Fort Schuyler and the Defenses of the Eastern Approaches to New York Harbor: a Historic Resource Study

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The Board of Engineers Examines New York’s Eastern Approaches and Plans New Works

The security of the eastern approaches to New York City, from Long Island Sound via the East River, received the close attention of the Board of Engineers in 1820 and 1821. Although defenses had been established in the vicinity of Hell Gate in the East River during the War of 1812, the need for additional works further from the city was fully appreciated by the board in the years following the nation’s second war with Great Britain. Works were projected at Throg’s Neck on the East River near the head of Long Island Sound to:(1)

...force the enemy to land in the sound at a great distance from the city, and place Brooklyn Heights at the bottom of an interior curve of the frontier of which these works [fortifications at the Narrows, and at Throg’s Neck] occupy the extremities, in the rear of an enemy moving upon Brooklyn, and afford time, by their resistance for the militia to assemble and march to the relief of the city; thus greatly diminishing the chances of success to the enterprise.

The premise upon which these fortifications were projected would, over the next century, come under no little criticism from engineering officers. Not until the introduction of rifled breechloading ordnance in the last years of the nineteenth century, and the erection of massive batteries of reinforced concrete on the islands at the entrance to Long Island Sound early in the twentieth century, would the issues associated with the defense of New York’s eastern approaches be somewhat resolved. For nearly half a century, the stone fortifications of Fort Schuyler at Throg’s Neck, and its companion work across the river at Willet’s Point, Fort Totten, served as the primary defenses at the mouth of the East River.(2)

That the nation’s leading commercial center and seaport was, in the early decades of the 1800’s, inadequately defended would be an understatement. If the southern entrance to New York Harbor was poorly defended by the several small works on islands in the inner harbor and the inadequate works at the Narrows, the city’s eastern approaches were even less well protected. Only Fort Stevens and a stone tower built during the War of 1812, and an outmoded blockhouse and a few earthworks in the vicinity of Hell Gate stood between an enemy fleet and the wealth and commerce of New York. The Board of Engineers called for new works at the Narrows as well as works at Throg’s Neck and Willet’s Point on the East River. The fort planned for Throg’s Neck was designed for a garrison of 1,540 men in time of war; its peacetime garrison was to be a much more modest 100 officers and enlisted men. The initial estimate in the early 1820s for construction of the Throg’s Neck works was $471,181. The fort was to be a work of the first class, and was to be constructed as soon as works already in progress at other locations were sufficiently complete, that funds could be allotted, and engineers assigned. The state of the national treasury did not permit simultaneous construction of all eighteen major works then underway or projected for the immediate future.(3)
Throg’s Neck Is Acquired for Defense Purposes and Project Is Authorized

The Throg’s Neck works remained on the drawing boards over the next several years while more urgent fortifications were built. In December 1823, Major Joseph G. Totten, of the Corps of Engineers, on behalf of the War Department, entered into negotiations with C. H. Hammond, owner of the projected site for the new fort on Throg’s Neck. The government required fifty-two acres at the point of the neck, of which three acres were to be set aside for a lighthouse. Difficulties in gaining possession of the site led the State Legislature of New York to cede jurisdiction to the federal government. The tract was appraised at $10,500. With condemnation proceedings threatened, Hammond offered to sell the land for $15,000, a sum agreeable to the War Department. Further difficulties arose however, over a right of way through the Hammond property to a public road. This issue was eventually resolved by the government agreeing to pay an additional $2,000 for the easement. On February 18, 1825, the two parties entered into an agreement on the transaction. Actual cession of the right of way, however did not occur until 1836.

By the early 1830s, the numerous fortifications under construction along the Atlantic and Gulf coasts were nearing completion. Colonel Charles Gratiot, the army’s chief engineer, called the attention of the secretary of war to the need for the appropriation of funds to begin the new fort at Throg’s Point.

The sum of $25,000 was appropriated by Congress in fiscal year 1832/1833 to initiate construction of Fort Schuyler on Throg’s Neck. Captain John Lind Smith, engineer in charge at Forts Macon and Caswell in North Carolina, was ordered to New York in 1832 to supervise engineer activities in New York Harbor.

Fort Schuyler was named in honor of Major General Phillip Schuyler of the Continental Army, one of New York’s ranking officers in the Revolutionary War, who had died on November 18, 1804.

Upon his arrival in New York, Captain Smith began to collect construction material for the new fort, while at the same time supervising repairs to Fort Columbus and Castle Williams on Governor’s Island, as well as other fortifications in the inner harbor. In the meantime, Lieutenant Colonel Totten and Major Sylvanus Thayer, of the Board of Engineers, revised the original plans and estimates for Throg’s Neck. The board, in its initial surveys more than a decade before, had developed preliminary plans and estimates for a large work of irregular trace. Now that the project was to be implemented, a more complete survey was ordered. The results of the new survey by Brevet Captain William Gibbs McNeill, Topographical Engineers, caused the board to modify the original plans and estimates which had discounted the possibility that vessels drawing more than 18 feet could enter Eastchester Bay to the east of Throg’s Neck, between City Island and Pennyfield Point. As it turned out, this body of water did prove too shallow for heavy vessels, and the original survey was found to be generally acceptable.

In consultation with Captain Smith, Colonel Totten and Major Thayer developed a revised plan and new estimates during the winter of 1833/1834, and submitted their report in mid-March. The new plans called for a more symmetrical polygon. Although the new plan differed little in terms of relief from the original plans, the trace was substantially altered. The angles of the three-tiered polygon were opened more, providing for a greater number of guns to bear on the channels approaching and passing Throg’s Point. A ditch originally planned
around the water fronts of the fort was eliminated in the revision, along with the casemated caponniers which would have provided flanking defense of the curtains. In the new plans the defense of the curtains was to be provided by three tower bastions. The alterations in the trace of the channel fronts increased the length of the gorge, thus providing additional space for quarters, storerooms, and magazines. The revised plans also improved the enciente’s command of the coverface by increasing the height of the scarp.(10)

The trace of the coverface on the on the fort’s gorge, or land front, remained much the same as in the original design, but its elevation was increased some seven feet in order to better mask the increased height of the masonry scarp of the gorge. Those parts of the coverface facing the waters of the East River and Long Island Sound were to receive seacoast guns to augment the batteries on the fort’s channel faces. The dimensions of the exterior ditch, between the coverface and the countercarp of the covered way, remained unaltered. The covered way and its glacis coupe was raised four feet six inches to improve the masking of the coverface’s masonry scarp. The place of arms on the covered way, opposite the coverface curtain, was enlarged, and the right, or north, extremity of the covered way branch, which looked out upon the waters of the sound, was also to receive seacoast armament.(11)

Brevet Second Lieutenant John Gross Barnard, Corps of Engineers, the assistant to the Board of Engineers during the revision of the fort’s design, was assigned to the project as Smith’s assistant from the summer of 1834 until the following spring, when Barnard was reassigned to Louisiana.(12)

Until the board completed their revisions of the plans, Captain Smith and Lieutenant Barnard could do little more than collect materials and the necessary construction apparatus
General plans. Revised project on Throg’s Point, N.Y. 1834. National Archives fortifications files, RG 77, Drawer 33-11.
and equipment of the building plant, so that construction could begin as soon as the winter weather abated in 1835. (13) Of the $122,000 appropriated for the new fort in fiscal years 1832/1833 and 1833/1834, barely $20,000 had been expended at the end of the fiscal year in September 1834. (14)

Captain Smith Begins Construction

Site preparation was initiated by Captain Smith in the spring of 1835, when construction of the seawall around Throg’s Point was begun. Progress, however, was slow. A strong economy and full employment in the various building trades made the New York area a difficult one in which to hire adequate numbers of skilled artisans. Even unskilled laborers were in short supply. Although Smith combed the major cities of the northeast during 1835 in search of a sufficient work force, he was only partially successful, employing only 188 men, most unskilled. (15)

The labor shortage did not abate in 1836; in spite of every exertion by the superintending engineer, the total number of workmen employed at the construction site actually declined. Smith needed at least two hundred brick and stone masons, but he could obtain no more than fifty. To further compound the engineer’s problems, the project was delayed by quarrymen, who in Smith’s view wanted “unreasonable prices” for Connecticut granite. As a result, progress was limited during the 1836 work season, but the seawall was completed and a portion of the counterscarp foundation was laid. Grading of the site had also been commenced, and Smith expected to begin the foundations of the enciente scarp in the spring of 1837, if he could obtain enough stonemasons. (16)

The salaries paid the construction gangs at Throg’s Point were typical of the wages paid in the area during the 1830s. Unskilled laborers earned an average of $18.93 per month, while blacksmiths, stone cutters, and ironworkers made $27.38. Carpenters got about one dollar a month more than the smiths, and masons earned nearly $31.50 per month. The cost of materials was slightly less than for the fortifications under construction on Staten Island and in New York Harbor. (17)

At the end of the 1836/1837 fiscal year, Colonel Charles Gratiot, chief engineer of the army, was finally able to report to the secretary of war that Captain Smith was making good progress in the construction of Fort Schuyler. A second steamboat had been obtained, which greatly facilitated operations. The site had been graded to the proper level, and most of the earth of the glacis had been embanked, as well as part of the coverface rampart. Most of the foundations for the enciente had been laid, and a small portion of the stone superstructure raised. In addition, the right of way through the Hammond property had finally been resolved. (18)

During the spring and summer of 1838, the foundations of the enciente were completed, and construction of the coverface had begun in earnest. By September, part of the coverface scarp had been raised to the level of the cordon and the remainder to about half its projected height. The interior walls of the casemates, magazines, and connecting galleries had been erected and their arches turned; some of the roofs had been formed, and nearly all the embrasures and loopholes were finished. The counterscarp of the covered way was also well advanced; in some parts it had been raised to nearly its full height. (19)

As the fourth decade of the nineteenth century drew to an end, the landward defenses on Throg’s Point were nearing completion. The glacis had been formed, the breastheight foun-
dations laid, and the terreplein of the covered way graded to proper levels. The counterscarp of the covered way was complete up to its coping, and the ramps and stairways connecting the covered way with the ditch between it and the coverface had been completed as well. In the rear of the covered way, construction of the coverface had also been advanced. All the sally port and casemate arches had been finished except for their asphalt covering, the scarp had been raised to the level of the cordon, and parts of the parapet breastheight brickwork had been laid. In the rear of the coverface, a ramp connecting the interior ditch and coverface terreplein had been partially built.\(^{(20)}\)

In July 1840, Second Lieutenant Jeremy F. Gilmer, Corps of Engineers, reported for duty as Smith’s assistant. Gilmer had been assistant professor of engineering at the U.S. Military Academy, and this was his first field assignment.\(^{(21)}\)

In 1840 and 1841, the work continued. By the summer of 1841, the covered way and its glacis were generally complete, as was the coverface except for its breastheight and gun platforms. In addition, the seawall had been raised along the northeast side of the point. Progress had also been made on the gorge of the fort and the first tier of casemates on the channel fronts. In fact, the construction of the first tier casemates had been so actively prosecuted that they were ready to receive their armament as soon as the gun platforms could be laid, which was planned for November 1841.\(^{(22)}\)

By September 30, 1842, the outworks on the land front of the fort were well advanced. The glacis had been sodded and only a small amount of finish work remained to be done to the masonry of the covered way. The exterior ditch, although generally excavated and formed, still required grading, and the caponniers at each end still remained to be built. On the coverface itself, the masonry work was all but complete; work was underway on the parapet and banquette, which was half finished, and part of the gun platform foundations had been laid. The interior ditch, or esplanade, between the main body of the fort and the coverface, had been partially graded.\(^{(23)}\)

Work on the enciente had also been steadily advanced, and by the end of the 1841/1842 fiscal year, the second tier of the channel fronts was sufficiently near completion to mount some armament in an emergency. The scarp had been raised some fifteen feet and the piers of the gun casemates nearly completed. Some of their arches had been turned and the majority of the girders supporting the second tier flooring were in place. Although the work was still open to the weather, substantial progress had been achieved since 1835.\(^{(24)}\)

As the following work season passed, the fort rapidly took shape. The scarp of the enciente was completed on two of the curtains and on two of the tower bastions, and up to the level of the cordon on the other two curtains and the third tower bastion. The masonry of the south demibastion and the gorge wall had been raised to twenty-seven feet and twenty feet above the plane of site, respectively. The three stair towers of the channel front were either at full height or nearly so. The piers of the channel front casemates were complete, and those of the gorge had been brought to some eighteen feet above the plane of site.\(^{(25)}\)

By the fall of 1844, the outworks of the land front were finished sufficiently to render a strong defense, and the channel fronts of the enciente were advanced to such a degree that they could be placed in service on short notice. Much of the work performed between October 1843 and September 1844 was in the interior of the fort. By September 30th, the walls of the primary magazines at each end of the gorge were nearly complete, while the piers forming the interior walls of the gorge were finished and the arched sally port passage completed.
The casemate arches of the channel fronts had been capped and given their waterproof covering of bricks saturated in coal tar. To further prevent leakage, asphalt was applied to the joints and exposed surfaces of the brick casemate arches. An earthen cover was then applied to the upper surfaces of the arches and a drain system built along the parade wall of the channel fronts preparatory to forming the terreplein of the barbette tier. The stone parapet wall was raised three feet above the cordon on the tower bastions and about two feet along the curtains. The stair towers in the angles of the parade wall on the channel fronts were also completed.\(^{(26)}\)

The outworks were complete except for grading and sodding some slopes and laying the granite traverse circles and pintle blocks of the gun platforms. Construction of the walls connecting the coverface and the enciente at each end of the gorge had been deferred pending final completion of the enciente.\(^{(27)}\)

As work grew closer to completion in 1844, Lieutenant Gilmer was reassigned to Washington.\(^{(28)}\)

The Project Enters its Final Phase

Fort Schuyler was nearly complete by September 1845. Portions of the earthen terreplein were in place and the parapet walls were finished. On the interior of the fort the parade walls of the barracks and storeroom casemates in the gorge had been raised between twelve and twenty-eight feet. The ironwork of the galleries that extended around the rear of the second tier of gorge casemates was also in place. The gun platforms had been laid on the second tier and were ready to receive their armament.\(^{(29)}\)

In the fort’s outworks, the granite pintle blocks and traverse circles of the coverface gun platforms were in place and ready for their guns and carriages. The walls enclosing each end of the esplanade and exterior ditch had been brought to their full height.\(^{(30)}\)

Little work was left to complete the fort’s exterior by the end of the fiscal year in September 1846. Parade walls had been brought to their full height on the gorge and up to the barbette tier on the channel fronts during the year. In the gorge, the barracks, magazines, storerooms, and casemates were floored; all those to be used for quarters had been furred and lathed, and some had been plastered. On the barbette tier of the gorge, some gun platform foundations had been laid. Four wells, each five feet in diameter, had been drilled, lined with stone, and provided with their stone covers. In the exterior works, only a small amount of coping of the scarps and countercarps remained to be done, along with drilling pintle holes in the embrasures of the coverface demibastions for the flank howitzers.\(^{(31)}\)

By the end of June 1846 a total of $781,839.65 had been expended on Fort Schuyler’s construction. During the previous decade the cost estimates had risen steadily. The initial estimate had been $471,181.53. In the 1834 revision by the Board of Engineers, the estimate had risen to $510,178. According to the chief engineer, this was due to the increased cost of materials and wages rather than any design changes. In fact, the board had reduced the cost of construction in terms of 1821 dollars by the elimination of the ditch on the channel fronts of the fort and by simplifying the trace of the work. Inflation, however, continued to exact its toll in the late 1830s, and by 1841 the estimates had risen to $740,000; by 1846, construction costs on the unfinished fort exceeded the 1841 estimates by nearly $42,000.\(^{(32)}\)

Finish work on the fort continued through the fall of 1846 and into the spring and early summer of 1847. Gun platforms were constructed and the gorge interiors were advanced to
The appropriation requested for the completion of the fort was reduced by Chief Engineer Totten to $10,000 for fiscal year 1847/1848. Work on the interior spaces continued until February 16, 1848, when a single laborer was retained to care for the public property. On June 1st, two additional workers were employed to help maintain the new fort. Among the work remaining to finish the fort was the paving of the first tier gun casemates, laying of the flagstones on the iron framework of the second tier catwalk communication gallery, installing the iron railings, finish work on the interior of the quarters and magazines, construction of a guard house and a bakery, and raising the seawall.

**Maintenance and Repairs, 1848-1858**

Work by a few laborers dragged on for several years in the late 1840s and early 1850s. The project was supervised by an engineer officer who often had similar responsibilities for one or more of the other fortifications in the New York area. For a few months in 1852, Second Lieutenant Frederick E. Prime was assigned to Fort Schuyler as assistant engineer to Major Richard Delafield, the army’s senior engineer in New York Harbor. Funding in the early 1850s was slight, and the work accomplished was primarily repairs and general maintenance.

In 1853, First Lieutenant Masillon Harrison was assigned as superintendent of the work at Fort Schuyler. Like his predecessor, Harrison was unable to undertake any major projects due to inadequate funding. On February 2, 1854, Harrison died at the fort, having served there for less than a year. Captain George Dutton was assigned to supervise operations at Throg’s Point in 1855. That same year Major Delafield was succeeded as senior engineer by Major John G. Barnard. Fort Schuyler, after nearly a decade of being nearly finished, was still incomplete, only partially armed, and not yet provided with a garrison.

The lack of significant progress on Fort Schuyler finally prompted an inquiry from the House Committee on Military Affairs to the War Department in March 1856. Secretary of War Jefferson Davis called for reports from the adjutant general, the chief engineer, and the chief of ordnance regarding the fort. Colonel Totten, the chief of the engineer department, reported that an additional grant in the Fortification Bill passed by the Senate earlier that year would be sufficient to totally finish the work and bring it to “a state of full efficiency” as far as the construction was concerned. The officer in charge of the Ordnance Bureau noted that while only a small portion of the 283 pieces of ordnance projected for the fort were actually mounted, there were in storage in the arsenal at Governor’s Island, sufficient heavy guns to provide at least half of the fort’s total projected armament.

**Fort Schuyler Is Completed**

With money now available for the completion of the fort, Major Barnard assumed the immediate direction of the project, succeeding Captain Dutton in the late summer of 1856. During the next two years, the pace of construction quickened. A guardhouse and prison was built at the exterior redoubt. This earthen outwork of the fort was located on Throg’s Neck several hundred yards west of the fort itself, and served as a strong point which an enemy attempting to invest the fort to begin his siege works a substantial distance from the covered way.
Other projects carried out included raising the height of the seawall still more; its older portions were repaired and its joints repointed, along with a large portion of the fort’s granite scarp. Inside the fort, wood and ironwork were renewed and painted, and penthouses were built over the tops of the circular stair towers. On the coverface, asphalting of the exterior surfaces of the casemate arches was begun. Plans were also made to alter the barbette gun platforms atop the tower bastions to conform to the new gun carriages which had been adopted in the 1850s for 10-inch columbiad guns.(38)

John Lind Smith returned to Fort Schuyler in April 1858 and succeeded Major Barnard as the engineer in charge of the eastern approaches to New York Harbor. Smith, now a major of engineers, turned his full attention to completing the fort, but his tenure at Throg’s Point proved to be short, as he died on December 13, 1858. Captain Dutton returned to complete the fort on April 1, 1859, and by the fall of that year the fort was, in the opinion of Lieutenant Colonel Rene E. DeRussy, the acting chief of the Engineer Department, ready for its entire armament and a full war-time garrison if necessary.(39)

When completed in 1859, Fort Schuyler was one of the more powerful seacoast fortifications on the American seaboard. Unlike most other works of its type, it was very strongly defended on its land front. These outworks were required partially by the fort’s distance from the heavy populated area of New York City, and by the need for it to be able to withstand a coup de main as well as a prolonged investment and siege. The form of its landward defenses were dictated by the nature of the terrain. The narrow Throg’s Neck which connected Throg’s Point with the mainland was the sole route an enemy could use to take the fort. The water surrounding the fort on three sides was thoroughly covered by the heavy guns on the three tiers of the channel fronts.

From a distance of some 1,500 yards, the effective range of the smoothbore cannon of the period, the masonry of the enceinte’s land face, or gorge, was masked by the massive coverface. The walls of the coverface were in turn masked by the glacis of the covered way, thus preventing any rapid breaching of the scarp s without regular siege approaches. In theory, before an enemy force landing from Long Island Sound could institute such siege operations, American forces would mobilize, strike the enemy’s rear, and cut off his retreat. As long as the fort stood to bar passage into the East River, theorists felt New York was safe from attack on its eastern approaches, as the line of the Harlem River could be held by field forces. Across the East River at Willet’s Point on Long Island another work was planned which would further increase the security of the East River approach to the city. That work would serve as a strongpoint on Long Island by putting a force in the rear of an enemy landing on Long Island from the sound and advancing on Brooklyn. During the 1850s the efficacy of this strategy was a hotly contested issue between the senior officers of the Corps of Engineers, such as Colonel Totten and Major Barnard, and the “young Turks” of the corps such as Lieutenant James St. Clair Morton. Morton had gained the notice and favor of Secretary of War John B. Floyd. The secretary had a personal dislike for his chief engineer and encouraged the young Morton to challenge Totten’s theories. Major Barnard, a Totten protege, championed his mentor’s theories in a series of reports and letters. Morton’s position was that the projected “strong point” on Willet’s Point could be easily bottled up by a small force, preventing the garrison from sallying forth and pouncing on the lines of supply and communication of an invading force moving against Brooklyn. He theorized that a far less expensive line of earthen redoubts and field works around the outskirts of Brooklyn from Jamaica Bay
to the East River, manned by the city’s volunteer militia, would be more effective than the projected fort at Willet’s Point. (40)  

Major Bernard countered Morton’s argument by pointing out that the fort at Willet’s Point would be an entrenched tete-de-pont, or bridgehead, through which “an overwhelming force may be thrown from the New York side upon his [an enemy’s] rear, cutting him off from his fleet.” The presence of strong fortification at locations as far as possible from the city would force an enemy to land outside this line of defense and subject him to a longer march and a longer period of attack by defending field forces. (41)  

Description of the Works  

The Enciente  

The enciente of Fort Schuyler was a symmetrical polygon. Four faces bore on the waters of Long Island Sound or the East River, while the fifth face, the gorge of the work, constituted the fort’s land front, covering the approaches to the rear of the fort over Throg’s Neck. The three tiered work was composed of two casemated tiers surmounted by a barbette tier. The north and south curtains forming the flanks of the polygon were each 281 feet long. The northeast and southeast curtains, the left and right faces of the polygon, were 205 feet 4 inches in length. The exterior length of the gorge was 437 feet 8 inches long. A tower bastion, or bastionette, was situated at each of the three angles of the channel curtains. The tower bastion flanks were 38 feet long and the faces 21 feet. The gorges of these tower bastions measured 22 feet 4 inches across. Flanking defense of the interior ditch, or esplanade, at the rear of the fort was provided by a demibastion at each end of the gorge. These demibastions had short flanks, and a single face which ran nearly parallel to the line of the gorge. The main body of the work measured 1,431 feet along the line of the cordon.  

The four channel fronts were designed exclusively for the fort’s armament, which was to be mounted en casemate on the lower two tiers and en barbette on the terreplein of the uppermost tier. The gorge contained the officers quarters, barracks, storerooms, and magazines in its two casemated tiers. The scarp of the second tier gorge casemates was pierced with embrasures for 24-pounder flank howitzers or carronades, which could sweep the terreplein of the coverface, and both casemated tiers were loopholed with slits for musketry for defense of the esplanade. In the short flanks of the demibastions, additional 24-pounder howitzers were positioned to sweep the length of the esplanade.  

Fort Schuyler was constructed of cut and dressed ashlar granite and brick. Galleries of ironwork paved with flagstones extended around the interior of the fort’s second tier to provide lateral communication between the casemates. Vertical communication was provided by the three circular staircases in the stair towers abutting the parade walls in the angles of the channel faces, and by stairwells at each end of the gorge. Initially the exterior and superior slopes of the fort’s parapet were constructed of granite, sustained by a parapet wall on the exterior and a breastheight wall at the rear of the superior slope. The terreplein of the barbette tier was composed of earth sodded with grass upon which the granite gun blocks and traverse circles of the gun platforms were laid. Communication with the exterior of the enciente was through the sally port at the mid-point of the gorge. The sally port entry from the esplanade was a simple squared opening marked by two pilasters of dressed granite surmounted by a double lintel of the same material.
The casemates of the fort fitted out as barracks were located along the two lower tiers of the gorge, north of the sally port; eight casemates or bays on each tier. Each measured about 47 feet from parade wall to scarp and 18 feet in width. The arched and vaulted ceilings of these casemates were some 13 feet above the floor at the crown of the arch. Near the parade wall side of each bay, two fireplaces were built into the piers separating the casemates. Each bay of the first tier had three vertical loopholes or rifle slits in the scarp. Those on the second tier had an embrasure with a loophole on either side. The bays of both tiers had two windows and a door in the parade wall. The arrangement of the officers’ quarters on the south side of the sally port was similar with regard to arrangements for lighting and ventilation, but the interiors were partitioned with rooms averaging 16 feet by 18 feet with hallways dividing each bay. A wide veranda extended the full length of the gorge’s second tier and was provided with iron stairways to the ground. A wide flagstone paved walk extended the length of the gorge on its ground level. Out on the parade ground, about 30 feet in front of the gorge were enclosed latrines for the officers and enlisted men. One of the enclosures was situated over a well and was used as a washroom for the enlisted personnel. Washing facilities for the officers’ quarters were barrels which were resupplied from a water cart.

Outworks

The outworks of Fort Schuyler included a *glacis coupe* which surrounded the entire work. On the land front, this was supplemented by a covered way, an exterior ditch, the coverface, and an interior ditch.

Glacis Coupe

The glacis on the channel fronts of the enceinte was of slight relief, sloping up from the seawall to a level only a few feet above the plane of site. The glacis only masked the base of the scarp, enabling the first tier armament to fire on the waters directly in front of the fort. On the four channel fronts there was no counterscarp, only a counterslope. On the flanks of the coverface and the covered way the slopes were varied. On the north and south the glacis slopes were steep, as there was little space between the crest of the glacis and the water’s edge. On the west or land front of the covered way the glacis slope took a gentler grade down to the plane of site. Here the glacis masked most of the masonry wall of the coverface.

Covered Way

The glacis on the west land front was revetted by the breastheight wall of the covered way. This part of the fort’s outworks was arranged to receive medium caliber guns, mortars, and howitzers. The terminating branch of the covered way’s north end functioned as a water battery; heavy caliber seacoast guns there supplemented the fire of the channel batteries in the fort proper. In this water battery, earth covered traverse magazines were built at each end of the line of gun emplacements. In the large reentering angle in the center of the covered way, a place of arms was provided. Ramps and stairways running parallel to the counterscarp provided access from the covered way to the exterior dry ditch.

Exterior Ditch

The ditch was enclosed on the north and south ends by a wall of ashlar granite pierced by gateways to the outside of the work. The ditch was formed by the ashlar stonework of the
covered way counterscarp and the granite walls of the coverface. The floor of the ditch was earth sodded with grass.

Coverface

The coverface was a massive structure masking the scarp of the gorge. Its two bastions extended beyond the north and south flanks of the enceinte. This arrangement provided additional flanking fire along the north and south flanks of the fort. The flanks of the coverface bastions were 44 feet long, the faces 238 feet long, while the connecting curtain was 404 feet long. The outwork measured 1,356 feet along the line of the cordon.

The bastion faces bearing on the waters north and south of Throg’s Point were each to receive fourteen seacoast guns mounted on barbette carriages. In each of the short flanks of the bastions adjacent to the curtain two 24-pounder flank howitzers were mounted in the flanking casemates to fire through embrasures, providing a crossfire covering the exterior ditch.

A simple square opening in the center of the coverface curtain provided access to a vaulted postern. This gallery passed through the coverface and provided communication between the exterior ditch and the esplanade in front of the gorge. The postern was secured at each end of the passage by a pair of heavy timber gates studded with iron bolts. The passage was paved with brick masonry laid in running bond. A cart track composed of two rows of cut and dressed square flagstones was laid flush in the brick paving. The walls on both sides of the postern passage were pierced with vertical loopholes which enabled the garrison to cover the passage with musketry from the guardrooms and rifle galleries on either side of the passage. These guardrooms were accessed from the esplanade side of the passage through doorways on either side of the postern.

Also located in the coverface were storerooms and flanking casemates. These too were entered through doors at each end of the coverface from the esplanade side of the outwork. Vaulted galleries led to the flanking casemates of the two coverface bastions and to the reverse fire casemates and caponniers in the end walls of the coverface which provided additional flanking fire along the length of the esplanade.

The caponniers extended from the coverface across each end of the esplanade and formed part of the esplanade’s enclosing walls. Each caponnier was to receive two 24-pounder flank howitzers. Adjacent to the caponniers were reverse fire casemates for additional howitzers and musketry.

Ramps led from the level of the esplanade to the terreplein of the coverface where there were platforms for 8-inch seacoast howitzers on barbette carriages. Bombproof traverse magazines of brick and ashlar covered with earth, although projected for construction, had not yet been started when the fort was officially completed.

Arming Fort Schuyler

The initial armament projected for Fort Schuyler was formidable, numbering some 283 pieces of smoothbore artillery, ranging from huge 10-inch columbiad seacoast guns to 6-pounder guns on field carriages. Along the barbette tier of the enciente and the terrepleins of the water batteries on the coverface and the covered way, one hundred guns were to be mounted:
Also to be mounted en barbette atop each of the three tower bastions was a powerful 10-inch columbiad, the largest caliber weapon in service during the 1850s. These weapons were to be mounted on center pintle barbette carriages. In addition, one hundred guns were to be mounted on front pintle carriages in the casemates of the two lower tiers of the channel fronts. These consisted of:

- 8-inch columbiads: 48
- 42-pounder smoothbore seacoast guns: 52

The flank defenses of the fort were arranged for forty-six 24-pounder smoothbore flank howitzers. Mounted on casemate carriages in the flanks of the tower bastions were to be twenty-four flank howitzers; two to each flank of the three tower bastions. Eight more of these same weapons were to be emplaced in the faces of the demibastions of the gorge: Three each on the second tier and one on the first tier. The short flanks of the demibastions were each arranged to receive one of the 24-pounder flank howitzers. Additional flanking defenses for the esplanade were provided by the caponniers which were connected to the rear of the coverface at each end of the esplanade. Each of the caponniers had embrasures for two 24-pounder flank howitzers. The rear wall at each end of the coverface adjacent to the caponnie also had an embrasure for another 24-pounder howitzer. The flanks of the coverface bastions covering the exterior ditch were also arranged for flanking howitzers. Other howitzers swept the outside approaches to the interior ditch of the fort from the exterior flanks of the coverface bastion.

In addition to the guns, some twenty-two mortars were to be placed at various locations on the parade ground of the fort, its esplanade, the covered way, or the exterior ditch. These high trajectory weapons would be valuable in countering an enemy siege of the fort by regular approaches and siege batteries on the fort’s land side. Four were 10-inch siege mortars, four were 8-inch siege mortars, and twelve were 24-pounder Coehorn mortars. In addition, two stone mortars were counted as part of the fort’s armament.

Fort Schuyler also had a mobile battery of twelve guns on field and siege carriages intended for use against enemy forces distant from the works at Throg’s Point. There were six 8-inch siege howitzers, and two 12-pounder and four 6-pounder field pieces.

Although the foregoing were considered the proper armament for Fort Schuyler, there were in March 1856 only twenty-five 32-pounders at the fort. In storage at the arsenal on Governor’s Island were some ninety-eight more guns and mortars which could, ostensibly, be provided when necessary:

- 8-inch and 10-inch columbiads: 20
- 42-pounder smoothbore guns: 37
- 8-inch seacoast howitzers: 17
- 8-inch and 10-inch siege mortars: 4
When all of these weapons were provided, Fort Schuyler would still have only 122 guns and mortars; less than half its authorized armament. In the event of an emergency however, it is doubtful that the fort at Throg’s Point would have received more than a few of these guns and mortars, as most of the other forts in New York Harbor were only partially armed. The guns in the Governor’s Island Arsenal constituted the total ordnance available to augment the numerous seacoast forts and batteries in the harbor of New York.

**Fort Schuyler on the Eve of the Civil War**

In 1858, the handful of engineer officers assigned to the defenses of New York was under the command of Major Barnard. To assist him in the construction of the new works and the repair and maintenance of the older forts were five junior officers and one civilian assistant engineer. Most of Major Bernard’s attentions were directed toward the new works at Sandy Hook at the southern entrance to New York Harbor, and at the Narrows between Staten Island and Long Island.

In 1859 one of Bernard’s more experienced assistants, Captain George W. Cullum, was assigned to oversee the finish work at Fort Schuyler and to start the new fort across the river at Willet’s Point. Upon his arrival at Throg’s Point, Cullum set about completing the necessary alterations to the breastheight walls of the barbette tier preliminary to laying the new gun platforms for the new model seacoast barbette carriages for the columbiads. Cullum continued laying new gun platforms through June 30, 1860, when all those on the barbette tier of the encinte were completed, as well as the coverface seacoast batteries. This latter part of the work also required the partial reforming and resodding of earthen slopes and terrepleins. The fort was described as “essentially ready for its entire armament and its case-mates could accommodate, if necessary a full wartime garrison.”

The outbreak of the Civil War in 1861 magnified Fort Schuyler’s importance, as its companion work across the river had not yet been commenced. Captain Cullum received the services of an assistant in the early months of the war, First Lieutenant William C. Paine, who served at Throg’s Point only a few months before being transferred to the Department of Pennsylvania.

**Fort Schuyler in the Civil War**

In May 1861, Fort Schuyler received its first garrison when a detachment of New York Volunteers manned the fort. Although Cullum remained listed as the superintending engineer of the works in the eastern defenses of New York, he was detached from his duties at Throg’s and Willet’s Points before the end of the 1861, passing the next few years with the armies in the field. In Cullum’s absence the task of supervising the engineer activities fell to the civilian agent for the Corps of Engineers in New York, William Petit Trowbridge. An officer of engineers from 1848 to 1856, Trowbridge was a first lieutenant at the time of his resignation.

When Trowbridge assumed charge of the works in 1862, he was also charged with similar responsibilities for the defenses on Governors, Bedlow’s, and Ellis Islands in New York’s inner harbor. During 1861, Fort Schuyler became a place of rendezvous for newly enlisted New York Volunteers. The 88th New York Volunteer Infantry Regiment (“Meagher’s Own, 5th Regiment of the Irish Brigade”) organized at Fort Schuyler and left for Washington in December 1861. In time, the fort sustained a considerable amount of damage to the
quarters and grounds. As a consequence, it became necessary to carry out numerous repairs under Trowbridge’s oversight.

Fort Schuyler was garrisoned during the war by one or more artillery companies of New York Volunteer Militia. In March 1862, a company of the 2nd Regiment, Jackson Heavy Artillery, manned the batteries, but this unit departed for Baltimore at the end of May. There was an absence of artillermen in the garrison until December 27, 1862, when Battery D, 4th Battalion, Black River Artillery, New York Volunteers, was organized at Fort Schuyler. On that same date, the 20th and 28th Independent Light Artillery Batteries, New York Volunteers, were also organized at the fort. A few days after its organization, Battery D was redesignated as Battery L, 10th New York Heavy Artillery Regiment, New York Volunteers, and departed for Washington, where it joined its parent regiment. The 20th and 28th Light Batteries formed the fort’s artillery contingent until 1864. On March 10, 1864, Battery E, 13th New York Heavy Artillery Regiment, was organized at Fort Schuyler. Upon the organization of Battery E, the 20th Light Battery was transferred to Hart’s Island. Later in 1864, the 28th Light Battery, commanded by Captain Josiah C. Hannum, was transferred to Sandy Hook. Battery E, 13th Heavy Artillery, is believed to have manned Fort Schuyler until the end of June 1865.(47)

As the Union armies swelled, the numbers of sick and wounded quickly overwhelmed the army’s peacetime hospital facilities, creating the need for more and larger hospitals. In partial response, McDougall General Hospital was established on Throg’s neck west of the covered way in October 1862. The facility, with 1,700 beds in thirty-four buildings, was considered a temporary hospital, and its hasty construction reflected its character. Wards were flimsy timber structures, 8 feet high and 17 and 1/2 feet wide, varying between 73 and 147 feet in length, with gabled roofs covered with tarpaper and coated with asphalt. The walls of the structures were so temporary that they were propped up with timbers. The buildings were side by side in an oval, connected by a covered wooden walkway. Each had beds for fifty patients.(48)

During the draft riots in New York City in 1864, the 7th U.S. Infantry Regiment was sent to the city to assist in quelling the rioters. The regiment arrived in New York in August, and elements of the unit were posted at Fort Schuyler, the first Regular Army troops to man the fort. The 7th Infantry remained until May 1865, when it was sent to Florida on Reconstruction duty. On October 17, 1865, Companies G and H of the 1st U.S. Artillery then serving at Fort Slocum, in the defenses of Washington, D.C., received orders to garrison Fort Schuyler. On October 19th, understrength Company L of the 1st Artillery at Fort McHenry was also transferred to Fort Schuyler. Company G occupied the fort for only a short period, before being transferred to Fort Knox, Maine, on December 29th. Companies H and L would be the fort’s garrison until June 1866, when Company H moved to Fort Porter at Buffalo during the rising of the Fenian Brotherhood. On June 19, 1866, Company G returned from Maine, rejoining Company H. In July 1866, the foot companies of the original four regiments of artillery were redesignated as batteries instead of companies. On November 8, 1866, Battery E of the 1st Artillery left Fort Wadsworth at the Narrows to join Batteries G and H at Fort Schuyler.

The garrison of Fort Schuyler was again reduced in December 1867, when Battery G departed for Fort Monroe. Battery E remained at Throg’s Point until September 21, 1870, when it left for Fort Wood in New York Harbor. Battery H departed the point on October
13, 1870, and the fort remained ungarrisoned by artillery until 1878, when Captain George F. Barstow’s battery of the 3rd Artillery arrived to man the fort. This garrison, typical of the period, consisted of Barstow, 2 lieutenants, a surgeon, and 37 enlisted men.(49)

William P. Trowbridge remained the engineer representative at Fort Schuyler until November 1865, when Major Henry L. Abbot took charge of operations on the eastern approaches. On December 16, 1865, Captain Franklin Harwood arrived at Throg’s Point to serve as Abbot’s assistant. As little work could be undertaken during the winter months, Abbot carried out an examination of the Mississippi River levee in Louisiana, leaving Captain Harwood to make the preparations for commencing new work at the fort. From January 1886 until Abbot returned in June, Harwood modified several temporary hospital buildings for use by the engineers, regraded the glacis which had been severely torn up by the troops during the war, reseeded its surface, and brought it back to a state of complete order. The sally port was repaved, the seawall repaired, and materials collected for the construction of two service magazines on the coverface terreplein. Harwood had commanded of a company of the Engineer Battalion at Willet’s Point during this period, his duties at Fort Schuyler being a temporary assignment. When Abbot returned on June 1, 1866, Harwood rejoined his company.(50)

**New Armament Is Planned for Throg’s Point**

Just prior to the Civil War, a new heavy caliber gun was developed by Captain Thomas J. Rodman of the Ordnance Bureau. This new smoothbore gun, named for its inventor, was adopted as the primary seacoast weapon. The Rodman gun was superior to the older columbiads, founded from the 1840s until 1858, in both range and size of projectile. Between the early 1860s and the late 1880s, 8-, 10-, and 15-inch Rodman guns were the United States’ main seacoast ordnance.(51)

Most of the nation’s seacoast fortifications had been built prior to 1860, and although many had been modified to receive the new model columbiads in the late 1850s, the even larger size of the Rodmans, especially the 15-inch gun, prevented their being mounted on the barbette tiers of the works without considerable modification to the breastheight walls, gun platforms, and terrepleins of these works. The vertical-walled masonry forts in which the United States had entrusted the safety of its harbors had proven to be inadequate to withstand bombardment by the newly developed rifled artillery which came into use during the Civil War. As a result of these war-time developments, the Corps of Engineers undertook to develop new fortification designs.

Several factors were considered by the Board of Engineers by the late 1860s. During the Civil War earthen batteries had proven more capable of resisting heavy bombardments than vertical brick and stone fortifications. In addition, the use of heavy earthen traverses between gun emplacements provided better security to both guns and their manning detachments during an engagement. As a consequence, the board recommended that any new harbor defenses be constructed in the form of barbette batteries with thick earthen parapets, and that the emplacements for the new guns be separated by high earthen bombproof traverses and parados. The service magazines for the powder charges were to be built into the traverses.

These new batteries, where possible, were to be built on the exterior of the existing masonry forts. Where space was insufficient for new exterior works, the barbette tiers of the older vertical works were to be modified to accommodate the new armament. During the
years immediately following the Civil War, the Board of Engineers prepared new projects for many of the existing defenses along the Atlantic seaboard. Nearly all of these plans were complete by 1870 and the corps was ready to begin updating the nation's coast defenses.

The board's plans for the modification of Fort Schuyler's outworks, generally complete by 1866, called for the construction of exterior barbette batteries as well as alteration of the coverface barbette tier. New gun platforms were to be built for 15-inch Rodmans on the covered way and the coverface as well as on the barbette tier of the fort itself. In addition, an exterior barbette battery for ten more 15-inch Rodmans was slated for the neck, 1,000 feet west of the glacis, to cover the waters of the East River south of the fort.

The first of the numerous alterations to permit the mounting of the new ordnance began in the spring of 1866. The plans called for modification of the seacoast battery in the north coverface bastion to accommodate two 15-inch Rodman guns on center pintle platforms, and construction of two bombproof service magazines on the terreplein of the coverface curtain. In addition, two large powder magazines were to be built in the place of arms in the covered way. These projects, begun by Captain Harwood, were continued by Major Abbot upon his return in the early summer of 1866.(52)

By the end of June 1867, the two brick magazines on the coverface had been completed. In the north bastion of the coverface the old granite parapet wall had been removed and the front pintle gun platforms had been taken up to make way for the new platforms.(53) Between July 1867 and the end of June 1868, two new center pintle gun platforms were laid in the coverface bastion, finish work on the two service magazines was completed, and their bombproof coverings of earth applied. Inside the enceinte, modification of the gun platforms in the first tier casemates was underway to adapt them to the new iron carriages for the new 10-inch Rodmans.(54)

By 1869, the Board of Engineers had finalized plans to mount 15-inch Rodmans on the barbette tier of the fort. To accommodate these large guns and their equally large carriages behind a thick earthen parapet, a much wider terreplein was required. In order to obtain this increased space on the fort’s barbette tier, the casemated tiers were to be increased in depth on the north flank, as well as the northeast and southeast faces of the fort. This enlargement of the work would provide a wider terreplein and allow the engineers to substitute a thick earthen parapet for the original granite parapet wall. Two large traverse magazines were planned for the terreplein of each modified front. Between each traverse there were to be two platforms for 15-inch Rodmans.(55)

Providing the increased width of the terreplein required the removal of the parade wall and the old gun platforms on the barbette tier, as well as the old stonework of the parapet wall on the three fronts involved. In addition, three courses of the granite scarp had to be removed, to be replaced by the foot of the exterior slope of the new earthen parapet. Once all this had been removed, more than a dozen new granite piers and their arches were built around the inside of the three fronts. This increased the depth of the casemates and provided the required support for the enlarged barbette tier. Extension of the fronts began in 1870 and was nearly completed when Congress suspended further funding for seacoast defenses in 1875. By 1876 the appropriations for the fort were exhausted and the modifications to Fort Schuyler were completed. When work finally ceased, the six traverse magazines had been built, the new earthen parapet was in place and five of the six projected gun platforms on the north front had been laid. Two of the platforms were for center pintle carriages; one located
at the salient angle of the north demibastion was designed for a front pintle carriage and the remaining two were planned to receive the newly developed King’s depressing carriage, an early attempt to provide a “disappearing gun” for American coast defenses. On the other two modified fronts the projected gun platforms had not been commenced.(56)

On the barbette tier in the angle of the three modified fronts, arched galleries or passageways passed through the traverse magazines to permit lateral communication along the length of the terreplein. In order to increase the protection to the top surfaces of the fort and provide additional enfilade protection to the pairs of guns on the barbette tier, the tower bastions were converted into large traverses by filling in their top surface with earth and sod. The fort’s parade wall had just been rebuilt when funds ran out.(57)

In conjunction with adapting the old fort for the new armament, major alterations were made in the interior of the enciente’s south demibastion. Two casemates that originally housed two of the 24-pounder flank howitzers on the first tier were converted into a torpedo control room, or mining casemate, to control the experimental minefield in the channel between Throg’s and Willets Points. To make the room bombproof, the magazine adjacent to the mining casemate was filled with masonry and the casemate next to it filled with sand. The gun casemate in the right flank curtain just to the east of the mining casemate were also filled with masonry, as were those gun casemates of the second tier immediately above the mining casemate. The torpedo control room was entered through the rifle gallery of the gorge curtain. Two of these small casemates were partially filled with masonry and sand, leaving a narrow passageway to the mining casemate.(58)

The renovation of the enciente of Fort Schuyler was not Major Abbot’s only endeavor. Attention was also given to strengthening the outworks and the ancillary batteries. In addition to the two 15-inch Rodman guns mounted on the coverface just after the Civil War, four more guns were planned for this important outwork. Two platforms were to be placed on the south bastion, symmetrical to those on the north bastion, and two more were to be located between the service magazines on the curtain of the coverface.(59)

Substantial modification to the covered way was planned as well. On the left of the place of arms, two large bombproof magazines were built, protected by an earthen parados. At the north end of the covered way, a barbette battery and magazine for three Rodmans were planned. These works were essentially completed by 1871.(60)

**The Ten-Gun Battery**

Also included in the plans for the modernization of the Throg’s Point fortifications was an exterior barbette battery for ten 15-inch Rodman guns to cover the East River southwest of the point. This large earthwork with its five traverse magazines was begun in 1873 on the site of the 1850s advanced redoubt.(61)

When work on the battery was finally suspended for lack of funds, it was well advanced toward completion. Its five traverse magazines had been built, and the material for the breastheight walls of the five gun bays had been obtained (surplus ashlar granite from the parade wall of the fort). The parados covering the rear of the battery had been partially formed behind the two most westerly bays.(62)

The funding of the nation’s seacoast defense construction program was suspended because of congressional concerns that the old masonry forts, even with powerful supplementary batteries, were insufficient to counter the rapid advances in naval armor and ordnance.
The age of the breechloading, high-powered rifled gun had arrived and the defense concepts which had been quite acceptable just a decade before were now as outmoded as their muzzleloading armament.

**Fort Schuyler 1876-1896**

Despite the major improvements to the defenses at Fort Schuyler in the 1860s and early 1870s, the new armament was only partially provided. Ten 8-inch Rodman guns were mounted in casemates of the first tier, and several years later they were replaced by 8-inch muzzle-loading rifles which had been converted from 10-inch Rodman smoothbore guns. After the departure of the batteries of the 1st Artillery, the post remained un-garrisoned until the arrival on June 28, 1877, of infantry troops. Captain Barstow’s battery of the 3rd Artillery arrived to man the fort in 1878. Barstow’s battery remained at the fort until the early 1880s, when it was transferred to the Washington, D.C., area. In the latter part of 1881, batteries K and M of the 5th Artillery were posted at Throg’s Point. They were succeeded in May 1890 by Batteries K and M of the 2nd Artillery, transferred from Fort Wadsworth. In April 1892, Battery K was sent to Fort Trumbull, and Battery M went to Fort Adams. Battery L at Fort Trumbull and Battery H at Fort Adams were transferred to Fort Schuyler. During the last decades of the nineteenth century, the Fort Schuyler reservation took on an appearance typical of army posts of that era. Numerous structures were erected along the length of the neck connecting the fort with the mainland. Storage warehouses were built in the ditch between the covered way and the coverface. At the foot of the glacis, two single and three double sets of officers quarters extended across the neck. Further to the west were the barracks and messhall, as well as quarters for the post commissary, quartermaster, and engineers. The quartermaster’s stables were on the north shore of the point, while on the south side there was a wharf, a bakery, and quarters for the ordnance sergeant, the noncommissioned officer responsible for the maintenance of the obsolescent cannon at the fort.

Major efforts were made by the Board of Engineers in the late 1870s and in the 1880s to restore the balance between ordnance and fortification, but weaponry development continued to outstrip the defensive capabilities of the engineers. Some improvements were made in fortification theory during this period, particularly with regard to submarine mining of harbor approaches, but it was not until the mid-1880s that new concepts in American seacoast fortification were developed.

By 1884, plans were developed to construct a modern gun emplacement at Fort Schuyler. This new battery was to mount two 110 ton breechloading rifled guns in an armored turret, and the Corps of Engineers was anxious to start the new installation. The project was destined to remain on the drawing board, however.

In 1885, President Grover Cleveland appointed a special commission of army and navy officers and civilians to study the nation’s seacoast defense. Chaired by Secretary of War William C. Endicott, the Board on Fortifications or Other Defenses, as the commission was formally termed, developed an entirely new approach to the defense of America’s maritime frontiers. The Endicott Board, as it was popularly known, submitted its report to the President in January 1886, recommending powerful gun and mortar batteries of reinforced concrete, hidden behind massive earthen ramparts, or armored turrets of cast iron armed with high powered breechloading rifled guns. These heavy caliber defenses were to be supplemented by minefields and torpedo boats.
Plan of the Fort Schuyler Reservation as it appeared about 1876. The area west of the fort, the former site of McDougall General Hospital during the Civil War, was developed as the fort's garrison area. It's principal structures were officers quarters, barracks, storehouses, hospital, and post headquarters. Other quarters and structures were built near the wharf and in the exterior ditch of the old fort.
Twenty-seven locations along the coast line were initially identified by the board as sites for these modern defenses. New York Harbor ranked first on the priority list and the eastern approaches to the city via Long Island Sound were considered an important element of the defenses. In the initial planning by the board however, Fort Schuyler was not considered for retention in the overall defense scheme. New fortifications at David’s Island, several miles down the sound from Throg’s Point, and Fort Totten across from Fort Schuyler would supersede the pre-Civil War fort.

In subsequent years, however, Throg’s Point was again included in the plans. In fact, the first modern defensive structure constructed was the mining casemate on the first tier of the south demi-bastion of the old fort. This casemate, completed about 1890, was used in the experiments with modern submarine mines, then known as “torpedoes.” This casemate was used by Major Abbott of the Corps of Engineers in his continuing experiments with submarine explosives. It was not until 1896, however, that the first modern seacoast gun battery at Fort Schuyler was authorized.(67)

**New Concrete Batteries 1896-1900**

Early in 1896, the chief of engineers approved plans for the first modern seacoast gun battery at Fort Schuyler, and allotted $75,000 to begin construction. First Lieutenant Robert Rossiter Raymond was detached from Company A of the Battalion of Engineers at Fort Totten, assigned as Assistant Engineer to Major Adams, and placed in charge of the project on July 18, 1896.(68)

The new battery was to be comprised of two 10-inch breechloading rifles mounted on the newly developed Buffington-Crozier disappearing carriages. By August, Lieutenant Raymond had begun construction of the wharf where building materials were to be landed and was busy setting up the construction plant. Soon a railroad track had been laid, a steam powered cubical concrete mixer set up, and contracts let for the excavation work at the battery site.(69)

The battery site was on Throg’s Neck some 500 feet west of the foot of the glacis and almost directly behind the old 1870s barbette battery. Work commenced on the two gun emplacements in late summer 1896 and progressed rapidly, inhibited only during the coldest weeks of the winter. Construction continued through the spring of 1897, and by June 30, 1897, the battery was three-fourths complete.(70) The work continued into the 1897/1898 fiscal year and was completed in the spring of 1898 when the battery’s two M1888 10-inch guns and their M1896 disappearing carriages were mounted. On May 27, 1898, the battery was transferred to the artillery garrison. No electric lighting had been provided and minor adjustments to the General Electric rear-delivery shell and powder hoist mechanisms were still required.(71)

Upon its completion, the battery was named in honor of George W. Hazzard, captain, 4th Artillery, and colonel, 37th Indiana Volunteer Infantry, who had died August 14, 1862, of wounds received June 30, 1862, in the Battle of White Oak Swamp during the Seven Days Campaign in front of Richmond.(72)

Battery Hazzard was typical of the 1894 type disappearing gun batteries. The structure was composed essentially of two large monoliths of reinforced concrete that formed the gun blocks and loading and service platforms for the two guns. The centers of the gun platforms were 124 feet apart and they were situated behind a massive earthen parapet sustained in its
The Fort Schuyler mining casemate was one of the earlier control rooms for submarine minefields. The right demi-bastion in the gorge of the Third System fort was modified for use as the casemate and completed at the end of 1889. Installation of the apparatus for control of the mines was carried out during the following year. Drawer 33, Sheet 89, Cartographic Files, Records of the Chief of Engineers, RG 77, National Archives, Washington, D.C.
rear by a thick concrete retaining wall. Powder magazines and projectile storage rooms for each emplacement were located in the concrete traverse on the right of each emplacement. A single block-and-tackle hoist and davit like cranes were employed as a back-up method of ammunition service in the event the hoists were to fail. In the front of each emplacement was a cylindrical well in which the heavy counterweight used in the Buffington-Crozier type of disappearing carriages moved up and down. When the gun was loaded and ready to be placed “in battery,” a lever was tripped and the counterweight descended into the counterweight well beneath the gun carriage, raising the gun into firing position above the crest of the parapet. When the gun was fired, its recoil moved the gun back and downward, raising the counterweight that locked in place while the gun was being reloaded.

In December 1898, a central electric power plant was established at Fort Schuyler in a flank casemate of the south bastion of the old coverface, providing electricity for Battery Hazzard as well as the rest of the post. A fresh water line was run to the battery during the 1898/1899 fiscal year as well.

The architectural design of the 1894 type battery was somewhat primitive compared to the designs developed over the next several years. The design deficiencies of the 10-inch battery became increasingly clear in the first year of service. Consequently, numerous modifications and improvements were made to Battery Hazzard between 1900 and 1910. The first of these modifications, a fifty-five-foot iron walkway connecting the two loading platforms, was authorized May 8, 1900. With the addition of this catwalk, it was no longer necessary to descend to ground level to move from one emplacement to the other. Another improvement made to the battery was the construction of a battery commanders station known as a type A range finding station. This square concrete tower, which abutted the rear of the magazine traverse between the two emplacements, rose just above the level of the earthen bombproofing of the central traverse. The structure was a one story building of concrete construction, 8 feet wide and 12 feet deep. This station was completed in June, and the catwalk was installed by November 1900. Strangely enough, it was not transferred to the artillery until June 19, 1907. (73)

Battery Hazzard was nearly half completed when the second battery for Throg’s Point was authorized by the chief of engineers on April 23, 1897, and Lieutenant Raymond began to purchase construction materials and extend the railroad to the site for the first of the battery’s two projected emplacements. The first of two emplacements for 12-inch guns on disappearing carriages was to be located on the terreplein of the north coverface bastion. The second was to be constructed at the foot of the glacis on a direct line between the first emplacement and Battery Hazzard. By the end of June 1897, Raymond’s preparations were generally complete and construction of emplacement No. 1 began the following month. (74)

Work on the emplacement and its magazine progressed rapidly; by June 1898 the structure was complete except for gun and carriage. Construction of the emplacement had required the removal of the gun blocks, traverse circles, and protective traverses for the old 15-inch Rodman guns, as well as the excavation of the greater part of the north bastion’s interior to prepare for the concrete mass of the magazines and other rooms beneath the loading platform. The battery was of the “horizontal crest” design, similar to Battery Hazzard. The magazine traverses of both the 12-inch and 10-inch batteries were located on the right of their respective emplacements so as to protect their manning details from enfilading fire from the waters of Long Island Sound. From the exterior of the north coverface bastion,
there was no discernable evidence of the powerful disappearing gun when it was withdrawn below the parapet.

During the summer and fall of 1898, the General Electric front-delivery ammunition hoist machinery was installed, and electricity and water service were provided to the emplacement. The earthen parapet was sodded, and the M1888M1 gun and its M1896 disappearing carriage mounted. As work was winding down on the first emplacement, authorization for the second was received from the chief of engineers, and in July 1898, work commenced on the No. 2 emplacement at the foot of the glacis. The first emplacement was finally transferred to the artillery garrison on August 17, 1899.(75)

Concrete pouring on the second emplacement began in September 1898, and by October the platform was complete. By the following June, the emplacement was nearly complete, with only minor concrete retaining walls at the entrance to the traverses remaining to be built, along with forming and grading the parapet in front of the emplacement.(76) Concurrent with the construction of Battery Hazzard’s battery commanders station, another type A range finding station was built to serve the commander of the 12-inch battery on the covered way near the site of the 1870s Three Gun Battery.(77) In 1900, when the battery was completed, its ammunition service machinery was installed and electric service provided. On August 15, 1900, the second of the two 12-inch emplacements were turned over to the artillery.(78)

The battery was named for Brigadier General Peter Gansevoort, who as a colonel of New York troops during the War for Independence, “gallantly defended” the Revolutionary War Fort Schuyler in upstate New York. Gansevoort served as a brigadier general of New York Militia in the last years of the Revolution and later as the military agent for the Northern Department prior to returning to federal service with the rank of brigadier general in 1809. General Gansevoort died on July 2, 1812.(79)

Rapid Fire Batteries Are Built 1898-1902

One of the primary defenses of the water between Throg’s Point and Willet’s Point was the mine field. Five batteries of light caliber rapid-fire guns were built to defend against attempts to sweep or slip through the minefields. Three of these rapid-fire batteries were sited on Willet’s Point, two at Fort Schuyler. In July 1898, Lieutenant Raymond was reassigned to other duties in the New York Harbor area and it fell to his superior, Major Adams, and to his new assistant, Lieutenant James F. McIndoe, to construct Fort Schuyler’s first rapid-fire batteries.(80)

This battery of two 5-inch rapid-fire (RF) guns on balanced pillar mounts was begun in August 1898. The mounts permitted the weapons to be lowered below the crest of the battery parapet when not in use. The battery was built into the reverse slope of the glacis in front of the northeast curtain of the old fort. The structure’s two story, or horizontal crest, design had been developed in 1897 as the standard type rapid-fire battery. The magazines for the fixed ammunition were located on the lower level of the battery between the two emplacements. The ammunition service was manual, as the lighter projectiles could be easily carried from the magazine up a stairway to the gun’s loading platform. Once begun, the construction progressed rapidly, and by October 1898, the platforms were ready for their armament. By June of 1899, the battery was complete with only a small amount of sodding required on the parapet. The armament of the battery had, however, not been received. The
Battery Gansevoort

two 12-inch guns on disappearing carriages

blueprint dated April 15, 1920

emplacement #1

emplacement #2
two emplacements were, however, transferred to the garrison on July 7, 1900, even though its guns and mounts had not been received. When the balanced pillar mounts arrived in 1901, their base rings were set and the finish concrete work around the mount poured. The following year two 5-inch M1897 guns were delivered and mounted.(81)

The second rapid-fire battery at Throg’s Point was begun in April 1899, on the glacis in front of the north flank of the old enciente of Fort Schuyler. This battery was for two 3-inch, 15-pounder, rapid-fire guns on the M1898 masking parapet mount, similar to the balanced pillar mount used with the 5-inch guns. By mid-1900, the battery was ready for the receipt of its armament. The guns, however, still had not been received when the battery was turned over to the garrison on December 22, 1900, but in the spring of 1901 two 3-inch M1898 Driggs-Seabury rapid-fire guns were received and mounted by the coast artillerymen.(82)

Battery Beecher was named for Major Henry Barton Beecher, a 1st lieutenant with the 67th New York Volunteer Infantry during the Civil War prior to his transfer to the 4th U.S. Artillery.(83)

**Fort Schuyler 1900-1914**

Concurrent with the construction of the gun batteries at Fort Schuyler, the old fort was steadily renovated to play a continuing role in the modern defenses. The enciente served as quarters for the artillery troops and post exchange, as well as the mining casemate until it was replaced in the early 1900s by a new casemate at Fort Totten. Various structures were built on the terreplein of the fort, including the post meteorological station, searchlights, and fire control stations. The meteorological station was housed in a one-room wooden building measuring 8 by 10 feet. Two portable searchlights were also available for use. One, a 60-inch light, was located atop the old stone fort some 200 feet to the rear of Battery Bell. Its wooden
Battery Hazzard
two 10-inch guns
on disappearing
carriages
blueprint dated
April 15, 1920

Battery Beecher
two 3-inch R.F.
guns on masking
pedestal mounts
blueprint dated
April 15, 1920

Battery Bell
two 5-inch R.F.
guns on ballance
pillar mounts
blueprint dated
April 15, 1920
shelter measured 14 feet 6 inches, by 17 feet 6 inches. A second searchlight, of 36-inch
diameter, was set up about 500 feet to the west of Battery Hazzard, with a wooden shelter
measuring 13 feet 6 inches, square.(84)

Aside from the gun batteries, the extension and repair of the seawall around the point
was the principal engineering effort at Throg’s Point between 1896 and 1903. During those
years, the seawall was raised, thickened, and provided with riprap at the foot of its exterior,
while additional fill was placed behind it, increasing the area of the reservation and provid-
ing additional protection to the exterior slopes of the newly built rapid fire gun batteries. In
1903 and 1904 a number of fire control stations were constructed at Fort Schuyler. Atop the
fort’s south demibastion, the primary station for the Third Fire Command was built in 1903,
and transferred to the garrison on October 17th. This brick and concrete structure was built
on the terreplein of the demibastion some 70 feet above and 500 feet behind Battery Bell.
The single story building contained an 18- by 18-foot observing room, with a 15- by 18-foot
plotting room at the rear. Also atop the walls of the fort was the concrete secondary station
for the submarine mine command, which provided target data to the mining casemates at
Forts Schuyler and Totten. Three stations, similar in design and construction, were built atop
the old 1870s barbette battery as secondary fire control stations for gun and mortar batteries
and fire commands at Forts Schuyler and Totten. All three were single story wooden houses
with tin roofs, mounted atop 16-foot timber frame towers. Each station had a 10- by 10-foot
observation room equipped with a Warner and Swasey depression position finder (DPF).
The secondary station for the First Fire Command was immediately behind Battery Hazzard.
The secondary station for the Second Fire Command was some 600 feet behind Battery
Hazzard. Nearby was the secondary station for Battery Mahan at Fort Totten. The secondary
station for Battery Sumner, also at Fort Totton, was on the slope of the glacis of Fort Schuyler’s
covered way. Two wooden dormitories with shingle roofs were provided for the fire control
detachments from Fort Totten. These 30- by 18-foot buildings each had a bunk room, and a
combination living room, kitchen, and mess room, as well as two latrines.(85)

When the United States went to war with Spain in 1898, only two batteries, H and L of
the 2nd U.S. Artillery, were posted at Throg’s Point. Battery H was reassigned, shortly after
the war began, to the expeditionary force being formed at Tampa for the invasion of Cuba.
Later, Battery H formed a part of the Cuban occupation force. Battery K, 7th Artillery, was
organized on March 29, 1899, at nearby Fort Slocum. Once its organization and some basic
training had been completed, Battery K replaced Battery L, 2nd Artillery, at Fort Schuyler,
and Battery L was transferred to Cuba. Battery K, 7th Artillery, was the sole garrison of Fort
Schuyler at the turn of the century.

In February 1901, the regimental system was abandoned in favor of an Artillery Corps
composed of batteries of field artillery and companies of coast artillery. Battery K became the
80th Company, Coast Artillery, Artillery Corps. Later in the year, the 80th Co. was divided,
and half of its personnel used to organize the 114th Co., C.A., A.C., which was then trans-
ferred to Fort Slocum. The 18th Company, C.A., A.C. (formerly Battery H, 2nd Artillery),
returned to Fort Schuyler by 1904. The 18th and 80th Cos. garrisoned Fort Schuyler until
1906, when the 81st Co. arrived from Fort Slocum, increasing the garrison to three compa-
nies. These manned each of the major caliber gun batteries, and one company manned the
two rapid-fire batteries.(86) In 1907, the Artillery Corps was divided into two separate
branches, the field artillery and the Coast Artillery Corps. The 18th, 80th, and 81st Cos.
were redesignated companies of the Coast Artillery Corps. In the latter part of 1908, the 80th Co., CAC, was transferred to Key West Barracks. Two years later, the 18th Co. was deployed to Fort Mills on Corregidor Island, in Manila Bay. The 81st Co. was transferred during the summer of 1911 to Fort Rodman, Massachusetts. In 1912, the company was sent to Fort Monroe in preparation for its transfer in December to Fort Amador in the Panama Canal Zone.(87)

From the end of 1911, when the last of the coast artillery companies departed from Fort Schuyler, until after America entered World War I, the fort was left in the hands of a caretaker detachment from Fort Totten. An ordnance sergeant and a coast artillery engineer sergeant were also assigned to the fort to maintain the armament and other public property.(88)

Fort Schuyler in World War I

When war broke out in Europe in 1914, Fort Schuyler was still an ungarrisoned post manned by a small caretaking detachment. During the latter part of 1916, the Coast Artillery Corps underwent an extensive expansion and the serially numbered separate companies of the corps were redesignated as serially numbered companies of their assigned post. As Fort Schuyler had no assigned garrison this reorganization had no immediate effect. However, when the United States entered the war in April 1917, measures were taken to provide a garrison. The 6th Co., Fort Totten, was organized at Fort Schuyler and garrisoned Throgs Point's until June, when the 1st and 2nd Cos., Fort Schuyler, were organized. The 6th Co., Fort Totten, then moved to Fort Totten.(89)

Fort Schuyler was a two company post for only a few weeks before the 2nd Co. was transferred to Fort Adams and assigned to the coast artillery expeditionary brigade preparing for service in France. It was redesignated Battery F, 7th Provisional Regiment, CAC.(90)

August 1917 saw another wholesale redesignation of coast artillery companies. The separate companies manning the batteries at Forts Totten and Schuyler became companies of the Coast Defenses of Eastern New York. The 1st Co., Fort Schuyler, the sole remaining company at Throg's Point, was redesignated the 4th Co., C.D. E.N.Y. Soon afterward the company was transferred to Fort Totten.(91) From September 1917 through January 1918, Fort Schuyler’s batteries were manned by a small detachment from Fort Totten. Battery Bell’s 5-inch guns were removed in the latter part of 1917, with a view to remounting them on field carriages for use in France. Battery Hazzard’s 10-inch guns and the 12-inch guns of Battery Gansevoort were kept in maintenance status during 1917, and no evidence has found that they were manned prior to the arrival of the 8th Coast Defense Command, N.Y.N.G. C.A.C., in January 1918. Mobilization plans prepared before the war called for the 27th and 32nd Cos. of the 8th C.D.C. to man the 12-inch guns of Battery Gansevoort; the 29th Co. of the 8th would be assigned to Battery Hazzard, and the 31st Co. to the pair of 3-inch RF guns of Battery Beecher that helped cover the mine field.

While Fort Schuyler may not have been a vital link in the coast defenses at the head of Long Island Sound, it did serve as a useful point of assembly for the organization and training of troops for duty with the field armies in France. In December 1917, the Coast Defenses of Eastern New York were directed to organize a regiment for service on the western front as army artillery. Part of this regiment was to be formed from Regular Army troops from Fort Totten, supplemented by personnel from the 27th, 28th, 29th, 32nd, 35th, and 36th Cos. of
the 8th C.D.C., and augmented with filler personnel from the National Army. The 2nd Battalion, Batteries C and D, was to be organized from the National Guard at Fort Schuyler, while the 1st Battalion was to be formed at Fort Totten. The 3rd Battalion was organized in Baltimore. Upon the arrival of the National Guard personnel in January 1918, the newly constituted 58th Artillery Regiment, CAC, began to organize.(92)

The 2nd Bn. of the 58th garrisoned Fort Schuyler until April 1918, when the 5th and 6th Cos., C.D. E.N.Y., arrived from Fort Totten to take over Batteries Gansevoort and Hazzard. The lone remaining company of the 8th C.D.C. at Fort Schuyler, the 31st, continued to man Battery Beecher.(93) On May 9, 1918, the 2nd Battalion of the 58th boarded the river steamer Grand Republic for the Hoboken Port of Embarkation. The steamer promptly ran aground off Fort Schuyler. After no little effort, the mine planter General E.O.C. Ord was able to finally pull the Grand Republic off the mud flat and send her on her way through the East River.(94)

The 58th Artillery had scarcely departed from Throg’s Point when orders were received in the Coast Defenses of Eastern New York to organize still another regiment for service in France. The 74th Artillery, CAC, was organized in June 1918, at Fort Schuyler, and upon completion of its organization in September was sent to Camp Upton on Long Island, in preparation for passage overseas later that month.(95) The war ended before the 74th Artillery could be sent overseas and the regiment returned to Fort Totten, where it was demobilized in January 1919.

With the signing of the armistice and the end of the war in November 1918, there was a rapid downsizing of the garrison assigned to the Coast Defenses of Eastern New York. The 6th Co. was demobilized in December, leaving only the 5th Co. to garrison Fort Schuyler. The following month the 5th Co. was transferred back to Fort Totten, leaving the old fort once again without a garrison.(96)

On December 4, 1918, Fort Schuyler received its antiaircraft battery, two M1917 3-inch antiaircraft guns on M1917 fixed antiaircraft mounts from Newark, New Jersey. The two guns were mounted on the terreplein of the old fort’s left and right faces.(97)

Fort Schuyler in the Post War Period 1919-1934

Most of the units returning from France at the end of the war were demobilized, but some of the coast artillery regiments raised during the war were retained in an active status as training regiments for medium and heavy tractor-drawn and railway artillery. One such unit was the 56th Artillery, CAC, which returned to New York in January 1919, and was posted at Fort Schuyler. The following month, the 44th Artillery, CAC, arrived at Fort Totten. Both regiments were, however, skeletonized organizations, as all of their federalized National Guardsmen and National Army draftees had been discharged, leaving only a few hundred Regular Army men in their ranks. The 56th Artillery occupied Fort Schuyler until October, when it was transferred to Camp Jackson, South Carolina. By this time the Coast Defenses of Eastern New York had been reduced to two companies, the 1st and 2nd Cos., C.D. E.N.Y., both quartered at Fort Totten. These provided caretaking details for the remaining ordnance at Fort Schuyler until June 1921, when the 2nd Co. was inactivated and the coast defenses were left in the hands of the 1st Co.(98)

Fort Schuyler’s remaining armament was removed following World War I. The No. 2 12-inch gun of Battery Gansevoort was placed in storage at the Second Corps Ordnance Depot,
leaving only one 12-inch gun in the fort’s most powerful battery. Battery Beecher’s guns were also dismounted and removed after the war. Prior to the end of 1923, the pair of antiaircraft guns on the terreplein of the fort were shipped to Watervliet Arsenal. About four months later, however, two more 3-inch antiaircraft guns, mounted on self-propelled Christie mounts, arrived at Fort Schuyler, where they were placed in storage until September 30, 1927, when they were shipped to Fort Hancock. The 2nd Bn., 18th Infantry, was posted at Fort Schuyler from 1922 until October 31, 1931, when it moved to Fort Wadsworth. The infantry’s place was taken by HQ and Service Platoon and Company A, 29th Engineers.(99)

As early as 1911, however, the City of New York and the Borough of the Bronx had been pressuring the War Department to declare the Throg’s Point reservation surplus, in hope that it could be turned into a park. With the end of the World War, pressure was renewed on the War Department to relinquish the valuable tract at Throg’s Point. Finally the army gave into the political pressure and the engineers were withdrawn from the post on May 1, 1934. The reservation was designated surplus to the needs of the War Department, and by the end of the year the reservation had been ceded to the state for use as the shore station of the New York Maritime Academy.

Over the next four years, the interior of the old enciente was thoroughly altered. The massive earthen parapets erected during the 1870s were removed, and the fort was gradually transformed into a college to train merchant marine officers. The army continued to remove the remnants of the ammunition hoists and other mechanisms that still remained in Batteries Gansevoort, Hazzard, Bell, and Beecher.(100) During the 1930s, the concrete masses of Batteries Hazzard, Beecher, and Bell, and the No. 2 emplacement of Battery Gansevoort, were demolished to make room for dormitories, classrooms, faculty residences, parking lots, and roadways. Much of the broken up concrete of these batteries was used to form a breakwater around Throg’s Point that was then back filled to enlarge the area of the point.

When the United States entered World War II, the academic program of the maritime academy was suspended and the army and navy returned to Throg’s Point. A detachment of the 7th C.A.(HD) Regiment manned a joint army-navy harbor entrance command post (HECP) at the fort. An altimeter (height finder) station for the antiaircraft battery at Fort Totten was also set up atop the fort, manned by Battery F, 7th C.A. In addition, some 2,500 naval and merchant marine officers were trained at Fort Schuyler during the war. These facilities remained in operation through most of the war years. Following the war, the army and navy departed, and the academy resumed its baccalaureate program.(101)

The only remaining vestige of the modern batteries built at the turn of the century is Battery Gansevoort’s No. 1 emplacement on the north flank of the old fort’s coverface. Here one can clearly discern the outline of the loading platform. The secondary fire control stations built atop the old 1870s barbette gun battery were taken down and the earthen battery itself was leveled.

Although the more modern batteries erected at the turn of the century have been removed, the old 19th century granite fort has fared much better. Only slight alteration to the exterior of the fortification was made, primarily in the form of more modern windows in the embrasures, additional doors, and a modern roof over the enciente of the old Third System work. Even the outworks of the old fort have survived with little modification. Fort Schuyler’s exterior today is generally well preserved as a full-scale model of the polygonal form of
nineteenth century American seacoast fortification. It serves as an excellent example of adapt-
ive use of a historic structure.

Endnotes


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