Park Historian

A HISTORY OF FORT WADSWORTH, NEW YORK HARBOR

by

Frederick R. Black

A HISTORY OF FORT WADSWORTH,

NEW YORK HARBOR

by

Frederick R. Black

Professor of History

C. W. Post Center, Long Island University

Prepared for the National Park Service, Order No. PX1600-0-0814

February

1982

TABLE OF CONTENTS

TABLE OF CONTENTS 2

LISTS OF FIGURES AND TABLES 4

INTRODUCTION 5

I. THE SEVENTEENTH AND EIGHTEENTH CENTURIES 8

The Dutch and Staten Island 9

The English Period, 1664-1776 18

The Fort Wadsworth Site During the American Revolution 21

II. STATEN ISLAND AND THE FIRST AMERICAN SYSTEM, 1794-1807 26

Activities of Federal and State Governments, 1794 27

Purchase of the Staten Island Site and the First American Defenses 30

The Report of Charles Vincent, 1794 31

Aftermath of the First System 35

III. THE STATE WORKS AS A SECOND SYSTEM FORTIFICATION 39

New York and the Staten Island Site 41

The Original Forts Richmond and Tompkins and the Batteries 46

The War of 1812 53

Sale of the Site to the United States, 1815-1847 57

IV. FORT WADSWORTH AND THE THIRD AMERICAN SYSTEM, 1816-1865 62

The Bernard Board and the Harbor of New York 62

General Plans for the Staten Island Site 64

Batteries Hudson and Morton 67

The New Fort Richmond 70

Commencement of Construction of the New Fort Tompkins 78

More Batteries 80

The Civil War 82

V. POST-WAR DECADES, 1865-1890 86

Fort Richmond's Decline as a Battery 86

The Completion of Fort Tompkins 90

Open Batteries, Old and New 93

Garrison and Grounds 97

VI. THE ERA OF THE ENDICOTT BATTERIES, 1890-1920 104

Expansion of the Reservation 106

The Batteries 110

"Old Stone Forts" and Other Structures 116

Fort Wadsworth's Garrison in Peace and War, 1890-1918 126

Fort Wadsworth's Guns: The Last Stage 132

CONCLUSION 135

NOTES 138

BIBLIOGRAPHY 162

FIGURES

Figure 1. The Narrows 11

Figure 2. The Fort Wadsworth Site in the American Revolution 24

Figure 3. Principal Forts, New York Harbor 29

Figure 4. The New York State Fortifications 47

Figure 5. The New York State-Built Fort Richmond 48

Figure 6. The New York State-Built Fort Hudson 49

Figure 7. The New York State-Built Fort Tompkins 50

Figure 8. Battery Weed, Northeast Channel Front, Second Tier 72

Figure 9. Fort Wadsworth, 1890 95

Figure 10. The Expansion of Fort Wadsworth, 1892-1901 107

Figure 11. Fort Wadsworth Today; Key to Figures 11-A, B, C, D, E, F 117

Figure 11-A. Fort Wadsworth, Northeast Section 118

Figure 11-B. Fort Wadsworth, Southeast Section 119

Figure 11-C. Fort Wadsworth, South Central Section . . 120

Figure 11-D. Fort Wadsworth, Southwest Section 121

Figure 11-E. Fort Wadsworth, Northwest Section 122

Figure 11-F. Fort Wadsworth, North Central Section . . 123

TABLES

Table 1. Fort Wadsworth, Growth of Grounds, 1794-1902 109

Table 2. Fort Wadsworth's Endicott Batteries . . . 111

INTRODUCTION

With newspapers and news broadcasts regularly informing Americans about the latest decisions and developments respecting the MX project, neutron bombs, rapid deployment forces, or other existing or proposed parts of the nation's military resources, it is sometimes difficult to realize that throughout most of its history the United States maintained a passive, highly defensive military posture. The ideology of the American Revolution identified militarism and aggression as inherent in monarchy and empire. True republicanism could be free of the perils of standing armies and the burdens of an ocean-going navy. With the broad Atlantic separating the new nation from the Old World, a defensive military posture was embraced and maintained for over a century. The permanent monuments to that defensive policy appear in the form of late eighteenth- and nineteenth-century forts, many of which still stand near east and gulf coast ports and harbors. Among the half dozen such works surviving in the vicinity of New York harbor are those on the grounds of the military post now known as Fort Wadsworth. That post is on the Staten Island side of the Narrows, the body of water, less than a mile wide, which connects Upper New York Bay with the lower bay.

This study is a history of the site and institution of Fort Wadsworth, in so far as that site served for the mounting of guns to be used against hostile ships. That service began with the British, who occupied Staten Island and other parts of the lower Hudson valley during the War of American Independence, and it continued to the end of World War I. Indeed, a few guns and batteries remained in service during World War II. According to Emanuel Raymond Lewis, American harbor and seacoast fortifications have experienced eight stages or generations. The first four consist of the colonial and Revolutionary stage; the so-called First American System, 1794-1800; the Second System, 1807-1815; and the Third System, 1819-1865. They encompass the era of the muzzle-loading, smoothbore cannon. The last four stages, belonging to the period of breech-loading, rifled artillery, are the Endicott Board years, 1885-1905; the Taft Board era, 1905-1910; the years of World War I; and those of World War II.[1] Fort Wadsworth participated in the first six of these stages and was significantly and adversely affected by the same developments as produced the last two. Accordingly, the Lewis chronology provides the general organizational

structure for this study.

Since the focus fixes on Fort Wadsworth as a harbor and seacoast defense position, certain aspects of the history of the site and its military garrison have not been explored. The non-military uses made of the original tract, before its purchase for fortification purposes by the state of New York in 1794, have not been examined, except for a lengthy refutation of a claim that the site mounted guns during the century before the American Revolution. Similarly, no effort has been made to determine the previous history of additional lands added to the original site. During the half century after World War I, the post contained a variety of army units other than coast artillery, and that part of Fort Wadsworth's past lies outside the scope of investigation.

No comprehensive history of Fort Wadsworth exists, and the present study breaks new ground. Much of what has been written about the site contains flaws of one type or another, particularly respecting the long period before 1920. A number of articles and pamphlets have been written by or under the auspices of commanding officers of the post since World War I. That literature, although weak on the more remote aspects of the installation's career, is useful for recent years. Particularly to be consulted for developments after 1920 is a two-part article by Robert Krist.[2]

The aim of this report is to tell the story of Fort Wadsworth and its function in harbor and seacoast defense as that story can be pieced together from primary sources. The use of original documents is especially imperative respecting the first century of European colonization of the area, because of what is almost a mythology about the early beginnings of the post. Moreover, since little has been written about Fort Wadsworth during the period 1776 to 1920, primary sources afford the only means for a reconstruction of its past. Among the depositories visited in preparation of this report are the National Archives, Washington; the Federal Archives and Research Center, Bayonne, New Jersey, a branch of the National Archives; the U.S. Army Military History Institute and Research Collection, Carlisle Barracks, Carlisle, Pennsylvania; the New York State Library, Albany; and the New York Historical Society, New York.

Much information is available in published reports of the War Department and the U.S. Army, especially the annual reports of the bureau, department, office or Corps of Engineers. For the years before 1840, many of these reports appear in the collection, American State Papers. For the period 1840-1904, they are contained in the Federal or U.S. Serials, published by Congress. To avoid overly

long endnote citation of the annual reports of the Chief of Engineers, a form has been employed centering on the year of the report. A similar system is used for reports of the Secretary of War. In the bibliography, particulars are provided as to the locations of these reports within the congressional papers.

Confusion has been generated by the variety of names assigned to the water battery occupying the edge of the Narrows. Known today as Battery Weed, that structure was formerly designated Fort Wadsworth and before that Fort Richmond. Since the post itself bears the name Fort Wadsworth, difficulties have been inevitable. To avoid the problem this study refers to the water battery as Fort Richmond up to the time it became Battery Weed. "Fort Wadsworth" denotes the post generally, even in the period before it became the official name of the reservation.

By the terms of legislation enacted by Congress in October 1972, the Fort Wadsworth reservation is among the sites to be administered by the National Park Service as part of the Gateway National Recreation Area. This report has been prepared under a contract with the Park Service. Since the contract was entered, however, a measure of uncertainty has emerged concerning the disposition of Fort Wadsworth, and as of this writing it remains in the hands of the U.S. Army. Whatever the future of Fort Wadsworth, it is hoped that this history will be of benefit to the Park Service. It is neither possible nor desirable to reconstruct the past of any one fortified site in New York Harbor in a manner totally divorced from the others. Accordingly this history, although concentrating on Fort Wadsworth, treats the evolution of the defenses of New York at large. The National Park Service does administer a number of locations in the harbor once the site of coastal fortifications, namely Bedloes or Liberty Island, Ellis Island, Rockaway Point, and Sandy Hook. The report should be of value to the Park Service by virtue of information touching upon these sites, in addition to serving the original intention, should Fort Wadsworth become part of the Gateway National Recreation Area.

CHAPTER I

THE SEVENTEENTH AND EIGHTEENTH CENTURIES

The west bank of the Narrows was first used as a location for channel-bearing artillery during the American Revolution. Accordingly, a history of Fort Wadsworth should begin with that period. The existing literature dealing with the site, however, almost unanimously asserts that at a much earlier date guns were mounted and a garrison stationed on the Staten Island side of the Narrows. It is also asserted that, beginning in 1663, the fortifications on the site were permanently manned, making Fort Wadsworth the oldest continuously garrisoned military location in the country. These assertions have no foundation in primary sources.

Perhaps the erroneous view of Fort Wadsworth's antiquity originated in the 1890s, when a local historian wrote, "The Dutch had a fort on the heights of the Narrows (now Fort Wadsworth), during their control; the English enlarged and strengthened it. . . ." The most recent statement appears in a 1979 issue of a journal devoted to old military posts. The author claims that in 1636 Staten Island's "first defenses were built in the form of a blockhouse," its location being "the heights now occupied by the present-day Fort Wadsworth." Because the original structure was destroyed by Indians, "in 1663 a second blockhouse was built, and this marked the beginning of the uninterrupted garrisoning of the site which has continued to the present day." In the early 1970s, when the federal government announced intentions to phase out Fort Wadsworth, newspapers highlighted its alleged great age. The New York Times headline read "Longest-Run Fort, Wadsworth, Is Closing," and the lead sentence stated:

> Time is running out for the longest continuously manned post in North America, as the army carries out plans to terminate military operations at the three-centuries old Fort Wadsworth. . . .[1]

The Times article suggests how widespread has become the myth about Fort Wadsworth's beginnings.

Most of the following chapter constitutes a denial of the prevailing view of the early history of the site now occupied by Fort Wadsworth. The author of the present study takes no perverse pleasure in refuting local historians, Army public information officers, or journalists. History

is a discipline bound to a reconstruction of the past on the basis of reliable evidence, in this instance documentation. And the documentary record simply cannot sustain the conclusion that Fort Wadsworth's origins as a military site date earlier than the 1770s. Most assuredly the location had not been garrisoned during the previous hundred years. The prevailing view comes closest to historical reality in the claim that a blockhouse was erected by the Dutch in 1663. Indeed, one document originating with authorities in the Netherlands suggests the structure overlooked the Narrows. That evidence, however, has to be analyzed within the context of a dispute with the chief local representative, who had a much better understanding of the circumstances and who gave the location of the blockhouse as south of the hill above the Narrows.

Between 1621 and 1664, the lower Hudson area constituted part of the province of New Netherland, administered by the Dutch West India Company. In August 1664, the arrival of a British naval squadron in what later became known as New York Bay occasioned the surrender of all of New Netherland to the English. For more than a century, the province, now designated New York, remained within England's North American empire. That status ended with the American Revolution. As a result of the successful campaign in the summer of 1776, Great Britain controlled the lower Hudson valley, and, throughout the entire War of American Independence, part of New York was within the lines of the American patriots and the remainder in English hands. After the British evacuation in 1783, Staten Island, Manhattan, and Long Island were reunited with the rest of New York.

The Dutch and Staten Island

In the nineteenth century, fortifications on the Staten Island side of the Narrows served to advance the security of the harbor of New York. That such a consideration prevailed in the earlier period, especially during the beginnings of European colonization, should not be assumed. Indeed, a more likely motive for erection and maintenance of defensive works was providing the immediate locality with protection in the event of an attack by an enemy. Since the greatest danger to early Europeans on Staten Island came from Indians, who continued to reside in the same area, no justification exists for the supposition that fortifications were constructed at the Narrows, unless that was the site of a settlement.

The first three efforts at the colonization of Staten Island failed. In 1639 David Pieterz de Vries, who claimed the entire island, started a plantation believed to be at or near the Watering Place in later Tompkinsville. Indians attacked and destroyed the settlement in 1641.

A recent history of Fort Wadsworth claims the settlement began earlier and that in 1636 De Vries built the first blockhouse, defended by two men, on the heights occupied by Fort Wadsworth. No documentation has been found to support this statement.[2]

Shortly after the Indian assault on the first settlement, De Vries was asked by the governor of New Netherland, William Kieft, whether he would permit Cornelis Melyn:

> to go upon the point of Staten Island, where the maize-land lay, saying he wished to let him plant it, and that he would place soldiers there, who would make a signal by displaying a flag, to make known at the fort [at New Amsterdam] whenever ships were in the bay, to which I consented. . . .

In the meantime, the authorities at New Amsterdam had resolved that:

> Whereas a short time ago some of our people on Staten Island have been murdered by the Savages, Therefore, to prevent further mishaps and to protect the people still living there, we have judged it very advisable and proper to erect upon the said Island a small redoubt at so small an expense as possible.

In their history of Staten Island, Charles Leng and William Davis state that they do not know the location of the settlement, but that if Melyn "located at the point of Staten Island 'where the maize-land lay,' as De Vries expected, and where a signal flag would be useful, his location would have been Arrochar or Fort Wadsworth."[3] Another Indian raid or the general state of tension between the Dutch and Indians supposedly led to the abandonment of the settlement in 1643.

Much is uncertain about Melyn's plantation. There is no proof that a settlement actually was begun, that a redoubt was erected, that the site was the maize lands, or that the maize lands were at Fort Wadsworth, as Leng and Davis conjecture. The reference by Kieft in 1641 to use of a signal flag at Staten Island is the first mention of a series of devices which actually and later did come into being to convey messages to Manhattan. Eventually, the heights at the Narrows occupied by the present Fort Tompkins came to be known as Flag Staff Hill or Signal Hill. But a suggestion in the 1640s that a signal be erected on Staten Island is no foundation for the conclusion that a fort was built and further that the fort was within the present reservation of Fort Wadsworth.

Archeological work in the early 1960s led two investigators to speculate that Melyn's settlement lay in

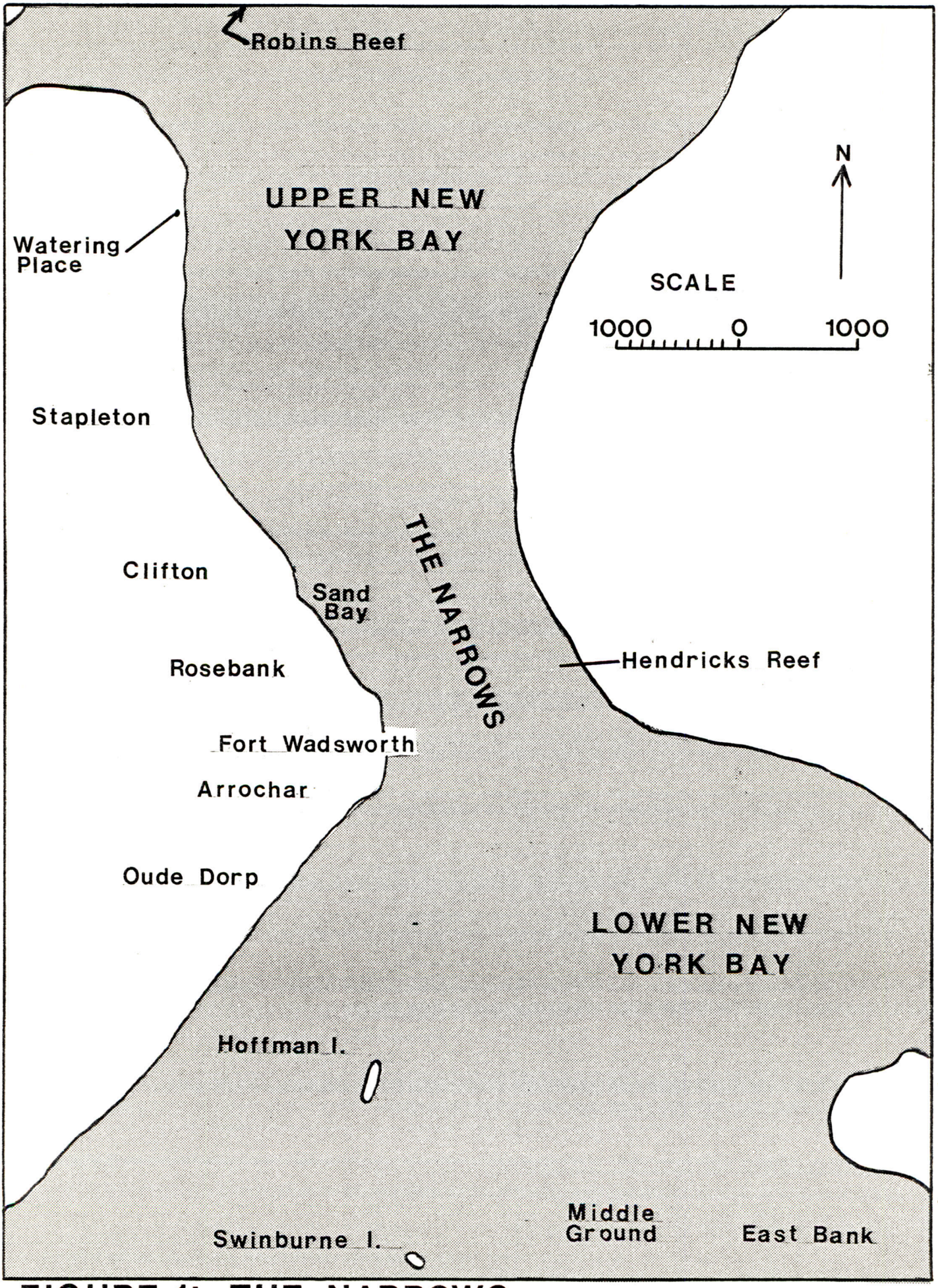


FIGURE 1: THE NARROWS

what later became the community of Oude Dorp or Dover, southwest of the future Fort Wadsworth. A difficulty arises, however, since Oude Dorp was also the site of the successful settlement established in 1662, and there is no explanation offered why the alleged pre-1650 artifacts produced during the excavations could not have originated with the later plantation.[4]

Melyn was also responsible for the third unsuccessful settlement on Staten Island. In 1650, acting under a contract with Baron Hendrick van der Capellen, Melyn resolved "to restock my ruined colony and, again, if possible, to restore the same." According to his later testimony, sixteen "handsome farms" were started. After five years, this community suffered a fate similar to its predecessors and was attacked and burned by the Indians. A traveller in October 1655 wrote, "On the 21st we sailed for the North River, from Staten Island, by the watering-place, and saw that all the houses there, and about Melyn's house, were burned by the Indians".[5] This observation may be variously interpreted--that the entire settlement was at the Watering Place or that some houses were at the Watering Place and others at another site, near Melyn's home.

Melyn irked the authorities in both New and old Amsterdam. In 1651 the directors in the Netherlands denounced as falsehoods a number of pretensions and plans of Melyn, including the notion that "a royal fort [be] built upon the point of Staten Island, where all vessels must come to anchor before sailing up to the Manhattans." They further stated "we have never heard of these and other dreams. . . ."[6] The directors' denunciation suggests that at that time there was no bona fide fort on Staten Island's "point" or any place else in the vicinity.

Despite the hostilities between Indians and settlers, a few Dutch had remained on Staten Island following the collapse of each of the three efforts to start permanent communities. Whether or not soldiers could be garrisoned on Staten Island for the protection of these settlers received comment from Governor Peter Stuyvesant, the planters, and the directors at home. Apparently a small military contingent was briefly maintained on the island in the mid-1650s. The governor, however, regarded the number of residents as too small to justify even a minute force. In January 1656, he told his council:

> I stop here and impress upon your Honors' mind, whether it would not be well to remove also the small garrison on Staten Island, which has no more protection, but much less than the sailors on the yacht.

A resolution was thereupon adopted to relocate the settlers

across the Narrows at New Utrecht. Apparently connected with this decision was an order for the withdrawal of the soldiers on Staten Island. Their removal led to several petitions by settlers for their return. One of these petitions produced the response from local officials that nothing existed on Staten Island worth protecting except cattle, which should be transported to Long Island. Since Staten Island had only six or seven persons, "twould be folly to send a garrison for their protection."[7] The request for an armed force was therefore refused.

Some of the pressure upon the Stuyvesant administration to provide Staten Island with troops was being generated both in New Amsterdam and the old country by Baron van der Cappellen and his agents. The directors in the Netherlands wrote to Stuyvesant in December 1656, noting the baron's plans to send over colonists to settle his plantation and recommending that "in time of need" five or six soldiers be sent to the island to assist them." Van der Cappellen's plans bore no fruit, and the governor continued to argue against use of company troops to protect a sparce population. In 1659, he contended:

> . . . very few persons live on Staten Island on behalf of Baron van der Capelle, not more than two or three families, for whose safety pursuant to your orders five or six soldiers are kept there at the expense of the company and . . . so far no more show any inclination to settle as colonists.[8]

These statements demonstrate that, at least with regard to Staten Island, military defenses were linked with protecting settlers and not securing New York harbor. Moreover, in none of the letters, resolutions, or petitions produced during the years 1655-1660 is there mention of even an intention by the authorities to establish any fortified works on Staten Island. In fact, documentary sources and archeological evidence covering the entire Dutch period to 1660 point to a refutation of the claim that a fort, blockhouse, or redoubt existed on the west bank of the Narrows. Since no settlement occupied the site of today's Fort Wadsworth, there was no need for any defenses to protect inhabitants. Indeed, only a handful of people inhabited the entire island.

Three contemporary general discussions of conditions in New Netherland contain descriptions of the province's fortifications, but make no references to Staten Island. According to these documents, New Netherland's defensive works consisted of Fort Amsterdam on Manhattan Island, Fort Orange at Albany, Fort Nassau on the Delaware River, and Fort Good Hope on the Connecticut River.[9] Doubtless these four structures were as close as seventeenth-century

Dutch New York would approach to permanent fortifications, and more temporary defenses may have been erected elsewhere. Nevertheless, the failure of the documents to mention Staten Island is important.

In 1661 and 1662, a fourth effort to establish a permanent settlement on Staten Island finally succeeded. Ultimately called Oude Dorp, the community had its location about one mile southwest of the present Fort Wadsworth reservation. That a blockhouse was erected at the new settlement seems fairly clear, although the structure produced confusion and controversy between the West India Company authorities in the Netherlands and Governor Stuyvesant in New Amsterdam.

In April 1663, the directors informed Stuyvesant that "the peace between England and our state has been concluded and therefore such attacks from the English are not to be expected." Stuyvesant, however, was told that:

> For the sake of greater safety, we consider it highly necessary and have recommended in the enclosure, that proper attention be paid to the safety and protection of the mouths of the rivers on Long Island and Staten Island; you must not delay, so that envious neighbors may therefore be discouraged from further incursions and undue usurpations. . . .

Perhaps the "enclosure" specifically recommended fortifications on Staten Island. A document bearing the same date as the letter was summarized in the 1860s as being explicit on that point.[10] Apparently Stuyvesant proceeded to establish a defensive work on Staten Island.

In the meantime, the directors acquired additional information about the Narrows and in January 1664 sent a clarification of their instructions to the governor:

> . . .[W]e have been very incorrectly informed here relative to the fortifications or defensive condition of the mouth of the river, both on Staten Island and Long Island, which according to your representation, will be labor in vain. We shall not discuss this, but willingly admit it to be the case. . . . But you must be aware that our instruction in this matter was by no means intended to have forts or redoubts erected on both sides of the river in order to effect that security, but such proper and suitable means adopted as might be considered best and advantageous to at least prevent the English occupying those places, which could well be accomplished by planting Colonies, or settling people there.

Subsequently, a redoubt and garrison were ordered for a Dutch settlement in southwest Long Island, the explanation being that "the English of the settlement of Gravesend" threaten to settle there.[11] The West India Company policy seems to have been to prevent peaceful encroachment upon the jurisdiction of New Netherland, an aim that could be fulfilled either by planting Dutch colonists or by erecting crude fortifications. The directors specifically denied that they intended any effort to exercise military command of the Narrows.

Stuyvesant sought to assure the directors that his actions conformed to company policy. In a letter of April 1664, the governor responded to the company's remarks "concerning the settling and securing of both Long and Staten Islands near the Narrows." Some time ago, the matter had been taken care of

> by forming hamlets on both islands . . . as near the Narrows as the accomodation of settlers would permit. . . . A hamlet, not yet named, was begun on Staten Island about two years ago and now has about 12 to 14 families . . . ; it lies about half an hours walk from the Narrows, there being no more convenient place for a village near the water. Both these places were provided with commodious blockhouses as a defense against the attacks of the savages last summer; the blockhouses are built by putting beam upon beam and for their better defense are each provided with two or three light pieces of ordnance, of which one or two are perderoes: the hamlet on Staten Island, being the weakest and too far to be relieved in time, is garrisoned with ten soldiers for its greater safety.

The "hamlet not yet named" became known as Oude Dorp or Old Town. In the event of attack by Indians, its settlers would seek safety in the blockhouse. Rapid access to that place of refuge was essential, and it made no sense to build the structure a mile or so up the beach in the vicinity of Fort Wadsworth. No one can objectively view Charles Leng's map of historic Staten Island and come to the conclusion that the blockhouse occupied the site of the present Fort Tompkins or any other position in the military reservation.[12]

In August 1664, a hostile English naval force of four frigates entered New York Bay, and in September Stuyvesant surrendered the province to the English

commander. Subsequent Dutch discussions of the blockhouse on Staten Island were part of the controversy over who was responsible for the ease with which the English took New Netherland. In his initial report of October 1665, Stuyvesant made no mention of Staten Island. The company, however, alleged that the governor, among other failings,

> did not take sufficient care of Staten Island, but abandoning it, quitted the Block-house without taking the cannon with them; the enemy being there, not a musket shot from the fort [at New Amsterdam], were allowed to occupy and reduce the whole with fifty men.

Stuyvesant met this charge with the argument that:

> Staten Island, which is said above, not to be a gunshot distant, is situated full two leagues from the fort. It is inhabited only on the south side, behind the hill, and consequently out of sight of the fort, by 10 @ 12 men but so and so able to bear arms, who in order to be protected against a sudden attack of the Savages, did, about a year ago, erect a small slight wooden Block-house, about 18 @ 20 feet square, in the centre of their houses, which were slightly constructed of straw and clapboards, and borrowed from one Cornelis Steenwyck a small piece capable of discharging a one-pound ball; and from the Director and Council a little iron swivel; its garrison consisted of 6 old soldiers, unfit to accompany the others against the Indians. The aforesaid Blockhouse and Hamlet stood within sight of Najeck [Gravesend], where the frigates lay at anchor, not a league from the ships, and 'twas therefore impossible to relieve it or to convey shot from there, unless people could face the English with an equal naval force.[13]

Although it best served Stuyvesant's purposes to picture the facility as weak and vulnerable and to fix its location as remotely as possible from New Amsterdam, the ex-governor's description is probably reasonably accurate. Subsequently, the company may have conceded Stuyvesant's point, since it said no more about the Staten Island blockhouse, although it persisted in and added to its other complaints against the ex-governor.

Among the documents produced by the controversy

between Stuyvesant and the company were lists showing the distribution of the gun powder received after 1660 at New Amsterdam. Included in the lists were entries of issues of powder, in amounts of one pound or less, to groups of soldiers about to depart to various parts of the province. Powder also went to the magistrates or other officials of towns, more than likely for distribution among civilian inhabitants. Staten Island on two occasions received supplies of twenty-five and fifty pounds of powder. Since similar amounts were credited to Bergen, New Utrecht, Brooklyn, Boswick, Middlewout, Amesfort, and Rustdorp, no special significance should be attached to the issues to Staten Island. That location, however, is set apart by the numbers of soldiers receiving powder and described as "going to," "stationed at," or "garrisoned at" Staten Island. In fact, soldiers do not appear to have been assigned to any other locations in the lower Hudson area except New Amsterdam and Staten Island.[14] The powder distribution records confirm information in Stuyvesant's reports that a garrison of from six to twelve men was more or less maintained at Staten Island beginning in 1662.

No evidence sustains the claim that prior to 1662, the Dutch erected a defensive work anywhere on Staten Island. Had such a structure been in existence, its purpose would have been to protect settlers in meeting attacks by the Indians. Documentation is wanting to demonstrate that any of the early settlements occupied the site of the present Fort Wadsworth. The first and probably third efforts at plantations were at the Watering Place. If the second attempt produced an actual plantation, it may have been at Dover. After the third failure, considerable discussion ensued about dispatching soldiers to Staten Island. But the presence of military personnel should not imply the existence of a fort and certainly cannot be taken as evidence of a defensive work at the Narrows.

A blockhouse was erected and garrisoned by a small force in the middle of the successful, permanent community at Oude Dorp, which started in 1662. No documentation has been discovered to locate that blockhouse within the present confines of Fort Wadsworth. Stuyvesant described its function "as a defense against the attacks of the savages. . . ." The policy of the directors in the Netherlands appears ambiguous, but their clarification in 1664 emphasized defensive works as useful symbols of Dutch jurisdiction and thus checks upon non-military encroachment by English settlers, not as fortified sites capable of resisting armed ships. Even in the controversy between Stuyvesant and the directors after English seizure of the

province in 1664, the charges against the governor did not include failure of the force at the blockhouse to fire on the enemy vessels. Rather Stuyvesant was criticized for not ordering resistance against the landing party. Whatever his faults, Stuyvesant seems to have been consistent on several points. Even before the arrival of the English fleet, he described the Staten Island settlement as weak and "too far to be relieved in time." Furthermore, he repeatedly maintained the view that the blockhouse and soldiers were intended for use against the Indians. Only by ignoring much of the surviving documentation can it be claimed that the blockhouse in question occupied ground in the current Fort Wadsworth reservation.

The English Period, 1664-1776

Doubtless the existing imposing nineteenth-century structures of Battery Weed and Fort Tompkins have had an impact on the thinking of some local historians, who assume that because of the size and durability of these fortifications, some sort of defensive works must have always existed on the site. This is especially the case in the assumption that after the English gained control of the Province of New York in 1664, they maintained a blockhouse inherited from the Dutch.

Numerous documents from the period 1671 to 1774 have been consulted which might be expected to mention defensive works at Staten Island had such works existed. None of these sources refer to defenses in that area. In 1679 and 1680, two visitors from the Netherlands, Jaspar Dankers and Peter Sluyter, travelled through the middle colonies, spending most of their stay in the lower Hudson valley. On one occasion, Dankers found himself on a "small eminence" in New Utrecht, overlooking New York Bay. Perhaps he was in the vicinity of the later Fort Hamilton. At any rate, he "made a sketch . . . of the land surrounding the great bay, that is, Coney Island, the entrance from the sea, Rensselaer's hook [Neversink Highlands], and so further to the right toward Kil van Kol." The sketch and its notations contain no particulars about Staten Island. It is not being argued that Dankers would have been able to see any blockhouse or fort on the west bank of the Narrows, but that his host or other persons from whom he obtained information necessary to label landmarks did not call his attention to such works.[15]

More importantly, in mid-October 1679, Dankers and Sluyter made a three-day walking tour of the eastern, southern, and western sides of Staten Island. Their walk began "directly opposite Gowanes, not far from the watering place." Intending to go to Oude Dorp, they "proceeded southwardly along the shore of the highland on the east end."

When they arrived "nearly to the furtherest point on the south east," they decided to "clamber to the top of [the] steep bluff." Soon thoroughly lost, they wandered in the woods for "an hour or more" before they managed to make their way back to the shore, not far from where they had started their ascent. Adhering to their original intent, they walked along the water's edge and soon came to the outskirts of Oude Dorp.[16] The failure of the two men to come in contact with any redoubt, blockhouse, or fort at the Narrows is less testimony that no such works were there than that any defensive position in the vicinity was not garrisoned.

Several discussions of New York's fortifications during the period 1664-1700 include no references to Staten Island. A 1671 account describes an abandoned fort north of the city and the earthen fort in Manhattan. New York's royal governor in 1678, Edmund Andros, in a report of the military conditions within the province, wrote of permanent companies of soldiers at New York City, Albany, and Pemaquid (Maine). A visitor in 1695 gave particular attention to military matters, especially fortifications, and included diagrams of existing forts. Five years later, the Board of Trade prepared a comprehensive report on forts throughout the colonies. None of these writings contain even a hint of defenses at Staten Island.[17]

Although mostly fought in Europe, the conflict between Great Britain and France known as Queen Anne's War, 1702-1713, directed attention in the colonies to matters of defense. In New York the concern included plans for fortifying the Narrows. Both the royal governor and the provincial assembly seemed to favor the project. Such was the nature of New York politics, however, that nothing actually was done, despite passage of the necessary legislation. Central to an understanding of political conditions is an appreciation of Edward Hyde, Lord Cornbury, governor from 1702 to 1708. Cornbury ranks as one of the venal, corrupt, and personally obnoxious royal executives in the history of colonial America.

In 1702, shortly after his arrival in New York, Cornbury sent a report to the Board of Trade on the condition of the province's troops and fortifications. All of the five forts, one at New York City and the remainder in the north, were judged in poor condition. Cornbury recommended rebuilding the existing structures, as well as erecting new fortifications, including works at the Narrows. He argued that stone batteries on both sides of the Narrows, each equipped with twenty guns, could protect New York

from attack by sea. As demonstration of the necessity for such defenses, the governor wrote that in the summer of 1701, a French man-of-war had sailed into the bay to "a place called the Watering Place within the Narrows and sight of the City." Unmolested, the French remained a month, during which time they took soundings throughout the bay.[18]

Doubtless Cornbury approached the New York legislature with similar arguments and plans. The assembly addressed itself in May 1703 to the project and passed a bill to raise £1500 to build two batteries at the Narrows, one on either side. Three years later, however, the governor advised the assembly that the money had not been received into the provincial treasury, and he denied allegations that the funds had ended up in his own pocket. A legislative committee inquired into the matter and discovered that somewhat less than £400 had been collected. In June 1706, the legislature passed a new bill to provide £3000 for fortifying the city of New York. Unhappy with the measure because it was designed to insure the assembly and not the governor had control of the funds, Cornbury neither signed nor rejected the bill, but wrote to London for advice. Armed with fresh instructions, he addressed a new session and sought a new bill. The legislature responded with another £3000 appropriations act. Like its predecessor, this legislation included no particulars as to the location of the defensive works, except that they were intended to protect the city.[19] Since there is no evidence of defenses constructed on Staten Island, it appears that the plan for fortifying the Narrows, as distinct from defending the city of Manhattan, was abandoned.

Surviving documentation for the remainder of the period before the American Revolution fails to indicate the presence of defenses at the site of the later Fort Wadsworth. Gov. Robert Hunter's description of New York's forts in 1720 does not include works on either side of the Narrows. A 1733 map indicates a ferry at the Narrows with a house in the vicinity of the Staten Island terminus. A fort is shown on the southern tip of Manhattan, but none elsewhere in either the upper or lower reaches of New York Bay. Five years later Gov. George Clarke listed the forts of his province as being at New York City, Albany, Schenectady, and in the Mohawk country. In 1774 Gov. William Tryon stated that the defensive works of New York consisted of Fort George, batteries on the East River, Fort Stanwix, Fort Edwards, Fort Ticonderoga, and works at Oswego, Niagara, and Crown Point.[20]

Since the days of the Dutch, Staten Island had served in a system to relay to Manhattan news of the presence of ships approaching New York Bay. That system

involved signal guns and fire beacons. For example, on July 28, 1711, the governor and council approved plans to maintain beacons at several locations, namely Neversink Highlands, "inside of Sandy Hook," "some Eminence on Staten Island," and "at ye Narrows on Long Island." At each location, "there ought to be a great gunn ready loaded and primed to be fired off at the time of firing each beacon." A few days later, the legislature authorized beacons on both sides of the Narrows and at Rockaway. These three beacons were continued by acts of November 27, 1741 and February 19, 1755. That the system was implemented is evident in an entry for June 1755, authorizing payment "for carrying down two great guns and landing one at Staten Island and one on Long Island, and tar barrels and posts for beacons." This entry also reveals a heightened concern for security arising from the outbreak of war in the colonies between the French and British in 1754. That war, as had earlier conflicts, produced a proposal for defending New York by means of batteries on Long Island and Staten Island. The proposal, however, was not implemented. A map made in 1764 confirms information from other sources that the eastern tip of Staten Island was noteworthy solely as the terminus of a ferry to Long Island and that the only fort in New York harbor was in southern Manhattan.[21]

In the middle of the eighteenth century, the land at Fort Wadsworth belonged to John Van Deventer, and some maps of the period designate the site as "Van Deventer's Point." Upon John Van Deventer's death in 1759, the property passed to his children. They and their families retained possession of the tract until 1794, when for the first time part of it passed out of private ownership.[22]

The Fort Wadsworth Site During the American Revolution

Not until the era of the American Revolution did the area now encompassed by Fort Wadsworth serve as an artillery site, guarding New York harbor. And it was the British, not American patriots, who developed defensive works on the Staten Island shore of the Narrows. Americans more closely followed tradition and used the site as a look-out for approaching ships. On January 15, 1776, the New York Committee of Safety, the central agency in New York's revolutionary apparatus, received word of the departure from Boston of a fleet of twenty-two transports, men-of-war, and bomb ships. Encouraged by a letter from Gen. George Washington, the committee "thought it necessary to have a proper person sent to the Narrows with a glass to look out for any fleet that may be approaching." Arrangements were immediately made with such a person, "and proper directions were given to him, and signals agreed upon. . . ."[23]

No documentation has been found to warrant the conclusion that American patriots fortified the Narrows. "Secret Intelligence" reports dated April 9 and 17, 1776, sent from New York apparently to the British War Office, describe the fortifications and other defenses being readied by the patriots. The unknown author stated that he was "informed they are throwing up some works on each side of the Narrows, but cannot affirm it for certainty."[24] The informant's uncertainty seems justified since no other documents have been discovered to verify the report of patriot works at the Narrows. Such works would not have been consistent with Washington's plans for the defense of New York. Moreover, since the entire Province of New York only belatedly and half-heartedly supported the colonial cause and since Staten Islanders especially were notorious for their adherence to the crown, it seems unlikely that local patriots constructed some sort of defenses in the earliest stages of the War of American Independence. In addition, guns and powder were in short supply. No record exists of Staten Island based ordnance firing on English ships.

After the British evacuation of Boston in March 1776, Gen. Charles Lee had responsibility for preparing New York for a British attack, a task assumed by Washington on his arrival in the city in mid-April. Both Lee and Washington concentrated their efforts in the Manhattan-Brooklyn Heights area. According to one of Washington's biographers:

> There was no hope of keeping the British fleet out of the Bay, which meant that Staten Island, in the harbor some six miles below New York City, awaited them as a large and fertile jumping off place.[25]

The British did use Staten Island as a staging area, troops landing there without opposition on July 2. Later in the summer, His Majesty's forces launched a campaign which succeeded in placing in their control Manhattan, Long Island, and Staten Island. British occupation of this area lasted for the duration of the war.

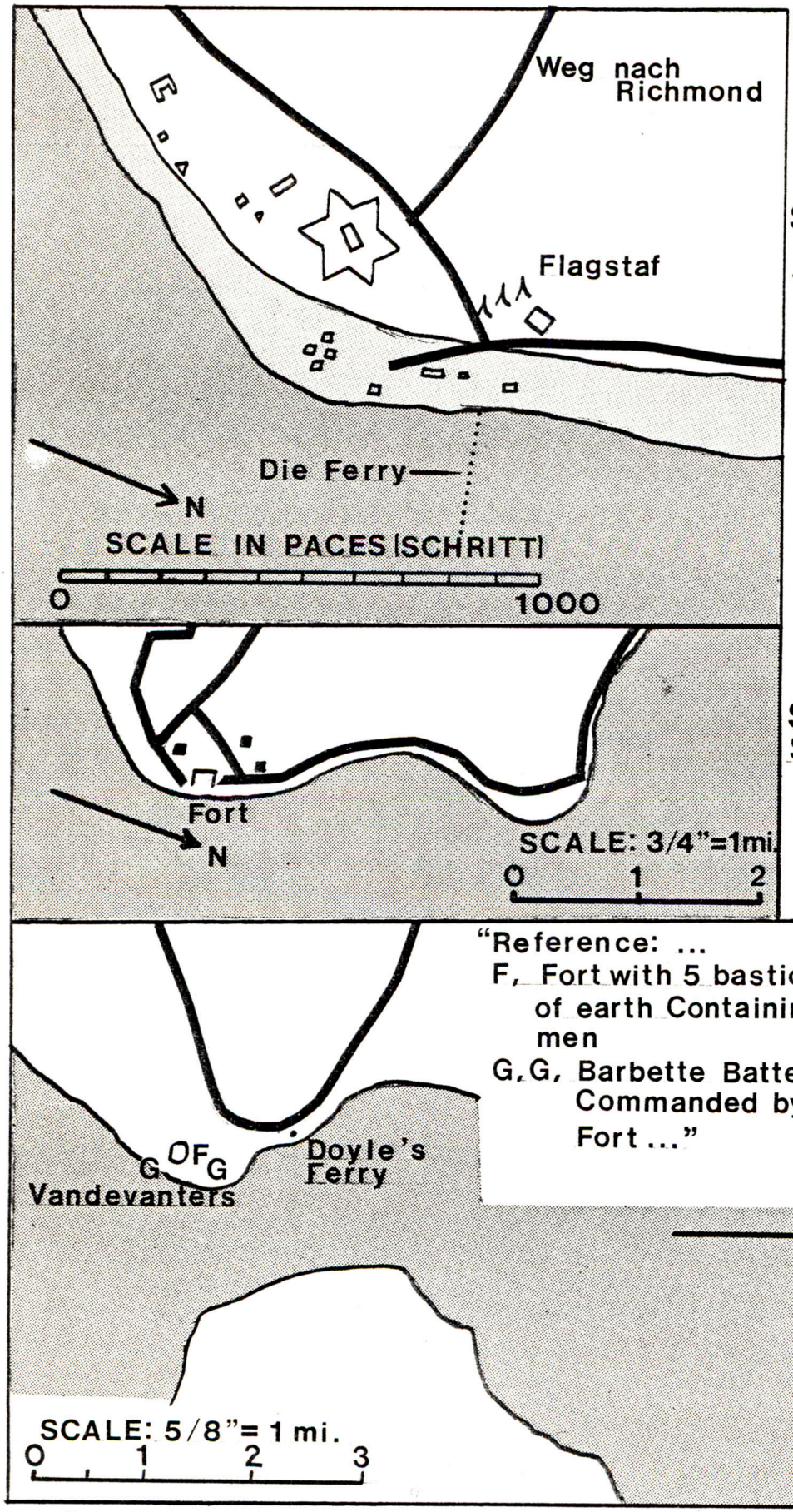
It was following the British seizure of the lower Hudson valley that construction of defensive works began in the area of modern Fort Wadsworth. The bulk of the troops landed in July 1776 soon left to participate in the battle of Long Island and other engagements in the New York area. Throughout the war, however, some British and Hessian troops were stationed on Staten Island. The island served as a source of forage and firewood for the military and the greatly swelled civilian population on Manhattan. Indeed, Staten Island appears frequently in the records of the British commissary and quartermaster services.[26]

Moreover, the proximity of rebel forces across the narrow Kill van Kull in New Jersey required a British military presence on Staten Island. The development of a defensive position at the Narrows apparently came several years after British seizure of the area. The French-American alliance of 1778 marked the entrance into the struggle of a belligerent against Great Britain possessed of the naval capability to harass British New York. More important, inclusion of the French fleet among the military forces opposing Great Britain threatened English possessions elsewhere, both in America and Europe, thus reducing the number of British ships on assignment to the eastern seaboard. In such a situation shore batteries were appropriate for purposes of harbor defense. Such considerations are consistent with the fact that evidence of British works dates after 1778.

A recent study of New York forts during the American Revolution states that by 1779 British defenses on Staten Island at the Narrows consisted of a redoubt, a line of twenty-six gun platforms, six 24-pounders, four 18-pounders, and a hot-shot furnace. By 1782, a four-bastion fort and several barbette batteries had been added. No sources are cited for this information.[27] Numerous contemporary cartographic sources, however, confirm the existence of fortifications at the site.

By this time, the prominence now occupied by Fort Tompkins had become known as Flagstaff Hill, the name used in British army records and maps.[28] A map of 1781 of New York's defenses shows a "signal house and fort" at that site. Another map produced the same year by British army surveyors depicts a structure at the Narrows designated simply as "Fort." Most detailed is a Hessian map, also made in 1781, which is primarily concerned with the disposition of troops and ordnance on the east side of the water approach to Manhattan. Pictorially, however, it shows similar information for Staten Island, although without the explanatory notations provided for the Long Island shore. The general area at the Staten Island end of the ferry is designated "Flagstaff," and three staffs are depicted. To the southwest appears a substantial six-pointed star-shaped work with what might be a blockhouse within it. Farther to the south and also in front of both the star-shaped work and the flag staffs are smaller positions. A French map of 1783 covering Staten Island does not quite include the entire easternmost point, but does show the star-shaped fort as well as a beacon in the area of Flag Staff Hill.[29]

Another cartographic source is of somewhat less value, there being no indication of its origin or date.



SOURCE: "Situation Des Posten zu Denyses.... 1781..."

SOURCE: Taylor & Skinner, 1781

SOURCE: Map of the Lower Hudson Valley, undated

FIGURE 2: THE FORT WADSWORTH IN THE AMERICAN REVOLUTION

Obviously pertaining to the Revolutionary period, it covers the lower Hudson valley, showing the location of works and forts. On the Staten Island side of the Narrows, notations read "Fort with five bastions made of earth containing 900 men" and "Barbette Batteries commanded by the Fort."[30]

That the British fortified Staten Island at the Narrows entered the arguments after the Revolution for American works on that site. In 1808, for example, Col. Jonathan Williams stated:

> The importance of the position [at] Flag Staff hill, is evinced by the British having thrown up a redoubt there to protect the passage of the Narrows, when they had possession of New York.[31]

The assortment of Revolutionary maps and other documentation convincingly demonstrates the existence of a British artillery post on the Staten Island side of the Narrows in the years 1780-1783. Such documentation has not been discovered for the earlier history of the site, and it appears likely that it was the British who began Fort Wadsworth's career as a harbor defense installation. None of the maps is of sufficient scale to permit precision respecting the location of the various works within the general area. But it is clear that when the State of New York and later the national government undertook the development of fortifications at Flag Staff Hill, they followed, not Dutch or colonial American precedent, but the example set by the royal army during the War of Independence.

According to Emanuel Raymond Lewis, fortifications in early America were simple, hastily assembled works, built entirely of earth or of earth with wooden supports. Intended to meet particular emergencies, they often were used for a brief period, then abandoned and left to deteriorate.[32] The American Revolution witnessed no change from this pattern, and the many fortifications that appeared during the conflict saw no further service after 1783 and became ruins in the 1790s. This is apparently what happened to whatever fortifications remained on Staten Island following the British evacuation of New York in 1783. Although the British had made extensive use of the west bank of the Narrows during the war, title to the site remained, as it had before the Revolution, in private hands. The British fort survived, however, and parts of it were considered salvageable in the 1790s.

CHAPTER II

STATEN ISLAND AND THE FIRST AMERICAN SYSTEM, 1794-1807

When revolutionary France emerged as a military threat, the government of the United States in 1794 embarked on a program of coastal fortifications known as the First American System. Difficulties between France and the United States escalated in the late 1790s, producing an undeclared naval war and prompting continued activities respecting fortifications. The works constructed during the 1790s were often small and lacking in durability. After 1800, with the diminishing of American fears of the French and the replacement of the Federalists with the more parsimonious and pacific Jeffersonians, fortifications lapsed into disrepair. During the period of the First American System, a part of the current Fort Wadsworth reservation was acquired by public authorities, crude defenses erected, and the site designated as requiring extensive and permanent works. Most of the attention given to fortifying the west bank of the Narrows came from the State of New York, not the government of the United States.

The new constitution adopted in 1787 stipulated that the federal government be responsible for national defense. During the 1790s and the first decades of the nineteenth century, however, states played a much more active role than generally recognized. The First American System was initiated by the national government, which sounded the alarm, designated experts to prepare plans for the defense of particular locales, provided some funds, and generally gave its approval and blessing for fortifications construction. In the case of New York, however, the state government became the more vigorous party, and perhaps that was the way federal authorities intended the system to operate. State appropriations for the protection of the harbor of New York far exceeded those available from Congress. Moreover, the state coopted the fortifications expert engaged by the War Department, placing him on the state payroll and giving him instructions which conflicted with those received from the central government. His final report reflected more accurately the

thinking of the state than federal authorities. New York did not wait for specific directions from the central government, but proceeded to develop fortifications for the harbor even before the War Department had received the report from its engineer. State officials negotiated with the owners of sites, procured building materials, hired laborers, and supervised construction. When it appeared that the federal government could not furnish sufficient guns for the defenses being built, the state set out to purchase its own weapons. From the beginning, however, the language of state legislation and reports on fortifications evinced a belief that the security of New York City and its harbor should be the responsibility of the nation, not the state.

The manner in which the First American System was implemented is of importance to the student of the evolution of defenses in New York harbor. Simply put, it means that an adequate history of the Staten Island site, or of Ellis Island, Bedloe's Island, or any other fortified location, 1794 to 1807, requires attention be given to both the national and the state governments.

Activities of Federal and State Governments, 1794

In response to the urgings of President Washington to provide for the protection of American seaports, a congressional committee prepared a report in February 1794 listing sixteen places in the United States requiring defensive works. New York was one of the sixteen. Specifically, fortifications were recommended at Manhattan, Governor's Island, and Paulus Hook. Collectively, these three sites would mount eighty-two cannon and have garrisons of ninety-eight men. Congress responded affirmatively and in March appropriated $76,000, of which $12,500 was earmarked for New York. Secretary of War Henry Knox instructed Charles Vincent to develop a plan for the defense of New York harbor. Vincent, a Frenchman and "temporary Enginneer in the service of the United States," was to limit his scheme so as to accord with the budget of $12,500. Knox directed the engineer to consult with the governor of New York, who was to receive a copy of the final report.[1] Having thus initiated a program of harbor fortifications for New York, the federal government became the less active in the nation-state partnership.

Starting in 1794, the course of state policy on harbor defense was to concentrate construction on the islands in Upper New York Bay and immediately south of Manhattan, to press the federal government to develop a comprehensive plan of defense and assume the financial burden of its implementation, and to facilitate the

conveyance by the state to the central government of sites in the harbor required for defense purposes.

New York State activity regarding fortifications began in the same fashion as the national government's. In January 1794, Gov. George Clinton communicated to the legislature his fears of the exposed nature of the port of New York. In March, a bill passed appropriating £ 30,000 for repairs and construction of fortifications at or near New York City. The bill's preamble noted that the funds currently being voted by Congress for defending New York "may not be sufficient" and that the state legislators were proceeding with confidence that New York would be reimbursed by the United States. The bill established a board of commissioners to superintend fortifications and gave that board extensive authority, including powers to enter and survey any land regarded as required for defense, to purchase such tracts, and, when owners seemed recalcitrant or unreasonable, to proceed through the chancery court to force sale on fair terms.[2]

The Commissioners of Fortifications rapidly established themselves as the main agency in the preparation of defenses in New York harbor. Unfortunately, only fragments of their records have survived. Those fragments consist of the board's minute book for the first two years of its career and accounts of expenditures for 1794 and the years 1809-1817. During the era of the First American System, the commissioners directed most attention and resources to fortifications on Governor's, Bedloe's, and Ellis Islands. From its inception, however, the board displayed concern for works at the Narrows and at Staten Island. In fact, at the very first meeting, on April 2, 1794, the board received and considered a proposal to fortify the Narrows. Their interest aroused, the commissioners on the following day visited the Narrows, although they came to no formal conclusions respecting works in that area.[3]

On April 4, the commissioners turned to larger considerations. By that time, the governor, a member of the board, had been informed by Secretary of War Knox of federal activity respecting New York harbor, namely the assignment given Charles Vincent, the size of the congressional appropriation, and the limited approach taken by the War Department. The board immediately resolved that since the $12,500 in federal funds was insufficient to provide a proper defense for New York, the state should expand its appropriations for that purpose. The board then agreed that Vincent should advise and assist them.

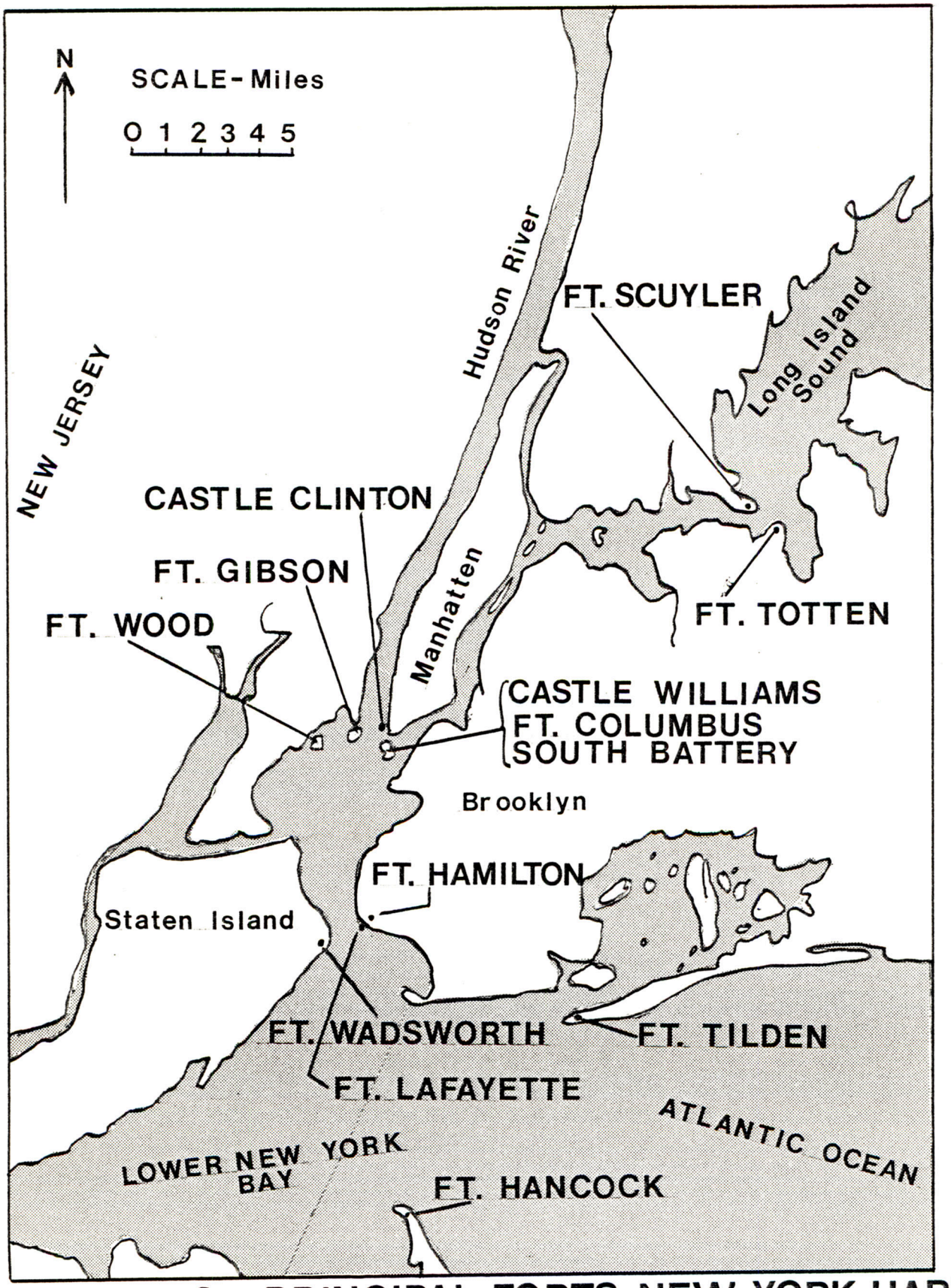


FIGURE 3: PRINCIPAL FORTS, NEW YORK HARBOR

Specifically, he should recommend what works were required, in addition to the limited federal scheme, in order to provide adequately for the security of the harbor. After further business, the board adjourned and, accompanied by Vincent, visited Governor's, Bedloe's, and Ellis Islands. The following week, Vincent submitted his written report and recommendations for the entire harbor. Since it was in French, however, a translation was necessitated. Other proceedings included appointment of a sub-committee to procure an adequate number of cannon and the naming of Ebenezer Stevens as responsible for recruiting labor and purchasing of material and supplies for construction at Governor's Island. That construction began in mid-April.[4] Among the many reasons why Governor's Island became the first site of actual work was because part of it, at least, was in the legal possession of the State of New York.

Purchase of the Staten Island Site and the First American Defenses

To enable work to commence elsewhere in addition to Governor's Island, on April 14, 1794, two-man sub-committees were established by the commissioners to make arrangements with the owners of the desired sites. The City of New York had title to Bedloe's Island, and private parties held Ellis Island and both banks of the Narrows. Of the various owners, those at the Narrows proved the least cooperative. The Staten Island proprietors were willing to sell, but at a price considered extravagant by the board. Accordingly the commissioners, as authorized by legislation, instituted proceedings through the Court of Chancery. Those proceedings involved the convening of a jury of twelve men from the town of Southfield, Richmond County, the tract in question falling within that town's borders. The jury, assembled in August 1794, inspected the premises and then fixed its size at 24 45/100 acres and its value at £833. It was also held that the loss of the property would inflict damages of £367 upon the owners, Ann Jacobson and Catherine Van Deventer, and of £25 upon Cornelius McLean, a farmer who leased the property. The Commissioners of Fortifications accepted the findings of the court, and title was conveyed to the state in the following November for a payment the equivalent of $3,062.50.[5]

The purchase of the Staten Island tract by the commissioners reflected the interest in that site maintained by the board since its inception in early April. The recommendations made at the first meeting that the Narrows be fortified received reinforcements subsequently when

similar proposals were heard. For example, on June 6, Vincent presented a scheme for works on the Staten Island shore of the Narrows, and the board immediately resolved to adopt that scheme. Ten days later, one commissioner was designated to hire laborers to begin work at the site. As evident in the account books, starting in June, wages were paid to a small number of workers. When the board learned of the chancery court proceedings, orders were immediately issued to employ fifty men at the site to repair what was salvageable from the old fort and to build a blockhouse. Workmen labored at the site apparently from late May to early September 1794.[6] Although they were few in number, especially compared to the hundreds engaged at Governor's Island and, although the surviving minute book contains no further specific references to Staten Island, there is no reason to suspect that the modest endeavors ordered by the board were not carried out. It seems clear that the works remained unarmed and ungarrisoned. Whatever their particular nature, the temporary defenses at Staten Island did not satisfy the long range desire for security, and repeatedly, especially after 1800, spokesmen for the state called on the federal government to take over the site and erect more elaborate and permanent works.

The Report of Charles Vincent, 1794

That Staten Island contained positions crucial to the defense of New York constituted a major thrust of the first comprehensive survey of the harbor's fortification needs. At some time in the last three months of 1794, Charles Vincent complied with directions received in April from Knox and submitted his plan for the defense of the harbor of New York. Knox had advised the engineer that his recommendations should conform to the congressional budgetary limit of $12,500. As we have seen, however, Vincent became intimately involved in New York fortifications as the paid advisor of the state commissioners, who sought a system of defense of much greater scope than outlined by the War Department. Accordingly, Vincent disregarded the restraints imposed by Knox and forwarded a report so grandiose that it may well have shocked the Secretary of War.

The Vincent report presents several problems. All of the statements respecting fortifications are in the nature of recommendations of works needed, and there is no indication of construction then completed or already underway, so that the document cannot be read as a progress report of what had been done, was being done, and should

be done. Another difficulty, of particular importance concerning Staten Island, results from the fact that some of the place names used in the report appear incorrect. We have already seen that Vincent submitted to the Commissioners of Fortifications a report written in French, requiring a translation. Probably the engineer's original statement to Knox was also in French, and the problem with place names resulted from the process of translation. Moreover, if the translator was in Philadelphia and not New York City, there would have been room for even greater error. Despite various difficulties, the Vincent report is a useful document.

Operating from the principle that "the soonest one may annoy the enemy" the better, the engineer gave consideration to fortifications off Sandy Hook, apparently on the banks at the entrance to New York Bay, but rejected them because of a number of difficulties. "It will be advantageous, however," he wrote:

> to have at Sandy Hook's tower [lighthouse] two pieces mounted in a battery, the use of which will be to give the signals agreed upon, these signals will be repeated by Stag Stake Fort, and successively by Beedle's [Bedloe's] and the city.

"Stag Stake" was the name used by Vincent for the site of the future Fort Wadsworth.[7]

The report held that incoming ships encountered natural difficulties at the Narrows,

> where the contracted current increases its rapidity, and where the wind leaves generally the entering ships and abandons them to all the means of defense so easy to establish in that part.

On the "left shore" or east side of the Narrows, Vincent's recommendations called for a battery on what later became known as Hendricks Reef and earthern redoubts on the high ground behind the reef.

Vincent then turned to the west bank of the Narrows, regarded as "much more interesting on account of vessels coming much closer to it, driven by the currents and endeavoring to avoid the advancing high ground."

As his first recommendation, he stated:

> A battery mounted with fifteen pieces of the largest caliber will be established in Sandy Bay, above the level of the highest tides, its gorge will be shut, and it will have four mortars and flanks mounted with two four pounders.

The term "Sandy Bay" creates confusion, since no place on Staten Island has ever been known to bear that name. There was a "Sand Bay", however. "Sand Bay," according to a legal brief of the early twentieth century, referred to "the shore indentation between Duxbury Point and Fort Wadsworth." That general location for Sand Bay is also given in a map of old place names prepared by Charles Leng. One reference point in the literature dealing with the whereabouts of Sand Bay is a colonial ferry across the Narrows. It is well established that a ferry operated from Van Deventer's Point, below Flag Staff Hill. William T. Davis, in 1896, described Sand Bay as "near the Fort at the Narrows." One of Vincent's successors as fortifications engineer for New York harbor in 1808 designated the site of the soon-to-be-built state version of Fort Richmond as "the sand beach." It is possible that a sand beach did exist and that it was obliterated by the construction of the original Fort Richmond and by the building on the same site of the structure now known as Battery Weed. Perhaps the term "Sandy Bay" was not employed by Vincent at all, but by whoever translated the original report into English. Since he worked closely with the New York Commissioners of Fortifications, Vincent must have been aware that the state was in the process of acquiring title to the tract encompassing Flag Staff Hill and the shoreline immediately to its east.[8]

The engineer's report continued:

> Above this battery and the steep bank, will be erected Fort Stag Stake, covering the inferior battery, and forming very advantageous crossing fires with those of the opposite shore; it will be, besides, connected by a covered way with a redoubt to be erected on the extremity of the steep bank where formerly stood a block house. Mortars will be placed in the covered way joining fort and redoubt; this last will

> be defended by six pieces of the largest caliber. These mortars, combined with the defenses already designated will complete the protection necessary for the channel in the narrows; but as it is prudent to calculate all possibilities in cases of such high importance, we will suppose that the enemy should attempt a landing in order to master the right shore's defenses. This determined us to propose to occupy by a redoubt the heights of Cherry Hill, connecting this redoubt with Fort Stag Stake by a double covered way, traced with intelligence, and seizing, by another covered way, an important ground below Fort Stag Stake, which is susceptible to receive a number of men sufficient to oppose any enterprise of the enemy on Staten Island.

As far as can be determined, no place by the name of "Cherry Hill" existed in the immediate Fort Wadsworth area. According to Davis, the name had been employed to designate a site in Tottensville, in the extreme southwest of Staten Island. Certainly this could not have been the place Vincent had in mind, since he recommended it be connected with Fort Stag Stake by a double covered way.[9] Vincent terminated this section of his report with the recommendation that "the blockhouse, redoubt, Fort Stag Stake, and the intermediate batteries should be constructed immediately."

Briefly stated, the rest of Vincent's plan for the harbor consisted of fortifications at Bedloe's, Oyster [Ellis], and Governor's Islands, batteries on Manhattan, and two floating batteries stationed between Governor's Island and Oyster Island.

In addition to the difficulties in the Vincent report resulting from the confusing place names, another problem arises from the fact that a table summarizing the report's recommendations does not agree with the text. Because of the table's use of the name "Flagg Staff" instead of "Stag Stake," it is possible that someone other than Vincent prepared the table. In the text, four installations are called for, omitting the covered ways: (1) a battery at Sandy Bay; (2) Fort Stag Stake; (3) a redoubt "on the extremity of the steep slope, where formerly stood a block house;" and (4) a redoubt on the heights of Cherry Hill. The table accompanying the report lists six facilities: (1) a redoubt at Cherry Hill;

(2) a battery on blockhouse hill; (3) a redoubt on the hill between blockhouse and flag staff; (4) flag staff fort, "the old fort to be rebuilt, with many alterations," (5) a small battery to the north of flag staff; and (6) a battery at Sandy Bay.

Despite the contradictions and other difficulties, Vincent's report is useful. It offers a late eighteenth-century perception of the potential of the present Fort Wadsworth area in an integrated system of fortifications for New York harbor. Also, it indicates that previously there had been such facilities, namely the old fort and a blockhouse.

Vincent estimated that implementation of his entire scheme would cost $182,000. Since this figure was fourteen times the funds made available for New York in the original congressional appropriation, it is not surprising that the federal government did not act upon it.

Between 1795 and 1800, the state effort centered on fortifications on Governor's, Bedloe's, and Oyster or Ellis Islands. Two legislative appropriations in 1795 and 1796 were specifically limited to those locations. Toward the end of 1796, Gov. John Jay advised the assembly of the need to fortify the Narrows. The legislature, however, refrained from any further appropriations until the summer of 1798, when war with France appeared possible. Then the New York General Assembly voted $150,000 for the completion of works on the three islands and for construction at Manhattan and on Long Island.[10]

Aftermath of the First System

Since 1794, both the executive and legislative branches of the government of New York had expressed their opinion that defense of the port of New York was defense of the nation and that federal financing of such fortifications was required. For its part, congress regarded its appropriations of 1794 and 1798 as sufficient. Yet more funds were required. The result was a complicated arrangement whereby certain states were required to spend on fortifications within their borders sums equivalent to the size of the debt of each of the states which had been assumed by the central government. New York, one of the states involved, bound itself to this arrangement in an act of March 1800. According to that measure, the places fortified were previously to have been ceded by the state to the United States. Twenty thousand dollars was to be expended as the first installment of the total New York

obligation, later calculated as $786,000. It was through this mechanism that sites in New York harbor began to pass into federal hands, beginning initially with that part of Governor's Island containing Fort Jay.[11]

With the signing of the Convention of 1800 by France and the United States and the lull in the European wars between France and its adversaries, fortifications appropriations by both state and national governments ceased and construction slowed or halted. New York reneged on its pledge of funds, but at the same time New Yorkers directly and indirectly demanded the central government, now headed by Thomas Jefferson, complete the task of providing New York harbor with adequate defenses. Spokesmen for the state took the position that one-third of all national revenues was produced by customs paid at New York City and that, therefore, the national government should be solely responsible for the costs of protecting that port. Moreover, any seeming obligation the state had respecting fortifications funds had been more than fulfilled by the surrender to the United States of lands and islands in the harbor of New York. Justice required that Congress "release the pretended claim of the United against this State. . . ." Between 1801 and 1806, Jefferson and his administration received numerous reports, petitions, and memorials urging federal financing of New York fortifications. Memorials were sent by the New York governor, the state assembly, a group of Manhattan merchants, the mayor of the City of New York, and U.S. military personnel at New York, such as Lt. Col. Jonathan Williams. Several of these parties called for federal works at the Narrows.[12] It was in reaction to these pleas that Jefferson's Secretary of War attacked the very notion of closing the Narrows by means of fixed shore batteries.

In February 1806, the President sent to the House of Representatives a report of the Secretary of War dealing with fortifications. The report's last section consisted of "Remarks in relation to the New York Harbor," and a major thrust of that section was to question the efficacy of fortifications at the Narrows. The remarks began with statements that the works built in the harbor in 1794 and 1795 had deteriorated and now required considerable repair, that the State of New York had not met its obligations, and that despite these developments several recommendations had been received in Washington since 1801 calling for still further construction, especially at the Narrows.[13]

Most of the secretary's remarks challenged what the administration regarded as the basic premise behind those recommendations:

> that fixed batteries, on the margins of channels not more than one mile in width, might under the direction of skillful officers, render the passage of ships of war so difficult and unsafe, as to prevent them attempting such a passage.

That such an erroneous opinion should prevail was seen as remarkable

> after so many instances had occurred of ships of war not only having passed the best of batteries within even point blank shot (which is less than 500 yards) but of their presenting their broadsides to such batteries, with springs on their cables, and sustaining the fire for a considerable length of time, and even in many instances, of silencing the batteries.

Explicitly attacked in three statements was the idea that the Narrows could be closed by shore batteries. The secretary recommended that consideration be given to a combination of forts, movable land and water batteries, and those Jeffersonian favorites, gunboats. If such a combination were considered inadequate, the only alternatives were heavy ships of war.

New York made one further attempt to induce the federal government to construct works at the Narrows. In March 1807, a bill established a commission to act for the state legislature in identifying land on Staten and Long Islands vital to the defense of New York and conveying such lands to the United States, with the provision that the total cession be no more than 200 acres. More important, the legislation stipulated that:

> the lands belonging to the people of this state at Bluff-point on Staten Island which shall by the president of the United States be deemed necessary for fortifications, are hereby granted to the United States for that purpose.

That grant was outright and did not have to go through the commissioners. "Bluff Point" is yet another name used for Van Deventer's Point, the easternmost tip of Staten Island.[14]

This is a perplexing piece of legislation, especially

the provision for the Staten Island site. No cession to the United States followed passage of the act, and four decades passed before the United States purchased the land in question. In 1808, the state legislature amended the measure, but neither repealed nor altered any of the provision for the Bluff Point tract.[15] In the early 1840s, during negotiations leading to the purchase by the United States, Capt. Robert E. Lee, on duty at Fort Hamilton, inquired into the state's possession of the Bluff Point location and contended that, by virtue of the 1807 law, New York had indeed surrendered the site, but that somehow that action had been overlooked. Lee was mistaken. The transfer did not occur because of the refusal of the president simply to "deem" any of the site "necessary for fortifications," thus leaving the state in possession. This conforms to Jefferson's doubts about permanent fortifications.

Thus, when relations between Great Britain and America suddenly became critical late in 1807, triggering a new federal fortifications program, the State of New York did not wait for action by the central government, but proceeded on its own to construct masonry works on its property at the Narrows.

The First American System left New York harbor with the beginnings of a scheme of fortifications, but little else. Governor's Island, the main defensive site, had Fort Jay, an enclosed work, and two detached batteries. Single batteries stood on Bedloe's Island and Ellis Island. Breastworks and parapets had been constructed on the southern tip of Manhattan, and the city also possessed a train of cannon on traveling carriages. Finally, seven miles to the south, on the Staten Island side of the Narrows, was a blockhouse and the renovated English earthern fort. By 1806, all of these works, except Fort Jay, had fallen into disrepair, leading some to lament the defenseless state of America's most important city. A permanent garrison was stationed only on Governor's Island, and it appears unlikely that during the period any troops had been assigned to the Staten Island site.

Chapter III

THE STATE WORKS AS A SECOND SYSTEM FORTIFICATION

In mid-1807, renewed interest in America's coastal fortifications emerged because of the hostility between Great Britain and the United States. Particularly important was the American reaction to the incident of June 2, when HMS Leopard fired upon USS Chesapeake three leagues off the Virginia capes. The War Department prepared a new national program of fortifications, and in the next five years congress authorized the expenditure of three million dollars. The results of the program are known as the Second System. Although the federal government now recognized the merits of fortifications on Staten Island, that site was not included in the national construction program, and it was the State of New York that built two masonry forts and several earthen batteries at the location. Troops manned these works during the War of 1812. By the end of that contest, if not sooner, the idea had been accepted by all parties that the federal government alone should handle the burden of funding, constructing and manning the nation's coastal defenses. The State of New York engaged in no further fortifications programs and did not maintain existing works in its possession. Shortly after the return of peace, the garrison at the Staten Island site was removed, and the forts and batteries began to suffer serious deterioration. State legislation, passed in 1818, empowered the governor to negotiate a sale of the site to the United States. That sale, however, did not occur until three decades later.

During the life of the federal fortifications program, 1807-1812, works in New York harbor built in the years of the First System of the 1790s were improved or replaced, and several entirely new structures were erected. At Governor's Island, Fort Columbus appeared on the site of Fort Jay, and a new three-tiered casemated "tower," Castle William, was built on the island's western shore. Of all of New York's defenses, this was the strongest and most heavily armed. Intended for one hundred guns, its 1811 armament consisted of fifty-two 42- and 32-pounders in the first and second tiers and twenty-six of the new 50-pounder columbiads on the third tier or the terrace. Bedloe's Island

had a star-shaped fort with places for twenty-four heavy cannon. An enclosed circular battery, mounting fourteen guns, was constructed on Ellis Island. Second System defenses on Manhattan consisted of two new works, Castle Clinton and a small one-tier circular battery on the Hudson River at Hulet Street. In 1811, the mobile train of cannon, now maintained at a new arsenal, included an assortment of thirty-four weapons. If all the New York City facilities had been equipped with their full complement of ordnance, more than 300 guns would be found defending the harbor. Probably the number in place, ready for firing, was never more than half of that figure.[1]

The years of the Second System, for the first time, saw the beginnings of permanent defenses in advance of the inner harbor, and both the central and state governments undertook the construction of masonry works at the Narrows. In 1812, under federal auspices, work began on a water battery on Hendricks Reef, near the Long Island side of the Narrows. Known first as Fort Diamond and then Fort Lafayette, when completed in 1812, it had positions for seventy-two 32-pounders. Opposite Hendricks Reef and on the state land of Staten Island, New York built two stone forts and several earthen batteries. As wartime measures, the state also hastily prepared small, temporary works on Rockaway Peninsula and at the eastern end of the East River, and the federal government equipped Sandy Hook with a blockhouse and a structure designated as Fort Gates.

The decision of the Jefferson administration that the national government should not undertake fortifications on Staten Island did not deter New York from cooperating with federal authorities in providing for the defense of the city and port of New York. In 1808, for example, the state assembly enacted a measure to permit vesting the United States with title to lands under water between Staten Island and Long Island, a step necessary for any federal work on Hendricks Reef. Also in 1808, the state acquired legal possession of Ellis Island through proceedings in the Court of Chancery and then conveyed the property to the United States. For its part, the central government kept New York fully informed of its fortifications plans so as to facilitate whatever state action was required in bringing those plans to fruition. Essentially, the state seems to have favorably regarded the efforts of the War Department and Congress. On one occasion, Governor Tompkins told the state legislators: "It affords me pleasure to inform you that the fortifications erected under the authority of the United States have been prosecuted with activity and zeal."[2] Cooperation between state and central governments is also evident in the planning of fortifications on Staten Island.

New York and the Staten Island Site

As described in the preceding chapter, beginning in 1794, when it acquired the tract at Flag Staff Hill, New York became committed to the idea of defensive works on the Staten Island side of the Narrows and initially assumed that construction there should be financed and managed by the federal government. The commitment and the assumption endured, although during the 1790s both state and nation concentrated their resources on works in the interior of the harbor. After the First System program reached its end around 1800, the state continued its quest. At one time all that was required for a cession of the site to the United States was acknowledgement by the president of the location's value to national defense. But the Jefferson administration rejected the idea that the Narrows could be effectively fortified. The state retained its belief that extensive fortifications should be built on Staten Island and ultimately itself undertook to pay for and construct such works. At some time after early 1807, federal authorities gave approval to that undertaking. It is not known whether that approval was given reluctantly or with enthusiasm or whether it came as part of some larger understanding or a political quid pro quo.[3]

Whatever the political aspects, military considerations necessitated agreement between the state and national government on the question of fortification of Staten Island. Both governments sought an ample and comprehensive scheme of defense for New York. A major development would occur with the projected works at the Narrows, since it would constitute the first permanent exterior or outer defensive position. The harbor's interior sites were in the hands of the federal government. It was crucial that the state and nation be of one mind so as to produce an effective system of defense.

Approval of the project by the Secretary of War seems implicit in War Department orders to Col. Jonathan Williams, U.S. Army Engineer, to present to Governor Tompkins a "Plan of an enclosed work on Flag-staff hill, to be erected under your [the governor's] direction, at the expense of the state of New York."[4] Williams had management of federal fortifications construction throughout the harbor, and his involvement in the Staten Island project assured coordination between the state and central governments. Williams had more to do with technical planning of the state works than any other individual. He prepared at least the general designs for Forts Richmond and Tompkins. Certainly the location and function of the various fortifications conformed to recommendations

he submitted to the state. Also Williams participated in the supervision of the construction. Thus, the Staten Island fortifications erected during the Second American System represent a cooperative undertaking of state and federal officials.

Planning of the state works at Staten Island evolved through several different stages. In the autumn of 1806, Colonel Williams was directed, apparently by authorities of either the City or State of New York, to survey the harbor and to measure the width of the Narrows and the distances between other defensive positions. In July of the following year, he submitted to the municipal common council a plan for fortifying the Narrows. Essentially that plan featured twenty-eight "blocks" to be sunk across the Narrows at intervals of sixty or eighty feet. Such blocks themselves would impede enemy fleet action through the Narrows. In addition, Williams recommended further defensive embellishments, namely equipping each block with cheveaux de frize, placing a pair of "Mr. Fulton's Torpedoes" in the spaces between the blocks, and providing for a gunboat to be anchored above or behind each block. Casemated batteries were to be built on Hendricks Reef and at the water's edge of the Staten Island shore.[5]

Williams's scheme, which was made public, touched off a controversy, regarded by one observer as largely political. Albert Gallatin, Jefferson's Secretary of the Treasury, was then in New York and wrote the president that the "extravagant and inefficient" plan was a maneuver of the Federalist municipal government to embarrass the national administration. Gallatin noted that "Colonel Williams was unfortunately drawn in to favor the plan for which engineers fond of displaying their talent have some predilections."[6]

Subsequently, Daniel Tompkins, elected governor on a Democratic-Republican ticket, intervened and obtained from Williams a more orthodox plan. In a letter of October 1808, Williams presented to the governor a general scheme for fortifications on the west bank of the Narrows. The letter included discussion of the relationship between inner and outer defenses for New York harbor, proposals for the Long Island side of the Narrows, and some thoughts on the financial burden the state was assuming. Most of the letter, however, dealt with the Staten Island site. Two permanent works should be built, one at the water's edge, near "the sand beach," and the other on Flag Staff Hill. In addition, there should be a "range of small batteries on the sloping ground to the southward." Williams's recommendations were generally adopted, although

he subsequently altered the design of both major fortifications. His 1808 scheme proposed a water battery consisting of two towers, connected on the channel side by a breastwork. Entirely casemated, the work would mount two or three hundred guns. According to the same scheme, Flag Staff Hill was to be occupied by a fort having essentially a square trace. A circular bastion or tower was recommended for the southeast angle and half bastions for the other three corners. The main purpose of this work was to protect the channel-bearing batteries from attack by land. Accordingly, the parapet on the east side need only be a low wall to enable guns to be depressed so as to fire on the decks of ships in the Narrows. Each of the other three fronts would consist of "rampart, parapet, scarp, ditch, counterscarp and glacis." By early 1809, Williams had scrapped his original plan for the water battery and in 1814 announced a new design for the work on the hill.[7]

Six months before Williams submitted his initial scheme to Tompkins, the state assembly appropriated $100,000 for the defense of the harbor of New York. The legislation made the governor responsible for the expenditure of this fund and imposed on him the requirement that he employ in the project "as many seamen and other persons now out of business in the said city as practicable."[8] As was true of other American ports, New York suffered from Jefferson's embargo, which prohibited all seagoing commerce. With ships tied to the docks, unemployment became common among mariners and others engaged in maritime-related trades. Although the bill did not specify Staten Island as the site for fortifications, the funds were understood as intended for that location, as evident in Williams's letter to Tompkins in October.

In November 1808, Governor Tompkins informed the legislators that he had experienced several difficulties in getting the project under way, but that the problems had been overcome. And, indeed, work at the site apparently started the following month. Legislation, passed in February 1809, empowered the governor to purchase land adjacent to the property already belonging to the state. The same act prohibited alcoholic beverages from being sold to laborers at the site or within a half mile of it. Another provision gave to all workers not <u>bona fide</u> residents of Richmond County immunity from obligations to that county, such as taxes, jury service, militia duty, and labor on highways.[9]

As evident in Williams's recommendations of October 1808 and in a map of proposed works of March 1809, the state plans for the west bank of the Narrows stretched

beyond the original twenty-five acre tract acquired in 1794. Perhaps some understanding had already been reached with the owners of land immediately to the south. As authorized by the recent legislation, the state concluded a purchase in November 1809, which added twenty-two acres to the site.[10]

Work progressed rapidly, and in January 1810, Tompkins reported that the water battery, named Fort Richmond, had been completed and awaited its complement of twenty-seven guns. Two earthen batteries had also been finished and together would mount ninety-two cannon. Work had not yet started on the future Fort Tompkins, except for the drilling of a well within its intended confines and excavation of the ditch.[11]

As a matter of fact, four years would pass before construction began on Fort Tompkins. There seems to have been a genuine commitment on the part of the state to add to Fort Richmond and the earthen batteries another major structure, and thus that nothing was done between January 1810 and May 1814 appears as a delay. The history of New York harbor defenses, however, contains numerous instances of works vigorously projected but never built or only built many years later. In 1810 possibly some individuals may have regarded Fort Richmond and the two earthen batteries as constituting adequate defenses for the Staten Island side of the Narrows. Moreover, the federal government seemed intent on constructing a water battery on Hendricks Reef. Perhaps the decision of the state to press ahead with Fort Tompkins reappeared only because of the War of 1812.

A minor development in the history of Fort Wadsworth occurred in 1810 and 1811 and may have led state authorities temporarily to postpone start of construction of Fort Tompkins. At that time, New York officials became persuaded that the federal government might move the United States Military Academy from West Point to some other location. The state regarded its acreage at Staten Island as a suitable new home for the institution, and legislation passed ceding the tract "together with the fortifications therein" to the United States "as long as the principal military academy of said United States be established . . . and continued on the said Island."[12] The central government decided to retain the West Point location, and nothing came of the offer to cede the Staten Island tract. Nevertheless, the possibility that the state might give up the site may have resulted in a decision to delay work on Fort Tompkins.

The outbreak of war between the United States and Great Britain led to increased military preparations

and spending by the New York government. Perhaps, without the war, Fort Tompkins may never have been built. Even with the war, construction did not start until the third year of hostilities. Certainly the defense of New York harbor was a major wartime concern of the state government, but other areas clamored for attention and funds. Particularly, protection had to be provided the frontier counties in the west and north. Indeed, much of the fighting during the war occurred along the New York-Canadian border from Lake Erie to Lake Champlain.

On June 12, 1812, eight days after the lower house of Congress had voted for war, but before the Senate took the same step, the New York legislature appropriated $25,000 "for the completion of the fortifications on Staten Island." The measure also authorized the governor to arrange with the federal authorities for the "establishment of a telegraph observatory and signal poles" on the state land on Staten Island. Finally, the act provided for the constitution of a company of thirty men and officers to serve as a guard for the fortifications at the Narrows. The guard was to be billeted at the site in barracks constructed by the state. In the following February, Tompkins reported that almost $125,000 had been expended on fortifications at Staten Island, and a balance of $10,000 remained unspent. The Commissioners of Fortifications considered the balance too small to proceed with "the redoubt or protecting work at Signal Hill." The legislature then proceeded to authorize $22,000 specifically for the "protecting work at Signal Hill."[13]

Another year passed with no start made on Fort Tompkins. The delay in part resulted from the necessity to avoid interference with existing works. In January 1814, DeWitt Clinton, one of the Commissioners of Fortifications, wrote:

> We intended to have commenced the last season with constructing the lower part of Fort Tompkins on Signal hill on Staten Island: but. . . we found it could not be undertaken without throwing open the defences already erected there and losing the protection which they gave to Forts Hudson & Richmond. Under these circumstances it was recommended to us to cause a blockhouse to be erected within the picket work on the hill: this has been done and it is a work of great strength mounting fourteen (14) heavy cannon.

Clinton noted that "the command which this work gives will now enable us to commence the contemplated one at Fort Tompkins if it be deemed advisable."[14]

Also contributing to the delay in construction of Fort Tompkins was want of more money, and the assembly in April 1814 voted $50,000 "to complete the fort on Staten Island, or to be applied to such other works in that quarter" as might benefit public security. Also provided was an annual payment of $250 for the duration of the war to lease a tract near the Staten Island forts on which an "outwork," known as Fort Smith, had been built. Real progress on Fort Tompkins came in May 1814 when Williams submitted a new design for the work. The latest plan called for a casemated pentagonal structure with round or tower bastions at each of the angles. Construction apparently began that summer and was kept going by a fresh appropriation of $50,000 in October.[15]

Whatever the thinking of Tompkins and Williams, legislators viewed the construction of Fort Tompkins as a wartime measure. Accordingly, when the war ended with the fort not yet finished, the New York assembly provided one more appropriation and then refused the governor's request for further funds. In April 1815, Gov. Tompkins advised the legislature that the Commissioners of Fortifications urged that the work be completed, since the materials had already been purchased and since the half-finished structure was vulnerable to damage from the weather. The governor concurred with that view and, in this instance, the assembly agreed, appropriating $25,000 to finish and equip the fort. A year later, Tompkins reported that additional monies were required for grading the terrain between the various works, for the purchase of the site of Fort Smith, and for completion of the main fort. The assembly, however, voted only $2000 for the preservation of the existing structures. As late as April 1817, cartmen and other laborers were at the site, but there are no subsequent payroll accounts. The legislature also refused to meet the governor's request for a guard at the site, and the evidence suggests that after April 1817, the location was abandoned, except for occasional repair crews and inspection parties.[16]

The Original Forts Richmond and Tompkins and the Batteries

No detailed plans or comprehensive descriptions of the state fortifications at Staten Island have been located. Surviving documentation, however, provides a general picture. Fort Richmond was a water battery, located ninety feet from the water at low tide and at the site of today's Battery Weed. Built of solid masonry and faced with hewn stone, its trace was that of a half circle. The straight, land-bearing front measured approximately 266 feet, broken

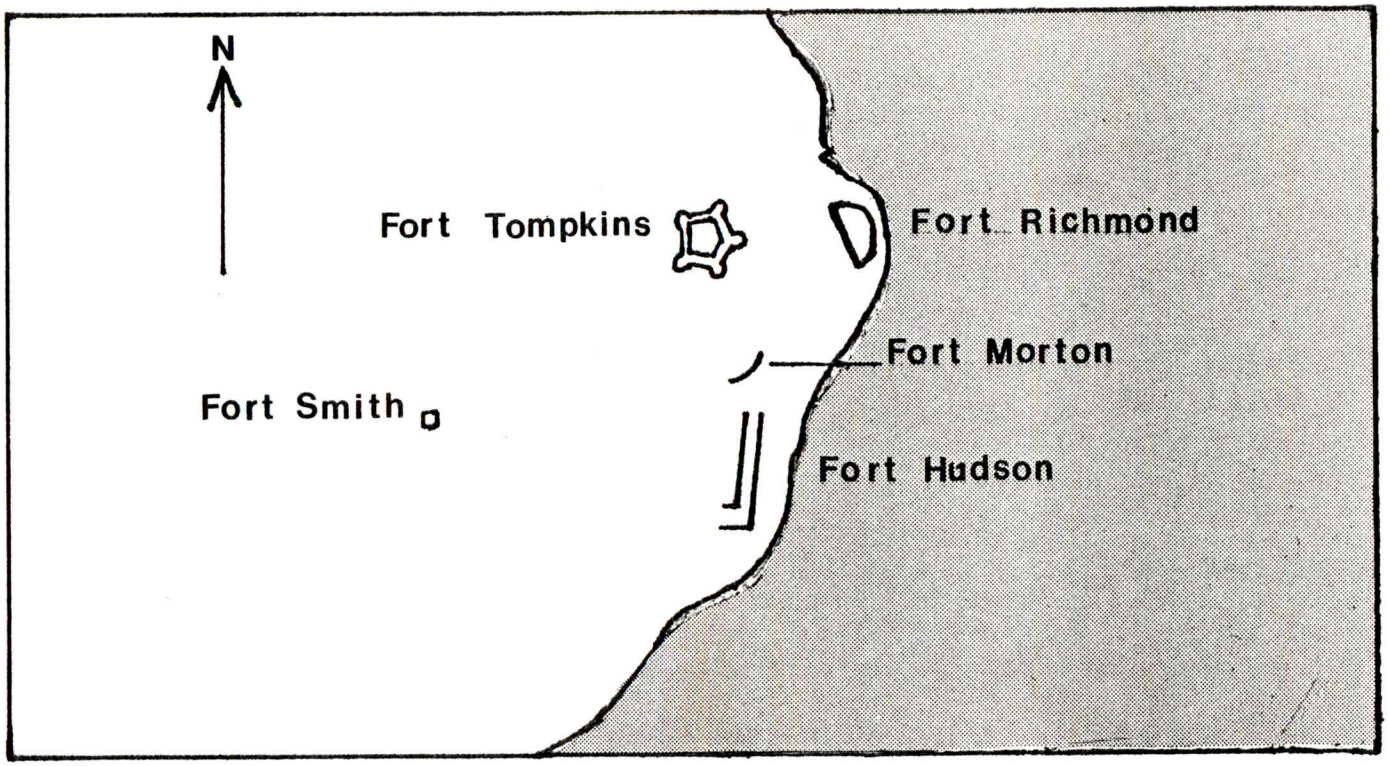


FIGURE 4: THE NEW YORK STATE FORTIFICATIONS
SOURCE: Capt. Parassin, 1819

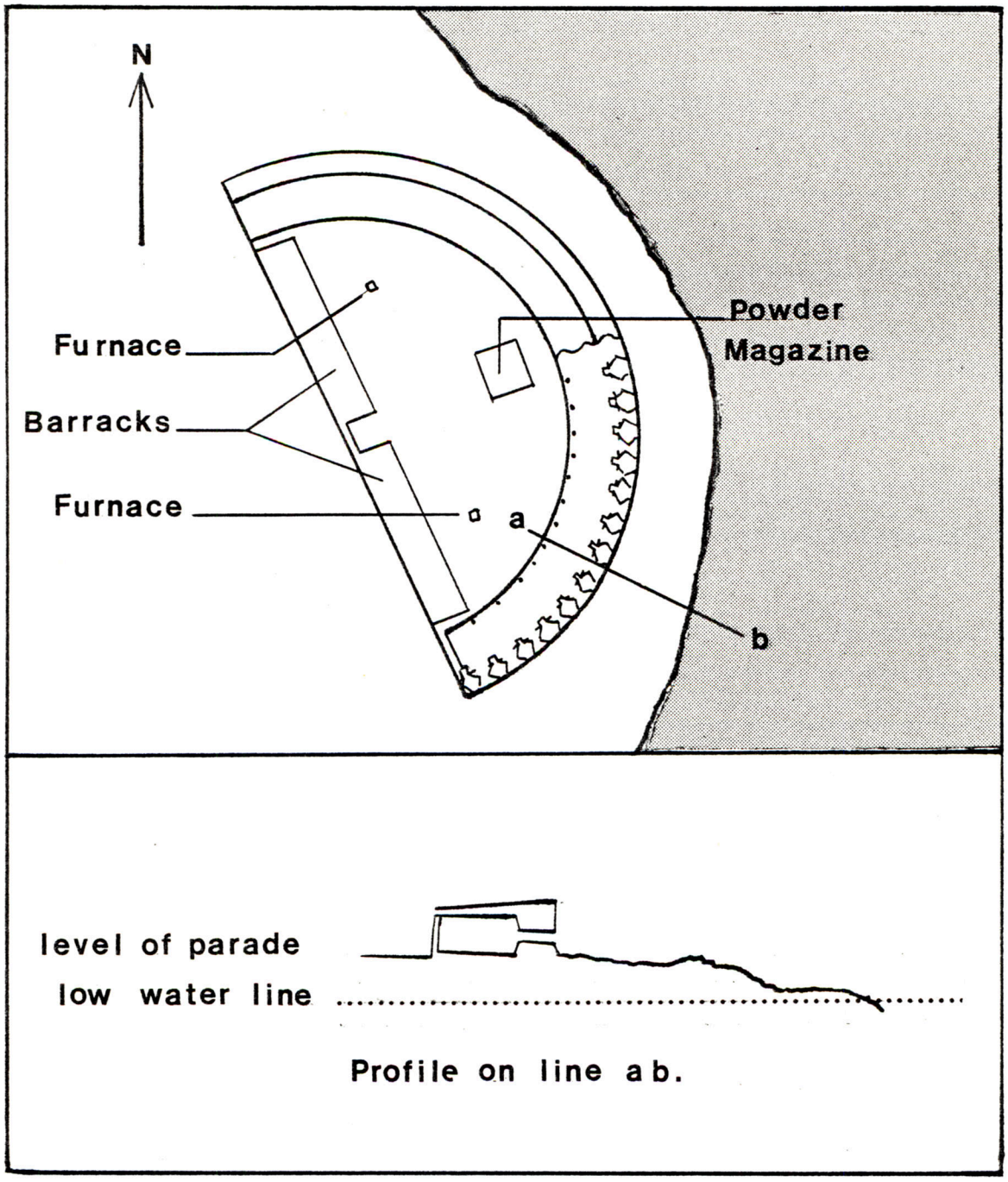


FIGURE 5: THE NEW YORK STATE-BUILT FORT RICHMOND

SOURCE: Capt. Parassin, 1819

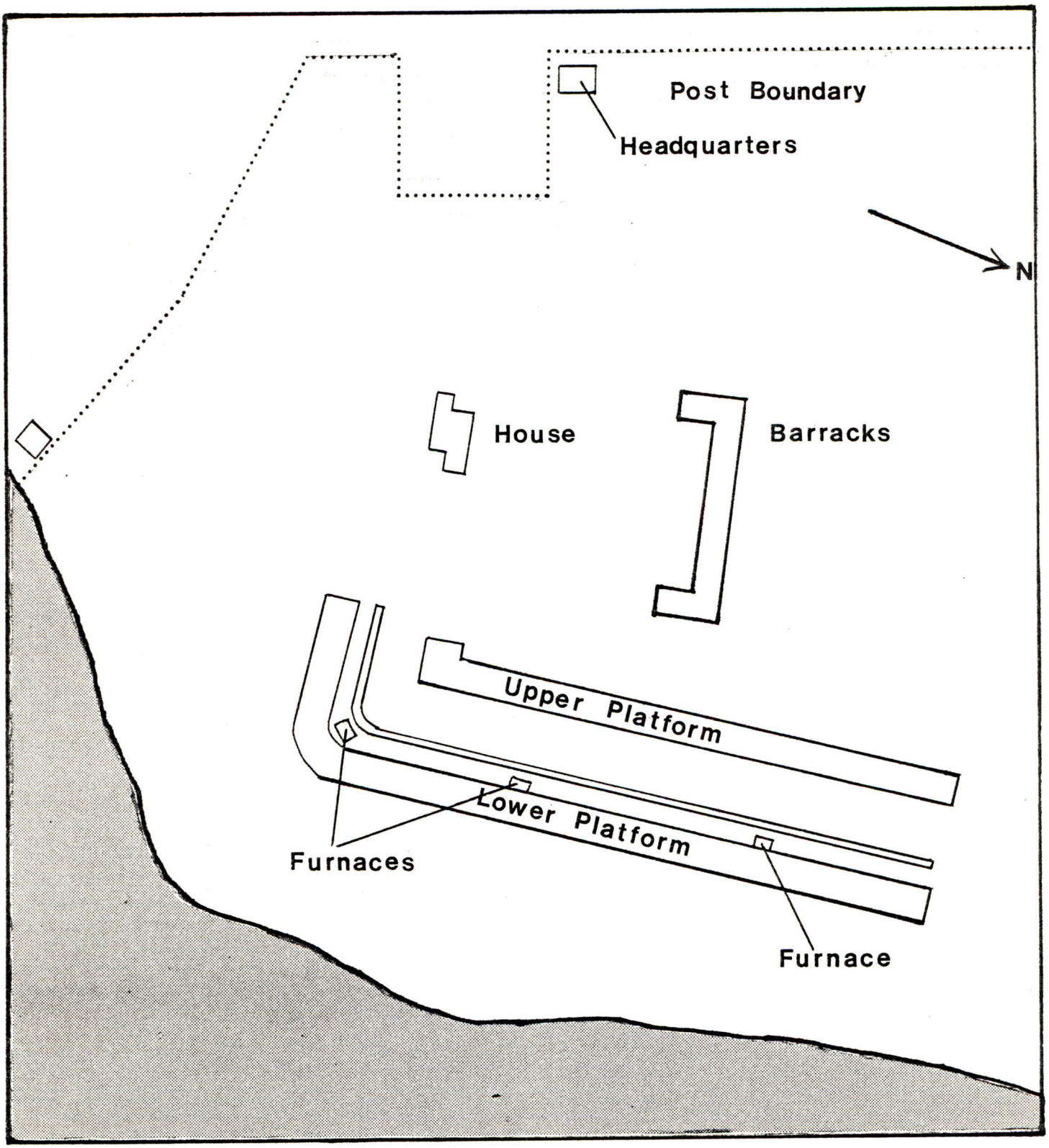


FIGURE 6: THE NEW YORK STATE-BUILT FORT HUDSON

SOURCE: Map of the Fortifications of Staten Island, Jan. 5, 1827

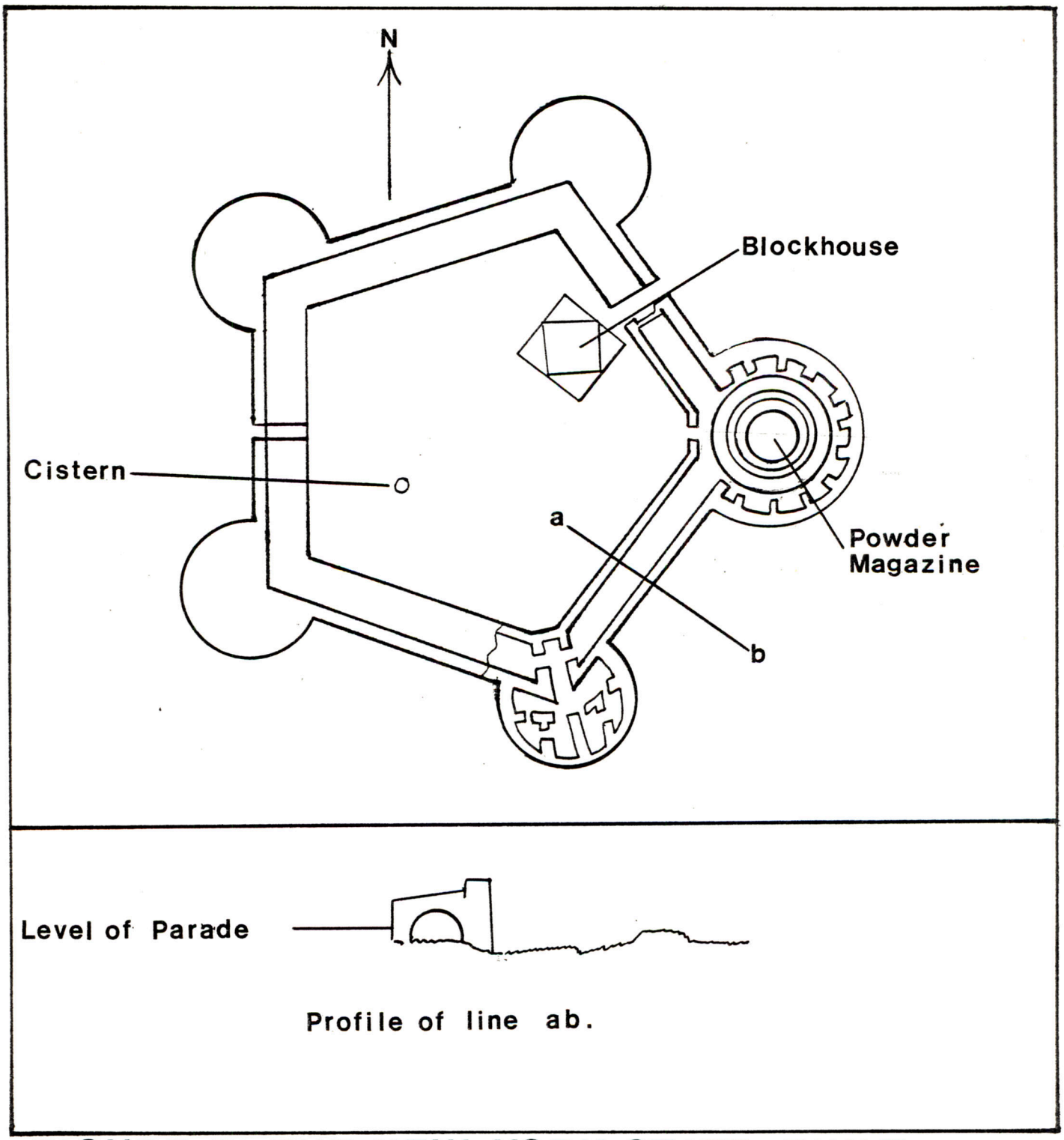


FIGURE 7: THE NEW YORK STATE-BUILT FORT TOMPKINS

SOURCE: Capt. Parassin, 1819

at mid-point by a ten foot-wide gate. The circumference of the channel-facing curtain was roughly 500 feet. Twenty-seven embrasures pierced this wall at intervals of fourteen feet, the embrasures being fifteen feet above low tide. Guns were mounted on a platform twenty feet wide. The work was originally designed so that subsequently a second tier could be erected above the existing platform, a modification never carried out. Shed roofing had been constructed to protect the masonry and guns from the elements. Against the parade wall of the landward front were two barracks, one on either side of the gate and each fifteen by sixty feet in size. The battery also contained two furnaces and one bomb-proof magazine capable of storing 200 barrels of powder.

Fort Richmond's armament consisted of twenty-seven iron 32-pounders. Some, if not all, of the guns were in place by early August 1812. Apparently, in September 1813, new seaboard carriages replaced those previously used. No cannon or howitzers covered the rear of the fort, and the mission of protecting the water battery from attack by land fell to Fort Tompkins.[17]

On Flag Staff Hill overlooking Fort Richmond and roughly 150 feet above low water was Fort Tompkins. The site was that of an earlier work, probably the British fort, renovated in 1794. The new work was a casemated fort of solid masonry construction, faced with hewn stone. Pentagonal in design, the structure's most prominent features were the five circular bastions at each of the angles. The easternmost bastion, somewhat larger than the others, contained a bombproof magazine with a capacity of 2,000 barrels of powder. Fort Tompkins was described as having a diameter of 300 feet and a circumference of 1700. Its eight-foot thick curtain walls rose nineteen feet high, and the bastions twenty-two and a half. The rampart was twenty-one feet across. The top of the five-foot thick breastwork was four feet above the rampart. Inside the fort were four furnaces, a well, and a blockhouse. Throughout the War of 1812, Fort Tompkins remained unfinished and a necessity arose to provide for additional guns commanding Fort Richmond and Fort Hudson. Late in 1813, the blockhouse was built, its original location being uncertain. Whether Fort Tompkins was constructed around the blockhouse, or the blockhouse was dismantled, moved, and reassembled on the parade of the new fort cannot be determined.

Fort Tompkins was designed for seventy-six heavy guns and twenty-six howitzers. Neither guns nor carriages

had been mounted by the time construction ceased in 1817. Structurally also the work was incomplete. The terreplein had not been filled up to grade, the platforms not laid, barracks not built, the ditch unfinished, and coping yet to be placed on part of one curtain.[18]

The three other defenses built by the state during the years 1807-1815 were open works, made largely of earth and named Fort Smith, Fort Morton, and Fort Hudson. Little is known about Fort Smith. It occupied a hill outside of the state property, being located about 400 yards southwest of Fort Tompkins and 540 yards due west of the Narrows. In 1814, the state arranged to lease the land on which it stood. One provision of the lease required the state to remove all structures there within a year of the end of the war. The failure of the state legislature to provide funds for the purchase of the site after the war meant that, with the restoration of peace, the fort was dismantled and the property returned to private hands. A square redoubt, the work contained four 18-pounders. Its purpose was to deny an enemy land force control of an elevated point from which the unfinished Fort Tompkins could be threatened. However temporary its use or construction, Fort Smith may have been a structure of some size. Close to it was a barracks with quarters for a hundred men.

The battery known as Fort Morton, built 1808-1810, occupied a point 225 yards southeast of the eastern bastion of Fort Tompkins and forty yards from the edge of the Narrows. Essentially a curved work, fifty yards long, most of its weapons were intended to face east, and a few at the southernmost extremity looked southeasterly toward Fort Hudson. Fort Morton contained a shot furnace and emplacements for twelve guns. During the War of 1812, nine 24-pounders were mounted. In the early 1840s, Battery Morton was rebuilt, but during the Civil War, it was destroyed to make room for a new battery.

The artillery installation at today's Fort Wadsworth with the longest operational history is Battery Hudson, formerly called Fort Hudson. Built at the same time as Forts Richmond and Morton, it was then the southernmost work on the Staten Island side of the Narrows, located one hundred feet from and fifty-two feet above the water. The state-built Fort Hudson consisted of two gun platforms, one behind the other. The upper platform was a straight line, 375 feet long behind a breastwork made of earth and faced with cut stone. The lower platform followed an "L"-shaped course, its longest, 450-foot section being parallel to the upper platform. At the southern extremity,

the lower platform turned ninety degrees and ran one hundred feet to the west. The breast-height wall before the lower platform was made of earth, with sod embrasures. Guns of the upper platform fired en barbette. In 1810, Governor Tompkins described Fort Hudson as intended for eighty cannon. At least fifty-four 24-pounders, mounted on trucks, were placed in the battery. Three or four furnaces prepared shot for Fort Hudson's weapons.

Had Fort Tompkins been completed and had the full complement of ordnance been mounted in all of the works, the Staten Island side of the Narrows could have brought into action 221 guns, not including those at Fort Smith. In reality, the heavy guns in place never exceeded ninety-four and consisted of twenty-seven 32-pounders in Fort Richmond, fifty-four 24-pounders in Fort Hudson, nine 24-pounders in Fort Morton, and four weapons of unknown caliber in the blockhouse in Fort Tompkins. In addition there was a small assortment of 18- and 9-pounders and a 10-inch mortar. At some time during the war, probably in 1814, twelve of the 24-pounders and one 32-pounder were removed from the Staten Island works at the request of the national government and mounted in Fort Columbus.

In addition to the forts and batteries, numerous wooden buildings existed on the site during the era of the War of 1812. Some were civilian structures belonging to owners of the land prior to purchase by the state. Construction of Forts Richmond and Tompkins required the erection of accessory buildings. A third group consisted of quarters for military personnel. West of Fort Hudson stood a small cluster of buildings, including at least one house and a barn, part of the farm of the former owner, John Jacobson. In connection with construction activity, a smith shop, superintendent's office, storehouse, and dwelling for workmen had been erected near the shoreline, west of Fort Richmond. There were four military barracks, in addition to the pair within Fort Richmond. Two occupied positions north of the water battery, one was immediately west of Fort Hudson, and one near Fort Smith. Besides the Jacobson house, there were three other civilian residences, several of which were used for officers' quarters. The remaining structures consisted of the telegraph, between Forts Morton and Tompkins, and a wharf near Fort Richmond.

The War of 1812

Throughout the war against Great Britain, the state works on Staten Island were garrisoned by a changing assortment of infantry and artillery units, representing volunteers in the service of the United States and the state

militia. According to surviving records, the largest number of men known to be stationed at the site was 558. In September 1814, however, Gov. Tompkins stated that "there are quarters and tents at the State Works at the Narrows for nearly seven hundred and fifty men, in addition to the force now stationed there." The Staten Island works, those on Ellis and Bedloe's Islands, the temporary defenses on Rockaway Peninsula, and all other defenses in New York harbor fell under the command of the Third Military District. Only fragments of the records of the district have survived. Most poorly documented is the period from July 1812 to December 1813.

The first orders of the Third Military District for stationing troops at Staten Island were issued on June 19, 1812, the same day President James Madison proclaimed the existence of a state of war. These earliest arrivals were infantry recruited in Pennsylvania. Shortly they were joined or replaced by 530 men from New York. This force consisted of four companies of artillery and seven of infantry ordered to Staten Island by the governor. Among the most pressing concerns at the Staten Island site and at other positions in the harbor was completion of fortifications under construction. The district ordered infantrymen to assist Colonel Williams and the New York Commissioners of Fortifications by adding their labor to that of the civilian work force employed at the various sites.[19]

During the war, infantrymen at the site of Fort Wadsworth outnumbered artillerists. This resulted from a general shortage of artillery units. Between July 1812 and December 1814, the 15th, 24th, 32d, 41st, and 42d Infantry Regiments and the 3rd U.S. Artillery Regiment, or detachments of these units, manned Fort Richmond and the earthern batteries. In June 1814, the post's garrison included ninety-six men of the 3d U.S. Artillery and five companies of the 42d U.S. Infantry. In the following September, a brigade of 2150 New York militia, under the command of Brig.-Gen. John Swartout, was stationed at Staten Island, although how many were on duty at the Narrows can not be determined.[20] Late in 1814, four companies of the 46th U.S. Infantry arrived at the state fortifications as the relief for the militia.

Toward the end of the War of 1812, the defenses of New York harbor were manned by, in addition to conventional forces, a corps of "sea fencibles." Such a corps was recommended by Governor Tompkins in June 1813 to Secretary of the Navy William Jones. Tompkins reasoned that "there are persons, particularly in the cities. . . . who do not relish what is called land service," but who would readily enter into the Sea Fencible service." "Being primarily

mainers," they would "man the batteries with greater effect than land troops" and had the additional advantages of being "qualified to manage the flotilla when the batteries do not require their services" and of being "better prepared to submit to subordination & discipline" than recruits with land-based occupations.[21]

A month after Tompkins made his suggestion, Congress empowered the president to raise as many as ten companies of sea fencibles, "who may be employed as well as on land as on water, for the defense of the ports and harbours of the United States." Each company was to consist of four officers, a boatswain, six gunners, six "quarter gunners," and ninety men.[22]

As commander-in-chief of the military forces of the State of New York, Tompkins in August 1814, announced his intention to organize a battalion of sea fencibles for the city and harbor of New York and invited "captains, mates and mariners generally" to form companies. In the following October, the New York legislature authorized the governor to raise twenty companies, including those already organized. By the end of the war, twelve companies of sea fencibles, totaling 1000 men were on duty in New York harbor, extant records indicating their presence at Fort Richmond, Gravesend Bay, Fort Diamond, Fort Stevens (Hell Gate), Rockaway Point, and Sandy Hook.[23]

As evident in the fact that companies of sea fencibles were raised by both the President of the United States and the Governor of New York, problems existed during the war as to the chain of command. It is not clear, for example, who had command of the defenses on the Staten Island side of the Narrows when those defenses were occupied by both state and national forces. Shortly after the commencement of hostilities, however, Governor Tompkins gave instructions for the "Northern and Western Frontiers" that probably applied with equal force to the military units at New York City. The governor held that,

> when the Militia and Regular troops came together in the service of the United States, each organized corps of Militia is to be commanded by officers of the Militia exclusively, but that officers of superior rank, whether of the Militia or Regulars, will command the whole.

Should there be two officers of superior rank, one from the militia and the other from the Regular Army, the Regular should take command, even "though holding Junior Commission of that grade."[24]

The orderly book of the 46th U.S. Infantry Regiment provides some details about military activity on the west bank of the Narrows during the last months of the war. One company of the regiment occupied the barracks at Fort Smith, one those at Fort Richmond, and two the barracks near Fort Hudson. The area in front of the barracks at Fort Hudson was used by the regiment as parade grounds. Shortly after the arrival of the 46th, a sixty-man company of sea fencibles was transferred from Fort Gates on Sandy Hook to Fort Richmond and was quartered in the barracks there. Thus five companies constituted the garrison at the end of 1814. A week following the New Year, a detachment of forty-one men from the Corps of Artillery replaced the sea fencibles at Fort Richmond. In March, after announcement of approval of the Treaty of Ghent, the artillery detachment left, and the remaining infantry companies reassigned quarters on Staten Island. Apparently, Fort Smith and its barracks were abandoned, except for a single sentinel. Ammunition from Fort Smith's magazine was transferred to Fort Tompkins, probably the blockhouse. The four companies of the 46th were evenly divided between Fort Richmond and Fort Hudson.[25]

During the War of 1812, Fort Richmond, with its 32-pounders, was the most important defensive position at the Narrows, as evident in the units stationed there and the mission assigned to it. It is instructive that the sea fencibles and also the detachment from the artillery corps, when on Staten Island, manned Fort Richmond, thus providing that work with expertise in gunnery. That battery had an important function in the defense of the harbor. Copied into the orderly book of the 46th U.S. Regiment was a general order dated October 1813. According to those orders, commanding officers of Fort Richmond and Fort Gates were to detain all vessels flying flags of truce until permission to proceed had been received from the headquarters of the Third Military District at Fort Columbus. Subsequent orders indicate the broader nature of the responsibilities of Fort Richmond. In December 1814, the commander was instructed to bring to and examine all outward-bound privateers and armed vessels. Inward-bound traffic and unarmed outward-bound ships were to be detained and examined at Fort Gates.[26] Thus, it appears that Forts Richmond and Gates had the mission of processing ships in and out of the harbor.

Duty at the Staten Island works at the close of the War of 1812 must have been fairly routine. The orderly book covers such matters as policing barracks and grounds, guard details, and court martials for insubordination. When attempting to visualize the scene at Fort Wadsworth,

it is necessary to note that large numbers of workmen, resident at the site, were engaged in seeking a rapid completion of Fort Tompkins. Construction activity and garrison routine were interrupted on February 21, 1815, when the military at New York harbor celebrated ratification of the treaty between the United States and Great Britain. Troops assembled for parade at 11:00 a.m., and at noon the firing of a "national salute" began. The first to fire was Governor's Island, followed in succession by Bedloe's Island, Ellis Island, Fort Richmond, Fort Diamond, Fort Green (Brooklyn), Fort Stevens (Hell Gate), "the lines at Harlem," and Fort Gates. Within a few weeks of the salute, the withdrawal of troops from Staten Island commenced. The last entry of the 46th U.S. Regiment's orderly book was made on April 18, 1815. Probably maintenance of a garrison on a wartime footing ended at that time, although a few troops remained at the Fort Wadsworth site until the spring of 1816.[27]

Sale of the Site to the United States, 1815-1847

The view that troops continuously garrisoned Fort Wadsworth for 300 years implies that the site remained occupied following the War of 1812. This indisputably was not the case. The history of the post in the period 1815-1847 consists mainly of efforts to secure the transfer of the site from the State of New York to the United States. In 1816, the federal government undertook a new program of coastal defense, much more costly and extensive than the previous two. That program, the Third American System, lasted through the Civil War. In the first full report of the engineers charged with preparation of a comprehensive plan for American harbors and in all subsequent recommendations, fortification of the west bank of the Narrows was designated as a class one project. That classification meant the location was regarded as vital to the security of the nation and that the development of adequate defenses there should commence as soon as possible. The State of New York was eager to convey title to the United States. Yet negotiations between the two governments stretched across three decades.

In April 1816, the New York legislature chose not to provide funds to complete Fort Tompkins, but adopted a policy of making small grants for the maintenance of that work as well as the others on Staten Island. Two thousand dollars was voted for that purpose in 1816, $2100 in 1820, and $1500 in 1823. No funds were forthcoming thereafter, and it appears that the monies made available in 1816-1823 proved inadequate to preserve the works. Consequently,

deterioration began shortly after the War of 1812.[28]

In February 1818, by which time all troops and workmen had left the grounds, the state legislature authorized the governor to sell to the United States the fortifications and the land. Doubtless, the assembly saw such a transfer as much more desirable than paying the cost of finishing Fort Tompkins and of preserving the various works at the Narrows. Gov. DeWitt Clinton took steps to implement the sale, and the legislature remedied an oversight by enlarging the governor's authority so as to include ordnance in the sale. A general appraisal of the property was made by state authorities in the early spring of 1818. Later in the same year, John C. Calhoun, Secretary of War, directed United States engineers to visit the site and report their findings to him. Nothing came of these preliminaries, however, and in 1820 Clinton informed the assembly that negotiations had been suspended.[29]

Another flurry of activity occurred in the mid-1820s, perhaps initiated by James Barbour, Calhoun's successor in the War Department. Barbour contacted the state, noted that the Staten Island forts had been included in the general plan for the defense of the harbor, and invited New York to submit terms for a sale. The state legislature voted funds for a survey and map of the site, and state officials assembled an estimate of the worth of the property. Included in that calculation were the cost of the materials used in the construction of Forts Richmond, Hudson, and Tompkins; the value of the land; the funds spent by the state for labor on the forts; and a variety of other expenditures. Not including the worth of ordnance, carriages, and artillery accessories, the figure fixed by the state was nearly $360,000. That figure, the report on which it was based, and other related documents were submitted by President John Quincy Adams to Congress in 1827.[30] Again discussions between the two governments did not continue.

During the 1830s, proceedings on the proposed sale were fitful. In January 1830, Lt.-Gov. Enos T. Throop reviewed the history of the state works and subsequent discussions, noting the lack of progress in arranging a transfer. The state legislature adopted a concurrent resolution urging the governor to persevere in the negotiations. Five years later, President Andrew Jackson requested the state to make a cession of the land, a move recommended by Gov. William L. Marcy. Using language suggested by Marcy, the assembly passed a bill authorizing the sale to the United States of so much land on Staten Island as was required by the national government for the defense of New York. The language employed suggests the state had moved away from

the position that the price should encompass the sums spent by New York in erecting the works at the Narrows. Federal monies to commence construction on Staten Island were included in a senate appropriations bill in 1837, but not in the final enactment.[31] Another four years passed before the matter arose again.

Early in 1841, the War Department and state government reached agreement on the terms of the sale of the Staten Island grounds and forts. For its property the state would receive $33,281.87½, the sum paid by the state for the two parcels of land in 1794 and 1809, plus interest thereon of six percent per year.[32] Congress had yet to approve the purchase, and six more years went by before the transaction was finalized. New York, however, had confidence in the ultimate concurrence of the national legislature.

That confidence is evident in two moves. In 1841, the state gave the U.S. Army permission to occupy and repair Fort Hudson and Fort Morton. Also anticipating the final sale, the state earmarked the funds to be obtained for use in construction of a new arsenal in Manhattan. Perhaps to expedite congressional action and also to remove from their responsibility an unwanted property, U.S. Army Engineers recommended that the federal government sell Fort Ganesvoort, located in a neighborhood of Manhattan so built up as to mask the guns. Money arising from that sale could be used for the Staten Island purchase.[33]

In late 1841 and early 1842, a problem arose because of a misunderstanding of the response to an offer made by New York in 1807 to cede the Staten Island site. In March 1807, the state legislature had enacted a measure granting the then state grounds on Staten Island to the central government, if the president should deem the tract necessary for national defense. Jefferson never gave such recognition, being opposed to the notion of permanent fortifications at the Narrows. When the national government received permission from the state in early 1841 to begin reconstruction of Forts Hudson and Morton, Robert E. Lee, then on duty at Fort Hamilton, was placed in charge. Lee examined the legal and legislative history of the larger site and came to the dubious conclusion that by virtue of the state act of March 1807, the United States had already come into possession of the Staten Island side of the Narrows. A letter written by Lee in January 1842 to the Chief of Engineers, Joseph Totten, explained this view. Totten found little merit in the ideas of his subordinate, but others had already attached weight to

them. According to Secretary of War J. C. Spencer, Congress refused to make an appropriation for the purchase of the Staten Island site in 1841 because of the belief that the property had previously been vested in the United States.[34]

Gov. William Seward advised the War Department that New York could not accept the Lee argument and forwarded a lengthy review to show that the legal title had remained with the state. Totten agreed with New York's position and informed Secretary Spencer that, although the act of March 1807 had indeed aimed at cession to the national government, "no transfer took place," since "there was no acceptance by the United States." Ultimately, federal authorities came to the same conclution.

Just when the state began to show signs of uneasiness, Congress finally moved, and the Staten Island property changed hands. At the beginning of the 1845 session of the state legislature, Gov. Silas Wright stated that the federal executive branch favored national acquisition of the site, that a bill had been reported out of the congressional appropriations committee, and that the New York delegation to Congress should be encouraged to press the whole body for favorable action. In the summer of 1846, Congress took the final step and authorized the purchase on condition that Fort Ganesvoort be sold and the proceeds be used in the acquisition of the state grounds at Staten Island. The appropriation for the purchase and repair of the works and grounds at the Narrows was $100,000. Early the following year, the thirty years of on-again, off-again negotiations ended when the conveyance was signed, whereby the federal government received the approximately forty-seven acres.[35]

Why the transfer took so long is not to be determined with certainty. Military considerations would seem to argue for a speedy acquisition of the Staten Island site. Since federal interest in Hendricks Reef before the War of 1812, the national government was committed to the idea of defending New York harbor by means of fortifications at the Narrows. Such an idea justified the subsequent construction of Forts Diamond and Hamilton. Fortifying one side of the Narrows and not the other, however, made little sense.

The reasons for the delay were probably in the realms of finance and politics. There was never an indication that the United States intended to make a payment of a third of a million dollars, the figure the state mentioned in the 1820s. Connected with that figure was the

old question of the balance of accounts between the state and the federal government. The state took the position that because of its expenditures during the War of 1812, a sizeable sum was due it from the national treasury. During the period 1818-1826, the state joined the two issues, sale of the Staten Island property and adjustment of accounts between the two governments. This may have raised problems for national authorities and delayed conveyance of the state works at the Narrows. Congress appears to have been the party most inclined to a leisurely approach to national acquisition of the state grounds. Whatever the workings of the politics of congressional fortifications appropriations, there was no campaign to deny New York defense funds, since large sums were being spent on other locations in the harbor. One final consideration remains concerning the favorable congressional action in the summer of 1846. The vote came three months after the declaration of war against Mexico. Generally, war or the threat of war prompted Congress to increase military spending, and, although the harbor of New York faced no peril, the onset of the Mexican War may have removed whatever doubts lingered in Congress concerning federal purchase of the Staten Island site.

At any rate, the sale of that site to the United States ended that segment of the history of Fort Wadsworth during which the state of New York possessed the land and the forts. In a military sense, that end came in 1816 with the departure of the last troops. Subsequently, the state allowed the works to fall into serious disrepair. Grounds around the forts and batteries were leased to Staten Island farmers, who grazed livestock in the shadow of Fort Tompkins' bastions. That cattle had use of the site in the decades after the War of 1812 serves as a striking denial that for three centuries Fort Wadsworth was continuously garrisoned.

CHAPTER IV

FORT WADSWORTH AND THE THIRD SYSTEM, 1816-1865

Shortly after the end of the War of 1812, the government of the United States began a new program of coastal defense. Because of a number of successful ventures by the British army and navy during the war, American military authorities had little confidence in works already constructed. The war also triggered a nationalistic mood, as evident in the chartering of the Second Bank of the United States and utilization of federal funds for national roads and interstate canals. Given this mood, Congress was prepared to appropriate money for the new seacoast defenses. That the program would be costly was clear from the start, since its architects aimed at a permanent and truly integrated system of fortification of what they termed the "maritime frontier." Unlike the first two fortifications programs, the Third System lasted for more than four decades, coming to an end because of the development of new ordnance capable of readily reducing Third System forts.

For several decades after the War of 1812, the site of Fort Wadsworth constituted an abandoned defensive position, the state-built Second System masonry fortifications and earthen batteries being left to deteriorate. The grounds and structures served only as pasturage for livestock, a place of retreat for "idlers" from the city, and the locale of memorable outings for the young of Staten Island.[1] As part of the Third System endeavor, the United States purchased the Fort Wadsworth site, expanded the tract, replaced the old Fort Richmond with the structure now designated Battery Weed, and started construction of today's Fort Tompkins and of several entirely new batteries.

The Bernard Board and the Harbor of New York

Late in 1816, a three-man board or commission was established, headed by Brig. Gen. Simon Bernard, to study America's defenses and make recommendations for a fortifications program. After inspection tours and preliminary reports, the board submitted its first comprehensive statement in 1821. A revision followed in 1826. Both reports discussed fortifications in relation to the nation's overall military posture. As particularly evident in these

general remarks, the primary influence on the thinking of the board was the recent war with Great Britain. Doubtless for most Americans, the most satisfying engagements of that struggle involved single U.S. ships, either operating on the high seas or harassing the enemy in his home waters. Most distressing were the British campaign in the Chesapeake, including the assault on Washington; the landing of a large British army near New Orleans; and the blockade of American ports by ships of the royal navy. That blockade had not only curtailed American coastal commerce, but also had prevented naval vessels from putting out to sea. Adequate fortifications were required to insure that in future wars an enemy could not enter U.S. ports and harbors and could not maintain an effective blockade, thus allowing American warships to gain access to the Atlantic and carry the war to the coasts of the adversary.

Since the Third American System did not result from advances in coastal artillery or in naval construction and armaments, the 1821 and 1826 reports of the Bernard board included no specific criticisms of the design or construction of existing First and Second System forts. Initially, however, Bernard and his colleagues barely recognized the earlier works, except to note weaknesses in their location and capability. The first report argued that:

> most of the existing forts only defend single points, . . . satisfy only a few conditions; and they have not been planned with a view to the defense of the frontiers, considered as one great and combined system. . . .

Consequently, "a defense system for the frontiers of the United States is therefore to be erected."[2]

With respect to New York, these views necessitated fortifications capable of preventing enemy entry into the harbor. This meant defending the Narrows and the approach to Manhattan via Long Island Sound and the East River. Moreover, works erected in Lower New York Bay could deny enemy use of Gravesend Bay and thwart a blockade. Thus the Bernard board claimed that the security of New York required: (1) fortification of both sides of the Narrows; (2) works at the eastern end of the East River; and (3) defenses erected on the banks in the northern reaches of the lower bay.

Bernard and his two associates recommended construction throughout the nation of fifty works at an expense of nearly $18 million. The projects were divided into three classes of priority; those required immediately; those less urgently needed; and those only necessary "to complete

the defensive system in all of its parts." Six works were proposed for New York harbor. Four fell into the first priority class, namely forts at New Utrecht Point, site of the later Fort Hamilton; at "Tompkins' Point" on Staten Island; at Wilken's or Willets Point, location of the future Fort Totten; and at Throg's Point, ultimate home of Fort Schuyler. Estimated cost of construction of each was slightly less than a half million dollars. The two remaining projects for New York constituted the most expensive of all works proposed by the Bernard board. In the lowest priority class, they were forts to be built on the shoals or banks at the entrance to New York harbor, one on East Bank and the other at Middle Ground.

By way of explaining the necessity for the intended New York works, Bernard and his colleagues stated that:

> The harbor of New York in its present state, is scarcely at all defended against a sea attack; and the city is not at all defended against an attack by land.

The situation would be remedied by the new program:

> The projected works on . . . the Hudson and East Rivers have for object to cover the city of New York against an attack by land or sea, to protect its numerous shipping; to prevent as much as possible the blockade of that immense river . . . ; and to cover the interior navigation which is projected to connect the waters of the Delaware with those of the bay of New York, by a canal from the Raritan. The forts projected at the Narrows, and the pass of Throg's Neck on the East River, while they defend entrances to the bay, force the enemy to land in the Sound at a great distance from the city. . . .

Sufficient time would thus be provided the American militia to assemble and prepare to meet an enemy force marching overland upon Brooklyn and Manhattan.

General Plans for the Staten Island Site

The Bernard board report of 1821 included few details on individual installations. The projected work at Tompkins Point would have a peacetime garrison of one hundred men, which under siege conditions would be increased to 970. In 1822, a "redoubt in advance" of Fort Tompkins was added to the project. That redoubt would cost $65,000, and the entire proposal for Staten Island was estimated at $485,988.[3]

To further clarify the board's understanding of priorities, a note at the end of the 1821 report ranked all eighteen projects of the first class. Fort Tompkins appears in the eleventh spot, ahead of the three other New York undertakings. Doubtless, the intended works on the west bank of the Narrows were given precedence over those at New Utrecht because of the completion in the early 1820s of Fort Diamond, on Hendricks Reef near the east shore.

Records for the years 1818 to 1847, during which the United States negotiated with New York for the transfer of the Staten Island site, do not make clear whether, once the property came into federal hands, new fortifications would be built or the old ones retained and modified. In the 1821 Bernard board report and in all of the chief engineer's annual reports which followed, the costs of the intended construction of the works at Staten Island, New Utrecht, Throgs Neck, and Willets Point were each estimated at somewhat less than a half million dollars. Unlike the situation on Staten Island, there had been no permanent fortifications erected at the other three locations. Accordingly, it might appear that all four sites were slated for entirely new fortifications. But in a few instances in 1826, authorities within the War Department or the Engineers' Bureau briefly but explicitly stated that the national government proposed to modify works on Staten Island then in existence.

In response to a resolution of the House of Representatives, the chief engineer submitted a special analysis, dated February 27, 1826, of the costs of fortifications already built and of those projected. Unlike the annual reports on fortifications, the analysis listed the Staten Island site in a category separate from the future Forts Hamilton, Schuyler, and Totten. Rather, Fort Tompkins and Fort Richmond were included in a group of works "to be preserved as part of the system, and some of the works to be slightly modified." The expense of the modifications was estimated at $485,988, the figure usually assigned to the works contemplated at Staten Island. The perimeter given for Fort Tompkins was 726 yards and for Fort Richmond 142, both roughly the measurements of the state works. In the following May, the Secretary of War wrote to President Adams respecting the proposed transfer of the state grounds to the United States. Of the forts located there, he stated: "With some modifications and improvements, these works enter into the system of defense adopted by the board of engineers for the harbor of New York."[4]

By the mid-1820s, the Bernard board was relenting

in its rejection of existing fortifications. The board's "Revised Report," also submitted in February 1826 and unlike the initial statement in 1821, contained a list of existing works which "it is advisable to preserve and retain as accessories to the proposed system of defense." That list included all of the First and Second Systems fortifications in the inner harbor, namely Fort Columbus and Castle William on Governor's Island; Fort Ganesvoort, South Battery, and Battery Hubert in Manhattan; Fort Wood on Bedloe's Island; and Fort Gibson on Ellis Island. Also listed was Fort Lafayette, formerly Fort Diamond. Unlike the cost analysis of the same month, the revised recommendations of the Bernard board carried Fort Tompkins in the usual fashion, as a new work in the first priority classification.[5]

One consideration respecting the question of whether the national government intended to improve and modify the state works at Staten Island or to replace them with new structures is the view held by the engineers of the strengths and weaknesses of the existing Fort Tompkins and Fort Richmond. On this point the evidence is both scanty and inconclusive.

In the spring of 1820, the board of engineers, perhaps as part of the nationwide survey of fortifications, prepared a report which included descriptions of and comments about the structures then standing on Staten Island. In addition to noting the unfinished aspects of Fort Tompkins, the board regretted "that the fort . . . possesses none of the properties of modern fortifications, and satisfies scarcely any of the conditions which it requires." Among the weaknesses were the round flanking towers, "rejected since ages;" the uncovered wall scarp on the side exposed to land attack; stone breastworks; casemates insufficiently aired, with arches resting on the scarp wall; and the inability of the casemates to receive artillery. The engineers concluded that "it is not easy to remedy or palliate such faults; however, as the position is occupied, we shall endeavor to make the best use of what has to be done."[6]

That inspection apparently included the abandoned Fort Smith, and it was argued that:

> An advanced work should be united on the hill which is now occupied by the field redoubt, so as to retard the approaches upon Tompkins fort, and thus indirectly prolong its resistance. For to prolong it directly by altering the plan of the fort would require works too expensive.

The "redoubt in advance" became one of the Bernard board's listed projects two years later.

Fort Richmond had one serious flaw, which conceivably could be remedied:

> It were wished that the front of the fort were directed so as to bear more fire upon the ships as they sail up the Narrows. It directs more fire than necessary against those already passed, whilst it would be more important to batter them during the decisive moments just before and just during passage.

This flaw could be removed by adding "two tiers of guns round the half circle which looks to the entry of the Narrows." The content of the engineers' remarks points to a reluctant admission that the two works could be made serviceable, but it is also clear that they were not enthusiastic about the structures. Should there be no budgetary constraints, they would favor new works, especially in the case of Fort Tompkins.

So long as no progress occurred in exchanges between the United States and New York over transfer of the Staten Island location, the question of specific federal intentions for the site was hardly a pressing matter. A good deal of work was being done elsewhere in New York harbor. The delay in transfer meant the priorities assigned in the original Bernard report could not be followed. In 1821 the board ranked the Staten Island grounds as the project in the harbor to be commenced first. Subsequently, however, construction started on Forts Hamilton and Schuyler as well as Third System improvements to Fort Wood, Fort Gibson, and other interior works. Progress elsewhere did not lead to any downgrading of the importance of the Staten Island side of the Narrows. In fact, in the early 1840s, while arguing for federal acquisition of the site, the chief engineer said of the position, "It is the key to the harbor. . . ."[7]

Batteries Hudson and Morton

In the chronology of federal building activity at the Staten Island location, the modernization of Batteries-formerly Forts - Hudson and Morton came first, then the new Fort Richmond, followed by commencement of construction of the new Fort Tompkins. Lastly, in the years of the Civil War, a start was made on South Cliff and North Cliff Batteries and on a new casemated work.

The various Bernard board and engineers' reports of the years from 1821 to 1841 made reference to the Staten Island fortifications by the terms "Fort Richmond," "the redoubts in advance," "Fort Tompkins," and "Fort Tompkins

and dependencies." This last designation may have included the state works of Fort Hudson and Fort Morton. Only occasionally did the reports specifically name these batteries. Nevertheless, they commanded immediate attention when the federal government gained access to the site in 1841. By the time the new Fort Richmond was finished during the Civil War, Battery Hudson had been twice modified. That battery owed its long career, extending from 1810 to World War II, to the fact that as both a state and national installation it retained its essential character as an open earthworks. This made it easier to redesign than the enclosed masonry works of Fort Richmond and Fort Tompkins.

During the years of state management of the fortifications at the Narrows, Battery Hudson mounted fifty-four 24-pounders, and Morton had room for twelve guns. In the Bernard board's revised report of 1827, Battery Hudson received brief mention as a work "to be preserved but not as part of the system." Whatever the implications of this category, an 1836 inventory of ordnance needed throughout America's maritime frontier included the battery and specified its requirements as twenty-five 32-pounders and five mortars.[8] And it was 32-pounders that constituted the armaments of both Hudson and Morton after the Army of the United States took charge of these works.

In March 1841, the State of New York gave its permission to the War Department to occupy part of the Staten Island site, pending final transfer of the entire property. That permission passed through the military with rapidity, and in June of the same year work commenced on remodeling the two earthen batteries. Robert E. Lee, transferred to Fort Hamilton the previous April, supervised modernization of the two batteries. The thirty-four-year-old engineer regarded Battery Hudson as an important position, since it would be the first to fire on an enemy, forcing him within range of Fort Hamilton and Fort Lafayette. Lee urged that the battery be enlarged so as to accomodate more weapons. By the end of 1842, reconstruction of the two batteries was essentially complete. Morton remained in size and shape much as it had been earlier, only now it was to mount twelve 32-pounders.[9] Battery Hudson experienced greater alterations.

Apparently at this time, the upper of the two original gun platforms was eliminated. The remaining platform, still "L"-shaped, had its southern branch extended one hundred feet farther west, and the angle between the two branches changed from ninety degrees to roughly 115. The lengthening of the battery made it of sufficient size

for forty-eight 32-pounder guns. Thirty-eight guns of that caliber were then stored on the grounds, but apparently they or new weapons were not mounted until after the formal conveyance of the entire site to the United States in 1847. In 1851, it was specifically reported that Battery Hudson then contained twenty-seven 32-pounders and Morton ten. By that time, new plans had evolved which called for placing in Morton nine 42-pounders and in Hudson forty 42-pounders and ten 8-inch howitzers.[10] Despite these plans, the 32-pounders remained the basic weapon of the two batteries until 1863.

Preliminary construction in 1863 of a new battery on the cliff south of Fort Richmond led to the partial destruction and ultimately the abandonment of Battery Morton. Battery Hudson endured, and during the Civil War was a manned coastal defense position. Its emplacements and armament, however, did not remain constant. At the beginning of the war, Battery Hudson mounted thirty-one 32-pounders and one 42-pounder. During the years 1862 and 1863, Col. Richard Delafield, engineer in charge of the Staten Island works, supervised alterations "to adapt the battery to the increased caliber of guns now necessary for seacoast defense." Those alterations also had a related purpose of outfitting the battery so as to allow for test firing of a variety of weapons. At one time, places were ready for eight different sizes of smoothbores and rifles.[11]

The test firing demonstrated that gun emplacements required substantial alterations to accomodate the new ordnance. Delafield reported to Joseph Totten, Chief Engineer, that the firing of a 42-pounder rifle on a barbette carriage produced a strain so great as to depress traverse irons and stones into the concrete foundations. On another occasion, apparently the same weapon recoiled with such force as to cause the gun to dismount, the carriage to topple, and the chasis to jump off the pintle. In the winter of 1862-1863, Delafield devoted much time to redesigning and installing heavier pintles and traverse rings. A 15-inch Rodman was mounted in the angle of Battery Hudson and was fired without incident. Following completion of the alterations, the battery was armed with the single 42-pounder, eight 10-inch columbiads, five 32-pounders, and the single 15-inch Rodman. An inventory made in February 1867 indicates a change had occurred in Hudson's armament, perhaps before the end of the war. The new arsenal consisted of the 42-pounder rifle, the 15-inch Rodman, nine 32-pounders, two 8-inch columbiads, fourteen 10-inch columbiads, seven 200-pounder Parrott rifles, and six 300-pound Parrott rifles.[12]

The uncertainties arising about the vulnerability of Fort Richmond and the unfinished state of the cliff batteries and Fort Tompkins may have resulted in Battery Hudson, with its forty guns, being the most important work at Fort Wadsworth at the end of the Civil War.

The New Fort Richmond

By the time the Staten Island site passed into the hands of federal authorities, the intention prevailed to remove the old Fort Richmond and erect a new works, although sometimes the phrase "rebuilding" was employed. In the early 1840s, engineers described the existing Forts Richmond and Tompkins as "in ruins" and "in a great state of dilapidation."[13] In addition, they stressed the Narrows as the crucial defensive position for New York harbor and deserving of the most competent fortifications. Even if a second and third tier could be raised above the gun platform of the old Fort Richmond, the structure had the wrong trace and lacked protection for its flanks.

The principal architect of the new Fort Richmond was Joseph G. Totten, the Army's Chief Engineer, who had plans ready in 1845. While retaining the same general location as the state-built fort, Totten gave careful consideration to the positioning of the new structure, so its field of fire included as much as possible of the shoreline to the north and south. Immediately to the south was a steep bank, capable of masking guns on the western end of the south curtain of the fort. To the north, the shore was indented in several places, offering shelter to enemy ships making it through the Narrows, unless Fort Richmond's guns could bear on them. Deep water, especially off what became the northeast bastion, prevented resolution of these problems by placing the battery well into the Narrows. As finally fixed, the new structure was located farther east than its predecessor, and its east scarp almost paralleled the main ship channel.[14]

Work at the site began almost immediately following conveyance from the state in February 1847 and advanced rapidly until mid-1850, when funds began to run out. It had been the hope that by that time the first tier would be completed so that in effect there would be an enclosed battery ready to receive its armament in case of emergency. Because of late and inadequate appropriations, however, work slowed until 1852, when the lack of funds forced a suspension of operations, and the completed portions were covered with concrete, mastic, and boards. The suspension continued until Congress loosened the purse strings in

the late summer of 1854. Three years later, the tenth anniversary of the commencement of the project, the engineer in charge reported the fortification half finished. Channel-bearing scarps had been carried to a height of between forty-one and forty-six feet, the full height being sixty-seven feet. In the second tier, gun casemates, communications arches, and embrasures had been finished, and work started on the sills and irons of the third tier embrasures. About that time, Lt. Gen. Winfield Scott advised Fernando Wood, Mayor of New York, of the defenses of New York harbor and stated that Fort Richmond could receive forty heavy guns, if the occasion should arise.[15]

Construction between 1857 and 1861 brought the work almost to completion. In 1858 it was reported that the first and second tiers could receive their combined total of fifty-six channel-bearing guns on short notice, and in the following year that three quarters of the fort's entire armament could be mounted if necessary. Any effort to install weapons during these years would have involved accelerated construction or else using guns not readily traversed, since the iron circles were not yet installed. The gun platforms were ready by December 1860, when the engineer in charge, Maj. John G. Barnard, wrote "the work can . . . mount its entire armament consisting of 116 heavy channel bearing and twenty-four light flanking guns, and can store ammunition therefore."[16]

Reports of the later part of the nineteenth-century give 1864 as the year of completion for Fort Richmond. That may well have been the year the fort received an almost full complement of weapons. By 1864, Congress had appropriated nearly three quarters of a million dollars for construction. The second Fort Richmond, later Fort Wadsworth and now known as Battery Weed, with its straight lines, high vertical walls, small bastions, and iron-shuttered gun ports, is a remarkable example of the later stage of Third System fortifications. The uniformity and regularity of the structure is stunning. Several decades after the Civil War, one of its veteran generals described Fort Richmond as "the most beautiful masonry work" he had ever seen. Although dwarfed today by the Verrazano Bridge, the work still possesses the solid grandeur projected in Seth Eastman's painting of the early 1870s.[17]

Occupying the general site of the first Fort Richmond, the east-facing scarp of the replacement is seventy-five feet farther into the Narrows than the center of the curved wall of its predecessor. Also, the second Fort Richmond was pivoted so as to bear fifteen degrees farther to the south than the first. The fort has the trace of half an

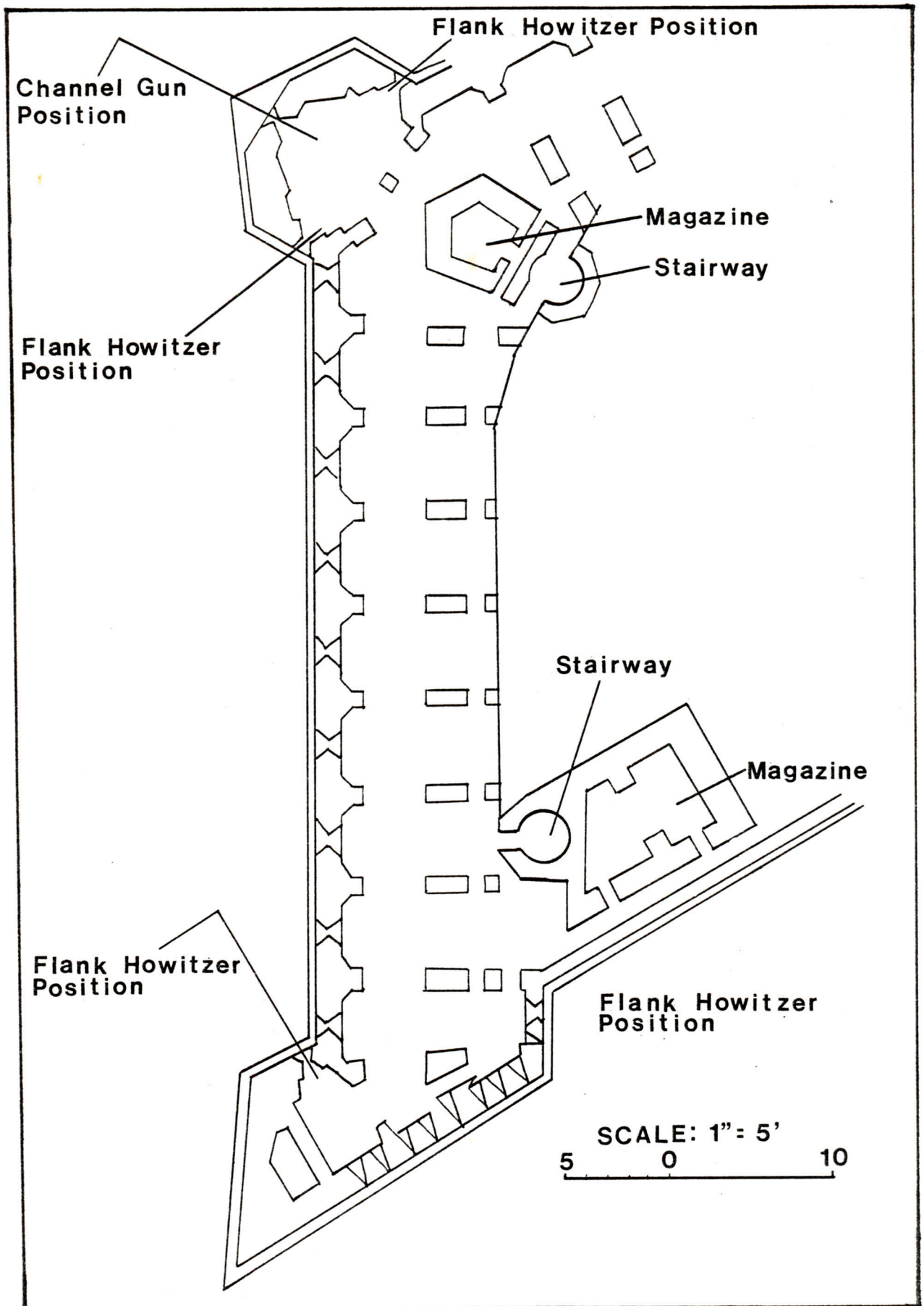


FIGURE 8: BATTERY WEED, NORTHEAST CHANNEL FRONT, SECOND TIER

SOURCE: Plans, Sections & Elevations, Fort Wadsworth [115680/3]

equilateral hexagon, all three of its channel fronts having a length of 286 feet, from salient to salient. The landward side measures 450 feet. At the angles are four bastions. The fort consists of three casemated tiers, rising one above the other, and a fourth or barbette tier with a breast-height wall. Originally, a ditch ran along the gorge side and the southeast face, its bottom being six and a half feet below the high water line and ten feet below the level of the land directly west of the fort. The top of the scarp rises sixty-seven feet above the ditch.[18]

Entry to the fort is only by way of a drawbridge across the ditch and through a gate in the center of the landward gorge. A passageway leads through the two-story gatehouse, built in the late 1860s. Within the fort and in the northwest and southwest bastions are the main magazines, which open into each of the casemated tiers. In the four interior angles of the fort are stairways. All eighty-five channel-bearing guns intended for the first three tiers had their own casemates. In each of the three channel faces of the first three tiers are nine casemates. In addition, the northeast and southeast bastions on the second and third tiers have one casemate each for heavy guns. All bastions at the three casemate levels contain two embrasures for flank howitzers, making a total of twenty-four positions for weapons to cover the four exterior walls.

Except for the piers supporting the arches, the rear of Fort Richmond's casemates are open. Casemates on the first two tiers are identical, being twelve feet in height, measured from the floor to the highest point in the ceiling. The third tier casemates have a height of ten and a half feet, and the construction of their arches differs from those on the tiers below. All of the casemates, except those in the bastions, are fifteen feet wide and measure twelve feet from the interior of the channel wall to the piers. The floors of the second and third tiers extend fifteen feet and fourteen and a half feet beyond the piers. The first tier floor is level with the parade, upon which the rear of the casemates open.

All guns on the first three tiers fired through embrasures in the channel scarps. From fifteen feet, the casemates narrow to eleven. The embrasures themselves are cone-shaped, being five and a half feet in width on the plane of the inner wall. They then narrow to a mere nineteen inches at the smallest part of the embrasure throat. On the exterior side, the embrasures widen in steps to three feet four inches. A pair of Totten's iron shutters covered

the embrasures when the guns were not in operation.

The seacoast gun carriages used in casemated works rested on two sets of wheels which rolled on iron arcs, rings, or traverses secured to the platforms. This arrangement allowed the weapons to be traversed through an arc of sixty degrees. Carriages pivoted on a metal pintle mounted in a granite block and secured to the gun platform and casement floor just below the embrasure. Somewhat smaller pintles and arcs were fixed in the bastion casemates for the flank howitzers.

On Fort Richmond's fourth or barbette tier are places for thirty-one heavy guns, nine on each of the three channel fronts and one in each bastion position. Barbette carriages differed from those used in casemates. Gun rings were complete circles with the pintles in the middle of the circles. Barbette ordnance fired over the breast-height wall, and because of their carriages could traverse horizontally through an arc much greater than that of casemate guns. Also, they could be elevated to higher angles.

The effectiveness of a water battery, such as Fort Richmond, was assessed in terms of its ability to deliver a heavy volume of fire upon ships attempting a passage. Multi-tiered casemated works had an advantage over single-level works, such as the modified Battery Hudson, since a greater number of guns could be brought to bear on a target. Enemy ships would be damaged or destroyed by the crashing, rending effect on their hulls accomplished by the more or less flat trajectory fire of casemate guns. The almost horizontal trajectory eliminated the necessity for complicated vertical aiming of guns. To maximize the damage inflicted on enemy vessels, engineers designed forts so as to enable as many weapons as possible to cover critical points in the general field of fire. That consideration governed, for example, the bearing of Fort Richmond's eastern face and the angle between that face and the two other channel-bearing fronts. Also attaining maximum fire influenced the design of embrasures, an aspect of fortifications in which Joseph Totten was an expert. Embrasures had to be so constructed as to enable guns to achieve the desired horizontal traverse and vertical elevation. Also, gunners had to be able to see their targets through the embrasures. On the other hand, the smaller the actual opening, the greater the protection for men and weapons.

Documentation of the armament mounted in Fort Richmond during most of the Civil War lacks comprehensiveness. This may result simply from the fact that the move to equip the work with something approaching its full

complement of weapons did not come until 1864. Previously, however, some guns had been installed, and the work was described as "only partially armed." The nature of that incomplete armament remains unknown.[19] Test firing of newly developed ordnance in late 1862 and early 1863 suggests that a problem may have existed as to the type of weapons appropriate for Fort Richmond.

In the early 1840s, when Totten began designing the fort, standard coastal defense weapons consisted of 24-, 32-, and 42-pounders. Shortly thereafter, America's arsenal began to include newer models of 8- and 10-inch guns, originally designed by George Bomford and called columbiads. Capable of firing shot or hollow shell at angles of up to forty degrees, columbiads could be mounted in either casemate or barbette positions. By 1861, heavier guns as well as rifles had been developed, and new, iron carriages were replacing former wooden models. The "fit" between the latest ordnance and existing fortifications needed to be determined. As Col. Richard Delafield wrote a correspondent during the war, "The substitution of heavy ordnance for the 32- and 42-pounders heretofore mounted in our Sea Coast Batteries engages our attention at the present time in most of the forts."[20]

The first known estimate of armament required by Fort Richmond appeared in a War Department statement of 1851. That statement called for fifty-eight 32-pounders, fifty-eight heavy 8-inch howitzers, and twenty-four 24-pounder flank howitzers. The heavy howitzers were among the weapons being replaced by the later model columbiads. In November 1860, the engineer in charge of building Fort Richmond reported construction had progressed to the point where the work could receive all of its weapons. The following annual report described the fort as "ready for all of its guns and munitions." Probably the phrasing should be read to mean that no armaments had yet been mounted. By the end of 1862, guns had been installed in Fort Richmond, although at least some of them were intended for test firing. Early in 1863, Delafield informed Gov. Horatio Seymour that the fort was "only partially armed" and that its weapons included smoothbore and rifled guns of the caliber for 64-, 100-, 128-, and 200-pounder projectiles.[21]

Late in 1862, the ordnance department sent to Fort Richmond one 200- and seven 100-pounder rifled guns with wrought iron carriages. Delafield was instructed to mount the weapons so that ordnance officers could make a "test of their fitness for the permanent masonry casemated batteries." Delafield placed one 100-pounder on the

barbette tier and three in the first tier. Also in the first tier was the 200-pounder. All of these weapons occupied positions in the southeast curtain, which apparently offered the safest direction of fire.[22] If mounted in the east face, the full test could not have been conducted since the Long Island shore was within the range of the new guns. To be sure, the guns themselves were not being tested, but the compatibility among guns, carriages, and emplacements.

Although the experimental firing was conducted by ordnance personnel, Delafield kept himself informed and relayed information on almost a daily basis to Colonel Totten in Washington. The tests appear to have been fairly extensive, the number of rounds fired from particular guns ranging from sixty-five to one hundred. It was learned that the 200-pounder and the 100-pounders mounted in the casemates could be fired through the full traverse of sixty degrees. In fact, since the iron carriages were of less width than the wooden ones, the guns could go beyond sixty degrees. This necessitated some sort of block. A 100-pounder in a first tier casemate was fired at elevations between zero and six and a half degrees and the 200-pounder between zero and five. The 100-pounder on the barbette fired one hundred rounds at elevations between zero and twenty-eight degrees and at a depressed angle of three and a half degrees. It was discovered that the iron barbette carriage was not suited to the platforms in the barbette positions in the bastions. Another finding was that in the case of the 200-pounder in the casemate, a clear line of sight could not be obtained because of the gun's diameter.[23]

Respecting Fort Richmond's construction and design, the test firing went reasonably well. Delafield identified the source of most of the problems as the carriages. Until late in the test, no damage was recorded in the masonry of the embrasures, the traverses, pintles, or other parts of the gun emplacements. Well into the test of the 200-pounder, however, one of the iron shutters came loose and fell into the ditch. During the following week, two more shutters were blown off. Delafield's letters did not constitute a formal report and contain no conclusions about the overall tests.[24]

Apparently not involved in the tests were the 8-inch and 10-inch guns then in the fort. How many of these weapons had been mounted by the winter of 1862-1863 is unknown. What remains clear is that these two weapons constituted the major part of Fort Richmond's ultimate complement of guns. The earliest inventory of the fort's

guns is dated August 1864. Since some of the guns had been cast in 1863, it is probable that the weapons had not been mounted much before the summer of 1864.

In August 1864, Fort Richmond contained, mounted and ready for firing, 101 heavy guns, consisting of sixty-one 8-inch columbiads, thirty-six 10-inch columbiads, and four 100-pounder Parrott rifles. Also mounted was a single flank howitzer. Except for the flank howitzer positions, all three casemated tiers emplaced weapons at every position. Missing from the barbette tier were fifteen guns, roughly half of the thirty-one provided for. The barbette positions occupied were the southernmost five on the east-facing front, the entire nine of the southwest face, and the single positions on the southeast and southwest bastions.[25]

Of the four tiers, the most heavily armed were the first and second, in which were mounted all of Fort Richmond's thirty-six 10-inch columbiads. And of the three channel fronts, the southeast had the greatest firepower. On that face, all four tiers were fully armed. Also the eight 10-inchers of the second tier were placed in that front, the other positions in the tier being occupied by 8-inch guns. Finally, the four Parrott rifles, three in the third tier and one on the fourth, were mounted in the southeast face.

Fort Richmond's armament in the summer of 1864 included only one 24-pounder flank howitzer. The inventory describes the twenty-three other positions as "all ready." Mounted in the northwest bastion of the second tier, the single flanking gun covered the long, land-facing scarp.

The Army had provided Fort Richmond with an arsenal of relatively newly made weapons. Sixty-four had been cast in 1861, 1862, or 1863. These included all of the 10-inch columbiads, except one in the barbette. Thirty guns had been manufactured in 1855 and 1856, and seven in 1846. Several post-war inventories of Fort Richmond's weapons designate the 8-inch and 10-inch guns cast in the 1860s as "Rodmans," a designation entirely appropriate according to Emanuel Raymond Lewis.[26] All of Fort Richmond's "new" 10-inch guns, the four Parrott rifles, and the 8-inch columbiads on the second tier were mounted on iron carriages. Wooden carriages were used for the remaining weapons. With 101 heavy guns, many of them fresh from the foundry, Fort Richmond stood in August 1864 much as its designers had intended, a water battery capable of a thundering fire against ships in the Narrows. By that time, however, the advent of rifled artillery, armored hulls, and steam driven vessels had made Third System structures, such as Fort Richmond, obsolete.

Commencement of Construction of the New Fort Tompkins

In the scheme of the State of New York for fortification of the Narrows in the early nineteenth century, Fort Tompkins was regarded by many as the major work. The plan of the United States thirty years later differed, in so far as the new Fort Richmond constituted the key structure. The federal version of Fort Tompkins had a supplemental function, that of protecting the water battery and Batteries Hudson and Morton. Also it would provide quarters for the forces manning the three batteries. Because of Fort Tompkin's support mission, construction started first on Fort Richmond. In fact, building funds were not sought for Fort Tompkins until 1857, about the time the water battery was reported as nearing a stage capable of receiving part of its armament on an emergency basis.[27]

Perhaps the acquisition of additional land was a necessary prerequisite to the commencement of construction of Fort Tompkins. Since 1851, Congress had been requested to vote funds for the purchase of a strip of land between the existing western boundary and the public road, now called New York Avenue. Congress complied in early 1856, and in the spring of that year William H. Aspinwell conveyed a tract of seventeen acres to the United States for $47,000. The government now owned the area at the Narrows from the water's edge to and beyond the crest of Flag Staff Hill. The 1856 purchase plus a small five-acre addition in 1854 satisfied the engineers, and no further enlargement occurred until the end of the century. The latest acquisition placed in the hands of the Army "a controlling position on the high ground," more than likely the site of Fort Smith.[28] Doubtless, the possession of that site affected the design of the new Fort Tompkins.

In March 1857, Congress made its first appropriation for the construction of Fort Tompkins, providing $150,000 to commence building. The topic of repairing the state-built structure or replacing it had received attention for decades, but the engineers were not ready to start operations immediately, as had been the case with Fort Richmond ten years before. In the early 1850s, an engineers' report stated that "the nature and extent of repairs required at Fort Tompkins have not yet been settled. . . ." At least a tentative idea of the work then prevailed, as evident in an ordnance projection for the fort of thirty-two 24-pounders, two 12-pounders, ten field pieces, seven 8-inch heavy howitzers, and ten mortars of various sizes. But detailed construction plans were not completed or approved by the War Department until April 1858, and operations

did not start until the following July. During the remainder of that building season, laborers demolished the old structure and began grading the site, so that actual construction did not commence until spring of 1859.[29]

The delay, hardly consequential, has a variety of explanations. As already noted, priority was given to Fort Richmond, still under construction and to which the energies of the engineers and workmen were primarily directed. In addition, the site of the new structure offered problems not encountered in erecting the water battery. Stone and other heavy materials had to be moved from the wharf to the hill, a horizontal distance of seven hundred feet and, more important, a vertical lift of 125 feet. This required special equipment and arrangements, including a steam engine and the construction of an inclined plane from the landing into the work area. Also the new Fort Tompkins was farther to the west than its predecessor and its foundation was deeper. Accordingly, large quantities of earth had to be removed.[30]

Once started, initial construction progressed so rapidly that at the end of 1859 the engineer in charge expressed the hope that given another large congressional appropriation, the following building season would see the completion of "the counter-scarp, the scarp piers and arches, and the flanks and land front." Should that progress occur

> the work, might in emergency, be made defensible, and capable of accomodating a portion of its garrison; though, as its armament is all "en barbette," it cannot be mounted until the work is wholly completed.

That expectation proved politically unrealistic, and, more than likely, it was also overly optimistic from a construction point of view. Nevertheless, it was advanced in similar form in the next year.[31]

Construction of Fort Tompkins was not finished until 1876. During the Civil War, it did not attain a stage which would enable the work to perform either of its intended missions. No quarters were afforded troops, and no guns were mounted. The war did expedite appropriations, including a whopping grant of $350,000 approved in February 1862. On the other hand, the shortage of shipping caused by the war resulted in a dearth of construction materials, particularly stone, which impeded progress on the fort.[32] Also, during the war, construction started on several other projects at the Fort Wadsworth site, which may have diverted

labor and available building supplies away from Fort Tompkins.

More Batteries

During the twenty-five years following initiation of federal operations on the west bank of the Narrows in 1841, U.S. Army Engineers modernized Batteries Morton and Hudson, constructed the new Fort Richmond, and began work on the replacement for the state-built Fort Tompkins. With completion of this last undertaking and when the four works received their full armaments, a total of roughly 250 guns would be available at the Fort Wadsworth site for use against enemy forces. This might appear sufficient. Before the end of the Civil War, however, four other works were projected, the "redoubt in advance," South and North Cliff Batteries, and a new casemated fort.

The desire for additional fortifications testifies to the general belief in the crucial role of the Narrows in the security of New York harbor. Defenses there became more critical with the decision to abandon plans to construct forts on West Bank and Middle Ground in Lower New York Bay. As a substitute, fortifications were projected for Sandy Hook.[33] Even a heavily armed work at Sandy Hook might not prevent an enemy from venturing through the lower bay. This focused attention back to the Narrows. Another reason for planning additional defenses on Staten Island in the late 1850s and early 1860s was the advent of heavier ordnance and rifled coastal artillery. As evident in the testing of new guns and carriages in Fort Richmond and Battery Hudson, a question existed about the suitability of existing works for the latest weapons. Moreover, another question centered on the capability of Third System masonry works, such as Fort Richmond, to withstand assaults on them by an enemy employing recently developed naval guns. In such an uncertain situation, the security of the harbor required additional works at the Narrows.

One formally projected work for Staten Island never materialized. In the early 1820s, the Bernard board had recommended a "redoubt in advance." An engineer's report of 1841 provided a few details about the project. After describing the necessity for federal acquisition and repair of the existing state structures, Forts Richmond and Tompkins, and Batteries Hudson and Morton, the report added that there was "nothing further, indeed, being contemplated for this position, except the construction of a small redoubt on a commanding hill, a little further to the southwest." Ten years later, in an overview of America's defenses, the redoubt was listed in the lowest priority

class, to be started after all other classes. It would have a wartime garrison of eighty men, mount twenty-six guns, and cost $52,000. The site of the proposed work was included in the land purchased in 1856. Possession of the site may have been the primary concern, for once acquired, the proposal to build a redoubt disappears.[34] Suitable grading and a properly constructed Fort Tompkins would eliminate the need for a separate work in that location.

Construction of the three other works began during the Civil War. None of them had been carried for years as a projected fortifications as had the redoubt, but all rather suddenly enter the engineers' reports. Apparently they had their origins in mid-nineteenth-century reconsiderations of the defense requirements at the Narrows.

Two of the new works were open barbette batteries, on the ridge behind and flanking Fort Richmond. Construction began in the fall of 1862 on South Cliff Battery, or, as it was first known, "the barbette battery between Fort Richmond and Battery Hudson." Part of the new work encroached on the site of Battery Morton, which was dismantled. One 15-inch Rodman was mounted in South Cliff Battery before October 1863, although construction of the work was not finished until 1866. An armament inventory of September 1867 lists the new battery as containing nine 15-inch Rodman guns, mounted on iron barbette carriages. North Cliff Battery, started in 1863, was also intended for 15-inch weapons. At the time of the 1867 inventory, its armament consisted of twenty-three 15-inch Rodmans and twenty-one barbette carriages, all of which were dismounted.[35]

The other work, also started during the war, was never finished. Although like the cliff batteries, it appears suddenly in plans for the Fort Wadsworth site, some hint of its beginnings as an intended project came in 1854, when the War Department purchased a small five-acre tract south of Battery Hudson. Immediately adjacent to the shore line of that tract was an area of shoals. In 1860, apparently for the first time, the engineers informed Congress of a "proposed Casemate Battery on Staten Island," described as "the most important work yet to be undertaken for the defense of New York." Building plans had already been prepared, and $200,000 was sought to commence construction.[36]

The proposed structure was intended to be a permanent masonry fort in the magnitude of Forts Richmond and Tompkins. An 1867 sketch reveals the work was to have

a peculiar trace, essentially a right angle triangle, except that the scarp would be curved at two of the angles. The shortest of the fort's three sides faced northeast. At its south end, the scarp curved and ran in a straight line to the west. The longest side paralleled the shoreline and formed a right angle with the Narrows-bearing front. The sketch contains no dimensions or other details, except for noting that the weapons would consist of forty-one guns.[37]

Congress appropriated funds for the new structure in the early 1860s, and work began in August 1863. The size and location of the fort required extensive preliminary arrangements, including construction of a ten-horse stable, blacksmith shop, carpenter shop, and storage building. More important was a long combination coffer dam and wharf, required for pumping the site dry and for landing material. Work progressed slowly. In 1866, the engineers made several borings, one being over a hundred feet deep, to determine the character of the substrata. Sizeable quantities of ashlar were prepared for the foundations.[38]

Probably greater questions existed about the portion of the fort above the water line than below. The Civil War demonstrated the effectiveness of new rifled artillery against masonry-faced casemate structures. Tests were being performed to determine if armor plate could be used to protect the faces of forts exposed to enemy fire, but a practical solution was not discovered during the 1860s. In 1870, operations were suspended on the proposed casemated work on Staten Island, "pending determination of a casemate cover." During the following year, the projected work was dropped entirely, leaving only traces of the coffer dam and wharf and a collection of small structures, later labelled "old eng. bldgs."[39] From one point of view, abandonment of the casemated fort marks the end of the Third System era at the Fort Wadsworth site.

The Civil War

During the decades before the Civil War, Fort Wadsworth experienced a modest growth from the forty-five acres ceded by the state to the roughly seventy acre tract resulting from the purchases in 1854 and 1856. Other than Forts Richmond and Tompkins and Batteries Hudson and Morton, the pre-war post had few military buildings. Apparently, the barracks and officers' cottage erected or maintained by the state remained near Battery Hudson. At the opposite end of the grounds was a structure labelled in an 1853

civilian map as "Major Delafield." Its location was in the general vicinity of the officers' club of today's reservation.[40] Richard Delafield, Army Engineer, had a long association with Fort Wadsworth, beginning with initiation of construction of the new Fort Richmond in 1847. When Delafield took up residence on Staten Island and the origins of the house are unknown.

The 1853 map shows unpaved roadways. One led into the government grounds from New York Avenue, at a point behind old Fort Tompkins. The road moved around the south side of the fort and then branched in two directions. One branch passed in front of Fort Tompkins and ran toward the Delafield structure. The other went southeasterly, passing the rear of Battery Morton to the barracks area behind Battery Hudson. Another road ran from that point northward, below the cliff and to the south gorge bastion of Fort Richmond.

During these years, the post never obtained that neat, regular well policed appearance associated with military installations. Although the U.S. Army received permission to reconstruct and occupy Batteries Hudson and Morton in 1841, the state of New York retained formal possession and continued the practice of leasing the grounds as pasturage. Even after transfer of the site to the United States, the practice persisted, and an account book kept by Delafield in the mid-1850s includes entries for pasture rental.[41]

More subversive of a military appearance was the construction activity, centering first on Fort Richmond and then Fort Tompkins. Large numbers of civilian laborers, masons, stone cutters, teamsters, and others worked at the site more or less continuously from 1847 into the 1870s. Construction required shops, sheds, storehouses, hydraulic equipment, and steam engines, as well as dormitories for the work crew. During the Civil War, Fort Wadsworth was as much a construction site as a seacoast artillery post. As Fort Richmond neared completion, construction continued on Fort Tompkins and began on the cliff batteries and the new casemated work. The last mentioned undertaking required another set of stables, shops, and storage structures.

Since the United States gained control of Batteries Hudson and Morton in the early 1840s, the west bank of the Narrows militarily fell under the command of Fort Hamilton, on the opposite shore. Before the Civil War, the engineers were the most significant military personnel associated with Fort Wadsworth. Artillerists, as well as some sort of guard, became necessary with the mounting of guns in

Batteries Hudson and Morton in the late 1840s or early 1850s. Apparently gun crews were occasionally ferried across the Narrows from Fort Hamilton. During the mid-1850s, two companies, roughly 150 men, of the United States 4th Artillery were stationed at Fort Hamilton.[42] With the outbreak of the war in 1861, a force quartered at Fort Wadsworth became necessary.

The beginning of the permanent garrisoning of the post now known as Fort Wadsworth came in the early months of the Civil War, not, as many claim, two hundred years previously. The first troops to arrive were members of the 5th Regiment of New York Volunteers. Nothing is known of their activities or of other personnel assigned to the site before January 1863. Throughout that period, Fort Richmond remained unarmed or only partially armed, and perhaps only Battery Hudson required artillerists. The monthly post returns are available beginning with January 1863. During 1863, the garrison numbered between 108 and 678 men, divided into two to five companies, except for the months of August, September, and October. In that period, the 26th Michigan Volunteer Infantry was assigned to the post temporarily, before joining the Army of the Potomac.[43]

In December 1863, because of an increase in the size of a New York artillery unit already part of the garrison, the post's total strength rose to almost 1400 men. In the following February, it was up to 1921, the largest number on record at the Fort Wadsworth site during the Civil War. A reduction began in July 1864, and at the end of the war about 400 men garrisoned the post. In the period beginning in January 1863, Fort Wadsworth was home to a constantly changing variety of units, namely the 1st, 4th, 12th, and 82d U.S. Infantry Regiments; the 5th U.S. Artillery Regiment; the 10th, 11th, and 14th New York Volunteer Artillery; and the 69th New York National Guard.

To provide quarters and meet other needs of the wartime garrison, wooden buildings were constructed on the west bank of the Narrows. Eighteen months after the war, the commanding officer of the post prepared a list of the buildings on the site. He noted that the wooden barracks had been constructed for the accomodation of eight companies of infantry. By early 1867, they and the other Civil War structures were no longer serviceable. The list included twelve two-room barracks, each sixty by twenty feet in size; four officers' quarters, with a total of twenty-four rooms; two stables; two bake shops; a hospital and hospital laundry; several kitchens and messrooms; a commanding officers'

quarters and kitchen; and a number of storage buildings.[44] In 1867, all stood condemned and subsequently were removed. Unlike the aftermath of the War of 1812, however, a garrison remained at the site.

During the era of the Third American System, the changes in fortifications on the Staten Island side of the Narrows reflected general changes in the geographical area which those works were intended to secure. Even in 1820, New York City's 124,000 inhabitants made it the most heavily populated community in the nation. By 1860, the city grew to more than one million people, almost twice the size of its nearest rival, Philadelphia. Moreover, New York became America's banking and financial capital as well as its most active commercial center. In 1860, seventy percent of the imports into the United States passed by Fort Richmond and into the harbor of New York. These developments and others, such as the activity at the Brooklyn Navy Yard, made it obligatory upon those charged with the defense of the republic to give special attention to the security of the harbor of New York.

Changes came rapidly to the site of Fort Wadsworth following the purchase by the federal government in 1847. By the time Lee surrendered, the west bank of the Narrows featured the recently completed Fort Richmond, the half finished Fort Tompkins, the newly started casemate battery, a modernized and enlarged Battery Hudson, and the cliff batteries, still being worked on. The Civil War saw two dozen temporary structures erected for the use of the garrison, which at one time numbered nearly two thousand men.

Mid-century developments in heavy ordnance made fortifications an uncertain field. Construction of Fort Richmond no sooner finished than it faced obsolescence. So long as the nation maintained the policy of relying on fixed positions as its primary defense, however, sites such as Fort Wadsworth would remain vital to the security of American harbors and coasts.

CHAPTER V

POSTWAR DECADES, 1865-1890

After the Civil War, a brief program of coast defense construction emphasized ground level batteries. Such batteries were necessary because of the vulnerability of Third System casemated works to rifled artillery fire and because of the size of new coastal guns designed to replace the pre-Civil War arsenal. The period also saw the development of carriages which lowered guns below the parapet crest after firing. The new batteries differed from prewar works in that they were much more substantial. Earth remained a major construction material, but it was used in much larger quantities. Also postwar batteries had stone-faced walls, covered passageways, well protected main magazines, as well as service magazines in traverses, concrete and stone platforms, and drainage systems. Greater distances separated guns in the same battery.

By the mid-1870s, funds for fortifications disappeared, and work on batteries ceased. Few of the newly developed guns and carriages appeared, and other parts of the program, such as use of larger caliber mortars and mines, did not fully materialize. The history of Fort Wadsworth from 1865 to 1890 demonstrates these postwar developments.

Fort Richmond's Decline as a Battery

Following Appomatox, the memory of the great fratricidal struggle endured on the west side of the Narrows through the practice of naming various works after Civil War military heroes. In November 1865, the War Department directed that "the military post, . . . now known as Fort Richmond, will hereafter be called Fort Wadsworth."[1] Maj. Gen. James S. Wadsworth, of New York, had been killed during the battle of The Wilderness. The general's place in history will not suffer if, in this report, the battery named after him is still referred to as Fort Richmond. During the twenty-five years after its renaming, Fort Richmond experienced a decline in importance as an artillery installation,

as evident in the reduction in its armament and in recommendations for its use for purposes other than mounting channel-bearing guns.

Surviving ordnance lists and armament sketches indicate, in the immediate postwar years, an improvement in Fort Richmond's complement of weapons. Although the armament remained essentially the same as in August 1864, the total number of mounted guns slightly increased, and larger or more powerful pieces replaced smaller ones. By the summer of 1865, the addition to the half-occupied barbette tier of four 8-inch guns and one 100-pounder Parrott rifle brought the weapons total to 106. Also mounted were six mortars, probably in the parade. Documents for the subsequent years do not list the mortars, and the 112 weapons of August 1865 constitute the numerically largest armament Fort Richmond would ever have. During the next year and a half, the fort received four additional 100-pounder rifles and seven 10-inch guns as replacements for eleven 8-inch pieces.[2] The absence of comprehensive evidence for the years between February 1867 and June 1885 makes it impossible to determine how long the general number and mix of guns of the mid-1860s remained.

An armament return for 1885 reveals that Fort Richmond had lost almost half of its channel-bearing weapons. Still mounted were twenty 8-inch and nineteen 10-inch guns and nine 100-pounder Parrott rifles. Nine 8-inch converted rifles had been placed in the first tier, making for a total of fifty-seven weapons for use against ships in the Narrows. Also mounted and ready in 1885 were twenty-four flank howitzers, although all were removed several months later. In 1886, two of the converted rifles were dismounted and placed in Battery Hudson, an indication of the relative importance of the two batteries. Six of Fort Richmond's 100-pounder Parrott rifles were mounted in the barbette tier, the other twenty-five positions on that tier being vacant. Engineers sought funds to equip those empty positions with the required larger pintles, but no monies were forthcoming.[3] Indeed, the reduction in the fort's armament continued. By the turn of the century, only fifteen weapons remained, one tenth of the original capacity.

That Fort Richmond became something of a derelict resulted chiefly from its basic character as a Third System casemated work. Compactly built so as to attain a concentrated fire, the structure's casemates were simply too small to accomodate the larger guns and rifles emerging during and after the Civil War. For example, the 15-inch

Rodman gun, several of which were mounted in Fort Wadsworth's open batteries during the war, was almost four feet longer than the 10-inch columbiads, the largest guns for which Fort Richmond's casemates were designed. And an 8-inch breech-loading rifle of the mid-1880s was almost twice the length of the 10-inch gun.[4]

Two expedients were available to enable Third System casemated works to receive newer weapons, and both were planned or used at Fort Richmond. One consisted of modifications on the barbette, where limitations of space were not as pressing as in the casemates. As already noted, however, lack of funds prevented the necessary alterations, except in six of Fort Richmond's barbette positions. Another accomodation involved utilization of eight-inch rifles, converted from 10-inch guns by lining them with wrought iron or steel tubes. Of the same dimensions and shape as the 10-inchers from which they were converted, these rifles could be mounted in the same casemates. By mid-1885, Fort Richmond had received nine of the converted rifles.

No practical expedient was discovered to provide casemated works with some measure of protection against the powerful, masonry shattering fire of bona fide rifles mounted on enemy ships. Therefore, whatever could be done by way of changing Fort Richmond's barbette or by using converted rifles seemed questionable, because the structure itself had an unremediable vulnerability. Not surprisingly, then, Fort Richmond's armament was reduced, and parts of the battery were used for other purposes.

It has been erroneously claimed that from 1867 to 1884 Fort Richmond provided barracks for troops.[5] Quartermaster correspondence, dated January 14, 1867 and concerning housing at the Staten Island post, reports that "the Engineers Department has allowed troops to occupy the casemates, which, as they are very comfortable, is satisfactory to command." On the following February 25, Capt. Samuel Elder, commander of Fort Wadsworth and its garrison, Battery B, 1st Artillery, completed six reports. Three touched upon housing. One, quite brief, was "Report of Numbers of Barracks Rooms, Mess Rooms and Kitchens. . . ." It listed "6 barracks rooms" and "2 mess rooms." A remarks section included the note, "Ground tier casemates, south side of Fort Tompkins." In one of two documents entitled "Statement of U.S. Buildings at Fort Wadsworth," however, the only entry under barracks reads, "Fort Wadsworth, eight rooms, stone, good condition." Also, a guard house and prison was listed as "Fort Wadsworth, one room, stone, good condition." The remaining pertinent

evidence is the annual report of the Chief of Engineers, dated October 21, 1867. It included among the work performed at Fort Tompkins during the previous year "nine casemates (six in the south flank and three in the southwest face), fitted up for soldiers' quarters." To complete the parts of the puzzle, it needs to be added that B Company consisted of eighty-four men.[6]

It is true that Fort Richmond contained a guard house and that Fort Tompkins did not. And it is possible that eighty-four men could have occupied six or eight casemates in Fort Richmond. At that time, however, all of the channel-bearing casemates mounted guns. Bedding down with a 10-inch Rodman, the guns in the south curtain, could hardly be described as "very comfortable." The eight bastion casemates without channel-bearing guns could have been used, but these are quite small in area. Moreover, all of the casemates were open on the parade side, another condition not to be characterized as "very comfortable" in January. On the other hand, the casemates of Fort Tompkins in the south flank and southwest face were constructed specifically for use as quarters. Each was of a size to accomodate ten men without difficulty and perhaps more if necessary. The entire problem disappears if one reads the reference to "Fort Wadsworth" in the "Statement of U.S. Buildings" as designating the entire post and not Fort Richmond. Indeed, in an ordnance report, also dated February 25, the term "Battery Richmond" was used to list one of the works at "Fort Wadsworth."[7] If Fort Richmond did house troops, they remained no longer than the end of the 1867 building season, and their stay resulted in no permanent alterations in the structure.

Plans to employ torpedoes at the Narrows led to a slight, although permanent, change in Fort Richmond. In the mid-1870s, the first tier casemate next to the north gorge bastion underwent modifications so it could serve as a mine operations room. Rejected was a proposal to store mines at the fort.[8] By the time the mine system became a reality at the end of the century, separate buildings had been erected for both the operation and storage of mines, and the operations room in Fort Richmond was never used. Nevertheless, the modification permanently reduced by one the fort's capacity for channel-bearing guns.

In 1883, the engineer in charge of Fort Richmond received a request from the post commander for permission to use four empty casemates in the first tier for the storage of coal, pending construction of a proper coal house.[9] Whether permission was given is immaterial, and the request itself underscores the perception among

military personnel of the structure's decline as an active battery.

Gen. Philip H. Sheridan visited the post at Fort Wadsworth in 1884. His comments about Fort Richmond included praise as well as what was almost a condemnation:

> The fort was originally built for short-range artillery, and is now useless under the changes brought about in modern warfare, but it is the most beautiful masonry work I ever saw. It would make, now, a fine stone quarry for public buildings, or answer as a good storage place for ordnance.[10]

Sheridan said nothing about the fort's armament. Perhaps, the battery had already started its role as a warehouse facility and whatever guns it contained were not so much mounted and ready for action as being held in storage. A popular civilian view persisted of Fort Richmond as "bristling with a hundred cannon," but at least since the early 1880s that was a fiction. Less than twenty years after its completion, Fort Richmond no longer figured prominently in the New York harbor and coast defense system.

The Completion of Fort Tompkins

In the decade after Lee's surrender, construction of Fort Tompkins was completed, except for some interior details and for grading, sodding, and road building on the exterior. Lack of funds interrupted work within the fort, and finishing touches were still being administered in 1886. As originally conceived, Fort Tompkins was intended to provide quarters, storage and other services for the post and its garrison and to protect Fort Richmond and the channel-bearing batteries from land attack. Thus Fort Tompkins looked in directions other than toward the Narrows. Since the early plans, however, the threat of assault by enemy land forces appeared to diminish. On the other hand, particularly because Fort Richmond could not receive most of the new weapons, there was need of additional emplacements for channel-bearing guns. In 1869, by which time the landward fronts of Fort Tompkins had been finished, but not the channel side, engineers modified plans for the completion of the fort. The channel front would be so constructed as to provide positions on its barbette for heavy guns aimed at the Narrows. That change now appears fruitless, since during the remainder of the century only one gun was mounted at Fort Tompkins.

Fort Tompkins is an all masonry, pentagonal structure, its longest face bearing generally southeasterly. Opposite that face and across the parade are the southwest and northwest fronts, which join one another at a very flat angle. The north and south flanks are the fort's shortest sides. The four land fronts contain two tiers of casemates, most of which were intended for quarters for troops, and the channel front consists of a single tier of large storage casemates. Originally, the scarp and counterscarp formed a forty foot-deep, twelve foot-wide ditch, which surrounded the fort except on the channel front. Counterscarp galleries were built at the southwest and northwest angles of the ditch. Two sally ports, one at each end of the channel front, provide entry into the fort and connect the parade and the roadway now known as Hudson Road. Opposite the channel front, earth was placed on the upper portions of the steep slope to serve as a cover for Fort Tompkins and present to enemy ships in the Narrows as small a target as possible.[11]

Shortly after the end of the Civil War, the construction of all land fronts was finished, and in the winter of 1866-1867 troops previously quartered in temporary wooden barracks were moved into Fort Tompkin's casemates. Five years later, the channel-front casemates were completed, and in 1875 the fort was structurally finished and reported ready for its armament.[12]

The four landward fronts of Fort Tompkins contain sixty casemates or rooms, thirty on each tier. Each of the rooms could house ten men. So small was the garrison at Fort Wadsworth in the postwar years that only a portion of the casemates were required for use, and that a number of casemates remained unfinished in the mid-1880s created no problem. Some finished casemates were put to uses other than troop barracks. Officers resided in the fort until separate quarters were built for them in the late 1870s or early 1880s. One or two casemates served as a hospital.

In 1884, General Sheridan praised the housing arrangements for Fort Wadsworth's garrison. Sheridan wrote:

> The casemate quarters are perfect and are in the second tier. The company occupying them are royally quartered. . . . The hospital is in a casemate and in good condition.[13]

Even today, although the casemates are dark, cluttered and abandoned, it is not difficult to appreciate the impression made on Sheridan by the spacious, wainscotted rooms, warmed by fireplaces, and with large windows overlooking the parade.

The channel front of Fort Tompkins contains seventeen large casemates, initially intended for storage purposes. In their original state, these casemates were open on the parade side. During the 1880s, eight were modified and used for storing equipment to be used in the torpedo mine system. Modifications included enclosing the casemates on the side facing the parade.[14]

By the mid-1880s, careful grading, sodding, and fertilizing had produced a rich, even lawn on the parade or what is sometimes referred to as the Fort Tompkins quadrangle. In addition to its military uses, the late nineteenth-century quadrangle provided a perfect place for the game of lawn tennis. So commodious was the lawn, sufficient space existed for seven courts.[15] Of course, tennis then was in its genteel stage, appropriate for Victorian ladies in full skirts, and the courts were smaller than used in the modern sport.

The problem presented by Fort Tompkins in the period 1865 to 1890 was not its parade or its casemates for quarters and storage, but its armament. That a problem did exist is evident in the variety of conflicting statements as to the number of guns to be mounted and in the fact that only one weapon is known to have been emplaced on the barbette tier.

In the middle of the nineteenth century, part of the rationale for a new structure to replace the state-built Fort Tompkins was to provide a work competent to protect the batteries against an assault by enemy forces approaching by land. An ordnance projection of 1851 for the proposed fort estimated its requirements as sixty-four weapons. Of that number, forty-four were most appropriate for use against land forces. Of course to protect the other works, Fort Tompkins had to be able to defend itself. During the early stage of construction, the counterscarp was equipped with two galleries. Each gallery consists of two levels of iron shuttered embrasures, through which cannon could fire along all four landward scarps. Many of the proposals for arming Fort Tompkins included a number of flank howitzers, some of which would doubtless be placed in the galleries.[16]

The various statements of the armament to be mounted on Fort Tompkins' barbette are bewildering in their inconsistency. An 1858 sketch indicates plans to mount sixty-six guns on the five-sided barbette of the work. According to an 1874 statement, originally the intent was to install twenty flank howitzers "in casemates" and 123 barbette guns. Modification of those plans, however, changed the armament to twelve flank howitzers and 103

guns mounted en barbette, sixty-eight of which would be 15-inch or equivalent weapons. Ten of the 15-inch guns would be placed on platforms built on the channel side, in accordance with the change of design adopted in 1869.[17]

The last annual engineers' report providing useful information about Fort Tompkins is that for the year 1886. It stated that "since 1876 the work has been in readiness to receive, on temporary platforms, all heavy guns for channel defense." That condition of readiness was generally assigned works which had not yet received any of their armament. The report noted that included in work remaining to be done at the fort was providing "ten permanent gun platforms in place of the wooden ones." An ordnance inventory of Fort Wadsworth the previous year shows that a single 8-inch converted rifle had been mounted on Fort Tompkins' barbette.[18]

The only known document which offers a comprehensive statement of the positions actually prepared is an armament sketch of 1902. The sketch lists ten wooden platforms for 15-inch smoothbores on the channel front. Elsewhere on the barbette were twenty-nine stone platforms for guns of the same kind and eleven positions for flank howitzers. No guns or carriages, mounted or dismounted, were reported at Fort Tompkins in 1902.[19] Although the evidence is confusing and spotty, it appears that in the decades after its completion in the mid-1870s, Fort Tompkins mounted only one weapon, the converted rifle. This being the case, at the end of the nineteenth century, Fort Tompkins was ready to play even a less active role in the defense of the Narrows than Fort Richmond.

Open Batteries, Old and New

A trend began during the Civil War in American coastal defense that favored ground level, open batteries instead of casemated masonry works. That trend continued after the war, aided by modest appropriations voted by Congress between the late 1860s and mid-1870s. Emphasis on open batteries resulted from the vulnerability of casemated works to rifled artillery fire, from the size of the new coastal ordnance, and from the limited funds available for fortifications. In 1876, before completion of projects financed by the program, Congress adopted a policy of refusing additional funds. This left many batteries unfinished and unarmed or only partially armed. At Fort Wadsworth, the brief postwar construction program involved modification of existing works and the building of several new ones. Because of the lack of funding,

by 1890 not one of Fort Wadsworth's batteries, old or new, was complete, in good condition, and fully armed.

Batteries in existence at Fort Wadsworth at the end of the war consisted of Hudson, South Cliff, and North Cliff. An ordnance report of February 1867 indicates that Battery Hudson had forty-two gun positions, two of them containing carriages, but no guns. The battery's weapons included seven 200- and six 300-pounder Parrott rifles; fourteen 10-inch and two 8-inch columbiads or Rodmans; one 15-inch Rodman; and one 7-inch rifle converted from a 42-pounder gun. The thirteen Parrott rifles and at least some of the 10-inch guns were in the east-facing section of the "L"-shaped battery. In South Cliff Battery, 15-inch Rodmans occupied nine positions, and gunless carriages three others. The 1867 return lists North Cliff Battery as containing twenty-three 15-inch Rodmans, all dismounted.[20]

In 1869, the War Department approved plans for modifying the three batteries. Essentially, the plans aimed at increasing the distance between guns by reducing their number and adding traverses. The remaining positions would be reconstructed to permit the mounting of guns of the heaviest caliber. Modifications in Battery Hudson included the creation of a separate extension, west of the southern branch of the existing battery. Work on the changes in Battery Hudson and the two cliff batteries began in 1871 and continued to 1875.

Perhaps because of its size, the scope of the planned modifications, and the fact that it was the oldest battery and therefore in greatest need of upgrading, Battery Hudson was the only open work at Fort Wadsworth to receive specific funding. From 1870 to 1875 Congress passed a series of appropriation bills which included a total of $120,500 for Battery Hudson. By the time these funds ran out, the new extension had been constructed with positions for five 15-inch guns. One of the positions was equipped with a unique King's counterpoise carriage. In Battery Hudson proper, nine other places for 15-inch guns had been constructed in the southern branch and in that part of the east-facing section closest to the angle. Eight additional positions were being readied when the building program collapsed. The modifications required removing the lighthouse from the rear of the south branch and its rebuilding elsewhere. Removed from the rear of Hudson extension was a cottage.[21]

In the early 1870s, many of Battery Hudson's gun positions were provided with wooden platforms. Subsequently, some of these were replaced with permanent stone platforms. By the 1880s, the timber platforms still in position

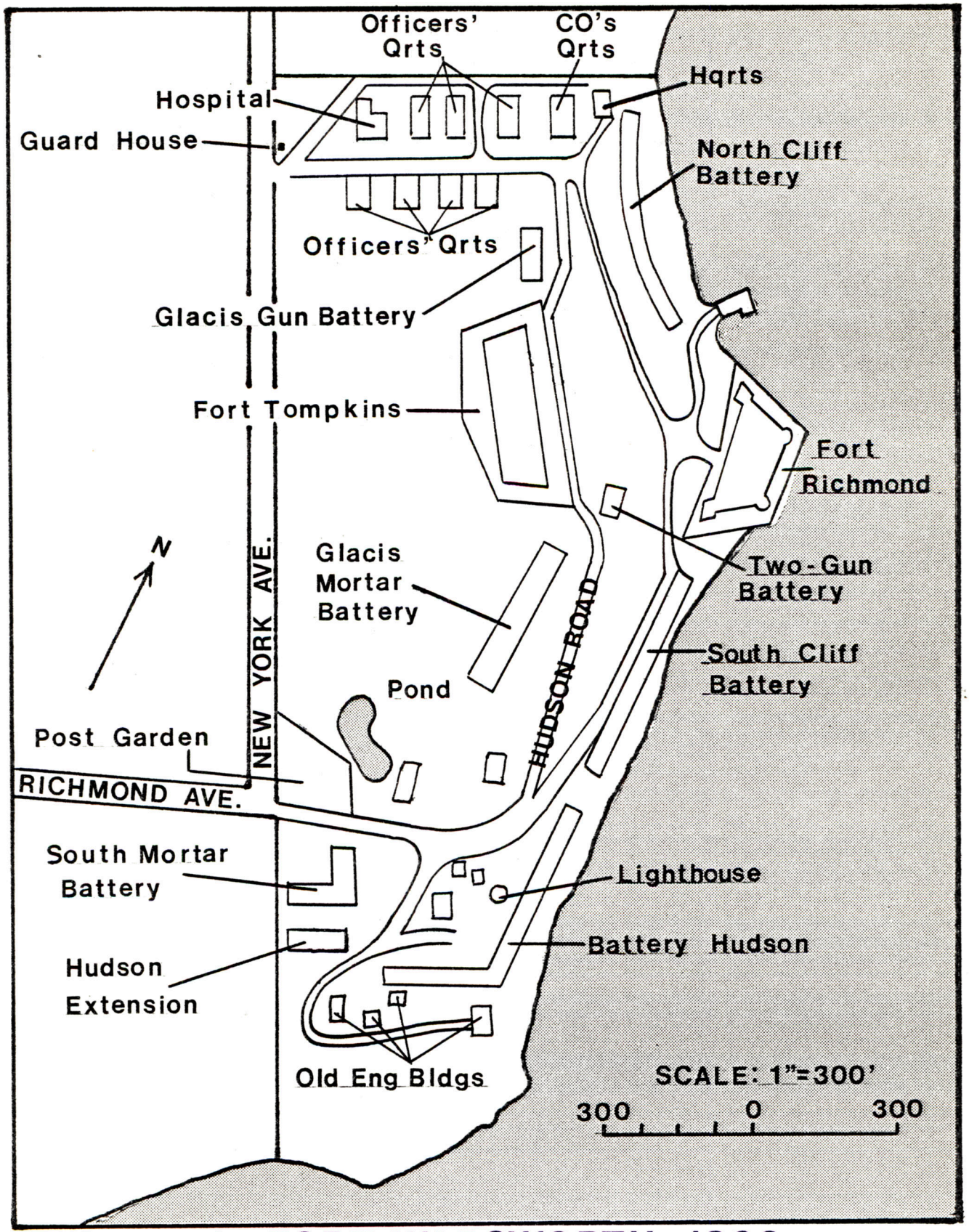


FIGURE 9: FORT WADSWORTH, 1893
SOURCE: L Dugan, 1893

were suffering from rot. An 1885 ordnance return indicates the changes in Hudson resulting from the brief postwar fortifications program. The battery's armament was fifteen guns. consisting of six 15-inch Rodmans, the six 300-pounder Parrott rifles installed at the end of the war, two 8-inch converted rifles, and one 11-inch converted rifle.

In South Cliff Battery, guns remained mounted and modifications were delayed to avoid the disarming of all batteries at the same time. Changes were made in 1875 and 1876, when new positions and platforms were prepared. The modified battery had sixteen positions, only five of which were occupied, by 15-inch guns, in 1885. North Cliff Battery was altered from a twenty-three gun installation to one for twelve weapons. Five of the emplacements were constructed for King's carriages. In 1885, the battery contained five guns.

With the construction of the extension of Battery Hudson, there came into being an almost complete line of batteries, beginning at a point on the western boundary of the post just south of the end of New York Avenue and stretching east to the Narrows and then north along the shoreline to Fort Richmond. North Cliff Battery completed the line to the northern boundary of the post. The four new batteries built in the decades after the Civil War occupied positions behind the line of older works. Three of the new defenses were in the vicinity of Fort Tompkins, having been established during the construction of the fort's glacis and the earthen cover east of Hudson Road. All four installations had been financed with funds drawn from appropriations for Fort Tompkins.

Immediately north of the fort and west of the road was a glacis gun battery, built for five 15-inch guns. Completed in 1874 and provided with two magazines and wooden platforms, it contained no mounted weapons during the period ending in 1890. The ordnance return of 1885 does list three dismounted 15-inch guns at the battery. At the opposite end of Fort Tompkins and east of Hudson Road was a two-gun battery, originally built in 1866 for 8-inch or 10-inch Rodmans or corresponding rifles. In 1885, like the glacis gun battery, it contained two dismounted 15-inch guns.

Two mortar batteries constitute the remaining works built at Fort Wadsworth following the Civil War. Seventy-five feet south of Fort Tompkins and running in a line almost due north and south was a glacis mortar battery, constructed in 1871 and 1872. This was the only open battery, new or old, to receive its entire armament. In 1876, it mounted ten 13-inch seacoast mortars and was reported in

a condition of readiness. Like other batteries, however, it had been provided with wooden platforms, which, by the mid-1880s, had become unserviceable. A second mortar battery was immediately to the rear of Battery Hudson's extension. Started in 1872, work never progressed beyond construction of the concrete foundations, and the battery was not even listed in the 1885 armament return.

Except for Battery Hudson's extension, today known as Battery Mills, none of the batteries built in the years 1865 to 1890 have survived. Constructed by use of contingency funds and monies appropriated for Fort Tompkins, they probably had a more temporary character than the older batteries. All works, however, were adversely affected by the lack of funding after 1875. The situation at Fort Wadsworth was not unusual, and a similar state of unreadiness prevailed elsewhere in the nation's coastal defenses. As early as 1878, the Chief Engineer advised the Secretary of War that "unfinished earthen batteries, . . . provided with a small fraction of the number of guns for which they were designed, and these of insufficient caliber, and mortar batteries without mortars . . . form but a feeble defense."[22]

Garrison and Grounds

Between the end of the Civil War and 1890, Fort Wadsworth was garrisoned by units of the Regular Army artillery regiments. From a wartime high of 1921 men, the garrison decreased to 402 by the end of the conflict, and it continued to shrink in the decades following. In September 1884, Fort Wadsworth had a mere forty-one men as its garrison. During the remainder of the period, the number fluctuated between fifty and one hundred. Other units of the same regiment assigned to Fort Wadsworth were stationed at defenses elsewhere in New York harbor, such as at Fort Hamilton on the Long Island side of the Narrows and Fort Wood on Bedloe's Island, prior to the mounting of the Statue of Liberty. The Staten Island post and Fort Wood had garrisons of a similar size, and the personnel at Fort Hamilton, regimental headquarters, numbered four and five times more than those at the smaller installations.[23]

Until March 1866, men of the 5th U.S. Artillery Regiment were on duty at Fort Wadsworth. They were replaced by two companies, soon reduced to one, of the 1st Artillery. In November 1872, the 1st Artillery was transferred to posts in the lower South, and the 3d Artillery assigned to Fort Wadsworth. A hiatus occurs in the extant post returns for the period from February 1881 to August 1884. During those

years, the 3d Artillery was relieved by Battery B of the 5th Artillery Regiment. That company, later joined by two of the 2d Artillery, constituted the garrison in the late 1880s.[24]

Since the 1840s, the post at Fort Wadsworth had been under the command of Fort Hamilton. That situation ended in 1884, when the War Department, acting on a recommendation of General Sheridan, established Fort Wadsworth as a regular, garrisoned post.[25] That change did not affect the strength of the garrison or, more than likely, its routine. Little is known of the activities of the units assigned to the Staten Island post, except that they received instruction and were drilled in both artillery and infantry.

That life at Fort Wadsworth provided a pleasant experience for some is supported in letters written in the late 1880s by Mrs. Caroline Frey Winne, wife of Capt. Charles Winne, an army surgeon ordered to the post in September 1887.[26] Most of Mrs. Winne's remarks about Fort Wadsworth appear in letters written in the first several months of her husband's three-year tour. She described the house assigned to her family as "pretty," with a pleasant porch and tree-shaded yard. Mrs. Winne did complain that the rooms, fairly small, "had innumerable closets and so many doors and windows" that she had trouble arranging the furniture. Except for this one criticism, no other complaints were made, as the Winne family settled in.

Captain Winne was surprised to discover that, as apparently was true for his predecessor, he could have a private practice, and within a few days was treating two or three civilians in addition to his duties at the post hospital. The Winne children, teenage Carrie and her nine or ten-year-old brother, "Bopper," soon became friends with others in the juvenile set at Fort Wadsworth. Across the street were two children of Bopper's age, members of the Alexander family, and Carrie struck up a friendship with the two daughters of Col. H. A. Closson, post commander. Bopper enrolled in the Staten Island Academy at Stapleton, "considered by everyone to be a very fine school." His mother was pleased to learn that five other children from the post, including the young Alexanders, attended that institution and that transportation was available in the form of the 8:30 trolley, which stopped at the fort's gate.

Within a week, the Winnes were the dinner guests of Colonel and Mrs. Closson, which apparently proved to be an enjoyable occasion. In her next letter, Mrs. Winne characterized the Closson family as "delightful people," and she accurately predicted "I think we will like it here." Subsequently she reported that Bopper "likes his school,"

that the people on the post were "pleasant and agreeable," and that, although some days in the fall were damp, the weather was often "lovely, warm and bright."

At least initially, the Winnes did not participate in the tennis games at Fort Tompkins, although it was Mrs. Winne who stated that there were seven courts. She also noted that some people "play a great deal, especially on Saturdays." Shortly after their arrival, the family went to New York City, a practice repeated frequently during the captain's tour at Staten Island. They shopped at Macy's and engaged in sightseeing. One day in September 1889, for example, their visit included the Museum of Natural History, the Statue of Liberty, and the Brooklyn Bridge. As late as May 1890, shortly before the departure to a new post, Mrs. Winne was still discovering the attractions at Fort Wadsworth, such as walking in the woods, where she admired the great variety of wild flowers. Certainly Caroline Winne did not speak for the majority of the personnel at the post, especially the enlisted men, but there is no reason to suppose they were unaware of the amenities of the location, including the agreeable setting.

Whatever its state of military preparedness, Fort Wadsworth in the 1880s acquired an attractive park-like appearance, praised by both Army and civilian observers. That appearance contrasted sharply with the construction-site quality which had previously prevailed.

Major building at the post ended with the erecting of the channel front of Fort Tompkins in 1872. The collapse of the postwar fortifications program a few years later terminated even the limited work of modifying the open batteries. For the first time since the 1840s, a peculiar stillness fell over the post, caused by the absence of the clanging hammers of stone cutters and blacksmiths, the creaking of carts and shouting of teamsters, and of other noises associated with major construction. If test firing of artillery occasionally shattered that stillness, it was on the other hand enhanced by the serenity of landscape and view.

Improvements in the appearance of Fort Wadsworth resulted from a number of developments in addition to the cessation of building. Because of the growth of population in the neighborhood, local public opinion began to affect activity on the post. In 1872, the Secretary of War and Congress received a petition signed by residents and office-holders of the village of Edgewater, Staten Island. The document complained of an increase during the summer of 1871 of malaria among the garrison and inhabitants of the neighborhood. That increase was attributed to irregular

piles of earth at the post and improper drainage caused by construction. The petitioners sought appropriations for proper grading of the grounds. A resolution of the House of Representatives directed an inquiry into the matter, and the engineer and medical departments of the Army made investigations. The War Department promised the citizenry that the problem would receive prompt attention. In 1873, Maj. Quincy A. Gillmore, engineer in charge, reported grading of slopes and the glacis around Fort Tompkins and draining and filling "the swamp at the foot of the glacis next to New York Avenue."[27] Since Gillmore depended on an increasingly parsimonious Congress for funds for the unfinished fort and the batteries, it made political sense for him to avoid future complaints from the affluent and influential estate owners of Edgewater and Arrochar. Thus, proper maintenance of the grounds was in order.

That maintenance not only made sense politically and from the viewpoint of public health, it also contributed to the military readiness of the forts and batteries. A thick cover of grass proved necessary to hold the slopes in place and prevent rainfall from washing them away, perhaps into a battery or ditch. It appears that all exposed earthen surfaces on parapets, paradoes, traverses, terrepleins, or elsewhere were seeded or sodded with grass, resulting in a rolling lawn throughout much of the post.

The suspension of the 1869 plans for modification of the open batteries left the engineers and their work force with limited funds and ample time. That combination proved suitable for repairs and maintenance of Fort Wadsworth's grounds, roads, and buildings.

In the late 1870s or early 1880s, approximately ten wooden frame structures were erected in what was then the northwest corner of Fort Wadsworth. These included the hospital, to which Captain Winne was later assigned, quarters for married and single officers, and a residence for the post commander. Also a headquarters building was constructed, overlooking the northern end of North Cliff Battery. All of these structures fronted on the road known now as Mont Sec Avenue.[28]

In addition to the structures on Mont Sec Avenue, buildings at Fort Wadsworth, other than the forts and batteries, included a cluster in the general vicinity of Battery Hudson. South of the battery was a hoestler's building, a blacksmith shop, and cement shed, probably erected in connection with the abandoned new casemate battery. In the rear of Battery Hudson and south of the road leading to Richmond Avenue stood the relocated lighthouse, quarters

for the ordnance sergeant, and a stables. North of the road were separate quarters for the quartermaster and commissary sergeants and a coal shed. West of these buildings was a pond and the post garden. Some of the structures in the general Battery Hudson area may have been in existence when the national government acquired the site from the state and from private owners in the 1840s and 1850s. Mid-1880s engineers reports for Battery Hudson indicate painting, re-roofing and repairs of obviously old buildings near the battery.

By 1890, Fort Wadsworth included roughly three miles of surfaced roadways. Shortly after the Civil War, roads were macadamized and in the early 1880s received a "new dressing of gravel." Two gateways provided entry to the post. Both opened onto New York Avenue, one at the intersection with Mont Sec Avenue and the other in the vicinity of Battery Hudson's extension, perhaps opposite the intersection of New York and Richmond Avenues.

Maintenance of grounds, structures and roads produced a pleasant setting. General Sheridan, who inspected the post in the late summer of 1884, used simple, non-military language in his brief description, "It is a beautiful post. . . ." Two Staten Island guidebooks, published five and six years later, made the same point, in more detailed fashion. Because of its highly romanticized picture, the 1889 account, written by Reau Campbell, merits quoting at length. Visitors were advised to take the South Beach branch of the Staten Island Rapid Transit Railroad to Rosebank. "Fort Wadsworth," wrote Mrs. Campbell, "is a more formidable name than Rosebank, but in these piping times of peace the Fort is a good place to go for a summer's jaunt. . . ." Directions are given from the station to "the gate of the government ground." The guidebook then reads:

> Passing along in front of the officers' quarters, a row of comfortable houses with the Commandant's elegant one on the bluff overlooking the sea; then come to the grassy parapets. There is a smooth pathway all along the top. The view is magnificent. A hundred feet below is the granite lower fort, bristling with a hundred guns. . . . These parapets do not look as made for war, but for lovers' uses. It is a veritable lovers' walk. The gentle sloping requires a slow walk, and there is time to say many pretty words before the end is reached; and the green grass is an inviting resting place,

> where one may sit and watch the ships come and go. . . . The music from Fort Hamilton comes floating on the summer air across the Narrows. . . Fort Wadsworth offers everything for a delightful ramble on a summer's day.[29]

Although Army engineers might have been amused by parts of this description, they also might have drawn satisfaction from their ability to hide Fort Tompkins behind its earthen cover and to shield the ground level batteries from the eyes, admittedly very civilian and highly feminine, of the author during her stroll through the post.

The 1890 guide book, by Gustav Kobbe, gives somewhat greater acknowledgement of the military aspects of Fort Wadsworth. Behind Fort Richmond, wrote the author,

> rises a grassy mound, the earthworks of Fort Tompkins, declared to be the finest in the country. . . . The paths are laid out with tactical precision; the officers quarters are models of neatness and beauty; and the immense lawn, with a sentinel pacing here and there, makes a pleasing impression of army life on the civilian.[30]

It is impossible to discover how widely shared was the perception evident in the two guidebooks of Fort Wadsworth as a pleasing, unwarlike location. There is evidence that one industrial interest on Staten Island, perhaps supported by local congressmen, regarded the military mission of the post as so inconsequential that a railroad could be run through the grounds.

In 1880, a bill was introduced in the House of Representatives to grant to the Staten Island Rapid Transit Rail Road Company a one hundred-foot right-of-way through Fort Wadsworth. A board of engineers recommended refusing the grant, since no route through the post could be determined which was not "quite incompatible with a proper military occupation of the best natural position for the defense of the harbor." The board seemed to admit that Fort Wadsworth might not appear as a well developed defensive position and pointed out that the fortifications had yet to be completed and that, whatever its defects, Fort Richmond was needed for storage of torpedoes.[31]

Perhaps the guidebook descriptions of Fort Wadsworth and the proposed bill for the railroad right-of-way reflect general attitudes of the Gilded Age as much as particular notions of the Staten Island post. Those attitudes are also seen in the unwillingness of Congress after 1875 to

appropriate money for fortifications other than for preserving existing works. America after the Civil War directed itself to internal affairs, especially economic development, and closely embraced the nineteenth-century precept of isolationism. Distrustful and suspicious of foreigners, both at home and abroad, there nevertheless prevailed, in the civilian population, a broadly held belief that war was unlikely. Accordingly, the warnings of military authorities and a few civilian writers of the defenseless state of the nation received little attention. Anti-militarism arose in the form of a voiced suspicion that the army maintained fortifications not so much as defense against an attacking enemy, but to overawe and possibly to use against the citizens of the port cities in and near which those fortifications existed. However absurd this view seemed, the Chief Engineer in 1884 took some pains to deny any "sinister motives" behind his request for funds for coastal defenses.[32] To be sure, a change in attitude was in the making, and an increasingly large minority accepted Alfred Mahan's imperative of "looking outward." The change produced a new fortifications program that led to the expansion of the grounds at Fort Wadsworth, the building of new batteries, and providing them with modern weapons.

CHAPTER VI

THE ERA OF THE ENDICOTT BATTERIES, 1890-1920

The unfinished batteries, the platforms without guns, and the mines in permanent storage at Fort Wadsworth during the 1880s testified to the low priority given in America of the Gilded Age to military matters, including coastal defense. By the time government interest in fortifications revived, several spectacular developments in heavy artillery had occurred. In 1885, the recently inaugurated president, Grover Cleveland, established a special committee to review America's coastal defenses and make recommendations for improvements. William C. Endicott, Secretary of War, headed the group, whose recommendations provided the outline for a new and modern system of seacoast defense.

The advances in seacoast armaments consisted of the use of steel in gun barrels, the perfection of breech loading for heavy ordnance, and the introduction of new propellants. These developments combined to produce weapons in the 1890s capable of firing projectiles four times heavier to distances two or three times greater than the best smoothbore muzzle-loading cannon. Moreover, the new guns had improved accuracy and armor penetration ability.

The program recommended by the Endicott Board in its report of 1886 called for an enormous national undertaking. The report identified twenty-seven sites in the United States requiring new defenses and ranked those sites according to the urgency of need. At the top of the list stood New York, and the board recommended for construction or use at that port guns in turrets, armored casemates, barbette batteries, mortars, submarine mines, and eighteen torpedo boats.[1]

Endicott batteries had several important characteristics. Since the Civil War, a shift had been occurring that emphasized the weapons rather than the fortifications which contained them. Emplacements of the Endicott era were massive with reinforced concrete parapets twenty feet thick behind thirty feet or more of earth. Nevertheless,

they were fairly simple structures with crests at near ground level, designed to blend into the landscape. In any given military site, Endicott batteries were widely dispersed. This arrangement necessitated the acquisition of new military reservations and the enlargement of existing ones.

Another characteristic was a high degree of diversity of weapons, involving a variety of harbor defense techniques. Essentially, the weapons consisted of major caliber seacoast rifles; mortars; light caliber, rapid fire guns; and mines. The chief armaments were 8-, 10- and 12-inch guns, firing flat trajectories, that could send a 1000-pound projectile seven or eight miles. Breech loading allowed the use of new disappearing carriages that lowered guns behind the parapets by their own recoil energy. Projectiles were stored in ammunition magazines located immediately adjacent to the gun emplacements, but at lower levels and protected by roofs of upwards of twenty feet of reinforced concrete. Carried to the gun platforms by mechanical hoists, the projectiles were then moved to the guns by hand trucks. Generally, two to four of the major caliber guns constituted a battery.

Two other types of weapons common to Endicott defenses, the rapid-fire guns and torpedoes or mines, were related. The brief coastal defense program after the Civil War had included mines, but not much had actually been accomplished. Most useful in harbor defenses were mines exploded electrically from shore positions, since they posed no threat to friendly ship traffic. Mines were not permanently planted, but they and their miles of cables were stored in shore facilities at the water's edge, ready to be laid when the occasion arose. Controlled mine systems included special mine vessels, loading wharves, fire control stations, and mine and cable storage buildings.

An attacking enemy could use high speed, shallow draft vessels or light minesweepers in harbor entrances with contolled mine fields. Thus another element in Endicott defenses consisted of rapid-fire guns of calibers from three to six inches. Because ammunition was light enough to be moved manually, these weapons could be fired at rates of five to fifteen rounds per minute. Most of the guns were mounted behind steel shields on simple pedestal carriages. Emplacements were plain concrete works with low parapets. One to six weapons composed a battery.

In 1905, President Theodore Roosevelt appointed a new board, headed by Secretary of War William Howard Taft to examine the progress made under the Endicott program and to make recommendations for keeping the coastal artillery

system up to date. No immediate changes resulted respecting weapons and batteries, but recommendations were made for the general electrification of harbor defenses, especially to provide for searchlights, powered ammunitions handling, modern communications, and the latest aiming techniques. These recommendations account for some activity at Fort Wadsworth, but it was the years 1890 to 1905 that saw the greatest changes at the post. Fort Wadsworth was expanded, and new batteries built and armed. Although the post did not acquire Endicott era mortars, it did participate in the establishment of a system of defending New York harbor by torpedo mines. During the period in which the Endicott batteries were constructed, America declared war on Spain, and Fort Wadsworth and its garrison experienced changes resulting from a state of war. Less than twenty years after the defeat of the Spanish, the United States became involved in a more general, protracted conflict, World War I. That was the last war in which Fort Wadsworth's coastal and harbor guns figured prominently in the nation's defenses. Thereafter, as a site for guns to use against enemy ships, the post declined, and by the end of World War II, all of its channel-bearing and seacoast guns had been removed.

Expansion of the Reservation

During its history, the post now known as Fort Wadsworth experienced four stages in the growth of its grounds, the first being the initial purchase by the State of New York in 1794. The second involved enlargement by the state in 1809, and the third the acquisition of the site and its expansion by the federal government between 1847 and 1856. The final stage occurred from 1892 to 1901, when the post grew from ninety to 226 acres. Since 1901, no further addition has been made. In fact, surrender to the City of New York of land for the Staten Island anchorage of the Verrazano Bridge has decreased the acreage of Fort Wadsworth.

In a fashion similar to that of the State of New York early in the nineteenth century, the United States Army, during the Endicott years, had authority to institute condemnation proceedings in the courts to require the owners of the property needed for fortifications to accept reasonable payment. This essentially meant that it was only a matter of time before the government obtained the land it desired. On Staten Island, the engineers sought 129 acres west and southwest of the existing grounds of Fort Wadsworth. The area west of New York and north of Richmond Avenue belonged to one owner. That south of Richmond Avenue had been carved into six narrow strips, each with one end fronting Lower New York Bay and the other the road. Several of the strips had been further

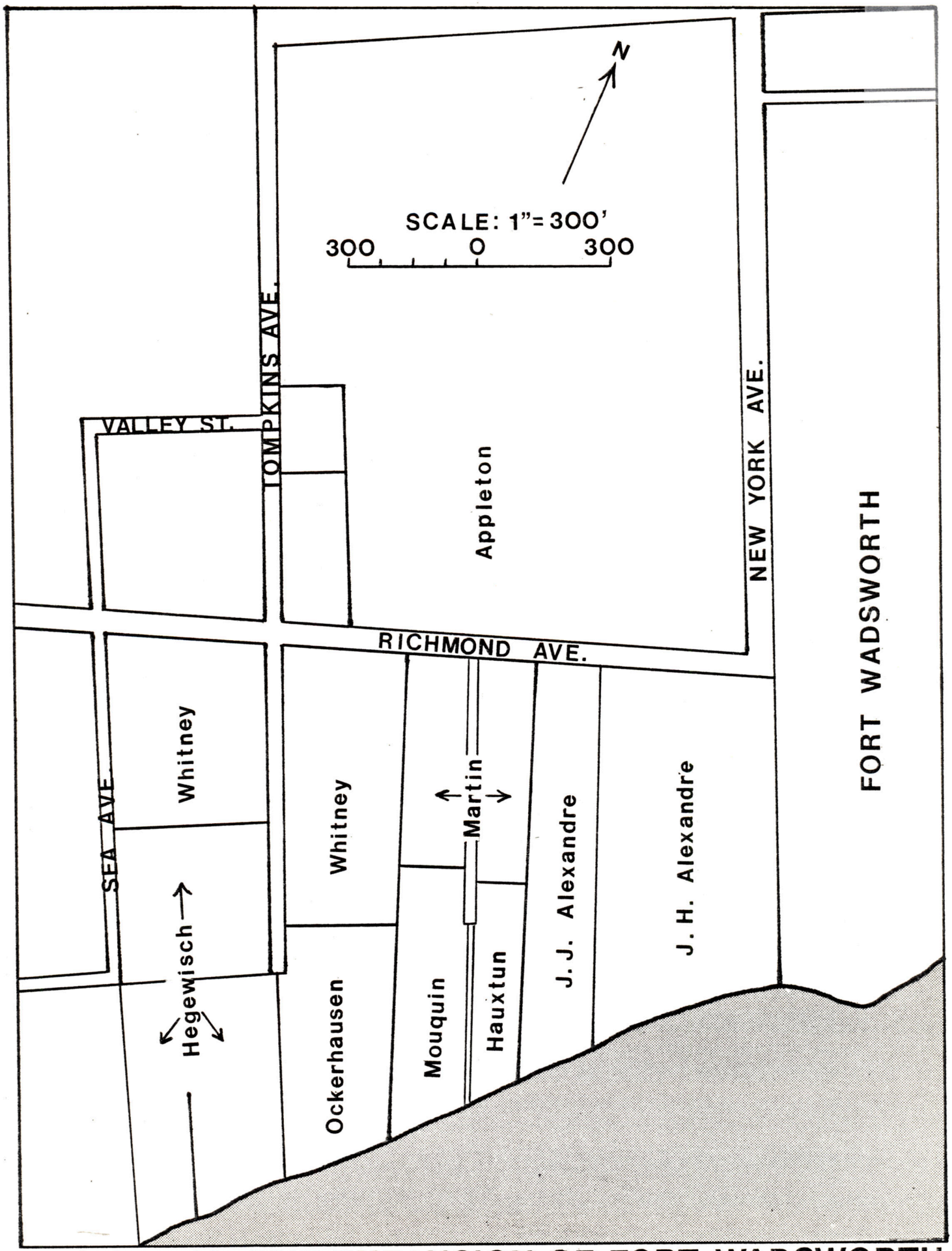


FIGURE 10: THE EXPANSION OF FORT WADSWORTH, 1892-1901

SOURCES: Beers, 1874, 1887

divided, so that one owner held the southern portion and another that to the north.[2]

That the Army intended rapid expansion of Fort Wadsworth is evident in the fact that the first tract acquired was the Hegewisch property, the southern part of the westernmost strip, bordering on the bay and Sea Avenue, today's Lily Pond Avenue. For six years, only the public roads of Richmond and Sea Avenues provided a land connection between the new fourteen-acre acquisition and Fort Wadsworth proper. The second purchase was that of the Appleton estate, north of Richmond and west of New York Avenues. Containing fifty acres, this was the largest single parcel ever acquired in Fort Wadsworth's history. It was relatively unimportant in the Endicott era, however, being farthest from the lower bay and therefore least valuable as a site for seacoast artillery. On the same day conveyances were signed for the Appleton estate, deeds were also executed for the two strips south of Richmond Avenue and closest to the then existing grounds of the post.

Subsequent negotiations and proceedings led to the procurement of the northern parts of the next two strips, which provided a link with the previously isolated Hegewisch tract. There still remained in private hands a group of three tracts fronting on the water and surrounded on all other sides by government-owned land. Also yet to be acquired was a fourth parcel on the southeast corner of Richmond and Sea Avenues. By October 1901, the owners of these properties had accepted the terms of the government or had been forced to sell by legal proceedings.[3]

Particulars are unknown about all of the purchases, especially the early ones, but the average sale price in five of the transactions made from 1895 to 1901 was $7500 per acre. The price for each tract represented the value of the land and also its buildings. Residential structures appear to have stood on most of the parcels of land acquired by the government. Nearly all of those structures south of Richmond Avenue were destroyed to clear the area for construction of the batteries. At least one survived, a building belonging to A. L. King. Once a hotel, the structure, known as King's House, was used by its new owners as quarters for non-commissioned officers. According to a secondary authority, another building was retained. Robert Krist writes that the parade ground built in the late 1920s west of New York Avenue and north of Richmond Avenue

> was dominated by "the General's House," an old wood frame building, which perched on a hill above it. The house, intact from the day it was purchased as part of the old

TABLE 1

FORT WADSWORTH, GROWTH OF GROUNDS,
1794-1902

DATE	ACREAGE	AMOUNT	SELLER
Nov. 24, 1794	25	$3,062.60	Ann Jacobson & Catherine Van Deventer
Nov. 20, 1809	22	7,500.00	John Jacobson
Aug. 8, 1854	5.2	(unk)	Peter Jacobson
May 28, 1856	17	42,000.00	William Aspinwell
Mar. 4, 1892	28	100,000.00	Adolfo Hegewisch
Mar. 4, 1892			Josepha Hegewisch
Jan. 5, 1893	50	(unk)	Serena P. Appleton
Jan. 5, 1893	7.58	(unk)	J.J. Alexandre
Jan. 5, 1893	18.797	(unk)	J.H. Alexandre
Feb. 1, 1895	6.25	53,680.00	Sarah Martin
Mar. 11, 1898	7	60,000.00	Joseph Whitney
Aug. 30, 1898	6.72	(unk)	Eliz. Ockerhauser
Oct. 18, 1900	7.725	43,266.00	Joseph Whitney
Feb. 2, 1901	5.09	30,000.00	Adeline Hauxtum
Oct. 2, 1901	3.9	38,000.00	Henry Mouquin

Sources: Walker; N.Y. Commissioners of Fortifications: Annual Reports, Chief of Engineers, 1891-1902

> Joseph B. Whitney estate in 1898, was used as the Commanding General's residence until the beginning of World War Two.

If there was such a house, it probably had not belonged to Whitney, whose two tracts were south of Richmond Avenue.[4]

The structures on the land acquired by the government in 1892-1901 were of small concern at the time, since the impetus behind enlarging the post was providing sites for new batteries.

The Batteries

Between 1895 and 1904, six modern batteries for high-powered artillery were built at Fort Wadsworth, all but one on recently purchased land south of Richmond Avenue. In addition, the Army reconstructed the existing ground level works of North and South Cliff Batteries, Battery Hudson, and the extension of Battery Hudson. So thorough was the remaking of these older emplacements that little from the past survived. Even the names changed, except for Battery Hudson. North Cliff Battery became Battery Catlin; South Cliff, now divided into three separate segments, bore the names Batteries Bacon, Turnbull, and Barbour; and Hudson's extension was designated Battery Mills. The Endicott program at Fort Wadsworth did not include the mortar and gun emplacements built after the Civil War, other than the dismantling of the South Mortar Battery. Also, Forts Richmond and Tompkins were not involved. In effect, an entirely new generation of batteries came into being as emplacements for the new generation of weapons.

Completion of the reconstruction of Battery Catlin in 1904 brought the building program to an end. Subsequently, some of the batteries received new wiring, fresh waterproofing, replacement of such parts as ammunition hoists, and other types of repairs. But major alterations did not occur. After the Endicott construction program, no other major defensive structures were built. In 1916 recommendations were rejected to relocate the guns of Batteries Catlin and Barbour and to build a new emplacement south of Battery Hudson or elsewhere on the post. Nine years later, a proposal to widen the gun platforms of the 12-inch batteries met the same fate. Essentially the batteries remained the way they were in 1904, and new ones were not added. Thus Fort Wadsworth stands today as a former coastal artillery post, with batteries representing two periods, the Third System and the Endicott era.

Congress appropriated monies for Endicott works in

TABLE 2

FORT WADSWORTH'S ENDICOTT BATTERIES

BATTERY	ORDNANCE	CONSTRUCTION DATES	GUNS MOUNTED	OUT OF SERVICE
Duane	5 8" BLR	Jul 1895-1897	1896	1915
Ayers	2 12" BLR	Jul 1900-Jun 1901	1903	1942
Richmond	2 12" BLR	Mar 1898-1899	1902	1942
Barry	2 10" BLR	Jul 1897-1899	1899	1918
Upton	2 10" BLR	Jul 1896-1899	1899	1925
Dix	2 12" BLR	1902	1904	1944
Mills	2 6" BLR	May 1899-Oct 1900	1902	1927, 1944
Hudson	2 12" BLR 1 6" RF 1 4.7" RF	Sep 1898-1899	1902	1944
Barbour	2 6" RF 2 4.7" RF	Apr-Sep 1898	1898	1919
Turnbull	6 3" RF	Sep 1902-Aug 1903	1910	1944
Bacon	2 3" RF	Feb 1899-Jun 1899	1904	1918
Catlin	6 3" RF	1902-1904	1913	1942

Sources: Battery Emplacement Books; Annual Reports, Chief of Engineers, 1895-1905

1890, and New York ranked at the head of the list of sites requiring modern defenses. At Fort Wadsworth, however, construction had to await the purchase of additional land, since the existing post lacked suitable locations for new batteries. Battery Duane was the exception. On a site immediately south of Fort Tompkins, the battery was started in July 1895, its guns were mounted in 1896, and it was reported completed in 1897. A five-gun battery, Duane was armed with 8-inch rifles on Buffington-Crozier disappearing carriages.[5]

Whereas Duane is one of a kind, the next four batteries consisted of two sets of twins. In early 1896, construction started on Battery Upton, located slightly west of the former boundary of Fort Wadsworth. Farther to the west and a year later, Battery Barry was begun. Each mounted two 10-inch rifles on disappearing carriages. The second set of twins is more or less on line with Batteries Upton and Barry and occupy sites between Barry and the new western boundary of the reservation. Battery Richmond, constructed in 1898 and 1899, and Battery Ayers, built in 1900 and 1901, each contained two 12-inch rifles. The last entirely new battery also mounted two 12-inch guns. Initially called Hudson No. 2 and later Battery Dix, it is more or less due south of Battery Upton. Work started on Dix in 1902, and it received its weapons in 1904, by which time all of the other new batteries had been completed and armed.

Reconstruction of Fort Wadsworth's existing works took place simultaneously with the building of the 10- and 12-inch batteries. Between March 1899 and October 1900, the extension of Battery Hudson, renamed Battery Mills, was converted from a battery for five 15-inch smoothbore guns to one which mounted two 6-inch breech-loading rifles. The south section of Battery Hudson itself, consistent with the battery's history of housing a variety of weapons, was remade to contain two 12-inch rifles, flanked on the right by a 6-inch rifle and on the left by a 4.7-inch rapid fire gun. The 6- and 12-inch weapons were mounted on disappearing carriages. The 4.7-inch gun, on a pedestal mount, occupied the southernmost position in the east-facing section of the battery. One of the few changes made in the Endicott batteries at Fort Wadsworth was the elimination from Hudson of the two smaller weapons.

The remainder of Battery Hudson's Narrows-fronting section constituted the oldest part of the work, its origins stretching back to 1810. Modified in the 1840s and again in the 1870s, it carried into the twentieth century outmoded ordnance. In 1902, this section contained eight platforms,

six of which were equipped with carriages. Four carriages held guns, two 300-pounder Parrott rifles and two 15-inch smoothbores. The two remaining carriages were designed for 15-inch smoothbores, but had undergone modifications to receive 8-inch breechloading rifles. In some undetermined fashion, the old section of Battery Hudson became obliterated , its weapons and carriages removed and its platforms destroyed, covered over, or incorporated into the new work known as Battery Barbour. Today's Battery Hudson consists of a single section, facing the lower bay.

The modern armaments of the reconstructed batteries facing the Narrows consisted of 3-, 4.7- and 6-inch rapid fire guns and were intended to cover the mine field and to cope with destroyers and minesweepers attempting a run-by. Work on these batteries began in April 1898 and terminated in 1904. Three separate batteries replaced South Cliff Battery. Southernmost of the three is Battery Barbour, constructed in 1898. Its armament consisted of two 6-inch and two 4.7-inch rapid-fire guns on pedestals equipped with shields. North of Barbour is Battery Turnbull, built in 1902 and 1903 and provided with six 3-inch guns. The last new work in old South Cliff Battery is Battery Bacon, which mounted two 3-inch weapons. Work on it was completed between February and June 1899. The 1902 armaments return uses the older name and indicates that older weapons, still mounted and serviceable, existed in or between the three new emplacements. Those weapons included three 15-inch smoothbores and three 8-inch converted rifles.

Reconstruction of what became Battery Catlin, on the site of the old North Cliff Battery, was carried out between 1902 and 1904. Not until 1913 were its weapons mounted, six 3-inch rapid-fire guns. In 1902, North Cliff Battery contained five 15-inch smoothbore guns and emplacements for the new rapid-fire weapons.

Compared with the construction of the Third System forts and the modification program of the 1870s, work of the Endicott era proceeded briskly from start to finish. In part this resulted from the nature of the batteries being built and from ample and prompt funding. It also testifies to the efficiency of the system used to move and handle the large quantities of building material required for the new batteries. The engineer in charge of the reconstruction of Battery Hudson stated that the "plant" employed in that project included "a 10-ton locomotive, a 4-foot concrete mixer, 4 hoisting engines with 2 boilers, 2 flat cars, 4 material buckets, 2 large derrick timbers, and complete fittings for 1 derrick." His description of the "plant" reads:

> Cement and broken stone are received at the south wharf, where they are unloaded by hoisting engine and a trolley into flat cars or dump cars. . . and are hauled by a 10-ton locomotive to the cement shed and stone bins at the foot of the bluff. The stone bin is of the usual type, receiving materials from a trestle above and discharging through the floor into cars in the tunnel beneath. Sand is excavated from the beach and hauled by carts to a platform at the end of the bin, where it is fed into a hopper and with the cement is also discharged through the floor of the car, which is then hauled up an incline to the mixer . . . . The concrete when mixed is dumped into wooden boxes on flat cars and is hauled up a light inclined trestle. . . where it is supplied to the derricks operated by steam hoisting engines and moved from time to time as work progresses. This plant has put in in eight hours as many as 150 batches of concrete of 1 cubic yard each. The same plant has been used without further change than extension to put in concrete for 6-inch emplacement No. 2, and will be used in constructing 6-inch emplacement No. 1. The derricks were used in excavating for parapets after construction of platforms, and later for placing the concrete in parapets and magazines.[6]

The two 6-inch emplacements referred to in the report are those of Battery Mills.

Fort Wadsworth's completed large gun batteries contain huge amounts of earth and concrete, especially in the parapets. In the construction of Battery Richmond, initially "9,800 cubic feet of earth were excavated from the foundation and roadway and placed in the parapet and about 11,000 cubic yards of concrete were mixed and placed." Subsequently, an additional "5,872 cubic yards of concrete were mixed, placed and rammed." The parapet of reconstructed Battery Hudson includes, besides concrete and earth, almost 2500 cubic yards of "old masonry," which may explain what happened to parts of the former batteries. An appreciation of the quantity of material used is necessary, since visual inspection fails to convey the size of the works. For example, Battery Barry, mounting two 10-inch guns, is 254 feet long, only thirty feet shorter than any one of Fort Richmond's three channel fronts. In width,

it measures seventy-five feet, from the rear of the gun platform to the forward slope of the twenty-foot thick concrete section of the parapet. The earthen section of the parapet, which blends into the surrounding terrain, is perhaps seventy feet in width. The superior slope of Battery Barry's parapet is fifteen feet above the lowest part of the gun platform and twenty-three feet above the floor of the magazine. Essentially, sixty-two feet of concrete separate one of Barry's emplacements from the other, and the center of one gun platform to the center of the other is 124 feet.[7]

Unlike earlier periods in the development of defenses at Fort Wadsworth, the program at the turn of the century saw a prompt mounting of guns. Generally, the 6-, 8-, 10-, and 12-inch rifles were mounted during or shortly after completion of each of the batteries. By 1904, Fort Wadsworth had mounted and ready for action eight 12-inch, four 10-inch, five 8-inch, and five 6-inch breechloading rifles, all mounted on disappearing carriages. All of the guns, except two 6-inch weapons, pointed toward Lower New York Bay. With maximum ranges of up to nine miles, these weapons did not defend the Narrows in the fashion of the 8-inch and 10-inch columbiads of Fort Richmond, that is at close range. Rather Fort Wadsworth's larger caliber Endicott guns could reach targets as far away as the waters off Sandy Hook and Rockaway Peninsula.

The emplacement books, intended to be logs of the history of each gun, have survived for all batteries but Duane. They contain, however, few details about the firing of the weapons. Except for proof firing, it appears the guns were rarely fired, especially after the first few years of the century. Forty-one shots were fired from one of the guns in Battery Barry, prior to 1903, and there is no record of any subsequent firing. According to a newspaper article of the early 1930s, the 12-inch rifles at Wadsworth had not been fired since 1909, because of the complaints of civilians in the vicinity of the post.[8]

Some of Fort Wadsworth's Endicott guns were competent, if their artillerists were not, to duplicate the achievement of a battery at Fort Hancock, Sandy Hook, in September 1909. According to the Chief of Coast Artillery, a battery of two 10-inch rifles, manned by the 18th Company, fired four shots in less than a minute at a moving target, twenty-four feet high and fifty-three wide. The target, 7,000 yards or four miles distant from the guns, was struck by all four shots.[9]

"Old Stone Forts" and Other Structures

During the period 1890 to 1920, many structures other than the batteries were built at Fort Wadsworth. The increasingly complex aiming and artillery fire control systems required numerous small positions for range finders, battery commanders, and observers. Also the use of electricity to light the batteries and to power mechanism to move ammunition resulted in generator stations and transformer buildings. Several large structures were built to store and operate torpedo mines, another emphasis of the Endicott program. Finally, twentieth-century standards for proper housing were not met by existing quarters, resulting in construction of additional barracks. As in the case of earlier hostilities, the Spanish-American War and World War I saw an increase in the garrison stationed at Fort Wadsworth and the erection of temporary buildings to accomodate troops. Throughout the period, existing buildings were maintained, but not modified or enlarged.

Beginning with the turn of the century, each of the increasingly formalized annual reports submitted by the Army Engineers started the section on "Defenses of Staten Island" with the statement, "These fortifications consist of two old casemate stone forts and outlying batteries with modern defenses." Fort Tompkins and Fort Richmond receive scant mention in the reports and never by name, but are referred to as "an old stone fort" or as "old casemates." In 1902, Battery Weed became the new name of the former water battery, a change that removed the confusion created by calling it Fort Wadsworth. Some parties still had difficulty with the identities of the two nineteenth-century works.

Neither of the old forts had features of great value in the new era of coastal defense. At the beginning of the twentieth century, Battery Weed contained fifteen mounted and serviceable guns. Eight 8-inch converted rifles were in casemates in the first tier, a single 100-pounder Parrott rifle in the third, and six 100-pounder Parrott rifles on the barbette. All of the 8- and 10-inch columbiads had been removed, although not their carriages. None of the twenty-four flank howitzer positions was occupied.[10]

Since the 1880s, Battery Weed had been viewed as a suitable place for storage. The U.S. Navy appears to have been one of the earliest to make regular use of the battery for that purpose. Until 1890, explosives were stored in the naval magazine on Ellis Island. With the abandonment of that facility, the Navy received permission

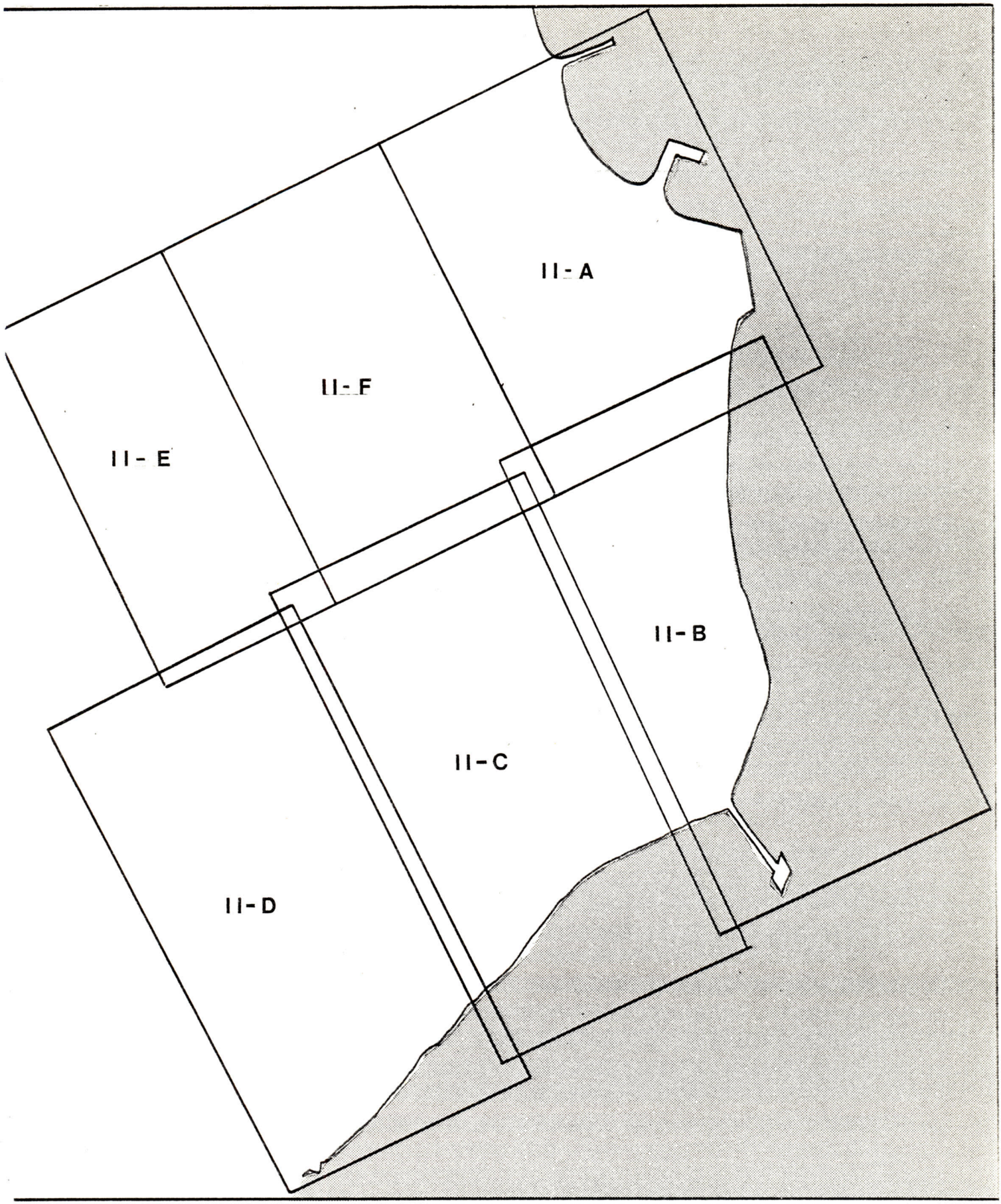


FIGURE 11: FORT WADSORTH TODAY: KEY TO FIGURES

SOURCE FOR FIGURES II-A to II-F: "Fort Wadsworth, Staten Island, New York" (1962)

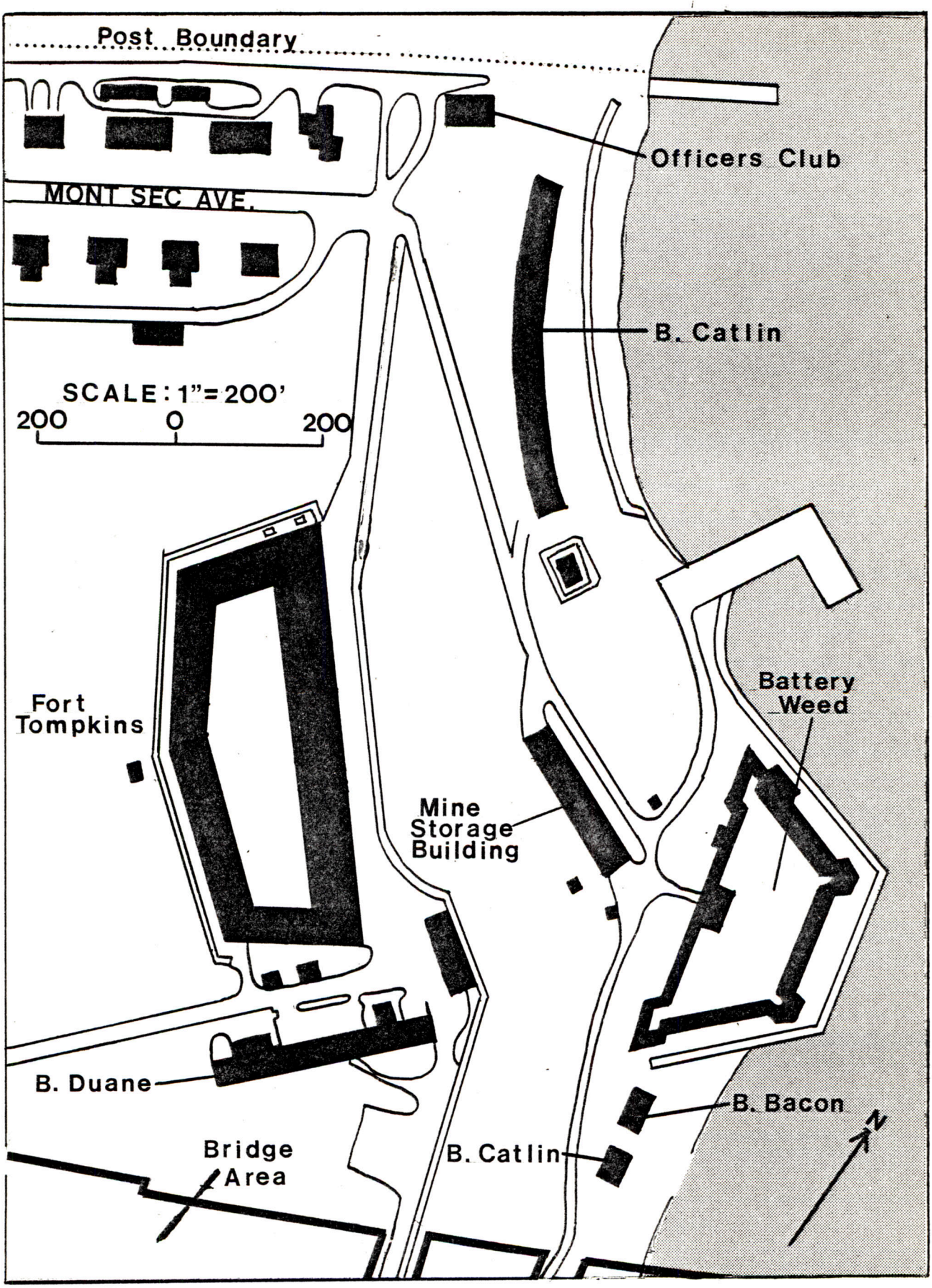


FIGURE 11-A: FORT WADSWORTH, NORTHEAST SECTION

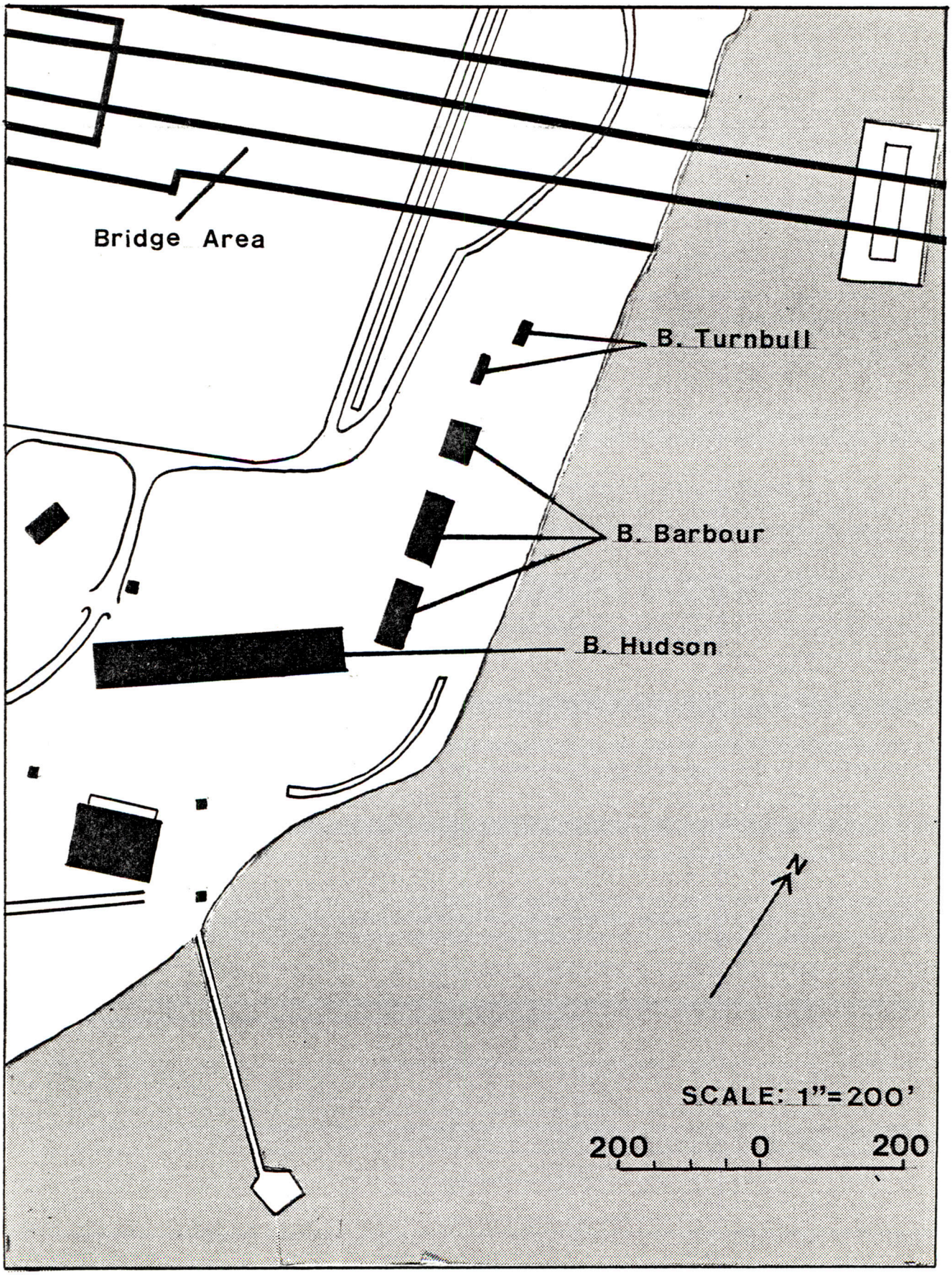


FIGURE II-B: FORT WADSWORTH, SOUTHEAST SECTION

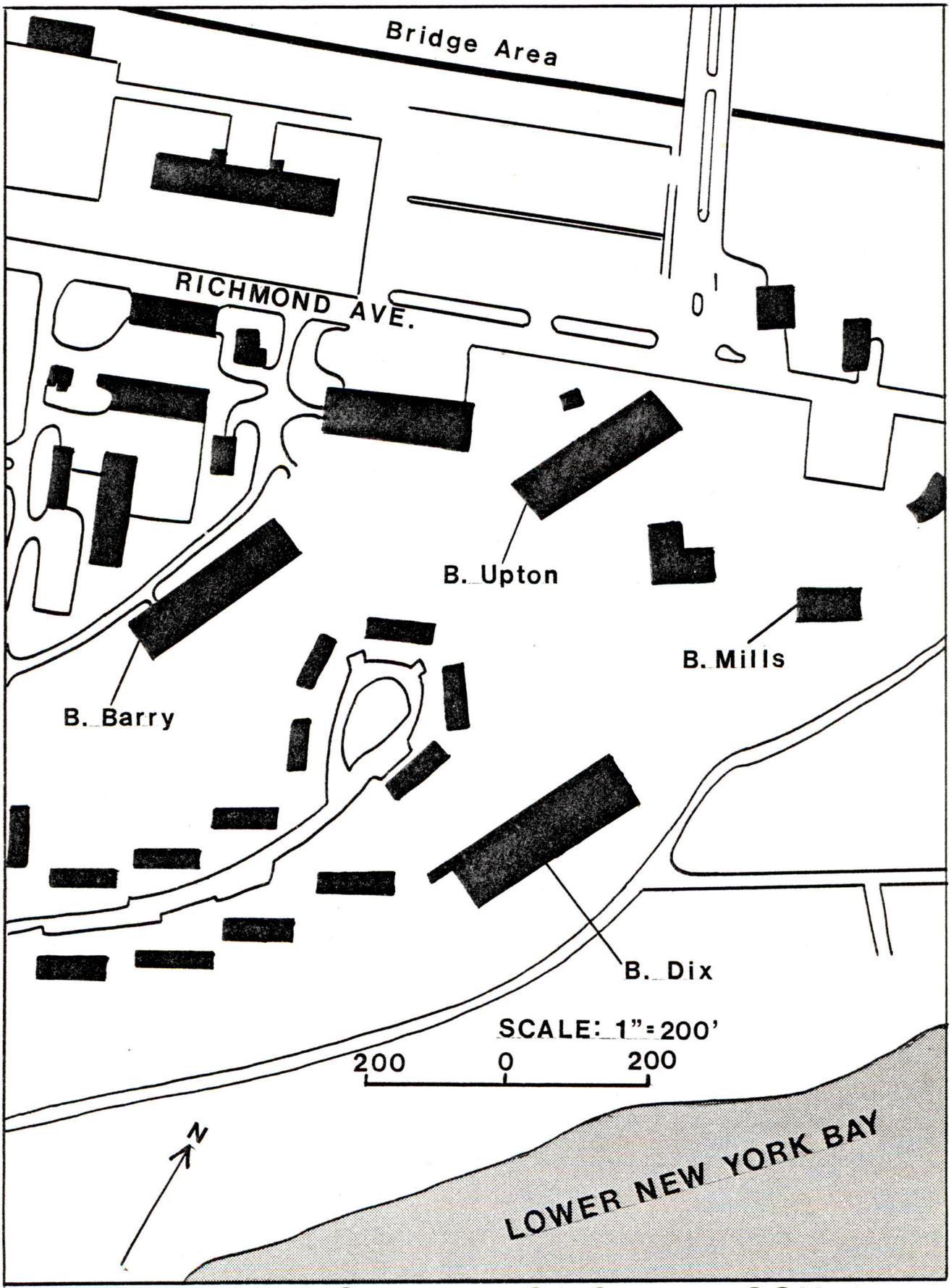


FIGURE 11-C: FORT WADSWORTH, SOUTH CENTRAL SECTION

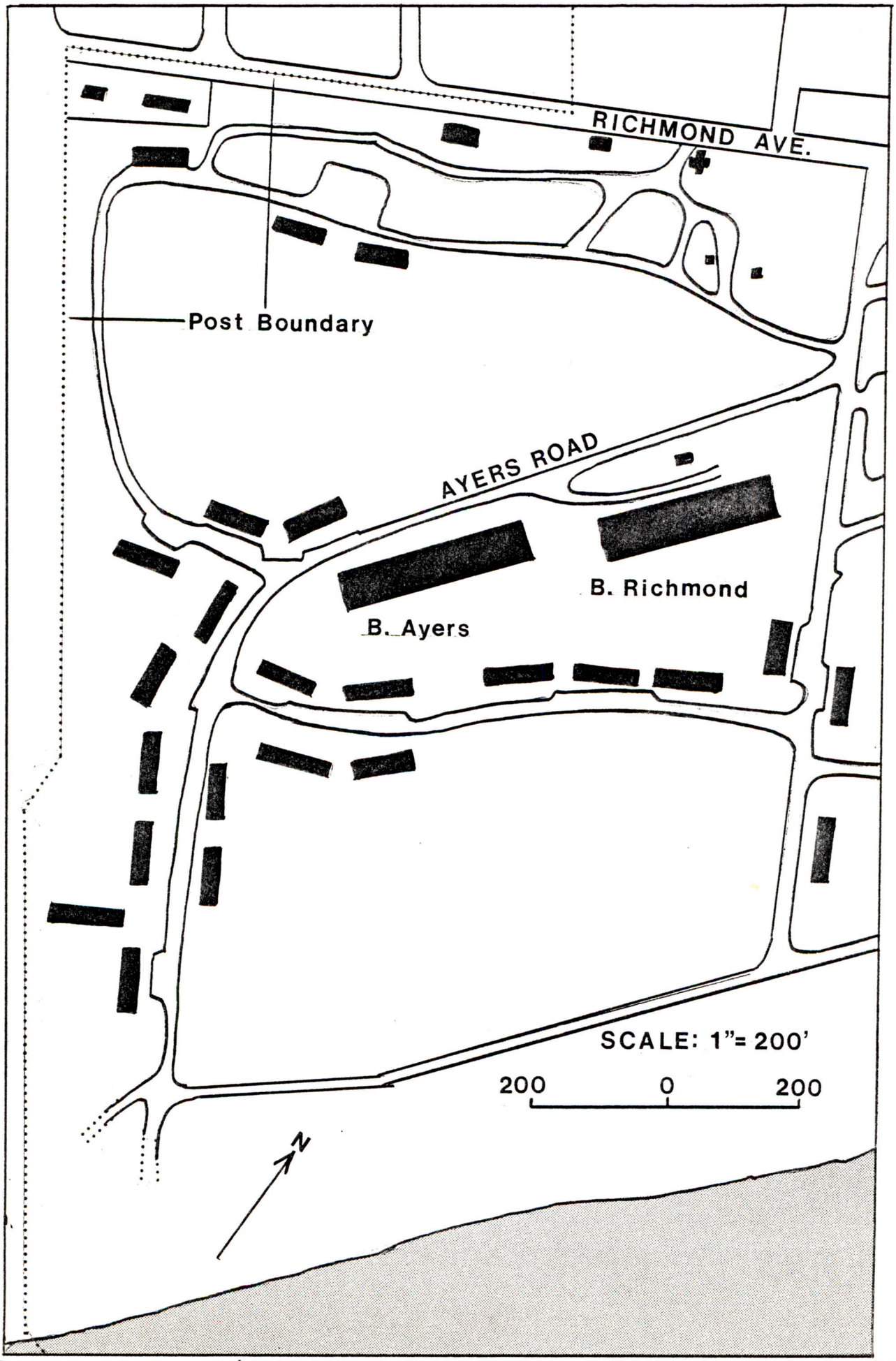


FIGURE 11-D: FORT WADSWORTH, SOUTHWEST SECTION

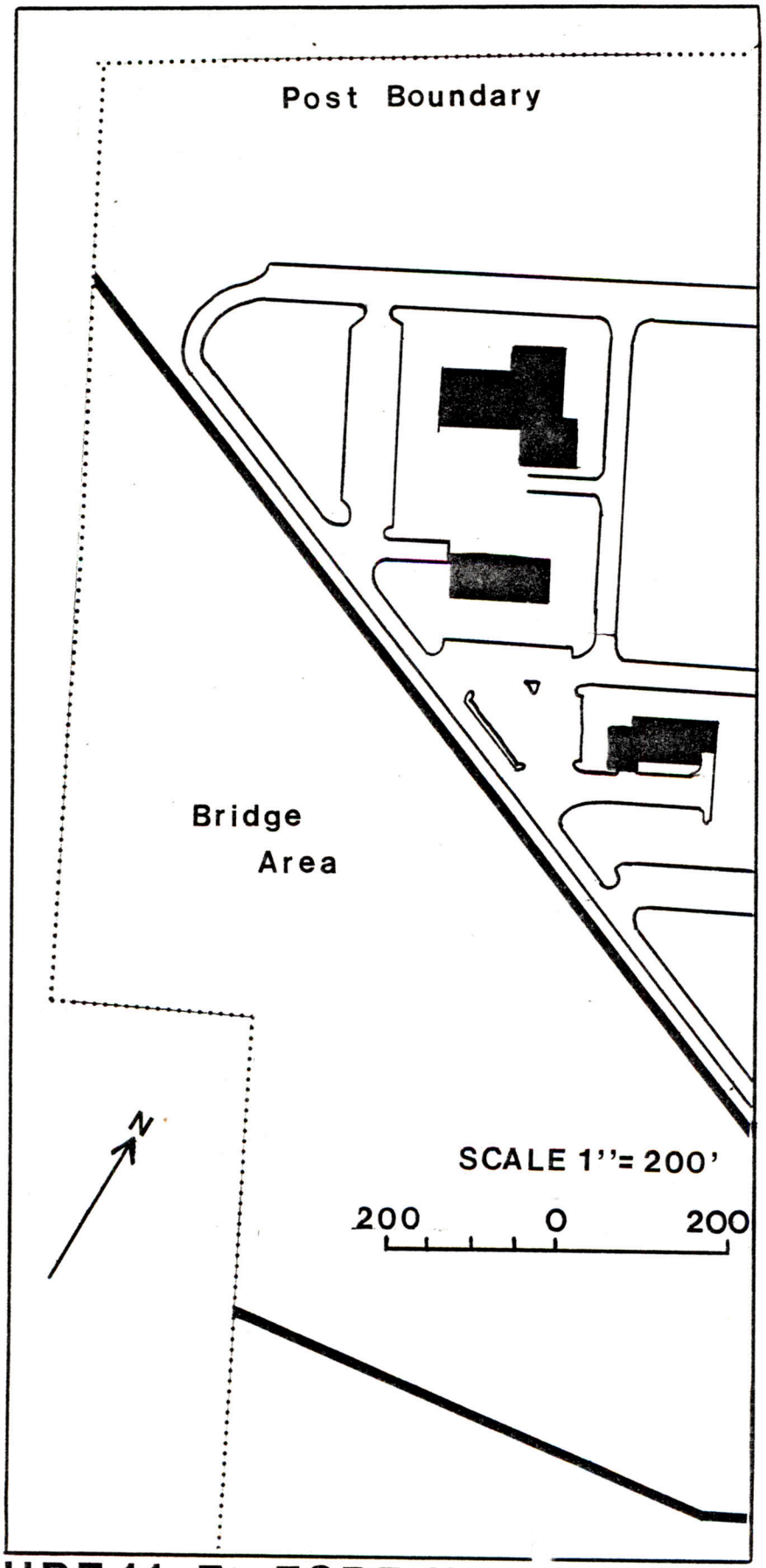


FIGURE 11-E: FORT WADSWORTH, NORTHWEST SECTION

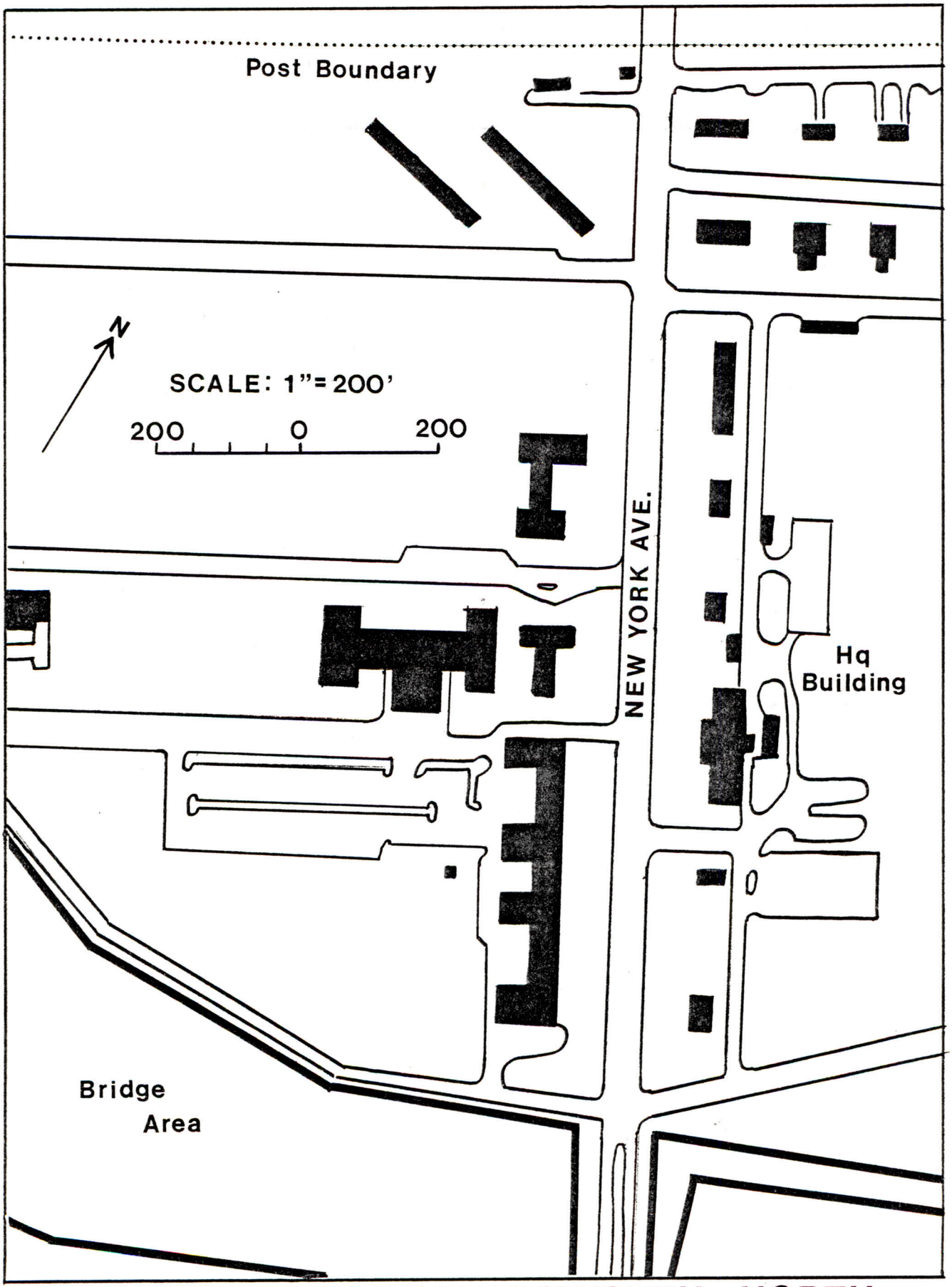


FIGURE 11-F: FORT WADSWORTH, NORTH CENTRAL SECTION

to keep its stores in Battery Weed. Since that proved to be inconvenient, in 1896 the Navy transferred its explosives to Fort Lafayette. Twenty years later, the Navy once again sought space, this time to store the mines of the Third Naval District. A request was submitted for utilization of Fort Tompkins. Authorities at Fort Wadsworth pointed out that troops occupied Fort Tompkins and that probably the Navy had Battery Weed in mind, since the Third District already kept its submarine net and accessories in that structure. An acting Secretary of War, nevertheless, granted permission for the storage of the Navy's mines in "old Fort Tompkins." Local authorities straightened matters out and invited the Navy to use casemates on all three tiers of Battery Weed.[11]

Other parties, particularly Army Engineers and the lighthouse division of the Treasury Department, already had stores in Battery Weed. In 1892, the Treasury Department recommended moving the Fort Wadsworth Lighthouse from its location behind Battery Hudson to the barbette tier of Battery Weed. The need for that move became more pressing later in the decade with the completion and arming of Battery Duane, the five guns of which included the lighthouse in their field of fire. Despite this, the lighthouse was not moved for eight more years. In the meantime, a fog signal was erected on the northeast angle of the sea wall near Battery Weed. Finally, in 1902 and 1903, a combined light and signal station was constructed on the barbette of Battery Weed's northeast bastion. The station consisted of a light tower, bell frame and bell, and a watch room. Ten years later, the barbette of the southeast bastion was occupied by a 36-inch searchlight station doubtless to illuminate the Narrows at night.[12] The searchlight may have constituted Battery Weed's only connection with the Endicott-Taft defenses at Fort Wadsworth.

In 1898, engineers reported installation in "two casemates of an old work" of an electric lighting plant as the generating unit for the lights of Batteries Upton and Barry. Whether the two casemates were in Battery Weed or Fort Tompkins is unknown. Shortly thereafter, the entire electric cable system connecting emplacements, power units, and battery commanders' and fire commanders' stations were placed in underground conduits.[13] This may have been the intention from the beginning. If so, Battery Weed's ditch may have created problems in burying the conduits, and perhaps the generating unit for the two 10-inch batteries had been located in Fort Tompkins.

As in the case of Battery Weed, Fort Tompkins had

only slight connection with the system of defending New York harbor by means of high powered, long-range artillery. Again, it was the terreplein of the old structure that had some utility for that system. The 1902 armament return for Fort Wadsworth shows that the barbette of Fort Tompkins contained no weapons or carriages on any of its thirty-nine platforms for 15-inch smoothbores or eleven positions for flank howitzers. Position finders did occupy four platforms. Also on the barbette were battery control and fire control stations.

With construction of the Mine Storage Building in 1894, Fort Tompkins surrendered the torpedo mines stored since the 1880s in casemates of the channel front. Doubtless those and the other large casemates continued to be used for storage of one kind or another, since there prevailed at Fort Wadsworth something of a shortage of places to keep various items not in use. More important, the small casemates of Fort Tompkins were still being used to provide quarters for troops. In 1903, 455 men constituted the garrison of Fort Wadsworth, and all of the enlisted men apparently resided in Fort Tompkins. A Coast Artillery staff report of that year stated, however, that "proper regard to modern ideas of convenience and comfort requires that either new barracks be erected or that the casemates be rebuilt. . . ." By 1911, provision had been made for additional barracks, although some troops continued to occupy the unmodified casemates of Fort Tompkins. During World War I, when resisting the request of the Navy to store mines in Fort Tompkins, Fort Wadsworth authorities stated that the structure provided quarters for five coast artillery companies and that casemates not occupied by troops were used as a main guardhouse and as storerooms, offices, and shops by the quartermaster, ordnance officers, and artillery engineer.[14]

Respecting defensive operations, the most significant new buildings at Fort Wadsworth were facilities for storing and operation of torpedo mines. The Mine Storage Building, constructed in 1892-1894, is 323 feet long and forty-two feet wide and located to the west of Battery Weed. More important, it is near the wharf used to transfer the mines, cables, anchors, and other equipment to and from the boats employed in the mine system. Not including the bridge crane and other equipment, the Mine Storage Building cost approximately $70,000 to construct. Between 1894 and 1897, a mine casemate was built to house the operating plant. Engineers outfitted both structures with the necessary apparatus, and, at one stage, the mines, some of which had 43-inch or 48-inch cases, were planted. In July

1899, the mines were recovered, and in the following month the cables were taken up. All equipment was overhauled and stored, the cables in drums in three tanks. Also the plant was removed from the casemate and placed in the Mine Storage Building. In May 1901, engineers transferred the storage, building, casemate, tanks, and all equipment to the artillery.[15]

Early in the twentieth century, the former Appleton estate was a relatively unused and isolated part of the post. As such it was suitable for certain types of buildings, namely an above-ground Peace Magazine and the central electric power and light plant. Other pre-World War I construction included the headquarters building and a few other structures stretched along the east side of New York Avenue and quarters for enlisted men known as the Pavillion Barracks.[16]

The increase in activity and the larger garrison at Fort Wadsworth during World War I required a construction program, consisting primarily of temporary buildings. In a map of May 1918, there appear four clusters of buildings: the nineteenth-century quarters on Mont Sec Avenue; the newer structures along the east side of New York Avenue; a new group on the site of the earlier buildings to the rear of Battery Hudson; and eighteen regularly laid out structures in the area immediately west of Camp Road and between Richmond Avenue and Ayers Road.[17]

Fort Wadsworth's Garrison in Peace and War, 1890-1918

Between 1890 and the spring of 1898, Fort Wadsworth's garrison fluctuated between one hundred and two hundred men, members of three batteries of the 1st Artillery Regiment or, starting in December 1897, of the 5th Artillery. Because of the Spanish-American War, which began in April 1898, the post's manpower increased significantly, and the transfer of units to and from Fort Wadsworth became more common.

In May, Battery K of the 5th Artillery was ordered to Tampa, Florida, the port of embarkation for Cuba. In June, Fort Wadsworth provided temporary accomodations to the 510 men of the 1st New York Volunteer Infantry, soon en route to San Francisco and probably the Phillipines. During the brief war, the more or less permanent party at Fort Wadsworth consisted of batteries of the 5th and 6th Artillery Regiments. Also assigned to the post in August 1898 was the 3d New Jersey Volunteer Infantry. Between

October and December 1898, L Battery, 6th Artillery, was on duty at Montauk Point, the easternmost end of Long Island. A large encampment of tents came into being at Montauk to receive the sizeable number of sick and wounded arriving there from the Caribbean. Although fighting ceased in Cuba in mid-August, American troops remained on the island during the peace negotiations and the ratification of the treaty. They stayed even longer in Puerto Rico, annexed to the United States by virtue of the treaty. In December 1900, Battery G, 5th Artillery arrived at Fort Wadsworth from San Juan.[18]

Following the "splendid little war," Fort Wadsworth did not experience the same drastic reduction of its garrison as had occurred after the Civil War. In the second half of 1898, roughly 450 men were on duty at the post. Troop strength declined slightly in 1900 and 1901, but after October 1902 between four and five hundred men constituted the garrison until the beginning of the war in Europe in August 1914. The permanent increase in Fort Wadsworth's garrison resulted from a general enlargement of the coastal artillery in the United States. That in turn was necessitated by the modern weapons being mounted in the nation's defenses. Substantial numbers of trained personnel were needed to man each modern battery. According to a 1914 regulation, a battery with two 12-inch rifles required a gun or pit section and a range section totaling 113 enlisted men, plus three officers. The manning bodies even for the light, rapid-fire guns were sizeable. Battery Bacon, for example, with its two 3-inch rifles, had a regulation pit section of twenty-eight men, plus a range section of twelve. To meet the 1914 manning regulation, Fort Wadsworth needed 1315 men for its twelve batteries.[19] Certainly the regulation with its inclusion of musicians and reserves gives maximum numbers, but to have even a respectable peacetime force, Fort Wadsworth could not get by with a garrison of fifty to 100 men, as had frequently been the case in the twenty-five years after the Civil War.

As a result of army reorganization in the first decade of the twentieth century, a separate Coastal Artillery Corps came into being, consisting first of 126 and later 170 companies. Each company was to be a size capable of manning a major caliber gun, two or more rapid-fire batteries, or a mortar battery. Of course in peacetime, the formula of one big gun, one company did not apply. In 1911, for example, Fort Wadsworth's 53d Company, CAC, was assigned to Batteries Ayers, Richmond, Barry, Upton, and Duane, the total number of large guns being thirteen. During these years, Fort Wadsworth had five companies, although the aspiration was to

station seven at the post. The west side of the Narrows had relatively more men than the east side. Such a situation explains orders of July 1911, which directed that secondary observers' stations at Fort Hamilton be manned during artillery drill by a detail from Fort Wadsworth, transported across the Narrows by launch.[20]

In the years before America's entry into World War I, the routine of drill and instruction at Fort Wadsworth was occasionally interrupted by extraordinary events, both anticipated and unexpected. June of 1908 was an unusual month, in part because of two accidents. A fire destroyed the roof of the "old King House," and ten days later a powder explosion caused the death of two privates of the 16th Company, CAC. In the period between these two events, joint army-militia coast defense exercises were conducted at Fort Wadsworth. Included in the exercises were forty-two men of the 136th (Mine) Company, CAC, from Fort Hancock, Sandy Hook, and nearly 900 national guardsmen of a New York provisional regiment and of the 2d Battalion, 47th New York Regiment. During an eighteen-month period beginning early in 1912, several dignitaries came to the post. On January 6, 1912, Secretary of War Henry Stimson inspected Fort Wadsworth. In May of the following year, his successor, Lindley M. Garrison, visited the post for the same purpose.[21] Between the two inspections, no less a personage than President William Howard Taft made an appearance.

For a number of years, efforts had been made to establish in New York harbor a memorial to the American Indian. Initially, sponsors of the project had hoped to use a site at Fort Lafayette. When that was denied them, they selected a place on the channel front of Fort Tompkins. On February 27, 1913, President Taft arrived at Fort Wadsworth to participate in the ceremonies dedicating the site of the proposed memorial. Besides the President and high ranking military figures, the dedication ceremonies included thirty-three Indian chiefs, representing a variety of tribes in the United States.[22]

According to a 1915 Guide to Coast Artillery Posts, written by 1st Lt. A. G. Gillespie, Fort Wadsworth, as a military assignment, had its advantages and disadvantages. Public transportation between the post and Manhattan was good, making New York hotels and theaters "convenient" and "very accessible." The lieutenant gave general approval to the marketing and shopping situation. Ordinary provisions could be obtained from Rosebank and Stapleton markets, which ran delivery wagons to the post. "Several New York department stores and supply houses, including

Park and Tilford, deliver to quarters." On the other hand, the post did not operate its own market wagon and "no messenger is sent to markets." There was "plenty of space" for gardens with "exceedingly productive" soil and also "plenty of room at some distance from quarters" for cows and chickens. Good public schools and high schools existed in the vicinity, and there was a "wagonette to public school morning, noon and evening." Close to the post were Episcopal and Catholic churches, and churches of other denominations were at a convenient distance. There was, however, no "wagonette run for church."[23]

In addition to New York theaters, recreational opportunities at Fort Wadsworth included the golf course of a nearby country club, "officers usually invited to join." The post had one good tennis court, and a good bathing beach, although it was some distance from quarters and had no bathhouse. Also, "South beach, a seaside resort, adjoins the post." There was fair fishing, but no hunting. Staten Island's "excellent" roads provided "splendid opportunities for owners of automobiles." The Y.M.C.A. had rooms in the post exchange.

In Gillespie's evaluation, Fort Wadsworth did not have satisfactory quarters. Most were described as "old, condition only fair" or "old, small, undesirable." There were no bachelors' "sets," and "practically all quarters at Wadsworth are wood." The post had "no club or officers' mess," and servants were "rather difficult to get," even at wages of $25 to $30 a month. The 1915 guide's description appears as a reasonably fair assessment of Fort Wadsworth. The outbreak of war in Europe, however, would soon produce conditions at the post more troublesome than antiquated quarters and the servant shortage.

The troop build-up at Fort Wadsworth and doubtless at other east coast defenses did not await America's formal entrance into the war in April 1917. During 1916, the post's garrison increased sharply to 1400 men, and it apparently remained more or less at that number until late in 1918. The increase was needed to man the guns, if occasion should arise. Moreover, men and officers found themselves temporarily assigned duty in several off-post locations, such as Atlantic Basin, Bush Terminal, and the warehouse of the French High Commission, all in Brooklyn. A rotation system was adopted for these assignments, drawing upon personnel from both Fort Wadsworth and Fort Hamilton.[24]

There were two other off-post sites manned by troops from Wadsworth and Hamilton. One, initially referred to

as Rockaway Beach, became Fort Tilden. Generous wartime appropriations included funds for construction of fortifications on Rockaway Peninsula in 1917. Early in that year, twelve privates and several non-commissioned and commissioned officers from Fort Hamilton were sent to Rockaway to man a 6-inch gun battery. On a rotating schedule, similar contingents from both Fort Wadsworth and Fort Hamilton subsequently arrived at the new defenses. After America entered the war, Fort Tilden's garrison was increased to four Coast Artillery Companies.[25]

Perhaps the most peculiar site occupied by men from Fort Wadsworth during the war was Hoffman Island, 2100 yards due south of the post and directly between Fort Wadsworth and Swinburne Island, another 1700 yards farther into Lower New York Bay. On January 15, 1918, a unit of thirty-two men was ferried to the small bit of land. The purpose of manning Hoffman Island is not explicitly indicated in the records. One possible explanation is the desire to provide adequate coverage of the minefield. In a 1916 recommendation for a new rapid-fire battery at Fort Wadsworth, it was argued that such a battery, properly located, would eliminate the "dead space" around Swinburne Island. That "dead space" apparently was created by the presence of Hoffman Island in the direct line to Swinburne. A new battery was not built, and one solution to the problem was positioning a gun on Hoffman Island.[26]

Most of the time the men assigned to Fort Wadsworth during World War I performed routine duty at the post. General orders of May 16, 1918, outlined that routine:

Reveille and assembly	6:00-6:15 am
Calisthenics	6:15-6:30
Mess Call	6:45
Morning Instruction Period	8:25-11:45
Mess Call	12:00 noon
Afternoon Instruction Period	1:00-4:30 pm
Parade	5:00-5:15
Mess Call	After Parade
Call to Quarters	10:45
Taps	11:00

Variations in the routine included night drill, 7:30-9:00 pm; Wednesday afternoons, used for athletics and singing; Saturday morning inspections; and "changes for Sundays and Holidays (omit calls for fatigues, drills, etc.)."[27]

A second set of orders provide an understanding of the purpose and some of the details of the content of the schedule. All officers other than staff and all

enlisted men were required to participate in the physical exercises. In addition to physical development, the program aimed at providing "intensive training in infantry drill, coast artillery drill and such special skills as prescribed." The morning instruction period started with ninety minutes of physical training, namely jumping or double timing, bayonet training, and "marching with progressively increased load." Then followed instruction and practice in signaling with flag, searchlight, and lantern. One day a week, first aid instruction was substituted for signal drill. In the late morning, the routine included close and extended order infantry drill and a thirty-minute session for "aiming and sighting drill" with infantry weapons.[28]

The afternoon instruction period began with thirty minutes of instruction in French, particularly learning "common colloquial phrases." The remainder of the afternoon was given to coast artillery instruction and drill. The men were first divided into two groups, according to their position in the manning table. The aim of the drill for gun and mortar sections was to perfect each man "in the work of two positions besides that assigned him in the manning table. . . ." Similarly, all those in fire direction and fire control sections were to practice telephone operations as well as learn two positions other than those assigned in the manning table. At 3:00, the two groups would reunite and receive instruction and drill in the care, preservation, testing, and adjustment of coast artillery equipment, and the posting of emplacement books. The day's instruction period ended with training in the use and care of siege, field, and machine gun equipment.

In addition to the daily drills and instruction, units of Fort Wadsworth's garrison had to be ready to man the batteries. General orders of August 1917 directed that certain batteries at the post be ready to open fire day or night. In September 1918, as the end of the war came in sight, Fort Wadsworth was directed to continue to have some of its guns constantly ready during the day, but to rotate the night time responsibilities with batteries at Fort Hamilton. Another round-the-clock procedure at Fort Wadsworth was scrutinizing vessels passing in both directions through the Narrows. A coast defense signal station was maintained and ordered to be in constant communication with the Headquarters, 3d Naval District, Brooklyn Navy Yard, as well as with naval patrol boats. The name and nationality of every ship was to be reported and entered into a log kept at the station. A searchlight was used to identify vessels at night.[29]

As was true throughout Fort Wadsworth's history as an American artillery position, no guns were fired in anger during World War I. In fact, it seems quite likely that the major caliber guns were not fired at all. On the other hand, there is no reason to suspect that they were not ready to be used. That state of readiness, however, would never again be attained by most of the batteries, and after the war Fort Wadsworth entered a final stage before its deactivation as a seacoast artillery site.

Fort Wadsworth's Guns: The Last Stage

The military demobilization in the United States after the armistice of November 1918 progressed rapidly. At Fort Wadsworth, the end of the war brought about an almost immediate reduction in the size of the garrison. More important, in 1919 the post was shifted from the command of the Coast Artillery Corps to the infantry. An exceedingly small contingent of artillerists remained as caretakers of the weapons of the Endicott period.

The decline of Fort Wadsworth as a seacoast artillery post resulted from advances in naval armaments in the early twentieth century and later by the advent of long-range bombers and aircraft carriers. In the decade before World War I, improvements in naval gunnery gave battleships greater accurate ranges, and by 1915 there already had come into existence foreign vessels capable of outshooting any Endicott battery. The increased range in part resulted from greater elevations achieved by guns in battleship turrets. The high trajectory of shells fired from turrets reduced the effectiveness of the protection given Endicott batteries by their large concrete and earthen parapets. The American response to improvements in guns afloat was development of a high angle barbette carriage for 12-inch rifles that almost doubled the range of the same weapon when mounted on a conventional carriage of the Endicott period. Also a number of new batteries were constructed for a 16-inch gun.[30]

No 16-inch rifles, high angle carriages, or new emplacements appeared at Fort Wadsworth during the World War I era. And the post did not participate in another seacoast fortification program undertaken in World War II. That program involved additional emplacements for the high angle carriage and positions for a 16-inch naval gun and a 6-inch long range rifle. A new kind of gun position did come into being at Fort Wadsworth during the 1930s, namely several antiaircraft batteries. During World War II,

when the post returned to the command of the Coast Artillery Corps, its main guns were those for use against planes. At Fort Wadsworth, as elsewhere, the old Coast Artillery Corps was swallowed by the new antiaircraft artillery.

As a coast defense site, Fort Wadsworth was essentially moribund in the 1920s and 1930s. From a post with fourteen companies during World War I, it was reduced to four companies by orders received in December 1918. Those four totaled 350 men. For tactical purposes, one company was assigned to Battery Dix, another to Mills, a third to Turnbull, and the fourth to "search light, power plant, fort and fire command details, etc." The largest of the four companies, with 115 troops, manned Battery Turnbull, for many years the assignment of a mine company.[31] Subsequently, as the infantry took over, artillery personnel all but disappeared.

In May 1928, Fort Wadsworth was inspected by the commanding officer of the 2d Coast Artillery District. Four months later, the U.S. Engineers made another inspection of the artillery defenses at the post. The reports of the two inspections provide a fairly comprehensive view of the post as an artillery site in the middle of the interwar period. Coast Artillery personnel at Fort Wadsworth in 1928 consisted of twelve enlisted men and one officer. This tiny group was specifically described as a caretaking detachment. The work expected of them was enormous, and, since it was impossible for them to perform all tasks assigned, they doubtless merited the praise given in the report of the Coast Artillery inspection. That report describes the post's armament as "in excellent condition," and again that was probably a fairly accurate characterization. The official classification of the guns was "in service but out of commission."

Apparently the caretaker contingent and a civilian ordnance machinist concentrated their slim energies in maintaining the guns. Other equipment in the batteries and elsewhere received less attention. The primary enemy was dampness, which produced rust, mildew, stalactites, and other forms of deterioration. The dampest battery was Upton, being so wet that all movable equipment had been taken out and stored elsewhere. Yet the inspection report labelled Upton's two guns "satisfactory." The picture emerges of guns adequately preserved and protected from corrosion, but of wet magazines, rusty powder cases, stiff working traverse mechanisms, mildewed and unposted emplacement books, and some earth slides. The inspection gave the highest ratings to Battery Turnbull ("excellent") and to the Mine Command ("superior"). The engineers' report

of September 1928 more or less confirmed the findings of the earlier inspection.[32]

The decline of Fort Wadsworth's coast artillery capability can be traced in the abandonment of batteries and the removal of guns and carriages. Battery Duane was the first to go, being considered obsolete in November 1915. Battery Barry was dismantled in May 1918, its two 10-inch rifles sent overseas, and its carriages turned over to the salvage department for sale. At the time of the World War I Armistice, the two 3-inch guns of Battery Bacon were dismounted and sent to Aberdeen. Since 1916, there had been some question about Battery Barbour's effectiveness in covering the minefield, and in 1919 it and its 4.7- and 6-inch guns were declared obsolete.[33] At some unknown time, one of the two 6-inch guns of Battery Mills was removed, although the other remained in the emplacement. By 1920, four of Fort Wadsworth's twelve Endicott batteries were unoccupied and did not receive the attention of the caretakers or the engineers in the 1920s and 1930s. Regardless of the condition of its two 10-inch rifles, Battery Upton was more or less understood to be out of service.

Apparently eight of Fort Wadsworth's 12-inch guns and six at Fort Hamilton were fired on July 4, 1932, breaking a silence which had started in 1909.[34] What this firing says about the condition of the guns is not clear, since obviously charges, but not shells were employed in the celebration of American independence. Shortly after Pearl Harbor, guns were removed from Batteries Catlin and Upton, and the carriages from Ayers, Richmond and Mills. Of the batteries still with mounted weapons, Dix and Turnbull appear to have been in service. Dix and Hudson gave up their weapons in 1944, which with those already dismounted from other batteries were ordered removed, mutilated, and scrapped. Battery Turnbull, connected with the mine defense system, seems to have survived longer than any other of Fort Wadsworth's batteries. It continued to mount four of its original six 3-inch rifles, and its battery commander signed for receipt of powder in mid-1944.[35] At the end of the war, its remaining guns removed, the small Battery Turnbull, the large casemated fort on its left flank, Battery Weed, and all other emplacements at Fort Wadsworth stood silent and vacant, serving only as markers in the history of America's harbor and seacoast fortifications.

CONCLUSIONS

After 1920, activity at Fort Wadsworth no longer centered upon its channel and coastal guns, but on the infantry, antiaircraft, and, beginning with World War II, a host of other branches and functions of the Army. Since the post yet remains in the hands of the Army, its non-coast artillery career might prove as long or longer than its service as a harbor defense position of the national government. At the moment, however, it is inconceivable that Fort Wadsworth or any location will experience a resurrection of coastal artillery. Quite clearly, Battery Weed, Fort Tompkins, and the Endicott batteries belong to the past and not to the present or future.

During the course of examining the history of Fort Wadsworth, there came into view a number of interesting problems, somewhat peripheral to the main topic. Textbooks surveying American history inform readers that Alexander Hamilton's financial plans for the first Washington administration included a program of assuming state debts. That program was adopted, and the presumption is that no conditions were imposed on the states. Yet, research for this report indicates that the federal government held New York responsible for expending on fortifications a sum equal to the amount of that state's debt assumed by the nation. This needs to be explained. In fact, the whole matter of state participation in the fortification programs of the First and Second Systems requires exploration, since it may suggest elements in the federal-state relationship historians have overlooked. That the Chief of Engineers in 1884 felt obliged to deny rumors that his branch and the Army generally built and maintained forts to awe the populations of port cities is a curious development. Doubtless the rumors were manifestations of the same conspiracy thinking and paranoia that produced the late nineteenth-century anti-Catholic fantasies and the Populists' fears of the "money trust." Rarely, however, have conspiracy analyses focused upon the American military, and one wonders who articulated the suspicions of fortifications and how much currency was given those suspicions.

As for Fort Wadsworth itself, this report has

given a structure for the history of that post where none previously existed and has provided a good deal of content to round out the story. Yet many matters can be explored further, especially those involving technical aspects of fortifications and artillery during all stages of the post's career. For example, what were the procedures for firing the columbiads in Fort Richmond, how many men were involved, were the guns fired in unison or individually? The mine system produced during the Endicott era outlived the defense of New York harbor by heavy guns, and particulars of that system, its armament, operations, location, and changes in these areas need investigation. Information remains to be discovered about Fort Wadsworth's garrison during the middle of the War or 1812 and the early years of the Civil War. Another topic requiring additional discussion is the command structure of the coastal defenses of New York harbor and Fort Wadsworth's position within that structure.

Doubtless, for those concerned with Fort Wadsworth today, the problem posed by the site is not that of a topic needing continued historical research, but the question of what is to become of the post. On that particular point, a few remarks are in order to eliminate any ambiguity in the thrust of this report. The claim that Fort Wadsworth began its career as an artillery position in the days of the Dutch and from that time forward remained continuously garrisoned in part originates in a well meaning, but misguided understanding of what constitutes historical significance. That understanding holds simply that the older a structure, institution, or other phenomenon, the greater its historical importance. What makes Fort Wadsworth of historical interest is not so much its antiquity, although that does enter the calculation, but the fidelity with which it reflects the various stages in the development of America's coastal fortifications, the related changes in ordnance, the swings between generosity and parsimony in military budgeting by the administrations and Congress, the wars fought by the nation, and the concern displayed for the security of what became the most important port in the country.

Few places in the New York area offer such an exciting vantage point for seeing the present and the past as the parapet of Fort Tompkins' channel front. The beholder has a spectacular view of the late twentieth-century panorama, which includes Manhattan's modern skyline, the Verazzano Bridge, jet aircraft activity at JFK, and freighter traffic through the Narrows. With some knowledge of history, one can also stand on the parapet and see and understand why and how fortification building in the harbor progressed from the Battery to the islands south of Manhattan to the Narrows and to Rockaway Point and Sandy Hook;

why and how Fort Wadsworth was developed as an artillery post; why its grounds were expanded; why the orientation of its guns and batteries shifted from the Narrows to Lower New York Bay; and why, with jets circling JFK, the coastal artillery was terminated.

Particularly that part of Fort Wadsworth which includes Battery Weed, the site of the old cliff batteries, Battery Hudson, and Fort Tompkins is a bona fide historic site. That the two nineteenth-century casemated forts are historic structures requires no elaboration. The Endicott batteries also merit the same classification. As Lewis puts it:

> Because their clean, functional design provides few clues as to their actual age, post-1890 defense works are often thought to be of much more recent origin than in fact they are; and casual visitors to an Endicott battery will almost invariably judge it to date from World War I or even World War II. This apparent lack of antiquity may to some degree explain the general lack of interest in restoring such works for purely historical purposes.[1]

Hopefully, whoever exercises control over Fort Wadsworth will appreciate the historical importance of the site, its forts, and batteries.

ENDNOTES

Introduction.

1. Emanuel Raymond Lewis, Seacoast Fortifications of the United States: An Introductory History (Washington: Smithsonian Institution Press, 1970), pp. 3-6.

2. Robert Krist, "Fort Wadsworth," The Staten Island Historian, vol. XVIII, Part I (July-Sept. 1957), Part II (Oct.-Dec. 1957).

Chapter I. The Seventeenth and Eighteenth Centuries

1. Ira K. Morris, Memorial History of Staten Island (2 vols., New York: Memorial Publishing Co., 1898, 1900), p. 28; David Alperstein, "Under Three Flags: Fort Wadsworth," Periodical, vol. XI. No. 2 (Summer, 1979), p. 18; New York Times, Mar. 19, 1972, p. 102. Among other writings containing the prevalent view of Fort Wadsworth's past are articles and pamphlets written by commanders of the post: Carol P. Searing, "Fort Wadsworth, 1663-1929," in Fort Wadsworth Military Ball and Exhibition, First of February, 1929; Thomas R. Yancey, "Fort Wadsworth: An Address Given on the Occasion of the Annual Meeting of the Staten Island Historical Society, May 21, 1969," The Staten Island Historian, vol. XXVIII (July-Sept. 1967), pp. 19-21; Krist, "Fort Wadsworth," pp. 25-28; History of Fort Wadsworth (1962). See also New York Times, June 13, 1966, in Clipping File, Local History Section, New York Public Library; Sherene Baugher-Perlin and Frederick A. Bluefield, "A Background Study of Historic Land Use of the Gateway National Recreation Area, Staten Island Unit," July 1980; Tony P. Wrenn, "General History of the Jamaica Bay, Breezy Point and Staten Island Units, Gateway National Recreation Area, New York, N.Y.," October 1975.

2. Alperstein, p. 18.

3. David P. de Vries, Voyages from Holland to America, A.D. 1632 to 1644, reprinted in Cornell Jaray (ed.), Historic Chronicles of New Amsterdam, Colonial New York and Early Long Island (First Series, Port Washington, N.Y.: Ira J. Friedman, n.d.), p. 101; Council Minutes, Sept. 12, 1641, in E. B. O'Callaghan (ed.), Calendar of New York Colonial Manuscripts in the Office of the Secretary of State, Albany, N.Y.: Part I, Dutch Manuscripts, 1630-1664 (Albany: Weed, Parson and Company, 1865), p. 77; Charles W. Leng and William T. Davis, Staten Island and Its People, 1609-1929 (2 vols., New York: Lewis Publishing Company, 1930-1933), vol. I, p. 96.

4. Albert J. Anderson and Donald R. Sainz, "Excavations at Oude Dorp," The New Bulletin, vol. XIV (June 1964), pp. 82-94.

5. Letter of Johannes Bogaert to Hans Bontemantel, Oct. 31, 1655, in J. Franklin Jameson (ed.), Narratives of New Netherland, 1609-1664 (New York: Barnes and Noble, 1959; reprint of 1909 edition), pp. 383-6.

6. Directors to Stuyvesant, Mar. 21, 1651, in E. B. O'Callaghan (ed.), Documents Relating to the Colonial History of the State of New York (15 vols., Albany: Weed, Parsons and Company, 1856-1887), vol. XIV, p. 131.

7. Stuyvesant to Council, Jan. 26, 1656, in Documents Relating, vol. XIII, p. 60; Council Minutes, Jan. 21, Apr. 25 and 27, 1656, in Calendar of Dutch Manuscripts, pp. 159, 165, 166.

8. Directors to Stuyvesant, Dec. 9, 1656, in Documents Relating, vol. XIV, p. 374; Stuyvesant to Directors, July 23, 1659, in Documents Relating, vol. XIV, p. 441.

9. "Journal of New Netherland, Written in the Years 1641, 1642, 1645 and 1646," in Documents Relating, vol. I, p. 181; Isaac Jaques, "A Description of New Netherlands in 1644," in E. B. O'Callaghan (ed.), The Documentary History of the State of New York (4 vols., Albany: Weed, Parsons and Company, 1850-1851), vol. IV, pp. 15-17; West India Company, "Deductions Respecting the Differences about Boundaries etc. . . , 5th of November 1660," in Documents Relating, vol. II, p. 133.

10. Directors to Stuyvesant, Apr. 16, 1663, in Documents Relating, vol. XIV, pp. 525-6; Directors to Stuyvesant, Apr. 16, 1663, in Calendar of Dutch Manuscripts, p. 300.

11. Chamber at Amsterdam to Directors and Council, Jan. 20, 1664, in Documents Relating, vol. II, p. 218; Council Minutes, Jan. 28, 1664, in Calendar of Dutch Manuscripts, p. 259.

12. Stuyvesant to Directors, Apr. 16, 1664, in Documents Relating, vol. XIV, p. 546; Charles E. Leng, "Map of Staten Island . . . by Charles E. Leng, with Ye Olde Names & Nicknames by William T. Davis," 1896, 1968.

13. Observations of the West India Company, 1666, in Documents Relating, vol. II, p. 422; Answers of the Honorable Peter Stuyvesant, 1666, in Documents Relating, vol. II, p. 443.

14. "General Account of Powder Received . . . ," in Documents Relating, vol. II, pp. 462-8.

15. Jaspar Dankers and Peter Sluyter, Journal of a Voyage to New York and a Tour in Several American Colonies in 1679-80. Translated and edited by Henry C. Murphy (Brooklyn: Long Island Historical Society, 1867), pp. 129, 438, Plate III.

16. Dankers and Sluyter, pp. 140-4.

17. "Description of New Netherland, 1671," in Documentary History, vol. IV, pp. 75-83; "Answers of Gov. Andross, 1678," in Documentary History, vol. I, pp. 60-2; John Miller, A Description of the Province and City of New York in the Year 1695, reprinted in Cornell Jaray, First Series; "Report of the Lords of Trade on the Forts in the Plantations, Jan. 10, 1700," in Documents Relating, vol. IV, pp. 830-1.

18. Cornbury to Lords of Trade, Apr. 24, 1702, in Documents Relating, vol. IV, pp. 967-71.

19. Journal of the Votes and Proceedings of the General Assembly of the Colony of New-York (2 vols., New York: Hugh Gaine, 1764-1766), vol. I, pp. 164-72, 208-13, 215-17; An Act for Raising the Sum of Three Thousand Pounds towards the Expenses of Fortifying the City of New-York, 1706, Session Laws; An Act for Raising a Fund for the Defense of the Frontiers, and other Uses, 1707, Session Laws. In 1759, Cadwallader Colden, then a member of the governor's council, claimed that the £ 1500 granted in 1703 for fortifying the Narrows was used by Lord Cornbury to build a "pleasure house on Nutten [Governor's] Island for himself and succeeding governors. . . .", as quoted in I. N. Phelps Stokes (comp.), The Iconography of Manhattan Island, 1498-1909 (6 vols., New York: Robert H. Dodd, 1915-1918), vol. IV, p. 456.

20. Brigadier Hunter's Answers, Aug. 11, 1720, in Documents Relating, vol. V, pp. 555-7; Henry Popple, "Map of the British Empire in North America," London, 1733; Mr. Clarke's Answers, June 2, 1738, in Documentary History, vol. IV, p. 116; Report of Gov. Tryon, June 11, 1774, in Documents Relating, vol. VIII, p. 451.

21. Stokes, vol. IV, pp. 472, 572, 665; Account, June 2, 1755, in E. B. O'Callaghan, Calendar of Historical Manuscripts in the Office of the Secretary of State in Albany, N.Y.: English Manuscripts: 1664-1766 (Albany: Weed, Parsons and Company), p. 667; S. Bellini, "Bay and Port of New York, Capital of New York,. . . . 1764." The proposal to fortify the Narrows is apparently the purpose of a map, "Plan of the Pass Between Staten Island and Long Island, 1757; or the Project to Place Some Batteries for the Defense of the Entrance of the Harbor of New York." This document is listed in Catalogue of the New-York State Library 1856 - Maps, Manuscripts, Engravings, Coins, Etc.

(Albany: Charles Benthuysen, 1857), p. 61. Mr. James Cosaro, of the Manuscripts and Special Collections, State Library, has advised the author that the map "is no longer in existence" and that "we can only assume it was lost with the rest of the map collection which was destroyed in the 1911 State Library fire."

22. Anderson and Sainz, p. 84; "Abstract of Title to a Lot of Land Proposed to be Conveyed . . . to the U.S.," no date, in Papers of Richard Delafield, Manuscript Collection, New York Historical Society; Leng, "Map of Staten Island"; Claude Sauthier and William Faden, "A Topographical Map of Hudson's River," London, 1776.

23. Minutes of the New York Committee of Safety, Jan. 15, 1776, in Peter Force (ed.), American Archives (9 vols., Washington: Clarke and Force, 1837-1853), vol. IV, p. 1045.

24. Stokes, vol. IV, pp. 923-5.

25. James Thomas Flexner, George Washington in the American Revolution, 1775-1783 (Boston: Little Brown, 1967), p. 90.

26. For example, see Proceedings of a Board of General Officers of the British Army, 1781, vol. XLIX of Collections of the New Historical Society (New York: New York Historical Society, 1916), pp. 96, 110-4, 127, 135, 142, 146-51.

27. Robert S. Roberts, New York's Forts in the Revolution (Cranbury, N.J.: Fairleigh Dickinson Press, 1980), pp. 323-4.

28. See Proceedings of a Board of General Officers, p. 96.

29. J. Bew, "Chart and Plan of the Harbour of New York . . . Showing the Defenses of New York both by Land and Sea," London, 1781; George Taylor and A. Skinner, "A Map of New York and Staten Island and Part of Long Island," London, 1781; "Situation Des Posten zu Denises Ferry auf Long Island wie solder den 7th October 1781 von Furste . . . ;" "Plan (No. 34) du Camp Anglo-Hessois dans Staten Island (Baie de New York) de 1780-1783." The William Clement Library, University of Michigan, houses the original of a British map, "Sketch Showing Disposition of the Batteries on the Right and Left of the Flagstaff Redoubt, Staten Island, 12th July, 1779."

According to the "references" on the map, there was a total of six batteries for two to six guns each; Randolph G. Adams (ed.), British Headquarters Maps and Sketches Used by Sir Henry Clinton . . . 1775-1782: A Descriptive List of the Original Manuscripts and Printed Documents Now Preserved in the William L. Clement Library at the University of Michigan (Ann Arbor: William Clement Library, 1928), p. 61.

30. Several xerox copies of this document were discovered by the writer while investigating another topic in the Office of the Town Historian, Huntington, New York. On the reverse of one copy is written "spy map."

31. Jonathan Williams, "Fortifications on Staten Island," Oct. 21, 1808, in Public Papers of Daniel D. Tompkins, Governor of New York, 1807-1817 (3 vols., New York: Wycoop, Hallenbeck, Crawford, Co., 1898-1902), vol. II, p. 141.

32. Lewis, p. 15.

Chapter II. Staten Island and the First American System, 1794-1807

1. Report of a Committee to Report on Ports, Feb. 28, 1794, in American State Papers, Class V: Military Affairs (7 vols., Washington: Gales and Seaton, 1832-1861), vol. I, pp. 61-5; Knox to Vincent, Apr. 1, 1794, in Amer. St. Papers, vol. I, pp. 77-78.

2. Chap. 41, Mar. 26, 1794, Session Laws.

3. Proceedings of the Commissioners of Fortifications for the City of New York and Vicinity, Apr. 2, 1794-Feb. 6, 1796, Manuscript Collection, New York State Historical Society. See entries for Apr. 2, 3, 1794.

4. Minutes, NY Commissioners, Apr. 4, 10, 1794.

5. Minutes, NY Commissioners, Apr. 14, May 9, June 20, Sept. 5, 1794. A copy of the deed from Jacobson and Van Deventer, Nov. 24, 1794, is found in the Commissioners' Financial records: New York State Office of Audit and Control, Accounts, 1783-1857 and Supplementary Papers, Manuscripts and Special Collections, New York State Library, 23 vols. See vol. II, p. 27.

6. Minutes, NY Commissioners, June 6, 16 and Sept. 5, 1794; Accounts, NY Commissioners, vol. III, pp. 11, 39, 77.

7. "General Observations of the Defense of the Harbor and City of New York, by Mr. Vincent, New York, 1794," in Amer. St. Papers, vol. I, pp. 78-81.

8. S. L. Mershon, Special Brief: English Crown Grants and Lands Under Water in the County of Richmond, New York (New York: Appeal Printing Co., n.d.), pp. 25-6; Leng, "Map of Staten Island;" William T. Davis, "Staten Island Names: Ye Olde Names and Nicknames," Proceedings of the Natural Science Association of Staten Island, vol. V (Mar. 1896), p. 26; Jonathan Williams, "Fortifications on Staten Island," Oct. 21, 1808.

9. William T. Davis, "Staten Island Names," p. 77.

10. Chap. 43, Apr. 6, 1795; Chap. 57, Apr. 11, 1796, Session Laws; Gov. Jay to Assembly, Nov. 1, 1796, in Charles Z. Lincoln (ed.), State of New York: Messages from the Governors (11 vols., Albany: J. B. Lyon, 1909), vol. II, p. 382; Chap. 5, Aug. 27, 1798, Session Laws.

11. Chap. 64, Mar. 18, 1800, Session Laws; Gov. Morgan Lewis to Assembly, Jan. 28, 1806, in Messages, vol. II, pp. 568-70.

12. Senate Committee Report, Jan. 28, 1806, Amer. St. Papers, vol. I, p. 191; New York Assembly, Concurrent Resolution, Mar. 25, 1806, in Messages, vol. II, p. 570. Some of the communications pressing for further fortifications at New York are described in "Report of Secretary of War, Feb. 18, 1806," in Amer. St. Papers, vol. I, pp. 193-4. See also Gov. Lewis to Assembly, Jan. 28, 1806, in Messages, vol. II, p. 568.

13. Report of Secretary of War, Feb. 18, 1806.

14. Chap. 51, Mar. 20, 1807, Session Laws; Leng, "Map of Staten Island."

15. Chap. 51, Mar. 18, 1808, Session Laws.

Chapter III. The State Works as a Second System Fortification

1. Reports of Secretary of War, Dec. 3, 8, 1807; Jan. 6, Dec. 21, 1809; Jan. 8, Dec. 17, 1811, in Amer. St. Papers, vol. I, pp. 217-24, 236-9, 245-7, 296-7, 307-11.

2. Chap. 51, Mar. 13, 1808, Session Laws; Gov. Tompkins to Assembly, Nov. 1, 4, 1808, in Messages, vol. II, pp. 636, 641.

3. Room for a political accomodation existed, since the state had not met its obligation as stipulated in the 1799 act of Congress and the state statute of 1800, whereby New York was pledged to spend on fortifications over a half million dollars.

4. Williams, "Fortifications on Staten Island," Oct. 21, 1808.

5. Report of Secretary of War, Feb. 18, 1806; Williams to Common Council, July 29, Aug. 17, 1807, in Stokes, vol. V, pp. 1464-65, 1466-7.

6. Gallatin to Jefferson, Aug. 26, 1807, in Stokes, vol. V, p. 1470.

7. Williams, "Fortifications on Staten Island," Oct. 21, 1808.

8. Chap. 131, Apr. 6, 1808, Session Laws.

9. Chap. 17, Feb. 3, 1808, Session Laws.

10. "Map of the State Land at Staten Island Representing the Situation of the Ground and the Fortifications to be Erected," Mar. 13, 1809, Cartographic Research Room, National Archives, Washington (NAW-Cart.), Drawer 36, Sheet 17. The conveyance is summarized in the deed from New York to the United States, Feb. 15, 1847, a copy of which is in the Delafield Papers. The property is described in Gov. Tompkins to William Eustis, Mar. 23, 1810, Tompkins Papers, vol. II, pp. 263-4.

11. Gov. Tompkins to Assembly, Mar. 22, 1809, Tompkins Papers, vol. II, pp. 206-10; Tompkins to Assembly, Jan. 30, 1810, Messages, vol. II, p. 659; Tompkins to Eustis, Mar. 23, 1810.

12. Tompkins to Assembly, Feb. 12, 1811, Messages, vol. II, pp. 676-7; Chap. 93, Mar. 30, 1811, Tompkins Papers, vol. II, pp. 288-91; Tompkins to Morgan Lewis, Feb. 28, 1811, Tompkins Papers, vol. II, pp. 334-6; Tompkins to Eustis, Aug. 16, 1811, Tompkins Papers, vol. II, p. 347.

13. Chap. 39, June 12, 1812, Session Laws; Gov. Tompkins to Assembly, Feb. 20, Apr. 6, 1813, Messages, vol. II, pp. 750-2, 778; Chap. 203, Apr. 14, 1813, Session Laws.

14. Clinton to Tompkins, Jan. 24, 1814, Tompkins Papers, vol. III, pp. 436-7.

15. Chap. 37, Apr. 15, 1814; Chap. 27, Oct. 24, 1814, Session Laws; "Colonel Jonathan Williams on the Construction of the Staten Island Works at the Narrows," May 28, 1814, Tompkins Papers, vol. III, pp. 273-8; Accounts, NY Commissioners, vol. V, pp. 40-49.

16. Tompkins to Assembly, Apr. 17, 1815; Mar. 5, 1816, Messages, vol. II, pp. 830-1, 864-5; Chap. 266, Apr. 10, 1815; Chap. 111, Apr. 17, 1816, Session Laws; Accounts, NY Commissioners, vol. VI, p. 100.

17. This description of Fort Richmond and those following of other works on the site are composite accounts, drawn from a variety of sources. See "Map of the State Land at Staten Island . . . ," Mar. 13, 1809; Capt. Parassin, "State of New York, Fort Tompkins, Fort Richmond," 1819, NAW-Cart., Drawer 41, Sheet 3; Topographical Bureau, "Map of the Fortifications on Staten Island," 1827, in Amer. St. Papers, vol. III, p. 584. A sketch of the old Fort Richmond, made in 1841 by Robert E. Lee, was superimposed on a plan of the new Fort Richmond, "Plans, Sections & Elevations of the Project for Rebuilding Fort Richmond . . . , Nov. 25, 1845," NAW-Cart., Drawer 43, Sheet 2. A sketch, "Map of Fort Richmond, Staten Island," no date, is quite similar to the 1827 map in Amer. St. Papers, but it as well as several pages of notes accompanying it provide additional information; New York State Library. See also "Extracts from the Report of the Board of Commissioners on the Defense of the Sea-Coast, Apr. 7, 1820," in Amer. St. Papers, vol. III, p. 585; and an untitled, undated report, probably 1818, in Accounts, NY Commissioners, vol. 6, pp. 110-15.

18. In addition to the sources cited in the previous footnote, see an engraving of the 1850s, which included part of Fort Tompkins, in Gleason's Pictorial, Nov. 27, 1852, reprinted in Lewis, p. 27. An unusual "birdseye" view of

the Fort Wadsworth area in the 1850s is contained in Baugher-Perlin and Bluefield, p. 24. The blockhouse is described in a letter from De Witt Clinton to Tompkins, Jan. 24, 1814, in Tompkins Papers, vol. III, pp. 436-7.

19. General Orders for June 18, 19, 27, 29, 1812, in Third Military District, Orderly Book of the Adjutant Ganeral, June 1812-Sept. 1818, Records of the United States Army Command, 1784-1821, Record Group 98, National Archives, Washington (NAW); General Orders, Aug. 19, 1812, Tompkins Papers, vol. I, pp. 382-3; Tompkins to Assembly, Nov. 11, 1812, Tompkins Papers, vol. III, pp. 183-5.

20. Arthur P. Wade, "Artillerists and Engineers: The Beginning of American Seacoast Fortifications, 1794-1815," Ph.D. dissertation, Kansas State University, 1977, p. 286; Third Military District, Orderly Books of the Inspector General, Mar. 1813-May 1815, RG 98, NAW; Returns from Military Posts, 1800-1916, Fort Wadsworth, Records of the Adjutant General, Record Group 94, NAW; Tompkins to Assembly, Sept. 9, 1814, in Messages, vol. II, pp. 809-10.

21. Tompkins to Jones, June 18, 1813, in Tompkins Papers, vol. III, pp. 330-2.

22. Chap. XXVII, July 26, 1813, U.S. Statutes at Large.

23. General Orders, Headquarters, New York, Aug. 29, 1814, in Tompkins Papers, vol. I, pp. 508-9; Chap. XVIII, Oct. 24, 1814, Session Laws; Tompkins to Assembly, Sept. 30, 1814, in Tompkins Papers, vol. III, pp. 540-47. References to units of sea fencibles at various sites in the harbor are found in General Orders, Adj. Gen.'s Office, 3d Military District for Nov. 11, 12, 17, 18, and Dec. 15, 1815, in Tompkins Papers, vol. I, pp. 715-6, 716-17, 719-20, 721-22; and in Tompkins' correspondence, dated Aug. 24 and Sept. 5, 1814, in Tompkins Papers, vol. III, pp. 507, 518.

24. Tompkins to Gen. Dearborn, Aug. 14, 1812, in Tompkins Papers, vol. III, pp. 81-2.

25. Orderly Book: Lt. Col. Tallmadge's Forty-Sixth Regiment, U.S. Infantry, New York, Sept. 12, 1814-Apr. 18, 1815, New York Historical Society; Third Military District, Orderly Books of the Inspector General, RG 98, NAW.

26. Orderly Book, Forty-Sixth Infantry.

27. Orderly Book, Forty-Sixth Infantry.

28. Gov. Clinton to Assembly, Apr. 11, 1820, in Messages, vol. II, pp. 1037-8; Chap. 111, Apr. 17, 1816; Chap. 240, Apr. 14, 1820; Chap. 269, Apr. 24, 1823, Session Laws; "Estimate for Repairing the Roof of Fort Tompkins . . . August 1820," in Accounts, NY Commissioners, vol. 6, p. 102.

29. Chap. 4, Feb. 10, 1818; Chap. 48, Mar. 19, 1818, Session Laws. For drafts and copies of correspondence among state authorities, see Accounts, NY Commissioners, vol. 6, pp. 110-5; Clinton to Assembly, Apr. 11, 1820, in Messages, vol. II, pp. 1037-8; Gen. Bernard and Maj. McRee to John C. Calhoun, Nov. 22, 1818, Records of Chief of Engineers, (COE), Land Papers, Record Group 77, NAW.

30. Barbour to John D. Hammond, Nov. 18, 1825, in Accounts, NY Commissioners, vol. 6, p. 116; Chap. 201, Apr. 16, 1826, Session Laws; "On the Proposition of the State of New York . . . ," Jan. 15, 1827, in Amer. St. Papers, vol. III, pp. 582-5.

31. Gov. Throop to Assembly, Jan. 5, 1830, Gov. Marcy to Assembly, Jan. 5, 1836, in Messages, vol. III, pp. 309-10, 570; Chap. 19, Feb. 6, 1836, Session Laws.

32. The pertinent documentation was attached to Report of COE, May 31, 1841, 27th Congress, 1st session, Senate Documents (serial 390).

33. Gov. Bouck to Assembly, Jan. 2, 1844, in Messages, vol. IV, p. 72; Chap. 274, May 4, 1844, Session Laws; Annual Reports, COE, 1842, 1843, 1844, 1845, 1846.

34. Correspondence from Lee, Totten, Seward, and Spencer, written in January and February 1842, is contained in Land Papers, RG 77, NAW.

35. Gov. Wright to Assembly, Feb. 4, 1845, in Messages, vol. IV, pp. 154-5; Chap. 94, Aug. 6, 1846, Statutes at Large of the United States. A copy of the deed, dated Feb. 15, 1847, is in the Delafield Papers.

Chapter IV. Fort Wadsworth and the Third American System, 1816-1865

1. Annual Report, COE, 1842. For recollections sixty-five years later of a visit in 1830 to the state grounds by a young Staten Islander, see Leng and Davis, vol. I, p. 328.

2. Report, COE, Feb. 7, 1821, Amer. St. Papers, vol. II, pp. 305-15; Revised Report of the Board of Engineers on the Defense of the Seacoast, Mar. 24, 1826, Amer. St. Papers, vol. III, pp. 283-302.

3. Report of the Engineers Department, Dec. 3, 1822, Amer. St. Papers, vol. II, p. 459.

4. System of Fortifications Recommended by the Board of Engineers, Feb. 27, 1826, Amer. St. Papers, vol. III, p. 245-60; James Barbour to Pres. Adams, May 17, 1826, Amer. St. Papers, vol. III, p. 582.

5. Report of COE for 1826, Amer. St. Papers, vol. III, pp. 359-72.

6. Extract from the Report of the Board of Commissioners on the Defense of the Sea-Coast, Apr. 7, 1820, Amer. St. Papers, vol. III, p. 585.

7. Annual Report, COE, 1843.

8. Revised Report of Board. Mar. 24, 1826; Explanatory Estimate for Fortifications, Arsenals . . . , Feb. 27, 1836, Amer. St. Papers, vol. III, pp. 121-2.

9. For the construction undertaken on Batteries Morton and Hudson, see Annual Report, COE, 1842, 1843, 1844, 1845; Douglas Southall Freeman, R. E. Lee: A Biography, vol. I (New York, Charles Scribner's Sons, 1942), pp. 186-200.

10. Letter of Secretary of War, Dec. 11, 1851.

11. Delafield to Totten, Dec. 18, 24, 1862, Delafield Letter Book, 1862-1864, New York Historical Society, pp. 8-10, 20; Delafield, Report of Operations . . . in Battery Hudson, 1862-1863, Delafield Letter Book, pp. 547-8; Delafield to Gov. Seymour, Jan. 26, 1863, Delafield Letter Book, pp. 90-100.

12. Delafield to Totten, Dec. 20, 1862, Jan. 3, 19, 23, Feb. 6, 1863, Delafield Letter Book, pp. 12-13, 33-6, 58-60, 83-7; Delafield to Parrott, Feb. 4, 1863, Delafield Letter Book, pp. 116-7; Report of Ordnance on Hand at Fort Wadsworth, New York Harbor, Feb. 25, 1867, Records of United States Army Continental Commands, 1821-1920, Fort Wadsworth, Record Group 393, NAW.

13. Totten to John Bell, May 12, 1841, in Report COE, May 31, 1841; Annual Report, COE, 1842.

14. "Plans, Sections and Elevations of the Project for Rebuilding Fort Richmond. . . , Oct. 1845," NAW-Cart., Drawer 3, Sheet 3. Delafield to Totten, Dec. 18, 1862, Delafield Letter Book, pp. 8-10. The position of the fort in relation to the main channel is shown in a small map of the Narrows contained in "Fortifications, New York Harbor, Plans, Sections and Elevations, Fort Wadsworth, Staten Island," Records, COE, RG 77, Branch Depository of National Archives, Bayonne (NAB), Entry 802, Box 47, Folder 6.

15. Annual Reports, COE, 1847, 1848, 1849, 1850, 1851, 1852, 1853, 1854, 1857; Winfield Scott to His Honor Mayor Wood, no date, New York Historical Society.

16. Annual Reports, COE, 1858, 1860.

17. Secretary of War, Amount Expended on Permanent Forts and Batteries, Jan. 8, 1874. For a later review of the history of the fort, see Col. Q. A. Gillmore to Maj. H. G. Gibson, Oct. 16, 1880, Records, COE, RG 77, NAB, Entry 748, vol. 5, pp. 484-7; Gen. Philip H. Sheridan to Robert Todd Lincoln, Sept. 2, 1884, as quoted in Wrenn, p. 118.

18. This description of Fort Richmond is based on numerous sources. Particularly useful are: "Plans, Sections and Elevations of the Project for Rebuilding Fort Richmond . . . October 1845," NAW-Cart.; "Plans, Sections and Elevations of the Project for Rebuilding Fort Richmond . . . Nov. 25, 1845," NAW-Cart.; Armament Map of Fort Richmond, Aug. 1864, NAW-Cart., Drawer 43, Sheets 56, 56a, 56b, 56c, 57; "Fortifications, New York Harbor, Plans, Sections and Elevations, Fort Wadsworth, Staten Island" (115680/3), RG 77, NAB; "Fortifications, New York Harbor, Plans, Sections and Elevations of Fort Wadsworth, Staten Island" (115180/4), RG 77, NAB.

19. Delafield to Gov. Seymour, Jan. 26, 1863

20. Lewis, pp. 58-65. See also the same author, "The Ambiguous Columbiads," Military Affairs, XXVIII (Fall 1964). Delafield to Maj. C. T. Christianson, Jan. 16, 1863, Delafield Letter Book, pp. 56-7.

21. Report of Secretary of War, Dec. 11, 1851; Annual Reports of COE, 1860, 1861; Delafield to Seymour, Jan. 26, 1863.

22. Delafield to Totten, Dec. 17, 1862, Delafield Letter Book, pp. 3-5.

23. Delafield to Totten, Dec. 17, 1862.

24. Delafield to Totten, Dec. 17, 20, 1862, Jan. 3, 7, 1863, Delafield Letter Book, pp. 6, 12-13, 33-6, 47-8.

25. Armament Map of Fort Richmond, August, 1864, NAW-Cart.

26. "Fort Wadsworth" (an armaments chart), June 30, 1866. Although this is a chart and not a map, sketch or illustration, it is filed in the Cartographic Research Room, NAW, Drawer 250, Sheet 17-1. See also "Armament Return, June 30th, 1885, Fortifications on Staten Island, N.Y. Harbor," NAW-Cart., Drawer 250, Sheet 6. For the use of the terms "columbiads" and "Rodmans" in the early 1860s, consult Lewis, "The Ambiguous Columbiads."

27. Annual Reports, COE, 1857.

28. Annual Reports, COE, 1851, 1857. The deeds for the two land purchases of the 1850s are listed in William G. Walker, History of Fort Wadsworth (mimeograph, 1937).

29. Chap. 97, Mar. 3, 1857, U.S. Statutes at Large; Letter from the Secretary of War, Dec. 11, 1851; Annual Reports, COE, 1858, 1859.

30. Annual Report, COE, 1859.

31. Annual Reports, COE, 1859, 1860.

32. Secretary of War, Amount Expended on Permanent Forts and Batteries, Jan. 9, 1874; Delafield to Totten, Feb. 2, 1863, Delafield Letter Book, pp. 110-4.

33. Annual Report, COE, 1841.

34. Annual Report, COE, 1841; Letter of Secretary of War, Dec. 11, 1851.

35. Delafield to Totten, Dec. 18, 24, 1862, Feb. 2, 5, 1863, Delafield Letter Book, pp. 8-10, 20, 110-4, 118; Delafield to James Cocroft, Feb. 11, 1863, Delafield Letter Book, p. 124; Report on the Progress of the Operations on the Fort at the Site of Fort Tompkins and Its Barbette Cliff Batteries, Oct. 1, 1863, Delafield Letter Book, pp. 552-4; Report of Ordnance on Hand at Fort Wadsworth, Feb. 25, 1867, Records of U.S. Army Continental Commands, RG 393, NAW.

36. Annual Report, COE, 1860.

37. "Headquarters, Corps of Eng., Washington, D. C., December 13, 1867," NAW-Cart., Drawer 41, Sheet 13.

38. Delafield to Totten, Dec. 29, 1862, Delafield Letter Book, pp. 28-9; Operations Connected with Construction of the New Casemate Battery on Staten Island . . . 1863, Delafield Letter Book, pp. 545-6; Annual Reports, COE, 1866, 1867, 1868, 1869.

39. Annual Report, COE, 1870; L. Dugan, "Fort Wadsworth, N.Y.H., From 1893 Drawing," Fort Hamilton Museum; George W. and Walter S. Bromley, Atlas of the City of New York, Borough of Richmond, Vol. Two, Wards 4 & 5 (Philadelphia: G. W. Bromley & Co., 1917), plate 4.

40. Butler's Map of Staten Island or Richmond County, 1853.

41. Rent Rolls at Fort Richmond, February 1855, Delafield Papers. See also a small (4" x 8") account book kept by Delafield.

42. Reports of Secretary of War, Dec. 1, 1853, Dec. 4, 1854.

43. Leng and Davis, vol. I, p. 279; Returns from Military Posts, 1800-1916, Fort Wadsworth, RG 94, NAW.

44. Statement of U.S. Buildings at Fort Wadsworth, Feb. 25, 1867; Statement Relative to Accomodation for Troops at Fort Wadsworth, N.Y.H., Feb. 26, 1867, Records of U.S. Army Continental Commands, RG 393, NAW.

Chapter V. Post-War Decades, 1865-1890

1. General Orders No. 161, Nov. 7, 1865, as quoted in Walker.

2. Changes in the fort's armament made between August 1864 and the summer of 1865 are noted in pencil in Armament Map of Fort Richmond, August 1864. See also "Fort Wadsworth" (an armament chart), June 30, 1866, NAW; Report of Ordnance on Hand at Fort Wadsworth, N.Y.H., Feb. 25, 1867, Records of U.S. Army Continental Commands, RG 393, NAW.

3. "Armament Return, June 30th, 1885, Fortifications on Staten Island, N.Y. Harbor," NAW-Cart., Drawer 250, Sheet 17-6.

4. For measurements and weights of American ordnance, see illustrations accompanying the Endicott Report, "Report of the Board of Fortifications or other Defenses . . . , William C. Endicott, Secretary of War, President," 49th Congress, 1st Session, House Executive Documents, vol. 28 (serial 2395, 2396).

5. Wrenn, pp. 118-9.

6. Lt. Maj. S. Van Vliet to Assistant Quartermaster General, Jan. 14, 1867, as quoted in Wrenn, pp. 117-8; Annual Report, COE, 1867. The various reports made out by Elder are in RG 393, NAW.

7. Report of Ordnance on Hand at Fort Wadsworth, N.Y.H., Feb. 25, 1867, RG 393, NAW.

8. Annual Reports, COE, 1874, 1875, 1876.

9. Commanding Officer, Fort Wadsworth to Major Gillmore, Jan. 2, 1882, Records of COE, NAB, RG 77/748, vol. VII, p. 155.

10. Sheridan to Robert Todd Lincoln, Sept. 2, 1884, as quoted in Wrenn, p. 118.

11. "Fort Tompkins Projected by the Bd. of Engineers for the Atlantic Coast Division. . . ," 1858, NAW-Cart., Drawer 41, Sheet 20; "Fortifications New-York Harbor. Plans & Sections of Fort Tompkins, North Cliff and South Cliff Batteries and Battery Hudson, . . . 1869," NAW-Cart., Drawer 41, Sheet 76.

12. The post-war construction of Fort Tompkins can be followed in Annual Reports, COE, 1866, 1867, 1868, 1870, 1871, 1872, 1873, 1874, 1875, 1876.

13. Sheridan to Robert Todd Lincoln, Sept. 2, 1884, as quoted in Wrenn, p. 118.

14. Annual Reports, COE, 1880, 1881, 1882.

15. Caroline Frey Winne to "Lud," Sept. 14, 1887, Letters of Caroline Frey Winne, 1886-1899, New York Historical Society.

16. Report of Secretary of War, Dec. 11, 1851; Annual Report, COE, 1861.

17. "Fort Tompkins Projected by the Bd. of Engineers for the Atlantic Coast Division. . . , 1858," NAW-Cart.; Annual Report, COE, 1874.

18. Annual Report, COE, 1886.

19. "Armament Sketch, Fort Wadsworth, N.Y., December 31, 1902," Fort Hamilton Museum.

20. Report of Ordnance on Hand at Fort Wadsworth, N.Y.H., Feb. 25, 1867, RG 393, NAW.

21. For appropriations for Battery Hudson, see Chap. 239, July 11, 1870; Chap. 119, Mar. 3, 1871; Chap. 467, June 10, 1872; Chap. 175, Dec. 21, 1873; Chap. 74, Apr. 3, 1874; Chap. 39, Feb. 10, 1875, U.S. Statutes at Large. The reconstruction of Battery Hudson and the other existing batteries and the construction of new emplacements, as well as the maintenance after work ceased, can be followed in the Annual Reports, COE, for the years 1866 to 1886.

22. Annual Report, COE, 1878.

23. Returns from Military Posts, 1800-1916, Fort Wadsworth, RG 94, NAW.

24. Returns from Military Posts, 1800-1916, Fort Wadsworth, RG 94, NAW.

25. Wrenn, pp. 118-9.

26. Letters of Caroline Frey Winne, 1886-1899, New York Historical Society.

27. For the petition and the various letters and reports, see Letter from the Secretary of War, Mar. 7, 1872, and accompanying documents; Annual Report, COE, 1873.

28. See L. Dugan, "Fort Wadsworth, N.Y.H., From 1893 Drawing," Fort Hamilton Museum.

29. Sheridan to Robert Todd Lincoln, Sept. 4, 1884, as quoted in Wrenn, p. 118; Reau Campbell, Rides and Rambles on Staten Island (New York: Staten Island Rapid Transit Railroad, 1899), pp. 12-13.

30. Gustav Kobbe, Staten Island, A Guide Book, with Illustrations and a Road Map (New York: Gustav Kobbe, 1890).

31. HR 6229, 46th Cong., 2nd sess., May 27, 1880; Secretary of War to William P. Copeland; Office of Board of Engineers to Brig. Gen. H. W. Wright, Jan. 11, 1881, all in Records, COE, Land Papers, Fort Wadsworth, RG 77, NAW.

32. Annual Report, COE, 1884.

Chapter VI. The Era of the Endicott Batteries, 1890-1920

1. "Report of the Board of Fortifications or other Defenses . . . , William C. Endicott, Secretary of War, President," 49th Cong. 1st sess, House Executive Documents, vol. 28 (serial 2395). In preparing its report, the Endicott Board visited existing fortifications, including, on July 15, 1885, Fort Wadsworth; Board on Fortifications, Miscellaneous Papers, 1885-1887, Records, COE, RG 77, Entry 464, NAW.

2. "Part of Clifton," in Frederick W. Beers, Atlas of Staten Island (New York: J. B. Beers & Co., 1874); "Northern Section of Richmond County," in J. B. Beers, Atlas of Staten Island (New York: J. B. Beers & Co., 1887).

3. A useful list of the conveyances to the government is contained in Walker, History of Fort Wadsworth. Information about the progress of negotiations and proceedings in the acquisition of land on Staten Island is contained in Annual Reports, COE, 1891-1903. Some of the documents are in Records, COE, Land Papers, Fort Wadsworth, RG 77, NAW.

4. See the maps in the Beers atlases of 1874 and 1887. A. G. Gillespie, A Guide to Coast Artillery Posts (Walworth, Wis.: Walworth Times Printer, 1915), p. 19. Robert Krist, "Fort Wadsworth," The Staten Island Historian, XVIII (July-Sept. 1957), p. 21.

5. Information in this section about the Endicott batteries at Fort Wadsworth and their armaments is derived from Annual Reports, COE, 1897-1905; Battery Emplacement Books, Records of United States Army Continental Commands, RG 393, NAW; Records, COE, RG 77, Entry 802, NAB.

6. Annual Report, COE, 1899.

7. See blueprint "Report of Completed Work - Seacoast Fortifications . . . Battery Barry," in Battery Barry Emplacement Book, RG 393, NAW.

8. New York Times, July 6, 1932, p. 21.

9. Report of the Chief of Coast Artillery, Sept. 1, 1910, in War Department, Annual Reports, Volume I (Washington: Government Printing Office, 1910), p. 695.

10. "Armaments Sketch, Fort Wadsworth, N.Y. December 31, 1902," Fort Hamilton Museum.

11. Chief Bureau of Ordnance to Secretary of the Navy, July 12, 1909, Records, COE, NAB, RG 77, Entry 802, Box 49, Folder 22; Assistant Secretary of War to Secretary of Navy, Oct. 5, 1917; Secretary of Navy to Secretary of War, Apr. 6, 1918; Headquarters, Fort Wadsworth to Commanding Officer, Coast Defenses, Southern New York, Apr. 23, 1918; Acting Secretary of War to Secretary of the Navy, Apr. 11, 1918; U.S. Engineers Office, 2nd District, New York City to Commanding General, Eastern Department, May 17, 1918; all in Records, COE, RG 77, NAB, Entry 802, Box 49, Folder 29.

12. Wrenn, pp. 126-7.

13. Annual Reports, COE, 1898, 1899, 1900.

14. W. H. Carter (Brig. Gen.), Our Coast Defenses: General Staff Report (Washington: Government Printing Office, 1903), p. 38; Headquarters, Fort Wadsworth to Commanding Officers, Coast Defenses, Southern New York, Apr. 23, 1918, Records, COE, RG 77, NAB, Entry 802, Box 49, Folder 29.

15. Engineers Office, U.S. Army, New York City, "Proposed Torpedo Storage Building at Fort Wadsworth, New York," Dec. 17, 1892, NAW-Cart., Drawer 43, Sheet 90-3; Annual Reports, COE, 1893, 1894, 1898, 1899, 1900, 1901.

16. Annual Report, COE, 1902; U.S. Eng. Office, 2nd District, "Map of Fort Wadsworth, N.Y. . . . 1918," RG 77, NAB, Entry 802, Box 49, Folder 20.

17. U.S. Eng. Office, 2nd District, Map of Fort Wadsworth, N.Y. . . . 1918."

18. Record of United States Army Continental Commands, RG 393, NAW.

19. Record of United States Army Continental Commands, RG 393, NAW; Report of the Chief of Coast Artillery, Oct. 2, 1915, in War Department, Annual Reports, Volume I (Washington: Government Printing Office, 1916), pp. 786-7.

20. Lewis, Seacoast Fortifications, p. 95; General Orders, Headquarters, Fort Wadsworth, July 12, 1911, Records, COE, RG 77, NAB, Entry 802, Box 48, Folder 12.

21. Ledger Book Deaths and Internments, Post Hospital, Fort Wadsworth, Records of United States Army Continental Commands, RG 393, NAW; Records of Events, June 1908, Jan. 1912, Feb. 1913, May 1913, Returns from Military Posts, RG 94, NAW.

22. Record of Events, February 1913, Returns from Military Posts, RG 94, NAW; Commission of Fine Arts to Dr. Dixon, Apr. 27, 1912, Records, COE, RG 77, NAB, Entry 82.

23. A. G. Gillespie, A Guide to Coast Artillery Posts, p. 19.

24. Records of United States Coast Artillery Districts and Defenses, 1901-1942, Coast Defenses of Southern New York, General Order, 1907, 1912-1918, RG 392, NAW, General Orders, No. 3, Jan. 24, 1918; Special Orders, 1913-1921, RG 392, NAW, Special Orders No. 15, Jan. 15, 1918.

25. Coast Defenses of Southern New York, RG 392, NAW, Special Orders, No. 92, Feb. 17, 1917.

26. Coast Defenses of Southern New York, RG 392, NAW, Special Orders No. 15, Jan. 15, 1918; Headquarters, Coast Defense of Southern New York to U.S. Engineers Office, Second District, New York City, May 14, 1916, Records, COE, RG 77, NAB, Entry 802, Box 49, Folder 27.

27. Coast Defenses of Southern New York, RG 392, NAW, General Orders, No. 8, Mar. 15, 1918.

28. Coast Defenses of Southern New York, RG 392, NAW, General Orders, No. 9, Mar. 16, 1918.

29. Coast Defenses of Southern New York, RG 392, NAW, General Orders, No. 16, Sept. 7, 1918; General Orders, No. 15, July 24, 1917.

30. Lewis, Seacoast Fortifications, pp. 101 ff.

31. Coast Defenses of Southern New York, RG 392, NAW, General Orders, 20, Dec. 5, 1918.

32. Headquarters, Second Coast Artillery District to Commanding General, Second Corps Area, May 9, 1928, Records, COE, RG 77, NAB, Entry 802, Box 49, Folder 42: U.S. Engineers Office, Third District, Report of Inspection of Coast Defenses at Fort Wadsworth, New York, Sept. 12,

1928, Records, COE, RG 77, NAB, Entry 802, Box 49, Folder 44.

33. Department Commander, Eastern Department to Adjutant General, Oct. 26, 1915; War Department to Chief of Ordnance, Nov. 1, 1915; Chief of Engineers to District Engineers, Second District, New York, August 7, 1919, in Records, COE, RG 77, NAB, Entry 802, Box 49, Folders 18 and 19; Records of United States Coast Artillery District, RG 392, NAW, Battery Emplacement Books.

34. New York Times, July 6, 1932, p. 21.

35. Records of United States Coast Artillery Districts, RG 392, NAW, Battery Emplacement Books. An armament map, "Map of Fort Wadsworth, New York," Oct. 13, 1936, indicates that Batteries Dix, Turnbull, and Catlin were still serviceable, Fort Hamilton Museum.

Conclusion.

1. Lewis, Seacoast Fortifications, p. 130.

ANNOTATED BIBLIOGRAPHY

In this bibliography, the depository is listed for unpublished sources and for rare or otherwise unusual published matterial. The cartographic sources are listed more or less chronologically.

I. Guides

Adams, Randolph G. British Headquarters Maps and Sketches Used by Sir Henry Clinton While in Command of the British Forces Operating in North America, 1775-1782: A Descriptive List of the Original Manuscripts and Printed Documents Now Preserved in the William L. Clement Library at the University of Michigan. Ann Arbor: William Clement Library, 1928.

Catalogue of the New York State Library: 1856 - Maps, Manuscripts, Engravings, Coins, Etc. Albany: Charles Van Benthuysen, 1857. Lists a map of 1757 related to a proposal to build batteries at the Narrows. The map is no longer extant.

Guide to the National Archives of the United States. Washington: General Service Administration, 1974.

Kingman, Don C. et al. (comp.). Index to Reports of U.S. Engineers, 1866-1912: Fortifications. Washington: Government Printing Office, 1916.

McClure, John (comp.). Analytical and Topical Index to the Reports of the Chief of Engineers and Officers of the Corps of Engineers, United States Army, 1866-1900. Washington: Government Printing Office, 1903.

Mix, David E. E. (comp.). Catalogue of Maps and Surveys in the Office of the Secretary of State, State Engineer and Comptroller and the New York State Library. Albany: Charles Van Benthysen, 1859.

Reel Guide and Subject Index to the Microfilm Collection of Early American Orderly Books, 1748-1818; from the Collection of the New York Historical Society. Woodbridge, Conn.: Research Publications, Inc., 1977.

II. Primary Sources

A. Documents for the Colonial, Revolutionary and State Periods

1. Unpublished:

Mitchell, Samuel Latham. Papers, 1792-1829. New York Historical Society. Includes several papers about the defense of New York harbor around 1807, but little about the Narrows.

New York State Office of Audit and Control. Accounts, 1783-1857 and Supplementary Papers. Manuscripts and Special Collections, New York State Library. A collection contained in twenty-three large folio volumes. Volumes II-VI contain the accounts and some other papers of the Commissioners of Fortifications for New York City, 1794-1819.

Orderly Book: Lt. Col. Tallmadge's Forty-Sixth Regiment, U.S. Infantry, New York, September 12, 1814-Apr. 18, 1815. New York Historical Society. An item in the Society's microfilmed Collection of Early American Orderly Books. Contains orders of the Third Military District of New York, which included Staten Island.

Proceedings of the Commissioners of Fortifications for the City of New York and Vicinity, Apr. 2, 1794-Feb. 6, 1796. New York Historical Society. The bound minute book of the body established by the state legislature to oversee the defenses of New York harbor.

U.S. Military Philosophical Society. Papers, 1789-1813. New York Historical Society. Includes suggested plans for fortification of the harbor of New York.

2. Published:

Dankers, Jaspar and Sluyter, Peter. Journal of a Voyage to New York and a Tour in Several of the American Colonies in 1678-80. Translated and edited by Henry C. Murphy. Brooklyn: Long Island Historical Society, 1867.

De Vries, David P. Voyages from Holland to America, A.D. 1632 to 1644. Reprinted in Cornell Jaray (ed.), Historic Chronicles of New Amsterdam, Colonial New York and Early Long Island. First Series. Port Washington, N.Y.: Ira J. Friedman, n.d.

Force, Peter (ed.). American Archives. 9 vols. Washington: Clarke and Force, 1837-1853. A monumental collection of Revolutionary documents, including proceedings and letters of the several Revolutionary congresses, conventions and committees of the province of New York.

Journal of the Votes and Proceedings of the General Assembly of the Colony of New York. 2 vols. New York: Hugh Gaine, 1764-1766.

Letter of Johannes Bogaert to Hans Bontemantal, Oct. 31, 1655, in J. Franklin Jameson (ed.), Narratives of New Netherland, 1609-1664. New York: Barnes and Noble, 1959 (reprint of 1909 edition).

Lincoln, Charles Z. (ed.). State of New York: Messages from the Governors. 11 vols. Albany: J. B. Lyon, 1909. A helpful source for following developments in state fortifications. Contains some documents other than governors' addresses.

"Melyn Papers, 1640-1699," in Collections of the New York Historical Society for the Year 1913. New York: New York Historical Society, 1914, pp. 97-138. Documents about the activities of the man some writers claim to have planted a settlement at the site of the present Fort Wadsworth.

Miller, John. A Description of the Province and City of New York with Plans of the City and Several Forts as They Existed in the Year 1695. Reprinted in Cornell Jaray (ed.), Historic Chronicles of New Amsterdam, Colonial New York and Early Long Island. First Series. Port Washington, N.Y.: Ira J. Friedman, n.d.

New York State Legislature. Session Laws. These are the laws passed at each session and are available in several different forms. Used in this report were a micro-card edition at the Library, State University of New York at Stony Brook.

O'Callaghan, E. B. (ed.). Calendar of Historical Manuscripts in the Office of the Secretary of State, Albany, N.Y. Part I: Dutch Manuscripts, 1630-1664; Part II: English Manuscripts, 1664-1776. 3 vols. Albany: Weed, Parson and Company, 1865-1866.

O'Callaghan, E. B. (ed.). The Documentary History of the State of New York. 4 vols. Albany: Weed, Parsons and Company, 1850-1851. Contains documents on the English period of New York's colonial history.

O'Callaghan, E. B. (ed.). Documents Relating to the Colonial History of the State of New York. 15 vols. Albany: Weed, Parsons and Company, 1856-1887. Particularly useful are the documents for the Dutch period. Also contains reports by English governors of fortifications in colonial New York.

Proceedings of a Board of General Officers of the British Army, 1871, in Collections of the New York Historical Society for the Year 1916. New York: New York Historical Society, 1916. Contains references to British army activity on Staten Island.

Stokes, I. N. Phelps (comp.). The Iconography of Manhattan Island, 1498-1909. 6 vols. New York: Robert H. Dodd, 1915-1918. A valuable collection of pictures, maps, and excerpts, sometimes lengthy, from primary sources, both published and manuscript. For this study, the most useful section is the "Chronology," found in volumes IV and V, which includes references to the defenses of New York harbor from the Dutch period to the Civil War.

Tompkins, Daniel D. Public Papers of Daniel D. Tompkins, Governor of New York, 1807-1817. 3 vols. New York: Wycoop, Hallenbeck, Crawford Co., 1898-1902. Contains important documents relating to the state fortifications and forces at the Staten Island site.

B. Documents for the National Period. Papers of Agencies and Officers of the Federal Government.

1. Unpublished:

Delafield, Richard. Papers, 1846-1862. New York Historical Society. Two boxes of vouchers, accounts, and other papers of the engineer in charge of the Staten Island site during the 1840s and middle years of the Civil War.

----------. Letter Press Book, 1862-1864. New York Historical Society. Contains copies of letters, many of which provide detail about Fort Richmond, Battery Hudson, and the beginning of South Cliff Battery.

Records of the Adjutant General's Office. National Archives, Washington. Record Group 94. Entry 63. The most important of these are Returns from Military Posts, 1800-1916 and are on Micro Copy 617. For the returns for Fort Wadsworth, which start during the Civil War, see rolls 1334-8.

Records of the Chief of Engineers. Record Group 77. As far as Fort Wadsworth is concerned, the unpublished papers of the Chief of Engineers are in three locations: (1) those obtained through the Central Research Room of the National Archives, Washington; (2) those held in the Cartographic Research Room of the National Archives, Washington, and are listed under section III of this bibliography; and (3) papers of the District Office of the Engineers, which are held in the branch depository of the National Archives, Bayonne, New Jersey. In addition, some of the papers of the Chief of Engineers have been published, especially his annual reports. They are listed in section II B of this bibliography. Most useful of the non-cartographic items of Record Group 77 held in the National Archives, Washington, are Entry 146, Letters and Reports of Col. Joseph G. Totten, 1803-1864; Entry 171, Land Papers, 1794-1916, Staten Island; and Entry 464, Board on Fortifications or Other Defenses, 1885-1887, Miscellaneous Papers.

The material at the Bayonne branch includes Entry 748, Letters Sent by Q. A. Gillmore Relating to Staten Island Fortifications . . . Jan. 1871-Dec. 1886; and Entry 802, Correspondence Relating to Fortifications Projects, 1907-1930, New York City, Fort Wadsworth, Boxes 46-49.

Records of the United States Army Commands, 1781-1821. National Archives, Washington. Record Group 98. The military forces at the state works on Staten Island were part of the Third Military District. See items in Entries 19, 20, 21, 26, which cover the years of the War of 1812.

Records of United States Army Continental Commands, 1821-1920. National Archives, Washington. Record Group 393. Post Returns, Fort Wadsworth.

Records of the United States Coast Artillery Districts and Defenses, 1901-1942. National Archives, Washington. Record Group 392. Fort Wadsworth was included in the Coast Defenses of Southern New York and then the Second Coast Artillery Districts. Entries 28, 229, 362, 363, 364 include correspondence, general and special orders, and other documents for the period 1907 to 1944. Useful are the battery emplacement books.

Scott, Winfield. Letter to his Honor Mayor Wood. New York Historical Society. An undated document probably written in 1856, in which General Scott advises the mayor of the armaments available at fortifications in the city and harbor of New York.

2. Published:

American State Papers, Class V: Military Affairs. 7 vols. Washington: Gales and Seaton, 1832-1861. Contains reports and letters sent to Congress by the Secretary of War concerning fortifications in general and at particular areas and sites.

Carter, W. H. (Brig. Gen.). Our Coast Defenses: General Staff Report. Washington: Government Printing Office, 1903.

"Report of the Board of Fortifications or other Defenses . . ., William C. Endicott, Secretary of War, President." 49th Congress, 1st Session, House Executive Documents, vol. 28 (serial 2395, 2396). The report of the Endicott Board, with an accompanying volume of illustrations.

Reports of the Chief of Coast Artillery. After the Coast Artillery became an independent unit within the army, yearly statements by its chief appear in War Department, Annual Reports, Washington: Government Printing Office, 1907-. Useful material relating to Fort Wadsworth was found in the reports for 1908, 1910, 1912, 1913. In the collection of the U.S. Army Military History Institute, Carlisle, Pennsylvania, are volumes in which the annual statement for the Coast Artillery is published separate from the War Department's Annual Reports. See Report of the Chief of Coast Artillery to the Chief of Staff. Washington: Government Printing Office, 1908-1933.

Chief of Engineers. Annual Reports.

These reports contain a section on seacoast fortifications, in which descriptions are given of the work performed by Army engineers on works being constructed or maintained by them. They also include recommendations of future projects. The reports constitute a valuable source, since they provide a year by year description of the progress of particular works on Staten Island as well as developments at Fort Wadsworth generally. The Chief of Engineer's report was usually contained in the reports submitted annually to Congress by the Secretary of War. During the nineteenth century, they appeared in volumes known as the Federal or U.S. Serials. The list below contains the year of the report of the Chief of Engineers, the Congressional Session, the identity of the volume (SD, Senate Documents; SED, Senate Executive Documents; HD, House Documents; HED, House Executive Documents), and the serial number (in parentheses). Beginning with the early twentieth century, the annual report of the Chief of Engineers was still published with the report of the Secretary of War, but in volumes other than the Federal Serials. In the list below, the reports for the years with no entries were either not consulted or not located.

1841 - 27th Cong, 2nd sess, SD No. 2 (395)
1842 - 27th Cong, 3rd sess, HD No. 2 (418)
1843 - 28th Cong, 1st sess, SD No. 1 (431)
1844 - 28th Cong, 2nd sess, SD (449)
1845 - 29th Cong, 1st sess, SD (470)
1846 - 29th Cong, 2nd sess, SD No. 1 (493)
1847 - 30th Cong, 1st sess, SED No. 1 (503)
1848 - 30th Cong, 2nd sess, HED No. 1 (537)
1849 - 31st Cong, 1st sess, SED No. 1 (549)
1850 - 31st Cong, 2nd sess, SED No. 1 (587)
1851 - 31st Cong, 3rd sess, SED vol. 1 (611)
1852 - 32nd Cong, 2nd sess, SED vol. 2, pt. 2 (659)
1853 - 33rd Cong, 1st sess, SED vol. 2 (691)
1854 - 33rd Cong, 2nd sess, HED vol. 1, pt. 2 (778)
1855 - 34th Cong, 1st & 2nd sess, SED, vol. 2 (811)
1856 - 34th Cong, 3rd sess, SED vol. 3 (826)
1857 - 35th Cong, 1st sess, HED, vol. 2, pt. 2 (945)
1858 - 35th Cong, 2nd sess, HED, No. 2, pt. 3 (999)
1859 - 36th Cong, 1st sess, SED, vol. 1 (1024)
1860 - 36th Cong, 2nd sess, SED vol. 2 (1079)
1861 - 37th Cong, 2nd sess, SED vol. 2 (1118)
1866 - 39th Cong, 2nd sess, HED vol. 3 (1285)
1867 - 40th Cong, 2nd sess, HED vol. 2, pt. 2 (1322)
1868 - 40th Cong, 3rd sess, HED vol. 3, pt. 2 (1365)

1869 - 41st Cong, 2nd sess, HED vol. 2, pt. 2 (1412)
1870 - 41st Cong, 3rd sess, HED vol. 2, pt. 2 (1447)
1871 - 42nd Cong, 2nd sess, HED vol. 2 (1504)
1872 - 42nd Cong, 3rd sess, HED vol. 2, pt. 2 (1559)
1873 - 43rd Cong, 1st sess, HED vol. 2, pt. 3 (1598)
1874 - 43rd Cong, 2nd sess, HED vol. 3 (1636)
1875 - 44th Cong, 1st sess, HED vol. 1, pt. 2 (1675)
1876 - 44th Cong, 2nd sess, HED vol. 2, pt. 2 (1743)
1877 - 45th Cong, 2nd sess, HED No. 2, pt. 2 (1795)
1878 - 45th Cong, 3rd sess, HED vol. 3 (1844)
1879 - 46th Cong, 2nd sess, HED No. 1, pt. 2 (1904)
1880 - 46th Cong, 3rd sess, HED No. 1, pt. 2 (1953)
1881 - 47th Cong, 1st sess, HED vol. 3 (2011)
1882 - 47th Cong, 2nd sess, HED No. 2, pt. 2 (2092)
1883 - 48th Cong, 1st sess, HED vol. 2 (2183)
1884 - 48th Cong, 2nd sess, HED vol. 3 (2278)
1885 -
1886 - 49th Cong, 2nd sess, HED vol. 3, pt. 1 (2462)
1887 -
1888 -
1889 - 51st Cong, 1st sess, HED vol. 2 (2716)
1890 -
1891 - 52nd Cong, 1st sess, HED No. 1, pt. 2 (2922)
1892 - 52nd Cong, 2nd sess, HED (3078)
1893 - 53rd Cong, 2nd sess, HED No. 1 (3199)
1894 - 53rd Cong, 3rd sess, HED (3296)
1895 - 54th Cong, 1st sess, HED No. 2 (3371)
1896 - 54th Cong, 2nd sess, HED No. 2 (3479)
1897 - 55th Cong, 2nd sess, HED No. 2 (3631)
1898 - 55th Cong, 3rd sess, HED No. 2 (3746)
1899 - 56th Cong, 1st sess, HED No. 2 (3905)
1900 -
1901 - 58th Cong, 1st sess, HED vol. 12 (4279)
1902 - 58th Cong, 2nd sess, HED vol. 5 (4444)
1903 - 58th Cong, 2nd sess, HED No. 2 (4636)

Report of the National Coast Defense Board. Washington: Government Printing Office, 1906. The forty-three page report of the Taft Board.

Secretary of War.

The Secretary of War submitted an annual report, starting in the fourth decade of the nineteenth century, the most important part of which, for this study, is the report of the Chief of Engineers, listed elsewhere in this bibliography. Occasionally, in the annual reports or reports of another nature, the Secretary of War himself made statements touching

upon fortifications or included documents relating to that topic. Those reports are listed below:

Dec. 11, 1851 - 32 Cong, 1st sess, HED No. 5 (637)
Dec. 1, 1853 - 33rd Cong, 1st sess, SED vol. 2 (691)
Dec. 4, 1854 - 33rd Cong, 2nd sess, HED vol. 1, pt. 2 (778)
Dec. 1 1862 - 37th Cong, 3rd sess, HED vol. 4 (1159)
Jan. 16 1866 - 39th Cong, SED vol. 1 (1237)
Mar. 7, 1872 - 42 Cong, 2nd sess, HED (1513)
Nov. 1, 1872 - 42nd Cong, 3rd sess, HED (1558)
Jan. 8, 1874 - 43rd Cong, 1st sess, HED vol. 8 (1606)
Nov. 1, 1874 - 43rd Cong, 2nd sess, HED vol. 1 (1635)
Nov. 30, 1888 - 50th Cong, 2nd sess, HED vol. 1 (2628)
Jan. 7 1890 - 51st Cong, 1st sess, HED No. 98 (2741)

Statutes at Large of the United States of America, 1789-1873. 17 vols. Boston: Little Brown, 1850-73. In 1874, the series was continued by the Department of State, under the title United States Statutes at Large.

C. Other

1. Unpublished

Winne, Caroline Frey, Letters, 1886-1899. New York Historical Society. Typed transcription of letters and in bound volume. Mrs. Winne was the wife of an army surgeon stationed at Fort Wadsworth and some of her letters comment on life at the post in the period 1887-1890.

2. Published

Barnard, John Gross. The Dangers and Defenses of New York: Addressed to the Hon. J. B. Floyed, Secretary of War. New York: D. Van Nostrand, 1859.

----------. Notes on Sea-Coast Defense: Consisting of Sea-Coast, Fortification, the Fifteen-Inch Gun and Casemate Embrasures. New York: D. Van Nostrand, 1861. Colonel Barnard, author of this and the work above, was the engineer at the Staten Island site and a vigorous champion of casemated forts.

Campbell, Reau. Rides and Rambles on Staten Island. New York: Staten Island Rapid Transit Railroad, 1889.

Contains an unusual description of the grounds of Fort Wadsworth.

Fort Wadsworth Military Ball and Exhibition, First of February, 1929. Staten Island Institute of Arts and Sciences. A program for the ball and exhibition, sponsored by the 16th Infantry. Includes a discussion of the history of the post as well as better informed descriptions of the 16th Infantry and the new barracks on New York Avenue.

Gillespie, A. G. A Guide to Coast Artillery Posts. Walworth, Wisc.: Walworth Times Printer, 1915. U.S. Army Military History Institute, Carlisle. Written by a C.A.C. officer and mainly for the use of officers, it offers an assessment of the assets and defects of Fort Wadsworth as a duty station on the eve of America participation in World War I.

Kobbe, Gustav. Staten Island, A Guide Book, with Illustrations and a Road Map. New York: Gustav Kobbe, 1890. A pamphlet containing a brief description of the grounds of Fort Wadsworth.

III. Cartographic Sources.

Leng, Charles E. "Map of Staten Island . . . by Charles E. Leng, with Ye Olde Names & Nicknames by William T. Davis," 1896, 1968. Staten Island Institute of Arts and Sciences.

Tuttle, George W. "The Town of Dover Upon Staten Island Showing Ownership of Land, 1664-1695," in Proceedings of the Staten Island Institute of Arts and Sciences, vol. I (1923), pp. 37-38.

Skene, Frederick. "Map of Colonial Land Grants, 1668-1712." Staten Island Institute of Arts and Sciences.

Popple, Henry. "Map of the British Empire in North America," London, 1733. Map Division, New York Public Library.

Bellini, S., "Bay and Port of New York, Capital of New York: From the Collection of Charts and Plans Made by Order of the Duke of de Choiseul and Executed by S. Bellini in 1764." Map Division, New York Public Library.

Sauthier, Claude and Faden, William. "A Topical Map of Hudson's River," London, 1776. Map Division, New York Public Library.

"Èmplacement Des Troops en Quartier D'Hiver sur Long, York, et States Islands." n.d. (1770s). Map Division, New York Public Library.

"Chart of Entrance of Hudson's River." 1776. Staten Island Institute of Arts and Science. A British map.

Bew, J. "Chart and Plan of the Harbour of New York and the Country Adjacent, From Sandy Hook to Kingsbridge, Comprehending the Whole of New York and Staten Island, and Parts of Long Island and the Jersey Shore: And Showing the Defences of New York by Both Land and Sea." London, 1781. Map Division, New York Public Library. Shows British fortifications on site of Fort Wadsworth.

"Plan (No. 34) du Camp Anglo-Hessois dans Staten Island (Baie de New York) de 1780-1783." Staten Island Institute of Arts and Sciences.

"Situation Des Posten zu Denises Ferry auf Long Island wie solder den 7th October 1781 von Furste . . . ." The original is in the William Clements Library, University of Michigan. A xerox copy in the Office of the Town Historian, Huntington, N.Y. was used in this study.

Taylor, George and Skinner, A. "A Map of New York and Staten Island and Part of Long Island," London, 1781. Map Division, New York Public Library.

Map of the Lower Hudson Valley. An untitled, undated map with handwritten "References," obviously from the Revolutionary period. Gives particulars of British fortifications in the area, including at Vandeventer's Point, Staten Island. A xerox copy of the map is on file in the Office of the Town Historian, Huntington, N.Y. Efforts to identify the map have failed.

"A New and Correct Map of the County of Richmond Made in the Year 1797 Agreeable to an Act Passed by the Legislature of the State of New York. . . ." Staten Island Institute of Arts and Sciences.

"Map of the State Land at Staten Island Representing the Situation of the Ground and the Fortifications to be Erected." Mar. 13, 1809. Cartographic Research Room, National Archives, Washington, Drawer 36, Sheet 17.

Parassin Capt. "State of New York, Fort Tompkins, Fort Richmond," 1819. Cartographic Research Room, National Archives, Washington, Drawer 41, Sheet 3. Shows trace and profile of the state versions of the two forts, and also a profile of Battery Hudson. The only known drawing with any detail of the old Fort Tompkins.

Topographical Bureau. "Map of Fortifications on Staten Island," 1827. in American State Papers, Military Affairs, vol. III, p. 584. One of only two known maps which show the entire New York state works.

"Map of Fort Richmond, Staten Island." N.d. Manuscripts and Special Collections, New York State Library. Probably mid-1820s. Similar to that appearing in American State Papers.

"Plans, Sections and Elevations of the Project for Rebuilding Fort Richmond. Drawn Under the Direction of Col. J. G. Totten, Chief Eng. by J. Q. Foster, Bvt 1st Lt. Eng., Washington, D. C., October 1845." Cartographic Research Room, National Archives, Washington. Drawer 3, Sheet 3. Shows first tier.

"Plans, Sections & Elevations of the Project for Rebuilding Fort Richmond. Drawn under the Direction of Col. J. G. Totten, Chief Eng. by H. G. Wright, Lt. of Eng., Wash. D. C., Nov. 25, 1845." Superimposed is "Sketch of Ground & Position of Old Fort Richmond, Staten Island." Cartographic Research Room. National Archives, Drawer 43, Sheet 2. The sketch of the old fort was done by Robert E. Lee and was sent with a letter dated Sept. 2, 1841. The map is particularly useful in showing the position of the old fort in relation to the new one.

"Rough Sketch Made by Mr. Ober, Oct. 14, 1880, of the Land, or Rather the First Piece of Land, Conveyed to the U.S. by the State of N. York, Feb. 15, 1847. . . ." National Archives, Washington, RG 77, Entry 171. A crude map showing bearings and distances.

Delafield, Richard. "Jacobsen's 5 2/10 A." In Delafield Papers, New York Historical Society. A sketch of the tract purchased by the government in 1854 and located south of Battery Hudson.

Butler's Map of Staten Island or Richmond County, 1853. Staten Island Institute of Arts and Sciences.

"Fort Tompkins Projected by the Bd. of Engineers for the Atlantic Coast Division, Drawn under the Direction of the Board by John C. Palfrey." Cartographic Research Room, National Archives, Washington. Drawer 41, Sheet 20. This is a series of plans made in 1858, and represents the original intention. Plan No. 1 shows the channel front with a caponnier in its center, which was eliminated when the plans for the front were altered in 1869.

Walling, H. G., "Map of Staten Island, Richmond County," 1859. Staten Island Institute of Arts and Sciences. Shows Forts Richmond and Tompkins, Battery Hudson, the lighthouse, and tracts of property owners in Fort Wadsworth area.

"Six Sketches Showing Arrangement for Catching Shot, Proposed in 1863 or 1864 to be Fired Against the Scarp Wall of Fort Richmond in New York Harbor for the Purpose of Testing its Strength." Cartographic Research Room, National Archives, Drawer 43, Sheets 61-1 to 61-6. Essentially the arrangement called for construction of a wall of sand bags or kegs between the piers of all casemates in the northeast face and filling the communiation arches and passage ways with loose sand. The sand would spill out into the parade forming a steep ramp from the parade to the barbette. On top of the sand ramp would be another of rammed earth and finally a facing of sand bags. The test was never conducted and the arrangement never installed.

Armament Map of Fort Richmond, August 1864. Cartographic Research Room, National Archives, Washington, Drawer 43, Sheets 56; 56 a, b, c; 57. Valuable documents showing the fort's first full complement of weapons. Pencilled notations indicate some changes made in summer of 1865.

Fort Tompkins, 1864. Cartographic Research Room, National Archives, Washington. Drawer 41, Sheet 9. Sketch

showing twelve gun positions at southwest and northwest angles of barbette.

"Section of Roof of Guardhouse, Fort Richmond, Jan. 4, 1866." A blueprint reproduction made in 1917. National Archives, Bayonne, RG 77, Entry 802, Box 47, Folder 6.

"Inside Elevations, Guard House, Fort Wadsworth (Fort Richmond)," May 14, 1867. A blueprint reproduction made in 1917. National Archives, Bayonne, RG 77, Entry 802, Box 47, Folder 6.

"Fortifications, New York Harbor, Plans, Sections and Elevations, Fort Wadsworth, Staten Island." A blueprint reproduction made in 1917. Has on reverse 115680/3. National Archives, Bayonne, RG 77, Entry 802, Box 47, Folder 6. Shows plan of first, second and third tiers. This and the following item are the best plans found of the present Battery Weed.

"Fortifications, New York Harbor, Plans, Sections and Elevations of Fort Wadsworth, Staten Island." A blueprint reproduction made in 1917. Has on reverse 115180/4. National Archives, Bayonne, RG 77, Entry 802, Box 47, Folder 6. Shows plan of barbette, top view of arches, details of embrasures.

"Headquarters, Corps of Eng., Washington, D. C., December 13, 1867." Cartographic Research Room, National Archives, Washington. Drawer 41, Sheet 13. A sketch with few details showing the trace of the proposed new casemated work to be built south of Battery Hudson.

"Fortifications New York Harbor. Plans & Sections of Fort Tompkins, North Cliff and South Cliff Batteries and Battery Hudson, Staten Island as Modified by Board of Engineers for Fortifications, 1869." Cartographic Research Room, National Archives, Washington, Drawer 41, Sheet 76. Apparently plans for modification of the batteries.

"Ground Plans, Fort Wadsworth Showing Location of Buildings, etc." 1871. Cartographic Research Room, National Archives, Washington, Miscellaneous Fortifications Files, Fort Wadsworth. Shows proposed construction of buildings on Mont Sec Avenue as well as other structures to be built or already in existence.

"Fortifications, New York Harbor, Plan and Details of North Cliff Battery, September 1871." A blueprint reproduction made in 1917. National Archives, Bayonne, RG 77, Entry 802, Box 47, Folder 6. A plan for modifying the battery, to enable it to receive twelve 15-inch guns.

"Part of Clifton," in Frederick W. Beers, Atlas of Staten Island. New York: J. B. Beers & Co., 1887.

"Northern Section of Richmond County," in J. B. Beers, Atlas of Staten Island. New York: J. B. Beers & Co., 1887.

Engineers Office, U.S. Army, New York City. "Proposed Torpedo Storage Building at Fort Wadsworth, New York." Dec. 17, 1892. Cartographic Research Room, National Archives, Washington, Drawer 43, Sheet 90-3.

Dugan, L. "Fort Wadsworth, N.Y.H., From 1893 Drawing." Fort Hamilton Museum. A useful map, showing the post, forts, batteries, buildings, and roads shortly before launching of the Endicott program of expansion and new batteries.

"Report of Completed Works - Seacoast Fortifications. Coast Defenses of Southern New York, Fort Wadsworth. Battery Barry." No date. In Battery Barry Emplacement Book, National Archives, Washington, RG 392.

"Armament Sketch, Fort Wadsworth, Dec. 31, 1901." Fort Hamilton Museum. Shows armament of forts and batteries in the post east of New York Avenue.

"Armament Sketch, Fort Wadsworth, N.Y., December 31, 1902." Fort Hamilton Museum. Covers a larger area than the sketch the previous year.

Bromley, George W. & Walter S. Atlas of the City of New York, Borough of Richmond, Vol. Two, Wards 4 & 5. Philadelphia: G. W. Bromley & Co., 1917. The area around Fort Wadsworth is shown of plates 4, 8 and 9.

U.S. Eng. Office, 2nd District. "Map of Fort Wadsworth, N. Y. Showing All Buildings and Structures, May 13, 1918." National Archives, Bayonne. RG 77, Entry 802, Box 49, Folder 20. A large 34" by 46" map that shows all buildings and structures except the batteries. The buildings are numbered and the key has not been located.

However, it serves to show the building program occasioned by World War I.

"Map of Fort Wadsworth, New York," Oct. 13, 1936. Fort Hamilton Museum. Is something of an armament map, showing locations of antiaircraft weapons and also indicating caliber of guns at Batteries Dix, Turnbull and Catlin.

"Harbor Defenses of New York: Submarine Mine Shore Installation, Fort Wadsworth, N. Y., August 1943." Fort Hamilton Museum. Indicates such facilities as mine boat house, mine storehouse, and mine plotting room.

Corps of Engineers, U.S. Army. "Fort Wadsworth, Staten Island, New York." Provided the author by the National Park Service. Undated, but probably around 1962. Shows the present post after construction of the Verrazano Bridge.

IV. Secondary Sources: Books, Pamphlets, Articles.

Alperstein, David M. "Under Three Flags: Fort Wadsworth," Periodical, XI, No. 2 (Summer, 1979). Relying on secondary articles and pamphlets, one of the most recent mistaken assertions of the longevity and continuity of Fort Wadsworth.

Anderson, Albert and Sainz, Donald R. "Excavations at Oude Dorp," The New Bulletin, XIV (June, 1965).

Arthur, Robert. "Early Coast Fortification," The Military Engineer, LIII (1961). Covers the First and Second Systems.

Batchelor, John and Hogg, Ian. Artillery. New York: Charles Scribner's Sons, 1972. A well illustrated work on the development of modern ordnance. Is strongest on British weapons. Contains a section on coastal guns.

Baugher-Perlin, Sherene and Bluefield, Frederick A. "A Background Study of Historic Land Use of the Gateway Recreation Area, Staten Island Unit." July 1980. Typescript. Prepared for the National Park Service. Pages 5-29 cover Fort Wadsworth in a fairly general fashion.

Comptroller Section. History of Fort Wadsworth: Tricentenary, 1663-1963. May 1, 1963, mimeograph. U.S. Army Military History Institute, Carlisle. One of several similar pamphlets on the history of the site.

Davis, William. "Staten Island Names, Ye Olde Names and Nicknames," Proceedings of the Natural Science Association of Staten Island, V (Mar. 1896).

Flexner, James Thomas. George Washington in the American Revolution, 1775-1783. Boston: Little Brown, 1967. Contains a general description of the British campaign in the lower Hudson valley in 1776.

Freeman, Douglas Southall. R. E. Lee: A Biography. Vol. I. New York: Charles Scribner's Sons, 1942. Describes Lee's activities on the Staten Island site in the early 1840s.

History of Fort Wadsworth. Mimeograph. No date, probably 1962. Fort Hamilton Museum.

Krist, Robert. "Fort Wadsworth," The Staten Island Historian, Part I, XVIII (July-Sept. 1957), Part II, XVIII (Oct.-Dec., 1957). Since this covers mainly the years of World War II and the period thereafter, about which the author had direct information, this is the best published article or pamphlet on the post. It essentially begins where the present study stops.

Leng, Charles W. and Davis, William T. Staten Island and Its People: A History, 1609-1929. 2 vols. New York: Lewis Historical Publishing Company, 1930-1933. The best local history of Staten Island. The authors' cautious statements about Dutch settlements near the site of Fort Wadsworth have often been misread.

Lewis, Emanuel Raymond. "The Ambiguous Columbiads," Military Affairs, XXVIII (Fall 1964). A careful tracing of the development of the principal weapon in seacoast defenses prior to the Civil War.

Lewis, Emanuel Raymond. Seacoast Fortifications of the United States: An Introductory History. Washington: Smithsonian Institution Press, 1970. Indispensable for an understanding of harbor and seacoast defenses in the United States. This author has relied upon Lewis's chronology and particularly on his discussion of the evolution of guns and fortifications.

Mershon, S. L. Special Brief: English Crown Grants and Lands Under Water in the County of Richmond, New York. New York: Appeal Printing Co., n.d. (1918). Discusses the location of Sand Bay and other places near Fort Wadsworth. Long Island Historical Society.

Millis, Walter. Arms and Men, A Study in American Military History. New York: G. P. Putnam's Sons, 1956. A masterful discussion of American military policy.

Morris, Ira K. Memorial History of Staten Island. 2 vols. New York: Memorial Publishing Co., 1898, 1900. Perhaps the first work to advance the erroneous claim of Fort Wadsworth's seventeenth-century beginnings and of its continuous garrisoning ever since.

Peckham, Howard H. The Toll of Independence: Engagements and Battle Casualities of the American Revolution. Chicago: University of Chicago Press, 1974. A definitive listing of Revolutionary engagements on land and sea. Makes no mention of any incident that can be related to the site of Fort Wadsworth.

Roberts, Robert B. New York's Forts in the Revolution. Cranbury, N. J.: Fairleigh Dickenson University Press, 1980. Pages 321-326 describe Staten Island fortifications, but the author does not indicate the sources of his information.

Robinson, William B. American Forts: Architectural Form and Function. Urbana, Ill.; University of Illinois Press, 1977. Essentially an architectural approach to forts, well illustrated with an extensive bibliography.

Stevens, Phillip H. Artillery Through the Ages. New York: Franklin Watts, Inc., 1965. A readable, if over-simplified discussion. Chapter 11 covers the coastal artillery.

Wade, Arthur P. "Artillerists and Engineers: The Beginnings of American Seacoast Fortifications, 1794-1815." Ph.D. diss., Department of History, Kansas State University, 1977. U.S. Military History Institute, Carlisle. This work is mainly an institutional study of the artillery and the engineers as they related to harbor fortifications.

Walker, William G. History of Fort Wadsworth. 1937, mimeograph. Useful in describing the post in the 1930s and also contains informative excerpts from general orders regarding Fort Wadsworth and land conveyances.

Williams, Ames W. "The Old Forts of New York Harbor," The Periodical, IV, No. 13-14 (Fall-Winter, 1972). Covers mainly the Second and Third Systems.

Wrenn, Tony P. "General History of the Jamaica Bay, Breezy Point and Staten Island Units, Gateway National Recreation Area, New York, N. Y." October 31, 1975. Typescript. Pages 108-134 cover Fort Wadsworth. Prepared for the National Park Service. Useful because of its reliance on primary sources.

Yancey, Thomas R. "Fort Wadsworth: An Address Given on the Occasion of the Annual Meeting of the Staten Island Historical Society, May 21, 1967," The Staten Island Historian, XXVIII (July-Sept. 1967).

V. Miscellaneous Sources

New York Times

Clipping File, "Fort Wadsworth," Local History Division, New York Public Library.