantages and its proximity to the largest commercial communication organizations in the United States.

The Signal Corps was the communications arm of the Army and trained personnel in the use of telegraphy, cryptography, heliography, semaphore, and radios. The Signal Corps was responsible for developing battlefield communications systems, including ground-to-air communications for airplanes. A laboratory was established at Camp Vail to develop radio equipment for Army use. The first unit to leave the camp for World War I battlefields was the 11th Reserve Telegraph Battalion in October 1917. Camp Vail, initially a tent camp, was constructed with temporary one-story wooden buildings. Following the Armistice in 1918, Camp Vail remained active to continue research into Army communications equipment, and, in 1919, became designated as the Signal Corps School. Three buildings remain from Camp Vail: Building 142 (1922), a structural clay tile building; Building 202 (1925), wooden-frame quarters; and a garage.

In 1925, the Army acquired title to the land that Camp Vail occupied. The installation became a permanent post and was renamed Ft. Monmouth. In 1926, the Congress enacted Public Law No. 45, authorizing the Secretary of War to dispose of forty-three military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. In 1927, the first monies

were expended, and Ft. Monmouth was one of the recipients. Later in the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations.

The plan of Ft. Monmouth is basically symmetrical. Officers quarters were located north of the parade ground; and NCO housing, barracks, and community support buildings, to the south. Support facilities such as the bakery, commissary, and quartermaster maintenance shops were separated from the main post, east of Oceanport Avenue near the railroad tracks. The designs for the buildings are Construction Division standardized plans of Georgian Colonial Revival style and feature red brick and white trim. Two buildings were designed specifically for Ft. Monmouth by private architectural firms working in conjunction with the Quartermaster Corps. Russel Hall (Building 286) is an Art Deco style headquarters and classroom building; Squier Laboratory (Building 283) was constructed to replace the World War I Signal Corps Radio Laboratories and served as the primary development center for Signal Corps equipment until September 1941.

Throughout the 1920s and 1930s, the Signal Corps School and the Signal Corps laboratories were active at Ft. Monmouth. The laboratories designed and developed much of the communications equipment used by the American forces during World War II, including field radio sets, the "walkie-talkie," field transmitters and receivers, and radar.

In 1939, President Franklin D. Roosevelt proclaimed a state of "limited emergency" following the outbreak of war in Europe. The school at Ft. Monmouth prepared for increased enrollment. World War II temporary cantonments were constructed between 1941 and 1943. In 1941, the research activities at Ft. Monmouth expanded. Two off-post locations were acquired at this time: the Charles Wood Area and the Evans Area. Both acquisitions included previously standing buildings. The Charles Wood Area included Gibbs Hall, built in the late 1920s as the clubhouse for the Monmouth Country Club and designed by B. Hustace Simonson in the English Tudor Revival style. The Evans Area included a complex of buildings constructed by the Marconi Company to develop receiver equipment for commercial trans-atlantic radio operation.

After World War II, the Signal School and the research laboratories remained the two major activities at Ft. Monmouth. Expansion continued during the Korean War and a permanent construction program was begun in 1953 to expand both school and laboratory facilities. Since the 1950s, Ft. Monmouth has continued to provide vital support in the area of communications. Today, it is the U.S. Army Communications-Electronics Command (CECOM) headquarters, charged with the responsibility for research, development, engineering and acquisition of assigned communications and electronic systems and the management of all material readiness functions associated with these systems and related equipment.

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PROPERTY TYPES

Administration
- -Fire Station/Guardhouse

Education
- -Headquarters and Classroom Building

Health Care
- -Hospital (Post)

Landscape
- -Parade Ground

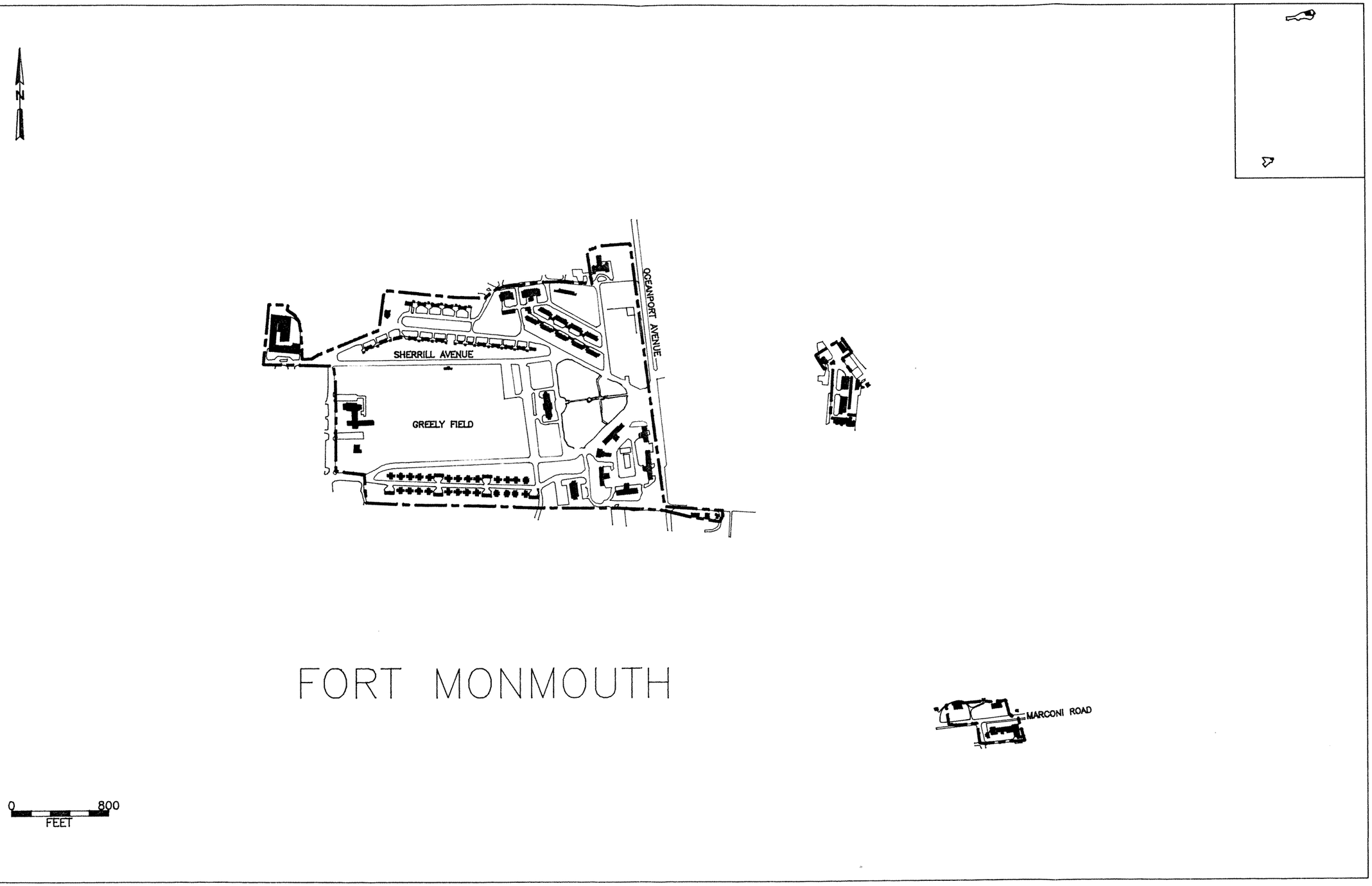
Industrial
- -Maintenance and Repair Shops
  - -Maintenance and Repair Shops
  - -Blacksmith Shop
  - -Quartermaster Garage
  - -Utility Shop
- -Service Facilities
  - -Bakery
- -Storage
  - -Quartermaster and Commissary Warehouse
  - -Storage Buildings

Infrastructure
- -Water and Sewage Systems
  - -Water Pump Building

Recreation/Social/Cultural/Religion
- -Club (Officers')
- -Exchange
- -Theater

Research and Development
- -Laboratory

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
  - -Garage
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages



FORT MONMOUTH

TIME PERIOD 1819-1940

- The Military in the Early Republic and Antebellum Era, 1790-1860
  - Army
    - Coastal Fortifications
    - Arsenals and Armories
    - Education and Training
- The Civil War and National Expansion, 1860-1890
  - Army
    - Civil War
    - Coastal Defense
    - Education
- The Military and the Progressive Era, 1890-1918
  - Army
    - Coastal Defense
    - Development of Professional Education and Training
- The Inter-war Years, 1918-1940
  - Army
    - Installation Improvement
    - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

- Education
  - Military Education in the Early Republic, 1790-1860
  - Beginnings of Military Professionalism
  - Military Education during the Progressive Era and World War I, 1890 -1918
  - Military Education between the Wars, 1919-1940
- Planning and Architecture
  - Consolidation and Modernization, 1875-1917
    - Standardization of Army Construction
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Army Construction
- Technology
  - Fortifications
  - Weapons and Ammunition

INSTALLATION HISTORY AND CONTEXT

Ft. Monroe's location on the tip of the Virginia Peninsula, where the Chesapeake Bay meets the Hampton Roads harbor complex, has ensured its continued military significance. It guards the harbors at Hampton Roads and access to the James River. The location has been fortified since the colonial period.

Construction of the present Ft. Monroe began in 1819, as part of a program of coastal fortifications known as the "Third System." The Army twice before had initiated construction of harbor fortifications; however, the War of 1812 demonstrated the need for better harbor defenses. The Army began constructing an elaborate system of masonry fortifications near the nation's principal harbors and navy yards. The location of Ft. Monroe made it especially important, because it protected both Hampton Roads and the Gosport Navy Yard (now the Norfolk Naval Shipyard).

French engineer, Simon Bernard, designed Ft. Monroe as a seven-pointed masonry structure encompassing approximately 63 acres and surrounded by a moat. The solid masonry walls enabled engineers to place casemates, or gun portals, within the walls. These casemates multiplied the firepower of the guns on the ramparts and provided shelter for soldiers. The fort, with 301 guns, was the largest of the Third System.

By 1824, enough work had been completed to allow the first coastal artillery units to occupy the fort. In 1834, fifteen years after construction began, work was substantially completed, although minor improvements continued into the 1840s. Sixteen buildings remain from the pre-Civil War era, including quarters, post chapel, lighthouse, and an ordnance machine shop.

In addition to serving as a coastal fortification, Ft. Monroe was the home of the Artillery School of Practice, established at the fort in 1824 by Secretary of War, John C. Calhoun, to train units in coastal artillery techniques. It was one of the first efforts to provide a professional education to soldiers after their entry into the military. The school provided instruction in gunnery practice, artillery exercises, weapons development, and arsenal construction. After closing in 1834 because the troops were needed in military actions, the school reopened in 1858. The school operated at Ft. Monroe, except during the Civil War and Spanish-American War, through World War II. Ft. Monroe also served as the Army's testing range for new artillery pieces; in 1874, due to the development of weapons with longer ranges, the Army moved its testing facilities to a new proving ground at Sandy Hook, New Jersey.

At the beginning of the Civil War, the fort's impressive defenses protected it against a Confederate attack and made it a valuable Union offensive outpost. Gen. McClellan launched his 1862 Peninsular Campaign from Ft. Monroe. The Union forces also launched an attack against Petersburg and several attacks along the Confederate coast from Ft. Monroe. Ft. Monroe witnessed the first battle between ironclad ships, the USS *Monitor* and CSS *Virginia*, in Hampton Roads. After the war, Jefferson Davis served part of his imprisonment at Ft. Monroe.

Changes in military technology during the second half of the nineteenth century made stone fortifications such as Ft. Monroe obsolete. By the 1860s, modern navies had developed steam-powered ships that could bypass a fort quickly and rifled cannon that could inflict punishing damage to masonry walls. The success of the Union Navy in capturing southern ports during the Civil War demonstrated the inadequacies of masonry forts. Yet in the economy-minded years following the Civil War, Congress did not appropriate money for major improvements.

In 1885, the Secretary of War William Endicott chaired a board to re-examine the entire system of coastal defenses in the United States. The Endicott Board recommended a new system of heavy artillery batteries, arranged in elongated patterns. These batteries no longer had the

appearance of a classic harbor defense fortification; instead, they consisted of heavy guns placed behind a parapet for shelter, and dispersed for greater protection.

During the 1890s, Ft. Monroe received its Endicott-system batteries, located outside of the masonry fortifications, along Chesapeake Bay. They included some 12-inch disappearing guns and 12-inch mortars. Between 1875 and 1900, Ft. Monroe received appropriations for new construction, primarily housing, both barracks and family housing. In addition, a hospital, post headquarters, and firehouse were built.

After the Spanish-American War, the Army underwent a major reorganization to transform itself into a modern fighting force through better organization and training. As part of these reforms, the Artillery Corps was divided into two branches, the Coastal Artillery Corps and the Field Artillery Corps. The Artillery School was combined with the School of Submarine Defense, formerly located at Ft. Totten, to form the Coast Artillery School at Ft. Monroe. The Field Artillery School moved to Ft. Sill. The formation of the Coast Artillery School led to an extensive building campaign, between 1906 and 1912. The Coast Artillery School complex and additional officers' housing were built during this period.

World War I brought large numbers of trainees to Ft. Monroe, to learn both coastal defense and antiaircraft techniques. To improve its training facilities, Ft. Monroe acquired Mulberry Island, on the James River, which it termed Camp Eustis. That post later became Ft. Eustis. During the 1930s, Ft. Monroe received Public Works Administration funding for new construction; a complex of Colonial Revival NCO family housing duplexes was built in 1934.

Following World War II, the Army discontinued its coastal defense system. Ft. Monroe became the headquarters for the Army Ground Forces, followed by Continental Army Command. It currently serves as headquarters of the Training and Doctrine Command.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Headquarters
- -Office Building

Communications
- -Telephone Exchange

Education
- -Classroom Buildings
- -Library

Fortifications (see Technology: Fortifications [Part II])
- -Third System Masonry Fortification
- -Endicott Batteries

Health care
- -Hospital

Industrial
- -Maintenance and Repair Shops
  - -Ordnance Machine Shops
- -Storage (General Installation)
  - -General Storehouses
  - -Magazines
  - -Ordnance Storehouse
  - -Submarine Mine Depot

Infrastructure
- -Power Plant
  - -Heating Plant
- -Water and Sewage Systems
  - -Sewage Disposal Plant
  - -Water Tower

Landscape
- -Parade Ground

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Gym and Post Exchange
- -Chapel (Post)
- -Chapel (Catholic)
- -Club (NCO)

- -Exchange
- -Theatre
- -YMCA Building

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
  - -Bath house
- -Family Housing
  - -Civilian Employee Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officers Housing

Research and Development
- -Signal Photography Laboratory

Transportation
- -Vehicle-related
  - -Central Garage
- -Water-related
  - -Lighthouse (built by Coast Guard)

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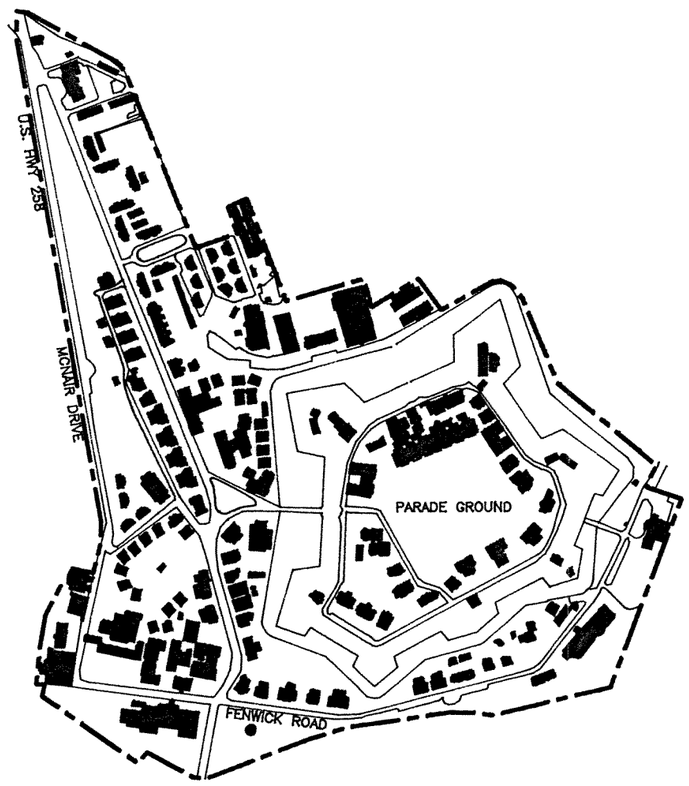
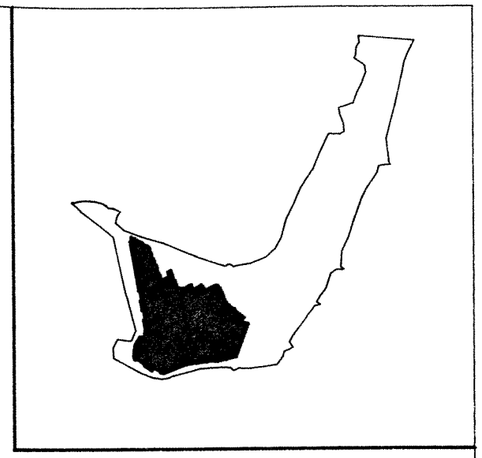

U.S. HWY 258
MCNAIR DRIVE
PARADE GROUND
FENWICK ROAD



FORT MONROE

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TIME PERIOD 1861-1940

- The Civil War and National Expansion, 1860-1890
  - Army
    - Civil War
    - Signal Corps
    - Education
- The Military and the Progressive Era, 1890-1918
  - Army
    - Closing the Frontier and Consolidating Posts
    - Beginnings of Army Aviation
- The Inter-war Years, 1918-1940
  - Army

RELEVANT THEMES

- Communications
  - Early Communications
  - Military Telegraphy and the Development of the Army Signal Corps
  - Army Signal Corps during the Twentieth Century
- Education
  - Beginnings of Military Professionalism, 1860-1890
  - Military Education during the Progressive Era and World War I, 1890 -1918
- Planning and Architecture
  - Consolidation and Modernization, 1875-1917
    - Standardization of Army Construction
- Technology
  - Military Aircraft

INSTALLATION HISTORY AND CONTEXT

Ft. Myer is located in Arlington, Virginia, between U.S. Route 50 and Arlington National Cemetery. It is adjacent to the Potomac River, west of Washington, D.C. The land originally was part of Robert E. Lee's Arlington estate confiscated by the federal government during the Civil War. Union troops fortified the high ground on the estate to protect the nation's capital. The fortification was named Ft. Whipple, and was part of a ring of earthworks surrounding the capital. Other sections of Lee's estate were used as a cemetery, hospital, and "freedman's village" for former slaves. After the war, Ft. Whipple remained federal property. In 1869, the post was assigned to the Army Signal Corps.

The Signal Corps was charged with military communications. Before the Civil War, military communications relied primarily on messengers or written reports. Just prior to the Civil War, an Army officer, Albert J. Myer, developed semaphore, a method of visual signaling using flags, lights, or mechanical arms. The method proved valuable to troops in battle. When combined with the

military telegraph, Myer's innovations allowed commanders to coordinate actions of dispersed units, and demonstrated the importance of communications to a large army.

When the Signal Corps located at Ft. Whipple, General Myer, then Chief Signal Officer, supervised the establishment of the Signal School. This school was an early example of specialized military training. Soldiers learned telegraphy and semaphore. Other applications of communications technology followed. The first military telephone was demonstrated at Ft. Whipple in 1878. A year later, the Signal Corps at Ft. Whipple began providing the first weather-forecasting services; they continued this mission until the Department of Agriculture assumed the responsibility in 1886.

The creation of the Signal School resulted in the conversion of Ft. Whipple to a permanent post. The wartime earthworks were removed, and a row of wood frame officers' quarters were constructed. In 1880, the post was named Ft. Myer to honor General Myer, the Army's first Chief Signal Officer, who had died that year. In 1886, Ft. Myer became a cavalry post, and the Signal Corps was transferred to posts in the west.

With the arrival of the cavalry, General Philip Sheridan, then Commanding General of the Army, determined to make Ft. Myer a cavalry showplace. During the 1890s, the wood-frame officer housing was replaced with brick buildings, using standardized designs supplied by the Quartermaster Department. The Quartermaster Department also constructed administrative buildings, stables, and administrative buildings for the cavalry post.

Between 1898 and 1905, the Signal Corps established a small separate cantonment at Ft. Myer. Their cantonment included an administrative building, barracks, a commanding officer's quarters (Building 1), duplex officers housing, balloon hangar, and storehouses. In 1905, the Signal Corps again left Ft. Myer. In 1910, Quarters 1 became the official residence of the Chief of Staff.

At the beginning of the twentieth century, Ft. Myer played a brief, but critical, role in the history of military aviation. On 8 September 1908, Orville Wright demonstrated the feasibility of military aviation in a flight over Ft. Myer. A few days later, Lieutenant Thomas Selfridge became the first fatality in a United States military aviation accident, at Ft. Myer.

During World War I, Ft. Myer served as the site of one of the first Reserve Officer Training camps. Officer training continued at the post into the early 1920s.

In the inter-war period, Ft. Myer served as a showcase for the final days of the horse cavalry. Part of the 3rd Cavalry provided ceremonial units for the nation's capital. Cavalrymen from Ft. Myer escorted visiting dignitaries and performed at presidential inaugurations. During the Bonus March of 1932, cavalrymen from fort Myer and under Major George S. Patton and Captain Lucian Truscott dispersed the protesters in a controversial action.

Today, Ft. Myer supports the Military District of Washington and other activities within the capital area. The 3rd Infantry still provides ceremonial units for Arlington Cemetery and government occasions. The Chief of Staff still resides in Quarters 1.

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PROPERTY TYPES

Administration
- -Headquarters

Education
- -Cavalry Riding Hall

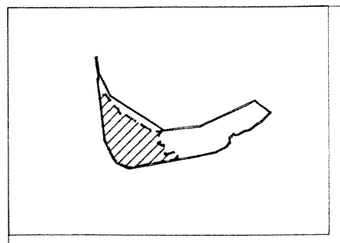
Health Care
- -Hospital

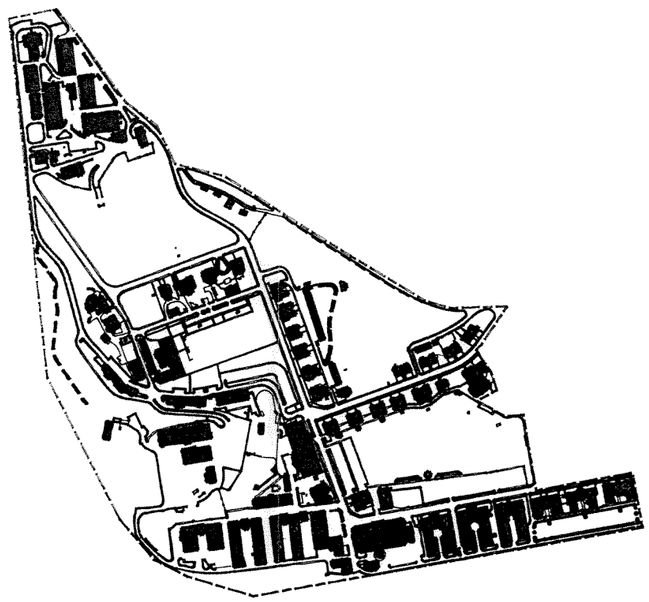
Industrial
- -Storage
  - -Quartermaster Storehouses
  - -Commissary Storehouse
  - -Ordnance Storage

Recreation/Social/Cultural/Religion
- -Exchange

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation
- Animal-related
  - -Stables
  - -Stable Guardhouses





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FORT MYER

TIME PERIOD 1853-1940

- The Military in the Early Republic and Antebellum Era, 1790-1860
  - Army
    - Frontier Forts West of the Mississippi
- The Civil War and National Expansion, 1860-1890
  - Army
    - Civil War
    - Frontier Posts
    - Education
- The Military and the Progressive Era, 1890-1916
  - Army
    - Closing the Frontier and Consolidating Posts
    - Development of Professional Education and Training
    - Wartime Cantonments
- The Inter-War Years, 1918-1940
  - Army
    - Installation Improvement
  - Army Air Corps
    - New Construction of Air Corps Installations

RELEVANT THEMES

- Education
  - Beginnings of Military Professionalism, 1860-1890
  - Military Education during the Progressive Era and World War I, 1890 -1918
  - Military Education between the Wars, 1919-1940
- Planning and Architecture
  - Early Frontier Posts, 1790-1875
  - Consolidation and Modernization, 1875-1917
    - Army Consolidation of Posts
    - Standardization of Army Construction
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Army Construction
  - Transportation
    - Military Contributions to Transportation Development
    - Benefits of Transportation Systems to the Military

INSTALLATION HISTORY AND CONTEXT

Ft. Riley is located in north central Kansas, overlooking the Republican River, north of Junction City. In 1852, a small party of Army officers decided to place a post at the junction of the Republican and Smokey Hill Rivers, to protect settlers and traders along the Oregon and Santa Fe Trails. They named the new post Camp Center, because they mistakenly believed that it was

located at the geographic center of the United States. The following year the name was changed to Ft. Riley, in honor of the recently-deceased Major General Bennett Riley.

Construction began in 1853, with an appropriation of $65,000. The original post layout followed a fairly simple pattern of buildings surrounding a square parade field. Four of the original limestone buildings survive: two duplex officers' quarters (Buildings 21 and 24); the chapel (Building 3); and, the post hospital (Building 205). These buildings are among the oldest permanent western frontier buildings still in the Department of the Army's inventory.

During the 1850s, soldiers from Ft. Riley protected settlers from Native Americans, and attempted to preserve the peace between pro- and anti-slavery settlers. When the nation divided in 1861, officers from Ft. Riley were also divided in their allegiances.

Following the Civil War, soldiers from Ft. Riley continued to police the frontier against hostile native tribes. In 1866, the 7th Cavalry, with George A. Custer as second-in-command, was organized at the post. It served here until transferring to the Dakota territory. While at Ft. Riley, the 7th Cavalry fought at Cimmaron Crossings, the North and South Forks of the Republican River, Monument Station, Downer's Station, and in the Battle of the Washita.

The advance of white settlements into Kansas soon reduced the threat from hostile Native Americans and the need for a permanent Army presence. The arrival of a railroad at Ft. Riley in 1866 demonstrated that the frontier was rapidly passing through Kansas. By the end of the 1870s, the only active Army posts in Kansas were Forts Riley and Leavenworth.

Ft. Riley languished after the passage of the frontier, however, its prospects became improved as the military developed a system of continuing professional education. In 1884, General Philip Sheridan recommended using the post as a cavalry headquarters, and secured funding for post improvements. In January, 1887, Congress authorized a School for Cavalry and Light Artillery. In March of that same year, General Sheridan selected Ft. Riley as the site for the school. During the 1880s, the foundations of a military school system appeared within the context of an awareness that military service constituted a distinct profession. The Army opened several schools to provide professional training and education; in addition to the Cavalry and Light Artillery School, the Army established the School of Application for Infantry and Cavalry at Ft. Leavenworth, Kansas (1881) and the Torpedo School (1872) and the Engineer School of Application (1885) at Ft. Totten, New York.

The decision to create a Cavalry and Light Artillery School at Ft. Riley prompted a major construction program. The Quartermaster Department, which then had responsibility for post construction, assigned Captain George Pond as the Constructing Quartermaster. The purpose of the new design was to create two separate, adjacent posts, that shared an educational mission, yet preserved their distinct identities as cavalry and artillery posts. The plan included two separate parade fields, one for the cavalry and one for the field artillery, and incorporated axial streets terminated by important buildings and curving avenues between and around the parade grounds. The buildings, built of native limestone, were based on standardized quartermaster plans and introduced greater complexity into the housing designs. Pond's plan and most of the buildings (approximately ninety) survive on the main post today. Construction of the Pond plan continued

from 1888 to the early 1900s. These buildings also mark the transition from small temporary frontier posts to larger, consolidated posts with permanent construction.

The Cavalry and Light Artillery School opened in 1893 in the original post hospital building, which had been enlarged several times. The school first trained entire units in drill and firing practice, stable management, and horse training through a program that combined classroom instruction with field exercises. In 1907, the school was reorganized and renamed the Mounted Service School. The final reorganization occurred in 1919, when it was designated the Cavalry School.

World War I produced a rapid expansion of the post with the creation of Camp Funston, a training cantonment located at the eastern edge of the post. The new camp contained 1,401 temporary buildings, and cost over ten million dollars. Ft. Riley also contained a remount depot and a veterinary camp.

Following World War I, the Cavalry School continued its instruction of officers and enlisted men. Some of the World War II leaders who trained there included George Patton, Jonathan Wainwright, and Lucian Truscott.

Beginning in 1926, Congress authorized more money for installation improvements, and Ft. Riley began another construction program. The World War I buildings at Camp Funston were demolished. New officer and NCO quarters were constructed on the main post and Marshall Field, an airfield with a hangar, storage buildings, and officer and NCO housing, was added. The housing from this era used standardized Quartermaster Crops colonial revival designs.

As the United States prepared to enter World War II, Ft. Riley again became the site of massive temporary construction. The Army again placed a temporary cantonment at Camp Funston, and another one at Camp Forsyth, near the Republican River. Just east of the main post, the Army constructed Camp Whitside, which contained a temporary hospital complex and a warehouse complex. Over 150,000 soldiers trained at the Cavalry Replacement Training Center.

After World War II, the Cavalry, as a branch, was abolished and the Cavalry School closed. In its place, the Army moved the Ground General School and an Officer Candidate School, which remained there until the mid-1950s. In 1955, the 1st Infantry Division (Big Red One) established its home at Ft. Riley.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Headquarters-Regimental

Education
- -Classrooms
- -Riding Halls

Health Care
- -Post Hospital
  - -Isolation Hospital
  - -Hospital Steward's Quarters
- -Dispensary

Industrial
- -Maintenance and Repair Shops
  - -Artillery Work Shops
  - -Blacksmith Shop
  - -Plumbers and Steamfitters Shop
  - -Repair Shops
- -Service Facilities
  - -Bakery
  - -Dry Cleaning Plant
- -Storage
  - -Artillery Ordnance Storehouse
  - -Gunsheds
  - -Wagon Shed
  - -Subsistence Storehouse
  - -Quartermaster Storehouse
  - -Warehouses

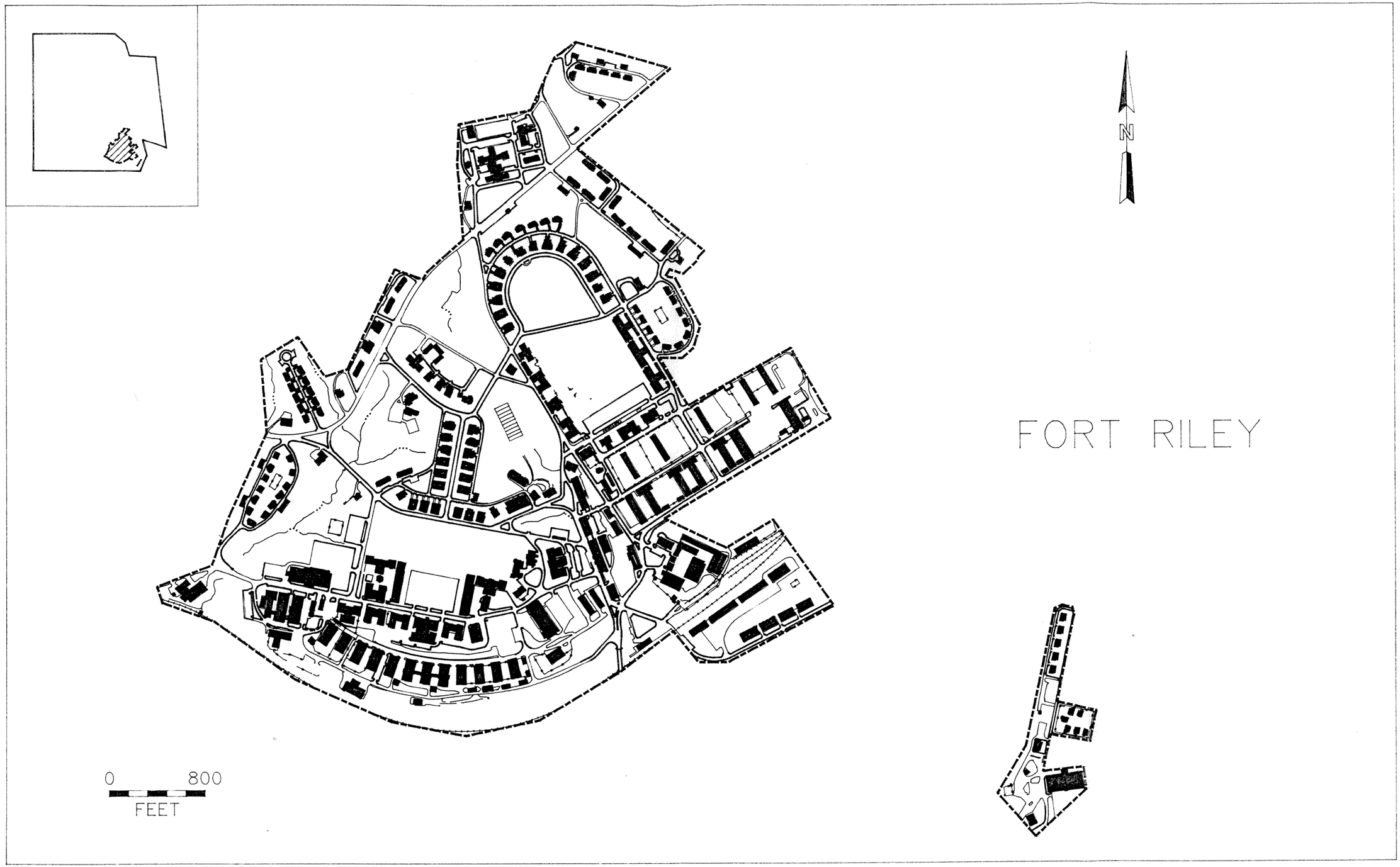
Infrastructure
- -Heating Plant
- -Water and Sewage Systems
  - -Reservoir
  - -Elevated Water Storage Tank

Landscape
- -Parade Grounds

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Polo Field
  - -Post Exchange and Gym
  - -Post Riding Hall
- -Chapels
- -Exchange and Gym
- -Theater

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
  - -Mess Hall
  - -Latrines/Bathhouse
- -Family Housing
  - -Civilian Employee Quarters
  - -Commanding Officer's Quarters
  - -Officer Housing
  - -NCO housing
  - -Sutler's House
  - -Garages

Transportation
- -Air-related
  - -Hangar
- -Animal-related
  - -Stables
  - -Stable Guardhouses
  - -Veterinary Hospital
- -Vehicle Related
  - -Gas Station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FORT RILEY
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TIME PERIOD 1876-1940

The Civil War and National Expansion, 1860-1890
- Army
  - Quartermaster Depots

The Military and the Progressive Era, 1890-1916
- Closing the Frontier and Consolidating Posts
- Development of Logistical Functions
- Beginnings of Army Aviation

The Inter-War Years, 1918-1940
- Army
  - Installation Improvement
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Army Consolidation of Posts
  - Standardization of Army Construction
- World War I: Temporary and Permanent Construction, 1917-1918
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

Medicine
- Military Medicine during the Inter-War Years, 1919-1940

Technology
- Military Aircraft

INSTALLATION HISTORY AND CONTEXT

Ft. Sam Houston is located in San Antonio, Texas, northeast of downtown. Even before the present Ft. Sam Houston was established, the strategic location of San Antonio made it a logical site for a military headquarters and supply center. After the Mexican War (1846 - 1848), the army established a Quartermaster depot, which operated out of the Alamo and rented buildings. Until 1869, the city also served as the headquarters of the 8th Military Department. In 1870, the city of San Antonio voted to donate a tract of land to the Army for a military installation, thus beginning the Post of San Antonio.

Construction began in 1876 with a complex of buildings now known as "the Quadrangle." It contained gray limestone storage buildings, including storehouses, offices, and workshops. A watchtower dominated the structure and provided a distinctive feature that remains today. This portion of the post served as a Quartermaster depot.

Completion of the Quadrangle proved to be only the beginning of construction at the post during the nineteenth century. The headquarters for Department of Texas returned to San Antonio

shortly after the completion of the post. New construction for the departmental headquarters included officers' housing and a hospital around a parade ground, west of the Quadrangle. The quarters, designed by architect Alfred Giles, were limestone with Italianate detailing. In 1882, the War Department purchased more land west of the Quadrangle for new brick construction to house the post garrison. This area, now known as the Infantry Post, included the post headquarters, officers' housing, officers' mess, barracks, mess halls, guardhouse, and bakery. Additional construction on the Infantry Post during the 1890s included duplex officers' quarters, officers' apartments, and NCO housing (no longer standing).

During the 1880s and early 1890s, the Army consolidated its scattered temporary frontier posts into larger posts with permanent construction. The expansion of railroad service across the West and the containment of Native American tribes influenced this drive for consolidation. The Army moved units from smaller forts to San Antonio. In 1890, the post was re-named Ft. Sam Houston, in honor of the Texas governor and leader of the revolution against Mexico.

In 1905, the Army again expanded Ft. Sam Houston through the addition of a Cavalry Post and an Artillery Post. By 1912, Ft. Sam Houston was the first brigade-sized post in the United States. This expansion accommodated the larger army created by the United States' increasing foreign involvement and continued the policy of consolidating troops. To accommodate this expansion, the Army purchased 471 acres north of the original post and built over seventy-five buildings around a curving parade ground, separated into two distinct sections for artillery and cavalry. The distinction was continued through the architecture; though both posts used quartermaster-standardized plans, the artillery post quarters were built of yellow brick, while the cavalry post quarters used red brick. The new posts also included a larger hospital, barracks, mess halls, NCO quarters, stables (most of which are no longer standing), guardhouse, bakery, and headquarters building.

Soldiers from Ft. Sam Houston remained active during the years from the post's creation to the beginning of World War I. Violence along the Mexican border was a constant source of difficulty to the Army, often requiring the services of the soldiers at Ft. Sam Houston. When the assigned regiments departed for Cuba in 1898, the post was used to organize the 1st Volunteer Cavalry, better known as the "Rough Riders," with Theodore Roosevelt as second-in-command. In 1911, the Army created a "maneuver division" at San Antonio as an exercise in concentrating large bodies of soldiers. When troubles with Pancho Villa prompted Brigadier General Pershing's expedition into Mexico, soldiers from Ft. Sam Houston joined the pursuit, while the post became a supply center for the operation.

Lieutenant Benjamin Fulois brought the Army's only airplane to Ft. Sam Houston in 1910. For the next few years, Fulois and other pioneer aviators experimented with the new concept of military aviation at Ft. Sam Houston. After a fatal accident, aviation was suspended temporarily. Fulois returned to Ft. Sam Houston in 1915 with the 1st Aero Squadron, that also participated in Pershing's Mexican expedition. Kelly Air Force Base, one of the oldest Air Force bases, originated as a part of Ft. Sam Houston. No hangars survive from the Fort's early association with the development of Army aviation.

With the American entry into World War I, Ft. Sam Houston was expanded by the addition of Camp Travis, a temporary cantonment. Like similar cantonments of the time, it was built hastily

with structures designed to last only a few years. Over 208,000 men trained at Camp Travis during the war.

One of the largest courts-martial in Army history occurred at Ft. Sam Houston in 1917. While stationed near the city of Houston, soldiers from the African-American 24th Infantry Regiment engaged in a quarrel with city police. The quarrel soon became a riot that left nineteen civilians and four soldiers dead. Following the riot, accused soldiers were transferred to Ft. Sam Houston to face charges of mutiny in time of war and murder. Nineteen soldiers were hanged; thirteen almost immediately after the trial.

After World War I, Ft. Sam Houston became home to the Second Division and headquarters to the Eighth Corps Area. Because this substantially raised the number of soldiers assigned to the post, units were housed in the temporary World War I buildings of Camp Travis. Because of their hasty construction, these buildings soon had deteriorated past the point of habitability.

Nationally, the military struggled with a housing shortage. Approximately one-third of Army personnel in the continental United States lived in temporary structures built in 1917. In 1926, the U.S. Congress enacted Public Law No. 45, authorizing the Secretary of War to dispose of forty-three military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations. At Ft. Sam Houston, the Spanish Mission style was selected as the most appropriate for the region.

Ft. Sam Houston received funding for new construction in 1928 under this program, though the housing was built between 1931 and 1934. The new construction was planned around an enormous new parade ground that extended the existing Cavalry Post parade ground to the east and north in a wide curve. Hundreds of quarters were erected: officers housing, NCO housing (100+), and barracks. New amenities, such as a theater, officers' club, commissary, and post exchange, were built.

During the inter-war years, Ft. Sam Houston was also the site of Billy Mitchell's court-martial. His tactless criticisms of civilian and military superiors resulted in a conviction for insubordination. In later years, however, the importance of military aviation seemed to vindicate Mitchell's vision, if not his conduct.

With its dry climate, Ft. Sam Houston became an excellent location for treating tuberculosis, thus beginning the post's role as a vital Army medical center. During the 1930s, the Army began construction of a general hospital at the end of the new post parade ground. At its opening, the hospital was one of the best in the Army. It reached peak capacity almost immediately after opening, necessitating the construction of additions soon afterwards. During

World War II, the hospital was named Brooke Army Hospital, in honor of a former post surgeon. After the war it became a leader in medical research, especially in the treatment of burns.

Ft. Sam Houston served as an important training center during World War II, where some of the first experiments in airborne tactics were conducted. Today, Ft. Sam Houston is headquarters of the U.S. Fifth Army and home of the Army Health Services Academy and Brooke Army Medical Center.

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PROPERTY TYPES

Administration
- -Guardhouses
- -Headquarters-Post
- -Headquarters Building

Communications
- -Wireless Communications Center/Pigeon Loft
- -Telephone Exchange

Health Care
- -Hospital-Post
  - -Isolation Hospital
  - -Hospital Stewards' Quarters
- -Hospital-General
  - -Housing

Industrial
- -Maintenance and Repair Shops
  - -Vehicle Maintenance
- -Service Facilities
  - -Bakery

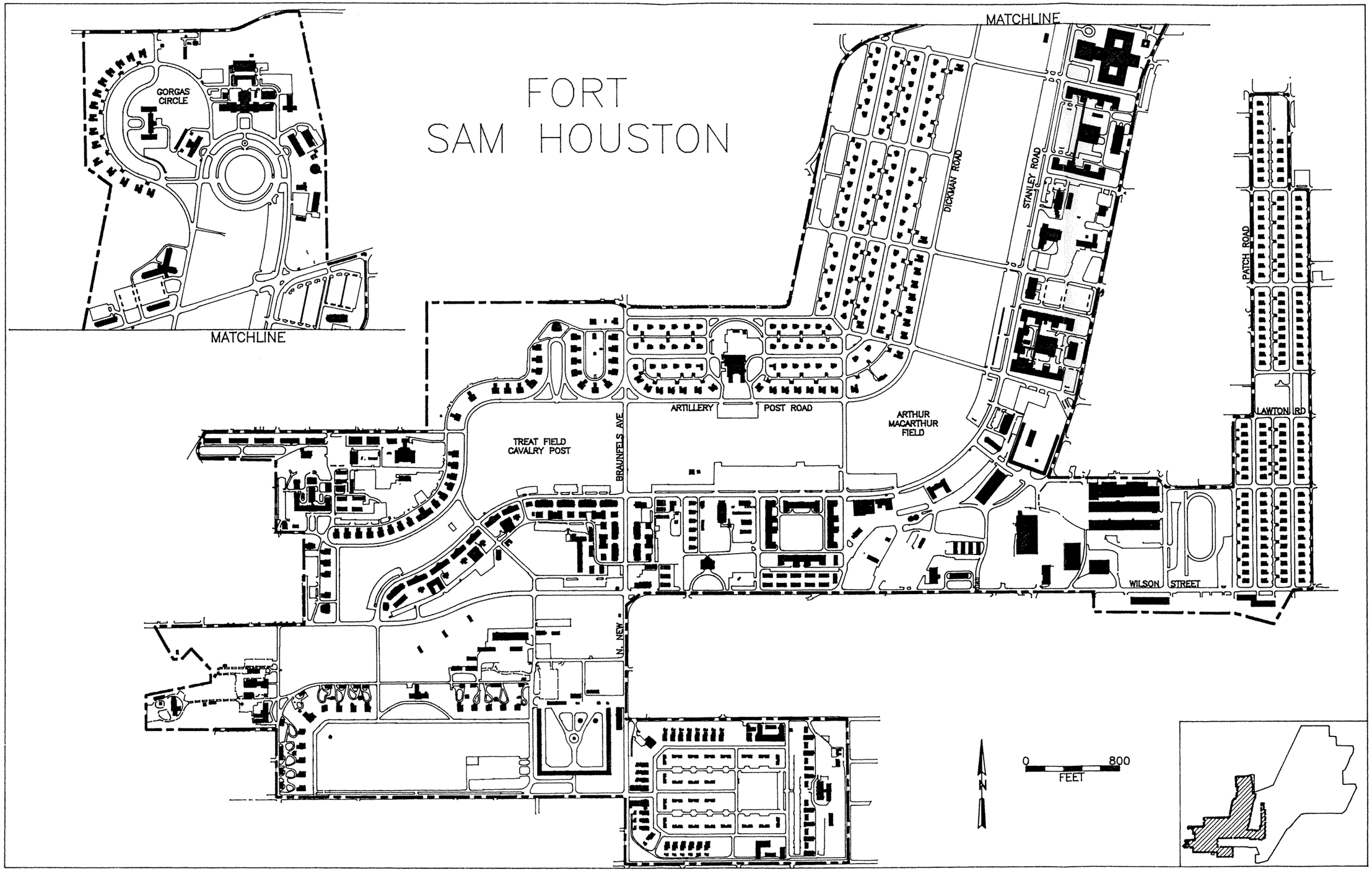
- -Storage (Depots and Supply Centers)
  - -Quartermaster Depot
    - -Offices
    - -Shops
    - -Water Tower/Watchtower
    - -Warehouses
- -Storage (General Installation)
  - -General Storage
  - -Gun Shed
  - -Commissary Storehouse

Landscape
- -Parade Grounds

Recreation/Social/Cultural/Religion
- -Chapel
- -Club-Officer's
- -Exchange
- -Theater

Residential
- -Institutional
  - -Barracks
  - -Bachelor Officers' Quarters
  - -Mess Hall
  - -Officers' Mess
  - -Latrines/Bathhouse
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officer Housing
  - -NCO housing
  - -Officer Housing-Multi-Family
  - -Garages

Transportation
- -Animal-related
  - -Stables
  - -Veterinary Hospital


FORT
SAM HOUSTON
GORGAS CIRCLE
MATCHLINE
MATCHLINE
DICKMAN ROAD
STANLEY ROAD
PATCH ROAD
LAWTON RD
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POST ROAD
ARTHUR MACARTHUR FIELD
TREAT FIELD CAVALRY POST
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FEET

TIME PERIOD 1869 - 1940

- The Civil War and National Expansion, 1860-1890
  - Army
    - Frontier Posts
- The Military and the Progressive Era, 1890-1918
  - Army
    - Closing the Frontier and Consolidating Posts
    - Development of Professional Education and Training
    - Beginnings of Army Aviation
- The Inter-war Years, 1918-1940
  - Army
    - Installation Improvement
    - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

- Education
  - Military Education during the Progressive Era and World War I, 1890 -1918
  - Military Education between the Wars, 1919-1940
- Planning and Architecture
  - Early Frontier Posts, 1790-1875
  - Consolidation and Modernization, 1875-1917
    - Standardization of Army Construction
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Army Construction

INSTALLATION HISTORY AND CONTEXT

Ft. Sill is located on the plains of southwestern Oklahoma, near Medicine Bluffs on Medicine Creek, three miles north of Lawton in Comanche County. Ft. Sill has served varied missions, from western frontier post, to artillery school, to air field. Each mission is associated with a different phase of construction at Ft. Sill.

During the mid-nineteenth century, the U.S. Army established many forts in the western territories to protect trails and subdue Native Americans. Between 1868 and 1890, federal troops and native tribes engaged in hundreds of battles throughout the western territories. The U.S. Army established Ft. Sill in 1869 during a military campaign to contain the Kiowas and the Comanches in the Indian Territory of Oklahoma. When the last Comanches surrendered in 1875, marking the defeat of the South Plains tribes, Ft. Sill became the Indian Territory administrative center. Its mission was to protect the territory from encroachment by white settlers and to maintain the peace. Ft. Sill continued to serve as an outpost in the Indian Territory until 1901, when Oklahoma was opened to permanent white settlement.

The original post was constructed by the 10th Cavalry, a famous African-American regiment, between 1870 and 1875. It followed the traditional frontier post layout of a square parade ground with officers' quarters facing two sides of the square and barracks along a third. Administrative buildings were situated along the south side of the parade ground. NCO housing, teamsters lodgings, warehousing, and the corral were located apart from the main parade ground. The buildings, constructed from locally-quarried limestone, were the first permanent buildings in that section of Oklahoma. The one-story, gable-roof buildings were examples of the early Quartermaster-standardized plans promoted by Quartermaster General M.C. Meigs during the 1870s.

In 1878, the first African-American graduate from West Point, Henry O. Flipper was assigned to duty at Ft. Sill as a Second Lieutenant. While at Ft. Sill, Flipper designed and supervised the construction of a drainage system that greatly improved the post's sanitation. Flipper remained at Ft. Sill until 1880. He was his regiment's first African-American officer. As the Post Signal Officer and Post Adjutant, his duties included surveying, handling mail, buildings roads, erecting telegraph wires, and scouting.

In 1901, the last major portion of the South Plains reservations was opened to thousands of white settlers, ending Ft. Sill's role as administration center for the reservations. Instead of closing the post, the Army reassigned the post to the Artillery Branch. At the turn of the century, the Army expanded and reorganized in response to the United States' increased intervention overseas. The Army also developed a system of continuing education for its officers and technical training for enlisted men. In May 1907, following the reorganization of the Artillery Branch into Coastal Artillery and Field Artillery, the 1st Field Artillery regiment assumed control of Ft. Sill, and the last cavalry regiment departed. This change required an expansion of the older facilities and a new post was constructed west of the original post.

In 1911, a field school was organized at Ft. Sill to provide unified instruction, training, and development solely for field artillery units. In 1913, the Infantry School of Musketry, which trained troops in marksmanship and weapons, was enlarged and moved to Ft. Sill from the Presidio of Monterey. The infantry school was relocated to Ft. Benning in 1918.

The new post was constructed between 1909 and 1911. It also followed the traditional post plan of a large parade ground surrounded by officer's quarters, barracks, and administrative facilities. The architectural style chosen for the buildings of the new post was the Spanish Colonial/Mission Revival style, as reflected in the stuccoed exterior walls, the red tile roofs, and ornamentation including graceful curved gables. The building designs were standardized plans provided by the Quartermaster Department. Ft. Sill and Ft. Winfield Scott at the Presidio of San Francisco are the two surviving earliest installations where the Army adopted this architectural style. The design of the barracks and stables were successful adaptations of the Mission Revival style. However, the housing resembles standard military designs. Approximately forty-five buildings remain from the 1902 - 1918 era.

In 1915, the First Aero Squadron, the first air unit in the U.S. military service, under the command of Major General Benjamin D. Foulois, arrived at Ft. Sill to conduct experiments in aerial observation of artillery fire. During world War I, Ft. Sill housed the School for Aerial Observers and the Air Service School. The original airfield, no longer in existence, was replaced by the Henry

Post Field during the 1930s. The complex consists of several hangars, barracks, housing, shops, and other support buildings. The most impressive building at the airfield is the eight-story balloon hangar. One of the last uses for military balloons was to monitor and direct artillery fire.

During World War I, Ft. Sill undertook a great expansion of its artillery school facilities, primarily with temporary frame buildings, few of which survive. During the early 1920s, little new construction occurred, and a housing shortage arose at Ft. Sill as at other posts. In 1926, the U.S. Congress enacted Public Law No. 45, authorizing the Secretary of War to dispose of forty-three military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. Later in the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations.

In 1930, Ft. Sill became the permanent home of the Field Artillery School. The largest building campaign to date at Ft. Sill began in 1933. Barracks, officer housing, NCO housing, warehouses, and support buildings such as motor maintenance facilities were constructed under the Quartermaster Corps national building program in Spanish Colonial Revival standardized plans.

Ft. Sill is currently the home of the U.S. Army Field Artillery School, which trains field artillerymen and develops field artillery equipment and tactics.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Post headquarters

Communications
- -Signal Office

Education
- -Classrooms

Health Care
- -Hospital
  - -Hospital
  - -Isolation Ward
  - -Dead House (morgue)
  - -Hospital Administration
  - -Hospital Steward's Quarters
  - -Medical Barracks
  - -Nurses Barracks
  - -Storage

Industrial/Processing/Extraction
- -Maintenance and Repair Shops
  - -Blacksmith Shops
  - -Ordnance Shop
  - -Utility Shops
- -Service Facilities
  - -Bakery
  - -Dry Cleaning Plant
- -Storage (General Installation)
  - -Ammunition Storage
  - -Commissary Storehouse
  - -Ordnance Magazine
  - -Quartermaster Storage
  - -Warehouses

Infrastructure
- -Heating Plant
- -Water and Sewage Systems
  - -Drainage System

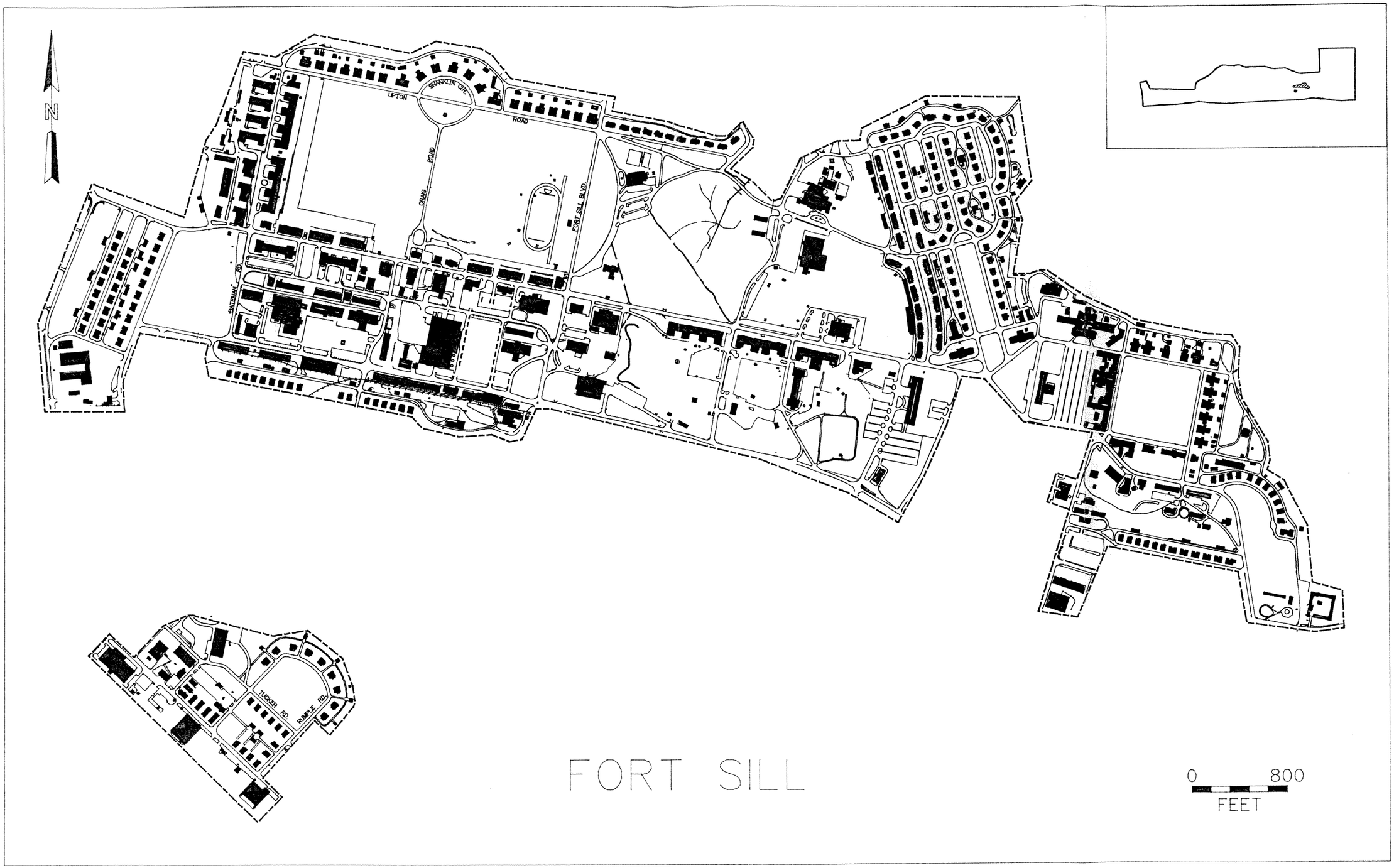
Landscape
- -Parade Ground

Recreational/Social and Cultural
- -Athletic Facilities
  - -Gymnasium
- -Chapel
- -Club
  - -Officers' Club
  - -Polo Club
- -Exchange
- -Library
- -Red Cross building
- -Theater

Residential
- -Institutional Housing
  - -Barracks
  - -Band Barracks
  - -Teamsters' Housing
  - -Mess
  - -Latrines
  - -Wash House
- -Family Housing
  - -Commanding officer quarters
  - -Officers' quarters
  - -NCO housing
  - -Latrines

Transportation
- -Air-related
  - -Hangars
    - -Dirigible/Balloon Hangar
    - -Airplane Hangar
  - -Support Buildings
  - -Shops
- -Animal-related
  - -Corral
  - -Hay Shed
  - -Stables

- -Stable Guards and Shops
- -Veterinary Clinic
- -Vehicle-related
  - -Motor Pool
  - -Motor Repair Shop
  - -Vehicle Shed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TIME PERIOD 1857-1939

- The Military in the Early Republic and AnteBellum Era, 1790-1860
  - Army
    - Coastal Fortifications
- The Civil War and National Expansion, 1860-1890
  - Army
    - Coastal Defense
    - Education
- The Military and the Progressive Era, 1890-1918
  - Army
    - Coastal Defense
    - Development of Professional Education and Training
- The Inter-war Years, 1918-1940
  - Army
    - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

- Education
  - Beginnings of Military Professionalism, 1860-1890
  - Military Education during the Progressive Era and World War I, 1890 -1918
  - Military Education between the Wars, 1919-1940
- Planning and Architecture
  - Consolidation and Modernization, 1875-1917
    - Standardization of Army Construction
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Army Construction
- Technology
  - Fortifications

INSTALLATION HISTORY AND CONTEXT

The Army established the Fort at Willet's Point (renamed Ft. Totten, in 1898) in 1862 on a 110-acre parcel located on a small peninsula in Long Island Sound in the Bayside section of Flushing, New York. The original mission of the installation was as a defensive fortification to protect New York Harbor from attack through Long Island Sound. Ft. Totten was a late example of an elaborate system of harbor and coastal defenses, known as the Third System, that the Army built between 1819 and 1860. The original masonry fortification, however, was never completed.

The first permanent garrison, three companies of engineers, was stationed at Ft. Totten in 1865. Their mission was to receive and store engineer equipment and material returned from the battle front. The original torpedo storage area and engineers' depot is now under the control of the U.S. Coast Guard. Ft. Totten was designated officially as the Engineers Depot for the East in 1870.

In 1869, Corps of Engineers officers organized a scientific association called the "Essayons Club of the Corps of Engineers;" the purpose of the club was to perpetuate a knowledge of military engineering. The group may have met in the Officers' Club, originally constructed in 1870 and expanded in 1887. This elaborate building with its crenelated tower reflects the military Gothic Revival style.

During the late nineteenth century, the military developed a system of continuing professional education. The Army opened several schools to provide professional training and education. The Essayons Club grew into a Torpedo School in 1872, and the Engineer School of Application in 1885. Barracks (Buildings 405, 322, 323, and 325), torpedo laboratories (Buildings 610 and 612), torpedo storehouses (Buildings 615 and 611), shops and storehouses, the post exchange (Building 333), firehouse (Building 331), bakery (Building 309), and NCO quarters (Building 317) were built during the 1880s and 1890s to serve the expanded mission of the installation.

In 1885, the Secretary of War, William Endicott, chaired a board to re-examine the entire system of coastal defenses in the United States. The Endicott Board recommended a new system of heavy artillery batteries, arranged in elongated patterns. These batteries no longer had the appearance of a classic harbor defense fortification; instead, they consisted of heavy guns placed behind a parapet for shelter, and dispersed for greater protection.

During the 1890s, Ft. Totten received Endicott system batteries. In 1902, after the completion of the Endicott batteries, the Engineer Depot was closed. The post was then garrisoned by the Coast Artillery Corps. A new cantonment for the Coast Artillery garrison was constructed, including officers' quarters, NCO quarters, hospital complex, gym, and an additional barracks. The quarters were built from Quartermaster Department-standardized plans and illustrate the Georgian Colonial Revival style. During this period, the post was substantially redesigned; the design of the parade ground was altered and substantial rebuilding was undertaken. In 1913, Ft. Totten was designated as Headquarters for the North Atlantic Division.

During World War I, Ft. Totten was a training camp for troops en route to the battlefront. Most facilities constructed for the camp were temporary wooden structures. During the 1930s, Ft. Totten was expanded, with the construction of additional NCO housing, a theater, a chapel, and garages. This construction followed standard Quartermaster Corps plans and were located within the existing layout of the installation.

During World War II, anti-aircraft units were trained at Ft. Totten. Since 1967, the installation has been the home of the 77th Army Reserve Command for the New York Army Command (NYAC). The Coast Guard controls ten acres within the original installation boundaries.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Gate house

Education
- -Classrooms/Office

Fortifications (see Technology: Fortifications [Part II])

Health Care
- -Hospital
  - -Support Facilities
  - -Isolation Ward

Industrial
- -Maintenance and Repair Shops
  - -Machine Shop
- -Service Facilities
  - -Bakery
- -Storage (Depot and Supply Centers)
  - -Storehouses-Torpedo
- -Storage (General Installation)
  - -Engineer Warehouse
  - -Quartermaster Storehouse
  - -Storage Shed
  - -Storehouses

Infrastructure
- -Power Plant
  - -Transformer Huts
- Water and Sewage
  - -Sewer Pumps

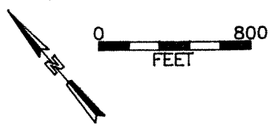
Landscape
- -Parade Ground

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Gymnasium
- -Chapel
- -Club
  - -Officers' Club
- -Exchange
- -Theater
- -YMCA Building

Research and Development
- -Torpedo Laboratories

Residential
- -Institutional Housing
  - -Barracks and Mess
  - -Engineers' Barracks
  - -Quartermaster Barracks
  - -Bachelor Officers' Quarters
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officer Housing
  - -NCO Housing
  - -Garages

Transportation
- -Animal related
  - -Stable
- -Water-related
  - -Pier/Quartermaster Wharf
  - -Wharf Building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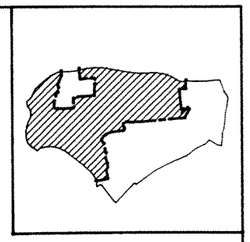
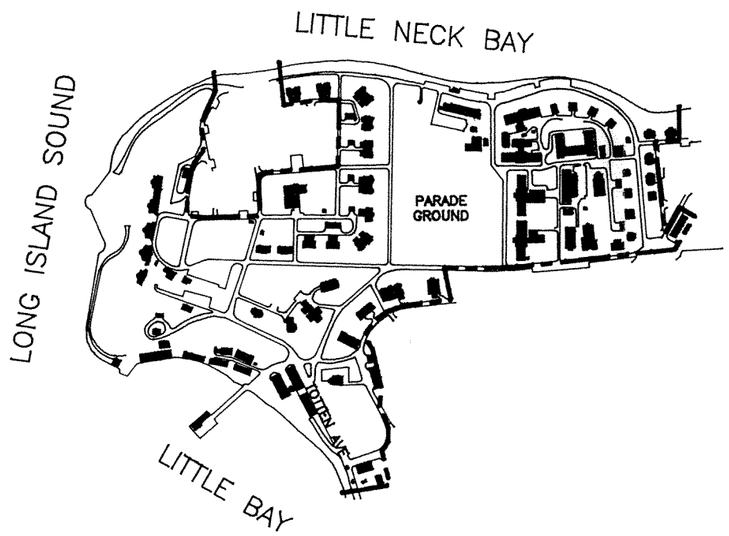


FORT TOTTEN


LITTLE NECK BAY
LONG ISLAND SOUND
PARADE GROUND
LITTLE BAY

TIME PERIOD 1880-1940

The Civil War and National Expansion, 1860-1890
- Army
  - Ordnance Department

The Military and the Progressive Era, 1890-1918
- Army
  - Development of Logistical Functions

The Inter-War Years, 1918-1940
- Army
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Planning and Architecture
- Industrial Eclecticism, 1790-1875
  - Army Ordnance Department
- World War I: Temporary and Permanent Construction, 1917-1918

Technology
- Weapons and Ammunition

INSTALLATION HISTORY AND CONTEXT

Picatinny Arsenal occupies 6,500 acres around Lake Picatinny in Rockaway Township in northern New Jersey. From its beginning, the facility has served as a center of military production, storage, and development of explosives.

During the second half of the nineteenth century, the Army Ordnance Department expressed a concern over a lack of sufficient storage capacity for explosives on the east coast. After considering a number of locations, the Ordnance Department decided that Dover, New Jersey came closest to meeting its needs. The site was in an isolated location, but accessible to railroad transportation and close to the port of New York. From September 1880 to April 1881 the War Department purchased the land that became Dover Powder Depot.

The original construction for the powder depot consisted of powder magazines, officers' quarters, stables, and service buildings. A lack of funding slowed construction; the last of the five original magazines was not completed until 1890. Buildings that remain from the initial phase of construction include the superintendent's house (Building 110), commanding officer's quarters (Building 114), officers' family housing (Buildings 105, 106, 108, 115, 117, 119), powder magazine (Building 307), and post engineering maintenance (Building 305). Of special note was an ornamental iron gate that used large cannon for gate posts and bore the Ordnance Department crest on the gate. In 1891, the War Department transferred 391 acres to the Navy Department, to create the Navy's Lake Denmark Powder Depot.

Toward the close of the nineteenth century, the installation began the to expand its activities beyond the storage of ammunition. In 1897, it began loading powder into silk bags for artillery charges; later, arsenal personnel began loading the explosive, Maximite, into shells. Additional construction of storage and production facilities accompanied these expansions.

The expansion accelerated in 1907 when the installation's name officially changed to Picatinny Arsenal. During the same year the Arsenal became the War Department's first smokeless powder plant. Other innovations followed. The installation began to produce small arms ammunition, and then to assemble large caliber fixed ammunition. In 1911, Congress authorized Picatinny Arsenal to begin production of the high explosive, "explosive D." Also in 1911, a school to train officers in chemistry, explosives, and interior ballistics was established. By 1914, the facility contained 124 buildings. Approximately twenty-eight buildings remain from the 1900 - 1914 period; they consist primarily of magazines, storage facilities, production facilities, and shops.

When World War I began, however, the arsenal's most important contribution was research and training, not production of large quantities of ammunition. Workers at Picatinny contributed their knowledge of military explosives to private industry, and trained new ordnance officers in their duties. Because of its proximity to New York, Picatinny also increased its storage of material to be shipped overseas. Fifty-four new buildings, including a new powder house were added during the war.

On December 28, 1920 Picatinny was designated as a complete ammunition arsenal. In addition to production of all types of ammunition, the installation conducted experiments on production of explosives, fuses, and other components. In keeping with its new role, Picatinny received funding for new buildings, including ones for explosive production or loading plants for TNT. Other buildings were converted from production to research buildings. By 1922, the site contained 485 buildings.

On July 10, 1926, the history of Picatinny changed, suddenly, when a lightning storm initiated a series of devastating explosions at nearby Lake Denmark Naval Depot. The worst explosion came at Magazine #9, which contained over 1.6 million pounds of TNT. All of the Navy's buildings were destroyed or damaged, and many of the buildings at Picatinny also were damaged beyond repair.

After surveying the destruction, the War Department determined to rebuild the installation. In fact, the disaster provided an opportunity to redesign the installation to make it more suitable for the Army's needs. The new arsenal was divided into three distinct areas: (1) a production area, (2) a testing area, and (3) a research and administrative area. Most of the new building occurred in the production area, which received a new smokeless powder plant and new loading lines for artillery ammunition. The Army also built a new tetryl plant.

As the United States approached its entry into World War II, Picatinny Arsenal proved to be invaluable to America's defense. Because it was the Army's only ammunition arsenal, its personnel had preserved a knowledge of military explosives and ammunition that it could pass on to civilian corporations. Describing the installation's contribution the war effort, Chief of Ordnance, Levin Campbell noted that:

Had it not been for Picatinny, it is difficult to imagine how private industry could have met the challenge of war and produced the necessary ammunition in so short a time. Picatinny not only could manufacture ammunition and explosives in what we were pleased to call production laboratory quantities, but also passed on the know-how that was of great help to industry. With that accomplished, production at Picatinny leveled off, and the arsenal greatly expanded its work of experimentation, research, and development.

Today, Picatinny Arsenal continues to be an important center for research into ammunition. Although the types of ammunition have changed, the installations tradition of careful work in a technically demanding field continues.

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PROPERTY TYPES

Administration
- -Fire Hose House
- -Fire Station
- -Post Headquarters
- -Offices

Communications
- -Transmitter Building

Education
- -Applied Instruction Building

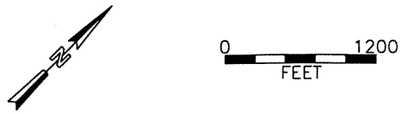
Infrastructure
- -Power Plant
  - -Boiler House
  - -Power House
- -Water and Sewage Systems
  - -Water Treatment Plant

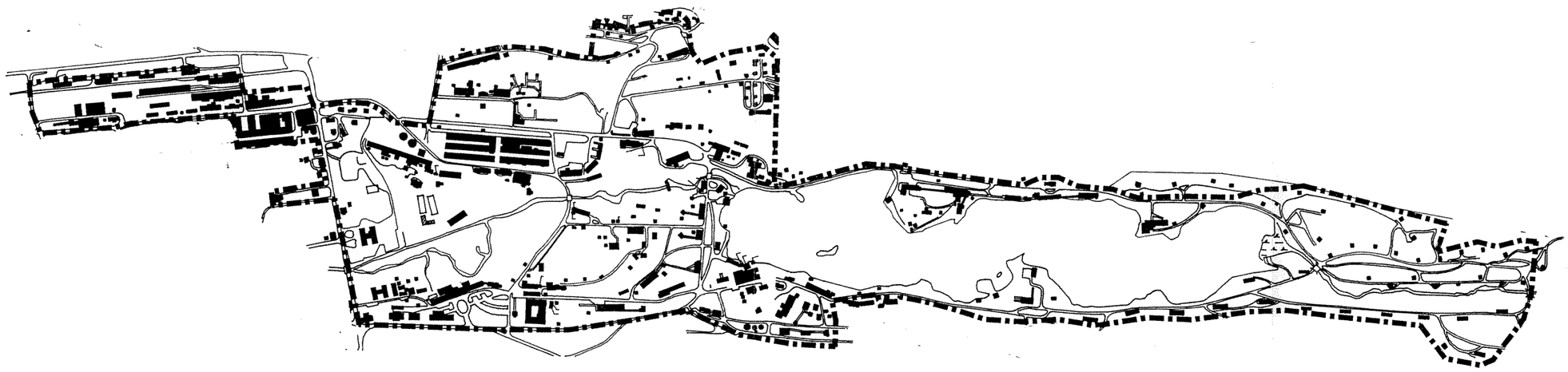
Industrial
- -Maintenance and Repair Shops
  - -Post Engineer Maintenance
  - -Motor Repair
- -Manufacturing
  - -Air Compressor House
  - -Ammonium Picrate Screening
  - -Bag Charge Filling Plant
  - -Cloth Dyeing, Cutting and Sewing
  - -Combustible Cartridge Case Factory
  - -Control Room
  - -Detonating Chamber
  - -Dry House
  - -Ether and Alcohol Recovery House
  - -Graphite and Sorting House
  - -Gun Bag Loading Building
  - -Fuze Testing and Loading
  - -Howitzer and Aliquot Bag Loading
  - -Loading Plant
  - -Major Caliber Projectile Loading Plant
  - -Mercury Fulminate Mixing
  - -Nitrating House
  - -Packer and Box Testing House
  - -Precision Machine Shop
  - -Press Loading
  - -Primer and Detonator Loading
  - -Pulverizing
  - -Receiving, Packing, and Shipping
  - -Small Arms Powder Blender
  - -Solvent Recovery
  - -TNT Screening
- -Storage (Depots and Supply Centers)
  - -Magazine
    - -High Explosive
    - -General Purpose
- -Storage (General Installation)
  - -Ammunition parts
  - -Chemistry
  - -Cotton
  - -Flammable Materials Storehouse
  - -Fuze and Detonator
  - -Ether Vault
  - -Inert Storehouse
  - -Warehouses
  - -Sodium Nitrate
  - -Paint Locker

Research and Development
- -Laboratory
  - -Acid
  - -Chemical Stability
  - -High Explosives
- -Test Chamber

Residential
- -Institutional Housing
  - -Enlisted Men's Quarters
  - -Transient Officers' Quarters
- -Family Housing
  - -Commanding Officer's Quarters
  - -Superintendent's House
  - -Officer Housing
  - -Garages

Recreation/Social/Cultural/Religion
- -Athletic Facility
  - -Boat House
- -Club (Officers')
- -Theater/Open Mess





PICATINNY ARSENAL

TIME PERIOD 1902-1939

The Military and the Progressive Era, 1890-1918
- Army
  - Army Operations

The Inter-war Years, 1918-1940
- Army

RELEVANT THEMES

Education
- The Military and the Progressive Era 1890-1918

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Standardization of Army Construction
- Inter-War Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

The Presidio of Monterey covers approximately 350 acres and is located on the Monterey Peninsula, California. The site has a long history as a Spanish fort. The U.S. Navy captured the site in 1846, during the Mexican American War. U.S. troops constructed fortifications on the site, known variously as Ft. Mervine, Ft. Savannah, and Ft. Halleck. From 1852 to 1865, the fort was inactive. In 1865, the fort was reactivated briefly and renamed Ord Barracks. At the close of the Civil War, the Army placed the post on caretaker status. No buildings remain from the antebellum era.

At the turn of the century, increased American involvement in international affairs created new missions for the Army and increased its size. For the first time since the Mexican War, the United States Army operated outside the continental United States on a sustained basis. In 1898, the United States entered a war with Spain over Cuban independence. As a result of the war, Spain relinquished the Philippine Islands to the United States. Filipino nationalists wanted independence for their islands, and the Army entered a guerrilla war, known as the Philippine Insurrection by Americans. From the end of hostilities in 1902 until the end of World War II, the United States retained the Philippines as a colony. The War Department administered the islands, and the Army continued to station troops there. In response to U.S. overseas involvement, the military expanded its West Coast facilities.

The Ord Barracks was re-activated as a military post in 1902, during the U.S. involvement in the Philippine Insurrection. Existing Army facilities on the West Coast were overcrowded with troops recuperating from overseas service. Renamed a final time in 1904, the Presidio of Monterey was established to house returning infantry and cavalry troops and to provide tactical and technical training.

The new post was laid out during a period in which the Army was re-evaluating the design and construction of its posts as it consolidated its troops in larger installations. The Presidio occupies a sloped site overlooking the Bay of Monterey; the post plan utilizes its topographical setting to full advantage. The parade ground is located at the center of the post. Barracks are perpendicular to the parade ground, facing the bay. The officers' housing is arranged in a horseshoe at the west end of the parade ground. A separate complex of cavalry barracks and officers' quarters is located further up the slope. A full range of support structures, including stables, post exchange, bowling alley, hospital, administration building, and storehouses, were also built.

Captain E.H. Plummer was assigned as Constructing Quartermaster. The post was constructed quickly, utilizing a combination of troop labor and local carpenters. The first buildings constructed were frame barracks and officers' housing. The pattern of construction reflects the Army's tradition of quickly constructing frame posts on the Western frontier. The barracks are one-story with a full-facade veranda, typical of barracks found on western posts. The veranda served as an exterior hallway. The officers' quarters are simple, one-story, rectangular structures. The assembly hall and post exchange were constructed using Quartermaster Department standardized plans. The post layout and facilities reflect the Army's move towards larger posts with different types of units and more recreational facilities. However, the frame buildings themselves are part of the Army's western frontier construction tradition, rather than part of the contemporaneous construction of permanent masonry buildings by the Quartermaster Department during the first decade of the twentieth century.

Much of the original post still stands, including the officer and NCO housing, maids quarters, barracks, officers' club (Building 326), post exchange (Building 221), bowling alley (Building 220), carpenter shop (Building 261), storehouses, and guardhouse (Building 263). Later buildings still extant include a 1910 assembly hall, later converted to a theatre (Building 208); a 1914 telephone exchange (Building 278); a 1922 service club (Building 272); and, a 1922 post school (Building 277). Like many army installations in the 1930's, the Presidio of Monterey received improvements through public works projects. The 1934 gym (Building 228) was a Civil Works Administration project.

In 1904, the Army started a school of musketry on the post to train troops in the use of weapons and marksmanship. The school remained at the Presidio of Monterey until 1912, when it was enlarged and moved to Ft. Sill, Oklahoma. From 1912 to World War II, the post served as a garrison for various infantry, cavalry, and artillery units, most of which had relatively short stays. In 1917, additional acreage was purchased as a maneuver area; today, it is part of Ft. Ord.

During World War II, the Presidio of Monterey served as a reception center for inductees. In 1946, the Presidio became the permanent home of the Military Intelligence Service Language School, which became the Defense Language Institute, West Coast Branch.

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PROPERTY TYPES

Administration
- -Gatehouse
- -Guardhouse
- -Headquarters

Communications
- -Telephone Exchange

Education
- -Post School

Industrial
- -Maintenance and Repair Shops
  - -Blacksmith Shop
  - -Carpenter Shop
  - -Ordnance Magazine
  - -Post Engineer Shop
- -Storage (General Installation)
  - -Coal Shed
  - -Gun Shed
  - -Oil Storehouse
  - -Ordnance Storehouses
  - -Quartermaster Storehouse
  - -Wagon Shed
  - -Warehouses

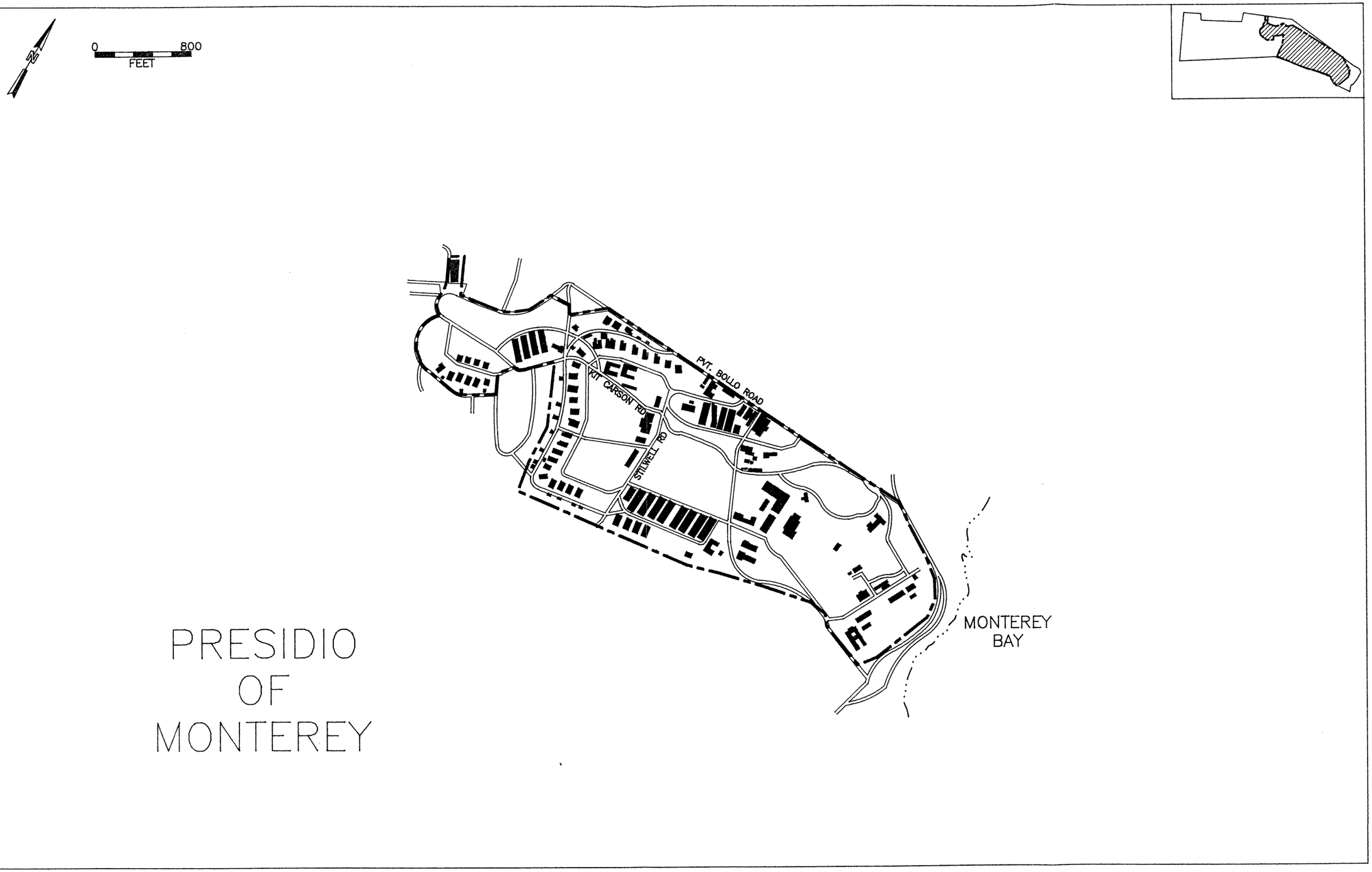
Infrastructure
- -Power House

Landscape
- -Parade Ground

Recreation/Social/Cultural/Religion
- -Assembly Hall (Theater)
- -Athletic Facilities
  - -Bowling Alley
  - -Gymnasium
- -Clubs
  - -Officers' Club
  - -Service Club-Enlisted Men
- -Exchange

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
  - -Mess Halls
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officers Quarters
  - -NCO Housing
  - -Garages
  - -Servant's Quarters

Transportation
- -Vehicle-related
  - -Gas Station
- -Animal-related
  - -Artillery Stables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MONTEREY
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PRESIDIO
OF
MONTEREY

TIME PERIOD 1862-1940

The Civil War and National Expansion, 1860-1890
Army
Ordnance Department
The Military and the Progressive Era, 1890-1918
Army
The Inter-war Years, 1918-1940
Army
Training, Coastal Defense, Logistics, and Schools

RELEVANT THEMES

Planning and Architecture
Industrial Eclecticism: Ordnance Facilities and Shipyards, 1790-1875
Ordnance Department
Technology
Weapons and Ammunition

INSTALLATION HISTORY AND CONTEXT

Rock Island Arsenal is located on an island in the Mississippi River, between the cities of Davenport, Iowa and Rock Island, Illinois. The United States government acquired title to the island in 1804 through a treaty with the Sauk and Fox Indians. In 1816, the government built Ft. Armstrong to oversee trade with the Indians and to protect white settlers in the area. Skirmishes between white squatters in the area and the Sauk resulted in the Black Hawk War and the removal of the Native Americans from Illinois. The War Department decommissioned Ft. Armstrong in 1836, but retained possession of the island as a government reserve.

In the mid-1850s, the War Department recommended the Rock Island military reservation for the construction of a new armory or arsenal of construction. The site had the advantages of access to water power, defensibility, and proximity to rail and water transport. This decision became particularly important after the loss of the government's small arms manufactory, at Harpers Ferry, to Confederate forces in 1861. Congress authorized the establishment of a three small storage and repair depots in the Midwest, including one at Rock Island, in 1862. In 1864, the facility was designated an ordnance manufactory.

In July 1863, Major C. P. Kingsbury assumed command of the Rock Island Arsenal, with orders to construct a stone storehouse first. When he arrived, he found that a prison camp for Confederate soldiers was under construction. The storehouse finally was completed in 1867, under the direction of Rock Island's new commander, General Thomas Jefferson Rodman. This building, known as the Clock Tower Building, still remains, but it is no longer on arsenal property.

When Rodman arrived at Rock Island, he developed a grand scheme for the layout and design of the new arsenal. Rodman, trained as an engineer at West Point, had previously

designed and overseen the construction of an industrial complex at Watertown Arsenal in Massachusetts. For Rock Island, he designed a manufacturing center of ten large, stone buildings, placed in two facing rows in the center of the island, to allow room for expansion. The south row housed the arsenal shops; the north row, the armory shops. Each U-shape building covers more than an acre and has massively-scaled classical revival ornamentation. An internal system of railways linked the buildings. These ten buildings still stand in two rows, facing each other across the main street of the arsenal. Rodman's master plan also called for a residential area on the north-central shore of the island, including the imposing Italianate Commander's Quarters. Rodman died in 1871, and was succeeded by Colonel Daniel Webster Flagler. Flagler faithfully carried out Rodman's plan for Rock Island. The last of Rodman's ten stone buildings was completed in 1893; the original buildings form one of the largest nineteenth-century industrial complexes in the Midwest. Additional facilities, such as barracks, a guard house, and post building, were constructed adjacent to the manufacturing complex.

Despite the intention to establish a great manufacturing arsenal at Rock Island, the arsenal produced little ordnance during the nineteenth century. Most of the work conducted in the shops supported the production of construction materials for the arsenal's buildings.

In the 1890s, the Army reorganized its manufacturing program; Watervliet Arsenal, New York, was assigned production of new heavy-caliber seacoast defense cannon, while Rock Island was responsible for the manufacture of lighter gun carriages, a task that continues to the present day. The Spanish-American War also generated an increase in production at Rock Island. After the war, Congress appropriated funds to equip the arsenal with small-arms manufacturing machinery; in 1904, it began to produce the new Springfield rifle. Construction of additional housing and storage facilities, a hospital, stable, and hydro-electric plant accommodated the growing arsenal.

World War I also increased activity at the arsenal; for the first time, the original ten shops were equipped fully. In 1917, the Army constructed links between eight of the stone shops (Buildings 60 and 62, 66 and 68, 102 and 104, and 108 and 110). These four linking buildings were designed to match the color, texture, and detailing of the original shops. An artillery ammunition loading plant was added to the arsenal in 1917. The plant was the first to break from the design concepts of the original arsenal buildings; the massive, reinforce-concrete structure mixes elements of modernism, such as industrial sash windows, with historical revivalism, seen in its Gothic Revival castellated roof. Additional construction included utilitarian steel and reinforced concrete production, maintenance, storage, and utilities facilities (Buildings 220, 230, 240, 210, 227, 160, 159, 157, 350, 137, 148, 149, 150, and 331 - 341).

Between the two World Wars, armaments production was reduced significantly, and Rock Island was charged primarily with storing materials left over from World War I. Most of the production shops stood empty. At the start of the Second World War, most of the experience in producing ordnance was confined to the government's arsenals. Rock Island personnel provided expertise to private contractors on the manufacture of artillery vehicles, and became the primary facility for research and development of gun carriages, gun mounts, recoil mechanisms, and rocket launchers. Rock Island Arsenal continues to produce ordnance material and conduct research.

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PROPERTY TYPES

Administration
- -Gatehouse
- -Guard and Fire Station
- -Post Headquarters

Health Care
- -Hospital-Post

Industrial
- -Manufacturing
  - -Armory Row
    - -Small Arms Manufacture and Repair
  - -Arsenal Row
    - -Heavy Ordnance Manufacture and Repair
    - -Foundry and Forge
    - -Harness Shop
    - -Wood-Working Shop
  - -Artillery Ammunition Loading Plant
  - -Boiler Shops
  - -Dry Kilns (Wheel Stock and Gun Stock)
  - -Field and Siege Gun Carriage Plant
  - -Machine Shops
  - -Recuperator Plant
  - -TNT Building

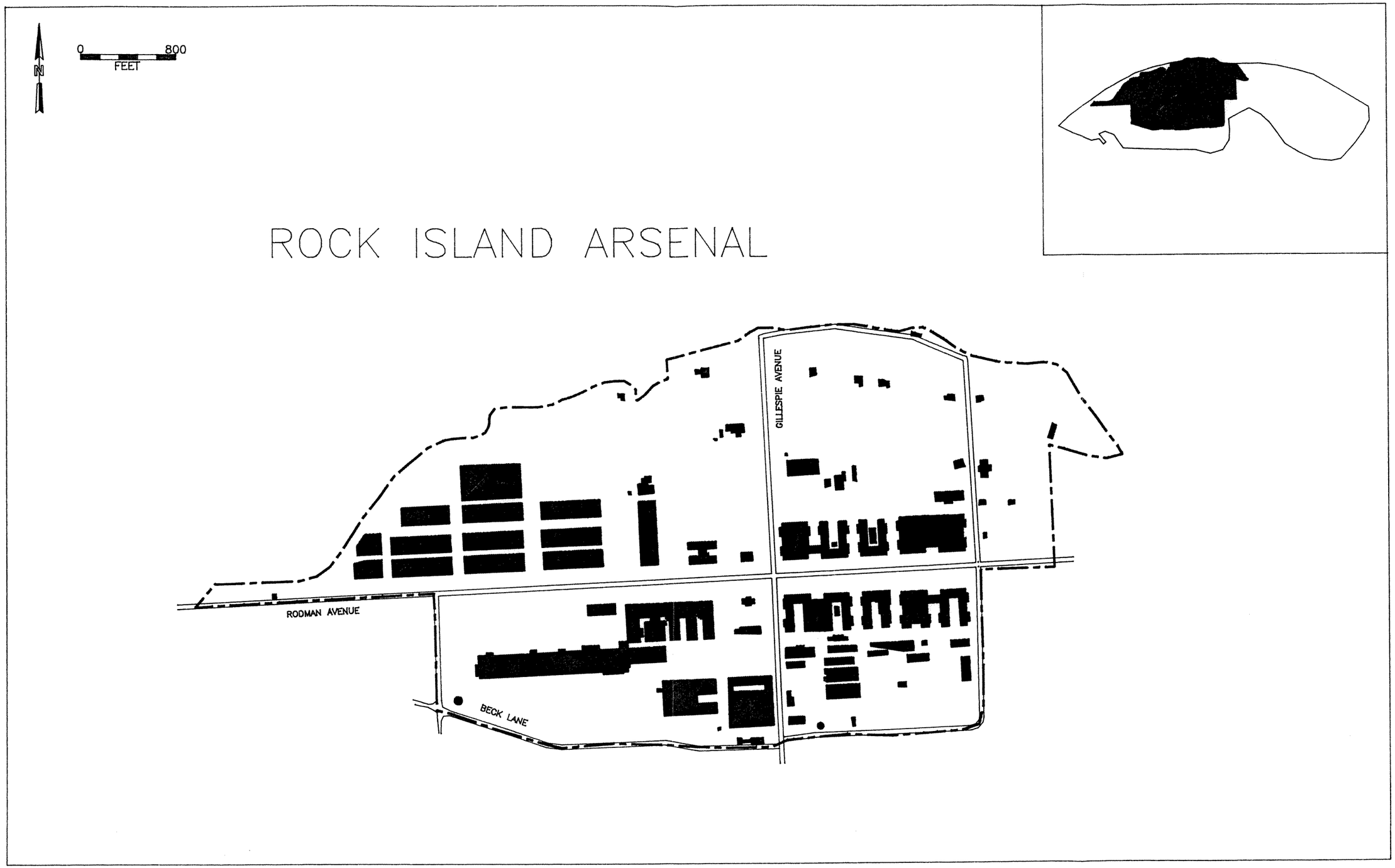
- -Storage (Depots and Supply Centers)
  - -Warehouses
  - -Storehouse with Clock Tower
- -Storage (General Installation)
  - -Coal Storage
  - -General Purpose
  - -Lumber Shed
  - -Magazine
  - -Vehicle Storehouses

Infrastructure
- -Power Plants
  - -Boiler House
  - -Hydroelectric Power Plant
- -Water and Sewage Systems
  - -Water Filtration Plant

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Golf Clubhouse
- -Arsenal Museum

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officer Housing

Transportation
- -Rail-related
  - -Bridge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ROCK ISLAND ARSENAL
GILLESPIE AVENUE
RODMAN AVENUE
BECK LANE

TIME PERIOD 1908-1940

The Military and the Progressive Era, 1890-1918
Army
The Inter-war Years, 1918-1940
Army

RELEVANT THEMES

Education
Military Education during the Progressive Era and World War I, 1890 -1918
Military Education between the Wars, 1919-1940
Medicine
Military Medicine during the Progressive Era, 1890-1918
Military Medicine during the Inter-War Years, 1919-1940
Women in Military Medicine

INSTALLATION HISTORY AND CONTEXT

Walter Reed Army Medical Center is located in the northwest section of Washington, D.C., and occupies approximately 112 acres. Congress authorized the establishment of a general hospital on this site in 1905. The major purpose of the center is to integrate patient care, teaching, and research. Since its founding, the facility has treated thousands of soldiers.

The beginning of the twentieth century was a time of reorganization for the Army, including the medical corps. The creation of a general staff and chief of staff in 1901 clarified the lines of responsibility for the Surgeon General. He now reported through the Chief of Staff on medical matters. In February 1901, Congress reorganized the Medical Department, and authorized the Nurse Corps and dental surgeons. A result of the Spanish-American War was increased attention to medical education for line officers and military education for medical officers. In 1908, Major E. L. Munson reported to the Army Service Schools at Ft. Leavenworth, a forerunner of the Command and General Staff College, as an instructor in military hygiene.

In addition to better medical training, the Medical Department created a series of peacetime general hospitals at the beginning of the twentieth century to provide better care for soldiers. In 1887, the Army and Navy had created a small general hospital at Hot Springs, Arkansas; but most soldiers were treated in post hospitals, until the Spanish-American War and the Philippine Insurrection. To treat sick and wounded soldiers returning from the Philippines, the Army established Letterman General Hospital at the Presidio, San Francisco. Sternberg Hospital in Manila, and Tripler Hospital in Honolulu provided care to soldiers in the Philippines and Hawaii. To treat the increased number of tuberculosis patients, the Army built a special general hospital at Ft. Bayard, New Mexico, which was later moved to Denver, as Fitzsimons General Hospital. General hospitals were intended to treat all eligible patients, and general hospitals in the United States were under the direct supervision of the Surgeon General.

Walter Reed General Hospital was one of the first of these new general hospitals. The hospital (Building 1) was completed in 1908 and received its first patients in 1909. By 1911, the initial building complex was completed. Other surviving elements of the original phase of construction include a guard house (Building 7), two housing units (Buildings 8 and 9), and a nurses' quarters (Building 12). The buildings constructed during the initial building phase reflect the Colonial Revival style. The original plan of the installation incorporated both natural elements that followed the site's topography and formal elements of Beaux Arts planning, such as the ellipse in front of the hospital. The installation was laid out as a campus, during an era when the military was constructing new installations and rebuilding old ones specifically for training.

The Walter Reed General Hospital became a medical center in 1923. The Medical School and the Medical Museum were moved to the installation and its missions were expanded to included research and teaching as well as patient care. During the 1920s, hospital facilities expanded to keep pace with the new missions. The hospital received additions that more than tripled its size. Housing also was constructed to support expanded staff, and a Red Cross building was built to benefit the patients. During the 1930s, a chapel (Building 57), additional nurses' quarters (Building 11), hospital wards (Building 52 is a surviving example), and a research laboratory (Building 40) were added to the center.

During both World Wars, many temporary wood-frame wards were constructed to serve the increased number of patients. Several hospital buildings were demolished to make way for World War II temporary construction. Construction of the new hospital and parking areas in the 1980s resulted in the demolition of the temporary buildings and most of the early plan of the post.

Since World War II, the Walter Reed Medical Center has expanded further. It now hosts many tenant institutions and facilities, such as the Armed Forces Institute of Pathology, the Army Physical Disability Agency, and the U.S. Army Area Dental Laboratory. In addition, the center now controls two non-contiguous sites, the Forest Glen Annex and the Glen Haven Section, both in Maryland.

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PROPERTY TYPES

Administration
- -Guardhouse

Health Care
- -Hospital
  - -Hospital Wings and Additions

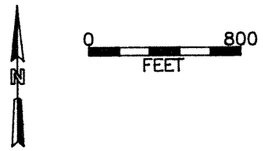
Industrial
- -Storage (General Installation)
  - -Storehouses

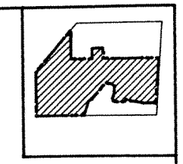
Landscape
- -Formal Ellipse
- -Flagpole

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Swimming Pool
- -Chapel
- -Red Cross building

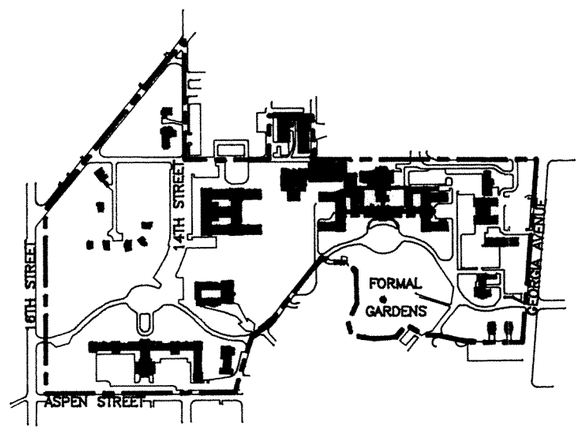
Research and Development
- -Medical Laboratories

Residential
- -Institutional Housing
  - -Nurses' Quarters
  - -Guest House
- -Family Housing
  - -Officer Housing
  - -Garages





WALTER REED
ARMY MEDICAL CENTER



TIME PERIOD 1813-1940

The Military in the Early Republic and Antebellum Era, 1790-1860
- Army
  - Arsenals and Armories

The Civil War and National Expansion, 1860-1890
- Army
  - Ordnance Department

The Military and the Progressive Era, 1890-1918
- Army

The Inter-War Years, 1918-1940
- Army

RELEVANT THEMES

Planning and Architecture
- Industrial Eclecticism: Ordnance Facilities and Shipyards, 1790-1875
  - Army Ordnance Department
- World War I: Temporary and Permanent Construction, 1917-1918

Technology
- Weapons and Ammunition

INSTALLATION HISTORY AND CONTEXT

Located in northeastern New York, Watervliet Arsenal is a 140-acre installation on the Hudson River across from Troy, New York. Watervliet is the oldest, continuously-operating arsenal in the United States and is the Army's most important center for the development and production of large-caliber weapons.

Watervliet Arsenal, established in 1813, was charged with the supply of munitions to fortifications along the Atlantic seaboard and western frontier. Its location was strategically important because supplies could be transported along the Hudson and Mohawk Rivers to defenses on the Canadian border and in New York City. Ten buildings were erected by 1813, and seven more by 1821. None of these original structures remain standing. By the mid-nineteenth century, it was one of four Army arsenals of construction.

The Arsenal embarked on a major expansion during the 1820s when it also became an arms storage depot and a center for the refurbishment and preservation of weapons. In 1823, the Erie Canal was constructed through the Arsenal grounds. Initially, the Arsenal used the canal for transport, but in 1833, the Arsenal installed the first water-powered machinery and began using the canal as a source of hydraulic power. Between 1834 and 1848, nine additional buildings, including the Commander's Quarters (Quarters 1) and Quarters 6 were constructed. Both buildings are two-story, limestone, Greek Revival structures. The plans for these two buildings were published in 1876 in *Plans of Officers Quarters for Arsenals and Armories* and may have served as a prototype for standard plans at other installations. The Arsenal's commanding officer,

Major Rufus L. Baker, wanted the nine new structures' architecture and layout on the post grounds to reflect the imposing style of the 1826-1827 arsenal building and show his goal of an installation unified in plan and appearance.

In the remaining years before the Civil War, the Arsenal's main function was the manufacture of gun-carriages. Officials pursued construction of additional structures such as an Iron Building (Building 38) and the front wing of the Broadway shops (Building 40) during this period. Building 38 is an iron, one-story, utilitarian structure built in 1859, while Building 40 is a brick, two-story, utilitarian structure built in 1861. The Arsenal expanded greatly during the Civil War, but after the conflict, the post assumed mainly storage duties.

As part of the increasing industrialization of the military, a joint Army-Navy Gun Foundry Board recommended the creation of an Army Gun Factory. In 1888, the Army designated Watervliet the first Army Gun Factory, for the manufacture of large coastal defense cannons and field pieces. The gun factory used new technology in weapons manufacture that proved the superiority of steel breech-loading cannon over muzzle-loading cast iron cannon. In the years following the factory's reclassification, the Army transferred Watervliet's former production duties such as artillery carriage manufacture to Rock Island Arsenal, Illinois. The Gun Factory turned out its first large-caliber artillery piece, a 16-inch seacoast gun the largest gun made in 1902. This weapon was the largest gun ever made.

During this period, several new buildings were constructed to increase the arsenal's ability to fulfill its new mission. Buildings constructed during this period included: a two-story, brick Sea Coast Gun Shop (Building 110), built between 1888-92 to manufacture large caliber breech-loading cannon; a one-story, wood frame railroad yard office (Building 128), built in 1892; two two-and-one-half-story, brick, Queen Anne style officers' quarters (Buildings 2 and 3) went up in 1889; a one-and-one-half story, brick officers' quarters (Building 8) was completed in 1890; and, a two-story, brick administrative office building (Building 50) was erected in 1894.

During the first years of the twentieth century, the arsenal produced guns on a limited basis and began performing other services, such as replacing worn liners in large seacoast guns and producing new weapons such as a 6-pound, 2.24 inch anti-dirigible/aircraft gun. These activities remained at steady levels until a few years before U.S. entry into World War I. During these years, Arsenal officials pursued very limited construction efforts. The buildings erected during this period include a two-story, brick hospital annex (Building 19), constructed in 1902, and one-story greenhouse (Building 12), built in 1903.

World War I brought a great expansion to Watervliet Arsenal. Many manufacturing, administrative, and residential buildings were constructed. Many of these structures were of temporary construction and have since been demolished, but some structures remain from the World War I phase, including a two-story, brick and steel heavy gun (155mm and 240mm howitzer) shop (Building 35), a one-story, brick and steel, cannon liner production shop, and a three-story, reinforced concrete, breech mechanism shop (Building 25). These facilities produced a large number of guns and also modified a smaller amount of guns. Of the guns manufactured, the 155 and 240 mm howitzers were some of Watervliet's most important products. In addition to production, the Arsenal also operated four training courses: a cannon relining school, a supply

school, an apprentice school for machinists, and a school to train civilians to inspect steel used in manufacturing ordnance.

Production fell again during the inter-war years, but 1939 saw the Arsenal gearing up for the unprecedented expansion set off by World War II. Not only was the Arsenal the only plant manufacturing guns of 155mm and larger, it also was charged with coordinating private-sector manufacture of Army cannon. With war's end, production was cut back significantly, and Watervliet became a research and development center and storage depot for weapons.

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PROPERTY TYPES

Administration
- -Headquarters

Health Care
- -Hospital-Post

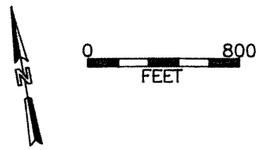
Industrial
- -Manufacturing
  - -Armament Chest Shop
  - -Gun Carriage Shop
  - -Gun Shop
  - -Mobile Artillery Shop
  - -Projectile Finishing Building
  - -Forge
  - -Bridle, Harness, and Saddle Production Building
- -Storage (General Installation)
  - -Magazine
  - -Niter Storehouse
  - -Storehouse

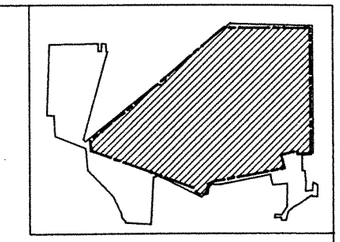
Recreation/Social/Cultural/Religion
- -Club-Officers'

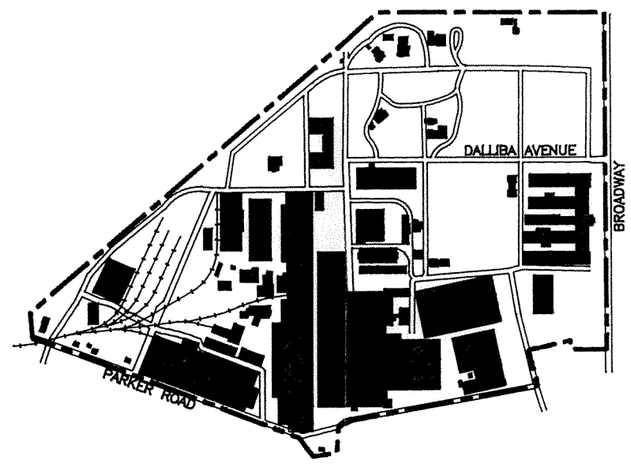
Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commandant's Quarters
  - -Officer Housing
  - -Greenhouse

Research and Development
- -Weapons Laboratory

Transportation
- -Rail-related
  - -Railroad Yard Office
- -Vehicle-related
  - -Carriage House
  - -Motor Pool Garage







WATERVLIET ARSENAL

TIME PERIOD 1802-1940

The Military in the Early Republic and Antebellum Era, 1790-1860
- Army
  - Education and Training

The Civil War and National Expansion, 1860-1890
- Army
  - Education

The Military and the Progressive Era, 1890-1918
- Army
  - Development of Professional Education and Training

The Inter-war Years, 1918-1940
- Army
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
- Military Education in the Early Republic, 1790-1860
- Beginnings of Military Professionalism, 1860-1890
- Military Education during the Progressive Era and World War I, 1890 -1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Beaux Arts Architecture and Planning

INSTALLATION HISTORY AND CONTEXT

The United States Military Academy at West Point comprises approximately 16,000 acres and is located along the west bank of the Hudson River in Orange County, New York. The site overlooks a large river bend of strategic importance during the Revolutionary War. Ft. Clinton was established on the point in 1779 to defend the Hudson River from attack by British warships.

The United States Military Academy was established in 1802. Its mission has remained the same as that stated in the original enabling legislation enacted by Congress in 1802: to educate officers for the United States Army. Although officers could be commissioned from the ranks or from civilian life, the academy remained a preferred method of obtaining a commission. The curriculum at the Military Academy stressed engineering, although cadets studied military science and liberal arts. Upon leaving West Point, cavalry and infantry officers were expected to learn their duties on the job. Artillery units trained at a School of Application at Ft. Monroe. No formal system for preparing officers to accept greater responsibilities as they advanced in rank, was established.

The importance of the U.S. Military Academy at West Point to military history is in the number of professional Army officers that have been trained there. Its graduates have molded the

military policies and technological history of the Army. West Point graduates have been leaders in all conflicts where the U.S. Army was involved. They explored the West, constructed defenses, built roads and bridges, implemented military strategy, and written influential military theories. The impact of the education at West Point is seen in the growing professionalism of the Army during the nineteenth and twentieth centuries.

Throughout its history, the installation has increased in acreage and the number of buildings, but its growth has been defined by its topography. The academic center of the installation occupies the largest level ground on the point. Surrounding the point are steep hills, which limit the amount of building sites. Subsequent physical expansion of the academy beyond the main academic area has been linear, following the cliffs along the Hudson River.

Under the leadership of Sylvanus Thayer between 1817 and 1833, the school was shaped into a college to educate professional Army officers. Five sets of quarters (Buildings 100, 101, 103, 105, and 107) remain from Thayer's administration. Before the Civil War, buildings were constructed at the Academy, as required, without an overall plan. Following a fire in 1838, Superintendent Richard Delafield initiated a building program. His adoption of the Gothic Revival style influenced the subsequent architectural development of the installation. Building 102 remains as a classic example of a Gothic Revival cottage.

As the institution expanded during the late nineteenth century, the need for an overall plan was recognized. In 1902, ten architectural firms were invited to submit architectural drawings for eleven major buildings, the single greatest expansion in the development of the Academy. In 1903, the architectural firm of Cram, Goodhue, and Ferguson was selected. Their Gothic Revival architectural designs included the chapel, the riding hall, headquarters building, bachelor officers' quarters, gymnasium, and classroom building. The winning architects selected the landscape firm of the Olmsted Brothers firm to design the walkways, roads, stone retaining walls, and to create a park-like setting for the installation. During the twentieth century, the academic area has continued to expand as the Corps of Cadets has expanded. The cadet barracks have been replaced several times.

Throughout the twentieth century, the Academy continued to expand, primarily in areas separate from the academic center. In 1908, a cavalry and artillery drill area, currently known as Buffalo Soldiers Field, was constructed using designs supplied from the architectural firm of Cram, Goodhue, and Ferguson. Cram, Goodhue, and Ferguson also designed officers' housing overlooking the Hudson River and linking Buffalo Soldiers Field to the academic area.

During the 1930s, the installation expanded northward with the construction of additional housing, band barracks, and recreational and educational facilities. The Quartermaster Corps designed the buildings. They maintain the Gothic Revival and Tudor Revival architectural tradition of the installation. The buildings were laid out along curving, picturesque streets, reminiscent of the Garden City and suburban planning principles popular during this era. This new construction coincided with the massive building program initiated by Congress in 1926 that authorized the Army to construct new housing and hospitals. The Construction Division of the Quartermaster Corps, in conjunction with civilian architects and planners, developed standardized plans. These plans incorporated building design elements appropriate to the history and climate of the locations of the installations and promoted the principles of city planning as a guide to installation design.

In addition to the main post, the Academy controls several outlying areas. These include Constitution Island, Crampton Farm, Camp Buckner, Camp Natural Bridge, Bull Pond, Lake Frederick, Queensboro Furnace, the Leone Tract, and Lady Cliff. The outlying areas are used primarily for summer field training exercises. While some of these outlying areas contain structures constructed before 1940, the buildings illustrate pre-Army occupation of the acreage.

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PROPERTY TYPES

Administration
- -Fire Station
- -Gatehouses/Sentry Posts
- -Headquarters-Post
- -Headquarters-Regimental

Education
- -Classrooms
- -Applied Instruction Buildings
- -Riding Hall

Health Care
- -Hospital-Post
  - -Hospital Steward's Quarters
  - -Nurses' Quarters
- -Hospital-Cadet

Industrial/Processing
- -Maintenance and Repair Shops
  - -Quartermaster Shops
  - -Gun Shops
- -Service Facilities
  - -Laundry (Hotel)

- -Storage
  - -General Storehouses
  - -Ordnance Complex
  - -Ordnance Storage
  - -Storage Tanks

Infrastructure
- -Power Plant
  - -Heating Plant
- -Water and Sewage Systems
  - -Pump House
  - -Valve House
  - -Public Toilets
  - -Elevated Water Storage Tank
  - -Water Treatment Plant
- -Incinerator

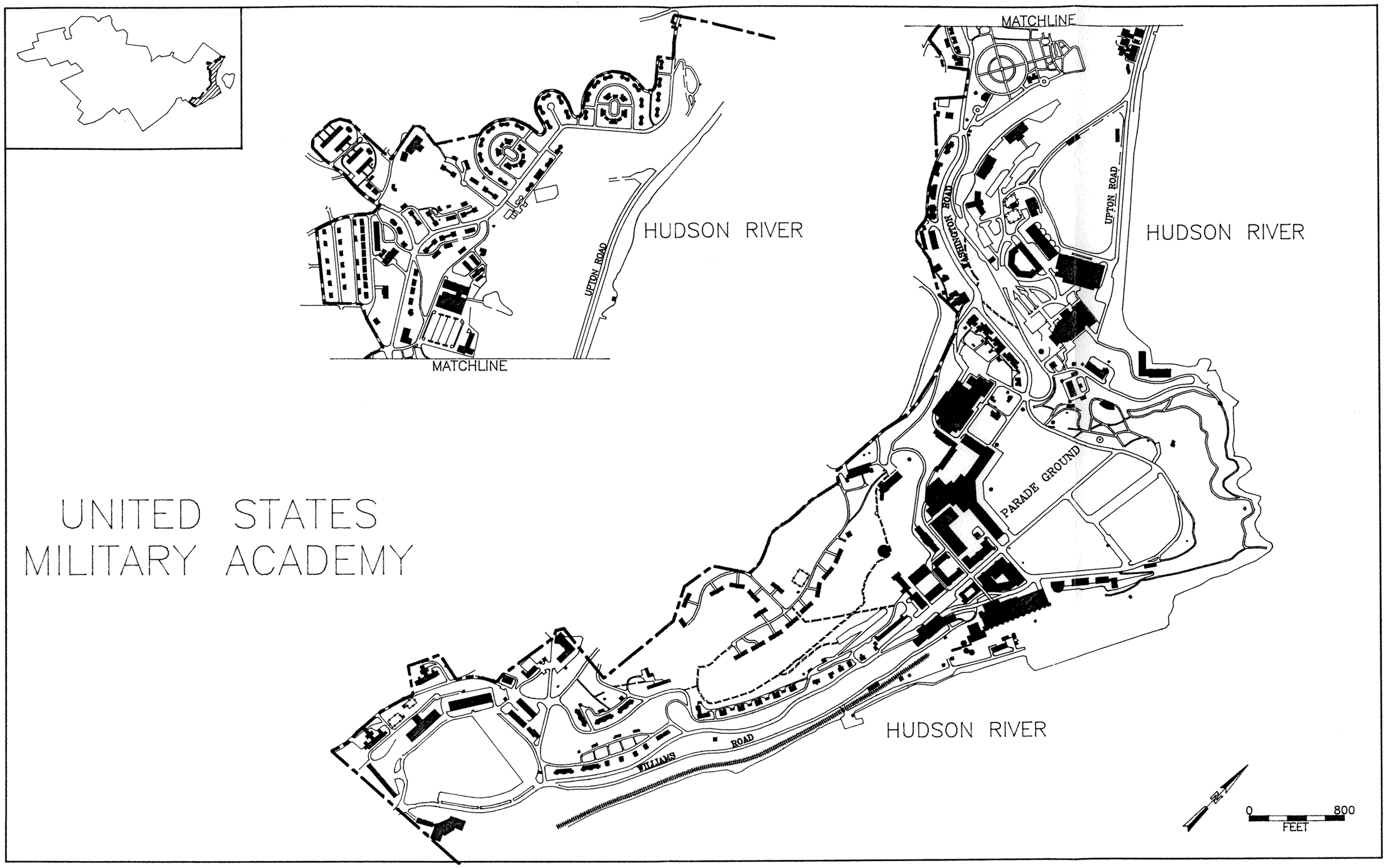
Landscape
- -Parade Ground-The Plain
- -West Point

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Boathouse
  - -Field House
  - -Gymnasium
  - -Playing Fields
  - -Riding Hall
  - -Skating Rink
  - -Stadium
- -Chapels
  - -Chaplain's Quarters
- -Club
  - -Officers' Club
  - -NCO Open Mess
- -Confectionery
- -Exchange
- -School

Residential
- -Institutional Housing
  - -Cadet Barracks
  - -Barracks
  - -Band Barracks
  - -Bachelor Officers' Quarters
  - -Cadet Mess Halls

- -Family Housing
  - -Superintendent's Quarters
  - -Officer Housing
  - -NCO Housing
  - -Garages
  - -Greenhouse
- -Hotel

Transportation
- -Rail-related
  - -Railroad Station
- -Animal-related
  - -Veterinary facility


UNITED STATES
MILITARY ACADEMY
HUDSON RIVER
UPTON ROAD
MATCHLINE
MATCHLINE
LASSINGTON ROAD
UPTON ROAD
HUDSON RIVER
PARADE GROUND
HUDSON RIVER
WILLIAMS ROAD
0
800
FEET

TIME PERIOD 1853-1940

- The Military in the Early Republic and Antebellum Era, 1790-1860
  - Navy and Marine Corps
    - Naval Yards and Stations
- The Civil War and National Expansion, 1860-1890
  - Navy and Marine Corps
    - Beginnings of Naval Modernization
    - Changing Roles of Shore Installations
- The Military and the Progressive Era, 1890-1918
  - Navy
    - Steel Ship Construction and Repair
    - Logistical Support to the Fleet
    - Officer Education and Recruit Training
    - New Technology: Submarines, Aircraft, and Radio
  - Marine Corps
    - World War I
    - Installations and Schools
- The Inter-war Years, 1918-1940
  - Navy
    - War Plans and Shift to the Pacific

RELEVANT THEMES

- Communications
  - Navy Wireless Communications during the Twentieth Century
- Education
  - Military Education during the Progressive Era and World War I, 1890-1917
- Planning and Architecture
  - Industrial Eclecticism, 1790-1875
    - Navy Yards
  - Consolidation and Modernization, 1875-1917
    - Navy Yards
- Technology
  - Warships

INSTALLATION HISTORY AND CONTEXT

Mare Island Naval Shipyard is located on an island at the northern end of the San Francisco Bay in California, approximately 35 miles northeast of San Francisco. After the Mexican War, during the 1840s, the military planned the fortification and development of the new territory of California. In 1851, President Millard Fillmore recommended the establishment of a navy yard on the Pacific Coast. Mare Island was purchased in 1853 and originally consisted of 953 acres. Land reclamation projects and grants have increased property holdings to over 2,500 acres. Mare Island Naval Shipyard became the U.S. Navy's first permanent installation on the Pacific coast.

Mare Island Naval Shipyard has played an active role in the history of the Navy. The shipyard has built 513 craft, from the wooden paddle-wheel steamer *Saginaw*, in 1858, to nuclear-powered ballistic submarines. The yard also erected the first radio installation on the Pacific coast; converted the first Navy ship to burn fuel oil; built the first aircraft landing deck in the Navy, on the armored cruiser *Pennsylvania*; built the first electrically propelled ship, *Jupiter*; and designed and built the Navy's first guided missile submarine, *Grayback*.

The organization of the shipyard illustrates the multiple-use pattern typical of naval installations. Naval shipyards not only built and repaired ships, they also served as depots for supplies to refit ships for sea duty. In addition, a separate reservation was planned for Marines, who guarded the installation. The naval complex at Mare Island contained four separate functions: a shipyard, ammunition depot, naval hospital, and marine barracks.

The industrial complex of the shipyard forms the center of the installation. In 1854, Commander David G. Farragut took command of Mare Island and began construction at the shipyard. The original plan of the shipyard was developed by William P.S. Sanger and approved by Commodore John Drake Sloat. The shipyard is comprised of utilitarian, industrial buildings arranged by function, to facilitate ship construction. The industrial buildings were constructed to build and repair wooden sailing vessels. They are of brick and wooden construction. The first permanent drydock was started in 1872 and completed in 1891; it was constructed of stone and was the first permanent drydock located on the West Coast.

Civilian engineers were in charge of construction at the shipyard between 1854 and 1881. Buildings survive that have been attributed to Daniel Turner and Calvin Brown. Calvin Brown had worked with Loammi Baldwin, a noted engineer, and Alexander Parris, a noted architect. Brown had also worked at Portsmouth and Norfolk Naval Shipyards. He designed the stone dry dock at Mare Island, started in 1872. In March 1867, Congress granted Civil Engineers the status of Naval staff officers, commissioned by the President. At Mare Island, this change became effective in 1882, when Civilian Engineering Corps personnel were assigned to the installation as Public Works Officers in charge of all construction. As the Navy upgraded its fleet, new facilities were required at the shipyard to accommodate the new functions necessary to construct steam-powered, steel warships. New buildings included steel-framed buildings designed by R. C. Hollyday and reinforced concrete structures designed by C. A. Carlson.

Other early buildings included an administrative building and officers' housing, provided for the commandant and other key personnel. The present officers' quarters (rebuilt after the earthquake of 1898) were wooden-frame construction and reflect the classical architectural tradition, with large columned porticoes. The administrative building was constructed of brick and also reflected the classical tradition. In 1901, a wood-shingled chapel, designed by architect Albert Sutton, was constructed.

The ammunition depot was located at the south end of Mare Island. The first building constructed there was A-1, completed in 1857. The utilitarian structure was built of limestone blocks quarried on Angel Island, in San Francisco Bay. This area soon contained many utilitarian brick and stone storage buildings. Housing was provided for watchmen guarding the depot, including quarters (A-44), constructed about 1860, reportedly the oldest extant residential structure on Mare Island.

The first marines arrived at Mare Island in 1862. During World War I, a new barracks building was constructed near the western side of the island on what is now the Marine Reservation. This area served as a boot camp for training marines on the West Coast during World War I. In 1952, three of the 1,888 wooden-frame, Queen Anne Revival-style officers quarters from the original Marine Reservation were moved to this new parade ground area.

The Naval Hospital at Mare Island was opened in 1869. The original brick building was destroyed by the 1898 earthquake. The hospital was rebuilt, using the design of W.M. Poindexter, an architect from Washington, D.C. The hospital was expanded during the Spanish-American War and the subsequent Philippine Insurrection. In 1928, a program was begun to replace temporary hospital wards with permanent construction. In 1950, the hospital ceased to be the major naval medical facility on the Pacific coast, and, in 1962, the buildings were adapted for use as a training facility.

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PROPERTY TYPES

Administration
- -Fire Station
- -Gatehouse
- -Headquarters
- -Offices

Health Care
- -Hospital (Naval)
  - -Quarters
  - -Wards

Industrial
- -Manufacturing
  - -Industrial Shops

- -Boiler Shop
- -Joiner Shop
- -Pipe Shop
- -Smithery
- -Foundry
- -Steam Engineering Complex
- -Drydock
  - -Water pump
- -Wharves
- -Storage (Depots and Supply Centers)
  - -Ammunition Storage Depot
- -Storage (General Installation)
  - -Storehouses
    - -Iron and Copper Stores
  - -Coal Storage
  - -Warehouses

Infrastructure
- -Power Plant

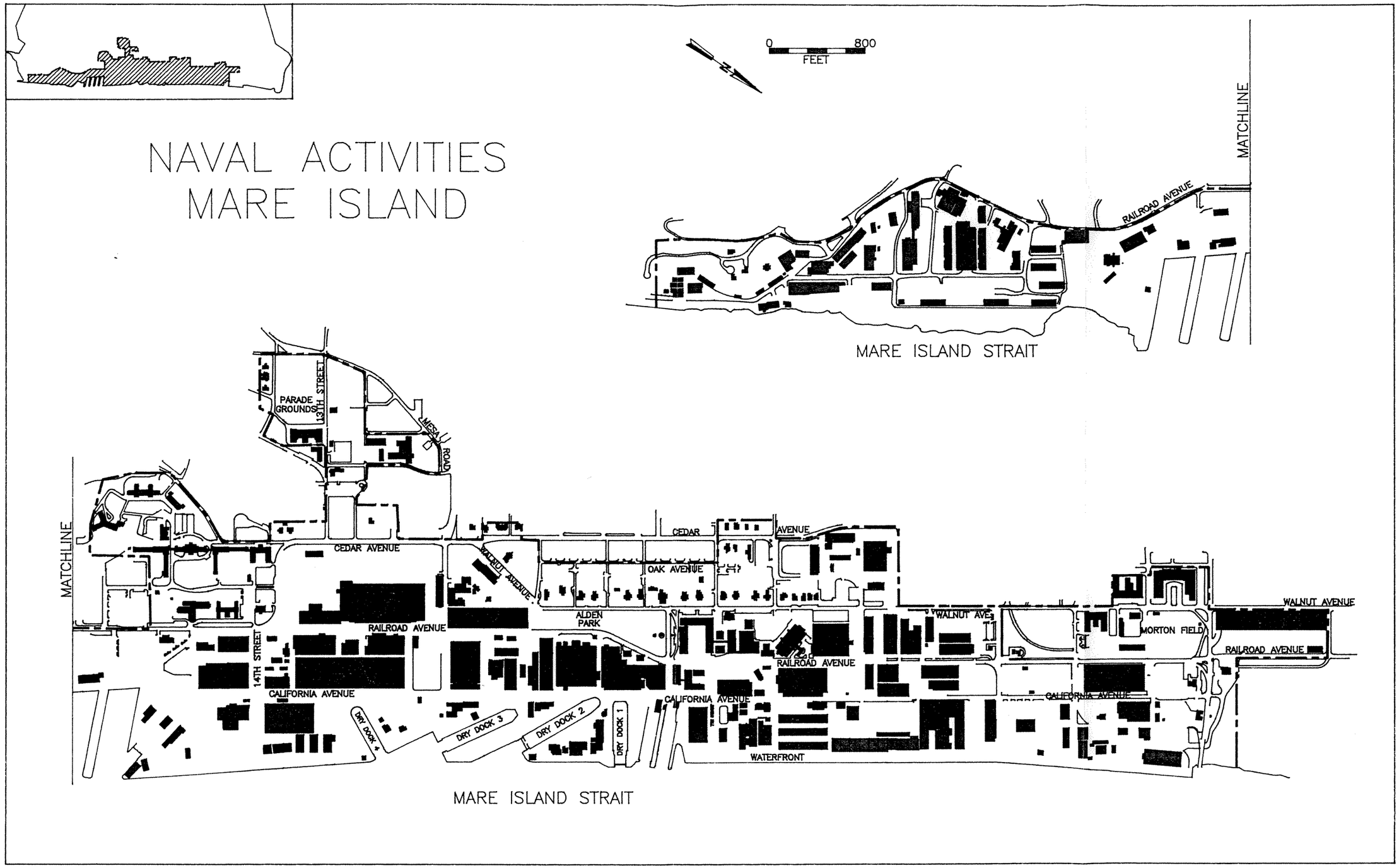
Prison

Recreation/Social/Cultural/Religion
- -Chapel

Residential
- -Institutional
  - -Bachelor Officers' Quarters
  - -Barracks, Marine
- -Family Housing
  - -Commanding Officer's Quarters
  - -Marine Officer Housing
  - -Officer Housing
  - -Watchmen's Quarters

Transportation
- -Animal-related
  - -Stable

Landscape
- -Marine Reservation parade ground
- -Hospital landscaping and flagpole
- -Shipyard park and flagpole


NAVAL ACTIVITIES
MARE ISLAND
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800
FEET
MATCHLINE
RAILROAD AVENUE
MARE ISLAND STRAIT
PARADE GROUNDS
13TH STREET
MESA ROAD
MATCHLINE
CEDAR AVENUE
WALNUT AVENUE
CEDAR
AVENUE
OAK AVENUE
ALDEN PARK
RAILROAD AVENUE
14TH STREET
CALIFORNIA AVENUE
DRY DOCK 4
DRY DOCK 3
DRY DOCK 2
DRY DOCK 1
CALIFORNIA AVENUE
RAILROAD AVENUE
WALNUT AVE
WATERFRONT
MORTON FIELD
CALIFORNIA AVENUE
WALNUT AVENUE
RAILROAD AVENUE
MARE ISLAND STRAIT

TIME PERIOD 1823-1940

The Military in the Early Republic and Antebellum Era, 1790-1860
- Navy and Marine Corps
  - Naval Yards and Stations

The Civil War and National Expansion, 1860-1890
- Navy and Marine Corps
  - Results of the Civil War

The Military and the Progressive Era, 1890-1918
- Navy
  - Logistical Support to the Fleet

The Inter-war Years, 1918-1940
- Navy
  - Submarines and Aviation

RELEVANT THEMES

Communications
- Navy Wireless Communications during the Twentieth Century

Planning and Architecture
- Industrial Eclecticism: Ordnance Facilities and Shipyards, 1790 - 1875
  - Navy Yards
- World War I: Temporary and Permanent Construction, 1917 - 1918

Transportation
- Military Contributions to Transportation Development

INSTALLATION HISTORY AND CONTEXT

The Naval Air Station, Key West, consists of over 18,000 acres in various locations in the lower Florida Keys. The pre-1940 naval structures are located in the northern portion of the section of the facility, known as the Truman Annex. The navy no longer owns the property containing the pre-1940 structures.

The U.S. Naval Station at Key West was established in 1823. Its original mission was to clear the Caribbean and Gulf of Mexico waters of pirates, protect American shipping, and serve as a depot to supply naval vessels. The base was deactivated in 1826 as a result of a yellow fever epidemic, but continued to serve as a coaling and supply station. Starting in 1845, Ft. Zachary Taylor was constructed adjacent to the naval station. The fort was part of the Third System, a series of masonry coastal fortifications constructed for the defense of the U.S. coasts. In 1856, a naval depot was re-established at the naval station.

During the Civil War, Union naval forces occupied the naval station and used it as a center of blockading activities against the Confederacy until the end of the war. The guns of Ft. Zachary Taylor prevented Confederate vessels from traveling between southern and eastern Confederate

ports using this route. Units, such as the Eastern Gulf Blockading Squadron which captured 299 Confederate blockade runners, provided valuable support to the Union war effort by sharply restricting the Confederacy's sources of war material. During the Civil War, Key West hosted more ships of war than any other U.S. port, and was the only Confederate port occupied by Union forces throughout the conflict.

In 1898, the battleship, USS *Maine,* sailed from Key West to Havana, Cuba. When the *Maine* exploded in Havana harbor, killing 252 of the 350 persons on board, the United States declared war on Spain, and the naval station at Key West once again was placed on active status. At one point during the conflict, the entire Atlantic fleet was based at Key West. During the late nineteenth century, the Navy constructed a number of new buildings, including some still-extant structures.

During World War I, the navy again expanded the Key West naval station. The station was designated Headquarters for the Seventh Naval District, and was selected as the site of a submarine base and a naval air station. After the war, the naval facilities were reduced to caretaker status, and many of the temporary wartime buildings were dismantled and removed. Activity began again during the late 1930s, as evidenced by the 1937 construction of a bachelor officers' quarters (Building 72412).

In November 1939, the base was reactivated as the United States began its pre-World War II military build-up. During the 1940s, the navy expanded the installation through new construction and the acquisition of new land. During this period, the Key West installation's primary mission was in the provision of technical naval and aircraft support; this included activities such as sonar instruction and blimp operations. Expanded missions at the base led the Navy to acquire more land on the island. In 1940, the Navy established Trumbo Point, which housed a seaplane base, and in 1942 built a Naval Auxiliary Air Field at Boca Chica. A hospital was established on the installation in 1942.

Construction related to the Second World War took place at Trumbo Point, Boca Chica, and the main Naval Station (part of which is known today as the Truman Annex). In 1940, the Navy constructed maintenance hangars, administration buildings, storage structures, fire station, public works, and infrastructure on Trumbo Point and Truman Annex. Piers, wharves, bulkheads, and quay walls on Trumbo Point were constructed between 1910 and 1915 and pre-date the 1940 naval acquisition of the property.

In 1945, the Navy combined Naval Air Station Boca Chica and Trumbo Point into U.S. Naval Air Station, Key West. During the post-war period, the Navy made a number of deletions and additions to the Key West installation that resulted in the Navy's present holdings of Boca Chica, Trumbo Point, part of the Truman Annex, Poinciana, and Sigsbee Park. The Navy transferred Fuel Island, a large section of Truman Annex, Ft. Zachary Taylor, and the historic housing area to other owners. The Truman Annex land contained most of the buildings associated with the naval stations's earlier periods of development. Ft. Zachary Taylor is owned by the State of Florida, and the fort's historic housing area was sold to a private developer.

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PROPERTY TYPES

Administration
- -Fire Station
- -Offices

Industrial
- -Storage (General Installation)
  - -Storehouse
  - -Warehouse

Infrastructure
- -Power Plant (Electric)
- -Water and Sewage Systems
  - -Sewage Pumping Station
  - -Stand-By Generator Building
  - -Storage Tanks
  - -Water Distribution Building
  - -Water Treatment Facility

Residential
- -Institutional Housing
  - -Bachelor Officer Quarters

Transportation
- -Air-related
  - -Maintenance Hangars

TIME PERIOD 1931-1940

The Inter-war Years, 1918-1940
Navy
Submarines and Aviation

RELEVANT THEMES

Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940
Naval Construction
Technology
Military Aircraft

INSTALLATION HISTORY AND CONTEXT

Moffett Naval Air Station is located in Sunnyvale, California, near the southern end of the San Francisco Bay in the Santa Clara Valley. The installation was established in 1931 as the West Coast home for the Navy's dirigible USS *Macon*, then under construction. Its construction was the result of the Navy's "lighter-than-air" (LTA) program during 1920s. The Navy planned to have two LTA ships: USS *Akron*, already based at Lakehurst, New Jersey, and another based at a new installation on the West Coast. After intense competition between the San Diego area and the San Francisco Bay area, the U.S. Navy established the western LTA installation at Sunnyvale in the San Francisco area. The property was donated to the U.S. government by the local citizens, led by a local real estate agent, Laura Whipple.

The installation was constructed between 1931 and 1933; it is small and compact with a symmetrical design. The facility incorporates characteristics found in Army and Army Air Corps installations constructed during the 1930s. Unlike naval shipyards, the primary purpose of Moffett was to support a single massive airship and to house its flight crew. Thus, this installation contains several personnel support facilities not found on earlier naval installations, including a recreation center and officers' club. Other residential and support buildings erected during the initial construction period included bachelor officer quarters with mess hall, a laundry, dispensary, officers' quarters, and barracks.

The main axis of the Naval Air Station is oriented southwest to northeast. Hangar 1 is the visual focus of the installation; the massive metal structure is Art Deco in style, with orange-peel doors. The installation headquarters, barracks, bachelor officers' quarters, hospital, and housing reflect the Spanish Colonial Revival and the Mission Revival styles.

USS *Macon* was stationed at Moffett Naval Air Station between October 1933 and 1935. In 1935, the airship crashed in the Pacific Ocean. That crash, as well as other airship catastrophes, put an end to the Navy's dirigible program, though the Navy continued to use the smaller, non-rigid frame blimps. Between 1935 and 1942, Moffett became an Army air field and, in 1940, the West Coast Air Corps' center for training air cadets. The Army used the existing

buildings. In 1939, the Ames Aeronautical Laboratory, now part of NASA, was established at the installation. In 1942, the Moffett Naval Air Station was returned to the Navy for its lighter-than-air coastal patrol activities. Two new blimp hangars were constructed in 1942-1943. Blimps were used throughout World War II, but in 1947, the last blimp was deflated. In 1950, Moffett Naval Air Station became a jet base.

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PROPERTY TYPES

Administration
- -Fire Station/Garage
- -Gate Houses
- -Headquarters

Communications
- -Radio Station

Health Care
- -Hospital
  - -Ambulance garage

Industrial
- -Maintenance and Repair Shops
  - -Utility Shops/Buildings
    - -Locomotive and Crane Shed
  - -Electrical Buildings
- -Service Facilities
  - -Commissary/Bakery/Refrigeration Plant
  - -Laundry
- -Storage (General Installation)
  - -Storage Buildings
    - -Paint and Oil Storage
  - -Ammo Storage Facilities
  - -Warehouses

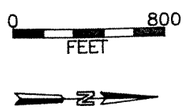
Infrastructure
- -Power Plant
- -Water and Sewage Systems
  - -Water Tower

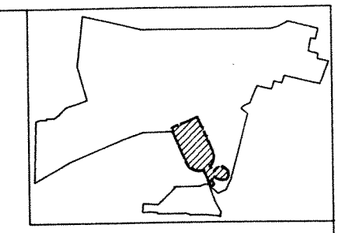
Landscape
- -Flagpole

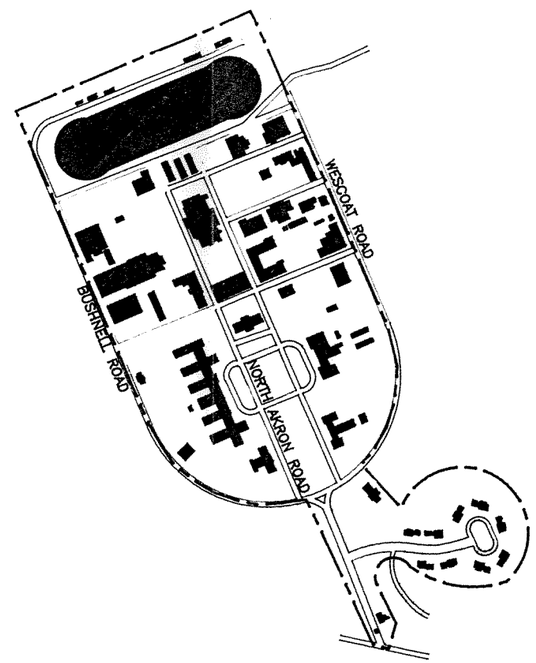
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Bowling Alley/Recreation Building/Exchange
- -Club
  - -NCO Club
  - -Officers' Club
- -Chapel
- -Exchange

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters with Mess
  - -Barracks
  - -Garage
- -Family Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Dirigible Hangar
  - -Helium and Boiler Plant
  - -Balloon Hangar
  - -Control Tower
  - -Crane Shed
- -Vehicle-related
  - -Gas Station







NAVAL AIR STATION MOFFETT FIELD

TIME PERIOD 1910-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Beginnings of Army Installation
  - World War I Army Aviation
- Navy
  - New Technology: Submarines, Aircraft, and Radio

The Inter-war Years, 1918-1940
- Navy
  - War Plans and the Shift to the Pacific
  - Submarines and Aviation

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890 -1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- World War I: Temporary and Permanent Construction, 1917-1918
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Naval Construction

Technology
- Military Aircraft

INSTALLATION HISTORY AND CONTEXT

The Naval Air Station, North Island, in San Diego, California, is situated prominently at the entrance to San Diego Bay. Elevations at the installation range between 0 and 40 ft above mean sea level. The facility is bounded on the north and east by San Diego Bay, and on the west by the Pacific Ocean. The southern boundary of the installation is located at the end of a formerly long narrow sand spit, and it is coterminous with the northern limits of the City of Coronado.

The original ca. 1275-acre land mass of North Island formerly was separated from the City of Coronado by a channel known as Spanish Bight, and primary access to the island was by boat. Between 1894 and 1945, significant infilling episodes took place; these included the installation of a jetty in 1894; deposition of dredged material on the eastern and western perimeters of the island between 1924 and 1945; and, in 1945, the closure of Spanish Bight. The configuration of the island has remained stable since that time.

Intensive development of the Coronado Peninsula first began in 1886, when the Coronado Beach Company purchased the parcel. North Island was utilized as a recreational riding and hunting area for guests of the nearby ca. 1887 luxury Hotel del Coronado. In 1910, pioneer aviator Glenn Curtis leased the area from the Coronado Beach Company, and established his Curtis Aviation School. His invitation to the U. S. Army and Navy to send pilots for training at the school

constituted the first use of the island for military purposes. The dual-service Army-Navy occupation of North Island continued until the late 1930s, when the U. S. Army moved its air operations to March Field in Riverside, California.

During World War I, North Island was an aviator training facility. The Army's Air Service Station, North Island (later designated the Signal Corps Aviation School, San Diego), occupied 725 acres at the northeastern corner of the island. The Army facility initially consisted of canvas tents for housing students and aircraft hangars; later 22 temporary buildings were erected. North Island was the Army's first permanent flying field.

The Navy occupied the southern 550 acres of the island between 1911 and 1912, establishing a small flying school known as "Camp Trouble." Aviation trainees were transferred there from Annapolis, Maryland, and lived in a tent city on the northeastern end of the area. Shortly thereafter, the Navy's flight training program was moved to Pensacola Naval Air Station, Florida.

Naval air operations returned permanently to San Diego in 1917. Because it required access to water, the Navy assumed control of the northeastern end of the island, pushing Army operations to the southern half of the area. Missions performed at the naval facility included aviation mechanic training, coastal patrol, and some flight training. At first, the Navy used the extant hangars from the Curtis Flying School; however, architect Bertram Grosvenor Goodhue soon was contracted to plan and execute the design that forms the core of the present National Register district.

Goodhue, whose Spanish Colonial architectural style already was well known in San Diego, laid out a bi-axial plan for the station. The primary east-west axis centered on the administration building, and incorporated barracks and administrative structures grouped around a quadrangle. A secondary axis at the extreme northeastern corner of the base was dominated by the support structures for base operations, particularly the seaplane hangars. Married officers quarters and the base infirmary were placed outside both of these axes. Buildings constructed during this initial phase of site development included the Commandant's quarters, bachelor officers' quarters, student officers' quarters, barracks, two seaplane hangars, storehouse, shops, garages, married officers' quarters, dispensary, and the administration building, with its distinctive tower.

Elements of the Spanish Colonial revival style were carried through by the use of decorative ceramic tiles on building exteriors; roofing tiles; ornamental iron work; and stuccoed exteriors. Some traces of the Pueblo Revival influence, such as the use of *vigas,* also were applied to the commandant's quarters and to the bachelor officers' quarters buildings.

The Army's development of Rockwell Field at the southern end of the island also began during this period. The Army's buildup reflected America's increasing concern not only with events in Europe, but also for its interests in the Pacific and Central America. The Army also retained an eminent architect, Albert Kahn, to design its Rockwell Field facility. Kahn, noted primarily for his industrial and commercial building designs, was assisted by the local architectural firm of Mead and Requa, whose design signature combined elements of Mission Style with Arts

and Crafts touches. Early construction at Rockwell Field included three aircraft hangars, a hospital and laboratory facility, officers' duplex housing, a gate house, and an oil dispensing station. Building 830, an Aero Supply Warehouse (ca. 1918), provides an example of early mass-produced, easily-erected-and-dismantled, multi-purpose buildings.

In 1919, the Naval Air Station, San Diego, was designated as the Navy's official West Coast air base; airplane assembly and repair facilities were erected on the installation, and the first official operating squadrons were assigned. The functions of providing aircraft and aeronautical supply for the Pacific Fleet Air squadrons was added to the installation's responsibilities in 1922. Facilities constructed during the 1920s included additional hangars, shops for overhauling aircraft, provisioning and warehouse buildings, additional housing, educational buildings, and dockage. Building 27, a fleet air store house (1920); Building 29, a seaplane hangar (ca. 1921-22); and Building 41, a landplane hangar (1923) are representative operational buildings that survive from this period of construction.

In 1924, the first aircraft carrier docked at NAS San Diego. This event began the "continuous use of North Island as the home port for Pacific Fleet carriers;" the installation provided service and training for the personnel of these new components of the Pacific Fleet. The importance of North Island Naval Air Station continued to grow during the 1930s, and its physical plant expanded accordingly. New barracks facilities, a mess hall, and a welfare building, designed to harmonize with Goodhue's original design concept, all were constructed between 1929 and 1935. Facilities to support North Island's expanded operational role also were built; Building 90, a metal aircraft structures shop (1931) and Building 310, a landplane hangar (ca. 1934-35) represent this period of North Island's expansion.

The Navy's expanding role at North Island, and the need to provide ground landing facilities for Navy aircraft, gradually constricted the Army's ability to maintain its own education and training operations at Rockwell Field. No additional buildings were constructed at the facility during the 1920s, and in 1929, a Congressional panel recommended that the facility be phased out. Nonetheless, during the early 1930s, additional married and bachelor officers' quarters, arranged in a landscape design heavily influenced by the "Garden City" philosophy, were added to Kahn's original layout. This additional construction, which followed designs by the Quartermaster General's office, was funded by the Emergency Relief Bill of 1932. However, by 1935, the Army Air Corps operation at North Island had all but ended; three years later, all Army flight operations were shifted to March AFB in Riverside, California. At that time, the Navy assumed control of Rockwell Field and renamed it South Field.

Naval Air Station, North Island presently serves as the headquarters and home port for the Commander Air Force, Pacific Fleet, and the Commander Fleet Air West Coast, responsibilities that were assumed during the World War II era. During the 1960s, the former Overhaul and Repair Department was renamed the Naval Air Rework Facility.

The U. S. Army Rockwell Field Historic District and the Naval Air Station, San Diego, Historic District both have been listed in the National Register of Historic Places. The present boundaries of the Rockwell Field Historic District contain fifty-six contributing and seven non-contributing buildings that are associated with the use and development of the Rockwell Field Army airfield between 1912 and 1935. The Naval Air Station, San Diego, Historic District contains

twenty-three contributing and twenty-two non-contributing buildings, and three contributing and two non-contributing structures associated with the development of the North Island facility between 1917 and 1938.

These National Register districts' however, do not incorporate many of the supporting industrial and operational buildings on the base. The 1939 installation status map of the San Diego facility indicates that a total of 276 buildings and structures stood within the boundaries of the facility; all extant structures from this period would be eligible for inclusion in the ca. 1940 cantonment.

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PROPERTY TYPES

Administration
- -Fire Station
- -Gatehouse
- -Headquarters
- -Office Buildings
- -Post Office

Communications
- -Radio Building

Education
- -Classroom Buildings

Health Care
- -Hospital
- -Dispensary

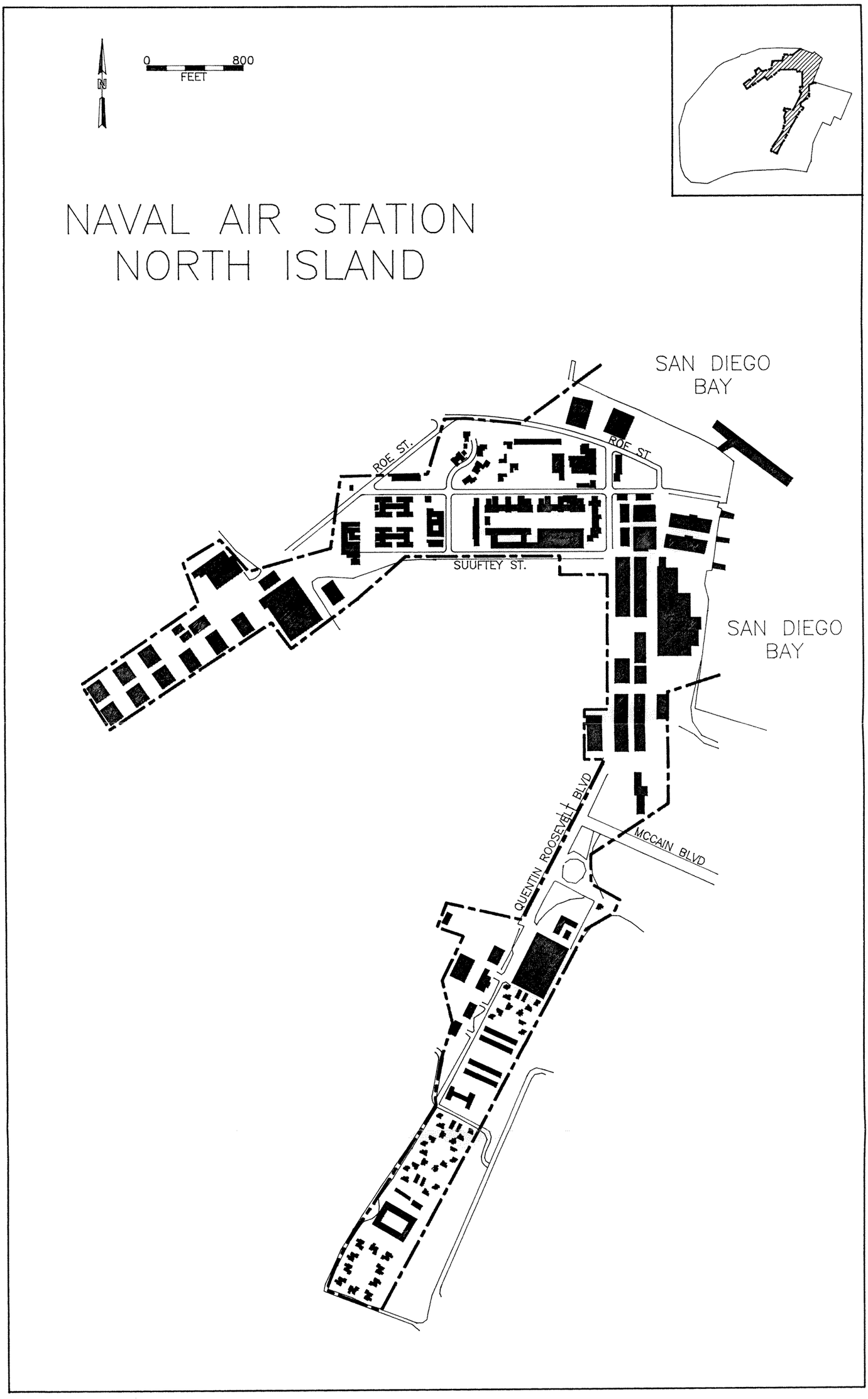
Industrial
- -Maintenance and Repair Shops
  - -Carpenter Shop
  - -Machine Shop
  - -Plumbing and Blacksmith Shop
- -Storage (General Installation)
  - -Oil Storage
  - -Warehouse

Infrastructure
- -Power-Generating Plant
- -Utilities Buildings

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Tennis Courts
  - -Squash Courts
  - -Swimming Pools
- -Welfare Building

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
  - -Latrines
  - -Mess Hall
- -Family Housing
  - -Commandant's House
  - -Officer Housing
  - -NCO Housing
  - -Garages

Transportation
- -Air-related
  - -Control Tower
  - -Runways
  - -Dope house
  - -Airplane Hangars
  - -Seaplane Hangars
  - -Seaplane Ramps
- -Water-related
  - -Piers
  - -Docks
  - -Bulkheads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QUENTIN ROOSEVELT BLVD
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TIME PERIOD 1921-1940

The Inter-war Years, 1918-1940
Navy
Submarines and Aviation

RELEVANT THEMES

Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940
Naval Construction
Technology
Military Aircraft

INSTALLATION HISTORY AND CONTEXT

Lakehurst Naval Warfare Center is located in central New Jersey, north of the town of Lakehurst. Before its acquisition by the Navy Department, Lakehurst Naval Warfare Center was used as an ammunition proving ground, first by the Russian Imperial Army from 1915 to 1917, and then by the American Army, from 1917 to 1921.

In 1921, the Navy Department acquired the site to serve as a base for its lighter-than-air activities. The Navy intended to use Lakehurst as a base for its huge, rigid airships, called dirigibles. During World War I, the Germans had constructed such airships by using a metal framework and air-tight fabric compartments. The air-tight compartments could be filled with helium or hydrogen to lift the airship off the ground. The Germans employed these airships primarily for patrolling, and secondarily for bombing.

The Navy selected Lakehurst as its first dirigible base for three reasons. Its location, near the coast and between the ports of New York and Philadelphia, was close to the regions to be patrolled. The ground was level, but behind a natural windbreak. Finally, the soil could support the heavy hangars required to house the dirigibles.

On June 28, 1921, the Navy formally commissioned Lakehurst Naval Air Station. Construction began almost immediately. The most impressive structure, Hangar No. 1, was completed the same year. Its steel- arch structure measured 961 ft in length, 350 ft in width, and 200 ft in height. Its double doors each weighed 1350 tons, and were mounted on railroad tracks. Like other military installations, Lakehurst required administrative, medical, maintenance and related buildings. Following an initial period of building construction in 1921, other buildings were added during the 1920s and 1930s. The 11.5 square mile station was the largest naval air facility east of the Mississippi.

Operations began at Lakehurst in 1923 with the arrival of the airship *Shenandoah*. A year later, the Navy obtained a second airship from Germany as a war reparations payment, which it

re-named *Los Angeles*. Both ships flew patrol missions and demonstration flights over the United States.

Rigid airships proved to be too fragile in severe weather. Two years after its commissioning, *Shenandoah* disintegrated in a storm over Ohio. European and Air Corps dirigibles experienced similar crashes. Critics, both inside and outside of the Navy, began to question the wisdom of using dirigibles.

The Navy made a last effort to utilize rigid airships with the acquisition of two impressive new airships, *Akron* and *Macon* in 1931. *Akron* was based at Lakehurst; *Macon*, in California. For a short time these airships seemed to fulfill the promises of lighter-than-air patrolling. However, in 1933 *Akron* crashed in the Atlantic, with a heavy loss of life, including the Navy's Chief of the Bureau of Aeronautics, Admiral William Moffett. *Macon* suffered a fatal crash in the Pacific two years later.

One final spectacular disaster at Lakehurst ended the use of dirigibles. With its docking facilities, Lakehurst was also the terminal point for commercial dirigible flights. On May 6, 1937, the German airship *Hindenburg* attempted to dock at Lakehurst during its maiden flight. Its hydrogen-filled air bags caught fire and it exploded, causing many fatalities.

Blimps, which were smaller, flexible airships, were less prone to disasters, and therefore more useful to the Navy. To combat the German submarine menace of World War II, the Navy used large numbers of blimps to patrol the Atlantic coast and to escort convoys. Lakehurst once again became the site of lighter-than-air activity as the Navy assigned blimp units to the station. Hangars 2 - 6 were constructed during the World War II era. Initial construction of these buildings included steel arches; these later were converted to wood.

In 1961, the Navy halted all lighter-than-air activities, and Lakehurst's blimps were put into storage. Work at the Lakehurst Naval Air Station then shifted toward the development and testing of aviation systems. In 1977, the installation was re-designated Lakehurst Naval Air Engineering Center.

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PROPERTY TYPES

Administration
- -Administration Offices
- -Fire Station
- -Headquarters
- -Security Building

Health Care
- -Dispensary

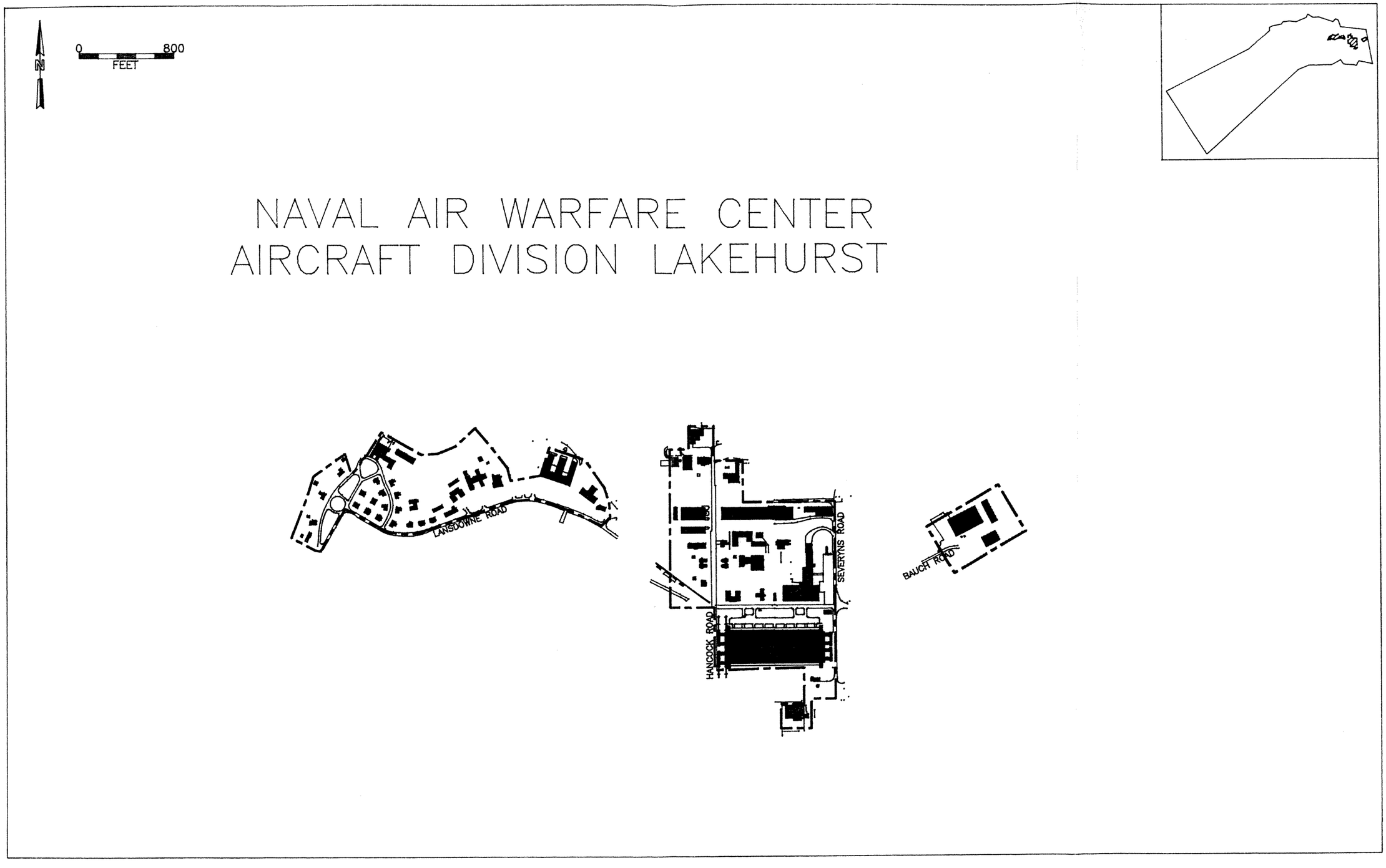
Industrial
- -Maintenance and Repair Shops
- -Storage
  - -Warehouses

Infrastructure
- -Power Plant
  - -Transformer Stations
- -Water and Sewage Systems
  - -Water Treatment Facility

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Tennis Courts
- -Chapel

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Mess Hall
- -Family Housing
  - -Commanding Officer's Quarters
  - -Multi-family Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Dirigible Hangar
  - -Blimp Hangar
  - -Balloon Hangar
  - -Control Tower
- -Vehicle-related
  - -Motor Pool
  - -Automotive Repair Shop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NAVAL AIR WARFARE CENTER
AIRCRAFT DIVISION LAKEHURST
LANSDOWNE ROAD
HANCOCK ROAD
SEVERYNS ROAD
BAUCH ROAD

TIME PERIOD 1901 - 1940

- The Military and the Progressive Era, 1890-1918
  - Navy
    - Steel Ship Construction and Repair
    - Logistical Support to the Fleet
    - Officer Education and Training
    - World War I Navy Construction
- The Inter-war Years, 1918-1940
  - Navy

RELEVANT THEMES

- Education
  - Military Education during the Progressive Era and World War I, 1890 - 1918
- Planning and Architecture
  - Consolidation and Modernization, 1875-1917
    - Beaux Arts Architecture and Planning
    - Navy Yards
  - World War I: Temporary and Permanent Construction
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Naval Construction
- Technology
  - Warships

INSTALLATION HISTORY AND CONTEXT

Charleston Naval Shipyard is located on the Cooper River in the city of North Charleston, approximately seven miles from the Atlantic Ocean. The shipyard was authorized by the U.S. Congress in 1900; land was acquired in 1901. The Charleston Navy Yard owed its existence to the heavy political lobbying of South Carolina Senator Ben Tillman and to the development of improved dredging technology that doubled the depth of the harbor channel. The shipyard serviced the fleet in the South Atlantic, south of Cape Hatteras. In addition to the shipyard, the naval facility included a reservation for use as a naval hospital and a Marine reservation, composed of barracks and officer housing.

As the United States began to expand its foreign policy and military interests at the end of the nineteenth century, the South Atlantic became more strategically important. During the Spanish-American War, the naval stations and bases along the southeast coast proved vital to the resupply and repair of ships. The need for an up-to-date shipyard facility in the Southeast arose in 1898 when the Navy decided to replace its wooden dry docks with stone dry docks. The Navy had a naval station at Port Royal, fifty miles south of Charleston, where it had constructed a wooden dry dock in 1893. This dry dock was too small for many of the navy's largest ships and had continuing problems with shipworms. In 1901, the Navy shifted its operations to the newly-created Charleston Navy Yard, leaving Port Royal to languish.

Construction of the Charleston shipyard proceeded slowly over the next ten years. By 1910, the shipyard had twenty-eight permanent structures, of which the following remain: administration building (now Quarters H-I), shops (Buildings 1, 3, 5, 8, 9), foundry (Building 6), storehouse (Building 7), power house (Building 32), quarters (A, B, C), Marine barracks (Building M17), equipment building (Building 13), and dry dock (301). The building's designs reflected many of the era's popular architectural styles. The original administration building is an example of the Italian Renaissance Revival style and features a second-story arched gallery. The shipyard's original industrial buildings are red brick with classical ornamentation. Building 9 is a cross-shaped building, heavily ornamented by terra cotta window surrounds and a modillioned cornice. The Italian Renaissance Revival motif is continued in the power house. The quarters reflect the regional tradition of Greek Revival plantation houses. Quarters A has a two-story front portico.

From its founding, the shipyard was often threatened with closure. Efforts were made to keep the facility competitive. In 1911, a school for machinists' mates was established at the yard. In 1914, the Navy transferred its naval clothing factory from the Brooklyn Navy Yard to Charleston; the factory was housed in Building 13.

During World War I, the Navy expanded the shipyard and established a naval training center. Additional industrial buildings were constructed, including Buildings 4, 10, 11, and 101. They differ substantially from the earlier, classical revival industrial buildings; the industrial buildings from this era were constructed with concrete frames and display minimal ornamentation and large industrial sash windows. The clothing factory produced 11,000 garments a day. The shipyard kept busy fitting out ships. The hospital was expanded with the addition of many temporary detached buildings. The quarters for medical officers were constructed in 1917.

After World War I, Congress drastically cut naval appropriations. Between 1920 and 1933, the Charleston Navy Yard saw little naval activity. The clothing factory and training camp were closed; the machinist mate's school was moved to the Norfolk Navy Yard. No new buildings were constructed; however, a landing field was added in 1925.

During the 1930s, the military again began to expand due to public works projects sponsored by the Works Project Administration and the Public Works Administration and the increased threats of war overseas. In 1933, the yard was rescued from closure when the Navy designated it a construction yard for construction and repair of Coast Guard vessels. Construction of a permanent dry dock allowed the yard to perform its expanded functions. The public works projects produced concrete shipbuilding ways and new shops (Buildings 56, 2A, and an addition to Building 3). Additional officers' quarters completed in during 1937 and 1938 are square, two-story frame buildings with wide hip roofs. In 1937, the Coast Guard took over the air field and constructed a barracks (Building 590-A) and seaplane hangar (possibly Building NS-53).

The Charleston yard remained the only active shipyard along the southern Atlantic coast. When war threatened Europe in 1939, the yard underwent a $3.5 million expansion and improvement program, employing WPA and PWA workers. Throughout World War II, facilities at the Charleston yard were expanded greatly. More land was acquired, and warehouse complexes were constructed north and west of the original yard. Additional shipbuilding and repair facilities were constructed east of the original yard, along the waterfront. The 1925 landing field was abandoned and shipyard facilities were constructed over it. The hospital also was expanded.

In 1945, the Charleston Navy Yard became the Charleston Naval Base. Since World War II, the installation has continued to overhaul ships and submarines. In 1952, a fleet training center was established there. During the 1960s, the installation became an operating base and home port to a portion of the Atlantic fleet, and started handling nuclear vessels.

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PROPERTY TYPES

Administration
- -Headquarters
- -Administration buildings

Health Care
- -Hospital
  - -Nurses' Quarters
  - -Attached Wards
  - -Personnel Quarters

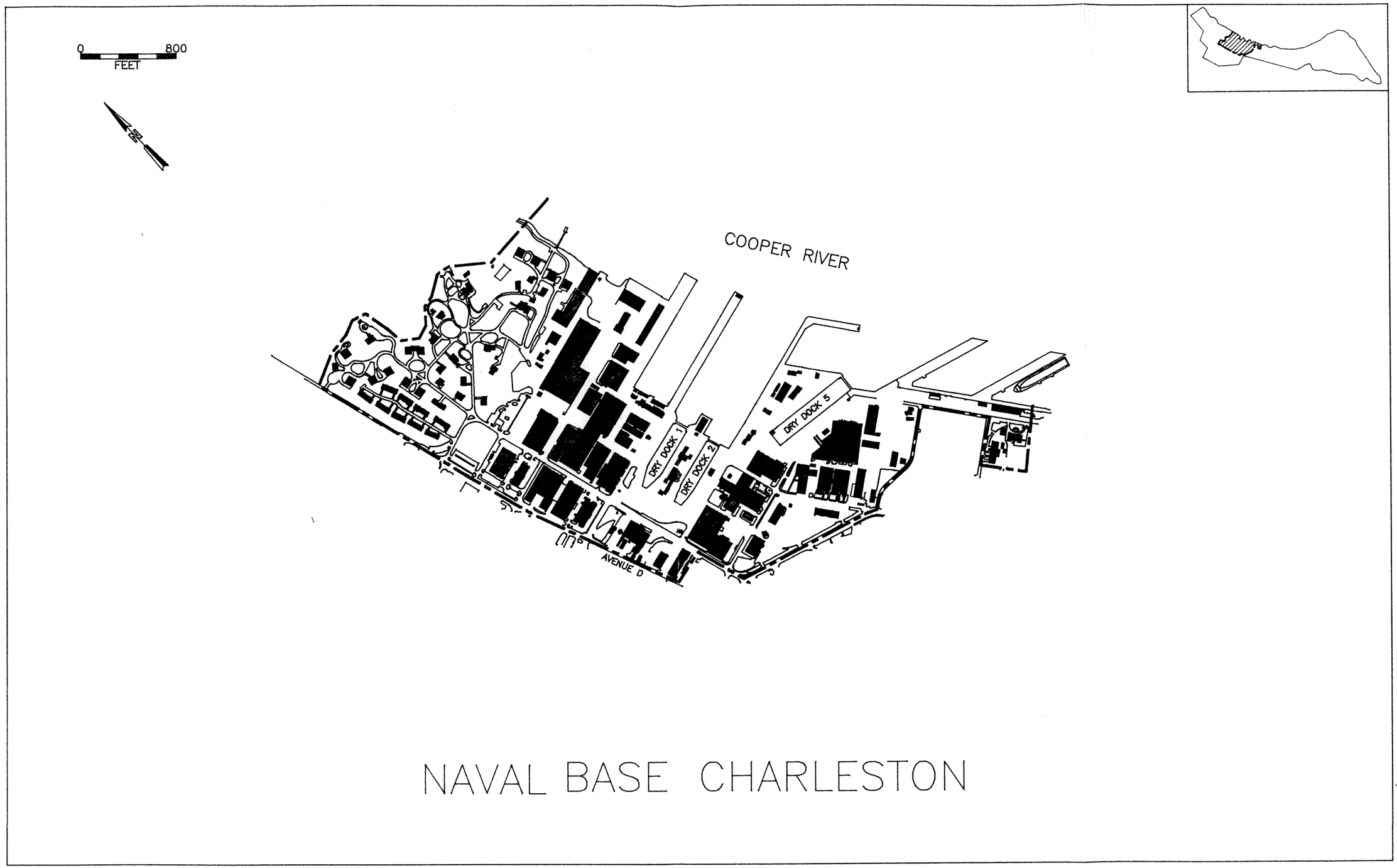
Industrial
- -Manufacturing
  - -Industrial Shops
    - -Machine Shops
    - -Ship Fitter Shop
  - -Foundry
  - -Equipment Building
  - -Dry Dock
    - -Pump House
  - -Wharves
- -Storage (General Installation)
  - -Storehouses

Infrastructure
- -Power Plant

Landscape
- -Parade Ground (Marine Corps Reservation)
- -Flagpoles

Residential
- -Institutional Housing
  - -Barracks, Marine
  - -Barracks, Coast Guard
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officers' Quarters
  - -Marine Officers' Quarters

Transportation
- -Air-related
  - -Seaplane Hangar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NAVAL BASE CHARLESTON

TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Navy
  - Logistical Support to the Fleet
  - Officer Education and Recruit Training
  - World War I Navy Construction

The Inter-war Years, 1918-1940
- Navy

RELEVANT THEMES

Education
- Military Education between the Wars, 1919-1940

Planning and Architecture
- World War I: Temporary and Permanent Construction, 1917-1918
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Naval Construction

INSTALLATION HISTORY AND CONTEXT

The Naval Base Norfolk presently covers over 5,000 acres, and is located on the south side of Hampton Roads, near Norfolk, Virginia. The installation hosts six major commands, including Naval Air Station, Naval Station, Public Works Center, Naval Supply Center, Fleet Training Center, and Fleet Marine Force, Atlantic.

In 1917, the term "operating base" entered the Navy's lexicon with the creation of the Norfolk Navy Base, a new type of installation and one of the most ambitious World War I military construction projects. The Naval Base was needed to accommodate the increased supply, training, and logistical functions of the modern Atlantic fleet. The Navy acquired the site of the former Jamestown Exposition, including the remaining exhibit buildings. The operating base comprised a naval training station, naval air station, submarine station, and fleet supply base. The fleet supply base represented a new solution to the logistics of supplying the fleet. Norfolk was one of two fleet supply bases; the other was in Brooklyn, New York. After World War I, the base became a permanent naval facility, maintaining its varied activities. It also became the headquarters for the Fifth Naval District. During the 1920s and early 1930s, the base operated at a reduced level and pace. Between 1932 and 1943, the Navy constructed several clusters of permanent buildings using the Georgian Colonial Revival architectural style. By 1937, the base contained over 375 buildings and included a naval training station, a receiving station, a supply depot, an air station, a Marine component, and an inactive submarine base.

In 1938, the Navy began to build up its installations. By 1938, over 1,000 civilians were employed at the air station. By 1939, the training station had facilities for 10,000 men, making it the nation's largest naval training station. In 1939, when the Atlantic Fleet returned to the East

Coast, the Naval Base Norfolk was the largest naval installation on the Atlantic. The supply center was capable of supplying the Atlantic fleet in a short time.

Within three months of the outbreak of the war in Europe in 1939, the Navy earmarked over $4 million dollars worth of construction for the installation. More acreage was acquired and more buildings constructed. After the war, the operating base stored inactive aircraft carriers and other reserve vessels. Though the base's name and several of its specific missions have changed, its essential mission has remained the same: to help the Navy support its mission of defending the national interests of the United States, by training its recruits, feeding its sailors, and supplying and refueling its ships.

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PROPERTY TYPES

Administration
- -Administration Building
- -Gate House

Health Care
- -Dispensary

Industrial
- -Maintenance and Repair Shops
- -Storage (Depot and Supply Center)
  - -Warehouses
- -Storage (General Installation)
  - -Storehouses

Infrastructure
- -Power Plant
- -Water and Sewage Systems

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Golf Club and Course

- -Gymnasium
- -Playing Field and Grandstand
- -Hobby Shop
- -Clubs (Officer)
- -Exchange

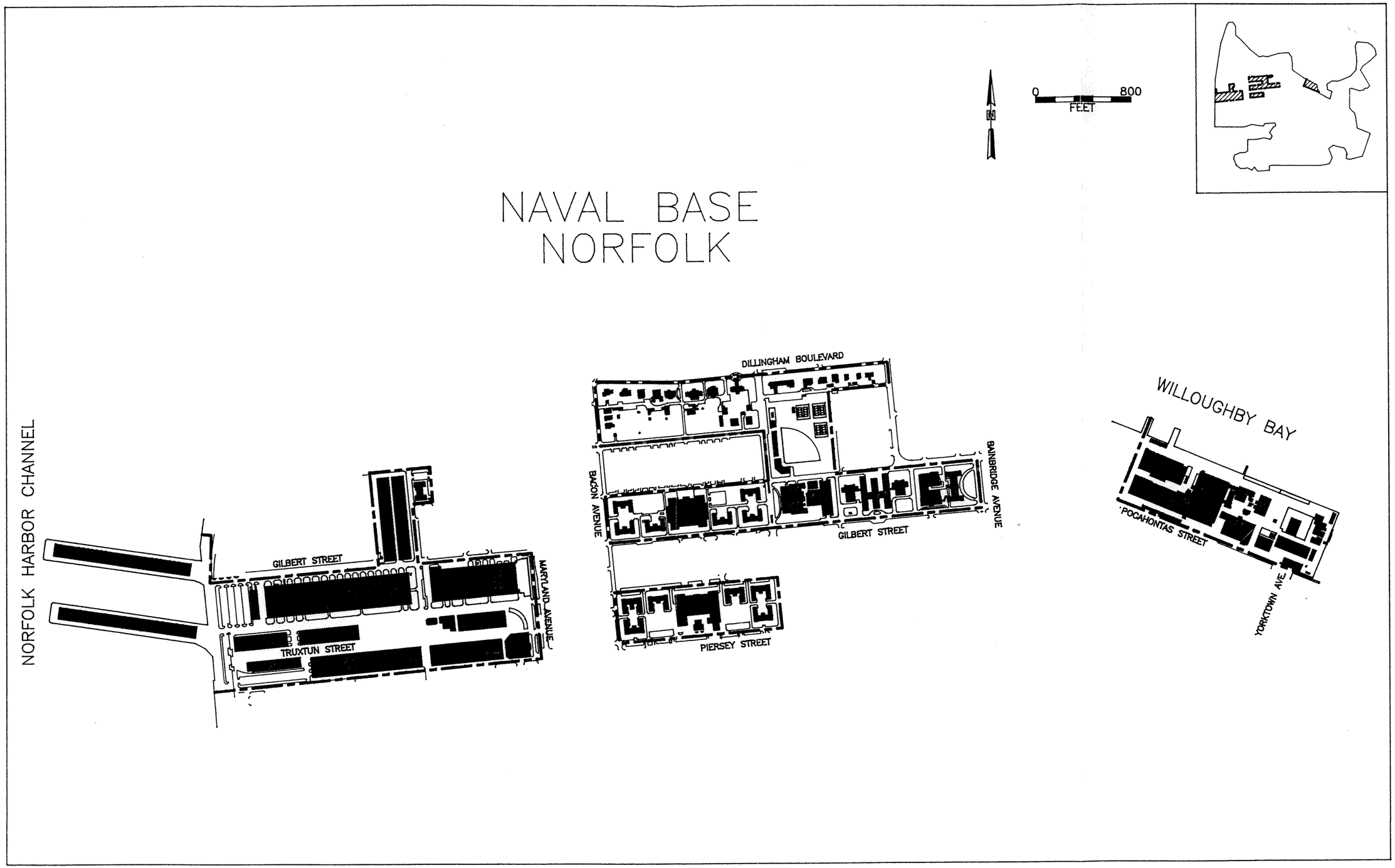
Residential

- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks with Mess Hall and Galley
- -Family Housing
  - -Officer Housing
  - -Garages

Transportation

- -Air-related
  - -Operations Building and Control Tower
  - -Maintenance and Repair Building

Exposition Buildings (Predates naval occupation)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GILBERT STREET
PIERSEY STREET
WILLOUGHBY BAY
POCAHONTAS STREET
YORKTOWN AVE

TIME PERIOD 1825 - 1911, 1914 - 1940

- The Military in the Early Republic and Antebellum Era, 1790-1860
  - Army
    - Coastal Fortifications
  - Navy and Marine Corps
    - Naval Yards and Stations
- The Civil War and National Expansion, 1860-1890
  - Army
    - Civil War
    - Coastal Defense
  - Navy and Marine Corps
    - Results of the Civil War
    - Beginnings of Naval Modernization
- The Military and the Progressive Era, 1890-1918
  - Army
    - Coastal Defense
  - Navy
    - New Technology: Submarines, Aircraft, and Radio
    - World War I Navy Construction
  - Marine Corps
    - Installations and Schools
- The Inter-war Years, 1918-1940
  - Army
    - Training, Coastal Defense, Schools, and Logistics
  - Navy
    - Submarines and Aviation

RELEVANT THEMES

- Education
  - Military Education during the Progressive Era and World War I, 1890-1918
  - Military Education between the Wars, 1919-1940
- Planning and Architecture
  - Consolidation and Modernization, 1875-1917
    - Standardization of Army Construction
    - Navy Yards
  - World War I: Temporary and Permanent Construction, 1917-1918
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Army Construction
    - Naval Construction
- Technology
  - Fortifications
  - Military Aircraft
- Transportation
  - Military Contributions to Transportation Development

INSTALLATION HISTORY AND CONTEXT

Pensacola Navy Yard

The Pensacola Navy Yard is located in the western portion of the Florida panhandle, near the city of Pensacola. The property is comprised of the original naval yard, the Annapolis of the Air complex, a naval hospital, several outlying airfields, and a lighthouse reservation. In addition, the Navy now controls the former Ft. Barrancas cantonment. The navy facilities and army cantonment developed separately until 1947, when the Navy acquired Ft. Barrancas.

The first six U.S. Navy shipyards were built along the east coast in the early 1800s. During the antebellum period, the Navy established four additional shipyards: at Sacketts Harbor on Lake Ontario (1809); Pensacola, Florida on the Gulf of Mexico (1825); Memphis, Tennessee on the Mississippi River (1843); and, on Mare Island in San Francisco Bay on the Pacific Coast (1853). Established to support operations against Caribbean pirates, the Pensacola Navy Yard grew slowly. The yard was used to repair vessels operating in the Caribbean and Gulf of Mexico. By 1828, a naval hospital was established as a separate facility, west of the yard; it was enclosed by a ten-foot brick wall during the late 1830s.

Pensacola Navy Yard was the naval yard and repair station closest to Mexico during the Mexican-American War. It provided provisions, repairs, and medical care to the Navy in the Gulf of Mexico. After the war, the Navy improved the yard with the construction of a floating dry dock, permanent wharf, machine shop, an armory and chapel (Building 16), storehouse, and other structures. Two wooden sailing sloops were constructed at the yard and launched in 1859.

The Pensacola Navy Yard suffered damage during the Civil War. The yard was occupied by Confederates in 1861, shelled by Union forces, and burned in 1862, after the Confederates left. The battle-scarred yard became a Union naval supply depot for the duration of the war. Burned buildings included officers' quarters and shops. Buildings and structures that survived included the armory and chapel, the hospital boundary walls, and gatehouse. A brick general storehouse (Building 25), originally constructed in 1848, was burned in 1862 and rebuilt by 1868.

After the Civil War, the Navy partially rebuilt the Pensacola Navy Yard, including the officer housing. However, the yard facilities were not upgraded to build or repair the developing steam and steel navy until after the Spanish-American War. The yard served as a repair and supply facility until it was damaged in 1906 by a devastating hurricane. The navy yard was officially closed in 1911.

Pensacola Navy Yard was reopened early in 1914 as the naval aviation center for flight and ground training and the study of advanced aeronautical engineering. It became the Navy's first permanent air station and first naval pilot training center. The first aviators sent into combat were trained at Pensacola. The existing building stock supported the new aviation facility, except for seaplane hangars and launch ramps built along the waterfront.

Between 1935 and 1939, the Navy expanded the naval air station due to a combination of an expansionist navy policy and funding provided through Public Works Administration. A new training complex was constructed west of the original Navy yard. The buildings in the complex

were designed in the Colonial Revival style, and included new classrooms, new dormitories, and officer housing. Chevalier Field was constructed as a flight training area. Aviation training was expanded to include aviation mechanics and aviation medicine. Many of the naval aviators that served during World War II were trained in this new facility. The increase in trainees required the establishment of outlying airfields.

Ft. Barrancas

The Army constructed four coastal fortifications to protect the Pensacola Navy Yard, between 1825 and the Civil War. These included: Ft. Barrancas (completed 1844), Ft. Pickens (completed 1834), Ft. Advanced Redoubt (constructed between 1845-1859), and Ft. McRee (completed 1837). East of Ft. Barrancas, the Army established a separate artillery post to house troops and administer the fort. This post has buildings that date from many of the Army's major construction periods (1880s, 1900-1910, and 1930s). The majority of the buildings were built between 1880 and 1910, using the quartermaster-standardized plans that were used for construction of permanent posts during the late nineteenth century. Some of the antebellum buildings at Ft. Barrancas include Quarters 39 (constructed in 1840 as the post hospital) and Quarters 35 (possibly dating to circa 1850, but looking more like the 1880 quarters). Between 1880 and 1910, the post was expanded with the addition of officers' quarters along the eastern and southern sides of the central parade ground, and non-commissioned officers' quarters along the northern side. Construction dating from the 1930s included Spanish Colonial Revival style non-commissioned officers' quarters and a barracks. In addition, there was a theater and some support buildings. After the coastal artillery was disbanded in 1947, the Army post was turned over to the Pensacola Naval Air Station.

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PROPERTY TYPES

Pensacola Navy Yard

Administration
- -Fire Station
- -Gates and Gatehouses
- -Headquarters and Administration Buildings

Education
- -Auditorium
- -Classrooms
  - -Medical School
- -School Welfare Building

Industrial
- -Maintenance and Repair
  - -Support Buildings
- -Manufacturing
  - -Boat Shops
  - -Industrial Shops
  - -Foundry and Forge
  - -Drydock
    - -Water Pump Building
  - -Wharves
- -Storage (General Installation)
  - -Storehouses
  - -Warehouses
  - -Armory/Chapel

Infrastructure
- -Power Plant

Landscape
- -Parade Ground/Playing Field
- -Wall around Hospital Compound
- -Wall around Naval Shipyard

Recreation/Social/Cultural/Religion
- -Chapel/Armory
- -Club--Officers'

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
  - -Mess Halls

- -Family Housing
  - -Commanding Officer's Quarters
  - -Officers Housing

Transportation
- -Animal-related
  - -Stables
- -Air-related
  - -Control Tower
  - -Hangars
    - -Seaplane Hangars
    - -Land Hangars
  - -Airfield
  - -Air Support Buildings
  - -Launch Ramps

<u>Ft. Barrancas Cantonment</u>

Administration
- -Fire Station
- -Headquarters

Communications
- -Telephone Exchange

Fortification (see Technology: Fortifications [Part I])
- -Third System
- -Redoubt

Health Care
- -Hospital
  - -Hospital Steward's Quarters

Industrial
- -Maintenance and Repair
  - -Quartermaster Shops
- -Storage (General Installation)
  - -Commissary Storage
  - -Quartermaster Storehouse
  - -Warehouses

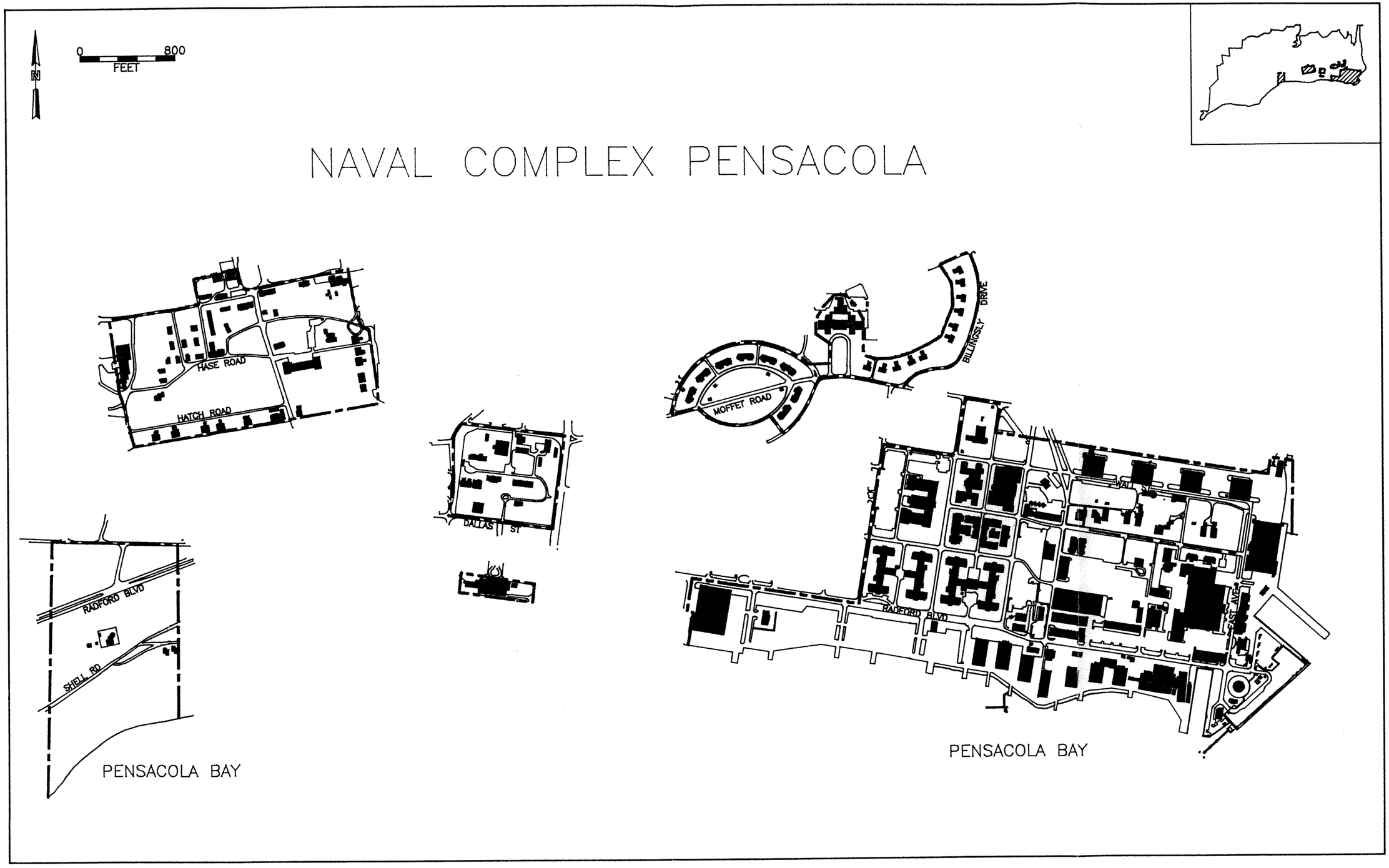
Infrastructure
- -Water and Sewage Systems
  - -Water Pump House

Landscape
- -Parade Ground

Recreation/Social/Cultural/Religion
- -Assembly Hall
- -Athletic Facilities
  - -Bowling Alley
- -Theater

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officers Housing
  - -NCO Housing
  - -Garages

Transportation
- -Animal-related
  - -Stables
- -Water-related
  - -Lighthouse and Lighthouse-keeper's house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PENSACOLA BAY
PENSACOLA BAY

TIME PERIOD 1861-1940

- The Civil War and National Expansion, 1860-1890
  - Navy
    - Results of the Civil War
    - Changing Roles of Shore Installations
- The Military and the Progressive Era, 1890-1918
  - Navy
    - Development of Naval Ordnance
    - Logistical Support to the Fleet
    - Officer Education and Recruit Training
    - World War I Navy Construction
- The Inter-War Years, 1918-1940
  - Navy

RELEVANT THEMES

- Education
  - Beginnings of Military Professionalism, 1860-1890
  - Military Education during the Progressive Era and World War I, 1890-1918
  - Military Education Between the Wars 1919-1940
- Planning and Architecture
  - Consolidation and Modernization, 1875 - 1917
    - Beaux Arts Architecture and Planning
  - World War I: Temporary and Permanent Construction, 1917-1918
- Technology
  - Weapons and Ammunition
  - Warships

INSTALLATION HISTORY AND CONTEXT

The Navy's presence at Newport is spread over several areas: Goat Island, site of the major torpedo manufacturing facility; Gould Island, which was used for testing torpedoes; Coasters Harbor Island, site of the Naval War College; Coddington Point, acquired during World War I for housing and support services, Coddington Cove, acquired during World War II and used as a supply station; and Ft. Adams.

The first naval activity at Newport occurred during the Civil War, when the federal government moved the U.S. Naval Academy from Annapolis, Maryland, to Ft. Adams for protection from Confederate troops. In 1869, the Naval Torpedo Station was established on Goat Island, with a firing range on Gould Island. The station's initial experimentation with stationary torpedoes soon expanded to the new mobile torpedoes. This activity was part of the growing application of technology to warfare. The navy established a Torpedo School to train officers in the use of the new technology. In 1881, the United States government acquired Coasters Harbor Island and established a ship-based training station for enlisted men, near the island, in 1883. By the late

1880s, as the training became more complex, the Navy ended the strictly ship-based training system and conducted the majority of training on shore.

In 1884, the Navy reached a turning point with the establishment of the Naval War College, at Coasters Harbor Island. Prior to this, the Navy provided almost no training to officers after they had received their commissions. Commodore Stephen B. Luce, former commander of the Naval Academy at Annapolis, largely was responsible for the creation of the Naval War College and became its first commander. Luce believed that the Navy would benefit from a post-graduate school where officers could study naval history and the theoretical aspects of warfare. Much of the naval establishment opposed the college and in 1887 were successful at persuading Congress to deny funding for the school.

The survival and growth of the War College in the ensuing period is credited to Alfred Thayer Mahan, who succeeded Luce as College president in 1886. Convinced of the value and necessity of a Naval War College, Mahan studied at the New York library for a year and then presented a series of lectures about the role of sea power in history. In 1890, he published his classic work, *The Influence of Sea Power upon History, 1660-1783*. Later that year, after the wide circulation of this new work, Congress signalled its belief in the value of the college and appropriated funds for new construction at the Naval War College.

The original building that had housed the War College (Building 10) had been the former Newport Asylum for "the feeble-minded and insane" and paupers. The 1819 asylum building soon proved inadequate for the needs of the War College. The Congressional appropriations of 1890 provided for the construction of Luce Hall (Building 1), which workers completed in 1892. Serving as the War College's new home, the structure exhibited the Beaux Arts architectural character of other academic and institutional buildings of the era. Between 1896 and 1913, the station underwent extensive expansion as the shore-based training program grew. Recruit housing was moved ashore to Barracks B, one of the earliest examples of on-shore recruit housing. Officers quarters were constructed, including the Colonial Revival style Quarters B (now Quarters AA), Barracks B, and C, and Quarters C through H. In 1913, a naval hospital was built on Aquidneck Island.

World War I increased the level of military activity at Newport. Temporary barracks, mess halls, and auxiliary buildings were constructed to accommodate new inductees. The government purchased Coddington Point; tents and temporary buildings were erected there. Five years later, these buildings were stripped and the materials were sold for scrap. Only a few buildings remain on the station from this era; two instruction buildings (Buildings 52 and 85), a power plant (Building 86), and a medical storage building (Building 7).

During the 1920s and 1930s, funding for naval facilities declined sharply. Though training continued at Newport after World War I ended, the number of men trained declined. During this period, the installation received only limited construction, including Commandant Quarters (Quarters A) in 1921. In 1933, the Newport and Great Lakes Training Stations were reduced to caretaker status and most of the buildings were closed and locked. At Newport, officer personnel was reduced by seventy-five percent; enlisted personnel, by ninety per cent.

Sporadic building efforts took place at the base during the 1930s. Structures erected included Mahan Hall (Building 3), Pringle Hall (building 1A), and an office (Building 17). The reactivation of the base during the late 1930s came slowly, partially due to damage the station suffered from a hurricane and tidal wave. The Navy reactivated the Newport facility in response to the outbreak of war in Europe.

In 1940, the U.S. Navy acquired Coddington Cove for use as a Supply Station and erected hundreds of quonset huts on the facility. More extensive construction occurred after passage of the Naval Appropriations Act of 1941. Since the Second World War, Newport Naval Training Center has consolidated and reduced its land holdings. Goat Island, which was the site of the torpedo manufacturing plant, was sold and its buildings demolished. The majority of Gould Island, where the Navy tested its torpedoes, has been excessed. Most of Ft. Adams has been turned over to the State of Rhode Island for recreational purposes and restoration of the old fort. The remaining portion of the pre-1940 facility consists primarily of buildings associated with the Naval War College.

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PROPERTY TYPES

Administration
- -Headquarters
- -Offices

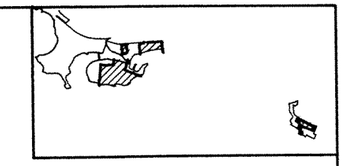
Education
- -Classroom Buildings
- -Library

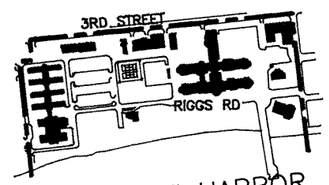
Health Care
- -Hospital
  - -Clinic

Infrastructure
- -Power plant
- -Transformer Vault

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Base Commander's Quarters
  - -Officer Housing

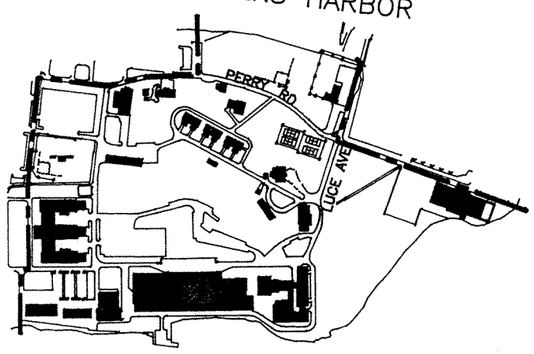
Other
- -Newport Asylum (pre-dates Navy occupation)





NEWPORT HARBOR

COASTERS HARBOR



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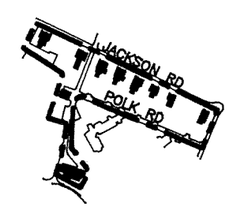
NAVAL EDUCATION AND TRAINING CENTER NEWPORT



TIME PERIOD 1889-1940

The Military and the Progressive Era, 1890 - 1918
- Navy
  - Development of Naval Ordnance
  - World War I Navy Construction

The Inter-War Years, 1918 - 1940
- Navy

RELEVANT THEMES

Planning and Architecture
- World War I: Temporary and Permanent Construction, 1917 - 1918

Technology
- Weapons and Ammunition

INSTALLATION HISTORY AND CONTEXT

By the end of the nineteenth century, the United States had begun to exhibit an increased interest in foreign markets and needed a strong, modern navy to protect those markets. In response to that need, Congress passed the Naval Act of 1889, which authorized funds to build the first American battleship and to embark on a program to improve ordnance. Since the late 1870s, the Navy had conducted gun and ammunition testing in Annapolis, Maryland across the Severn River from the U.S. Naval Academy. The increasing commercial and recreational river traffic made continued ordnance tests there too dangerous. The Navy sought a new, more remote location for testing and improving ordnance.

In 1889, the Navy acquired an isolated tract of land at Indian Head, Maryland for use as a Naval Proving Ground. This site was well-suited for this purpose; it was remote; it bordered the Potomac River, which offered a large test-firing area; and, munitions could be transported to and from the Washington Navy Yard by barge.

Though the United States emerged from the Spanish-American War as a major world military power, military inadequacies were revealed during the conflict. Spain had more smokeless gunpowder than the United States. In response, the Bureau of Ordnance decided to create a powder factory at Indian Head. Congress approved the plan three days after the Battle of Manila Bay. In addition to supplementing the gunpowder produced by the Du Pont Powder Works, the government wanted its powder factory to provide a yardstick with which to measure the costs and quality of the privately-produced gunpowder.

A major concern of the Progressives, and particularly of Presidents Theodore Roosevelt and Woodrow Wilson, was the extent of influence that some large companies wielded over the economy. In 1907, the federal government brought an anti-trust suit against Du Pont, which resulted in a court order dividing the company into three smaller companies. The Wilson administration continued to believe that private powder companies overcharged the government,

and favored the manufacture of gunpowder at Indian Head. The Navy received orders to decrease the government's dependence on private companies by expanding its production at Indian Head.

This increased role for Indian Head, coupled with American entry into World War I provided serious problems for the installation. Officials experienced difficulty in hiring and keeping workers, who found the area remote and lacking in adequate housing. The Navy turned to the U.S. Housing Corporation, one of many federal agencies created during the war. The Housing Corporation created a model town at Indian Head, built pleasant houses, a school, a library, and a segregated model community for blacks. Neither of these communities exists today.

The end of the First World War brought retrenchment to Indian Head. The 1921 Washington Naval Conference reduced the size of the Navy. Also in 1921, the Navy moved its ordnance testing to Dahlgren, down the river on the Virginia side. The move had been proposed some years earlier because of the dangers inherent in having the powder factory and the ordnance storage facility at the same site. However, funding for the move was not forthcoming until after World War I. In 1923, the Indian Head Naval Proving Ground was renamed the Indian Head Naval Powder Factory to reflect its new mission. During the early 1930s, the powder factory felt the effects of the Depression, when production was decreased after the Hoover Administration cut funding for the Navy.

In 1933, the newly-elected President, Franklin Roosevelt, ensured the survival of the installation through the use of funds from the Public Works Administration and the Civilian Conservation Corps for construction at Indian Head. By the late 1930s, the growing threat of war in Europe prompted the expansion of ordnance production at Indian Head. By 1940, before the United States entered the war, the factory's powder production was greater than during the First World War.

A subsidiary function at the Indian Head facility was the Marine Corps rifle range at Winthrop. The 1910 facility was used to train marines stationed along the East Coast. This facility was established at the beginning of the Marine Corps development of independent training facilities.

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PROPERTY TYPES

Industrial
- -Manufacturing
  - -Munitions Processing and Shop Facilities
    - -Distillation House
    - -Ether House
    - -Powder Factory
    - -Solvent Recovery House
- -Storage (General Installation)
  - -Ether Vault
  - -Magazines
  - -Niter Storehouses
  - -Warehouses

Infrastructure
- -Boiler House

Research and Development
- -Laboratories

Residential
- -Family Housing
  - -Officer Housing

Map

Map and real property data was unavailable for Indian Head at the time the field investigations were conducted for this report.

TIME PERIOD 1914-1940

The Civil War and National Expansion, 1860-1890
- Navy and Marine Corps
  - Changing Roles of Shore Installations

The Military and the Progressive Era, 1890-1918
- Navy
  - New Technology: Submarines, Aircraft, and Radio

The Inter-war Years, 1918-1940
- Navy
  - Submarines and Aviation

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890 -1918

Planning and Architecture
- World War I: Temporary and Permanent Construction, 1917 - 1918

Technology
- Warships

INSTALLATION HISTORY AND CONTEXT

The New London Naval Submarine Base is located on the east bank of the Thames River near Groton, Connecticut. The facility is divided into two distinct parts by the Providence and Worcester Railroad, which runs north-south between Shark Boulevard and the Thames River. The upper base lies east of the railroad; the lower base between the railroad and the river.

In 1862, Congress authorized a committee to study locations for a new naval station on the northeast coast. Though the majority of the committee favored locating the facility at New London, political maneuvering resulted in approval of the League Island location. In 1867, proponents of a New London navy yard persuaded Congress to authorize the Secretary of the Navy to accept a gift of land from the State of Connecticut for the purpose of establishing a navy yard. The Navy exhibited only sporadic interest in developing the facility. Congress authorized the first appropriation for the facility in 1870, but construction did not begin until 1872. The yard served as a depot for drydocking and storing ships. Interest in the base declined still further, and the base was closed in 1898. A coaling plant was constructed on the site in 1903, but few ships stopped there, and again the station was slated for closure.

Five buildings remain from the nineteenth and early twentieth centuries. They consist of two brick warehouses (Buildings 1 and 2), a brick drill hall (Building 3), a portion of a frame house (Building 234), and wooden frame quarters (Quarters C).

The outbreak of World War I provided a reason for the existence of the New London facility. The Navy began to investigate, more seriously, the development of a submarine base on

the northeast coast when Germany demonstrated the power of the submarine. In September, 1914, a German submarine sank three British cruisers in an hour. Germany's later declaration of unrestricted submarine warfare gave further impetus to the Navy's planning processes and, in 1915, the decision was made to develop New London as a submarine base. Eighty-one buildings were constructed by October 1918. During the First World War, the base was the home of the Submarine School, that included the Radio School, Gyro-compass School, Optical Training, Trades Training, and Ship's Cooks School. Over 10,000 men trained at the school. Twelve of the buildings from this first period of submarine-related expansion remain, including shop structures (Buildings 20, 405, and 406), a power plant (Building 29), and warehouses (Buildings 31, 33, 408, and 409). New London Naval Station and Portsmouth Navy Yard became the most important U.S. installations connected with submarine technology during World War I; New London trained submariners and served as a submarine base; Portsmouth constructed submarines and experimented with their design.

Following the Armistice, development at the base halted; few facilities were constructed during the 1920s. Following the Naval Limitation Treaty of 1922 and increasing public sentiment for isolationism, the navy received little funding. The base did not receive further new construction until the 1930s. The Navy, like other federal agencies during the Great Depression, received funding for construction projects that were designed to provide employment. Approximately twenty-six new buildings were constructed during this period. During the period between the World Wars, the base was used for research to perfect salvage devices, escape locks, air purifiers, and submarine communication systems. As a result of three tragic accidents in the late 1920s, the Navy built the Escape Training Tank in 1930. This structure was recently demolished.

During World War II, the New London submarine base grew from 112 to 497 acres. Many World War I-era buildings were demolished to make way for new construction. After the Second World War, as after the World War I, naval appropriations were reduced. Naval attack submarines, their days numbered by the advances in anti-submarine techniques and development of new designs, were dry-docked at the submarine base. The future belonged to the nuclear-powered submarine. The first nuclear-powered submarine, the USS *Nautilus*, constructed in 1949, is on display at the Nautilus Memorial Submarine Force Library and Museum at the New London Submarine Base.

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PROPERTY TYPES

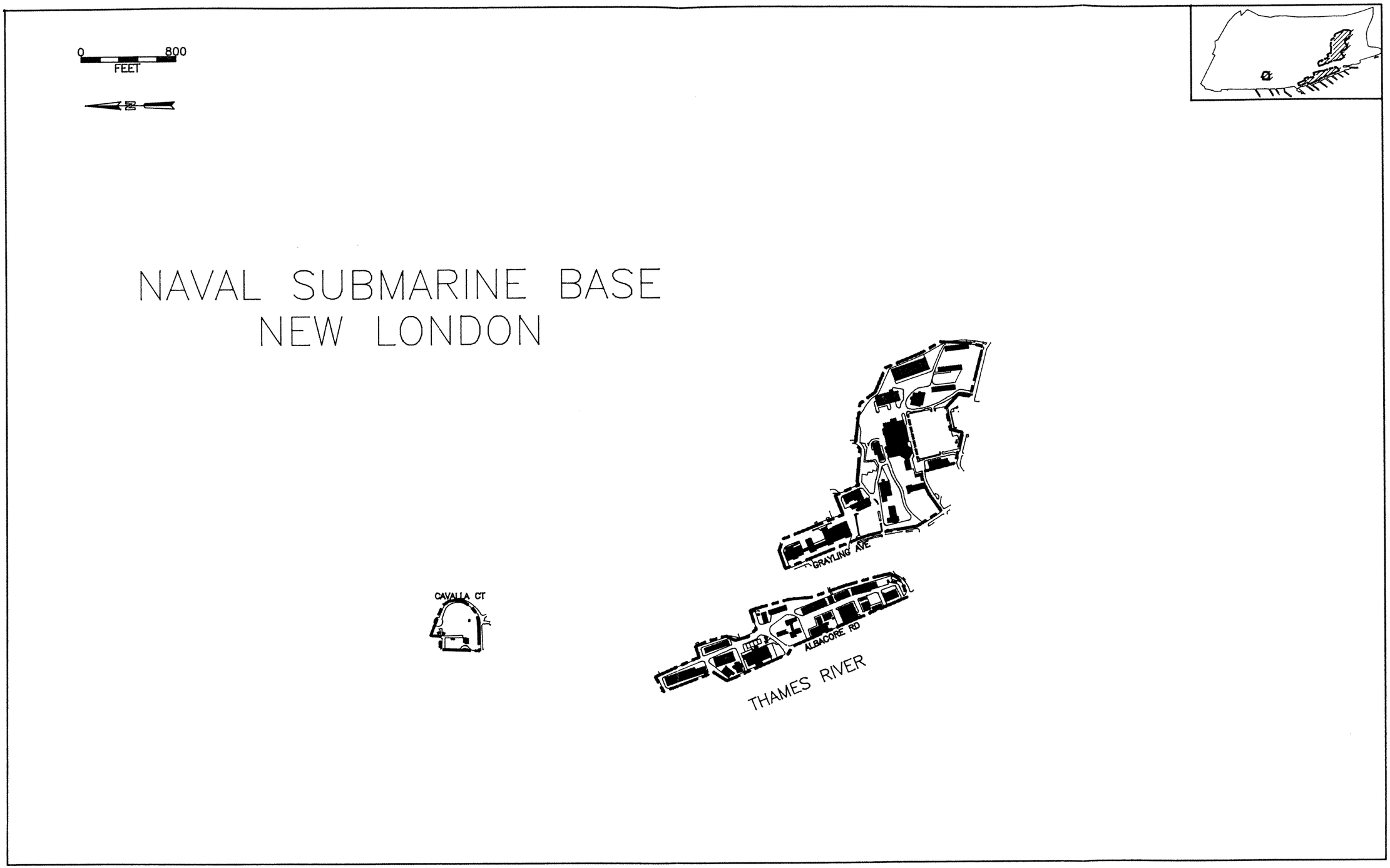
Administration
- -Administration Buildings

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Officer Housing

Education
- -Classroom buildings
- -Drill Hall
- -Specialized Instructional Facilities

Industrial
- -Manufacturing
  - -Foundries
  - -Shops
- -Storage (General Installations)
  - -Warehouses

Infrastructure
- -Power Plant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ALBACORE RD
THAMES RIVER

TIME PERIOD 1918-1940

Military and the Progressive Era, 1890-1918
- Navy
  - Development of Naval Ordnance
  - World War I Navy Construction

The Inter-war Years, 1918-1940
- Navy

RELEVANT THEMES

Technology
- Weapons and Ammunition
- Military Aircraft

INSTALLATION HISTORY AND CONTEXT

The Naval Surface Warfare Center is located on the west side of the Potomac River in Virginia, just south of the Route 301 bridge crossing. This installation was established in 1918 in response to the increased ordnance testing required when the United States became involved in World War I. Before World War I, the primary naval proving ground was at Indian Head, Maryland. When the United States declared war on the Central Powers on April 6, 1917, the testing of increased numbers of naval ordnance required more space. On April 26, 1918, the U.S. Congress authorized the acquisition of the land of Dahlgren.

Aerial photographs dating from the 1920s illustrate the general layout of the installation. The main firing range areas were located facing the Potomac River; the housing area was located to the west of the main front. The first phase of construction at Dahlgren consisted of temporary buildings including an officers' barracks and office buildings. Between 1918 and 1921, the permanent construction of the Administration Building, Inspector's Quarters, eight officers' bungalows, forty-nine civilian bungalows, and two civilian dormitories was undertaken. The Administration Building and the Inspector's House are both of brick and reflect the Georgian Colonial architectural style. The permanent officer housing was designed in the Dutch Colonial Revival style with shingled gambrel roofs and stuccoed walls. This type of officer's housing also was constructed at the Marine Base at Quantico, Virginia. The predominant housing type at Dahlgren is individual, one-story, wooden frame cottages built originally for civilians and enlisted personnel. Some of these bungalows may have been transported by barge to the installation from Indian Head.

By 1921, most gunnery testing was moved from the Indian Head facility to Dahlgren to take advantage of Dahlgren's more isolated location. The test programs undertaken at Dahlgren included radio-controlled aircraft in 1923 and the Stabilized Bombing Approach Equipment (Automatic Pilot) in the 1930s. In addition, experimental testing programs involving armor, projectiles, and ammunition were conducted.

The installation received little new construction between 1922 and 1939. The Naval Limitation Treaty of 1922 curtailed much navy spending. The facilities constructed during the initial building phase served the installation's needs until World War II.

During World War II, Dahlgren personnel and facilities performed some work on the atomic bomb and on the Elsie Project, which developed and tested projectiles to simulate atomic bombing loads. In 1974, Dahlgren was consolidated with the Naval Ordnance Laboratory, White Oak, and Silver Spring to form the Navy's largest and Research Development, Test, and Evaluation (RDT&E) center.

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PROPERTY TYPES

Administration
- -Administration Building

Recreation/Social/Cultural/Religion
- -Exchange

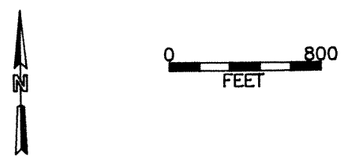
Landscape
- -Parade Ground

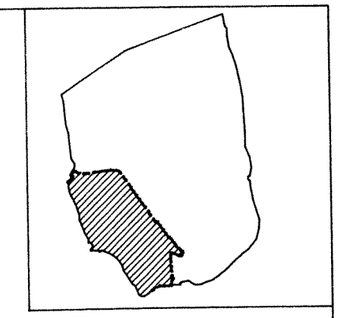
Research and Development
- -Laboratories
- -Test Sites
  - -Main Range
  - -Machine Gun Range
  - -Drop Tower

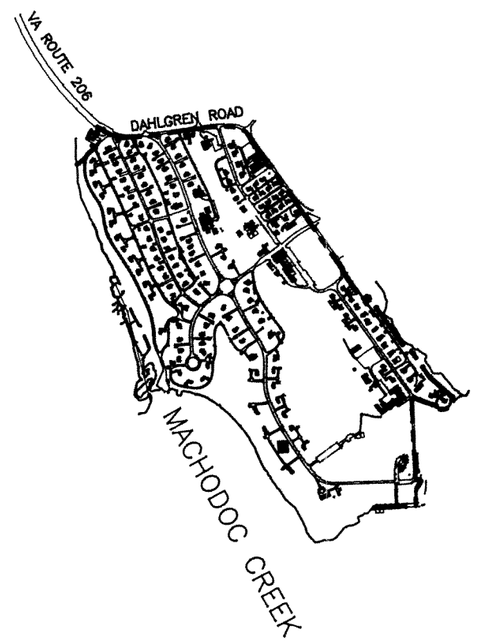
Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Inspector's House
  - -NCO Housing

- -Officer's Quarters
- -Civilian Bungalows

Transportation
- -Air-related
  - -Seaplane Hangar
  - -Air Field







NAVAL SURFACE WARFARE CENTER DAHLGREN

NAVAL RADIO TRANSMITTER FACILITY
CHOLLAS HEIGHTS
SAN DIEGO, CALIFORNIA

TIME PERIOD 1916-1940

The Military and the Progressive Era, 1890-1918
Navy
New Technology: Submarines, Aircraft, and Radio
The Inter-war Years, 1918-1940
Navy
War Plans and the Shift to the Pacific

RELEVANT THEMES

Communications
Navy Wireless Communications during the Twentieth Century

INSTALLATION HISTORY AND CONTEXT

The naval radio transmission facility is located at Chollas Heights, approximately 10 mi east of the City of San Diego, California on California Rte 94. The facility is one of thirteen components of the Naval Communications Station Command that encompasses the area around San Diego. The area of responsibility for this command extends from Point Mugu and Long Beach to Imperial City, California. The facility at Chollas Heights incorporates an area of 73.6 acres.

The first naval communications facility in the San Diego area was established in May, 1906, at Point Loma. The Point Loma facility played a significant role in the conduct of Dr. Lee DeForest's early experiments with ship-to-shore radio transmissions. Land for the Chollas Heights facility, originally known as the Naval Communication Station, Lemon Grove, was acquired by the Navy in 1914, to increase the transmitting range of the Point Loma installation. The Chollas Heights facility is the only survivor of the Navy's original global radio communications system; two similar contemporary stations at Cavite, Philippines, and Pearl Harbor, Hawaii, are no longer extant.

By 1916, the three 600 foot radio antenna towers that still constitute a landmark in the San Diego region had been erected; these initially were keyed from the Point Loma facility. The towers were utilized in 1941 to relay the news of the Japanese attack on Pearl Harbor, Hawaii, to Washington, D. C.

Thirteen buildings and structures currently located at the Chollas Heights property were constructed during the initial phase of the facility's development, between 1916 and 1919. In addition to the original transmission towers, these include: (1) the Spanish Mission style transmitter facility (Building 1); (2) one Craftsman bungalow style single family dwelling (Quarters A); three duplex dwellings (Quarters B, C, D); (3) two four-plex unmarried enlisted personnel quarters (Buildings E and F); (4) a general warehouse and woodworking shop (Building 4); (5) a flag pole; and (6) tennis courts.

During the 1920s and 1930s, some modifications and additions were made to the Chollas Heights installation. These improvements generally augmented the installation's support structures. In 1928, a Spanish Mission style addition expanded the capability of Building 1, the transmitter building. Building 11, a paint locker, was constructed in 1925. Building 13 (1928), currently used as a recreation facility for installation personnel, and Building 15 (1931), classified as a general warehouse, also represent this period of expansion.

The installation's original landscape design, which has been retained, separates the residential from the operations area. Large lawns and mature trees characterize this intermediate landscape, and a Navy anchor design in cast concrete has been installed at ground level in this space. The siting of the residential quarters takes maximum advantage of the spectacular view of San Diego Bay, some 10-15 mi to the west.

With the exception of the gatehouse, the remaining operational and support buildings on the site were constructed between 1941 and 1957. During the 1960s, the facility's transmission capabilities were upgraded substantially, with the installation of thirty-three additional antennae fields.

Within the past two years, two buildings have been removed: Building E, a ca. 1916 four-plex quarters, and Building 12, a public works shop and general storage building of unknown date. With the exception of the remaining on-site bungalow-style housing units and Building 11, all of the buildings at the Chollas Heights facility have been determined to be inadequate or substandard. Current plans call for the abandonment and dismantling of the facility and the construction of Navy residential housing on the 73.65- acre property.

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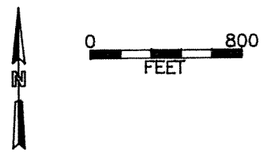
PROPERTY TYPES

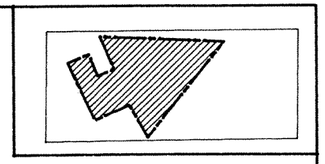
Communications
- -Radio Transmission Towers
- -Transmitter Facility

Industrial
- -Storage (General Installation)
  - -General Warehouses
  - -Paint Locker

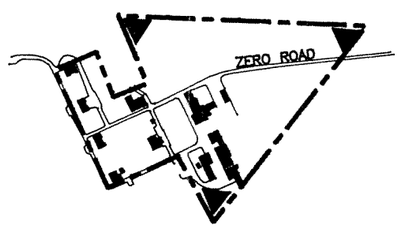
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Recreational Building
  - -Tennis Courts

Residential
- -Family Housing
  - -NCO Housing
  - -Officer Housing





NAVAL RADIO TRANSMITTER FACILITY
CHOLLAS HEIGHTS



TIME PERIOD 1904-1940

The Military and the Progressive Era, 1890-1918
- Navy
  - Officer Education and Recruit Training
  - New Technology: Submarines, Aircraft, and Radio
  - World War I Navy Construction

The Inter-war Years, 1918-1940
- Navy

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890-1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Beaux Arts Architecture and Planning
- World War I: Temporary and Permanent Construction

INSTALLATION HISTORY AND CONTEXT

Located thirty-five miles north of Chicago, in Lake County, and adjacent to the Lake Michigan shore, Great Lakes Naval Training Center occupies over 1,600 acres. During the late nineteenth century, the U.S. Navy modernized its facilities, ships, and training programs. Existing facilities were upgraded and new facilities were built. Congressman George Edmund Foss of Illinois, Chairman of the House Committee on Naval Affairs, introduced a section in the Naval Appropriations Act of 1902 that called upon the Secretary of the Navy to select a site on the Great Lakes for an additional training facility.

Over the next several years, two site selection boards recommended a site in Lake Bluff, Illinois, for the new naval training station, but the cost of the land was prohibitive. Undaunted, Foss sponsored a subscription drive among Illinois businessmen to raise the money to purchase the land for Navy use. In November 1904, President Theodore Roosevelt authorized construction of the Great Lakes Naval Training Station at the 167-acre Lake Bluff site. When completed in 1911, the training facility consisted of thirty-nine buildings that accommodated the training and housing of 1,500 recruits and the administration of the training program.

Jarvis Hunt, a Chicago architect, designed the station site plan and the original buildings. Hunt developed a formal, axial plan with monumental buildings located at the terminal points of the axes. The plan divided the training facility into several functional areas: recruit residential; recruit receiving; administration and training; officers' residential; hospital; and, service. The layout was similar to that of a university campus. The buildings exhibit characteristics of the Beaux Arts architecture of the era, with symmetrical facades and details based on classical precedents, including Roman and Italian Renaissance. The buildings are composed of geometrical massing

of blocks, flat roofs with parapets, stone water tables, and terra cotta cornices, copings, and ornament.

The original thirty-nine buildings consisted of the following: administration building (Building 1); storehouse (Building 2); instruction building (Building 3); drill hall (Building 4); mess hall (Building 5); brig (Building 6); power house (Building 11); boathouse (Building 13); four main dormitories (Buildings 25-28); guard house; receiving dormitories (Buildings 151,153,155,158,160, and 162); receiving guardhouse (Building 174); receiving building (Building 150); receiving galley and laundry (Building 154); officers' quarters (Buildings A - J); Commandant's Quarters (Building AA); hospital (Building 1H); laundry (Building 43H) three surgeons' residences (Buildings 201H - 203H); and, stable. All buildings possessed steam heat and electric lighting. Thirty-seven of the original buildings are remain; the guardhouse and stable are no longer extant.

On July 1, 1911, officials formally commissioned the installation. The first class graduated from Great Lakes on October 28 of that year. The recruits received training on shore and on small boats. Other naval training stations of the time were located at Newport, Rhode Island, Norfolk, Virginia, and San Francisco, California.

American entry into World War I prompted a great expansion at the Great Lakes Naval Training Station. The number of recruits increased from 1,500 to 50,000, and the base expanded from 167 acres to over 1,200 acres. After spending several weeks in Incoming Detention Camps to screen them for contagious diseases, recruits were housed in new wooden barracks in camps, including Camps John Paul Jones, Dewey, Perry, Lawrence, and Barry, located on the recently-acquired land. Fifteen special training schools were established at the Naval Training Station: Officer Material, Musician, Radio, Aviation Machinist's Mate, Quartermaster, Armorer, Fireman, Gunner's Mate, Armed Guard, Coxswain Material, Quartermaster Material, Yeoman, Signal, Hospital Corp, and Aviation. Expansion and construction at Great Lakes continued through 1919.

During World War I, most construction at Great Lakes was temporary, wood frame that was intended to house incoming naval draftees. Many of the 700 new buildings were H-shaped wooden barracks where trainees slept in hammocks. Officers' quarters, storehouses, brigs, drill halls, dispensaries, contagious wards, and power houses also were constructed. Among the few permanent facilities constructed were a Red Cross building (Building 76) and two officers' quarters (Building 64, designated for radio operator officer, and Quarters K).

As the number of naval recruits declined near the end of the war, most of the buildings in the cantonments were dismantled, though training continued at the base following the Armistice. In 1922, the station closed except for the Radio School and the Aviation Mechanics School. Local groups lobbied Congress for continued support of the facility, and the base was reopened for recruit training at pre-war levels. Due to the economic depression of the early 1930's, the Great Lakes and Newport Training Stations went on caretaker status in 1933. The Great Lakes facility was reopened two years later, due largely to lobbying efforts of local citizens.

During the 1920s and 1930s, construction at the facility was limited. The structures built included an officers' apartment building (Building 204H) built in 1927 and housing garages (Buildings 59H and 60) constructed in 1930. After the facility was reopened in 1935, the commandant restored many of the buildings that were in disrepair following years of neglect.

In response to war in Europe, President Roosevelt declared a limited national emergency in 1939. The Great Lakes Naval Training Station underwent a second wartime expansion that surpassed that of the First World War. The Great Lakes Training Station's large capacity and central location made it a key naval training facility during World War II. By November 1940, the center was training over 3,200 recruits. The installation undertook new construction of barracks and apartments during 1940 and 1941 to accommodate the huge influx of trainees. After the U.S. declaration of war, the training station continued to expand until it reached a population of 100,000. In 1944, the facility was renamed the Naval Training Center.

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PROPERTY TYPES

Administration
- -Administration Building
- -Brig
- -Guardhouse

Communications Facility
- -Radio Building

Education
- -Drill Hall
- -Instruction Building
- -Receiving Building

Health Care
- -Hospital
- -Surgeons' Quarters
- -Laundry

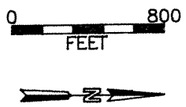
Industrial
- -Service Facilities
  - -Laundry
- -Storage (General Installation)
  - -Storehouse

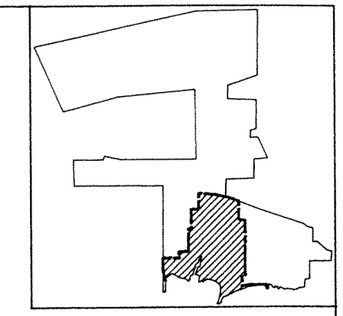
Infrastructure
- -Power House
- -Substation
- -Water Treatment

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Tennis Courts
- -Red Cross Building

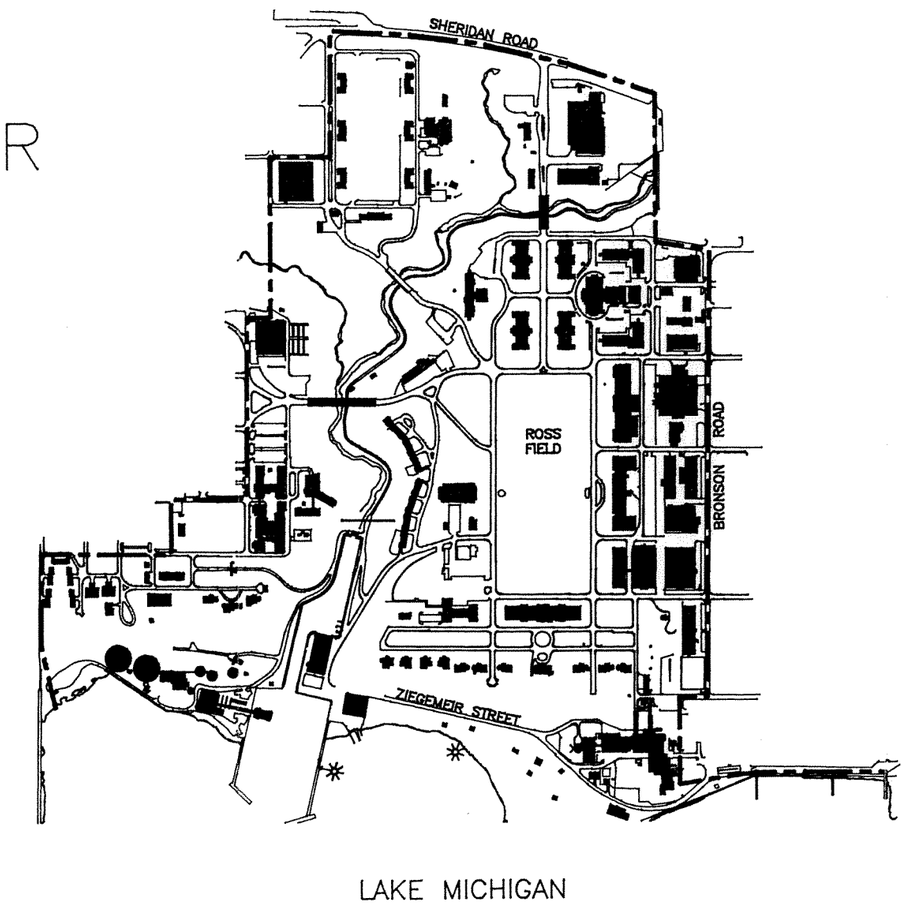
Residential
- -Institutional Housing
  - -Dormitories
  - -Mess Halls and Galleys
- -Family Housing
  - -Commandant's Quarters
  - -Officer Housing
  - -Multi-family Housing-Apartments
  - -Radio Operator's Quarters
  - -Garage

Transportation
- -Water-related
  - -Boat House
  - -Bulkhead
  - -Small Craft Berth





NAVAL TRAINING CENTER GREAT LAKES



TIME PERIOD 1919-1940

The Inter-war Years, 1918-1940
Navy
War Plans and the Shift to the Pacific

RELEVANT THEMES

Education
Military Education between the Wars, 1919-1940
Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940
Naval Construction

INSTALLATION HISTORY AND CONTEXT

The Naval Training Center, San Diego, occupies a 556.5-acre tract on the north shore of San Diego Bay. The facility is bounded on the east by the Marine Corps Recruit Depot, San Diego, and by Lindbergh Field, the international airport that serves the City of San Diego; on the south by San Diego Bay; on the west by Rosecrans Avenue; and on the north by Lytton Avenue.

American influence in the San Diego area began during the early nineteenth century, when American and British entrepreneurs established commercial ventures in southern California. California was acquired by the United States at the conclusion of the Mexican War, in 1848. From the 1880s on, the U. S. Navy maintained a continuous, if sporadic, presence in the San Diego area. The Navy established its first West Coast Recruit Training facility in 1913 at San Francisco, in response to commercial concerns in the Pacific rim and the rise of Japan as a naval power. However, San Diego area politicians and business leaders lobbied intensively to establish the key naval center for the Pacific Coast in San Diego. During World War I, a temporary naval recruit training facility was established in Balboa Park, and the present installation site was selected in 1919. The City of San Diego and the San Diego Chamber of Commerce jointly donated 277 acres along San Diego Bay, and Congress authorized the first construction appropriation in 1920.

The master plan and the landscaping for the present facility were designed by J. S. Morley, local superintendent of Balboa Park. The original buildings were designed by the Navy's Public Works Department, utilizing some of the same architects who had worked on the plans for the Naval Air Station at North Island. The influence of both Bertram G. Goodhue, architect for the major buildings at the Naval Air Station, North Island, and Irving Gill, a prominent International Style architect from San Diego, are evident in the sparsely ornamented "simplified Mission" style applied to the first set of buildings.

The initial phase of construction lasted from 1922 to 1924; it included twenty-two permanent buildings, officers' housing (presently Quarters A-D), and a small golf course. Original buildings included: twelve 2-tiered barracks (Buildings 2-5, 14-19, 25-26); a cooks' barracks and brig (Building 23); administrative buildings such as the regimental office (Building 12) and gate

entrance structures (Buildings 9, 10, 20, and 21); dispensary (Building 6), mess hall (Building 1), quartermaster store (Building 11), fire station (Building 8) and pump house (Building 22). When the facility was commissioned in 1923 as the Naval Training Station, a tent facility known as Camp Ingram also was built to house incoming recruits during their first three weeks of indoctrination into boot camp. In addition to the sixteen-week boot camp, the Preliminary Radio, Yeoman, Bugler and Band fleet schools were housed at the installation.

The second major phase of construction began during the 1930s, as the educational role of the Training Center expanded, and the number of recruits increased. Thirteen new training courses were added to the installation's curriculum between 1932 and 1938: Cook and Baker, Recruiting Training, Radio Operator, Stenographer, Officers' Steward and Cook, Electrical, Gyrocompass, Sound Motion Picture Technician, Aviation General Utility, Machinist's Mate, Artificers, Communication-Clerical, and Ordnance. To house new recruits more adequately, Camp Ingram was dismantled, and its function was taken over by Camp Lawrence, composed of barracks 27-29 and a new mess hall, Building 30.

The overall site plan of the 1930s expansion suggests that the original landscape scheme for the installation was to have been followed in laying out the new additions. However, the advent of World War II served as a catalyst for rapid expansion of the Training Center, and the original axial site plan was modified to accommodate the increased demands imposed by the war effort. Approximately one-third of the extant buildings and structures on the installation were constructed during World War II, including four new camps (Luce, Mahan, Decatur, and Farragut). In 1942, the facility reached its wartime peak of 40,000 personnel, including 25,000 recruits, and offered forty-one service training schools. Currently, the installation, known as the "Cradle of the Navy," comprises some 380 buildings. The facility graduates approximately 30,000 recruits per year, and also trains personnel of the Pacific Fleet in a variety of advanced technical courses.

The ca. 1940 historic cantonment of the Naval Training Center, San Diego, contains a total of thirty-four buildings and structures built between 1922 and 1940. The four officers' quarters on Rosecrans Street also may date from the initial phases of site development. Although these residences currently are under the jurisdiction of the Naval Public Works Center, San Diego, they also should be included within the cantonment's boundaries.

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PROPERTY TYPES

Administration
- -Administration Building
- -Fire Station
- -Gatehouses
- -Guardhouse/Brig
- -Information Building
- -Regimental Headquarters
- -Post Office and Quartermaster Store

Health Care
- -Dispensary
- -Cubicle Ward

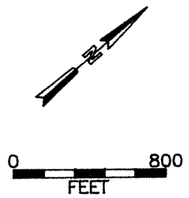
Industrial
- -Storage (General Installation)
  - -Post Office and Quartermaster Store
  - -Storehouse/general storage

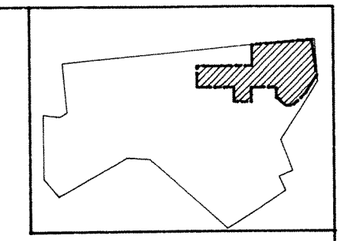
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Golf Course

Residential
- -Institutional Housing
  - -Barracks
  - -Cooks' Barracks
  - -Mess Hall
- -Family Housing
  - -Officer Housing

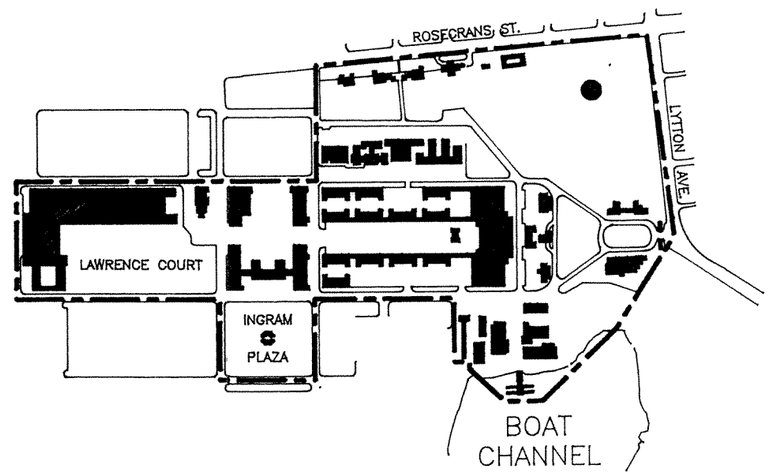
Transportation
- -Water-related
  - -Utility Dock/Small Craft

Landscape
- -Flag pole
- -Entry circle





NAVAL TRAINING CENTER
SAN DIEGO



TIME PERIOD 1767-1940

- The Military in the Early Republic and Antebellum Era, 1790-1860
  - Navy and Marine Corps
    - Naval Yards and Stations
- The Civil War and National Expansion, 1860-1890
  - Navy and Marine Corps
    - Results of the Civil War
    - Beginnings of Naval Modernization
- The Military and the Progressive Era, 1890-1918
  - Navy
    - Steel Ship Construction and Repair
    - Logistical Support to the Fleet
  - Marine Corps
    - Installations and Schools
- The Inter-war Years, 1918-1940
  - Navy

RELEVANT THEMES

- Education
  - Military Education during the Progressive Era and World War I, 1890-1918
- Planning and Architecture
  - Industrial Eclecticism: Ordnance Facilities and Shipyards, 1790-1875
    - Navy Yards
  - Consolidation and Modernization, 1875-1917
    - Navy Yards
  - World War I: Temporary and Permanent Construction
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Naval Construction
- Technology
  - Warships

INSTALLATION HISTORY AND CONTEXT

The Norfolk Naval Shipyard (NNSY) presently covers an 811-acre parcel located on the west bank of the Southern Branch of the Elizabeth River in Portsmouth, Virginia. The shipyard was founded in 1767 by Scottish immigrant Andrew Sprowle. The private shipyard, which Sprowle named Gosport, was located one-half mile south of the City of Portsmouth. Sprowle, a Loyalist, forfeited his title to Gosport to the Commonwealth of Virginia following the American War of Independence. Although Virginia held title to the land after the Revolution, the Gosport shipyard continued to operate as a private enterprise.

The need for mobilized national defenses was recognized by the close of the eighteenth century. In 1794, Congress established the Department of the Navy and authorized the

construction of six frigates at six different shipyards. One of the vessels, USS *Chesapeake*, was built at Gosport, Virginia.

Secretary of the Navy Benjamin Stoddart recognized that it would be cost effective for the Navy to purchase its own shipyards rather than rent space at privately owned facilities. Stoddart convinced Congress to fund the purchase of six existing shipyards, including the facility at Gosport. On June 15, 1801, title to the 15.25-acre shipyard was transferred from the Commonwealth of Virginia to the United States for $12,000.

Between 1803 and 1860, the naval yard grew slowly. Facilities constructed during the early nineteenth century included a spar shed, timber shed, river front wharves, warehouses, brick perimeter wall, brick superintendent's dwelling, warehouses, an office, marine barracks, brick storehouse, powder magazine, and smithery. In 1827, construction began on one of the Navy's first two masonry dry docks. In 1827, the Navy acquired additional acreage and expanded the shipyard by reclaiming parts of the river. The Board of Naval Commissioners developed a plan for the expansion of the yard, based on a facility survey conducted by Laommi Baldwin, a noted civil engineer supervising the dry dock construction. Two ship houses, office buildings located in the vicinity of the north wall, the commandant's house, and sections of the marine barracks were the only pre-1827 buildings retained in the shipyard expansion project. After 1836, the antebellum development of the shipyard progressed slowly.

Shortly after the bombardment of Ft. Sumter on April 12, 1861, the Commonwealth of Virginia seceded from the Union and claimed the Gosport Navy Yard. United States Secretary of War Gideon Welles dispatched a contingent of 100 Marines from Washington, D.C., to destroy the navy yard and retrieve the ships stationed there. The marines arrived as the commander of the Navy Yard, Charles McCauley, was boarding USS *Cumberland* in Hampton Roads, following the evacuation of the base. The marines landed at the yard, set charges to destroy the facilities, and burned the scuttled ships in the Elizabeth River.

Virginia troops occupied the Gosport Navy Yard on April 21, 1861, and found the yard badly damaged, but serviceable. The Confederates constructed the ironclad CSS *Virginia* in the dry dock from the remains of the USS *Merrimac*, one of the ships burned to the waterline during the Union evacuation. In March 1862, CSS *Virginia* engaged the iron-clad *U.S.S. Monitor* in nearby Hampton Roads, an event that marked the end of the sailing navy era. The Confederates, in turn, burned the yard when the Union troops advanced in 1862. The Union contingent that occupied the yard following the Confederate withdrawal found all of the buildings, with the exception of the officers quarters, substantially fire-damaged.

After the Civil War, the buildings at the navy yard substantially rebuilt; however, little military funding was available for construction following the Civil War. In addition, the introduction of iron-clad technology required new ship-construction processes and new support facilities. All of the existing Navy yards were designed for the construction and maintenance of a wooden fleet. In 1883, a committee convened by Congress to study the future development of naval on-shore facilities, reported that the naval yard at Norfolk had the capability to build and repair wooden ships of all sizes, but was unable to construct, or even drydock, the new iron-hulled *Chicago*-class vessels.

During the early 1880s, the United States moved to modernize its fleet. U.S. Navy Yard, Norfolk, launched its first steel-sheathed cruiser, USS *Raleigh*, in 1892. The launch corresponded with the International Columbian Naval Rendezvous in Hampton Roads, Virginia, celebrating the 400th anniversary of European awareness of the Americas. That same year, the keel was laid for USS *Texas*, a second-class battleship with a steel hull and powered exclusively by steam. USS *Texas* was launched in 1895.

The mission of the Navy Yard at Norfolk prior to the Spanish-American War was to build, supply, and maintain the United States fleet. After the war, the traditional role of naval yards expanded and altered by the demands of the steel navy. At Norfolk, land-based schools for sailors were established. Between 1903 and 1911, a third dry dock was constructed, and supporting structures were erected as the role of the yard continued to expand. In 1904, the commanding officer of the yard undertook to reorganize ship construction functions throughout the yard.

The United States entry into the First World War in 1917 increased the shipyard production. Other functions were relocated to the Naval Base Norfolk. World War I created a need for more industrial space; a new round of shipyard construction began. Structures built at the yard during the war period included a new power plant, machine shop, foundry, paint shop, oil storage tanks, pattern shop, forge shop, galvanizing plant, shipfitters building, several storage sheds, and other structures. These buildings are industrial in character and include examples of concrete frame with industrial sash windows and metal frames with corrugated metal walls.

With the cessation of hostilities, and the passage of the 1922 Washington Naval Treaty, labor requirements at the yard dropped below pre-war levels. Reduced production was accompanied by a cessation of physical plant expansion. In 1929, the name of the Navy Yard was changed to Norfolk Navy Yard, Portsmouth, Virginia. Construction of new vessels was resumed at the yard in 1933, as a result of the National Industrial Recovery Act (NIRA), a New Deal program. The NIRA called for the construction of nine destroyers at the Norfolk Navy Yard; five were completed by the time war again broke out in Europe in 1939.

With the conclusion of the World War II, Norfolk Naval Shipyard was again renamed and the labor force was downsized. On December 1, 1945, the Norfolk Navy Yard was renamed the Norfolk Naval Shipyard, Portsmouth, Virginia. During the Korean Conflict, the Norfolk Naval Shipyard served mainly as a repair station. During the post-conflict years, employment dropped slightly to 12,000 workers and remained constant through the decade as the facility overhauled many of the ships built during World War II. An electronics building was erected that gave the shipyard the ability to construct and service nuclear vessels.

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PROPERTY TYPES

Administration
- -Fire Station
- -Gatehouses and Sentry Boxes
- -Headquarters

Education
- -Classroom Buildings

Health Care
- -Dispensaries

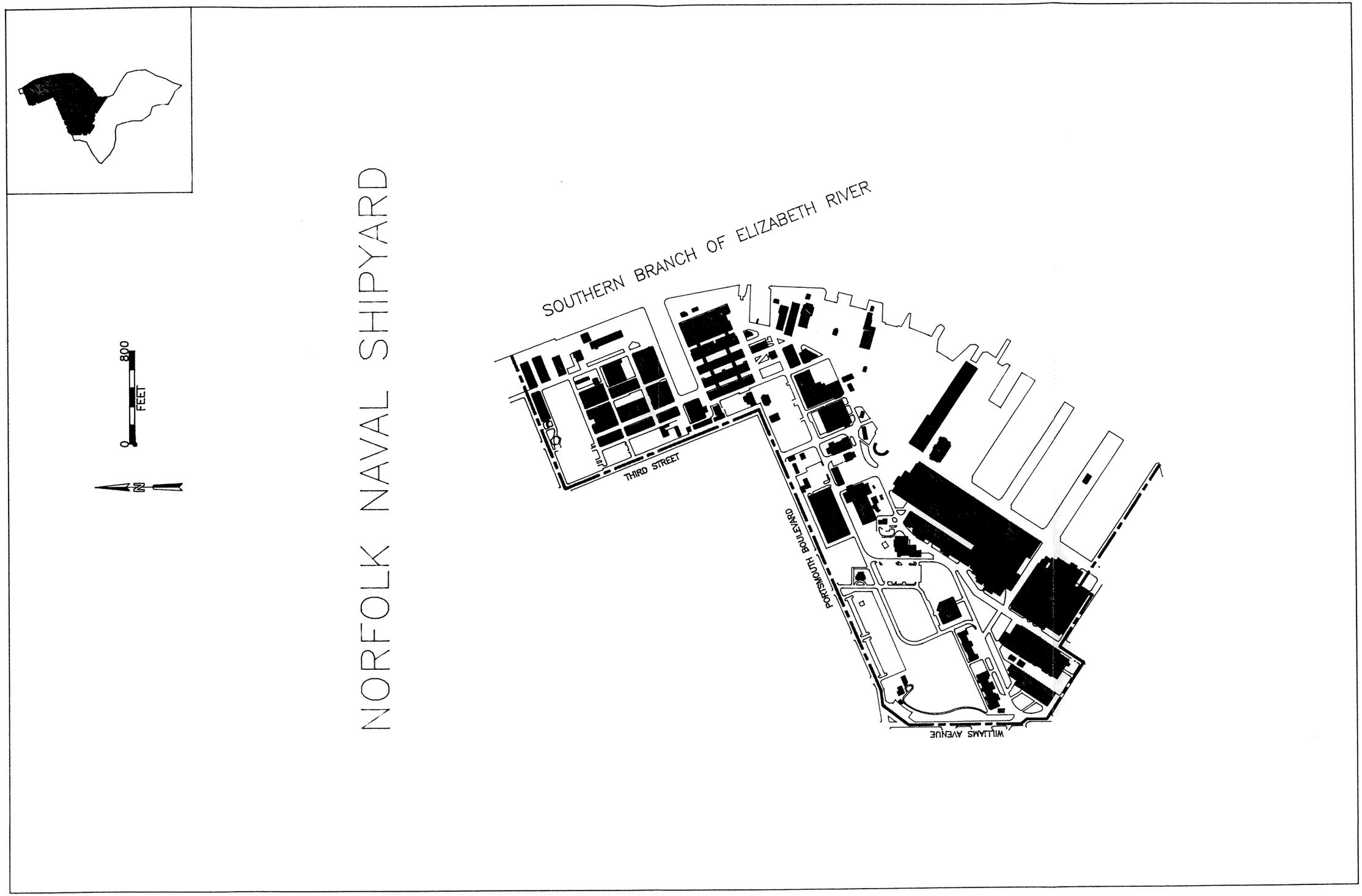
Industrial
- -Maintenance and Repair Shops
  - -Auto Shops
  - -Metal Repair Shops
- -Manufacturing
  - -Pipe Shop
  - -Steam Shop
  - -Sail Loft
  - -Sheetmetal Shop
  - -Shipfitters Shop
  - -Smithery
  - -Foundry
  - -Drydocks
    - -Pumphouse
  - -Wharves/Berths
- -Storage (General Installations)
  - -Storehouse

Infrastructure
- -Power Plant
- -Water and Sewage Systems

Recreation/Social/Cultural/Religion
- -Chapels
- -Clubs (Officer)
- -Exchanges

Residential
- -Institutional Housing
  - -Bachelor Officers Quarters
  - -Barracks-Marine
  - -Barracks
  - -Latrines
  - -Mess Halls
- -Family Housing
  - -Officer Housing
  - -Garages

Transportation
- -Vehicle-related
  - -Gas Stations
- -Water-related
  - -Boat Shop


NORFOLK NAVAL SHIPYARD
SOUTHERN BRANCH OF ELIZABETH RIVER
THIRD STREET
PORTSMOUTH BOULEVARD
WILLIAMS AVENUE
0
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FEET
N

TIME PERIOD 1874-1940

- The Civil War and National Expansion, 1860-1890
  - Navy and Marine Corps
    - Results of Civil War
    - Beginnings of Naval Modernization
- The Military and the Progressive Era, 1890-1918
  - Navy
    - Steel Ship Construction and Repair
    - Logistical Support to the Fleet
    - Officer Education and Recruit Training
    - New Technology: Submarines, Aircraft, and Radio
    - World War I Navy Construction
  - Marine Corps
    - Installations and Schools
    - World War I
- The Inter-War Years, 1918-1940
  - Navy
    - Submarines and Aviation

RELEVANT THEMES

- Education
  - Military Education during the Progressive Era and World War I, 1890 -1918
- Planning and Architecture
  - Industrial Eclecticism: Ordnance Facilities and Shipyards, 1790-1875
    - Navy Yards
  - Consolidation and Modernization, 1875-1917
    - Navy Yards
  - World War I: Temporary and Permanent Construction, 1917-1918
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Naval Construction
- Technology
  - Warships
  - Military Aircraft

INSTALLATION HISTORY AND CONTEXT

The Philadelphia Naval Shipyard is located on League Island in the Delaware River in Philadelphia, Pennsylvania. The original naval yard was established in 1801, making Philadelphia the site of one of the nation's oldest naval facilities. By the Civil War, the original yard was too small and, in 1862, the City of Philadelphia offered League Island to the Navy for the sum of one dollar. In 1868, the Navy finally accepted the title to League Island.

Appropriations for construction were authorized in 1871. By 1874, five buildings had been constructed (Quarters A, Buildings 1, 2, 3, and the western side of 4), and included quarters, storehouses, a boiler and engine house, and shop. The general plan of the yard grouped the industrial buildings along the waterfront at the south end of Broad Street, which provides the major north-south axis for the yard. The storehouses are of brick, with stone quoins at the corners. Building 3 has a clerestory. Housing was provided only for necessary personnel and set apart from the industrial yard; Quarters A, an Italianate Villa, was constructed for the chief engineer.

During the 1870s and 1880s, there was little additional construction at the yard. In 1889, the first dry dock was authorized for construction; it was a 500-foot timber drydock designed by Robert Peary, the great naval engineer and explorer. Other monies followed for new piers, retaining walls, electric lighting, macadam roadways, and a sewage system. In 1892, two sets of officers' quarters were constructed east of Broad Street, overlooking the Delaware River. These wood-frame quarters reflected the Queen Anne Revival style and featured many gables; they are now resheathed with siding.

The Spanish-American War and the emergence of the United States as a major sea power transformed all shore establishments to serve a great battleship fleet. The extant buildings at the Philadelphia Navy Yard illustrate the rapid expansion of naval shore facilities during the first decade of the twentieth century. As the shipyard expanded, more industrial buildings were sited on the western half of League Island. In 1903, the yard was designated as headquarters for the new Fourth Naval District. In 1908, it became an anchorage for the reserve fleet, and the back basin was expanded. In 1914, the yard was upgraded to a major battleship-construction plant, and the keel of the first naval ship was laid. Subsequent shipbuilding activities at the yard increased prior to World War I and continued throughout the duration of the war.

Buildings constructed during the first decade of the twentieth century illustrated several popular architectural styles. In 1901, the Headquarters (Building 6) was designed in the Neo-Classical (Beaux-Arts) style. This building was built of light gray stone. New shop buildings (Buildings 10, 11, 12, 14, 15, and 25), constructed in 1903, were designed in the Italian Renaissance Revival style. The brick buildings are characterized by their large arched windows, overhanging eaves, red tile roofs, and decorative circular medallions; they were originally used as storehouses, shops, and smitheries. In 1904, Buildings 17, 18, and 19 were completed as an industrial complex comprised of a foundry, boiler and blacksmith shop, and pattern shop. These buildings are red brick feature decorative large eagles, terra cotta cornices, and oval marble date medallions. Additional officers' housing was constructed. Built between 1900 and 1910, the new quarters were square, wood-frame buildings that probably reflected more of a Colonial Revival style; however, their original architectural details have been obscured by siding.

The Marines established a reservation at League Island in 1889. The first permanent barracks (Building 100) was constructed in 1901. Designed by Henry Ives Cobb, a noted architect from Chicago, this building is a blend of Romanesque and Neo-Classical elements; it is constructed of masonry-bearing dark red brick walls with heavy brownstone trim. In 1911, a second barracks (Building 101) was constructed. These two barracks, located side by side, front onto a large parade ground. Housing for Marine officers was constructed at the north end of the parade ground, along Broad Street. The parade ground became the birthplace of Marine aviation in 1911, when Lieutenant Alfred A. Cunningham (USMC) first experimented with an aircraft. He

was the first Marine trained as an aviator in 1912. Several Marine Corps schools were located at the Marine Reservation, including the Advance Base School (1911-1920), the Officer Basic School (1924-1942), and a communication school that functioned during World War II.

In 1917, the Naval Aircraft Factory was established at the eastern end of League Island. The factory was established to ensure that the Navy was supplied with airplanes in the event of war; it became the first government-owned airplane factory. Authorized in July 1917, factory construction began in August 1917; and, by April 1918, the first planes were ready for shipment to England. Buildings 59, 75, 76, 77, 78, 79, 87, and 133 were constructed as part of the factory. They were constructed of reinforced concrete pillars and slabs, infilled with red brick.

After World War I, the factory focused on the development and manufacture of experimental aircraft and aircraft accessories. In 1921, the Navy's engine laboratory was transferred to Philadelphia from Washington, D.C. In 1926, a large flying field was established east of the aircraft factory. It was named Mustin Field after Henry C. Mustin, who pioneered the launching of aircraft from moving warships in 1915. The field consisted of runways and two large hangars. In the 1930s, the factory expanded northward, a control tower and additional industrial buildings were constructed.

During World War II, work at the Naval Aircraft Factory included all aspects of aeronautics, and, in some cases, comprised the major effort of the Navy in these areas. In 1943, the Naval Aircraft Factory was redesignated the "Naval Air Material Center" and it became the "Naval Air Engineering Center" in 1963. In 1974, the Naval Air Engineering Center was relocated to the Naval Air Station, Lakehurst, New Jersey.

By the end of World War I, the Philadelphia Naval Shipyard had become a modern ship construction and repair yard. Facilities added to the complex during this time included a huge foundry (Building 20), new power plant (Building 23) as well as other shops, shipways, a new drydock (Drydock No. 3), and a 350-ton hammerhead crane. After the war, funds were slashed, but work continued at the yard in the dismantling, storage, and modernization of warships. In 1937, the yard laid the keel of its first battleship.

When war broke out in Europe in 1939, Philadelphia served as an overhaul and repair yard for reconditioned destroyers. After the United States entered the war in 1941, the Philadelphia Naval Shipyard grew dramatically. At its peak, it employed 45,000 workers; it constructed fifty -three ships, repaired 574, and converted another forty-one ships during the course of the war.

After World War II, the shipyard suffered from peace-time funding cutbacks. Few new ships have been constructed since World War II; today, the yard primarily repairs, overhauls, converts, or dismantles ships. After surviving several attempts to close the installation during the 1960s and 1970s, it is scheduled for closure during the 1990s.

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PROPERTY TYPES

Administration
- -Fire station
- -Gatehouse
- -Headquarters
- -Administration buildings
- -Offices

Industrial/Processing/Extraction
- -Manufacturing
  - -Navy Yard
    - -Industrial Shops
    - -Smithery
    - -Blacksmith Shop
    - -Boiler Shop
    - -Foundry

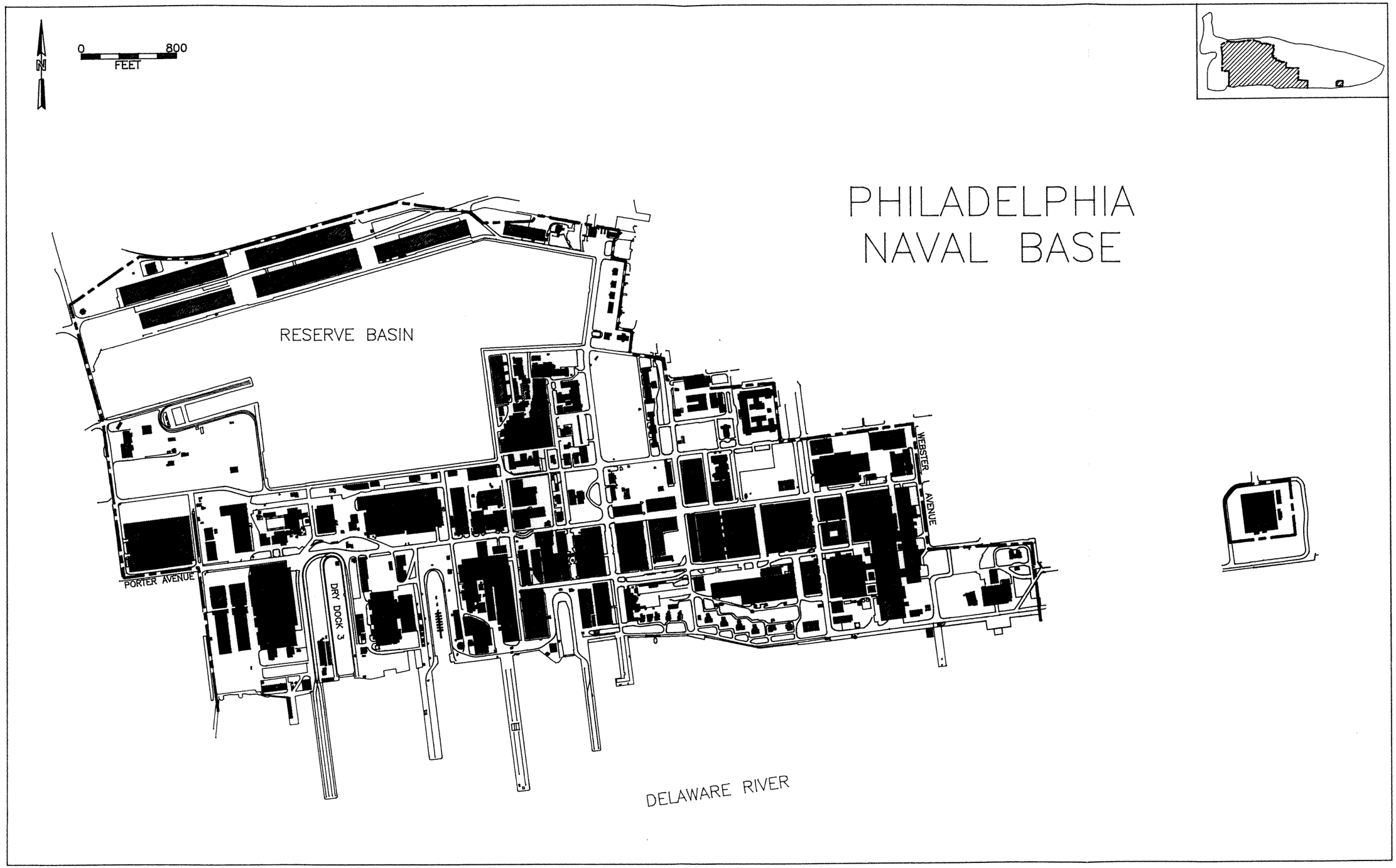
- -Pattern Shop
- -Drydock
- -Water Pump Building
- -Wharves
- -Cranes
- -Naval Air Factory
  - -Offices
  - -Industrial Shops
- -Storage (General Installation)
  - -Storehouses

Infrastructure
- -Power Plant
- -Boiler Plant

Landscape
- -Parade Ground

Residential
- -Institutional Housing
  - -Barracks-Marine
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officers' Quarters
  - -Marine Officers' Quarters
  - -Engineer's Quarters

Transportation
- -Air-related
  - -Control Tower
  - -Hangar
  - -Airfield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FEET
PHILADELPHIA
NAVAL BASE
RESERVE BASIN
WEBSTER AVENUE
PORTER AVENUE
DRY DOCK 3
DELAWARE RIVER

TIME PERIOD 1800-1940

- The Military in the Early Republic and Antebellum Era, 1790-1860
  - Navy and Marine Corps
    - Naval Yards and Stations
- The Civil War and National Expansion, 1860-1890
  - Navy and Marine Corps
    - Results of the Civil War
    - Beginnings of Naval Modernization
- The Military and the Progressive Era, 1890-1916
  - Navy
    - Steel Ship Construction and Repair
    - Logistical Support to the Fleet
    - New Technology: Submarines, Aircraft, and Radio
    - World War I Navy Construction
- The Inter-War Years, 1918-1940
  - Navy
    - Submarines and Aviation

RELEVANT THEMES

- Planning and Architecture
  - Industrial Eclecticism: Ordnance Facilities and Shipyards, 1790-1875
    - Navy Yards
  - Consolidation and Modernization, 1875-1917
    - Navy Yards
  - World War I: Temporary and Permanent Construction, 1917-1918
- Technology
  - Warships

INSTALLATION HISTORY AND CONTEXT

By the 1790s, pirate attacks on American commercial ships and fears of involvement in a war between France and England prompted Congress to take a defensive posture. The construction of six frigates was authorized in 1794 and the Navy Department was established in 1798. Secretary of the Navy Benjamin Stoddert, purchased the first government navy yards out of the funds appropriated for frigates. He argued that the construction of permanent, public yards was economical in the long term and in the public's interest. By 1802, the Navy had acquired six yards: Washington, D.C.; Boston; New York; Philadelphia; Norfolk; and, Portsmouth. Fernald's Island, at the mouth of the Piscataqua River between Maine and New Hampshire, had a long history of ship building; the British Royal Navy had built ships along the Piscataqua River as early as 1690.

The Portsmouth shipyard, commissioned in 1800, was under civilian command until the War of 1812 when all government navy yards were placed under the command of naval officers. Commodore Isaac Hull was the first naval officer to command the Portsmouth Navy Yard.

By 1814, the yard facilities consisted of approximately ten frame buildings, a bell house, a flag house and staff, and two timber basins and ways for the seventy-four gun ship, *Washington*. Quarters A, a Greek Revival, wood frame, commandant's quarters was constructed during this period; it is the oldest remaining structure on the yard.

Shipbuilding was the yard's primary function during the antebellum period. Between 1814 and 1864, the yard constructed ships of the line such as *Alabama*, the frigate *Santee*, the sloop *Saratoga*, and several light-draught, heavily armed vessels. Light-draught vessels were intended for use in ridding the West Indies of pirates.

Building construction also took place at the yard during this period. Marine barracks were built in 1820. In 1828, a brick lodging house, or Sailors' Ordinary, designed to house 200 sailors, was begun. This structure replaced the receiving ship where transient enlisted men had been housed. Greek Revival officers quarters (B, E, F, and K) were built. A one-story brick magazine, a brick shell house, and a two-story, Italianate, machine shop and steam engineering house also were constructed during this era and remain standing. A floating balance dry dock and marine railway, first conceived in 1826, were built in 1851.

During the Civil War, the primary task of the yard was to repair ships. After the war, the U.S. Navy undertook little new ship construction; in the face of the large war debt and absence of visible threat, Congress appropriated almost no money for shipyards. In 1875, Congress studied the feasibility of closing some shipyards, including Portsmouth. However, a board appointed to decide the fate of the yard recommended that Portsmouth not be abandoned, lest some future emergency require the abilities of the yard's trained workforce and the physical plant of the installation. Over time, the yard slowly took steps to improve its facilities, such as the addition of steam heating to quarters and gas light to officers quarters (1874) and the construction of a gas plant, street lighting system, steam lines, and water and sewer infrastructure.

During the 1880s and 1890s, the navy slowly began to modernize its shore facilities to service the new steel ships the Navy commissioned in the 1880s. In 1889, the shipyard received funds to make needed modernizations to its facilities. These improvements included reconstruction of the steam fitter's shop and futtock sawmill, expansion of the water supply, finishing a hydrant system, and new construction. During this phase of construction, a brick hospital (Building 99), machine shop (Building 45), and plate shop (Building 41) were built. Other examples of construction to accommodate the evolution of the modern navy were a stone dry dock built between 1900 and 1904 and a two-story, brick production shop/supply storehouse erected in 1902. Non-industrial structures were also built, including a three-story, brick, Colonial Revival administration building, a clapboard guest house, a brick, Colonial Revival dispensary and dental clinic, and a brick hospital.

In 1891, the Secretary of the Navy recommended the relocation of the Naval Prison at Boston to Portsmouth. In 1903, work began on the main building of the prison complex, a large

Gothic Revival stone structure. The U.S. Naval Prison at Portsmouth operated between 1908 and 1974.

In 1905, the Portsmouth Navy Yard was the site of the Russian - Japanese peace talks and the signing of the Treaty of Portsmouth, which officially ended the Russo-Japanese War.

Shortly before World War I began, submarines began to play an important role in naval warfare. The Portsmouth Navy Yard, unable to accommodate the large new iron-clad Navy vessels, was chosen to build the first submarine constructed by a government yard and directed by Navy engineers. The L-8 was begun in 1914 and completed in 1917. In 1923, the Secretary of the Navy officially designated the yard as a submarine yard. During World War I, the yard produced submarines as well as small 35 - 40 foot motorboats. Over fifty buildings were constructed between 1917 and 1919. New London Naval Station and Portsmouth Navy Yard became the most important installations connected with submarine technology during World War I; New London trained submariners and served as a submarine base; Portsmouth constructed submarines and experimented with their design.

During the 1920s and 1930s, the Portsmouth Navy Yard continued to overhaul, repair, and construct submarines, responsibilities that continued through the Second World War. In addition, the yard became one of the leaders in submarine design.

At the end of World War II, Portsmouth entered a new era of submarine design that relied on advances in hydrodynamics, sonics, and nucleonics. Portsmouth was the first government shipyard to build a nuclear-powered submarine. Submarine construction at Portsmouth ended in 1969. Since then, the yard has supported attack and fleet ballistic missile submarine overhauls and conversions.

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PROPERTY TYPES

Administration
- -Administration Buildings
- -Fire Station

Communications
- -Telephone Exchange/Administration

Health Care
- -Hospital (Naval)
- -Dispensary

Industrial
- -Maintenance and Repair Shops
  - -Maintenance Shop
- -Manufacturing
  - -Boat House and Carpenter Shop
  - -Head House/Boiler and Engine House
  - -Production Shops
- -Storage (Depots and Supply Centers)
  - -Armory
  - -Shell House
  - -Magazines
- -Storage (General Installation)
  - -Storehouses

Infrastructure
- -Water and Sewage Systems
  - -Sewage Pumping Station
  - -Elevated Water Storage Tank

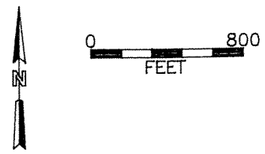
Prison

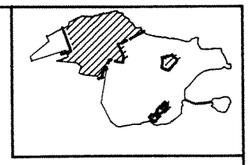
Recreation/Social/Cultural/Religion
- -Officer's Club

Research and Development
- -Material Test Laboratory

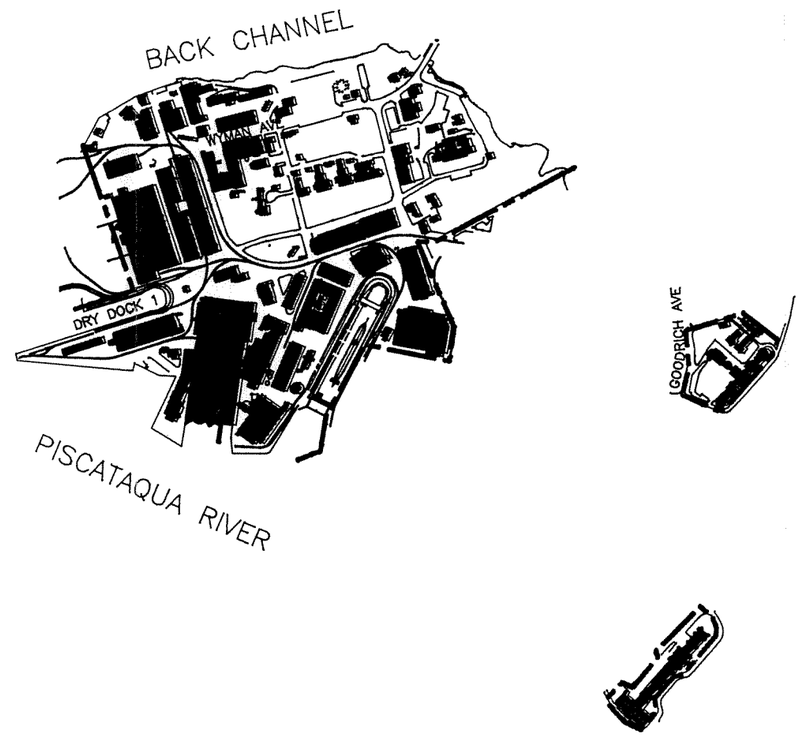
Residential
- -Institutional Housing
  - -Sailors' Ordinary/Barracks
  - -Marine Barracks
- -Family Housing
  - -Commandant's Quarters
  - -Guest House
  - -Officer Housing
  - -Garage

Transportation
- -Animal-Related
  - -Stables
  - -Cattle Stable





PORTSMOUTH NAVAL SHIPYARD



TIME PERIOD 1891-1940

- The Military and the Progressive Era, 1890-1918
  - Navy
    - Steel Ship Construction and Repair
    - Logistical Support to the Fleet
    - New Technology: Submarines, Aircraft, and Radio
    - World War I Navy Construction
  - Marine Corps
    - Installations and Schools
- The Inter-war Years, 1918-1940
  - Navy
    - War Plans and the Shift to the Pacific

RELEVANT THEMES

- Communication
  - Navy Wireless Communications during the Twentieth Century
- Planning and Architecture
  - Consolidation and Modernization, 1875-1917
    - Navy Yards
  - World War I: Temporary and Permanent Construction, 1917-1918
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Naval Construction
- Technology
  - Warships

INSTALLATION HISTORY AND CONTEXT

Puget Sound Naval Shipyard is situated at Point Turner on the western shore of Puget Sound, west of Bainbridge Island, Washington. The shipyard is bounded to the south and east by Sinclair Inlet, a branch of the sound; to the north by the City of Bremerton; and to the west by the town of Charleston.

Following the Civil War encounter between the ironclads USS *Monitor* and CSS *Virginia*, the navies of the world rapidly began to build steam-powered, iron-sheathed, and hulled fleets. However, the U.S. Navy did not immediately join this rush. Huge Civil War deficits, consequent budget cuts, the attitude of an aging naval officer corps who believed in the supremacy of sail, and a national preoccupation with settlement of the western territories, all impeded post-war naval modernization.

However, the settlement of the West enabled the United States to turn its attention outside its own borders during the 1880s. At this time, Europeans were establishing colonies throughout the world. To compete with the Europeans in their quest for power, the United States began to build a modern, steel-hulled navy and expand its naval industrial facilities. In 1877, naval lieutenant

Ambrose Wyckoff surveyed Puget Sound and began a one-man lobby effort to establish a new West Coast naval facility in Puget Sound. By 1889, Wyckoff acquired political allies. The committee that conducted the survey for the new shipyard site recommended the establishment of a new facility at Point Turner, in Puget Sound. Despite strong political opposition from the Representatives of Oregon and California, construction of Puget Sound Naval Station at Point Turner began in 1891.

Puget Sound Naval Station originally consisted of 190.25 acres. "The eastern and western ends were low basins with swamps extending far inland. In the center, two forested ridges, jutting out into the bay, rose 250 feet with a deep ravine between them." The original industrial area, hospital, and Marine Reservation were in the eastern portion of the property. The first dry dock in the industrial area was begun in December 1892. The Marine contingent assigned to protect the Puget Sound base arrived in 1896; they were housed in a reserve situated in the present-day industrial area.

During the Spanish-American War, the facility refitted USS *Oregon* for its famous voyage from the Pacific Ocean to the Atlantic Ocean via Cape Horn. At the time, Congress had been unwilling to fund a two ocean fleet. The work of the Puget Sound facility in preparing *Oregon* for battle in the Atlantic, illustrated that adequate shore facilities could maintain a relatively small fleet for the defense of both oceans. The voyage of *Oregon* also vindicated the "useless" Puget Sound facility; *Oregon* was re-fitted at Puget Sound because the dry dock located at Mare Island Navy Yard could not accommodate the battleship and the channel to the shipyard was too shallow. In 1901, former Assistant Secretary of the Navy and avid naval supporter, Theodore Roosevelt became President. Puget Sound Station shortly was designated a Navy Yard. Structures remaining from the Puget Sound Station period include the No. 1 dry dock, five officers' quarters, and Buildings 50 and 51.

Expansion at the new navy yard proceeded at a slow pace, because funding for the expansion of West Coast facilities remained meager. In 1901, the Surgeon General recommended the construction of a hospital building at the yard, since the nearest hospital was fifteen miles away by boat, in Seattle. The primary architectural styles chosen for buildings at the facility were the Georgian Revival and Neo-Classical; buildings constructed at the yard were built primarily of brick. In 1906, a wireless transmission station also was built on the highest point of the base. The radio facility at the navy yard was designated the operations center for all ship-to-shore and coastal radio transmissions in the Pacific Northwest.

During the first decade of the twentieth century, the Navy developed contingency war plans against Japan in the Pacific Ocean in the case of attack on the newly-acquired Philippines. Spurred by political crises with Japan between 1907 and 1913, expenditures on naval facilities on the West Coast increased. In 1911, the industrial area was expanded greatly and a second dry dock, to accommodate large battleships, was begun. By 1913, the Puget Sound Navy Yard encompassed 225.2 acres. The new land was gained through land acquisition and extension of the existing shoreline into Puget Sound. In 1913, a second dry dock was completed, and the Marine Reserve was relocated near the hospital facilities on the upland, western portion of the base. By 1916, the present land-use pattern at the base had developed. The industrial and supply facilities were located in the lowlands; primarily in the east. Support facilities occupied the western highlands.

Thirty-eight buildings survive from this period of the navy yard's development. These include: a gun shed, an office building, two fresh water towers, and twenty officers' quarters. Several of these buildings have been moved from their original sites, but have not been altered substantially.

Though the Puget Sound facility could not repair ships damaged in an Atlantic war in a timely manner, the yard's capabilities were expanded to include shipbuilding during World War I. The yard played no role in the preparation of combat ships, but it was engaged actively in the construction of transport vessels to replace those sunk in the Atlantic by German submarines. Personnel assigned to the yard rapidly increased after the declaration of war. This increase led to a housing shortage, which was alleviated through government-funded construction of apartments and homes in the City of Bremerton. Dry dock No. 3, intended for the construction of combat vessels, also was completed during this period.

At the end of World War I, Congressional hearings were held on the recommendations to expand Puget Sound Navy Yard. At the hearing it was noted that if World War I had taken place in the Pacific, rather than the Atlantic, the navy would have lacked the facilities necessary to maintain the fleet of heavy battleships. Funding for expansion of Puget Sound Navy Yard was approved. New parcels of land were purchased, and earth from the highlands was graded into the Sound to create more land for construction. New quarters were constructed in Officers Row.

In 1919, just as Congress decided to fund the creation of a Pacific naval fleet, American public opinion turned to demobilization and isolation. These attitudes resulted in a precipitous drop in funding for Puget Sound Navy Yard, and construction of a Pacific fleet was postponed. The Washington Naval Limitation Treaty of 1922 further curtailed funding. From 1922 to 1933, the only major buildings constructed at the Puget Sound facility were a new hospital, swimming pool, and theater. Dry Dock Number Two was extended to accommodate aircraft carriers.

During the Depression, the physical plant of the Puget Sound Navy Yard was expanded greatly, due to monies channeled into naval construction through New Deal programs. Dry docks four and five were constructed. Axis aggressions of 1940 spurred further naval spending. The construction of a two-ocean navy was begun, with a commensurate upgrade in shore facilities, including those at Bremerton. The Puget Sound Navy Yard served as the primary West Coast shipyard during World War II, and was integral to the war in the Pacific.

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PROPERTY TYPES

Administration
- -Administration Buildings
  - -General Office
  - -Engineer's Office

Communications
- -Radio Building

Health Care
- -Hospital (Naval)
- -Industrial Infirmary

Industrial
- -Manufacturing
  - -Foundry
  - -Gyro Shop
  - -Riggers and Paint Shop
  - -Cement Mixing Plant
  - -Electric Shop
  - -Forge Shop
  - -Industrial Shops
  - -Pattern Shop
  - -Pipe and Boiler Shop
  - -Dry Docks
  - -Cranes
  - -Piers
- -Storage (General Installation)
  - -Fuel Oil Tank
  - -Warehouse
  - -Ordnance Facilities

Infrastructure
- -Water and Sewage Systems
  - -Water Towers

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Swimming Pool Building
  - -Tennis Courts
- -Chapel

Residential
- -Institutional Housing
  - -Barracks-Marine Corps
  - -Barracks-Receiving
- -Family Housing
  - -Officers
  - -Officers-Marine Corps

TIME PERIOD 1845-1940

The Military in the Early Republic and Antebellum Era, 1790-1860
- Navy and Marine Corps
  - Naval Yards and Stations

The Civil War and National Expansion, 1860-1890
- Navy and Marine Corps
  - Changing Roles of Shore Installations

The Military and the Progressive Era, 1890-1918
- Navy
  - Officer Education and Recruit Training
- Marine Corps
  - Installations and Schools

The Inter-war Years, 1918-1940
- Navy

RELEVANT THEMES

Education
- Military Education during the Early Republic, 1790-1860
- Military Education during the Progressive Era and World War I, 1890 -1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Beaux Arts Architecture and Planning

INSTALLATION HISTORY AND CONTEXT

The U.S. Naval Academy is located in Annapolis, Maryland. Founded in 1845, the Academy has played an important role in the fields of naval education and military history. The school at Annapolis was the culmination of efforts to provide professional training and education for naval officers. Before the Academy's establishment, naval training was obtained by working on ships. By the time of the Spanish-American War, Academy graduates were positioned in the Navy's chief commands. Since then, the Academy's training program has produced top-ranking career naval officers that have guided the development and successes of the U.S. Navy. The Academy's grounds, buildings, and place names are replete with important historical connotations illustrating the history of the U.S. Navy.

The Academy was established, in buildings originally occupied by the Army, at Ft. Severn. The fledgling Academy occupied the fortification, barracks, and officers' quarters. None of the original buildings from Ft. Severn remain. The earliest extant buildings at the Academy are the Waiting Room (1876) and the Guardhouse (1881). Between 1892 and 1899, red-brick officers' quarters were constructed along Worden field. These red-brick structures were designed by O. Von Neurta (or Nerta), an architect from Washington, D.C.

In 1895, a Board of Visitors recommended that the educational and training facilities at the U.S. Naval Academy be improved. A Commission appointed by the Secretary of the Navy invited noted architect Ernest Flagg to design both a new plan for the installation and its academic buildings. Flagg's plan was submitted in 1896. In 1899, the Navy commissioned Flagg to rebuild the Academy. New construction commenced and continued into the first decade of the twentieth century.

Flagg's design for the new Academy is a prominent example of Beaux-Arts classicism following the Columbian Exhibition of 1893. Major elements of his plan include rigid axial symmetry, classically-inspired buildings, and impressive siting. Five major buildings define the plan. Bancroft Hall with its three-sided courtyard occupied the center of the plan; it served as the cadet barracks. Directly facing Bancroft Hall across a carefully-planned open square were located the primary educational facilities: Mahan, Maury, and Sampson Halls. The south side of the Academy is crowned by the Chapel. The main academic buildings were constructed of stone, in the French Renaissance/Beaux-Arts styles following the French classicism tradition of the nineteenth century. The Chapel, the Superintendent's Residence, and additional officers' housing, also designed by Flagg, were constructed of white brick.

Support buildings, including a hospital and a Marine barracks complex, also were constructed. The hospital complex was sited across Dorsey Creek. It also was designed by Ernest Flagg and constructed of white brick. The Marine barracks were constructed for the Marine Corps in 1903, and designed by Henry Ives Cobb. The Marines used this complex until 1913 when the barracks became a classroom for post-graduate education. The barracks and its accompanying officers' quarters were constructed of yellow/orange brick. The barracks has a squat center block/tower with thick round arches reminiscent of the Romanesque style of H.H. Richardson.

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PROPERTY TYPES

Administration
- -Headquarters
- -Gate house/Waiting rooms

Health care
- -Hospital
  - -Administration Buildings
  - -Wards
  - -Nurses' Quarters
  - -Officer Housing
  - -Support Facilities

Education
- -Classrooms
  - -Dahlgren Hall
  - -MacDonough Hall
  - -Sampson Hall
  - -Maury Hall
  - -Library-Mahan Hall

Industrial
- -Service Facilities
  - -Laundry

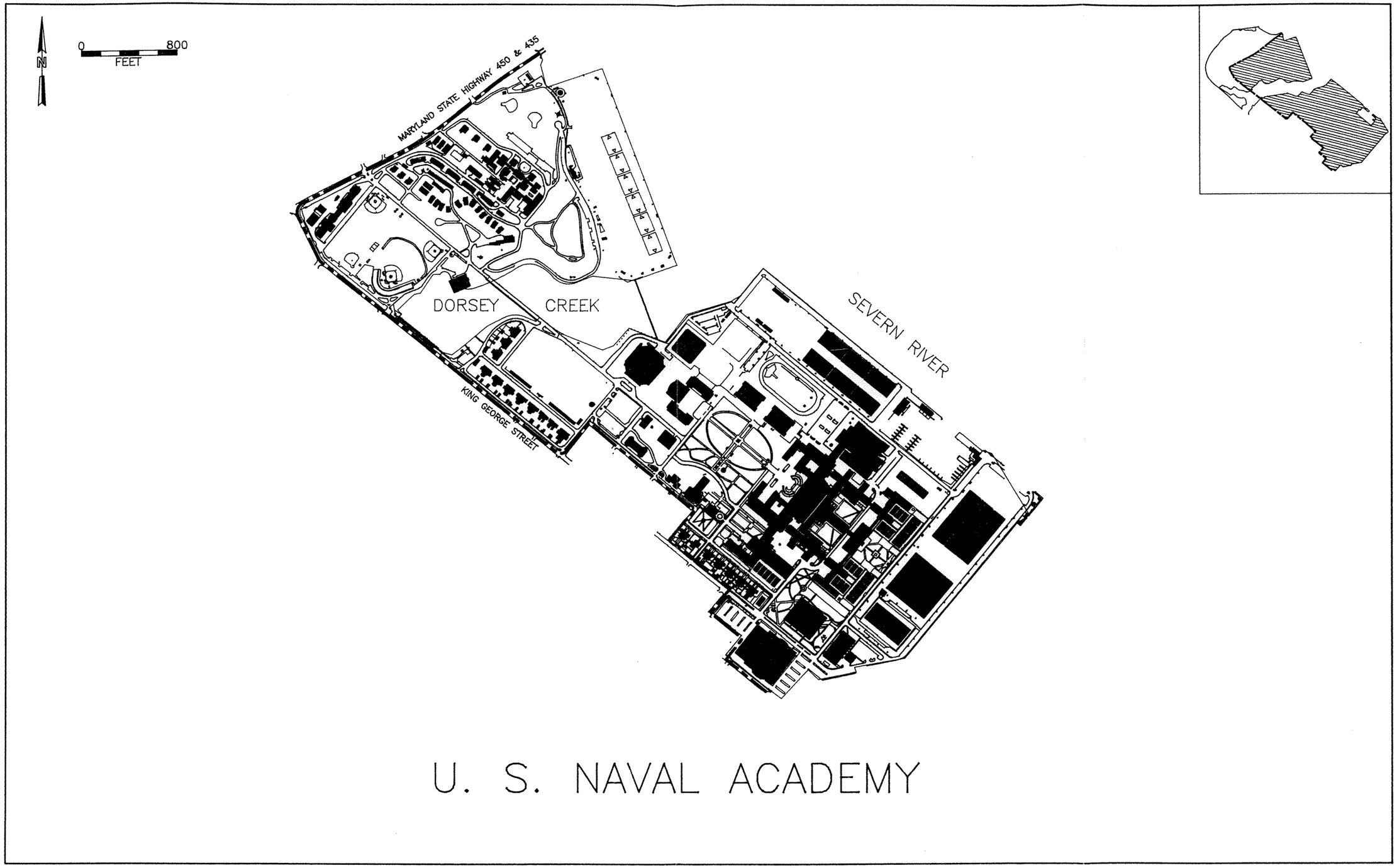
Infrastructure
- -Power Plant

Landscape
- -Open Square

Recreational/Social and Cultural
- -Athletic Facilities
  - -Gymnasium
- -Chapel
- -Clubs
  - -Officers' Club
  - -Student Center

Residential
- -Institutional Housing
  - -Bancroft Hall-Barracks
  - -Marine Barracks

-Family Housing
    -Superintendent's Quarters
    -Officer Housing
    -Officer Housing-Marine
    -Officer Housing-Medical
-Garages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FEET
MARYLAND STATE HIGHWAY 450 & 435
DORSEY CREEK
SEVERN RIVER
KING GEORGE STREET
U. S. NAVAL ACADEMY

TIME PERIOD 1893 - 1940

The Military in the Early Republic and Antebellum Era, 1790-1860
- Navy and Marine Corps
  - Naval Observatory

The Military and the Progressive Era, 1890-1918
- Navy
  - Logistical Support to the Fleet

The Inter-War Years, 1918-1940
- Navy

RELEVANT THEMES

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Beaux Arts Architecture and Planning

Transportation
- Military Contributions to Transportation Development

INSTALLATION HISTORY AND CONTEXT

Located in northwest Washington, D.C., approximately two miles from the U.S. Capitol, the U.S. Naval Observatory rests on a 927-acre parcel of land bounded by Massachusetts Avenue to the northeast, Observatory Circle to the northwest and southeast, and Wisconsin Avenue to the southwest. In the early years of the Republic, when American science was in its infancy, forward-looking individuals, including Thomas Jefferson and John Quincy Adams, called for a national observatory. However, Congress and the public remained unconvinced. During three different Congressional examinations of the topic, the legislative branch refused to authorize the establishment of an observatory; during the third round, Congress even specified that the act establishing the Coast Survey in 1832 did not authorize construction of a permanent astronomical observatory.

Events, nevertheless, conspired to force the establishment of the Naval Observatory. The U.S. Navy began using the chronometer, a navigational instrument essential for the determination of longitude at sea, in the 1820s. Few ships setting out to sea had any idea whether their chronometers were accurate. In 1830, a young naval Lieutenant, Louis M. Goldsborough, persuaded the Secretary of the Navy of the need for a depot to maintain naval instruments and charts and to verify the accuracy of instruments through celestial observation. Congress authorized the creation of the Depot of Charts and Instruments, under the jurisdiction of the U.S. Navy, in 1830. In 1854, the institution's name was changed officially to the United States Naval Observatory and Hydrographic Office.

From 1844 until 1893, the institution was located at 23rd and E Streets, N.W., Washington, DC. The facility's staff performed important work in oceanography and made new advances in astronomy. The office used information about winds, currents, whale sightings, and depth

soundings, obtained from naval and commercial vessels, to formulate Winds and Currents Chart Series to aid navigators. In addition, the office made important astronomical advancements such as Asaph Hall's discovery of two of the moons of Mars, using the observatory's new 26-inch refracting telescope. Notwithstanding these important achievements, the sites's mud flats and swamps and proximity to the Potomac River made the area too foggy to serve reliably for astronomical observations. For decades, annual reports by Naval Observatory superintendents complained of the site's adverse conditions and begged for Congressional approval to relocate the observatory. Finally, in 1880, Congress authorized the purchase of a new site, though construction did not begin until 1888.

The new location chosen for the Naval Observatory was the Barber Estate, at what would become 34th Street and Massachusetts Avenue, N.W. It was chosen for its rural setting and high elevation. The facility was laid out in a large circle, with the buildings containing the delicate instruments in the precise center to prevent any disturbance from vibrations caused by traffic on the perimeter. In 1894, Congress passed a Joint Resolution prohibiting construction of any highways within a 1,000 foot radius of the center of the clock room. This circle describes the current boundary of the observatory.

Between 1888 and 1893, the superintendent's residence and main observatory buildings at the facility were constructed based on plans drawn by Leon Dessez, a local architect, and Richard Morris Hunt, a nationally-prominent architect. Hunt was known for his high-style designs for prominent and wealthy clients. Dessez designed the Superintendent's Residence as a three-story, brick, Queen Anne house which was completed in 1893. Hunt's designs for the nine classical-style observatory buildings were built between 1888 and 1893. These structures include an administration building with telescope dome, transit telescope building, library (all three combined into the present Building 1), 26-inch telescope dome (Building 2), clock house (Building 3), east and west transit circle telescope structures (Buildings 6 and 7), dynamo house and coal vault (Building 16), and a prime vertical building (no longer standing).

Since 1893, the primary mission of the observatory has been to determine and disseminate the precise time and the fundamental celestial positions, motions, and constants that constitute the field of astrometry. The observatory started building an all-steel 6-inch transit circle telescope in 1897 to measure star positions. When finished, this device was the first instrument of its kind in the world. Telescopes such as the 26-inch unit installed in the late nineteenth century continue to be used today. The observatory also had additional responsibilities. The observatory was responsible for writing astronomical charts used for navigation and for maintaining standard time for use in navigation. In the early 1900s, the observatory clock provided the basis for radio time signals broadcast from radio stations in the U.S. The observatory later discovered that its early time keeping efforts were inaccurate, and in 1934 switched to a Photographic Zenith Tube (PZT) telescope (Building 78) a device that helped measure the Earth's rotation. Lastly, the observatory continued its mission of providing important astronomical information in book form for use in academic research and navigation. The observatory issued publications for use in research and nautical aviation respectively. The observatory played a vital role in various aspects of the country's navigational, military, scientific, and educational life.

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PROPERTY TYPES

Administration
- -Administration Building

Research and Development
- -Clock Room
- -Library
- -Research Building
- -Telescope Buildings
- -Dynamo House and Coal Vault

Residential
- -Superintendent's House

Transportation
- -Vehicle-Related
  - -Carriage House

TIME PERIOD 1800-1940

- The Military in the Early Republic and Antebellum Era, 1790-1860
  - Navy and Marine Corps
    - Naval Yards and Stations
- The Civil War and National Expansion, 1860-1890
  - Navy and Marine Corps
    - Results of the Civil War
    - Beginnings of Naval Modernization
    - Changing Roles of Shore Installations
- The Military and the Progressive Era, 1890-1918
  - Navy
    - Steel Ship Construction and Repair
    - Development of Naval Ordnance
    - World War I Navy Construction
- The Inter-War Years, 1918-1940
  - Navy

RELEVANT THEMES

- Communications
  - Navy Wireless Communications during the Twentieth Century
- Planning and Architecture
  - Industrial Eclecticism: Ordnance Facilities and Shipyards, 1790-1875
    - Navy Yards
  - Consolidation and Modernization, 1875-1917
    - Navy Yards
  - World War I: Temporary and Permanent Construction, 1917-1918
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
    - Naval Construction
- Technology
  - Weapons and Ammunition
  - Warships
  - Military Aircraft

INSTALLATION HISTORY AND CONTEXT

The Washington Navy Yard, located in southeast Washington, D.C., is bounded on the north by M Street, the east by 11th Street, the southeast and southwest by the Anacostia River, and the west by Pendleton and Isaac Hull Avenues. The yard currently houses U.S. Navy administrative activities and the Navy Museum.

By the 1790s, pirate attacks on American commercial ships and fears of involvement in a war between France and England prompted Congress to take a defensive posture. The construction of six frigates was authorized in 1794 and the Navy Department was established in

1798. Secretary of Navy Benjamin Stoddert, purchased the first government navy yards out of the funds appropriated for frigates. He argued that existing private shipyards were too small to build the frigates and that the construction of permanent, federally-owned yards was economical in the long term and in the public's interest. By 1802, the Navy had acquired six yards: Washington, D.C.; Boston; New York; Philadelphia; Norfolk, Virginia; and, Portsmouth, New Hampshire.

The Washington Navy Yard was the first of the six original yards. Stoddert selected the Washington site for several reasons: its apparent security from attack; availability of a good supply of timber and other required supplies; and proximity to the Navy Department for close supervision during construction.

Construction began in 1800 and progressed slowly; only two buildings were completed in the first year. The yard's existence seemed threatened when, at the end of hostilities with France, Congress cut Navy appropriations. The election of Thomas Jefferson, whose Republican Party viewed the Navy with suspicion, also seemed to signal decreased funding for navy construction. Nevertheless, Barbary pirate raids and renewed conflict between France and England persuaded Jefferson of the need for the yard. In 1803, he designated it as the Navy's home port and persuaded Benjamin Latrobe to develop the plans and building designs for the yard. The entrance gate is the only surviving structure from the original Latrobe plan.

Between 1805 to 1814, the yard was active in the construction of ships, manufacture of equipment, and supply of the entire Navy. Because of the yard's importance to the U.S. naval fleet, it became a target of British attack during the War of 1812. Captain Thomas Tingey, Commandant of the Yard, ordered the burning of the yard's buildings and vessels to prevent their capture by the British. Buildings that survived that fire were almost completely destroyed when the British captured the capital in 1814.

Though the yard was rebuilt, its functions changed as a result of the War of 1812. The war demonstrated that navy yards closer to the sea serviced the fleet more efficiently, therefore, the Washington Navy Yard did not reclaim its primary shipbuilding function after the war. Instead, it assumed manufacturing functions. In 1820, Navy officials began an ordnance laboratory to further the development of naval ordnance. In 1827, the Navy designated the yard as a production center for ship's equipment, including marine steam engines and anchors. Prior to the Civil War, it was the only yard capable of manufacturing marine steam engines and was the navy's primary source of anchors.

A residential area including the Commandant's quarters (Quarters A), officers' quarters, and two gardens dates from this period. The Commandant's Office (Building 1) and the marine railway also date from this reconstruction. The railway was the first of its type in the United States. Manufacturing facilities at the yard during this period included brick, copper-roofed buildings containing forges, furnaces, and a steam engine; these facilities are not extant.

Between 1847 and 1860, the yard developed ordnance-production facilities. A key figure in this development was Lt. John A. Dahlgren, who directed weapons development and ordnance production at the yard after his assignment there to oversee manufacture in 1847. He built an experimental battery that led to the development of a bottle-shaped cannon that was safer and of larger caliber but no heavier than its predecessors. Other innovations developed at the yard

during this period included methods for accurately predicting the destination of artillery over water. In 1854, the yard began manufacturing heavy guns.

A number of buildings remain from this mid nineteenth-century research, development, and manufacturing phase. Several brick, utilitarian industrial buildings (Buildings 22, 33, 36, and 109), constructed between 1855 and 1859, are extant. In 1859, a Marine Barracks (Building 58) was constructed to house the complement of marines guarding the yard.

During the Civil War, the yard served as a communication center between the Navy Department and the ships that blockaded Confederate ports. It also outfitted and rebuilt ships, an especially important function after Confederate capture of the Norfolk Navy Yard in 1861. In the decade after the war, the Navy received little funding for improvements due to the large war debt and absence of apparent naval threat.

The 1880s brought renewed interest in the Navy and the development of military technology. The joint Army/Navy Gun Foundry Board recommended the Washington Navy Yard as the site for the Navy's gun factory, and in 1886, the yard became the center for the production of naval ordnance. Sailors and officers received training in the use of the yard's newly produced guns at the yard. The yard's ordnance research and development activities were shifted to other installations, such as the Annapolis, Maryland proving ground and the new Indian Head, Maryland facility. A large group of officer's quarters was built to house the officers who supervised ordnance production. These quarters (Buildings C, D, E, F, G, H, K, L, M, N, O, and R) range from single-family to triplexes and exhibit a variety of architectural styles, executed in brick. One administration building (Building 57) and two industrial buildings (Buildings 40 and 41) also remain from this era.

By 1898, the Washington Navy Yard was one of the largest ordnance factories in the world. However, increases in the size of the Navy during and after the Spanish-American War expanded the Navy's ordnance needs beyond the capabilities of the Washington Navy Yard. The yard, therefore, turned more to research and development. The Navy constructed a model ship basin at the yard in 1896 to test ship designs. The first submarine design accepted for use by the U.S. Navy, *Holland*, was tested at the Washington Navy Yard in 1899.

During the last years of the nineteenth and first years of the twentieth centuries, the yard expanded to meet increasing research and development and ordnance production needs. Buildings constructed during this period include industrial structures (Buildings 76, 104, and 111), a two-story, brick officer's quarters (Building V), and administrative buildings (Buildings 44 and 108). The architecture from the period between 1880 and 1910 displays greater attention to current architectural styles and design.

U.S. entry into World War I caused vastly expanded activity, primarily ordnance production and training, at the Washington Navy Yard. Limited research and development activities during the war resulted in improvements in guns, gun sights, and fire control equipment. Construction in support of the war effort included a seaman's gunner's quarters (Building 166) and additions to Buildings 22 and 111.

After the end of the First World War, in 1918, and the subsequent naval treaties limiting the naval strength, activity at the yard decreased significantly. During the 1930s, despite several international peace treaties, world tensions began to rise and several nations began to re-arm their militaries. In the 1930's, President Franklin Roosevelt, a former assistant Secretary of the Navy, began to rebuild the Navy and activity at the yard increased again.

During World War II, the Washington Navy Yard served as coordinating agency for naval ordnance factories. It also continued to serve as a research center and as a ship repair center. After 1945, naval research demands outgrew the Washington Navy Yard and it became an administrative facility.

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PROPERTY TYPES

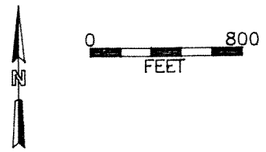
Administration
- -Administrative Building
- -Commandant's Office
- -Fire Station
- -Main Gate

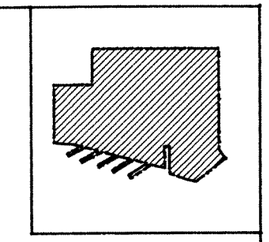
Industrial
- -Manufacturing
  - -Boiler House
  - -Breech Mechanism Shop
  - -Copper Rolling Mill
  - -Coppersmith Shop
  - -Foundry
  - -Forge Shop
  - -Gun Carriage Shops
  - -Gun Shops
  - -Work Shops
  - -Marine Railway
- -Storage
  - -Storehouses

Infrastructure
- -Boiler House

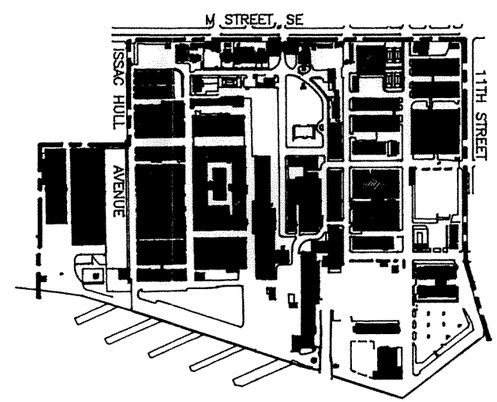
Research and Development
- -Model Basin

Residential
- -Institutional Housing
  - -Barracks-Marine
- -Family Housing
  - -Commandant's Quarters
  - -Officer Housing





WASHINGTON NAVY YARD



ANACOSTIA RIVER

TIME PERIOD 1800-1940

Military in the Early Republic and Antebellum Era, 1790-1860
- Navy and Marine Corps
  - Marine Corps

Civil War and National Expansion, 1860-1890
- Navy and Marine Corps
  - Marine Corps

Military and the Progressive Era, 1890-1918
- Marine Corps
  - Installations and Schools

Inter-war Years, 1918-1940
- Marine Corps

RELEVANT THEMES

Education
- Military Education in the Early Republic, 1790-1860
- Beginnings of Military Professionalism, 1860-1890
- Military Education during the Progressive Era and World War I, 1890 -1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Industrial Eclecticism: Ordnance Facilities and Shipyards, 1790-1875
  - Navy Yards
- Consolidation and Modernization, 1875-1917
  - Beaux Arts Architecture and Planning

INSTALLATION HISTORY AND CONTEXT

The U.S. Marine Corps Barracks is located near the Washington Navy Yard and occupies two city blocks between I and G Streets and 8th and 9th Streets in the southeast quadrant of Washington, D.C. The installation forms a large rectangle. The Commandant's House faces north onto G Street; the remaining buildings face inward onto the parade ground, located in the middle of the square.

The United States Marine Corps, founded in 1798, was originally headquartered in Philadelphia. In 1800, the command headquarters was transferred to Washington, D.C. The Marine Corps Barracks was established in 1801 and is the nation's oldest continuously-active Marine Corps installation. The barracks served as the headquarters of the Marine Corps and as a recruit and training facility from 1801 until 1901. In 1901, the Marine headquarters were transferred to office buildings in downtown Washington, D.C. The installation remained a recruit training facility until Marine Corps recruit training was consolidated at the Marine Corps Recruit Deport at Parris Island in 1915.

The commandant's house was constructed by 1806 and has been the residence of the commanding officer of the Marine Corps since that time. The building, designed by George Hadfield, is the oldest building on the installation. The brick Federal style building has been expanded and renovated several times over its long history. A mansard roof was added in 1891.

As the United States developed an expansionist foreign policy during the late nineteenth century, the Marine Corps became an increasingly valuable expeditionary force. Starting in the early twentieth century, the government authorized the construction and improvement of many Marine Corps barracks. The expansion grew out of a concerted effort during the 1890s to upgrade the living conditions of the Marines and to recognize their successes in the Spanish-American War. Between 1900 and 1910, several Marine Corps reservations were completed at large navy installations, including the Philadelphia Naval Shipyard and the U.S. Naval Academy at Annapolis.

The current barracks, band barracks, and officers' housing at the Marine Corps Barracks in Washington, D.C. were constructed between 1903 and 1907. The main barracks and the band barracks were designed by Hornblower and Marshall, a noted architectural firm in Washington, D.C. This was part of a pattern of hiring civilian architects for this expansion of Marine Corps facilities; the Navy also hired civilian architects to design the main buildings at the Marine Corps reservations at the Philadelphia Naval Shipyard and the U.S. Naval Academy.

The main barracks is a long, two-story building featuring three, three-story pavilions. The central pavilion is ornamented with a machicolated brick cornice and crenelated limestone parapet. Both the main barracks and the smaller band barracks feature an arched arcade along the length of the first level. The same architectural firm also may have designed the single and duplex officers' quarters. These buildings are square, brick buildings with simple detailing, reflecting early Colonial Revival influences.

Since 1901, the Barracks has served an increasingly ceremonial function. At present, the post consists of the Commandant's House, the headquarters of the Marine Band, and a contingent of Marines who perform ceremonial duties at the White House, Camp David, Arlington National Cemetery and various national monuments.

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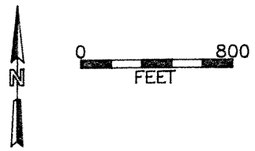
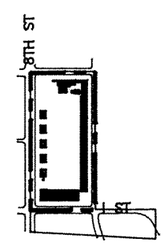
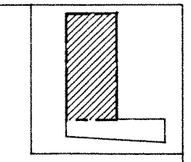
PROPERTY TYPES

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Enlisted Barracks
  - -Band Barracks

- Family Housing
    - Commanding Officer's Quarters
        - Storage Shed
    - Officer Housing
    - Garage







U.S. MARINE CORPS BARRACKS, WASHINGTON, D.C.

TIME PERIOD 1917-1940

- The Military and the Progressive Era, 1890-1918
  - Marine Corps
    - World War I
    - Installations and Schools
- The Inter-war Years, 1918-1940
  - Marine Corps
    - Amphibious Warfare and Marine Corps Aviation
    - Marine Corps Installations

RELEVANT THEMES

- Education
  - Military Education during the Progressive Era and War I, 1890-1918
  - Military Education between the Wars, 1919-1940
- Planning and Architecture
  - World War I: Temporary and Permanent Construction
  - Inter-war Years: Regional Architecture and Community Planning, 1919-1940
- Technology
  - Warships
  - Military Aircraft

INSTALLATION HISTORY AND CONTEXT

The history of the Marine Corps base at Quantico begins with the American entry into World War I. On April 6, 1917, the day that the United States entered the war, the Marine Corps Commandant appointed a board to find a temporary training camp and maneuver area near Washington D.C. The board selected Quantico, Virginia. The government leased the land and construction began almost immediately.

During World War I, Quantico was the location for advanced training of Marines. An officers' training school operated from Quantico. As officers and enlisted personnel completed their training, they were formed into regiments at Quantico, and departed for France from the installation. Like other World War I cantonments, Quantico consisted of hastily-constructed buildings, with personnel often sleeping in tents. Roads were so poor that residents referred to the base as "Slippery Mud."

Following the war, Quantico became a permanent installation. Its commander, Major General John Lejeune instituted a program of education for all Marines stationed at Quantico. Enlisted personnel received military training in the morning and vocational training in the afternoon. Officer training was divided into a Marine Officers Training Schools for lieutenants and captains. Later, the school initiated an advanced school for field-grade officers.

Lejeune's colorful successor, Smedly Butler, preserved the educational features, while adding his own, inimitable, style to the base. Marines staged well-publicized re-enactments of Civil War battles. Butler's fanatical devotion to football became the basis of many apocryphal stories. Marines from Quantico participated in American intervention in Nicaragua, Haiti, and China.

The installation also had an aviation complement, which contained thirteen officers and 157 enlisted men in 1920. Here, Marine aviators developed their techniques for coordinating air support with the ground component. Aviators who had received basic training from the Navy received specialized training at Quantico. A balloon school and a parachute school operated intermittently at Quantico during these years.

The base began to grow from the poorly constructed temporary buildings of World War I. New brick barracks appeared in the early 1930s. A new officers' club, Harry Lee Hall, was constructed in 1935. Other buildings including family quarters and a new hospital also appeared during that decade.

One of the most famous construction projects was construction of the football stadium, under the direction of Smedly Butler. A football zealot, Butler wanted a stadium, but he lacked the appropriations for construction of one. Consequently, he had the men of Quantico build one, with even senior officers performing manual labor. Allegedly, he directed the band to play whenever Marines were working after a bandsman told Butler that the labor might injure his hands.

As the United States entered the 1930s, the attention of Marine Corps leadership turned towards a potential war with Japan. Senior Marine officers recognized that a war in the Pacific would require the seizure of island bases. Recognizing that the United States lacked both doctrine and equipment for a successful amphibious assault against a fortified position, they turned their attention to overcoming these obstacles. In December 1933 the Navy Department created the Fleet Marine Force, to serve as the basis of its amphibious assault force. Until its transfer to San Diego in 1935, the Fleet Marine force was based at Quantico.

Marines at Quantico contributed to the development of amphibious tactics by writing the first doctrine on amphibious assaults, which they called the *Tentative Manual*. They also appointed a board to study assault boats. Taking their design from a Louisiana flatboat, the Marines developed the series of landing crafts and landing ships that were used in World War II. Throughout the 1930s Marines practiced amphibious assaults along the banks of the Potomac River. Marine aviators studied the special problems of air support to Marines. Indeed, the historian Allan Millet has asserted that the Marine Corps made its most important contribution to military history during the interwar years, as its officers laid the foundations for the amphibious tactics of World War II. The Marines at Quantico contributed immeasurably to this success.

Today Quantico is the home of the Marine Development and Education Command. It continues the tradition of teaching officers and enlisted personnel their duties as Marines.

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PROPERTY TYPES

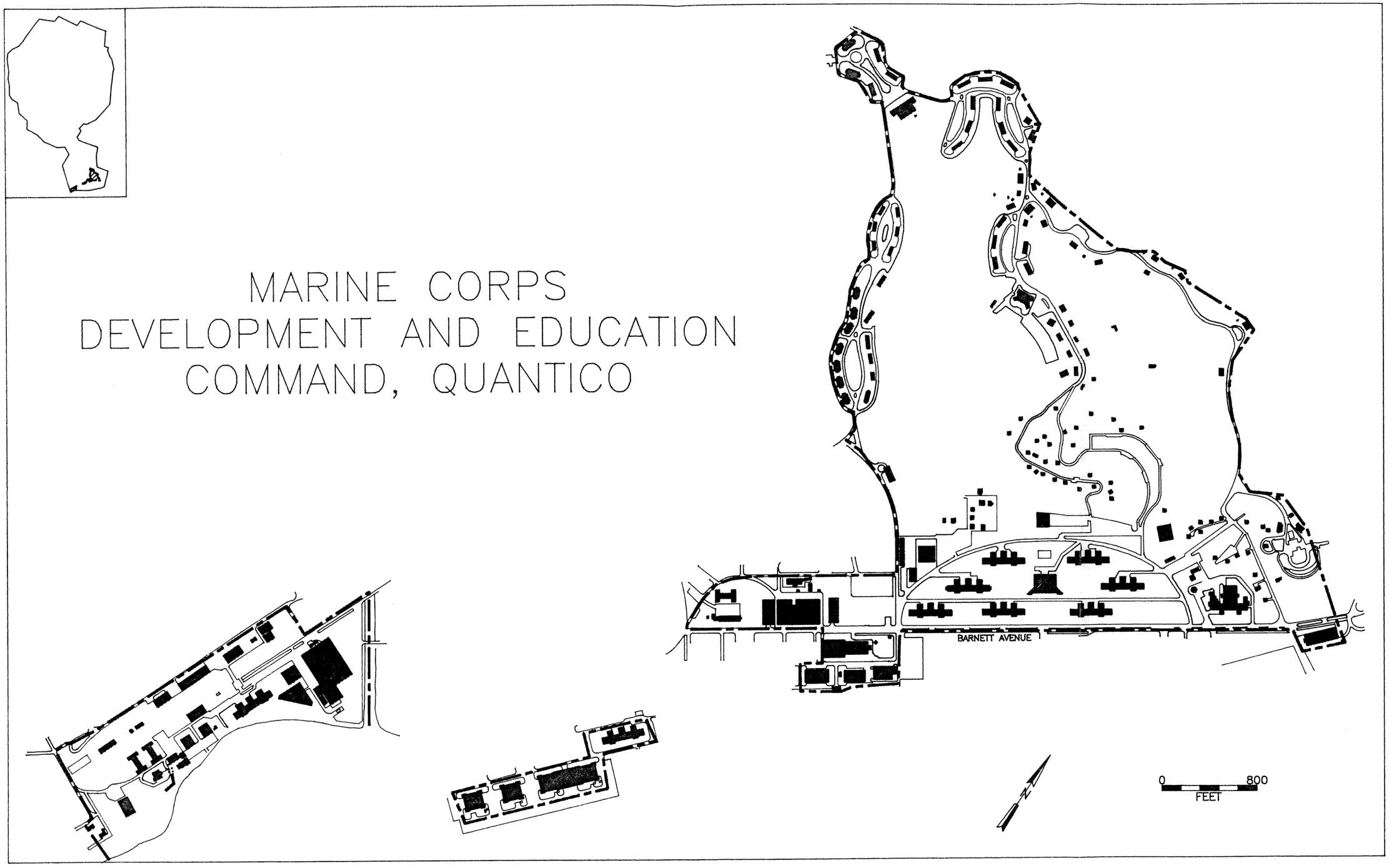
Administration
- -Brig
- -Headquarters-Post
- -Headquarters-Battalion
- -Office Buildings

Education
- -Classroom Buildings

Recreation/Social/Cultural/Religion
- -Club-Officers'

Residential
- -Institutional Housing
  - -Barracks
  - -Mess Hall
  - -Latrine
- -Family Housing
  - -Commanding General's Quarters
  - -Multiple-Family Officer Housing
  - -Married Enlisted Housing
  - -Officer Housing

Transportation
- -Air-related
  - -Hangars-Airplane
  - -Hangars-Seaplane
  - -Maintenance Hangars
  - -Airfield


MARINE CORPS
DEVELOPMENT AND EDUCATION
COMMAND, QUANTICO
BARNETT AVENUE
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800
FEET

TIME PERIOD 1861-1940

- The Civil War and National Expansion, 1860-1890
  - Navy and Marine Corps
    - Results of the Civil War
    - Beginnings of Naval Modernization
- The Military and the Progressive Era, 1890-1918
  - Marine Corps
    - Installations and Schools
    - World War I
- The Inter-war Years, 1918-1940
  - Marine Corps
    - Amphibious Warfare and Marine Corps Aviation
    - Marine Corps Installations

RELEVANT THEMES

- Education
  - Military Education during the Progressive Era and World War I, 1890 -1918
  - Military Education between the Wars, 1919-1940
- Planning and Architecture
  - Industrial Eclecticism, 1790-1875
    - Navy Yards
  - World War I: Temporary and Permanent Construction, 1917-1918

INSTALLATION HISTORY AND CONTEXT

The Navy Department's interest in the region surrounding Parris Island began in 1861 when a naval expedition captured the Sea Islands surrounding Port Royal, South Carolina. The location proved to be a convenient base for blockade operations against Confederate ports; it remained under Navy control for the remainder of the Civil War. After the war the Navy continued to use Port Royal as a rendezvous point for its operations in the Atlantic.

In 1882, the Navy acquired a tract of land on Parris Island to operate as a coaling station. Shortly afterwards it built a warehouse, wharf, and associated buildings. In 1891, the Navy Department decided to construct what would become the largest dry dock in the Navy, at that time, at its Port Royal Naval Station. The station proved its value during the Spanish-American War and received appropriations for new buildings. In 1901, though, the Navy shifted its operations to the newly-created Charleston Navy Yard, and left Port Royal to languish.

For the next fourteen years, the station remained largely inactive. At times it had only a small Marine Corps guard to protect the government property. From 1908 to 1910 the Marine Corps tried to establish an officers' school and a recruit depot on the island, but these efforts

faltered. Then, in 1910, the Secretary of the Navy determined to use the facility for a disciplinary barracks for the rehabilitation of sailors convicted of minor offenses.

With the approach of World War I, Marine Corps leaders foresaw that the strength of the Corps could multiply, thereby creating a need for a new training facility. In October 1915, the installation officially became a recruit depot, designated as the Marine Barracks, Port Royal. Once the United States entered World War I, the depot suddenly had over 46,000 new recruits. To accommodate the sudden influx, the Navy Department acquired more land and constructed temporary buildings, including an infirmary and power plant. At the close of the war, the station had 631 temporary and thirteen brick buildings; many of the new recruits were sheltered in tents. The installation lacked an adequate supply of fresh water, and it was limited to drinking and cooking. In 1917 the name officially changed to Paris Island, and two years later a second r was added to the name to make it Parris Island.

During World War I, the recruit depot received a reputation for extremely difficult training. New recruits were drilled constantly by the all-powerful Drill Instructors (DIs). When they were not training, recruits labored on roads or other projects, often scooping oyster shells with their hands. Their already arduous life was aggravated by the still-primitive living conditions. Among the graduates of Parris Island was the future Major General Melvin Krulewitch, who recalled that the "Foreign Legion and other military units couldn't compare to the early Marine Corps training that we had there."

After the war, basic training in much smaller numbers continued at Parris Island. During the mid-1920s training averaged about 3,000 recruits per year; but the number fell steadily. Slightly more than 1,800 recruits trained at Parris Island in 1938. With depot population on the decline and overall defense appropriations limited, the installation received funding for few physical improvements during these years. New buildings included a new exchange building, and new quarters. A causeway and bridge constructed during this period connected Parris Island to the mainland. The installation was decorated with several monuments, including "Iron Mike," a tribute to the Marines of World War I. An airfield, Page Field, appeared in 1919. During the interwar years it received improvements, including a metal hangar. Land-based airplanes, seaplanes, and lighter-than-air craft all used Parris Island in the inter-war years.

The Second World War brought an even greater expansion of the Marine Corps than had the First World War. With over 46,000 recruits trained at Parris Island during the war, it expanded through a program of temporary construction. Most buildings followed Navy Department temporary plans, including "H-type" barracks. Following the war, Parris Island remained a recruit center, and continued the tradition of providing arduous training to new Marines.

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PROPERTY TYPES

Administration
- -Brig

Health Care
- -Infirmary

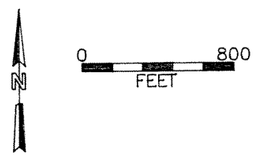
Industrial
- -Manufacturing
  - -Shops
  - -Dry Dock
- -Storage (General Installations)
  - -Warehouses

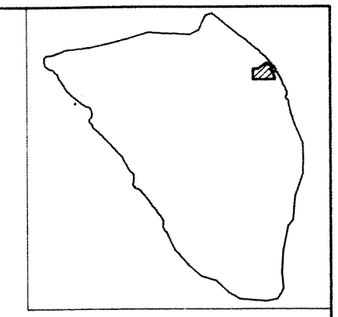
Infrastructure
- -Power Plant

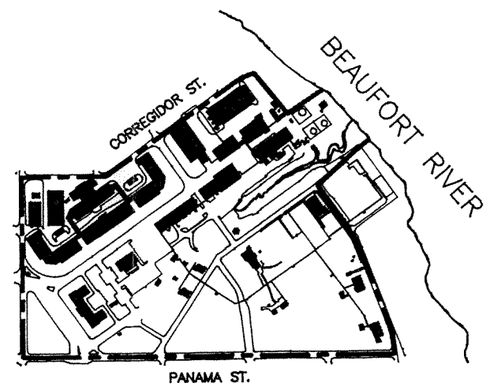
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Playing Field
- -Assembly Hall/Theater-Lyceum
- -Club (Officers)
- -Gazebo/Bandstand

Residential
- -Institutional Housing
  - -Barracks
  - -Mess Halls
- -Family Housing
  - -Officer Housing

Transportation
- -Air-related
  - -Seaplane Ramp
  - -Hangars
  - -Support Buildings







MARINE CORPS RECRUIT DEPOT, PARRIS ISLAND

TIME PERIOD 1919-1940

The Inter-War Years, 1918-1940
- Navy
  - War Plans and the Shift to the Pacific
- Marine Corps
  - Marine Corps Installations

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890 -1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
- Naval Construction

INSTALLATION HISTORY AND CONTEXT

The Marine Corps Recruit Depot, San Diego, California, was the fourth major military installation to be established in the San Diego area during the first quarter of the twentieth century. The present facility occupies a 700+ acre site on the north shore of San Diego Bay; it is bounded by Lindbergh Field to the south, the City of San Diego on the east, the Pacific Coast Highway on the north, and the Naval Training Center to the west.

The establishment of these military facilities (Naval Air Station, North Island; Naval Training Center; Naval Communications Center, Chollas Heights; and the Marine Corps Recruit Depot) in San Diego reflected the United States' growing involvement in international affairs at the turn of the century. During the late nineteenth century, Germany, Japan, and Russia began to establish spheres of influence in the Pacific and the Far East. Nationalist movements and unstable governments in Central America and the Caribbean also threatened Western Hemisphere security. The growing commercial community in the United States demanded protection for its international investments. These trends prompted the United States to expand the precepts of the Monroe Doctrine, and, in the Far East, to enunciate the Open Door Policy. The United States acquired territory in Hawaii, the Philippines, the Panama Canal, and the Virgin Islands during this period, and it repeatedly intervened militarily in Mexico and Central America.

The role of the Marine Corps, still under the control of the Navy Department, was to respond quickly when international crises threatened in these areas. Because so many American interests were located in the Pacific, Congress authorized the establishment of training and fleet support facilities on the West Coast. The City of San Diego soon became the premier West Coast location for Navy and Marine Corps recruit training. Due to its favorable location, its spacious protected harbor, the lobbying efforts Congressman William Kettner, and its equally active business community, San Diego eventually replaced Mare Island as the largest naval facility complex on the West Coast.

The Marine Corps presence at San Diego had been established as early as 1911, when a detachment briefly occupied Camp Howard on North Island. A model Marine Corps encampment also was set up at the Panama-California Exposition in Balboa Park in 1914. Development of the Recruit Depot site was expedited through the efforts of Major-Colonel Joseph Pendleton, commander of the Fourth Marine Corps Regiment. The United States purchased 232 acres of the Bay's shoreline, known as "Dutch Flats," and the City of San Diego donated approximately 500 acres of adjacent submerged tidelands. The San Diego facility served the same function as Quantico Marine Base in Virginia; it was to be the "premier military location in the southwestern United States." The base originally was designed to house the Marines' Sea School and the 4th Marine Regiment.

The Navy's Bureau of Yards and Docks retained Bertram G. Goodhue, well known for his adaptations of Spanish Colonial Revival style, as consulting architect for the project. His design philosophy influenced the landscape plan and building designs for all the major naval installations built in the San Diego area during this period. The influence of San Diego minimalist architect Irving Gill also can be discerned in the absence of the elaborate Churriguersque ornamentation that had characterized Goodhue's earlier Spanish Colonial Revival buildings.

The initial phase of site development, which was completed in 1926 by the Dawson Construction Company of Washington, D. C., concentrated on the erection of basic buildings. These included large barracks structures with kitchen and dormitory space; a medical dispensary; post exchange; shooting gallery/artillery gun shed; hobby shop; administration building; power house/bakery/cobbler/laundry building; storehouses; and officers' housing. Buildings were composed of reinforced concrete and hollow tile walls, and the exteriors were stuccoed. The barracks were arranged in a U-shaped configuration around a massive parade ground, and had connecting arcades.

Between 1925 and 1933, the number of Marines occupying the facility at San Diego fluctuated widely. At times, there were barely enough personnel on base to fill a single barracks. However, when foreign policy difficulties arose, the resulting increase in the number of recruits strained the facility to its limits. In 1933, the Marine Corps was reorganized as an independent advanced mobile offensive force. The training headquarters for the Corps was moved from Quantico, Virginia, to San Diego at this time. The stresses created by this move led to a small, hasty building episode during the late 1930s. While some attempt was made to maintain Goodhue's original design concepts, new architectural styles were applied to the design of two major buildings (30 and 31). This construction boom continued, using Public Works Administration personnel to expedite installation development during the first two years of World War II.

Buildings at the installation planned or constructed during this period included numerous temporary wood frame and corrugated metal warehouses and barracks; an officers' club; an administrative headquarters; a gymnasium (later converted to a theater); and a swimming pool. Their initial designs date from the period under consideration in this survey.

During World War II, continued crowding at the facility necessitated the shift of some portions of training to outlying camps established north of San Diego. In addition to the traditional Sea School, three new training courses were initiated: Signal School, Drill Instructors' School, and

Motor Transport School. Camps Matthews and Elliott (Holcomb) were located approximately 10 miles north of the city, to accommodate personnel overflow. Camp Pendleton, located at Oceanside on the former Ranchos Santa Margarita y Las Flores tract, was acquired in 1942. During the later Korean and Vietnam conflicts, all Marine Corps installations in Southern California, including the Recruit Depot, San Diego, again were expanded substantially.

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PROPERTY TYPES

Administration
- -Gates/Gate house
- -Headquarters-Post
- -Headquarters-Battalion
- -Offices

Education
- -Drill Instructors' School
- -Academic Instruction Building

Health Care
- -Dispensary

Industrial
- -Service Facility
  - -Power Plant/Bakery/Laundry Building

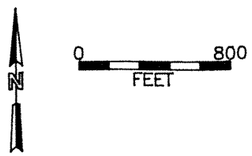
- -Storage
  - -Quartermaster Storehouse
  - -General Storage Warehouses
  - -Vegetable Storage Shed

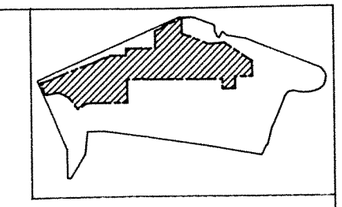
Infrastructure
- -Power Plant/Bakery/Laundry Building

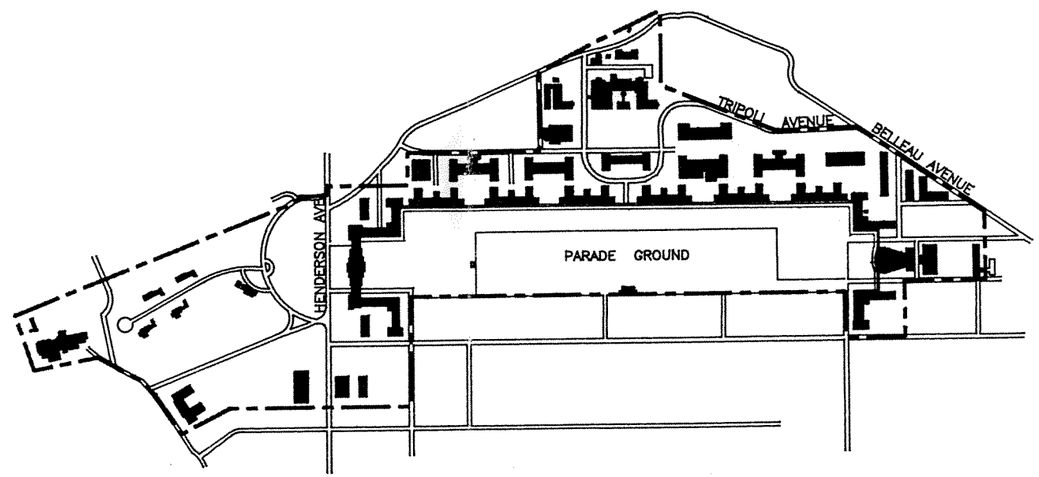
Landscape
- -Arcade
- -Parade ground
- -Flag Pole

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Shooting Gallery
  - -Hobby Shop
  - -Swimming Pool
  - -Tennis Courts
- -Club (Officers')
- -Exchange

Residential
- -Institutional Housing
  - -Barracks with Mess Halls
  - -Receiving Barracks
  - -Mess Hall
- -Family Housing
  - -Commander's Quarters
  - -Officer Housing
  - -Garages







MARINE CORPS RECRUIT DEPOT
SAN DIEGO

TIME PERIOD 1926-1939

The Inter-war Years, 1918-1940
Army Air Corps
Towards a Separate Air Force
New Construction of Air Corps Installations

RELEVANT THEMES

Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940
Army Construction

INSTALLATION HISTORY AND CONTEXT

Barksdale Air Force Base is located near Shreveport, Louisiana. It was founded as part of a five-year expansion of the aviation program approved by the U.S. Congress in 1926 and constructed as part of the Army nationwide construction program also enacted in 1926. The installation contained a flying field and bombing and machine gun range to support the 3rd Attack Wing, a tactical arm of the Air Corps that protected U.S. borders against aggression by air or sea and developed air attack warfare techniques. The 3rd Attack Group consisted of one wing headquarters, one pursuit group, and one attack group. The group was selected to develop the tactical and aerial support techniques to employ air attack warfare effectively.

In 1930, the citizens of Shreveport, after many months of lobbying and fund raising, donated the land for Barksdale air field to the U.S. Government. Construction of the new flying field progressed rapidly; in 1933, it was opened officially. The plan of Barksdale resembles an isosceles triangular. The central axis is defined by a boulevard which runs from the gate to the flight line, and links the wing headquarters and the group headquarters. The flightline, comprised of six airplane hangars, forms the base of the triangle. Behind the airplane hangars are the service facilities, barracks, and community support facilities. Family housing forms the two sides of the triangle, with officer housing on one side and non-commissioned officer housing on the other side. This plan first was used in constructing March Air Force Base, and it was used in only a few instances during construction of airfields in the 1930s.

The architectural style chosen for all the buildings at Barksdale was French Colonial Revival to honor the French heritage of Louisiana. This style was applied to standardized plans developed by the Quartermaster Department for construction projects during the 1930s. The French Colonial Revival style was not widely used; French Colonial Revival buildings have been identified in the officer housing areas at Maxwell Air Force Base, and at the Ft. Benning, Georgia, bachelor officer quarters.

At the time of its completion, Barksdale was considered to be the largest air field operated by the Army Air Corps. In 1937, Barksdale was the site where air combat wings concentrated on developing effective training methods for pursuit and attack tactics. Between 1937 and 1940, the

installation was the site of several important maneuvers. During World War II, Barksdale became the site of specialized flying schools. In 1946, it was assigned to the Strategic Air Command.

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PROPERTY TYPES

Administration
- -Fire Station/Guardhouse
- -Gatehouse
- -Headquarters
  - -Group Headquarters
  - -Installation Headquarters Building

Communication
- -Radio Building

Health Care
- -Hospital
  - -Barracks/Nurses' Quarters
  - -Support Facilities
    - -Power Plant
    - -Mess

Industrial
- -Storage (General Installations)
  - -Storage Building
  - -Warehouse/Commissary

Infrastructure
- -Water and Sewage Systems
  - -Water tower
  - -Utility Shops

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Gymnasium
  - -Golf Facilities
- -Chapel
- -Clubs
  - -Officers' Club
  - -Enlisted Men's Club
- -Exchange

Research and Development
- -Photographic Laboratory

Residential
- -Institutional Housing
  - -Bachelor Officers Quarters
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Air Field
  - -Airplane Hangars
  - -Control Tower
  - -Parachute Building
  - -Aircraft Machine Shops
- -Vehicle-related
  - -Gas Stations
  - -Quartermaster Garages
  - -Motor Pools

BARKSDALE
AIR FORCE BASE

TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Army
  - World War I Army Aviation

The Inter-war Years, 1918-1940
- Army Air Corps
  - New Construction of Air Corps Installations

RELEVANT THEMES

Planning and Architecture
- World War I: Temporary and Permanent Construction, 1917-1918
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940

INSTALLATION HISTORY AND CONTEXT

Bolling Air Force Base is located in southeast Washington, D.C., near the confluence of the Potomac and Anacostia Rivers. The installation was established during World War I as a military airstrip to defend Washington, D.C., and as a pilot training site.

The original airstrip was constructed during late October 1917. The original airstrip was constructed following standardized plans issued by the Army Signal Corps, developed in consultation with noted Detroit architect, Albert Kahn. The general airfield plan was modified in response to topographic conditions. During World War I, Bolling Field also functioned as the site of an airmail service established between Washington, Philadelphia, and New York City.

After World War I, Congress drastically reduced military appropriations. At Bolling AFB, the World War I buildings remained in use until permanent construction started in the 1930s. In 1926, Congress approved two pieces of legislation that affected permanent construction at Army Airfields: a five-year Army Air Corps expansion program and a nationwide Army construction program.

The nationwide Army construction program greatly affected permanent construction at Army Air Corps installations. Congress allowed the Secretary of War to dispose of 43 military installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. The first monies were expended in 1927. Bolling AFB received funds for construction during the 1930s, when construction money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects.

The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant

environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations.

Between 1933 and 1940, the Quartermaster Corps constructed housing, hangars, fire station, administration buildings, barracks, storehouses, and dispensary. All of these buildings reflected the architectural ornamentation of the Georgian Colonial Revival style. Because the Bolling site was located close to major rivers, the buildings were located south of the original field to mitigate the effects of flooding.

During World War II, Bolling AFB served the Washington area as a protective base. It hosted a large flying and support mission, and housed many war-related organizations. In 1941, it became the Headquarters, Army Air Forces. In 1942, the installation also became the administrative center for the Eighth Air Force. Since World War II, Bolling AFB has assumed more administrative and support functions. Flying functions were diverted to Andrews AFB during the 1950s.

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PROPERTY TYPES

Administration
- -Fire Station/Guardhouse

Education
- -Classroom

Health Care
- -Dispensary

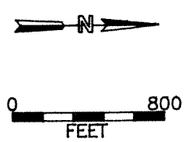
Industrial
- -Maintenance and Repair Shops
- -Storage (General Installation)
  - -Storehouses
  - -Quartermaster Storehouse

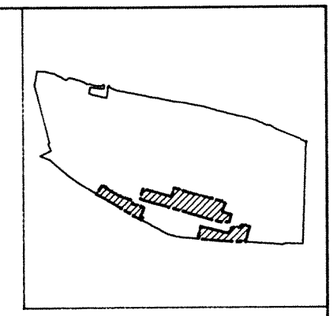
Infrastructure
- -Power Plants
  - -Substations
  - -Heating Facility

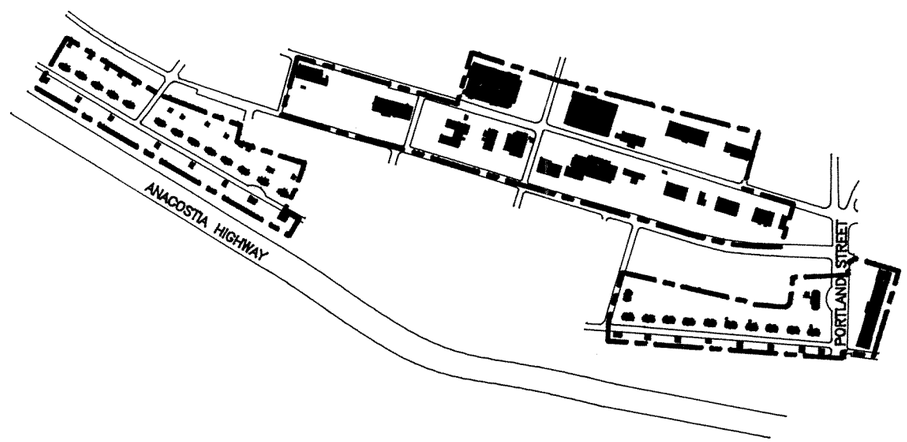
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Gymnasium

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Officer Housing
  - -NCO Housing
  - -Garage

Transportation
- -Air-related
  - -Airplane Hangars







BOLLING AIR FORCE BASE

TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
Army
World War I Army Aviation
The Inter-war Years, 1918-1940
Army Air Corps

RELEVANT THEMES

Education
Military Education between the Wars, 1919-1940
Medicine
Military Medicine during the Inter-war Years, 1919-1940
Planning and Architecture
World War I: Temporary and Permanent Construction, 1917-1918
Technology
Military Aircraft

INSTALLATION HISTORY AND CONTEXT

Brooks Air Force Base, located near San Antonio, Texas, was established at the beginning of World War I to meet the increased demand for pilot training. The Army Signal Corps, which then had responsibility for Army aviation, acquired new sites to construct flying fields to train student pilots. One of the locations acquired was seven miles southeast of San Antonio, Texas, near the existing Kelly Field. Construction began at the site on December 8, 1917. Originally designated as Kelly Field #5, the name of the installation was changed to Brooks Field, in honor of a deceased aviation cadet, on February 4, 1918.

The Army Signal Corps commissioned Albert Kahn, the noted architect, to recommend and prepare designs for an airfield. After studying Canadian precedents, Kahn produced plans for a twelve-hangar installation with supporting barracks, repair buildings, and administration buildings. At Brooks Field, the arrangement of the flightline was curved; at other World War I flying fields, the arrangement of the flightline was linear. One of the original World War I hangars at the Flying School, Hangar #9, remains at Brooks Field. Today it is considered the oldest extant hangar at an Air Force base. The building is used as a museum.

To accelerate the training of new pilots, the Signal Corps assigned the commander of Brooks Field the task of developing the Gosport System, which had been pioneered by English aviators. Airplanes using the Gosport System were equipped with dual controls, so that either the instructor or the student could handle the airplane. The plane also contained speaking tubes for communication between students and instructors. By the close of 1918, the War Department recommended that the Gosport System be implemented throughout the Army Air Corps.

After World War I, Brooks Field became home to the Balloon and Airship School, which taught students in techniques of aerial observation from lighter-than-air craft. When the Balloon School closed in 1922, Brooks Field became the home of the Air Corps' Primary Flying School. At that time pilot instruction consisted of two phases. New student aviators first attended the Primary Flying School, where they studied the basics of aviation. Successful graduates then moved to the Advanced Flying School at Kelly Field. From 1922 to 1931, the Primary Flying School introduced almost all Air Corps pilots to military aviation. Its graduates included Charles A. Lindbergh, who was also an Air Corps Reserve Officer.

Another important contribution of Brooks Field to early aviation came through the School of Aviation Medicine. This unit was relocated to Brooks Field From Hazelhurst Field in 1926. Members of the school studied the effects of high altitude, oxygen deprivation, cold temperatures, and sudden changes in motion. Faculty members published studies in aviation medicine.

New developments in instrument flying also were tested at Brooks Field. On June 24, 1930, William Ocker, the "Father of Instrument Flying," flew from Brooks Field to Scott Field in Illinois, using only instruments for navigation.

During these years, the first demonstrations of the possibility of airborne tactics occurred at Brooks Field. Soldiers experimented with techniques for dropping infantrymen from an aircraft. They developed the use of static line jumps, where parachutes were opened automatically as the jumper exited the aircraft. Pioneers in airborne techniques also developed methods of dropping ammunition and equipment from an aircraft.

However, both the Primary Flying School and the School of Aviation Medicine moved from Brooks Field to the newly constructed Randolph Field in 1931. Brooks became the home of the Aerial Observation Center, and to the 12th and 88th Observation Squadrons. Unfortunately, the change to observation squadrons came at a time when the Air Corps was turning its attention away from tactical reconnaissance missions and towards bombardment missions. Although many air fields received permanent construction during the 1930s, Brooks Field retained its temporary World War I structures.

World War II again brought a high level of activity to Brooks Field, as all types of aviation, including tactical reconnaissance, became important. Brooks became the site of an Observation Training School.

In 1959, the School of Aviation Medicine returned to Brooks Field to become part of the USAF Aerospace Medical Center. Thus, this installation today continues the traditions that were established during the inter-war years.

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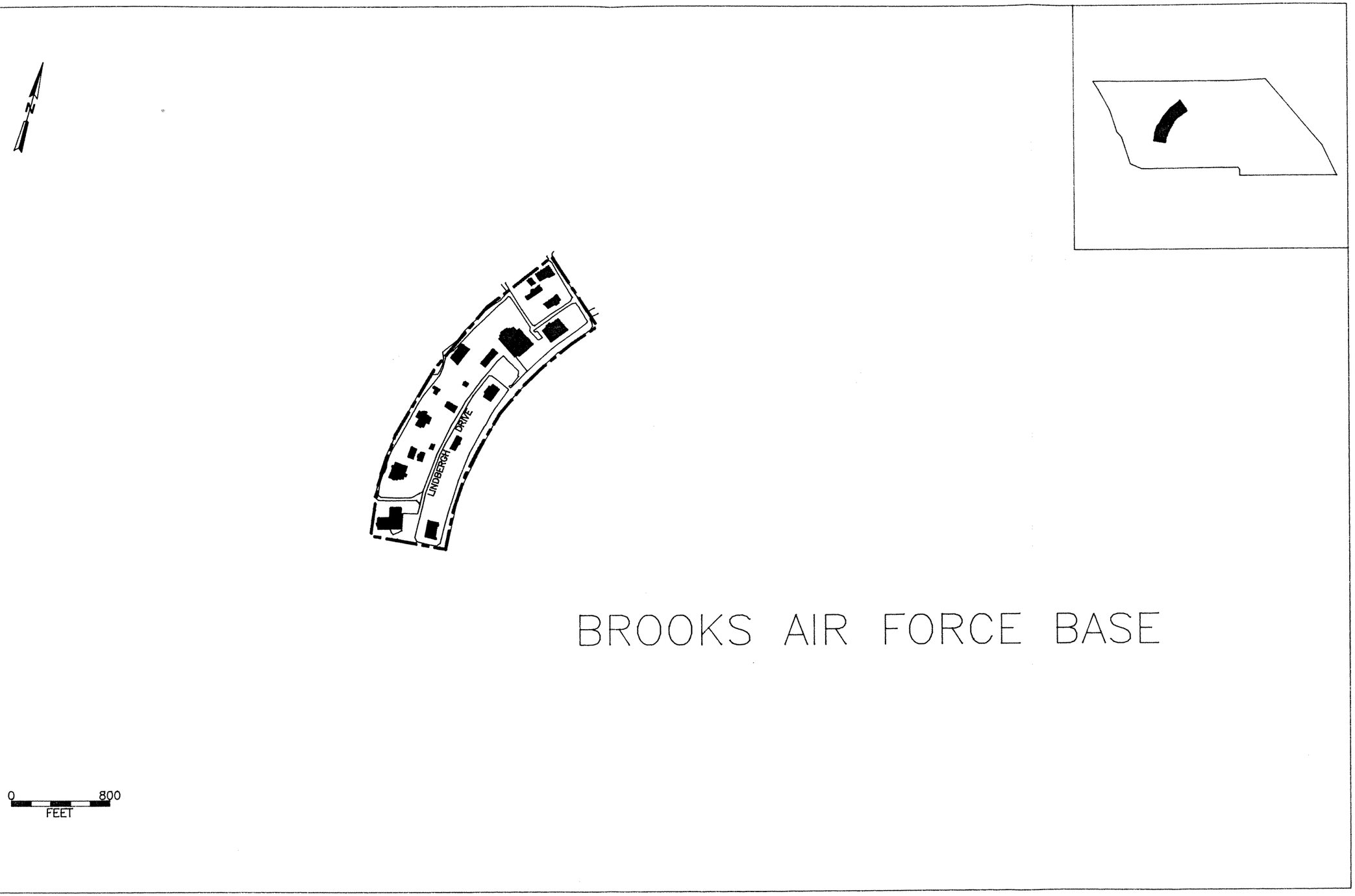
PROPERTY TYPES

Industrial
- -Storage
  - -Quartermaster Warehouse

Recreation/Social/Cultural/Religion
- -Theater and Recreation Hall

Residential
- -Institutional Housing
  - -Barracks
  - -Mess Hall

Transportation
- -Air-related
  - -Airplane Hangars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TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Army
  - World War I Army Aviation

The Inter-War Years, 1918-1940
- Army Air Corps
  - New Construction of Air Corps Installations
  - Air Corps Training and Logistical Support

RELEVANT THEMES

Education
- Military Education between the Wars, 1919-1940

Planning and Architecture
- World War I: Temporary and Permanent Construction, 1917-1918
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940

INSTALLATION HISTORY AND CONTEXT

Chanute Air Force Base is located in east-central Illinois, east of Rantoul. It was founded during World War I to help meet the critical shortage of airfields needed to train pilots.

In April 1917, when the United States declared war on Germany, Europe already had been at war for over two and one-half years. France immediately asked the United States to send large numbers of planes and pilots to assist the war effort. The United States established a program to meet the French demand by utilizing existing training facilities and by establishing new aviation schools at several locations. Among these new sites was Chanute Field in Rantoul, Illinois. Other new flying fields constructed during this period included Scott Field, Illinois, and Selfridge Field, Michigan. Albert Kahn, a Detroit architect who worked as a consultant for the Army Signal Corps, developed a set plans that became the basis for construction of World War I airfields. The design plan incorporated a one-mile central section that was lined with wood-frame hangars, and square blocks for the locations of barracks, mess halls, repair buildings, administration buildings, bakeries, fire houses, and other support buildings. Construction at Chanute began on 4 June 1917 on land that a group of Rantoul businessmen had purchased to insure the tract's availability for the Army Air Corps. By July 22, 1917, Chanute Field had been commissioned as an Army Air Force flight training facility.

Flight training began on 18 July 1917, even before construction was completed. The original group of trainees included such flight and support units as the 16th Aero Squadron (a 23-man group flying Curtiss Jennies) and the 10th Aero Squadron (159 mechanics and drivers). The eight-week training course included 50-60 hours of flying time and training in airplane tactics and mechanics.

After the armistice was signed on 11 November 1918, the War Department halted flight training at Chanute and other aviation training schools. It was expected that the base would be closed. However, in October 1918, the Congressional Committee on Military Affairs toured Chanute and pronounced it the "best flying field in the United States." Nevertheless, Chanute was left as a storage depot for surplus airplane engines and large quantities of paint. Even after the United States purchased Chanute from its local owners in 1920, the field languished and its physical plant deteriorated.

In 1921, the War Department approved the transfer of the Air Service Mechanics School from Kelly Field in Texas to Chanute, giving the Illinois facility a mission once again. A second major school, the Air Service Photographics School, moved to Chanute from Langley Field in Virginia in 1922. A third department, the Air Service Communications School, relocated to Chanute from Ft. Sill, Oklahoma, later in 1922. The three schools merged to form the Air Service Mechanics School, later designated as the Air Corps Technical School (ACTS), in 1926.

Between 1922 and 1938, Chanute Field provided the only technical training for the small peacetime Air Corps. Little funding was appropriated during much of this period for expansion or construction of new buildings. That the old wooden buildings were vulnerable to fire was spectacularly demonstrated when fire destroyed Hangar 10 in 1930. However, as Air Corps expansion during the mid-1930s required more qualified mechanics and technicians, Chanute could not fulfill the demand because of its limited and deteriorating facilities. Pressure was placed on the War Department either to rebuild the base completely or to construct a new school at another location. In 1938, Congress authorized the transfer of the photographic and armament units to Lowry Field near Denver, leaving the issue of Chanute's inadequate facilities unresolved.

However, the increasing threat of war and the public works programs of the New Deal led to the decision to build a permanent training facility at Chanute. In 1938, construction of two large hangars began. In 1939, a headquarters building, a hospital, warehouses, barracks, officers' quarters, test cells, a fire station, and a 300,000-gallon water tower were added. Still later came two additional hangars, two theaters, numerous barracks and family housing units, a gymnasium, and a network of concrete runways. The largest building in the country at that time was built at Chanute during this period; affectionately known as "Buckingham Palace," the barracks housed 2,200 men and included a mess hall, exchange facility and barber shop. The base expansion also included construction of permanent structures such as a hospital (Building 4), a central heating plant (Building 46), and a company officer's residence (Building 5), and temporary structures such as a quartermaster guardhouse (Building 100) and quartermaster barracks (Building 106).

The designs for these new buildings came from OQMG Chief Architect Luther Leisenring and his staff, using standardized plans (The Post Plan, Quartermaster General Drawing 6627-102). However, some buildings, primarily the large multifunctional troop barracks and a few headquarters buildings, deviated from the standardized specifications in the shape of the structures. There was no deviation in construction techniques, style, materials, or function.

During this period, the large increase in building construction at Chanute Field also brought about important additions to and changes in the facility's site plan. In 1938, the installation still retained its original layout and most of its World War I era buildings. However, the two-year building effort led to alterations of the original site plan, including construction of new

buildings in the World War I area and erection of temporary buildings on a 276-acre tract purchased in 1939.

Through the mobilization before U.S. entry into and during American participation in World War II, Chanute Field continued to played an increasingly important role in pilot and mechanic training for the Army Air Corps. This training mission remained Chanute's focus throughout the post-War period as technological advances in military aviation made and still make that educational function more important than ever.

Construction efforts during World War II included heavy temporary construction, as well as continuing construction in the Post War period. Buildings constructed included a hospital, housing, and other facilities.

While two former World War I hangars remain at Chanute AFB, they have been altered extensively. Building 747, Hangar #100, copied the design and plan of the 16 original hangars built in 1917. Of the two, it retains most of its original details. Many structures from the massive pre-World War II buildup also exist today. Along with the post 1930's buildings, located in the northeast, southwest, and southeast sections of the base, pre-war buildings in the northwest section area of the facility form the present layout of Chanute AFB.

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PROPERTY TYPES

Administration
- -Fire Station/Guardhouse
- -Headquarters

Health Care
- -Hospital

Industrial
- -Storage (General Installation)
  - -Quartermaster Storehouse
  - -Quartermaster Warehouse
  - -Storehouses

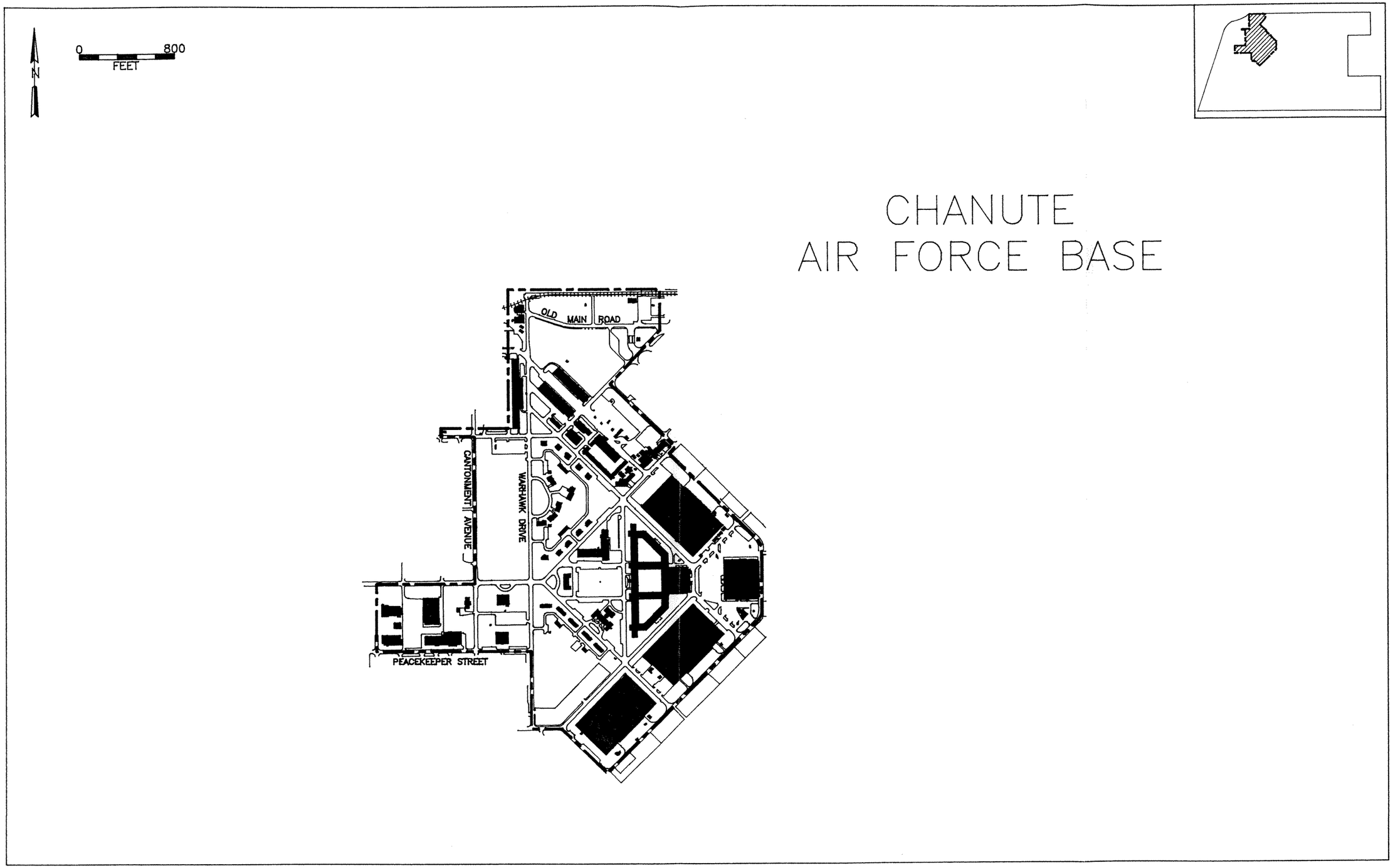
Infrastructure
- -Power Plant
  - -Utility Buildings

Recreation/Social/Cultural/Religion
- -Theater

Research and Development
- -Engine Test Building

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officer Housing
  - -NCO Housing
  - -Garages

Transportation
- -Air-Related
  - -Aircraft Hangars
  - -Aviation Shops and Facilities
  - -Gas Generator House
  - -Engine Test Stand Building
  - -Paint, Oil, and Dope Shop
  - -Oil Pump Station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CHANUTE
AIR FORCE BASE
OLD MAIN ROAD
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TIME PERIOD 1867-1940

The Civil War and National Expansion, 1860-1890
- Army
  - Frontier Posts
  - Quartermaster Depots

The Military and the Progressive Era, 1890-1916
- Army
  - Closing the Frontier and Consolidating Posts

The Inter-War Years, 1918-1940
- Army

RELEVANT THEMES

Planning and Architecture
- Early Frontier Posts, 1790-1875
- Consolidation and Modernization, 1875-1917
  - Army Consolidation of Posts
  - Standardization of Army Construction

Transportation
- Military Contributions to Transportation Development
- Benefits of Transportation Systems to the Military

INSTALLATION HISTORY AND CONTEXT

Francis E. Warren Air Force Base is located west of Cheyenne, Wyoming, along Crow Creek, a branch of the South Platte River. The base has a history that extends back to the construction of the trans-continental railroad. When the Union Pacific announced that it would place its regional headquarters at Cheyenne, Wyoming, the Army responded by erecting a fort immediately outside of Cheyenne. The new post, named Ft. D. A. Russell, included both infantry and cavalry soldiers and was intended primarily to protect railroad workers.

The first soldiers survived in primitive huts and tents, although the post had frame officer's quarters by the winter of 1867-1868. The diamond-shaped parade ground provided an unusual design feature to the post. With a railroad so close to the post, it was also the logical location for a Quartermaster Depot. Accordingly, the Army also established the Cheyenne Depot, also called Camp Carlin, just outside of the fort. In time, this grew to one of the largest supply activities of the Army in the West.

During the post's first two years, it provided soldiers to protect railroad survey parties and construction crews. After the completion of the railroad in 1869, soldiers turned their attention toward the protection of settlers and participating in campaigns. During the campaigns against the Sioux in 1876, soldiers from Ft. D. A. Russell served with General George Crook and fought in the Battle of the Rosebud. Three years later, cavalrymen from Ft. Russell participated in a campaign against the Utes.

By the mid-1880s, the increasing numbers of white settlers and relocation of Native Americans into reservations had reduced the threat from native tribes. Consequently, the Army desired to reduce the number of its far flung outposts, and consolidate them into larger installations. Due to its strategic location on the transcontinental railroad, Ft. Russell was retained and enlarged, though the adjoining depot that served the region's other posts was closed. In 1885, the War Department decided to place eight infantry companies at the post.

Unlike previous construction efforts, the new buildings were substantial brick buildings. The post retained its diamond-shaped parade field, which was extended to the east. Brick enlisted barracks, NCO quarters, officers' quarters, administration buildings, and a hospital completed the initial expansion of the post. Nineteen of the pre-1900 buildings remain on the base today.

With the end of the Indian Wars, Ft. D.A. Russell settled into a quiet routine that lasted until the beginning of the Spanish-American War. The post was used as a mobilization site for the Wyoming National Guard prior to its departure for the Philippines.

From 1902 to 1910, the Army expanded the post to house a brigade and constructed new officers' quarters, enlisted barracks, stables, and administrative buildings. A large parade ground was added to the east of the original parade ground. The new barracks were aligned with the older barracks, while the officers' housing was arranged in rows along semi-circles, circles, and triangles along the north edge of the parade ground. NCO quarters and stables were built south of the barracks. Approximately 150 buildings were built during this expansion, many of which remain. During the 1910s, the post provided soldiers for duty on the Mexican border.

World War I and the inter-war years brought few changes to the post. After 1918, the post became a cavalry post, with artillery units also stationed there. In 1930, the name changed to Ft. Francis Warren, to honor the recently-deceased Wyoming senator.

World War II brought a wave of temporary construction to house a quartermaster school, an officers' candidate school, and a prisoner of war camp. U.S. experiences in World War II brought another significant change to Ft. Francis Warren. The major role played by military aviation convinced Congress to authorize a separate Air Force and the U.S. Air Force became an independent member of the armed forces in 1947. As part of the separation, the Army transferred numerous installations to the Air Force, including Ft. Francis Warren, which became Francis E. Warren Air Force Base.

At first, the Air Force used the base as a training installation. In 1958, the Strategic Air Command assumed command of the base. It became a headquarters for the numerous intercontinental ballistic missiles that filled the surrounding countryside. The 90th Strategic Missile Wing established its headquarters there in 1963.

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PROPERTY TYPES

Administration
- -Administration Buildings
- -Fire Stations
- -Guardhouse
- -Headquarters Buildings

Communications
- -Post and Telegraph Office
- -Radio Station

Education
- -Cavalry Riding Hall

Health Care
- -Post Hospitals
  - -Isolation Hospital
  - -Hospital Steward's Quarters
  - -Hospital Corps Barracks
- -Dispensary

Industrial/Processing
- -Maintenance and Repair Shops
  - -Artillery Shops
  - -Blacksmith Shop
  - -Carpenter Shop
  - -Quartermaster Shop
- -Service Facilities
  - -Bakery
  - -Laundry
- -Storage (General Installation)
  - -Commissary Storehouse
  - -Granary
  - -Gun Sheds
  - -Hayshed
  - -Subsistence Storehouse
  - -Quartermaster Storehouse

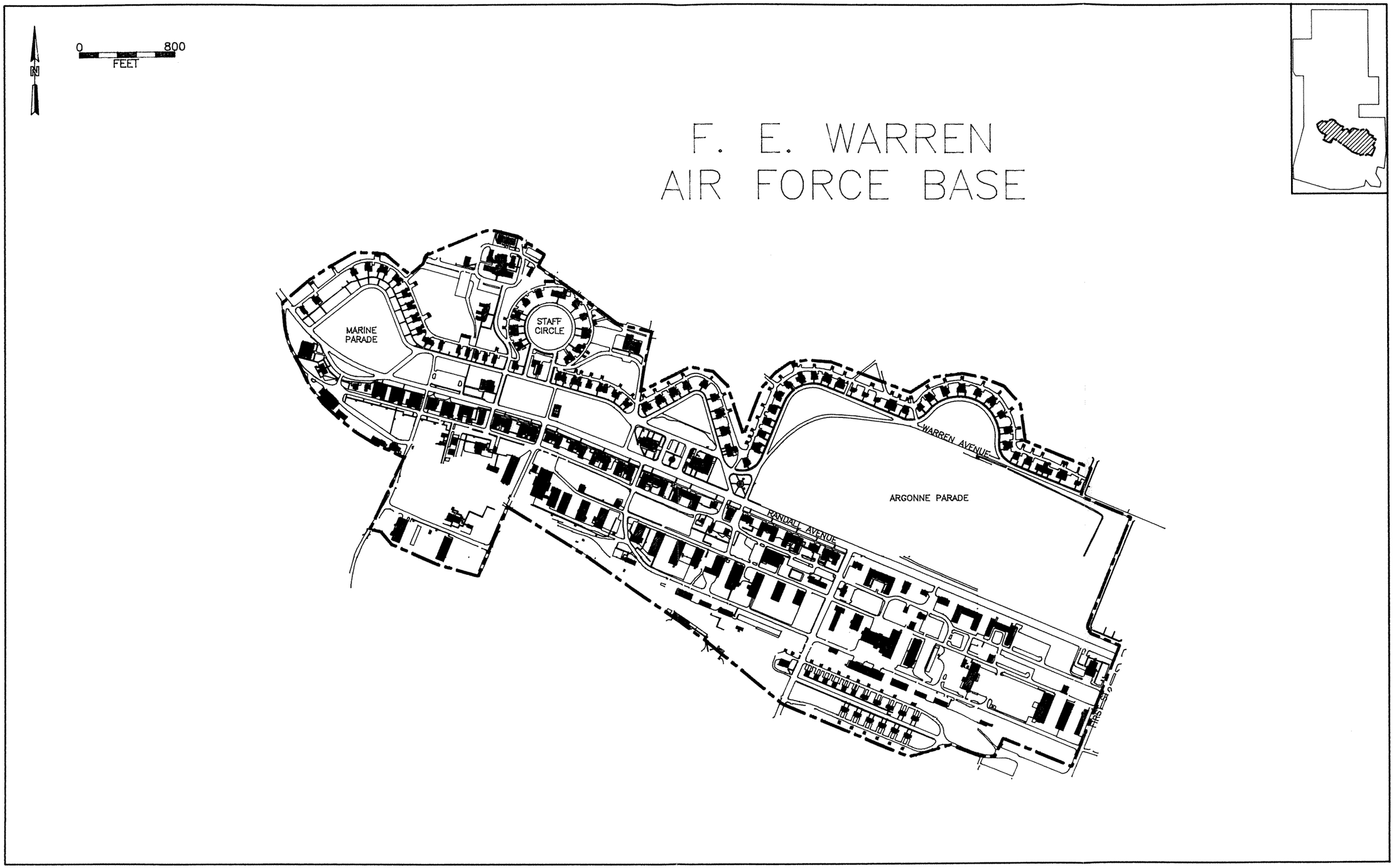
Infrastructure
- -Power Plants
  - -Transformer Buildings
- -Water and Sewage Systems
  - -Pumphouse

Landscape
- -Parade Ground

Recreational/Social/Cultural/Religion
- -Athletic Facilities
  - -Gymnasium
- -Exchange and Gymnasium
- -Theater

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
  - -Mess Hall
  - -Latrines/Bathhouse
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officer Housing
  - -NCO Housing
  - -Multi-family Officer Housing
  - -Garages

Transportation
- -Animal-related
  - -Blacksmith Shop
  - -Gun Sheds
  - -Stables
  - -Stable Guardhouses
  - -Stable Shops
  - -Veterinary Stable
- -Vehicle-related
  - -Gas Station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F. E. WARREN
AIR FORCE BASE
MARINE
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WARREN AVENUE
ARGONNE PARADE
RANDALL AVENUE

TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Beginnings of Army Aviation
  - World War I Army Aviation

The Inter-war Years, 1918-1940
- Army Air Corps
  - New Construction of Air Corps Installations
  - Air Corps Training and Logistical Support

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890 -1918
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-War Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

Kelly Air Force Base is located near San Antonio, Texas. As one of the oldest Air Force installations still in operation, the history of Kelly Air Force Base includes that era when Army aviation consisted solely of a handful of men flying frail aircraft. Since its inception, Kelly AFB has contributed to the growth of military aviation through flight schools and logistical support of military aviation.

The beginnings of Kelly AFB are so closely associated with the story of aviation at Ft. Sam Houston that a discussion must begin with Lieutenant Benjamin Fulois. In 1910, Fulois brought the Army's single airplane to Ft. Sam Houston and began experimental operational flying. A year later three other lieutenants joined Fulois at Ft. Sam Houston. One of the lieutenants, George E. M. Kelly, became the first Army pilot to die in an aircraft accident, an incident that temporarily halted aviation at Ft. Sam Houston. However, four years later, Fulois returned to San Antonio with the Army's 1st Aero Squadron.

As the Army realized the importance of improving its aviation capabilities, it instructed Fulois to find a suitable airfield site near by. Fulois selected a site just southwest of San Antonio. The facility would be named Kelly Field, in honor of Lieutenant George Kelly. Congress authorized purchase of the land in December 1916, and the first aircraft landed at Kelly on April 5, 1917, one day before the United States declared war on Germany.

With America's entry into the war, Kelly became a bustling center of activity. During the war 1,459 pilots learned to fly at Kelly. Equally important, the installation was also the location of a mechanics' school that produced over 2,000 ground crew technicians. To accommodate the

influx, the Army rapidly constructed temporary buildings, supplemented by a tent city. Even so, Kelly field was not large enough for both a pilots' school and a mechanics' school. As a result, the Army acquired an adjacent tract of land in October 1917, which it named Kelly Field #2.

The layout of Kelly Field #2 was based upon standardized plans developed by the Army Signal Corps in consultation with noted Detroit architect Albert Kahn. Kahn produced plans for a twelve-hangar installation, including supporting barracks, repair buildings, and administration buildings. The buildings constructed at Kelly Field #2 during World War I remained until permanent buildings were built during the 1930s.

The Air Service Advanced Flying School moved to Kelly Field #2 in 1922. Here, pilots who had completed basic flight training at nearby Brooks Field improved their skills. As the Air Corps improved its instrumentation for limited visibility flying, the school developed a "blind flying" curriculum for its pilots. The flight school remained at Kelly Field until 1943, when it was transferred to nearby Randolph Field.

Kelly Field #1 became the home of the San Antonio Intermediate Air Depot, which provided repair parts and related aviation items to units within the Eighth Corps Area. Because the preponderance of the Army's aviation program was concentrated in the San Antonio region, the depot became one of the Air Corps' most important installations. In 1925, it was renamed Duncan Field and officially separated from Kelly Field. Duncan Field became the site of the Air Corps Training Center, which occupied a single building; its mission was to coordinate and oversee training at other installations.

Like other Air Corps installations constructed during World War I, the physical plants at both Kelly and Duncan Fields consisted of temporary wooden buildings. By the mid-1920s these buildings had become so dilapidated that they were a source of chronic complaints by Air Corps officers. The commander of the depot decided to rectify the situation by creating a "Bungalow Colony" as a residential area. Using salvaged material government carpenters managed to create an attractive living area at a minimum cost. Homes were on single lots, and the community contained a polo field and a playground. The bungalows remain at Kelly Field today.

Further funding for both fields came in 1939, as the increasing threat of Nazi Germany stimulated interest in military aviation. New buildings at Kelly Field included the officers' club, a new classroom building (now the Air Logistics Center Headquarters), and a spacious barracks complex. From 1939 to 1943 training at the Advanced School intensified, and 6,800 pilots were graduated during these years.

After the United States entered World War II, flight training at Kelly Field ceased, and moved to Randolph Field. The two installations at Kelly Field and Duncan Field were rejoined in 1943. The site became an important supply and maintenance installation, under the command of the San Antonio Air Service Command. Both aircraft and component parts were repaired at Kelly Field.

The supply and maintenance mission continued even after the Air Corps became the independent Air Force during the early years of the Cold War period. Workers at Kelly Air Force Base have repaired modern aircraft and have provided supplies and technical support to Air Force

units around the globe. Today, Kelly AFB is one of the largest employers in San Antonio and the home station for a wide variety of Air Force logistical activities.

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PROPERTY TYPES

Administration
- -Administration Building
- -Fire Station

Education
- -Classroom

Industrial
- -Maintenance and Repair Shops
- -Storage (Depots and Supply Centers)
  - -Warehouses
- -Storage (General Installation)
  - -Warehouses

Infrastructure
- -Power Plants
  - -Boiler Plant
- -Water and Sewage Systems
  - -Water Pumping Station

Residential
- -Institutional Housing
  - -Barracks

- -Family Housing
  - -Officer Housing
  - -NCO Housing
  - -Garages

Transportation
- -Air-related
  - -Airplane Hangar
- -Vehicle-related
  - -Gas Station

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DUNCAN DRIVE
CRICKETT DRIVE
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TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Beginnings of Army Aviation
  - World War I Army Aviation

The Inter-War Years, 1918-1940
- Army Air Corps
  - Towards a Separate Air Force
  - New Construction of Air Corps Installations
  - Air Corps Training and Logistical Support

RELEVANT THEMES

Education
- Military Education between the Wars, 1919-1940

Planning and Architecture
- World War I: Temporary and Permanent Construction, 1917-1918
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

Technology
- Military Aircraft

INSTALLATION HISTORY AND CONTEXT

Langley Air Force Base is located on the Virginia Peninsula, within the city limits of Hampton, Virginia. Tributaries of the Back River define the north, northeast, and southeast boundaries of the base. The Back River's tidal waters flow eastward into the Chesapeake Bay, approximately four miles east of Langley.

Langley AFB originally was established as an aeronautical experimental station and proving ground. In 1915, the National Advisory Committee for Aeronautics (NACA) was formed to explore the new technology of aviation; its mission was to study and experiment with flying machines. A small budget hampered NACA's ability to perform its intended duty. Early in 1916, Lieutenant Colonel George P. Scriven, a member of NACA and chief of the Signal Corps Aviation Section (the fledgling Army Air Service), proposed that the Army, Navy, and NACA pool their resources to establish a testing facility. Funding for the test facility was included as part of the National Defense Act of 1916.

Several criteria were considered during the site selection process for the new experimental field. The field needed to encompass roughly 1800 acres; it was to be located east of the Mississippi River and south of the Mason-Dixon line, within 15 hours' flying time of New York City; and it was to be in a defensible region. Direct access to an open body of water was also required for the use of naval aircraft. Fifteen sites were considered, most of them in Maryland and Virginia. The lobbying efforts of businessmen from Hampton, Virginia, settled the site issue. The Hampton

business community agreed to build a transportation system connecting the field with the City of Hampton, and to provide a water main for the facility. The Signal Corps purchased the field for $290,000 in December, 1916. The field was named for Professor Samuel Pierpont Langley, a pioneer in heavier-than-air (HTA) flight theory.

The Signal Corps appointed Albert Kahn, a noted industrial architect from Detroit, to serve as "Architect-in-Chief of the Army Signal Corps." One of Kahn's responsibilities was to design the overall plan and the permanent buildings at Langley Field. Kahn's appointment was unusual, because in 1913, Congress had passed legislation that discouraged the employment of private architects for the construction of military facilities.

Though work had begun on Langley Field's permanent facilities when World War I was declared, the field was unable to house operational HTA flight activities before the Armistice was signed in November of 1918. Testing and experimental activities were transferred to McCook Air Field, a temporary cantonment in Dayton, Ohio. Lighter-than-air (LTA) facilities occupied in the northern area of Langley during June of 1918. Activities conducted at Langley during World War I included the study of bomb trajectories, and the development of a bombsight, a recognition light for aircraft, a turn indicator, a sextant for use in airplanes, and an improved compass. An aerial photography school was also established at the base, the graduates of which served in France.

Eight buildings constructed between 1916 and 1919 are extant: Dodd Hall, a bachelor non-commissioned officer (NCO) dormitory (Building 448); Lawson Hall, a bachelor officer dormitory (Building 472); two laboratories (Building 587 for NACA and Building 693 for an Army Aeronautical laboratory); two brick hangars (Buildings 777 and 781); and two gas production plants for the dirigible component stationed at Langley (Buildings 1004, 1007).

After World War I, military funding was curtailed dramatically as the military tackled the task of demobilization and assessment of future military needs. However, as the one of the Air Service's two premiere fields, construction at Langley quickly resumed. Originally planned for completion in 1920, the base was completed in 1921. Thirty-two buildings from this period are extant, including 26 officers' quarters; a wind tunnel (Building 582); a gas station reclamation building (Building 596); a water tank (Building 620); a seaplane hangar (Building 633); and two officers' quarters in the lighter-than-air flight area.

Following World War I, the Army re-organized its operations to maximize its return on its permanent facilities. Langley's mission changed from that of an experimental station to an operational facility intended to defend Washington, D.C.; NACA remained as a tenant organization. In 1921 and 1922, Langley's Air Service Photographics School and two other schools were consolidated to form the Air Service Mechanics School at Chanute Field in Illinois.

The curtailment of funding did not halt the research and development of new military equipment at Langley AFB. The Air Corps experimented with lighter-than-air craft, including blimps and airships for reconnaissance, coastal patrol, and aerial photography. Buildings remaining at Langley that were constructed during the 1920s included: Austin Hall, a barracks (Building 546); a NACA wind tunnel (Building 580); a post machine shop (Building 661); two officers' quarters in the LTA area (Buildings 868, 869); and a permanent hangar (Building 757).

After the initial completion of Langley Field, no new construction was undertaken until Congressional legislation provided for the nation-wide improvement of Army posts in 1926. In 1926, Congress authorized the War Department to sell surplus installations and apply the revenues to new permanent construction at the remaining posts. As part of the Army, the Air Service received its share of money towards post construction. The construction program received additional funding from the emergency relief measures during the 1930s.

Army aviation received an additional boost through the Air Corps Act of 1926. Among other provisions, the law authorized additional men and aircraft, and directed the Chief of the Air Corps to develop a five-year plan for implementing the legislation. As part of the five-year plan, the Chief of the Air Corps proposed further construction at existing fields, including Langley, and construction of two new fields. Although the Air Corps' implementation of the plan fell short of its goals, the years from 1926 to 1932 marked some of the first permanent construction and physical improvements at aviation facilities.

Between 1930 and 1934, 174 buildings were constructed in two areas at Langley. The heavier-than-air area of the base included officer's quarters, residential garages, barracks, sewage pumping stations, a hospital complex, a central heating plant, a radio building, a theater, a gymnasium, a fire station, a guard house, airplane hangers, a parachute facility, a photographic facility, and storage buildings. Buildings constructed within the lighter-than-air area of the base included enlisted quarters, officers' quarters, residential garages, barracks, a sewage pumping station, and an NCO club.

In 1935, Langley Field became the home of the General Headquarters Air Force (GHQAF), which exercised complete control over Army air tactical units. In 1937, Langley hosted the Army's first unit of B-17 Flying Fortresses; it was also the location at which the B-15 and B-18 were tested. The School of Aviation Ordinance also was established at Langley in 1937, and, in 1938, one of three regional communication squadrons in the Army Airways Communications System was established there. During World War II, Langley was assigned to the 1st Air Force and hosted bomber and fighter units, as well as antisubmarine patrols and training.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse

Communication
- -Radio Building

Health Care
- -Hospital
- -Medical Staff Quarters

Industrial
- -Maintenance and Repair Shops
  - -Quartermaster Maintenance
  - -Quartermaster Garage
  - -Post Machine Shop and Commissary
- -Service Facilities
  - -Post Machine Shop and Commissary
- -Storage (General Installation)
  - -Storage

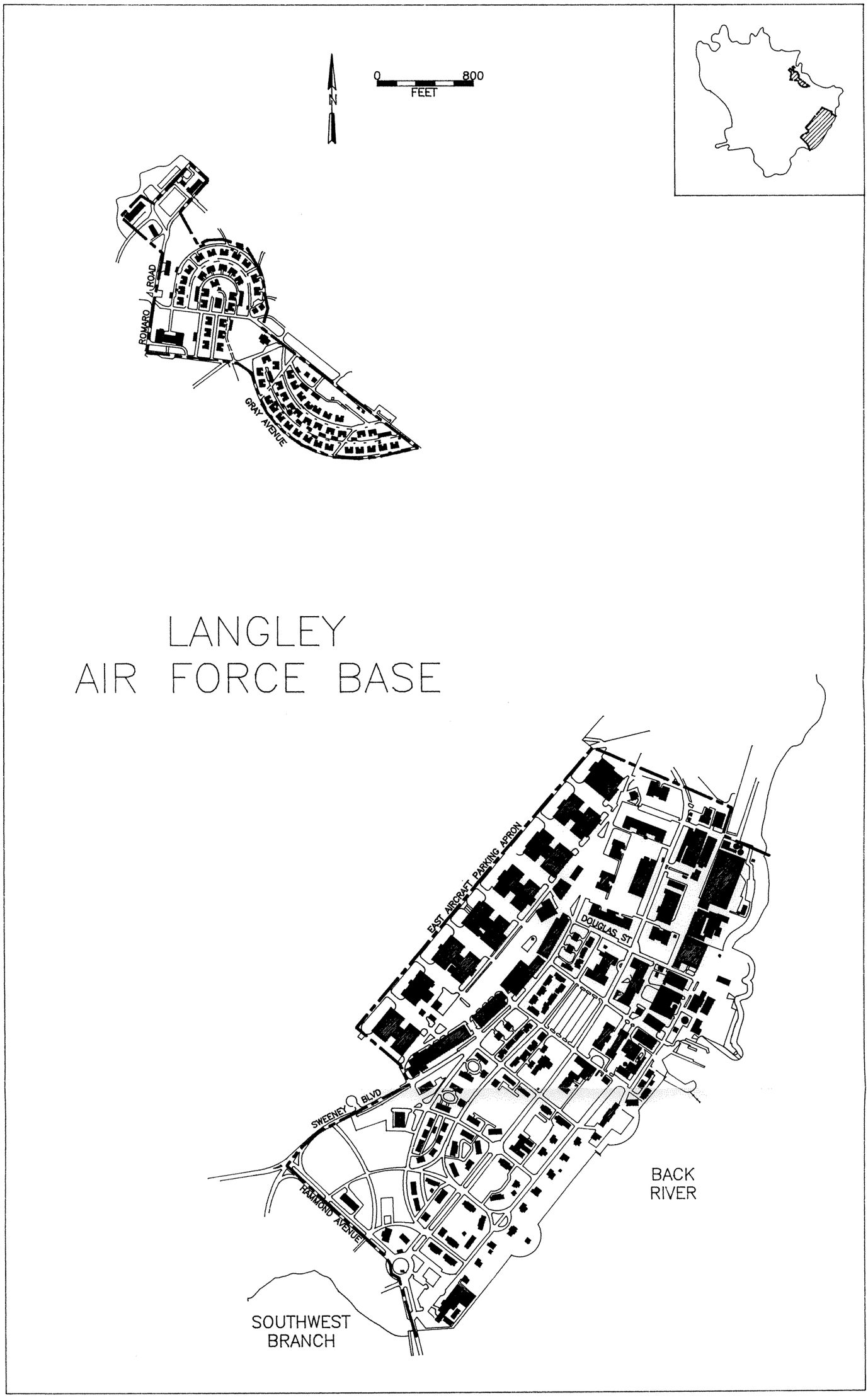
Infrastructure
- -Power Plant
  - -Electrical Substation
  - -Heating Plant
    - -Boiler House
- -Water and Sewage System
  - -Water Tank
  - -Sewage Pumping Station

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Gymnasium
  - -Swimming Pools
- -Chapel
- -Clubs
  - -Officers' Club
  - -NCO Club
- -Elementary School
- -Theater

Research and Development
- -Laboratories
- -Wind Tunnels
- -Photographic Building

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
- -Family Housing
  - -Enlisted Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Airplane Hangars
  - -Seaplane Hangar
  - -Dirigible Gas Production Plant
  - -Dirigible Gas Compression Plant
  - -Parachute Building
- -Vehicle-related
  - -Gas Station Reclamation Building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EAST AIRCRAFT PARKING APRON
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HAMMOND AVENUE
BACK
RIVER
SOUTHWEST
BRANCH

TIME PERIOD 1937-1940

The Inter-war Years, 1918-1940
Army Air Corps
New Construction of Air Corps Installations
Air Corps Training and Logistical Support

RELEVANT THEMES

Education
Military Education between the Wars, 1919-1940
Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940

INSTALLATION HISTORY AND CONTEXT

Lowry AFB is located in Denver just south of Stapleton International Airport and southwest of Fitzsimons AMC. The installation is bounded by Havana Street on the east; by East Alameda Avenue on the south; and by Quebec Street, East Third Street, and East Sixth Avenue on the west.

Initially designated Lowry Field, the base was established by act of Congress in 1937. The property on which the facility was located previously had contained the Agnes Memorial Sanitarium, built by steel magnate Lawrence C. Phipps in memory of his mother. The only building remaining on Lowry Air Force Base from the sanitarium period is the former hospital superintendent's quarters. The sanatarium property was acquired in 1935 by the City of Denver which donated the land and buildings to the Federal government. Funding for the transformation from hospital to military installation came from the Works Progress Administration (WPA), which also undertook the work of renovating the buildings.

The hospital superintendent's quarters, built in 1904, was retained and served briefly as the base commander's quarters. In 1938, it became the transient officers' quarters; between June 1940 and 1941, it was the Bachelor Officers' Quarters and Officers' Club; and in 1945, it again became the commander's quarters.

Lowry AFB initially served as the Denver branch of the Army Air Corps Technical School; it was renamed Lowry Field in the spring of 1938. Armament and photography schools were transferred from Chanute Field, Illinois, to Lowry in 1938. By the end of 1940, Lowry housed thirteen school squadrons and two bomber squadrons as well as its own Headquarters Squadron. In addition to armament and photography, the curriculum included combat crew training, B-29 pilot transition training, and B-29 flight engineer training.

Between 1939 and 1940, significant construction occurred at Lowry Field as the facility expanded its training role and prepared for a possible wartime role. Permanent buildings constructed during 1939 included five duplex houses for senior officers (Buildings 1-5), a commissary warehouse (Building 358), a Quartermaster warehouse (Building 359), and one

airplane hangar (Building 402). The residential buildings (Buildings 1-5) all were two-story brick duplexes constructed for senior officers' quarters.

In 1940, Lowry Field and other AAF bases in the country saw even greater changes following Congressional passage of the $64,862,500 Supplemental Military Appropriations bill. This measure allocated money for facility improvements such as construction of hard-surface runways, lighting, temporary barracks, and technical buildings. Buildings constructed at Lowry during this period include a three-story airmen's dormitory, NCO housing, garages, airplane hangars, a fire station and guardhouse, an electric power plant, a heating plant, additional storage buildings, and a gas station.

At the time of its construction, the airmen's dormitory (Building 349) was considered one of the largest airmen's barracks in the country. Designed to accommodate 850 men, the building housed 3,600 men by 1943. In addition to living areas, it contained a mess hall, bakery, and recreation areas; laundry and cleaning facilities; a barber shop; and the post exchange. It was converted to Lowry Technical Training Center headquarters in 1961.

Beginning in 1941, the Army pursued an increased level of both temporary and permanent construction at Lowry AFB to prepare for the United States' possible entry into World War II. This expansion continued throughout the war as the installation assumed multiple training roles. Today, Lowry AFB continues to serve as an important training facility for the Air Force.

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PROPERTY TYPES

Administration
- -Fire Station, Guardhouse, Telephone Building
- -Administration Building

Education
- -Armament School

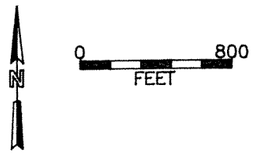
Industrial
- -Storage (General Installation)
  - -Air Corps Warehouse
  - -Paint Storage
  - -Quartermaster Building
  - -Quartermaster Warehouse
  - -Commissary

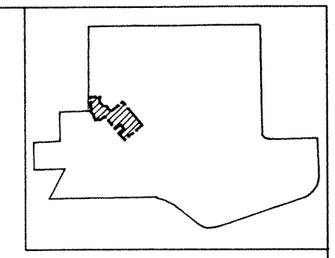
Infrastructure
- -Power Plant
  - -Heating Plant
  - -Central Power Station

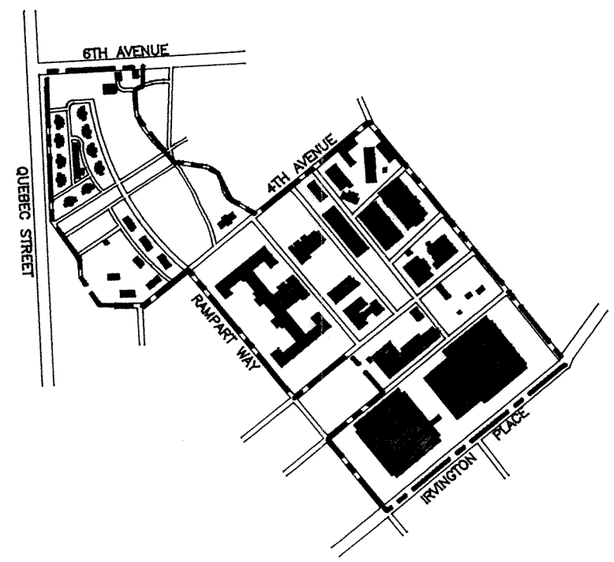
Recreation/Social/Cultural/Religion
- -Chapel
- -Exchange

Residential
- -Institutional Housing
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Aircraft Hangars
- -Vehicle-related
  - -Auto-Shop
  - -Gas Station







LOWRY AIR FORCE BASE

TIME PERIOD 1918-1940

The Military and the Progressive Era, 1890-1918
- Army
  - World War I Army Aviation

The Inter-War Years, 1918-1940
- Army Air Corps
  - Towards a Separate Air Force
  - New Construction of Air Corps Installations
  - Air Corps Training and Logistical Support

RELEVANT THEMES

Education
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

March Air Force Base is located approximately ten miles southeast of the City of Riverside, California, on the Alessandro Plain, a portion of the Mojave Desert. The installation, originally known as Alessandro Aviation Field, was established in response to a 1917 Congressional appropriation of $640 million in support of aeronautical development, and a general desire to expand military installations in anticipation of the United States' involvement in World War I. Civic leaders in Riverside conducted an active lobbying effort to have the former 640-acre Hendrix Estate selected as the site of the new air field.

Formally commissioned in March of 1918 as a "Wing Cavalry Post," the facility at Riverside initially was a service base for cadet flights from Rockwell Field in San Diego. Renamed March Field, in honor of Lt. Peyton C. March, a deceased aviator whose father served as Army Chief of Staff during World War I, the Riverside installation became the headquarters of the 818th Aero Squadron Detachment. By June of 1918, five aero squadrons (#215, 68, 289, 293, 311) had been assigned to the base, and three auxiliary fields also had been established.

Initial construction on the site included an airstrip, access roads from Riverside, and buildings to house the personnel and operations activities of the base. These buildings included 12 hangars; 6 barracks, accommodating a total of 900 personnel; mess halls; machine and blacksmith shops; a post exchange; aero supply and repair facilities; a quartermaster's supply depot; a hospital; and officers' housing. Four additional all-steel hangars were added later. All were arranged in a linear fashion along the northern perimeter of the mile-square tract. Only one building dating from initial period survives today: Building 413, a bakery. The northern perimeter of the original installation today is marked by a ditch line on the south side of an existing roadway, Eschscholtzia Avenue.

The neo-isolationist atmosphere of the 1920s prompted the government to phase out operations at March Field. Between 1921 and 1923, air cadet training became at first, sporadic, and then was phased out altogether. However, a variety of non-tactical activities were conducted at March. These included the mapping of air routes for the Southwest; the establishment of a radio communication instructors' school and ROTC courses; and the launching of forest fire patrols for a sector extending from Santa Barbara to San Diego. During this period, the facility was maintained by a skeleton crew and surplus supplies were sold off, but the original 1918 buildings were retained.

When the Army Air Corps was established officially in 1926, Congress also approved a five-year development and facility upgrade plan for this arm of the services. This development plan included the reactivation and refurbishment of March Field; the former 1918 buildings accommodated in-coming personnel until new construction was completed. In June of 1927, units began to arrive from other air bases around the country, including Kelly and Brooks Fields in Texas; Selfridge Air Field in Michigan; Langley Field in Virginia; and, Post Field in Oklahoma. The incoming cadets were instructed in tactics, with emphasis on pursuit and bombardment. Among the trainees stationed at March Field during this period were Hoyt Vandenburg, Nathan Twining, Curtis LeMay and Carl Spaatz.

Most of the buildings within the ca. 1940 historic cantonment date from this period of development, which was completed by 1934. In the course of upgrading the installation, many of the original 1918 structures were demolished. The Army's Quartermaster Corps apparently designed the replacement buildings. Spanish Mission influences are evident in the residential and administrative buildings, while original industrial buildings display elements of the industrial Mediterranean style. Earthquake-resistant, cast-in-place or poured-in-place concrete walls and foundations were utilized in all buildings. The Twohy Construction Company of Seattle, Washington, built the major administrative and operational structures, while housing units and garages were constructed by teams from the Public Works Administration.

The ca. 1927 landscape plan at March AFB formed a right triangle; the right angle lay at the extreme northeast corner of the original 640-acre tract, and the flight line formed the hypotenuse. The core of this plan still is apparent today. A central 45° axis bisects the base. This axis is formed by a divided access boulevard (Baucom), the base commander's quarters, a central open parade ground lined with barracks and administrative buildings, and the original base administration building on the flight line. Housing units and other social and recreational facilities are arranged along the two legs of the triangle. The layout appears to present an almost hierarchical pattern; the spacious base commander's home is located at the heart of the housing complex, while individual commissioned and non-commissioned officers' dwellings along the legs of the triangle become progressively more modest as they range away from the central administrative/command core.

March AFB was a very active installation during the 1930s. Lt. Col. Henry H. ("Hap") Arnold was appointed base commander in 1931. The facility's basic education mission was the training of bomber groups, pursuit groups, and observation squadrons. Muroc Dry Lake Bed, later commissioned in its own right as Edwards Air Force Base, came under the jurisdiction of the March AFB command as an auxiliary bombing range. Nor was all activity at March during those years military in nature. In 1932, March served as the staging area for a mid-winter airlift of food

and supplies to the snow-bound Navaho and Hopi Indian Reservations in the Four Corners area; over 20 tons of supplies were airlifted into the disaster area, in an operation that General Arnold later termed a "dress rehearsal" for the post World War II Berlin Airlift. In 1933, March also became the headquarters for 25 Civilian Conservation Corps camps in the south central California area; eventually a total of 7000 CCC personnel passed through the installation.

A long slow period of physical and educational development at March occurred during the 1930s, as the mission of the facility expanded. After 1936, March was designated as the West Coast bombing, gunnery, and pursuit and attack group training center. Reconnaissance and weather squadrons also were assigned to the field. Additional barracks, mess halls, and recreational buildings, as well as an air passenger terminal and a motor pool complex, were constructed immediately prior to World War II. In 1939, March became a General Headquarters for the Air Corps, sharing that designation with Langley Field, Virginia, and Barksdale AFB, Louisiana.

The installation expanded again in 1940, when the National Guard was assigned there to train in anti-aircraft protection. Known formally as the Camp Haan Coast Artillery Anti-Aircraft Training Center, the new complex consisted of 159 buildings, including post exchanges, chapels, and a hospital, and 1250 tent platforms. At its height, some 80,000 National Guard personnel were housed and trained at Camp Haan. During the war itself, the camp also served as a detention center for German and Italian prisoners of war. Camp Haan was deactivated in 1947, and its buildings subsequently were dismantled.

After World War II, the mission of March AFB changed several times. The Strategic Air Command took control of the facility in 1949; the 22nd Bombardment Wing and the 15th Air Force were transferred to March at that time, and a communication squadron and Aerospace Rescue and Recovery component also were added. In 1976, the 452nd (now the 22nd) Air Refueling Wing was transferred to March AFB, and the base continues to fulfill this refueling mission at the present time.

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PROPERTY TYPES

Administration
- -Administration, Operations, and Headquarters Building
- -Fire Station/Guardhouse
- -Gates and Gate houses

Communications
- -Radio Building

Health Care
- -Hospital (Post)
  - -Medical Detachment Barracks

Industrial
- -Maintenance and Repair Shops
  - -Quartermaster Maintenance Building
- -Service Facilities
  - -Bakery
  - -Laundry
    - -Laundry Boiler House
- -Storage (General Installation)
  - -Warehouses
  - -Munitions Storage Buildings
  - -Tool Houses

Infrastructure
- -Power Plant
  - -Switch House
- -Water and Sewage Systems
  - -Water tanks
  - -Water tower
  - -Pump House

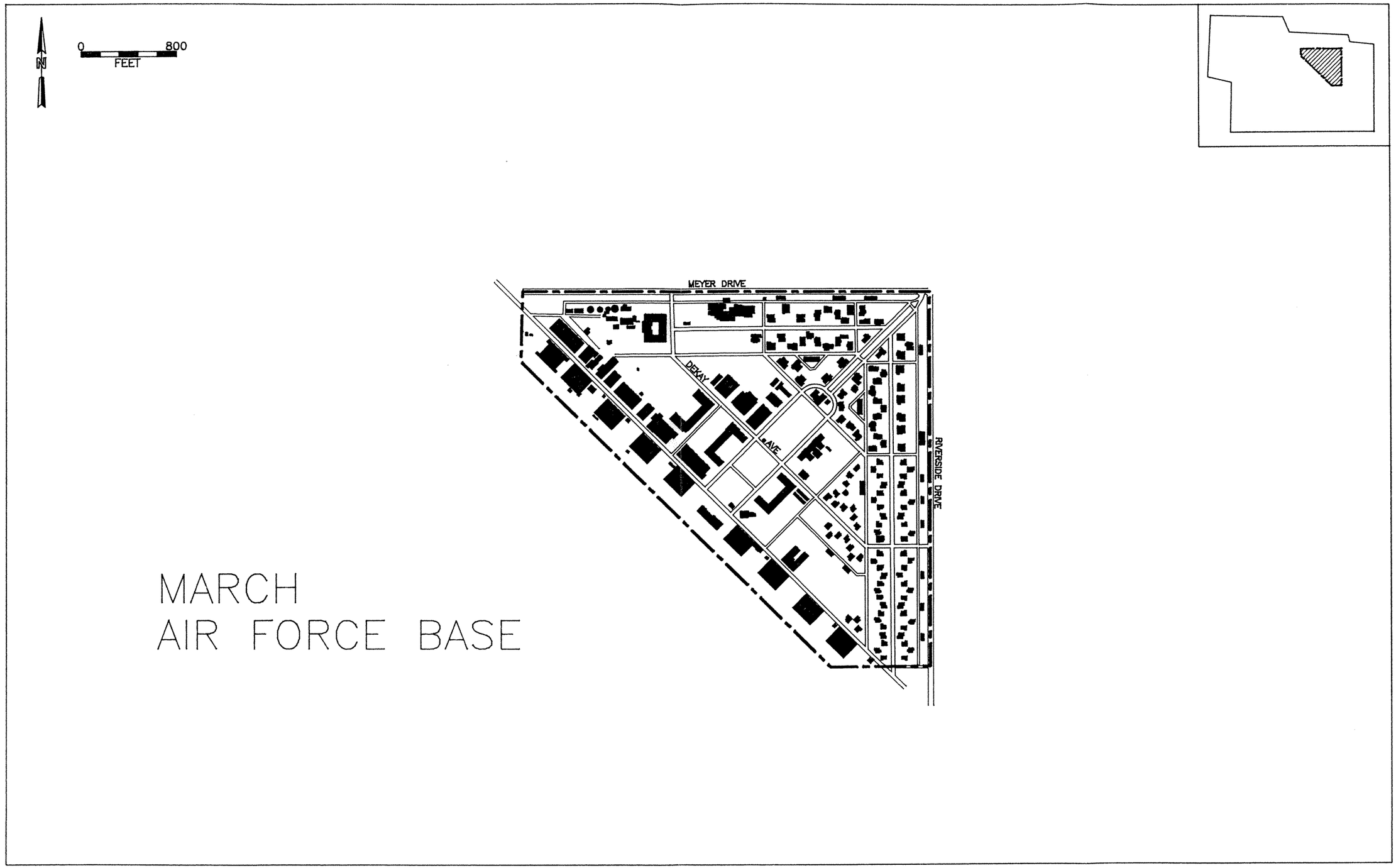
Landscape
- -Flagpole

Recreational/Social/Cultural/Religion
- -Athletic Facilities
  - -Bath House
  - -Gymnasium

- -Club (Officers')
- -Exchange
- -Theater

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
- -Garages

Transportation
- -Air-related
  - -Aircraft Hangars
  - -Air Passenger Terminal
  - -Parachute and Armament Building
- -Vehicle-related
  - -Motor Pool Complex
  - -Quartermaster Garage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TIME PERIOD 1918-1940

The Military and the Progressive Era, 1890-1918
- Army
  - World War I Aviation

The Inter-war Years, 1918-1940
- Army Air Corps
  - New Construction of Air Corps Installations
  - Air Corps Training and Logistical Support

RELEVANT THEMES

Education
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

Maxwell Air Force Base is located west of Montgomery, Alabama. It was built on a site where an early civilian flight school was conducted by the Wright Brothers for several months in 1910. In 1918, the Army leased the property and established an aviation repair depot to ensure that flying fields in the Southeast were supplied with planes and engines. The facilities included 52 temporary buildings, arranged in an L-shaped pattern.

After World War I, in common with so many military installations, the future of Maxwell was uncertain until the role of the military establishment in peace time was assessed. Maxwell became a storage depot for the air service for a brief time. In 1920, the U.S. Government purchased the property, and, in 1921, Maxwell became the home of the 22nd Observation Squadron and the 4th Photo Section.

Meanwhile, the military struggled with a nationwide military housing shortage. One report estimated that over one-third of the entire Army in the continental United States was living in temporary structures built in 1917. To remedy this situation, the U.S. Congress enacted Public Law No. 45, which authorized the Secretary of War to dispose of 43 military installations, or portions thereof, and to deposit the money received from sales into a "Military Post Construction Fund" to be used to construct housing and hospitals. New construction also was planned for installations to support the Army Air Corps Service, which began a five-year expansion program in 1926. Later in the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue military construction projects and provide jobs for the unemployed.

This massive construction effort was organized for the Army by the Quartermaster Corps, and it involved professional architects, planners, and designers. These professionals strove to

develop efficient, cohesive, and pleasant environments within reasonable monetary limits. They also tried to design buildings that were appropriate to the history and climate of the location of each installation.

In 1927, the first monies were expended for permanent construction. Maxwell Field was one of the recipients of this money. The first permanent construction began on an enlisted barracks for 163 men (Building 836). Construction also started on thirteen non-commissioned officer bungalows. The new buildings used Spanish Colonial Revival motifs with stuccoed exteriors and red clay tile roofs. The Spanish Colonial Revival style also was used at the following installations: Ft. Bliss, Ft. Bragg, Pope AFB, Ft. Sam Houston, Ft. Sill, Brooks AFB, Kelly AFB, March AFB, and Randolph AFB.

In 1927, Maxwell Field was considered briefly as a home base for a major pursuit unit of the Air Corps. However, the citizens of Shreveport, Louisiana, prevailed, and Barksdale Air Force Base was established. Instead, in 1928, it was announced that Maxwell would become the home of the Air Corps Tactical School, then located at Langley Field. Additional acreage was acquired to house the facilities for the new school. In 1929, construction started on a school building (Building 800), a hospital (Building 713), an observation and parachute building (Building 844), two-story duplex NCO quarters, hangars, and warehouses.

The TAC school developed the basic tenets of the Army Air Corps airpower employment theories and produced most of the Army Air Force leaders of World War II.

By the early 1930s, the overall plan of Maxwell described a square. The barracks were located on the north side of a central athletic and drill field. To the east were located the NCO quarters. Hangars and support buildings lined the west side of the field and the north side, beyond the barracks.

In 1931, the government acquired an additional 600 acres north and east of the original field. Officers' quarters constructed in this area formed a suburban enclave separated from the main post. French Provincial Revival style dwellings lined curved streets. The officers' club, the bachelor officers' quarters, and the golf course also were built in this section. The French Provincial Revival style also was used at Barksdale AFB and Ft. McClellan.

During World War II, Maxwell AFB was expanded. Barracks were constructed wherever space was available. Extant barracks from this period are one-story stuccoed buildings. The TAC school closed during World War II when Maxwell became the Southeast Air Corps Training Center responsible for all pilot, navigation, and bombardier training in the Southeast. After the war, Maxwell became the Army Air Forces School and, in 1946, the school was redesignated as the Air University. During the 1950s, the school moved into a new complex of buildings immediately northwest of the senior officers' housing area.

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PROPERTY TYPES

Administration
- -Fire Station/Guardhouse
- -Gatehouses
- -Headquarters, Operations, and Parachute Building

Education
- -Classroom
  - -Air Corps Tactical School building

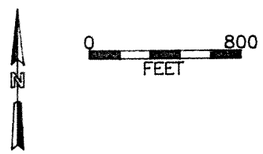
Health Care
- -Hospital
  - -Medical Detachment/Nurses' Quarters
  - -Garage

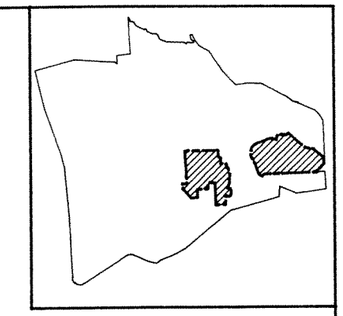
Industrial
- -Maintenance and Repair Shops
  - -Machine Shop
  - -Utility Shops
- -Storage (General Installation)
  - -Quartermaster Warehouse
  - -Commissary Warehouse
  - -Storage Buildings

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Golf Clubhouse/Course
  - -Swimming Pool
- -Clubs
  - -Enlisted Men's Club
  - -Officers' Club/Mess
  - -NCO Club
- -Exchange

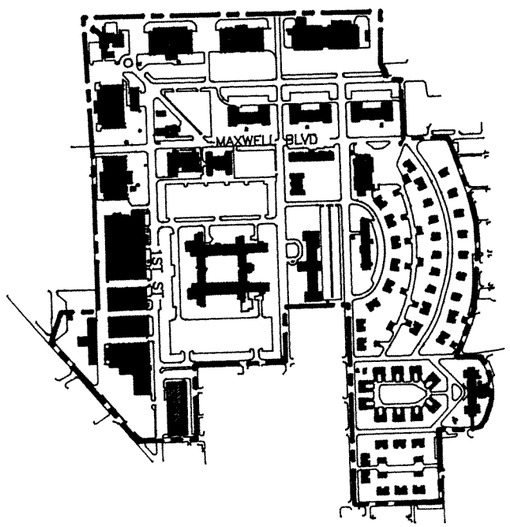
Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

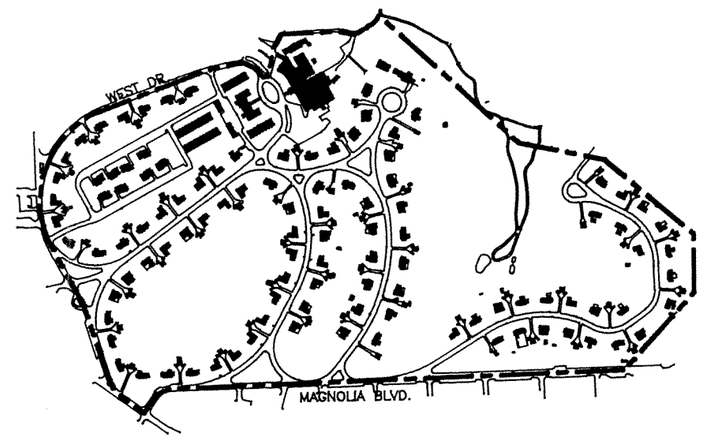
Transportation
- -Air-related
  - -Air Field
  - -Airplane Hangars
  - -Aircraft Support Shops
  - -Control and Parachute Building
- -Vehicle-related
  - -Gas Station
  - -QM Garages/Motor Pools





MAXWELL AIR FORCE BASE





TIME PERIOD 1891-1940

The Military and the Progressive Era, 1890-1918
- Army
  - Closing the Frontier and Consolidating Posts

The Inter-War Years, 1918-1940
- Army
- Army Air Corps
  - Training Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Planning and Architecture
- Consolidation and Modernization: The Transition from Eclecticism to Beaux Arts, 1875-1917
  - Army Consolidation of Posts
  - Standardization of Army Construction

INSTALLATION HISTORY AND CONTEXT

Offutt Air Force Base began as Ft. Crook, an army post established ten miles south of Omaha, Nebraska, west of the Missouri River. The suburb of Bellevue now adjoins the northern boundary of the base. The history of Offutt Air Force Base extends from the late nineteenth century to the modern strategic Air Force.

At the end of the nineteenth century, the Army began closing many of its small, isolated posts and consolidating its troops in larger, permanent installations. These permanent installations were designed to serve battalion or regimental-sized garrisons and were located near important transportation centers. The containment of the native American inhabitants into reservations and the extension of the railroads throughout the West eliminated the needed for many small, dispersed frontier posts.

Ft. Omaha was established to protect the critical transportation and commercial center of Omaha in 1868. The city eventually grew to surround the post, which limited its potential for expansion. In 1888, the Army acquired land for a new permanent post south of Omaha. Construction of Ft. Crook began in 1891, and the Army withdrew the garrison from Ft. Omaha upon the completion of Ft. Crook in 1896.

The construction at Ft. Crook reflected the Army's intention of permanence. Barracks were spacious brick buildings, far more comfortable than the primitive frontier quarters. Officers were housed in the two-story duplexes that now constitute "generals' row." Other buildings constructed at the time included bachelor officer quarters, NCO family quarters, and a post guardhouse. The construction was based on Quartermaster-standardized plans, while the layout followed the traditional Army plan of arranging the buildings around a rectangular parade ground,

officers' housing and barracks along the long sides facing each other. A blacksmith's shop is the only survivor of the stable and service area of the old Army post.

In June 1896, units from the 22nd Infantry began to arrive at the fort, and by July the entire regiment was concentrated at the fort. The regiment's arrival at Ft. Crook marked the first time in its history that it had been concentrated at one installation. The occasion provided an opportunity to train in regiment-sized formations. During the Spanish American War, the 22nd Infantry departed for service in the Philippines. After the departure of the 22nd Infantry other regiments passed through Ft. Crook enroute to either Cuba or the Philippines. During World War I the post became home to a Motor Transport training school.

Following World War I, the post resumed its role as a garrison post for infantry units, and housed the 17th Infantry, and perhaps other organizations. Ft. Crook became a regional headquarters for the Civilian Conservation Corps from 1933 to 1936.

Aviation units first arrived at Ft. Crook with the 61st Balloon Company in September 1918. Heavier-than-air aviation came in 1924, when the War Department constructed an air field adjacent to the main post. The field was dedicated Offutt Field in May 1924; however, during the inter-war years aviation remained distinctly subordinate to the ground force activities.

In anticipation of the United States' involvement in World War II, the Army expanded Ft. Crook. New barracks and maintenance shops were constructed. The post became an induction center for draftees, processing an estimated 77,000 service members. The Army also established a motor vehicle maintenance school at the fort. More importantly, the War Department also located an aircraft factory at Ft. Crook, which was operated under a contract by the Glenn L. Martin Company, to produce B-26 and B-29 bombers. After the war, the bomber plant closed down and the post temporarily became a reserve training center.

After World War II, the National Security Act of 1947 established a separate Air Force. The Army transferred several former army air corps installations to the Air Force, including Ft. Crook. On January 13, 1948, the installation became Offutt Air Force Base. Later that year, the base became the headquarters for the newly-created Strategic Air Command (SAC), a role it served until 1992, when SAC was combined into a new Air Force major command.

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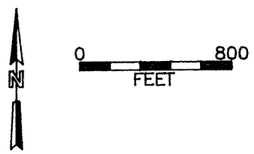
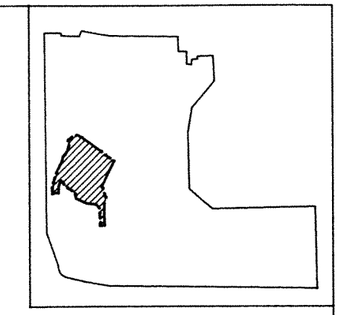
PROPERTY TYPES

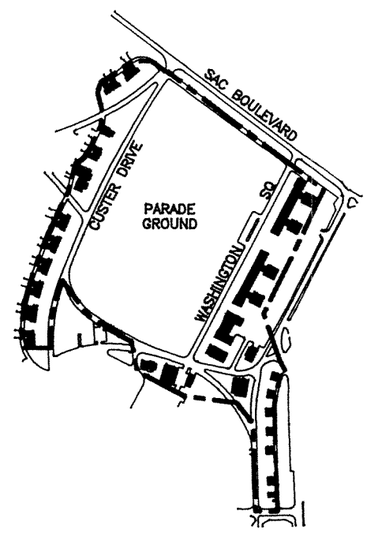
Administration
- -Fire Station
- -Guardhouse

Industrial
- -Maintenance and Repair Shops
  - -Blacksmith Shop
  - -Maintenance Shop
- -Storage (General Installation)

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officers Housing
  - -NCO housing







OFFUTT AIR FORCE BASE

TIME PERIOD 1814-1940

The Military in the Early Republic and Antebellum Era, 1790-1860
- Frontier Forts East of Mississippi

The Civil War and National Expansion, 1860-1890
- Army
  - Civil War

The Military and the Progressive Era, 1890-1916
- Army
  - Closing the Frontier and Consolidating Posts

The Inter-War Years, 1918-1940
- Army
  - Training, Coastal Defense, Schools, and Logistics

RELEVANT THEMES

Education
- Military Education during the Progressive Era and World War I, 1890 -1918
- Military Education between the Wars, 1919-1940

Medicine
- Military Medicine in the Progressive Era 1890-1918

Planning and Architecture
- Consolidation and Modernization, 1875-1917
  - Army Consolidation of Posts
  - Standardization of Army Construction

INSTALLATION HISTORY AND CONTEXT

Plattsburgh AFB is located south of the town of Plattsburgh, on the west shore of Lake Champlain, in northeastern New York state. The base has its origins in the early nineteenth century.

Northeastern New York was a strategic location during the American Revolution and the War of 1812. The newly-formed United States fortified its border with Canada and installed gunboats in Lake Ontario and Lake Champlain. After a failed U.S. offensive against the British in Canada in 1812, retreating U.S. troops, under the command of Zebulon Pike, made their winter camp at Plattsburgh. The troops built some 200 long huts which they abandoned in March of the next year. British sailors invaded and destroyed the cantonment and much of the town that same spring.

Following the return of U.S. troops to Plattsburgh in late 1813, the Army started construction of redoubts, blockhouses, and other defenses to protect the town. American land and sea forces successfully repulsed a British attack on the town in the early fall of 1814. Later that year, the U.S. government formed a 200-acre military reservation south of Plattsburgh.

Following the War of 1812, Congress reduced the size of the Army and left a single regiment to man the Plattsburgh Barracks. By 1819, the Army was sending troops from the quiet northeastern posts to secure the expanding western portion of the nation. After 1821, military cutbacks and the need for soldiers in the southeast and west left the post inactive.

In 1839, the Army undertook construction of a hospital, officers' quarters, and two barracks, around a square parade ground. One of the limestone barracks (Building 625) remains standing from this first phase of permanent military construction at Plattsburgh. After the Mexican War, the Army temporarily abandoned many of its eastern and northern posts to send troops to the West. During the Civil War, Plattsburgh Barracks served as a receiving center for volunteers. After the Civil War, regular Army infantry and artillery units reoccupied the post.

Though threatened with closure in 1882, the post remained open. Minor improvements were made, including a small brick arsenal (Building 666), built in 1888. Congressional approval of an 1891 appropriations bill allowed the Army to enlarge the post. Five hundred additional acres were added to house twelve companies. Capt. George Pond of the Quartermaster Corps directed the expansion; Capt. Pond had supervised the expansion of Ft. Riley in Kansas. Pond directed construction of new buildings arranged around an ovoid parade ground. The planning and construction of this expansion are similar to that found at other army posts that received permanent, brick construction during the 1890s and early 1900s.

The buildings constructed at Plattsburgh between 1893 and 1897 include an administration building and mess hall (Building 100), two brick enlisted barracks (Buildings 104, 426), a brick guard house (Building 108), sixteen two-and-one-half story, brick, duplex officer's quarters, a three-story, brick hospital (Building 420), frame bandstand (Building 161), and brick barracks (Building 426). The buildings were constructed according to Quartermaster-standardized plans.

After the end of the Spanish-American War in 1898, Plattsburgh took on a role of training regular Army troops. In 1915, Plattsburgh officers conducted the first of a series of reserve officers' training corps and business and professional mens' camps. Developed by Major General Leonard Wood, the "Plattsburgh Idea" of citizen-soldier preparedness became the basis for the modern reserve training concept that would help condition Americans for entry into both World Wars. This became the foundation of the Reserve Officer Training Corps program.

Some construction took place at Plattsburgh between 1900 and 1911. In 1903, a sergeant major's quarters (Building 416) was constructed next to the barracks facing the parade ground. Subsequent building to house the growing training requirements included: a two-story, brick enlisted men's barracks (Building 180); a blacksmith/carpenter shop (Building 317); and, a brick, Colonial Revival Post Civilian Engineers Quarters (Building 614).

With U.S. entry into World War I, Plattsburgh Barracks continued its service as a training facility and also served as a general hospital. Training activities conducted at the facility included officers' training camps. During 1918-1919, General Hospital #30 took over the Plattsburgh post; the hospital cared for emotionally-injured veterans.

In the years following the war, the post its training function with CMTC and ROTC camps. These activities ran from 1921 through 1938. The post received little construction activity during

the 1920s (two warehouses [Buildings 483, 652]). However, the 1930s saw a trickle of construction activity at Plattsburgh. Buildings constructed include a fire house (Building 601), a brick gymnasium (Building 414), a brick, Colonial Revival barracks (Building 308), and a brick chapel (Building 306).

The facility was occupied by the Army until 1944. In 1944, Plattsburgh Barracks was transferred to the Navy and renamed Camp MacDonough. New York state acquired the property in 1946 and opened Champlain College. In 1953, the federal government reclaimed the property for use as Plattsburgh Air Force Base, occupied by the Strategic Air Command.

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PROPERTY TYPES

Administration
- -Fire Station
- -Guardhouse
- -Headquarters-Regimental

Health Care
- -Hospital

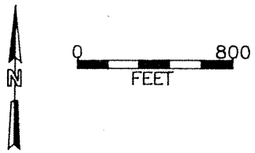
Industrial
- -Maintenance and Repair
  - -Blacksmith/Carpenter Shop
- -Storage (General Installation)
  - -Powder Magazine
  - -Storehouse

Landscape
- -Oval Parade Ground

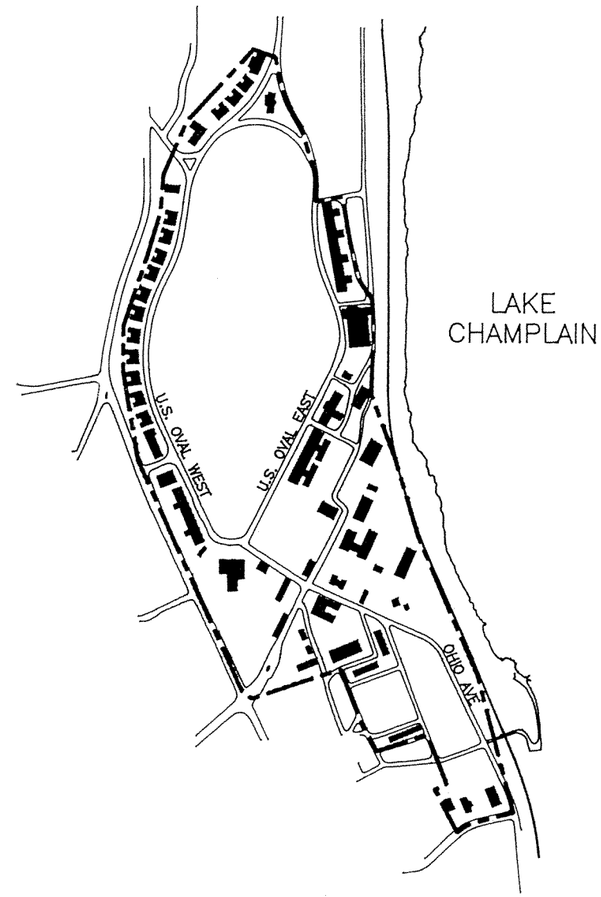
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Gymnasium
- -Band Stand
- -Chapel
- -Theater
- -Band Stand

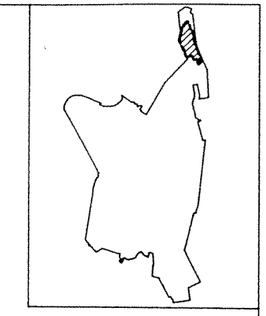
Residential
- -Institutional Housing
  - -Barracks
  - -Mess Hall
- -Family Housing
  - -Officer Housing
  - -NCO Housing
  - -Civilian Engineer's Quarters

Transportation
- -Animal-Related
  - -Stables



PLATTSBURGH AIR FORCE BASE





TIME PERIOD 1917-1940

The Inter-war Years, 1918 - 1940
Army Air Corps
New Construction of Air Corps Installations

RELEVANT THEMES

Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940
Army Construction

INSTALLATION HISTORY AND CONTEXT

Pope Air Force Base, a 1,706- acre installation, is located near Fayetteville, North Carolina. It is adjacent to Ft. Bragg, which was a World War I training cantonment the Army retained after the war and eventually transformed into a permanent artillery post. The Army opened Pope Field in 1919 to support Army artillery activities at Camp Bragg. The men stationed at Pope, at first, performed support duties, such as aerial photography, mapping, spotting, forest-fire reporting, and carrying the mail, using balloons and single-engine biplanes. By 1924, Pope Field had approximately forty officers and enlisted men and fourteen aircraft ("Jenny's"). In 1927, fourteen Keystone and Curtiss bombers were assembled at Pope Field for experimental bombardment maneuvers. During the 1920s, the Army conducted air and ground forces joint maneuvers at Pope Field and Camp Bragg. The field included a grass airstrip and four temporary hangars. No structures remain from the 1919 - 1933 cantonment.

In 1926, in recognition of the poor condition at Army airfields and of the importance of military aviation, Congress enacted a nationwide Army construction program and a five-year Army Air Corps expansion program. The Secretary of War was authorized to dispose of forty-three installations, or portions thereof, and to deposit the money received from sales into a special fund designated the "Military Post Construction Fund" to construct housing and hospitals. In 1927, the first monies were expended. During the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects.

The Construction Service of the Quartermaster Department organized the nationwide construction program that affected both Army and Army Air Corps installations. The Quartermaster Department's efforts included post planning, building design, and monitoring construction projects. The massive construction program involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations.

During the mid-1930s, the mission of Pope Field changed from local support operations to transport of supplies, bombs, and equipment for the Army Air Corps. New hangers were erected in 1934, which were large enough to house any aircraft of the day. A large balloon hanger was shipped from California and assembled at the airfield; it is no longer standing. The growth of aviation activities led to the construction of a permanent cantonment for the airfield, including an enlisted mens' barracks, dispensary, officers family housing, NCO family housing, an administration building, dispensary, and fire station. The building designs incorporated elements from the Georgian Colonial Revival architectural style. Other installations constructed during the 1930s where the Georgian Colonial Revival architectural style was used include Ft. Devens, Massachusetts; Ft. Meade, Maryland; Ft. Knox, Kentucky; and, Ft. Lewis, Washington. In 1939, Pope Field had twenty-eight permanent and seven temporary buildings.

During World War II, air and ground crews were trained at Pope Air Force Base for airborne and aerial resupply missions. The first massed paratroop drop was organized at the installation in 1941. Pope Air Force Base was under the Continental Air Command until 1950, when the Tactical Air Command assumed control. Between 1954 and 1971, Pope Air Force Base was the home of the 464th Troop Carrier Wing. In 1971, the 317th TAW was moved to Pope Air Force Base. In 1975, the WSAF Airlift Center was activated.

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PROPERTY TYPES

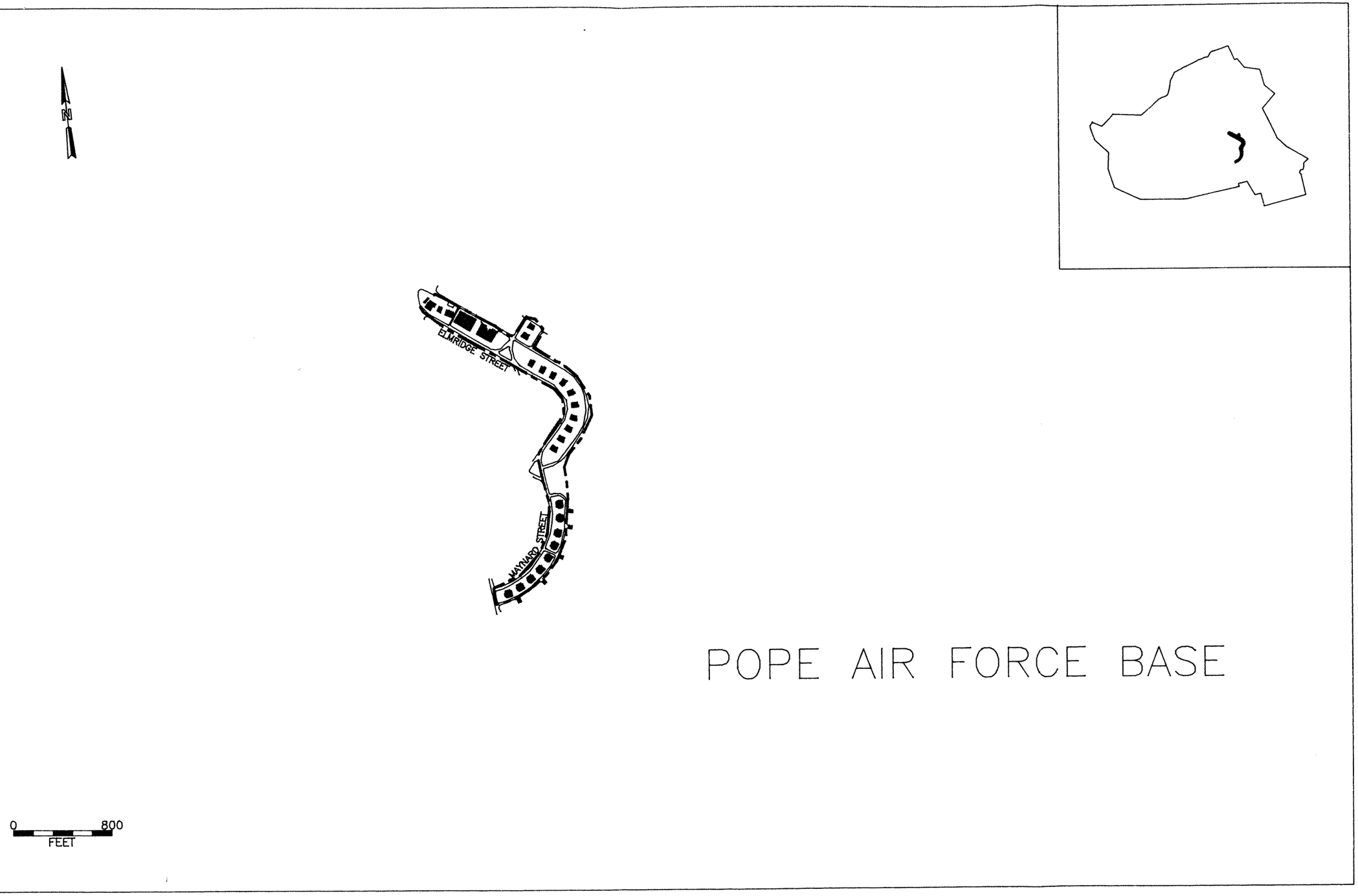
Administration
- -Fire Station
- -Headquarters Building

Health Care
- -Dispensary

Recreation/Social/Cultural/Religion
- -Chapel
- -Theater

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
- -Family Housing
  - -Commanding Officer's Quarters
  - -NCO Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Airplane Hangars
  - -Support Buildings
    - -Paint, Oil, and Dope Storehouse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TIME PERIOD 1928-1940

The Inter-war Years, 1918-1940
Army Air Corps
New Construction of Air Corps Installations
Air Corps Training and Logistical Support

RELEVANT THEMES

Education
Military Education between the Wars, 1919-1940
Planning and Architecture
Inter-war Years: Regional Architecture and Community Planning, 1919-1940
Army Construction

INSTALLATION HISTORY AND CONTEXT

Randolph Air Force Base is located sixteen miles east of San Antonio, Texas. It was founded as part of a five-year expansion of the Army Air Corps program approved by the Congress in 1926 and constructed as part of the Army nationwide construction program, also enacted in 1926. As part of the five-year expansion program, the Army Air Corps received more up-to-date aircraft and increased numbers of personnel.

Training was a major priority of the aviation expansion program. Until 1926, the Army conducted primary flight training at Brooks Field and advanced flight training at Kelly Field, both near San Antonio. With the expansion of the Army Air Corps, the War Department re-examined its aviation program, and created two new positions for Assistant Chiefs of the Army Air Corps. One was in charge of Air Corps Training in San Antonio, while the second controlled logistics, research, and engineering experimentation at Wright Field in Ohio. Brigadier General Frank P. Lahm, who supervised training, concluded that the existing flying fields provided inadequate space and facilities for training.

In 1926, based on Lahm's reports, the Chief of the Army Air Corps, Major General Mason Patrick recommended the construction of a new flight training center near San Antonio. Between 1926 and 1928, the Army Air Corps and the citizens of San Antonio sought a suitable site for the new training field. Finally, the city of San Antonio acquired the current site and donated it to the War Department.

Funding for construction of the new airfield came from the disposition of forty-three military installations that became the "Military Post Construction Fund" to construct housing and hospitals. In 1927, the first monies were expended. During the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects.

In general, the Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the installation locations.

Randolph was an exception to the standard Army design process of the time. 1st Lt Harold L. Clark, who had received architecture training before joining the Army Air Corps, designed Randolph's plan before the site was selected. Clark's plan followed a symmetrical geometric pattern that allowed the physical separation of various functions. Aircraft ramps and runways were located on three sides of the field, forming a square perimeter that framed a circular interior layout. The multiple runways at the edges of the plan separated pilots of differing skill levels and planes with differing runway requirements. Important structures are located along a central axis starting at the front gate, linking the administration building, commander's house, and officer's club, and culminating in the cadet training school. The cadet area occupies the south area of the post; officers' housing lines the concentric roads radiating from the center of the plan; the School of Aviation Medicine and hospital occupy the southwest triangle formed by the circle in the square; and, the storage and service buildings occupy the northwest quadrant.

The design led to a confrontation between the Quartermaster General, whose department generally designed installations, and the Chief of the Air Corps. In the end, the Secretary of War ordered the Quartermaster General to build the installation according to the wishes of the Chief of Air Corps, who backed Clark's innovative plan for an "Air City."

On 11 October 1928, construction crews began to clear the site and to install underground communications and power lines, sewage systems, and road systems. In 1929, construction of buildings began. The design of buildings was a combined effort between the Quartermaster Corps, Air Corps personnel, and civilian architects. Clark contributed the original design of the administration building, that combined offices, a theater, and a water tower into a single building (Building 1); the local architectural firm of Ayres and Ayres developed the construction drawings for the building, which, with its unique Art Deco tower, became a symbol for aviators. Local architect Herbert F. Greene designed the Commanding General's Quarters. The post exchange and chapel also are individually-designed buildings that did not follow standard plans. The Quartermaster Corps supplied the plans for other building types, including hangars, NCO housing, officer housing, barracks, warehouses, and Quartermaster support buildings. The architectural style chosen for the installation was the Spanish Colonial/Mission Revival. Construction of most of the new training facility was completed by 1931.

On 1 October 1931, the Air Corps Training Center moved into its new headquarters. The flying schools at March and Brook Fields were transferred to Randolph. The Air Training Center consisted of the Primary Flying School, the School of Aviation Medicine, and a cadet ground school. The Advanced Flying School remained at Kelly Field. Since its construction, Randolph AFB has been one of the largest flying schools in the world. The original plan and buildings remain substantially intact. Today, Randolph is the headquarters of the Air Training Command, and hosts the 12th Flying Training Wing, which trains pilots to be pilot instructors, screens potential pilots, and provides navigator training, as well as other major associate units.

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PROPERTY TYPES

Administration
- -Administration Building
- -Fire Station
- -Guardhouse

Communications
- -Radio Beacon Range Building
- -Radio Transmitter Building

Education
- -Academic Buildings
- -School of Aviation Medicine

Health Care
- -Hospital

Industrial
- -Maintenance and Repair Shops
  - -Engineering Shops
  - -Dope Shop
- -Service Facilities
  - -Bakery
- -Storage (General Installation)
  - -Warehouses
  - -Quartermaster Storehouses
  - -Oil Storage Building

Infrastructure
- -Power Plants
  - -Gas Meter House and Electric Substation
- -Water and Sewage Systems
  - -Pump house for Sprinkler System

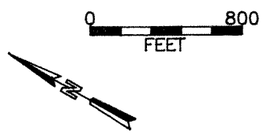
Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Tennis Courts
  - -Swimming Pool
- -Chapel

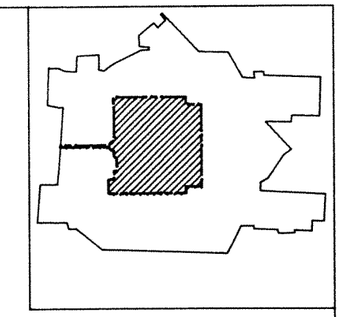
- -Clubs
  - -Officers' Club
  - -NCO Clubs
- -Elementary School
- -Post Exchange

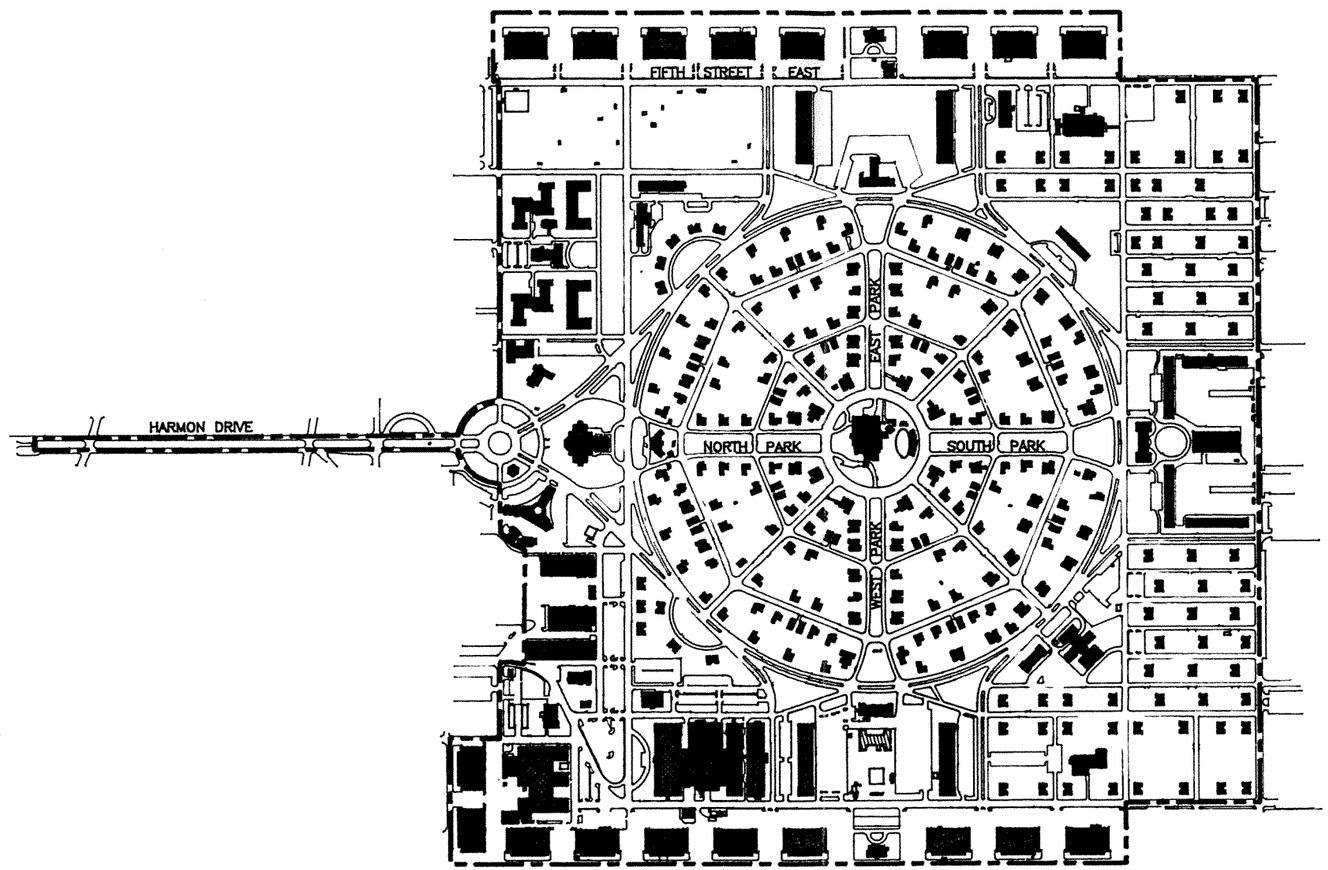
Research and Development
- -Aerial Medical Research Building
- -Airplane Engine Test Stands

Residential
- -Institutional Housing
  - -Bachelor Officers' Quarters
  - -Barracks
  - -Mess Halls
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officer Housing
  - -NCO Housing
  - -Garages

Transportation
- -Air-related
  - -Airplane Hangar
  - -Operations and Parachute Building
- -Vehicle-related
  - -Gas Station
  - -Post Garage
  - -PX Garage







RANDOLPH AIR FORCE BASE

TIME PERIOD 1917-1940

The Military and the Progressive Era, 1890-1918
- Army
  - World War I Army Aviation

The Inter-war Years, 1918-1940
- Army Air Corps
  - New Construction of Air Corps Installations

RELEVANT THEMES

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

Technology
- Military Aircraft

INSTALLATION HISTORY AND CONTEXT

Scott Air Force Base is located in Illinois about 30 miles east of St. Louis, Missouri. The facility originally was leased to the United States Government for use as an air field in 1917 when the U.S. entered World War I. The facility was used to train pilots and ground crews. Its original building stock was World War I temporary mobilization buildings sited in a linear pattern.

The U.S. government purchased Scott Field in 1919. In 1921, Scott became a "lighter-than-air" station for airships and balloons; an airship hangar (no longer standing) was constructed in 1923. The facility retained this function until 1937, when dirigibles and balloons were eliminated and replaced by airplanes. Only Building 7 (1923) remains from the 1920s; it was constructed as an electric sub-station.

Permanent buildings were constructed at Scott AFB during the nationwide Army construction program and the five-year Army Air Corps expansion program enacted in 1926. In 1927, the first monies were expended in 1927 for permanent construction at Army air fields and permanent installations. Later during the 1930s, work relief money was channeled through the Works Progress Administration (WPA) and the Public Works Administration (PWA) to continue installation construction projects. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations.

During the 1930s, the configuration of Scott AFB was modified from a linear plan into a triangular one, as permanent buildings replaced the original temporary buildings. The original

linear plan is seen in the location of the permanent housing, which was constructed while the 1918 hangars still were in use. The hangars themselves were replaced by additional housing and by the operations building. A large new hangar, completed in 1939, is located at the apex of the triangle. Between 1930 and 1935, NCO quarters and a barracks (Building 40 E) were constructed. Between 1936 and 1939, additional permanent buildings also were constructed, including NCO quarters, officers' quarters, bachelor officers' quarters, a commissary, a gymnasium, an NCO club, and warehousing and support facilities. In 1940, more officers' quarters, garages, a headquarters building, a hospital, a theater, a swimming pool, and a power plant were completed. In 1938-39, the large dirigible hangar was demolished and concrete runways were built.

At Scott AFB, the permanent buildings utilized standardized Quartermaster plans reflecting the Georgian Colonial Revival architectural style. The buildings were constructed of red brick and feature Classical detailing in white trim. Other installations where the Georgian Colonial Revival style of architecture was used include Ft. Knox, Ft. Devens, Ft. Lewis, Ft. Belvoir, Ft. Monmouth, Ft. Monroe, Bolling AFB, and Selfridge AFB.

During World War II, Scott was used to train radio operator-mechanics. In 1948, Scott became an important base for the U.S. Air Force Military Air Transport Service (MATS) with the responsibility for airlifting all military and other authorized government medical patients. In 1949, the installation became the Headquarters for the Air Training Command (ATC) until 1957, when this function was transferred to HQ MATS. Today Scott is the headquarters of 3 major commands: the Military Airlift Command, the Air Force Communications Command, and the U.S. Transportation Command.

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United States Air Force. "Fact Sheet: Scott Air Force Base," 1990.

PROPERTY TYPES

Administration
- -Administration Headquarters Building
- -Fire Station/Guardhouse
- -Wing HQ Command Post

Health Care
- -Hospital-Post

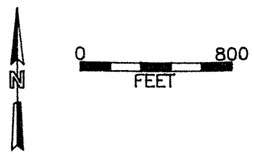
Industrial
- -Maintenance and Repair Shops
  - -Aircraft Machine Shops
  - -Utility Shops/Buildings
  - -Electrical buildings
- -Storage (General Installation)
  - -Storage Buildings
  - -Warehouses/Commissary
  - -Ammo Storage Facilities

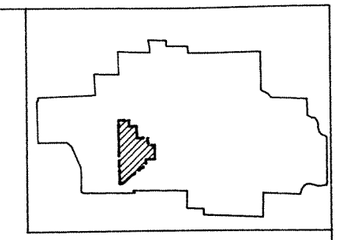
Infrastructure
- -Power Plant
  - -Electrical Sub-Station
- -Water and Sewage Systems
  - -Water Towers

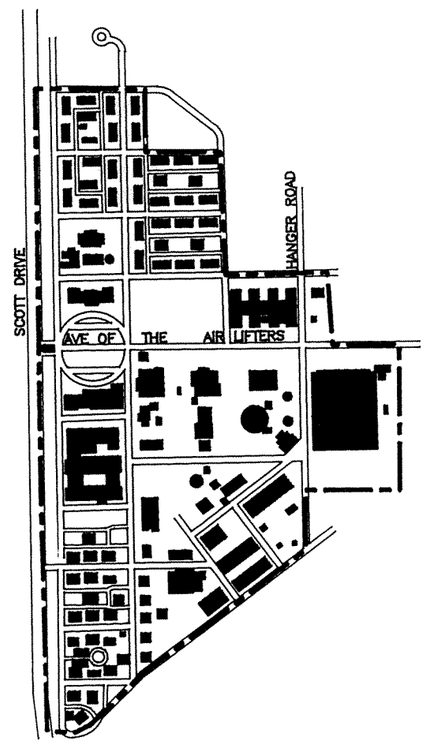
Recreational/Social and Cultural
- -Athletic Facilities
  - -Gymnasium
  - -Enlisted Men's Club
  - -Swimming Pool
- -Exchange
- -Red Cross Building
- -Theater

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officer Housing
  - -NCO Housing
  - -Garages

Transportation
- -Air-related
  - -Air field
  - -Airplane hangar
- -Vehicle-related
  - -Gas Station







SCOTT AIR FORCE BASE

TIME PERIOD 1917-1939

The Military and the Progressive Era, 1890-1918
- Army
  - World War I Army Aviation

The Inter-war Years, 1918-1940
- Army Air Corps
  - New Construction of Air Corps Installations
  - Air Corps Training and Logistical Support

RELEVANT THEMES

Education
- Military Education between the Wars, 1919-1940

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

INSTALLATION HISTORY AND CONTEXT

Selfridge Air National Guard is located on the shores of Lake St. Clair, approximately 30 miles north of Detroit. The site of Selfridge Air National Guard originally was leased by the United States Government as an air field, when the U.S. entered World War I in 1917. The field had previously been used as an aviation field by Henry B. Joy, a private Michigan realtor. The original field was constructed with World War I temporary mobilization buildings sited in a linear pattern. The installation was used for a pilot training and gunnery school and, during inclement winter weather, as an airplane mechanics school. After World War I, Selfridge became a pursuit (fighter) field. In 1921, the U.S. Government purchased the field as a permanent installation. In 1922, Selfridge became the home of the 1st Pursuit Group, which occupied the installation for the next 20 years.

Permanent buildings were constructed at Selfridge AFB following the nationwide Army construction program enacted in 1926 and the authorized five-year expansion of the Army Air Corps. The Construction Service of the Quartermaster Corps organized the nationwide construction program, including post planning, building design, and monitoring of construction projects. The massive construction effort involved both military and civilian professional architects, planners, and designers. These professionals strove to develop efficient, cohesive, and pleasant environments within reasonable expenditures. Standardized plans were issued that incorporated building design elements appropriate to the history and climate of the locations of the installations.

The first monies were expended in 1927 for permanent construction at Army air fields and permanent installations. Selfridge was a recipient of this early funding. Housing, in particular, was a crucial need at the installation, since the World War I temporary barracks provided inadequate housing during the winter. The first permanent facilities included NCO quarters and five new barracks. Additional buildings constructed between 1932 and 1935 included the officers quarters,

hangars, repair shops, warehouses, more NCO housing, bachelor officers' quarters, and officers' mess.

During the 1930s, the plan of Selfridge AFB was modified from its original linear plan and reflects the geography of site. Officers' housing and barracks were located to take advantage of the shores of Lake St. Clair. Permanent hangars were constructed along the original flightline, replacing the original 1918 hangars at a 120° angle to housing. Operations support buildings are located behind the permanent hangars.

At Selfridge AFB, the permanent buildings were standardized Quartermaster plans reflecting the Georgian Colonial Revival architectural style. The buildings were constructed of red brick and feature Classical detailing in white trim. Other installations where the Georgian Colonial Revival style of architecture was used include Ft. Knox, Ft. Devens, Ft. Lewis, Ft. Belvoir, Ft. Monmouth, Ft. Monroe, Bolling AFB, and Scott AFB.

In 1935, Selfridge became one of the top-level General Headquarters Air Force installations; the five other locations were: Mitchell Field in New York; Langley Field in Virginia; Barksdale Field in Louisiana; March Field in California; and Selfridge Field in Michigan. With the outbreak of World War II, Selfridge was expanded both in acreage and in temporary construction. The facility was used to train pilot squadrons, including the all-black unit 332nd Fighter Group. In 1971, the operations portion of the base was transferred from the Air Force to the Air National Guard to support National Guard and Reserve training. Currently, this federal property is leased to the State of Michigan. The Army retains the housing.

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"Selfridge ANG Base - An Unofficial History." MSS, Public Affairs Office, Selfridge ANG Base, Michigan, [1977].

Selfridge Air Force Base 50th Anniversary, 1917-1967, 1967. Selfridge AFB, Michigan: 1st Fighter Wing-Air Defense, [1967].

PROPERTY TYPES

Administration
- -Fire Station/Guardhouse
- -Headquarters and Operations Building

Health Care
- -Hospital

Industrial
- -Maintenance and Repair Shops
  - -Utility Shops/Buildings
  - -Electrical Buildings

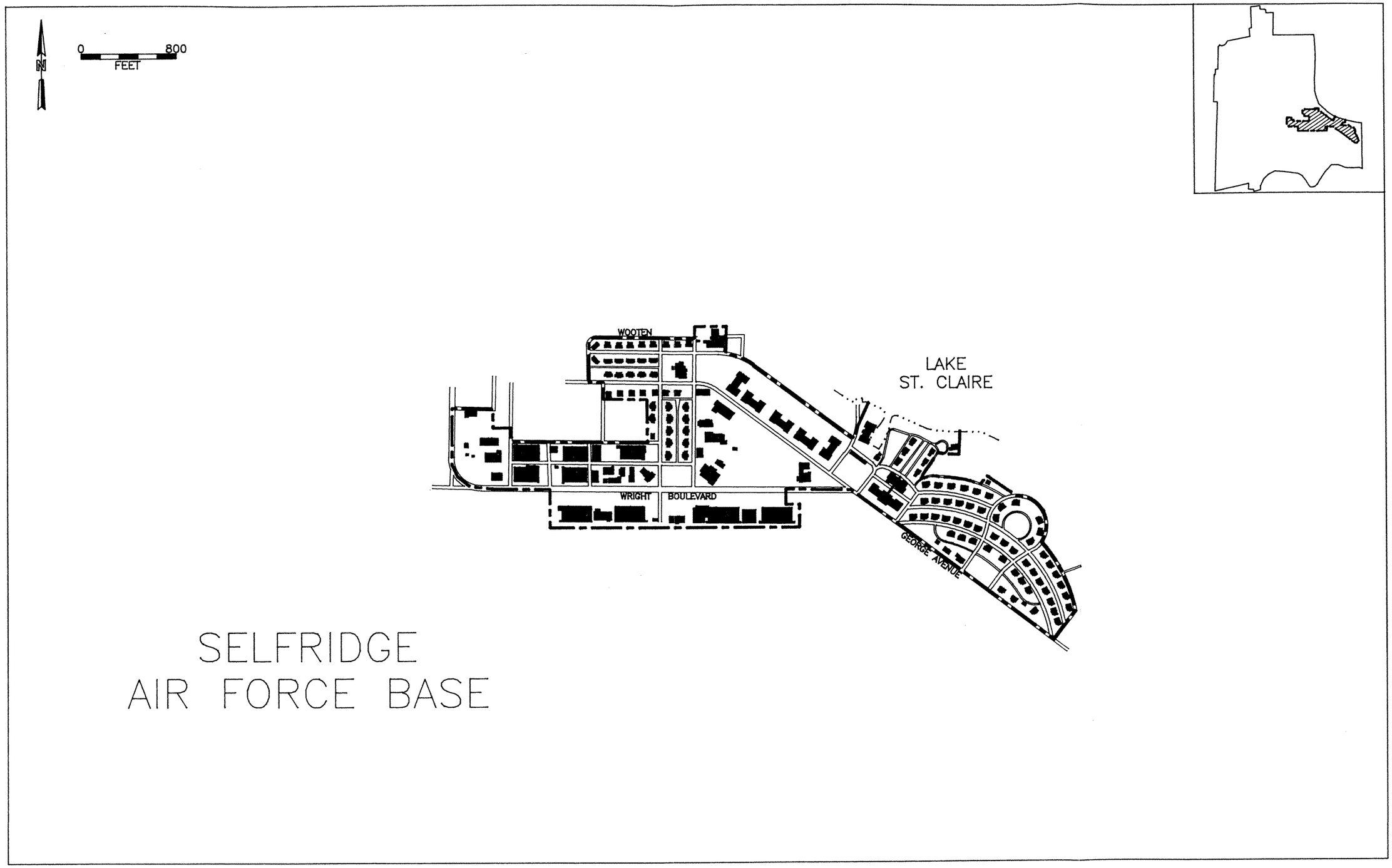
- -Service Facilities
  - -Bakery
- -Storage
  - -Storage Buildings
  - -Warehouses/Commissary

Infrastructure
- -Power Plant
  - -Heating Plant
  - -Electrical Sub-Station
- -Water and Sewage Systems
  - -Water Towers
  - -Pumphouse

Recreation/Social/Cultural/Religion
- -Athletic Facilities
  - -Boathouse/Theater
- -Clubs
  - -Officers
  - -Enlisted Men's Club
- -Exchange

Residential
- -Institutional Housing
  - -Barracks
  - -Bachelor Officers' Quarters
- -Family Housing
  - -Commanding Officer's Quarters
  - -Officer Housing
  - -NCO Housing
- -Garages

Transportation
- -Air-related
  - -Airfield
  - -Airplane Hangars
  - -Control Tower
  - -Parachute Building
  - -Aircraft Machine Shops
  - -Dope House
- -Vehicle-related
  - -Gas Station
  - -Motor Pool
  - -Quartermaster Garage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WOOTEN
LAKE
ST. CLAIRE
WRIGHT BOULEVARD
GEORGE AVENUE
SELFRIDGE
AIR FORCE BASE

TIME PERIOD 1918-1940

The Military and the Progressive Era, 1890-1918
- Army
  - World War I Army Aviation

The Inter-war Years, 1918-1940
- Army Air Corps
  - New Construction of Air Corps Installations
  - Air Corps Training and Logistical Support

RELEVANT THEMES

Planning and Architecture
- Inter-war Years: Regional Architecture and Community Planning, 1919-1940
  - Army Construction

Technology
- Military Aircraft

INSTALLATION HISTORY AND CONTEXT

Wright-Patterson Air Force Base is located approximately ten miles east of Dayton, Ohio. The installation has a long history connected to the development of aviation in the United States. Included in its acreage is Huffman Flying Field where Wilbur and Orville Wright perfected their heavier-than-air flying machine between 1904 and 1905, after its initial success at Kitty Hawk, N.C. The Wright Brothers returned to Huffman Flying Field between 1910 and 1916, when they operated the Wright Company School of Aviation there. This site is now a National Historic Landmark. The Wright Brothers sold the Army its first aircraft.

After the outbreak of World War I in 1917, three military installations were established in the Dayton area to utilize local aviation expertise. Wilbur Wright Field and the Fairfield Aviation General Supply Depot were leased on what is now Wright-Patterson AFB, Area C. The air field was a typical linear plan with wood-frame hangars, none of which survive today. The supply depot had more permanent warehouses, two of which exist today (Buildings 1, 2). Wilbur Wright Field served as a training center for pilots and mechanics; Fairfield depot provided logistical support for Signal Corps Aviation Schools throughout the midwest.

McCook Field, the third military facility established in Dayton, became an engineering and research facility; it was planned as the temporary home for the Airplane Engineering Division until the completion of Langley Field in Virginia. McCook became the center for research, development, manufacturing, testing, and evaluation of aircraft and aircraft components. In 1918, under a cooperative agreement, McCook began to use the aviation facilities at Wilbur Wright Field to support research and test activities. The development of larger airplanes rendered McCook Field obsolete, and the Air Corps finally announced that McCook operations would be removed from Dayton.

A citizens' group organized to keep the Air Corps in Dayton. They raised funds to purchase the property where Wilbur Wright Field and Fairfield Air Depot were located as well as additional acreage. The deeds to the land were presented to the U.S. Government in 1924. Between 1925 and 1927, new facilities were constructed in Area B to house all the operations formerly at McCook Field. In 1927, McCook Field finally closed, and the entire installation was designated officially Wright Field after Wilbur and Orville Wright. In 1931, the northern portion of the installation was designated Patterson Field to honor Lt. Frank Stuart Patterson, a nephew of the Patterson family who helped raise the funds to keep the Air Corps in Dayton.

Since 1927, Wright-Patterson AFB has been a major leader in research and development of aircraft. During the 1920s and 1930s, many industrial and research facilities were constructed at the installation. Many of these are one-of-a-kind buildings, constructed for specific research and test purposes to support research and development of aircraft. During 1934-1935, permanent on-base housing was constructed; 67 Tudor Revival officers quarters, 50 garages, an officers' open mess, and a commander's residence were completed. The quarters were arranged in a horseshoe pattern with a large pond in the center ornamented with concrete turtles. With the entry of the United States into World War II, the facilities again were greatly expanded with both permanent and temporary construction.

In 1947, when the U.S. Air Force was established as a separate military service, Wright and Patterson Fields were merged to form Wright-Patterson Air Force Base. Today the installation serves as the headquarters for the Air Force's worldwide logistics system; the headquarters for aeronautical systems; the Air Force Institute of Technology; and the U.S. Air Force Museum, among other functions. Wright-Patterson is the largest and most organizationally complex base in the U.S. Air Force, and it is the largest employer among Air Force bases worldwide.

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PROPERTY TYPES

Administration
- -Administration Headquarters Buildings
- -Offices
- -Fire Station
- -Gatehouses

Communications
- -Radio Building

Health Care
- -Hospital

Industrial/Processing/Extraction
- -Maintenance and Repair Shops
  - -Utility/Engineering/Maintenance Shops
  - -Assembly/Engineering/Maintenance Shops
- -Service Facilities
  - -Laundry
- -Storage (Depots and Supply Centers)
  - -Warehouses
- -Storage (General Installation)
  - -Storage Buildings
  - -Commissary

Infrastructure
- -Power Plant
  - -Central Heating Plant
  - -Electric Sub-station
- -Water and Sewage System
  - -Water Plants
  - -Water Pumphouses

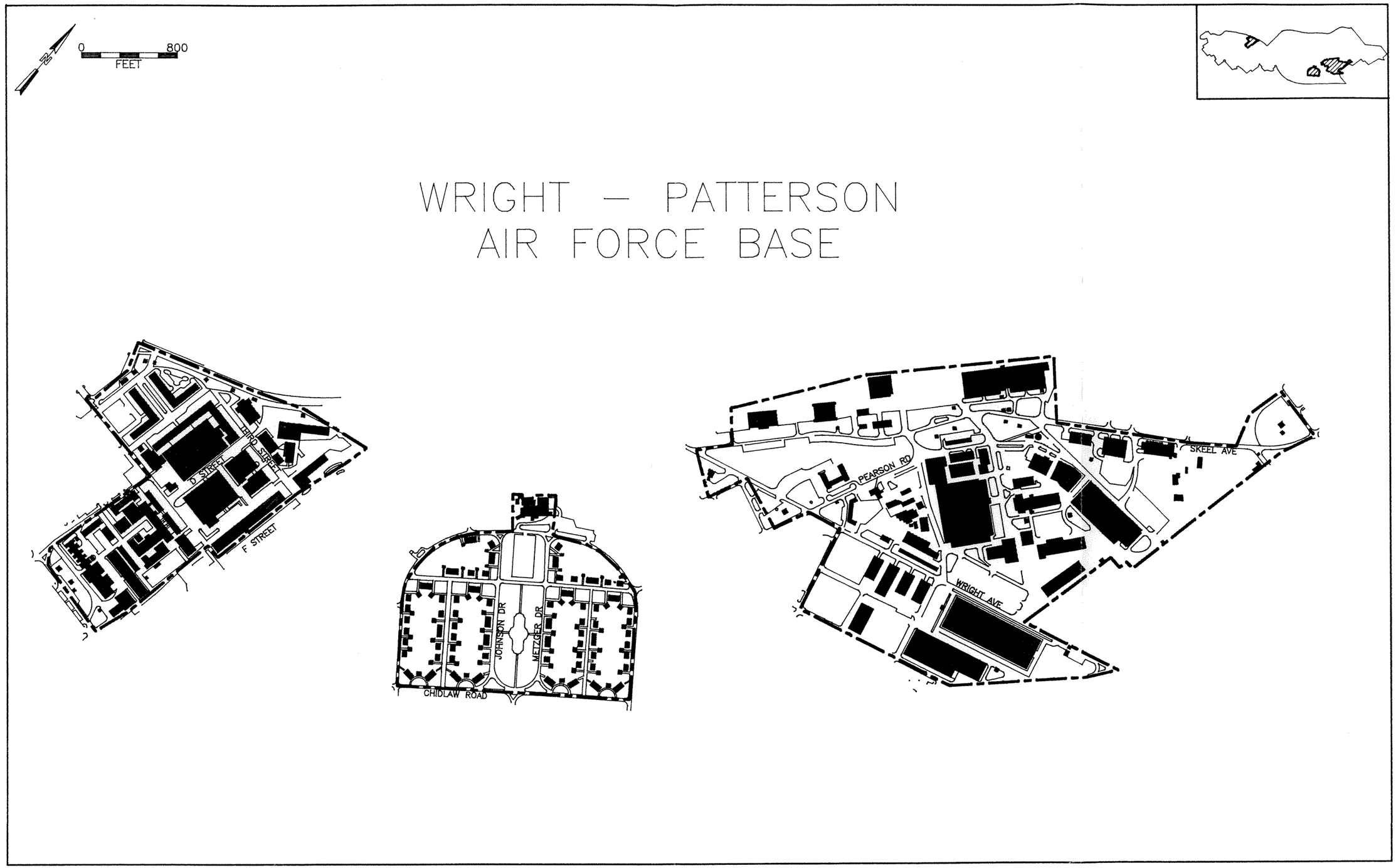
Landscape
- -Turtle Pond in housing area

Recreation/Social/Cultural/Religion
- -Club
  - -Officers' Club

Research and Development
- -Laboratory Building
- -Aircraft Radio Laboratory
- -Wind Tunnels
- -Materials Laboratory
- -Power Plant Laboratory
- -Armament Laboratory
- -Propeller Laboratory
- -Static Test Laboratory

Residential
- -Family Housing
  - -Officer Housing
  - -Garages

Transportation
- -Air-related
  - -Airfields
  - -Airplane Hangars
  - -Control Towers
  - -Parachute Building
  - -Aircraft Machine Shops
- -Vehicle-related
  - -Gas Station
  - -Garages/Motor Pools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AIR FORCE BASE
D STREET
THIRD STREET
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JOHNSON DR
METZGER DR
CHIDLAW ROAD
PEARSON RD
SKEEL AVE
WRIGHT AVE

TIME PERIOD 1925 - 1940

The Inter-war Years, 1918-1940
Army Air Corps
Air Corps Training and Logistical Support

RELEVANT THEMES

Education
Military Education between the Wars, 1919-1940

INSTALLATION HISTORY AND CONTEXT

Located on Michigan's lower peninsula, 200 miles north of Detroit, Wurtsmith AFB is a 5,204 acre facility bounded by Lake Michigan to the east, Lake Van Ettan on the northeast, and Huron National Forest on the north, south, and west.

In 1923, while on a fishing trip from Selfridge Field to Oscode, Michigan, Lieutenant Ennis C. Whitehead realized that the frozen surface of Van Ettan Lake would serve very well as a runway, and that this sparsely populated area of Michigan would provide an excellent gunnery range. At the same time, the newly established Army Air Service was looking for a place to test personnel and equipment under severe weather conditions.

Between 1924 and 1925, the installation opened as Camp Skeel, an auxiliary field of Selfridge Army Air Field. The new facility served as a gunnery test range and a training site for winter flying operations through the 1940s. During the late 1920s and the 1930s, elements of the Selfridge-based 1st Pursuit Group conducted winter and summer maneuvers at the installation. The function of the base changed in 1940 and 1941 when two new squadrons, added to the 1st Pursuit Group, could not use the post because of its restricted facilities and range areas. A year later, officials decided to turn the facility into an auxiliary field for the defense of Sault Ste. Marie and the straits of Mackinac.

Most of the construction at Camp Skeel took place during the installation's opening phase during the mid-1920's. The structures built included a temporary wooden building which served as officer's quarters and mess. Other improvements made at the post in the remaining interwar years included the construction of wooden hutments, macadam runways, and a gunnery range.

During World War II, the identity and mission of the installation changed to fit the varying needs of the war. The Third Air Force first organized an auxiliary field at Camp Skeel in June 1942. In August, the post received the designation of Oscoda Army Air Field (AAF), and the post remained a sub-installation of Selfridge Field. By 1943, the facility had begun to train pilots bound for overseas duties. The base was designated as a independent post in 1944. However, near the end of World War II, the base was reduced to caretaker status and became a sub-base of Selfridge once more. In 1945, the field was closed completely as the war in Europe came to a close.

Like other Army Air Corps facilities during the period immediately before and after U.S. entry into World War II, Wurtsmith AFB field saw extensive temporary and some permanent building construction. Officials directed demolition of all except two original structures at the base, the NCO club and the post exchange building, in preparation for this buildup. The structures built included a bachelor officer's quarters and mess, a hangar, a storage building, two bomb range buildings, and runways. Later construction projects produced much of the housing, service, and operational facilities necessary to the base's functioning during the war.

Following war's end, officials first redesignated the field as a Strategic Air Command (SAC) Installation on March 31, 1946, and later as a Continental Air Command facility on December 1, 1948. The post reopened as Oscode AFB that same month. The Air Defense Command received control of the base in 1951. The base received the name Wurtsmith AFB on July 4, 1953, and became a permanent installation on May 2, 1955. Until 1960, the post served as a training center and home base for fighter units. Strategic Air Command (SAC) took command of the base on April 1, 1960. With this change in command, the base assumed a new mission as a strategic bomber base. Bomber base duties continued through to the present, although fighter basing stopped in 1968. The base continues to play an important part in the nation's defenses today.

No buildings from the pre-1940 period remain at Wurtsmith AFB. It is uncertain when the last two buildings from the 1920s were demolished, but perhaps it was during the base expansion of the late 1950s, when Wurtsmith became a permanent Air Force installation.

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Wolf, Mary T. "History of Wurtsmith Air Force Base, 1924-1980." MSS, Wurtsmith AFB, Michigan, [1980].

PROPERTY TYPES

No pre-1941 buildings remain on the installation.