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CRBIB# 401198

646/13/261

Fort Hancock and the Sandy Hook Proving
Ground Historic District

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The federal reservation at Sandy Hook, New Jersey has played a double role in United States military history, as the site of both the Army Ordnance Board's Proving Ground from 1874 to 1919, and Fort Hancock, the chief unit in the defense of New York Harbor from the Spanish-American War through the Cold War. The history of the Sandy Hook Proving Ground is especially significant as the years of active service there coincided with a time when practical application of technological advances in the design and manufacture of artillery produced a revolution in armament.

The Fort Hancock reservation, including the site of the Proving Ground, was acquired by the National Park Service as a part of the Gateway National Recreation Area, except for the Coast Guard Station which remains in active service. The quarters, support facilities and several batteries of the fort, most of which date from the turn of the century, as well as Nike installations and the proof battery itself, preserve the appearance of a military post on this strategic sand spit in lower New York Bay.

HISTORY

Sandy Hook is a low, sandy peninsula approximately six miles and two thirds of a mile wide, which extends north into lower New York Bay from the New Jersey coast. It is covered with a dense vegetative cover of poison ivy, sea holly and beach plum. Sandy Hook has regularly been shaped and reshaped by the action of the ocean with a gradual build-up of its northern end. The strategic location of Sandy Hook was readily

apparent to the colonists, especially the sailors. In 1764, the Sandy Hook lighthouse was erected on Sandy Hook where it still stands. The federal government acquired this lighthouse along with several others in 1790. By 1817, the entire peninsula was in federal ownership. With the exception of the Spermaceti Cove station of the Life Saving Service, established in 1848 and the Sandy Hook station in 1855, no major federal project was undertaken at Sandy Hook until the late 1850's, when work on an immense granite five-bastioned fort was begun on the northern end of the peninsula. Officially referred to as the "Fort on Sandy Hook," the structure was still incomplete by the end of the Civil War and consequently was never finished. One of the main lessons learned in the Civil War was that masonry fortifications could be easily breeched by the use of rifled artillery and elongated projectiles.¹ Work was stopped on the fort and, by the turn of the century, it was dismantled except for a single bastion and portion of a wall which stand today. The abrupt obsolescence of the costly masonry forts which comprised the major coastal defenses of the United States created a major problem for the military. The construction on new fortifications was excessively costly, especially for a nation which had just sustained a major war. In addition, there was the possibility that continuing innovations might render a new line of defenses just as obsolete. Rather than attempt to develop new fortifications, it was decided to pursue the technological advances made in the realm of armament and to produce a new system of

1. Lewis, Emanuel, Seacoast Fortifications of the United States (Smithsonian Institution, Washington, D.C., 1970) p. 67

weaponry. The successful use of rifled artillery in the Civil War, and the development of American industry, particularly the steel industry in the decades after the war, seemed to promise well for this enterprise.

The first bill to allow for experiments and tests of heavy rifled ordnance was passed in 1872. As the Army Ordnance Department had no facility adequate for the testing of these powerful new weapons, it began a survey to locate possible sites. A prime site was along the New Jersey coast, below Sandy Hook, but its acquisition had to be approved by Congress. In order to proceed with the testing as soon as possible, it was proposed that a temporary proving ground be established at the federal reservation at Sandy Hook. This site was level, virtually free of any settlements or other obstructions and in close communication with New York City. Although the available area was not of sufficient length to allow for all the intended uses, it was decided to establish the proving ground here to avoid delay. As it turned out, this temporary location was in active service for more than forty-five years. On August 7, 1874, the site was approved and the Chief of Ordnance, General Stephen Vincent Benet, ordered Major Silas Crispin of the New York Ordnance Agency to draw up plans for the proof battery, bombproof, and instrument houses. The first tests at Sandy Hook were conducted on October 24, 1874. The weapon tested was a ten-inch Rodman smoothbore gun which had been converted into an eight-inch rifle, by the insertion of a rifled wrought-iron sleeve. Test firings of the piece were conducted until ten days before Christmas, during which time seven hundred rounds

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had been fired, leaving the gun still serviceable. The marked success of this test was especially valuable, as it indicated that the hundreds of smoothbore guns stockpiled in the nation's arsenals could be so adapted with a resultant increase in power and range. This test marked the first in a long series in which various calibers of smoothbores were converted into rifles by the insertion of sleeves. The manufacture of these sleeves out of steel also marked one of the early uses of that metal in heavy ordnance. In the tests that continued at Sandy Hook, as allocations and weather allowed, new carriages, designed to accommodate the experimental pieces, were tested as well.

A second innovation investigated by the Ordnance Department was the breech-loading gun, which was considered of special value for use in casemated fortifications. A variety of experimental breech-loaders were tested in the following decades at Sandy Hook, including muzzle-loading Rodman guns which were converted into breech-loaders.

In addition to the eight, nine, ten, and twelve-inch guns tested at the Proving Ground, smaller field artillery, including Gatling guns of various types, Hotchkiss revolving cannons, and the Lowell Battery Gun, were fired as well.

In the course of test firing of experimental guns it was not unlikely for a piece or a projectile to explode, and traverses and bombproofs were provided for protection. Nonetheless, in the history of the Sandy Hook Proving Ground, five Army personnel and one civilian were killed

by misfires. Battery Peck at Fort Hancock was named for on eof these casualties, Lieutenant Fremont Peck, killed 19 February, 1895.

As the Sandy Hook Proving Ground passed its tenth year of experimental testing, the powerful new steam-powered and armor-plated warships being developed for European navies were generating national concern over the United States defenses. In 1885, President Grover Cleveland assigned his Secretary of War, Willaim Endicott, to head a board which would review the national defense situation. The report of the Endicott Board had a great effect on the activities at Sandy Hook, as it not only called for the large scale production of seacoast armament, but also for a network of new seacoast fortifications to recieve the new weapons. Sandy Hook was selected as the site for some of the new fortifications, and the Proving Ground program was to be accelerated. Although the board's report specifically called for eight, ten and twelve-inch guns, twelve-inch mortars, and three and six-inch rapid fire guns, these weapons had not yet to progress beyond the test stage into full scale production. The successful use of steel, the perfection of rifling and breech-loadings, and the development of new carriages, powder and projectiles all had to be resolved by tests on the Proving Ground.

Federal funding commensurate with the task outlined by the Endicott Board was not forthcoming until 1888. In this same year, the large Army Gun Factory was authorized at Watervliet Arsenal. With the models prepared

at Watervliet and other arsenals as well as at private foundries, the Ordnance Department continued tests to select the armament for the new fortifications. The Proving Ground activities continued to accelerate through the 1890's. The Proving Ground was made a separate installation, no longer under the command of the Ordnance Board, in 1890, and at the same time, was expanded and modernized. A gantry and a standard gauge railroad line and locomotive were added to the facilities as well. Meanwhile, the construction of concrete gun emplacements began at Sandy Hook in 1891. By October 30, 1895, the fortifications were designated Fort Hancock. The fort did not receive its garrison of artillerymen until March 14, 1898. The Proving Ground and the fort maintained separate commands throughout their coexistence at Sandy Hook.

Once the test models were approved and put into production, the new guns and carriages were shipped to Sandy Hook to be proofed and were then sent to the various fortifications which had been completed. By the outbreak of the Spanish-American War on April 21, 1898, Fort Hancock was equipped with eight batteries which mounted a combined total of four twelve-inch guns. Sixteen twelve-inch mortars, five ten-inch guns, and one five-inch gun, and three guns in the Dynamite Battery. In addition, an electrical submarine minefield was laid out across the entrance to the harbor.

The war passed without incident at Sandy Hook, and testing continued at the Proving Ground primarily in the field of rapid-fire guns and carriages,

armor piercing shot and smokeless powder. Fort Hancock's defenses were further expanded and the base and support buildings were constructed as well. In 1900, the construction of new twelve-inch batteries required a relocation of the proof battery outside of the new field of fire. A new concrete proof battery was erected a short distance to the south of the old site and testing continued as usual. At this point, a definite boundary was drawn, to clarify the jurisdictions of the two separate commands. In 1903, a school for the instruction of student ordnance officers was established at the Proving Ground. As the Watervliet Arsenal produced its experimental models, they were tested at Sandy Hook, even as the calibers of the big guns grew to fourteen and sixteen inches. As before, the outbreak of war, in this case World War I, accelerated testings. The increasing range and power of the new guns made it difficult to continue their tests on the limited Sandy Hook installation. The search for a new proving ground began. On March 4, 1918, the Aberdeen Proving Ground in northern Maryland was formally established and the commanding officer at Sandy Hook was reassigned there. By 1920, the last vestiges of the Sandy Hook Proving Ground were moved to Aberdeen.

Fort Hancock continued to be developed as the outer and principal line in the harbor defenses of the New York Area. Seven new batteries, mounting four twelve-inch guns, three eight-inch guns, and three ten-inch guns were completed between 1901 and 1909. The batteries, which were simply brick and reinforced concrete structures consisting of magazines and

open gun platforms., were along the eastern shore of the peninsula, and in one case, on Horse Shoe Cove on the western shore. The mining casemate, the cable tanks, and the torpedo storage buildings for the submarine mine system were on the northwestern corner of the base.

During the course of World War I, the coastal defenses of Fort Hancock were maintained in readiness although they were never called upon.

The main wartime activity at the fort was the training of artillerists for overseas duty with the AEF. In the last year of the war, two new batteries were built at Sandy Hook, on the western shore. Batteries Kingman and Mills were accepted for active service by 1922. Each battery was equipped with two twelve-inch guns, which, by virtue of their high angle barbette carriages, could achieve a higher firing elevation and consequently an extended range of more than seventeen miles. Their circular platforms were such that the guns could be traversed through 360°. These guns, by 1943, were emplaced in concrete casemates for overhead protection, which reduced their firing elevations and traversability. As installed in 1919, these guns were designed to counter the increased range which had been achieved by battleships' guns by World War I.

Batteries Kingman and Mills (1917) constitute the only surviving major Fort Hancock gun emplacement structures of both the World War I and II periods. They are the only gun emplacements of this period and type found nationwide that still have the ammunition monorail system intact.

By the end of World War I, the Coast Artillery began to develop the anti-aircraft resources at Fort Hancock. Anti-aircraft batteries were emplaced on the parapets of mortar batteries McCook and Reynolds and on the eastern shore of Sandy Hook, just below the Spermaceti Cove Coast Guard Station. For a short time there was a battery installed on Battery Arrowsmith, on Horseshoe Cove, and circa 1943, 90 millimeter anti-aircraft guns were emplaced at and near Battery Peck.

In the year's preceding World War II, Fort Hancock, as the command center for the Harbor Defenses of New York, was the focal point for the coordination of the seacoast artillery, anti-aircraft artillery, and submarine mine defense at both Fort Hancock and Fort Tilden on Rockaway Peninsula. Other subordinate defenses included Forts Hamilton, Totten, and Wadsworth. Prewar activities at Sandy Hook were generally concerned with perfecting the defense network. The outbreak of World War II once again converted Fort Hancock into a major staging area for troops preparing for overseas duty. By the close of the war it was a terminal for the returning troops as well. Submarine and airplane watches were constantly maintained and the entrances to New York Harbor were kept mined as well. A detached command consisting of Battery Lewis, a sixteen-inch battery, and Construction 219, a six-inch battery, was established to the south of the Fort, on the high land behind the twin Navesink lighthouses. These batteries were under the command of Fort Hancock, Battery Lewis represented the single most powerful element in the harbor defenses, as its sixteen-inch guns were capable of firing a 3,000 pound projectile

for twenty-six miles. Neither these guns, nor any other east coast harbor defense battery fired upon the enemy in the course of the war.

One outstanding event which occurred at Fort Hancock immediately before the war was only incidental to the harbor defenses. The use of radar over water was perfected by a group from nearby Fort Monmouth, a Signal Corps-oriented installation.

The tests were conducted on the western shore of Sandy Hook, between Spermaceti and Horseshoe Coves.

Following the end of World War II, a general dismantling of harbor defenses was effected throughout the country. The tactical lessons learned during the war had demonstrated that harbors were no longer essential for the landing of an invading force and in the event of an attack on a harbor, air defense would be more valuable than seacoast defense. In 1950, the year that the Coast Artillery was assimilated into the Anti-aircraft Artillery branch, Fort Hancock was deactivated. It was quickly reopened during the Korean War conflict and then deactivated again in 1953. To modernize its defenses, a Nike guided missile installation was equipped with four Nike-Ajax missiles, stored in underground silos built in 1956, the fort was opened again and in 1960, the Nike installation was re-equipped with Nike-Hercules missiles, enlarged and improved versions of the Ajax, which were capable of carrying nuclear warheads. This installation was deactivated in 1967. In the same year, Fort Hancock became a subpost of Fort Hamilton. By 1975, the Army transferred Fort

Hancock to the National Park Service as a part of the Gateway National Recreation Area. The detached command containing Battery Lewis was conveyed to the New Jersey state park system. The northwest portion of Sandy Hook is still occupied by the Sandy Hook Coast Guard Group. The batteries, Nike installations as well as the headquarters, administration buildings, officers quarters, barracks and support buildings, the greater part of which date from the turn of the century, still retain their appearances as the elements of an active military post.

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