

Redoubt and Prospect; Changing Views of a New York City Headland
A Cultural Landscape Report for Battery Weed
Fort Wadsworth, Staten Island, NY

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A thesis
submitted in partial fulfillment
of the requirements for the
Master of Science Degree
State University of New York
College of Environmental Science and Forestry
Syracuse, New York
April 2008

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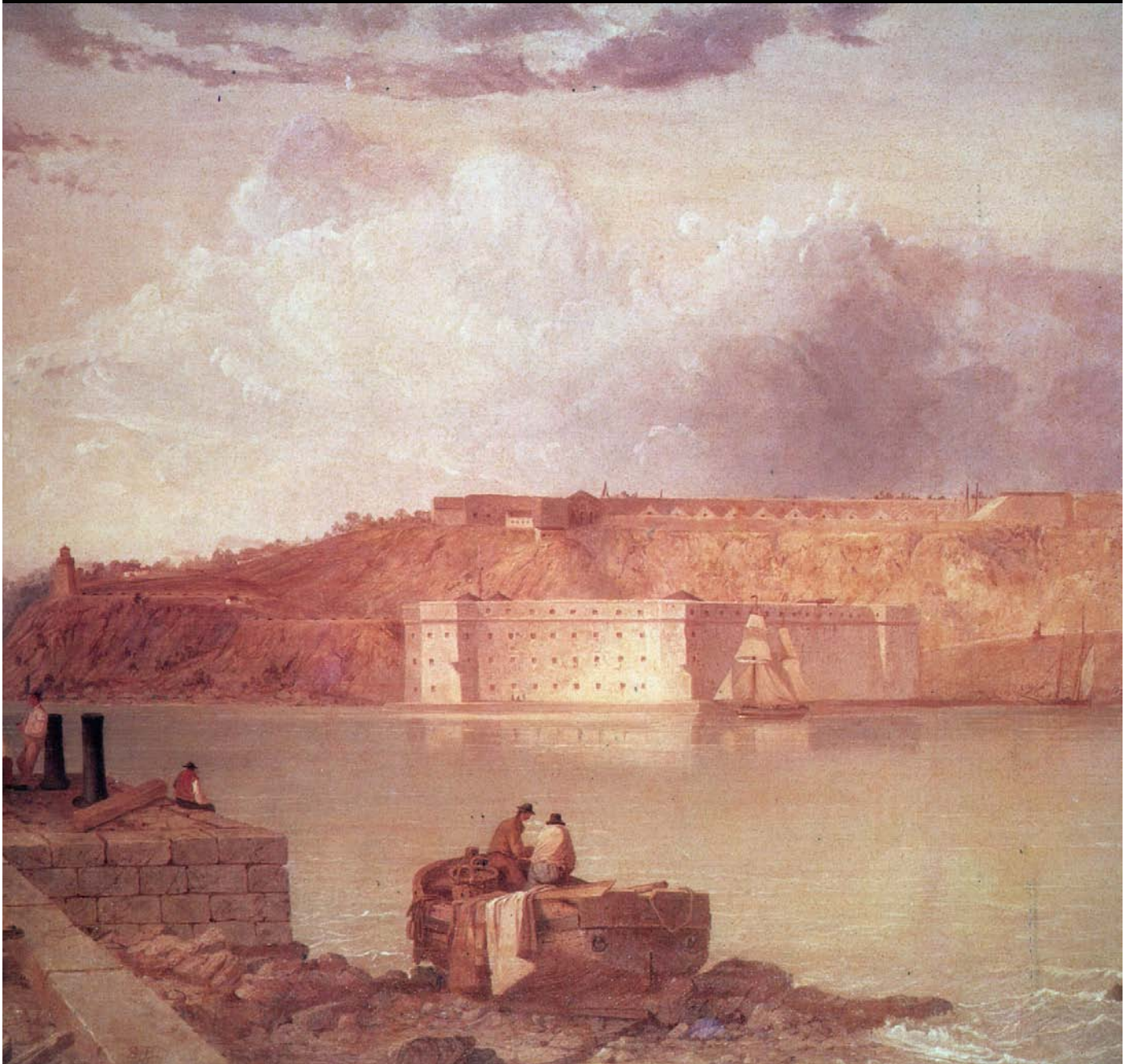
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CULTURAL LANDSCAPE REPORT FOR BATTERY WEED, FORT WADSWORTH

GATEWAY NATIONAL RECREATION AREA, STATEN ISLAND, NY

SITE HISTORY, EXISTING CONDITIONS, ANALYSIS & EVALUATION
AND TREATMENT RECOMMENDATIONS

ACKNOWLEDGMENTS

This thesis and *Cultural Landscape Report for Battery Weed* was produced through a cooperative agreement between the National Park Service Olmsted Center for Landscape Preservation and the State University of New York College of Environmental Science and Forestry Department of Landscape Architecture, Syracuse, New York (SUNY ESF), working with Gateway National Recreation Area (GNRA).

I am deeply indebted to George W. Curry, SUNY ESF Project Director and Distinguished Teaching Professor, who has patiently mentored me, answering my endless questions about landscape and culture, and offering his sage advice, insight, and encouragement at every turn. I could not have received a more thorough, or painless introduction to the art and science of cultural landscape documentation and writing from anyone other than John Auwaerter, Historical Landscape Architect, Olmsted Center for Landscape Preservation. Thank you both for all you have so generously given me.

Sincere thanks must go to the following individuals for all of their work in project direction and administration: Lisa Eckert, Gateway National Recreation Area (GNRA) Superintendent, David Uschold, National Park Service LIC Compliance Manager, Regional Section 106 Coordinator, Barbara Judy, National Park Service S106 Coordinator/Historical Architect, Gateway National Recreation Area (GNRA), and Kathy Foppes, Chief of Cultural Resources, Gateway National Recreation Area (GNRA). Thanks also to Robert R. Page, Director Olmsted Center for Landscape Preservation, Margie Coffin Brown, Senior Project Manager, Olmsted Center for Landscape Preservation, for their advice, support and encouragement in this effort.

Special thanks go to Felice Ciccione, Gateway National Recreation Area (GNRA) Archivist and Curator, Phil Melfi, Site Manager at Fort Wadsworth, Richard Cox, Director/Curator Harbor Defense Museum, Fort Hamilton, and Elaine McConnell, United States Military Academy Library at West Point NY. Dorothy D’Letto, Archivist/Researcher, Patricia Salmon, Curator of History, Assistant Curator of Science, Ray Matarazzo, Director of Science, Edward Johnson and Michelle Budenz, Senior Registrar, all of the Staten Island Museum who were especially helpful. Thanks to Jeffrey Blankenship, Assistant Professor of Landscape Architecture, SUNY ESF, and to Don Leopold, Chair and Distinguished Teaching Professor-Environmental & Forest Biology-SUNY ESF for his enthusiastic interest and advising in matters of plant biology.

To my beloved Jacob, Helen, and Cailin, I owe boundless gratitude for the gift of stolen moments—away from work—and spent with you. For his love and encouragement, with reliably frequent and engrossing conversations on landscape, culture, and life—I thank my husband Dennis Earle. To my dad, and to my mom (who launched me on this journey by sharing her love for the “natural” world, of which we are an inextricable part, and her belief in its power to instruct us) and the endless love and encouragement they both provide me—this one’s for you.

TABLE OF CONTENTS

ACKNOWLEDGMENTS	III
LIST OF ILLUSTRATIONS	vii
ABSTRACT	xv
INTRODUCTION	1
The Landscape of Battery Weed	3
Project Scope and Methodology	5
Terminology	10
Historical Overview	12
I. SITE HISTORY	19
Pre 1809: Native Americans and Colonial Settlement	19
1809–1846: Picturesque Island Landscape and Fort Richmond	
– Second System Fort	43
1847–1886: Battery Weed – Third System Fort and Leisure Use	61
1887–1945: Endicott & World War I-II Era	107
1945–Present: Late Military and NPS Management Era	149
II. EXISTING CONDITIONS	163
Environmental Setting	164
Regional Context	166

Fort Wadsworth Setting	167
The Battery Weed Landscape	168
Park Operations	177
III. ANALYSIS & EVALUATION	187
Historical Significance	188
Landscape Evaluation	201
IV. CONCLUSION	281
Framework for Treatment	281
Treatment Approach	286
General Recommendations	289
Epilogue	292
LITERATURE CITED & REFERENCES	295
REPOSITORIES CONSULTED AND RESULTS	299
APPENDICES	
Appendix A: Site Chronology	301
Appendix B: Military Terminology	307
Appendix C: Invasive Vine Eradication Method	311
VITA	313

LIST OF ILLUSTRATIONS

INTRODUCTION

Figures

0.1: Terminology reference map	11
0.2: Location map of Gateway National Recreation Area, 2004.	17
0.3: Satellite image showing Battery Weed in the context of Fort Wadsworth on Staten Island, 2007.	17
0.4: Looking northeast from the top of the bluff above Battery Weed toward Brooklyn with Manhattan, 2006.	18
0.5: The Battery Weed project site and critical viewsheds at Fort Wadsworth on the eastern shore of Staten Island, 2008.	18

I. SITE HISTORY

Figures

1.1: Glacial geology of New York City and vicinity, 2007.	35
1.2: A map of New Netherland and New England, 1636.	36
1.3: A map titled “Map of Explorations in the Neighborhood of Manhattan Island II,” 1918.	37
1.4: An engraving depicting the Dutch settlement of New Amsterdam (Manhattan Island), c.1650, 1915.	38
1.5: Drawing showing some of the colonial land patents from 1668 to 1712.	38
1.6: Detail of a map titled “Les Principales Fortresses Ports de L’Amerique Septentrionale,” 1745.	39
1.7: An illustration showing the arrival of Lord Howe, July, 1776.	40

1.8: Detail of a British map showing a “Signal House and Fort,” 1781.	41
1.9: A detail of a map of the State Land at Staten Island, 1809.	53
1.10: An etching of the Staten Island landscape, c.1840.	54
1.11: Drawing looking north from the bluff above Fort Richmond, 1839.	55
1.12: A site map indicating Fort Tompkins, 1819.	56
1.13: Map indicating Fort Tompkins, c.1819.	57
1.14: Etching looking north from the bluff above Fort Richmond, c.1840.	58
1.15: View from the bluff above Fort Richmond, c.1850.	80
1.17: The last working team of oxen at work in New York City, 1904.	81
1.18: Detail from the construction of the new Fort Richmond, 1846.	82
1.19: Plan of the new Fort Richmond, 1846.	83
1.20: An illustration of the fort under construction, c.1846.	84
1.21: Plan of the context of Fort Richmond in the Narrows, 1857.	85
1.22: Plan of the wood piles and granite slabs of Fort Richmond, 1849.	86
1.23: Sketch of Fort Richmond over the original Fort Richmond, 1847.	87
1.24: The inclined railway used to move materials up the, 1863.	88
1.25: Illustration of the inclined railway running up the bluff, c.1863.	89
1.26: Plan of proposed wall to sustain the foot of the slope, 1848.	90
1.27: Sections of the slope above the fort to be graded, 1848.	91
1.28: Section showing plan to incrementally grade the slope, 1848.	92
1.29: Section looking south at the guardhouse and drawbridge, 1860.	93
1.30: Plan and section of the cobble filled timber, 1857.	94
1.31: View of the New York Bay from the Telegraph Station, c.1851.	95
1.32: Etching looking northeast from the crest of the bluff, 1860.	95
1.33: Painting by artist Seth Eastman of Battery Weed, c.1872.	96

1.34: Section showing Battery Weed, cofferdam and seawall, 1995.	96
1.35: Map of the easternmost point of Staten Island in 1887.	97
1.36: Plan showing the pre-1873 natural contours of the bluff, 1892.	98
1.37: The slope with trees removed and moat filled with water, 1880.	98
1.38: North Cliff Battery and Bomb-Proof Parado, 1865.	99
1.39: Redesign of the North Cliff Battery and parados, 1871.	100
1.40: Plan of the North and South Cliff , 1886.	101
1.41: Plan and elevations of South Cliff Battery and the Seawall, 1863.	102
1.42: Postcard image looking north at the Post Headquarters, c.1890.	103
1.43: Detail showing the moat walled around the spring, 1886.	104
1.44: Map indicating the location of Van Deventer's Point, 1896.	123
1.45: Photograph of Happyland Park, c.1906.	124
1.46: Drawing from a bird's-eye view of South Beach Resort, 1899.	125
1.47: An aerial photograph of the Fort Wadsworth reservation, 1923.	126
1.48: Expansion of Fort Wadsworth between 1874 and 1907.	127
1.49: Context of Battery Weed and Fort Wadsworth, 1874.	128
1.50: Trolley line to South Beach, 1907.	129
1.51: Drawing of Battery Weed with sloping lawn, 1900.	130
1.52: Trolley car named "Fort Wadsworth," c.1907.	131
1.53: Etching of the view from the slope toward Manhattan, 1892.	132
1.54: Munitions storage in the Parade Ground of Battery Weed, 1893.	132
1.55: Battery Weed, Battery Catlin and the Mine Casemate, c.1905.	133
1.56: View of the slope from the barbette tier of Battery Weed, c.1890.	134
1.57: Sketch of Battery Weed and the North Stone Dock, c.post-1903.	135

1.58: Detail showing the new Mine Casemate, 1887.	136
1.59: Section drawing of the northwest bastion of Battery Weed, 1887.	137
1.60: Sketch showing the Torpedo Storage Building, 1892.	137
1.61: Sketch showing the Mine Defense Complex, 1907.	138
1.62: Long building that housed Cable Tanks 4, 5, and 6, 1907.	139
1.63: Plan of the Mine Railway, 1896.	140
1.64: Sketch showing the 1910, and the 1921 Mine Railway, 1921.	141
1.65: Tompkins Lighthouse positioned behind Battery Hudson, c.1900.	142
1.66: An aerial photograph of Battery Weed, 1924.	143
1.67: Wooden extension and marine crane at North Stone Dock, c.1907.	144
1.68: Satellite photograph of Battery Weed, 1940.	145
1.69: Aerial photograph of Battery Weed, 1958.	155
1.70: Satellite photograph of Battery, 1961.	156
1.71: Southeast stair tower from the parade ground, 1964.	157
1.72: Photo from the parapet of the barbette tier of Battery Weed, 1970.	158
1.73: Satellite photograph showing Battery Weed, 1980.	159
1.74: Satellite photograph showing Battery Weed, 1990.	160

Drawings

1: Second System Era: 1809–1846	59
2: Third System Era: 1847–1886	105
3: Endicott & World War I-II: 1887–1945	143
4: Late Military & NPS Management Era: 1945–Present	161

II. EXISTING CONDITIONS

Figures

2.1: Satellite image of the location of Fort Wadsworth on Staten Island.	179
2.2: Map showing Fort Wadsworth military reservation, 1997.	180
2.3: Three areas of the landscape organized for the existing conditions.	181
2.4: Aerial photograph of Battery Weed, slope and dock, 1995.	181
2.5: The fortress grounds looking northeast from the overlook, 1997.	182
2.6: The overlook and slope from the terrace above Battery Weed, 1997.	182
2.7: The north stone dock and seawall looking northwest, 1997.	183

Drawings

5: Existing Conditions Plan	185
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III. ANALYSIS & EVALUATION

Figures

3.1: Aerial photographs contrasting the historic character of the landscape in 1923 with that of 1995.	258
3.2: Contrasting character of the slope and overlook above Battery Weed in 1900 and 2007.	259
3.3: Porcelain Berry <i>Ampelopsis brevipedunculata</i> .	260
3.4: The parade ground, 2006.	261
3.5: The moat filled with earth and rubble, 2006.	261
3.6: The overlook sidewalk and grass panels on Hudson Road, 2006.	261
3.7: The slope above Battery Weed, 2006.	262
3.8: Battery Weed Road, and sections of the Mine Railway, 2006.	262
3.9: Hudson Road, to the east of Fort Tompkins, 2006.	262

3.10: The overlook promenade, and terrace section, 2007.	263
3.11: Concrete path edge on slope above Battery Weed, 2007.	263
3.12: Gravel surface of the filled moat, 2007.	263
3.13: Mine rails set into Battery Weed Road surface, 2007.	264
3.14: The engineered slope above Battery, 2007.	264
3.15: The southern end of Battery Catlin, 2007.	264
3.16: The northern end of Battery Bacon with gun emplacement, 2007.	265
3.17: Surface Drain Inlet. SUNY ESF, 2007.	265
3.18: The vegetation on the parade ground, 2007.	265
3.19: Successional woods and invasive porcelain berry, 2007.	266
3.20: Sycamore tree located on the east side of Hudson Road, 2007.	266
3.21: Two sycamore trees, c.1938, along Battery Weed Road, 2007.	266
3.22: Battery Weed, c.1847-c.1864 of cut granite block, 2007.	267
3.23: The granite seawall, 2007.	267
3.24: A collapsed section of the seawall, 2007.	267
3.25: The torpedo storage building, 2007.	268
3.26: The small concrete block building, 2006	268
3.27: Poured concrete shed, 2007.	268
3.28: The stone dock, 2007.	269
3.29: The deck of the stone dock, 2007.	269
3.30: Freestanding timber piles remaining in the water, 2007.	269
3.31: The Mine Casemate, 2007.	270
3.32: Heaving granite cap block of Bomb-Proof, 2007.	270
3.33: Wood plank door of Bomb-Proof Parado, 2007.	271
3.34: Battery Bacon partially covered in invasive vines, 2007.	271

3.35: Concrete pad and traverse circle of Battery Bacon, 2007.	271
3.36: Mortar-laid stone wall along the crest of the slope, 2007.	272
3.37: Square concrete structure at the top of the slope, 2007.	272
3.38: Stone swale is set in a depression in the parade ground lawn, 2007.	272
3.39: Concrete seawall north of the North Stone Dock, 2007.	273
3.40: Slope sustaining wall near SW bastion of Battery Weed, 2007.	273
3.41: The Coincidence Range-Finder Station, 2007.	273
3.42: The panoramic view form the Overlook, 2007.	274
3.43: Panoramic views of Battery Weed and New York Bay, 2007.	274
3.44: The chain link fencing and locking gate, 2007.	274
3.45: One of two overlook telescopic viewing stations, 2007.	275
3.46: The overlook flagpole with yardarms, 2007.	275
3.47: The overlook gun and mount, 2007.	275
3.48: The cable testing trough and cable testing tank, 2007.	276
3.49: The parade ground munitions pads, 2007.	276
3.50: Parade ground flagpole, 2007.	276
3.51: Park bench at Battery Weed, 2007.	277
3.52: Park interpretive sign, 2007.	277
3.53: Dock utility pole, 2007.	277
3.54: Iron dock bollard, 2007.	278
Drawings	
6: Analysis & Evaluation	279

ABSTRACT

Gleisner, Jean B.

Redoubt and Prospect; Changing Views of a New York City Headland

A Cultural Landscape Report for Battery Weed, Fort Wadsworth, Staten Island, NY

Typed and Bound Thesis, 310 pages, 1 table, 6 drawings, 141 figures

April 2008

This thesis is based on a methodological framework developed by the National Park Service for use as a Cultural Landscape Report. The landscape of Battery Weed overlooking the entrance to New York Harbor has a history of military development and use beginning during the American Revolution when the site was farmland. The landscape, with its panoramic views of New York Bay became a popular site for public recreational use from the nineteenth century on, to its present status as a part of Gateway National Recreation Area.

Based on analysis of research of primary and secondary sources, the thesis explores changes in form, character, and meaning of the landscape of Battery Weed over time through a study of cultural and natural forces and contexts that influenced the development of the site.

Keywords: Battery Weed, Fort Wadsworth, Fort Richmond, cultural landscape preservation, Cultural Landscape Report, National Park Service, Gateway National Recreation Area, coastal defense history, Civil War

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The ideas and opinions expressed in this publication are those of the author and should not be interpreted as those of the State University of New York College of Environmental Science and Forestry.

INTRODUCTION

Landscape is often regarded simply as the expanse of scenery that can be observed in a single view.¹ Unaccounted for in definitions of landscape as view, prospect, or picture are the ideological forces and cultural constructs, the embedded layers of history that shape the form and meanings of landscape. Landscapes are constructed both literally and intellectually; and through this process become expressions of a society's cosmology, human perceptions, individual and cultural identity. The histories that lead to perceiving landscapes as "cultural" are not simply linear progressions of events and characteristic forms. They are cyclical and complex stories of interdependency, of mutuality between physical environments and human existence. Just as there are cultural constructs embedded in our perceptions of landscape, so are elements of environmental biogeny embedded in the human physical and cognitive being. As a society makes and remakes its landscapes, landscapes in turn contribute to the making of that society through the expression in the environment of both ecology and culture.

Landscapes are therefore much more than an expanse of scenery; they are repositories—dynamic, not static iconographies—of cultural meaning from which a society may learn continually about itself; understanding and making its place in the world. Through historic landscape research, documentation of existing conditions, analysis, and comparative evaluation, the practice of cultural landscape preservation uncovers and brings to light the palimpsest of cultural meaning in landscapes. Preservation strives to develop frameworks for best practices in the stewardship of cultural landscapes—diverse and dynamic collections of socio-environmental works.

This thesis provides a comprehensive historic study and analysis of the landscape of a New York City Civil War era fort, Battery Weed, and was developed with three broad objectives. The first objective is to provide a comprehensive written and illustrative narrative of the history and evolution of the landscape. The second is to develop an understanding of the extent and effect of change over time in the landscape, and the implications of those changes on historic significance and contemporary use. The third objective of the thesis is to cultivate knowledge in the practice of historic landscape preservation in documenting, analyzing and evaluating cultural landscapes.

Battery Weed, within Gateway National Recreation Area, along with Golden Gate National Recreation Area, was one of the two first specifically urban recreation areas established in 1972 by Congress. Located in the borough of Richmond (Staten Island) within the city of New York, Gateway National Recreation Area's primary purpose is "to preserve and protect, for the use and enjoyment of present and future generations, an area possessing outstanding natural, historic, and recreational features."² Battery Weed, under the jurisdiction of the U.S. Army in 1972, was listed in the National Register of Historic Places for its significance in the areas of architecture and military history. The historic designation was limited to the granite structure itself, and did not address the recreational or aesthetic values of its surrounding landscape. The landscape of Battery Weed has evolved in form, character, and use in response to very different cultural perspectives. Through research and analysis, this thesis attempts to uncover the stories of cultural and environmental interaction that have shaped the landscape and imbued it with layers meaning.

The thesis, a study of cultural and natural forces and contexts that have influenced the development of the site from pre-history to the present day, including histories of military and recreational use of the site and provides guidance for preserving, repairing, and maintaining the historic characteristics and overall setting of the Battery Weed landscape. This study will help stewards of Battery Weed to retain, enhance, and reveal its layers of history and meaning. The study will serve to guide the National Park Service in future landscape planning and management efforts to improve public access, to accommodate visitor facilities, and to develop interpretation of historical layers.

THE LANDSCAPE OF BATTERY WEED

On the eastern shore of Staten Island at the entrance to New York Harbor, a prominent headland overlooks the Narrows of New York Bay. This headland, where the landforms of Staten Island and Long Island lie closest together at the entrance to New York Harbor, has long been imbued with meaning as both redoubt and prospect. Battery Weed is immediately north of the Verrazano-Narrows Bridge, and is one of two major fortifications, the other being Fort Tompkins, at Fort Wadsworth in the Staten Island Unit of Gateway National Recreation Area (Figures 0.2 and 0.3). Retaining a commanding position on the shoreline of the easternmost point of Staten Island, Battery Weed overlooks the entrance to New York Harbor from below a 125-foot high bluff (Figure 0.4). Through two centuries of military use, the landscape provided strategic advantage in the defense of liberty and commerce.

From a civilian perspective, the landscape has a long history of public recreational use from the mid-nineteenth century. Even throughout its development for coastal defense, the landscape offered to many its grassy banks, fresh breezes, and panoramic views of the

New York Bay and islands. The Battery Weed landscape is a threshold between home and abroad where the land meets the sea on the western bank of the Narrows. In its position at the primary geo-cultural threshold through two centuries of emigration to the United States, this headland has come to represent a symbolic birthplace of American cultural identity.

Herman Melville wrote of setting sail through the Narrows in his novel *Redburn* in 1849:

*... The Narrows, which everybody knows is the entrance to New York Harbor from sea; and it may well be called the Narrows, for when you go in or out, it seems like going in or out of a doorway... and I could hardly believe that there could be any land beyond... cities and towns and villages and green fields and hedges and farm-yards and orchards, away over that wide blank of sea... England, and France, Liverpool, and Marseilles.*³

In returning home through the Narrows from his journey abroad Melville wrote:

*Oh! He who has never been afar, let him once go from home, to know what home is. For as you draw nigh again to your old native river he seems to pour through you with all his tides, and in your enthusiasm, you swear to build alters like mile-stones, along both his sacred banks.*⁴

The landscape of bluff and sea that so moved Melville at both ends of his journey has over many years undoubtedly moved countless souls arriving at the shores of America from far away lands to begin a new life. The Narrows of New York Bay has historically been a national threshold landscape at the entrance to New York City. Today, Battery Weed, a three-tier granite casemate fort begun in 1847 is perched at the west bank of this threshold at the base of the bluff overlooking the Narrows of New York Bay.

From a military perspective, Battery Weed and its surrounding landscape are historically significant for a long association with the security of New York City, the most important seaport in the United States from the early nineteenth century. The design and construction characteristics of Battery Weed, as well as archeological resources on site, demonstrate the various stages in development of America's coastal fortifications, and are representative of the evolution of America's national coastal defense systems.

Research for this thesis has also identified additional areas of significance for the Battery Weed landscape. The landscape of Battery Weed has a long historic role as a recreational landscape, functioning as a public park throughout much of the nineteenth and twentieth centuries with frequent use by visitors from the surrounding New York City area.

PROJECT SCOPE AND METHODOLOGY

This thesis employs a consistent form and organizational methodology, based on *A Guide to Cultural Landscape Reports: Contents, Process, and Techniques* developed by the National Park Service (NPS) for use in the analysis and documentation of cultural landscapes. A Cultural Landscape Report (CLR), as defined by the National Park Service, is the primary guide for the management of a cultural landscape. This thesis focuses on documenting the history of the Battery Weed landscape, evaluating landscape characteristics and features that contribute to the historic character of the site, and recommending general strategies to guide the long-term management of the cultural landscape.⁵

The thesis is comprised of chapters on site history, existing conditions, analysis and evaluation, and recommendations. The site history chapter documents the physical development of the landscape through human interaction and modification. The existing conditions chapter documents, identifies and describes the characteristics and component features of the landscape in both narrative and graphic form. The analysis and evaluation chapter draws on the body of historic research to identify a period, or periods of historic significance for the landscape, and considers the existing conditions of historic features to determine whether or not they contribute to the historic character of the cultural landscape. Recommendations made in the conclusion of the thesis respond to findings of the analysis and evaluation and will guide park management efforts to improve public access, accommodate visitor facilities, and to develop interpretation of historical layers.

A series of plans to aid in the analysis of the development of the cultural landscape is included with the site history and existing conditions. A combination of methods was employed in the development of the plans. Historic maps, plans, and photographs were examined and compared to determine the changes that occurred in the landscape over time. Field inspections were conducted to determine the existence and condition of features in the landscape. Interviews and consultations with knowledgeable individuals, including park staff and historians contributed to a better understanding of the landscape's evolution.

Management oriented portions of the thesis such as the analysis and evaluation, and treatment recommendations focus on the landscape within the project area. The project study area is best expressed as a series of critical viewsheds comprising the landscape

setting of Battery Weed and including the overlook and stone wall from the center of the roadway atop the bluff to the west of Battery Weed, east to the seawall along the shore, and extending from, but not including Batteries Bacon to the south and Catlin to the north (Figure 0.5). All landscape features within this area, including natural systems and features, spatial organization, land use, topography, circulation, vegetation, buildings and structures, views and vistas, constructed water features, small scale features and archeological sites are addressed. Although the project area is defined by critical viewsheds across the landscape of Battery Weed, the site history for this thesis includes the wider landscape setting of Battery Weed within Fort Wadsworth and Staten Island contexts to the extent that they contribute to the story of the development of the landscape.

This thesis builds on a number of resource management studies. In 1979 the National Park Service completed a *General Management Plan for Gateway National Recreation Area* that provided broad recommendations for Fort Wadsworth and called for more detailed site planning upon transfer of Fort Wadsworth from the Department of Defense to the National Park Service (NPS). The primary consideration in this plan for Battery Weed was the retention of its historic appearance and integrity. A *Draft Site Management Plan/Environmental Assessment, Fort Wadsworth Gateway National Recreation Area* was developed in 1995 in an effort to describe management alternatives, provide analysis of potential effects, and provide policy guidance for future visitor use, resource management, and operations at Fort Wadsworth. The 1979 and 1995 reports provided an environmental planning and management background that has been considered in the development of recommendations put forth in the thesis.

Since the NPS assumed administration of Battery Weed in 1994, there has been recognition of the critical importance of the repair of the collapsed sections of the 1,000 foot-long granite seawall that protects the historic structure. This has led the park to begin work to stabilize and reconstruct the granite seawall, to develop a plan for the rehabilitation of the north stone dock, and to plan for future stewardship of the historic site.

Project requirements for National Park Service cultural landscapes vary greatly in scope and in complexity, and thus may require varying levels of research defined by the NPS as “exhaustive, thorough, and limited.” This thesis has been prepared to complete a “thorough” level of research, as defined by *National Park Service-28: Cultural Resource Management Guideline*, which requires review of available existing historical resources including a variety of primary and secondary sources. For the site history, several repositories were consulted in the development of this thesis, including:

- Gateway National Recreation Area (GNRA) Archives, Staten Island, New York
- Staten Island Institute of Arts and Sciences (SIAS), Staten Island, New York
- New York Historical Society (NYHS), New York, New York
- New York Public Library, New York, New York
- National Archives Records Administration (NARA I), Washington, District of Columbia
- National Archives Records Administration (NARA II), College Park, Maryland

Much of the material found was primary source material in the form of construction documents, plans, maps, photographs and written documentation. Primary sources reviewed included photographs from the collections of the Gateway National Recreation

Area Archives, the National Archives Photographic Collection and the New York Historical Society Collection. Reviewed materials included the New York Historical Society Library Collection of Notebooks of General Richard Delafield, Engineer at Fort Wadsworth c.1863; construction documents from Gateway National Recreation Area Archives and the National Archives; and several early maps from the Map Room of the New York Public Library. The archives of the Staten Island Institute of Arts and Sciences provided maps and colonial land patents dating from the mid 1600s to the early 1700s.

A wealth of material has been compiled through the work of many researchers over the years relating to the character and history of Staten Island at the west bank of the Narrows. Sources consulted for this thesis were selected for their relevance to the development of the landscape surrounding Battery Weed. Important site-specific secondary sources included Frederick R. Black's 1983 "*Historic Resource Study, A History of Fort Wadsworth, New York Harbor*," and a 2006 URS Corporation report, titled "Phase IA Archeological Investigation Rehabilitate Battery Weed Seawall and Dock Fort Wadsworth Unit, Gateway National Recreation Area Staten Island New York." Both the Staten Island Institute of Arts and Sciences archives collection and the New York Historical Society provided many nineteenth century etchings and drawings depicting the Fort Wadsworth site on the Narrows. Research included the review of a portion of the Staten Island Institute of Arts and Sciences collection of artwork and porcelain pieces featuring historic views of the Narrows and Fort Wadsworth. Archeological and natural history collections at Staten Island Institute of Arts and Sciences were also reviewed including artifacts such as Indian arrowheads dating from 12,000 BP, as well as geology, botany, bird, beetle and butterfly collections. An interview with Assistant Curator of Science, Ray Matarazzo, and Director of

Science, Edward Johnson, revealed a diversity of marine bird, fish, and mammal species related to the Fort Wadsworth site as well as a rich ecological history of plant species.

Other sources of information were consulted and proved to be helpful in telling the Battery Weed story. Henry G. Steinmeyer’s 1987 *Staten Island 1524 – 1898*, and a six volume set of illustrated by photo-intaglio reproductions of important maps, plans, views and documents in public and private collections compiled from original sources titled *The Iconography of Manhattan Island 1498 – 1909*, by I.N. Phelps Stokes, made access possible to a diverse and comprehensive collection of early maps and etchings.

TERMINOLOGY

Some of the place and structure names used in this thesis require clarification with regard to the intended meaning depending on the date the term was used. The long and varied cultural history of the landscape and its use since the eighteenth century, have resulted in a diverse list of names associated with its features and structures. The table below is intended to clarify the sometimes overlapping and confusing terminology used in this thesis to refer to the landscape features at the site of the present Battery Weed, as well as the structures sited there (Figure 0.1). See Appendix B for a glossary of military terminology used in the thesis.

NAME:	MAP	REFERS TO:	DATES USED:
Flagstaff Hill	A	signal station at the top of the bluff	c.1779
Van De Venter’s Point	B	easternmost point of Staten Island	c.1790 – 1890
Stag Stake	A	site at the top of the bluff	c.1790
Signal Hill	A	signal station at the top of the bluff	c.1812
Battery Point	C	easternmost point of Staten Island	c.1800
Fort Tompkins	D	original Fort Tompkins	c.1807 – 1859

Fort Tompkins	E	present Fort Tompkins	1859 – present
Water Battery	F	original Fort Richmond	1809 – c.1890
Fort Richmond	F	original Fort Richmond	1809 – 1865
Fort Richmond	G	present Battery Weed	1846 – 1865
Fort Wadsworth	G	present Battery Weed	1865 – 1902
Fort Wadsworth	H	entire military reservation	1902 – present
Battery Weed	G	present Battery Weed	1902 – present

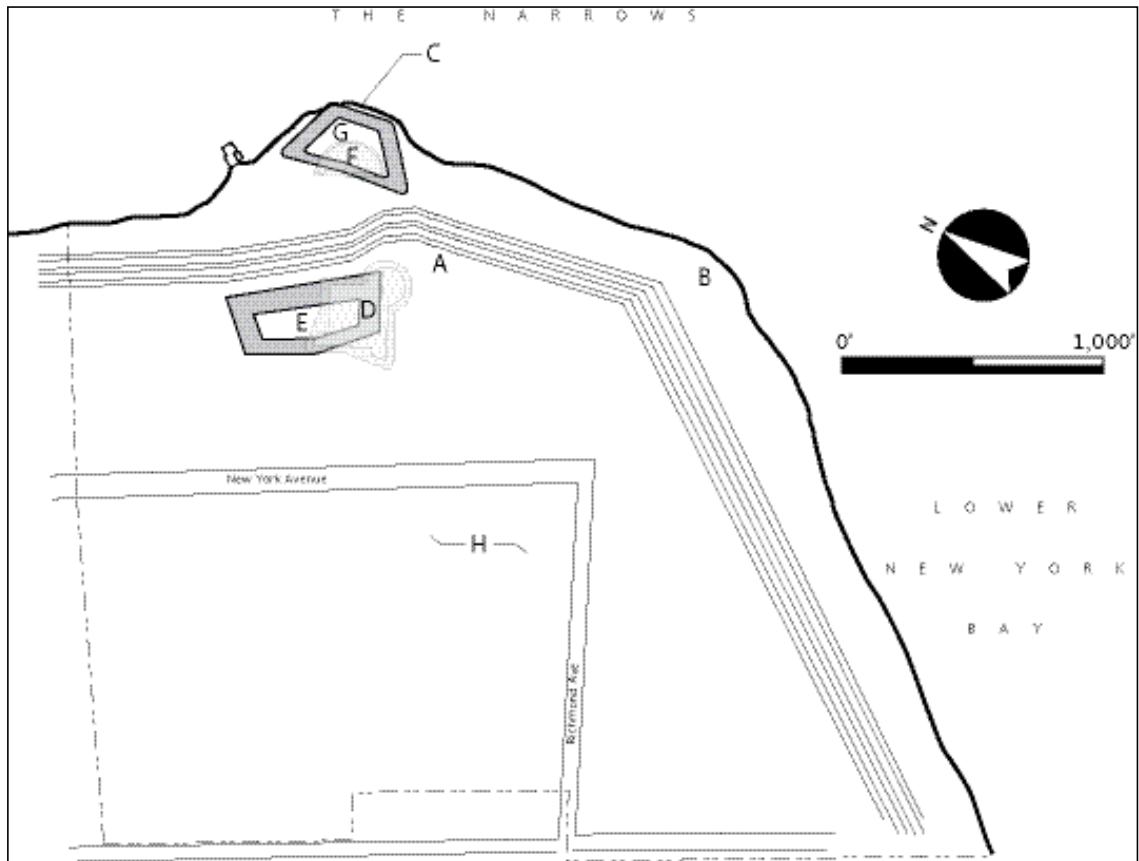


Figure 0.1: Terminology reference map indicating locations of features and structures associated with specific names and time periods in the above table. SUNY ESF, 2008.

HISTORICAL OVERVIEW

The site of Battery Weed has long been associated with natural and cultural events that have played a significant role in the physical and cultural evolution of Staten Island and New York Harbor. Cultural history related to this site began as a response to a wealth of natural resources to be found there. Native Americans used the land at the easternmost point of Staten Island for hunting and gathering. Use of the land evolved as it was settled by the Dutch and later the English, from colonial agriculture and pasturage to the development, beginning late in the eighteenth century, of a series of military fortifications. From the mid-eighteenth century on, the bayside site also became a popular public recreational destination for use as a park.

Human settlement on Staten Island began in the Paleoindian period 10,000 years ago. Prior to the late seventeenth century, the island was settled by a branch of the Delaware people, of the Raritan group of Native Americans known as the Lenape. European colonial settlement of the land began c.1662 with the Dutch, followed by the British with English Crown land grants for agricultural settlement. Some time prior to their departure from Staten Island in 1783, the British first constructed an artillery post at the present site of Battery Weed. The first American System of Coastal Fortifications was developed between 1794 and 1807, although not at the Staten Island site. By 1794, with American independence, the State of New York began to acquire lands at the Narrows for the construction of defensive works. During the period between 1809 and 1846, the site at the Narrows witnessed the first substantial development of military fortifications corresponding with the Second American System of Coastal Fortifications. By 1809 a new fort in a half circle of solid masonry, along with a cluster of buildings and a new wharf

north of the fort, was under construction by the State of New York on the shore at the Narrows. The second system fort, on the present site of Battery Weed, was named Fort Richmond, for Richmond County, and was also known as the Water Battery.

The federal government undertook a new program of coastal defense between 1816 and 1867, called the Third American System that was overseen by officers of the Army Corps of Engineers. By February of 1847 the 47-acre military reservation at the Narrows on Staten Island passed from state to federal control. The construction of the new Fort Richmond, in the Third American System design began almost immediately, but the structure was not completed for nearly another two decades. In 1865 the War Department officially changed the name of Fort Richmond to Fort Wadsworth after Brevet Major General James S. Wadsworth of New York who had died in the Battle of the Wilderness in Virginia. With the rapidly growing population of New York City and easy accessibility via regular ferry service, the landscape surrounding Battery Weed also witnessed a steady increase in recreational visitation and use.

During the Civil War, and in the postwar period through the 1870s, technological advances in heavy ordinance rendered Battery Weed militarily obsolete. The armaments although no longer used, remained in place on site. In 1876, the construction of the upper fort, Fort Tompkins, ceased and the site by the bay was used more frequently by visitors recreationally, and functioned effectively as a public park. Visitors picnicked along the top of the hill above, and strolled along the grassy paths on the slope and on the seawall around Battery Weed.

Between 1887 and 1945, the modernization of the harbor defenses brought extensive changes to the landscape surrounding Battery Weed. The assembly of a special board by President Cleveland, chaired by Secretary of War William C. Endicott, to address the state of the nations military readiness resulted in what is known as the Endicott Era in coastal defense, c.1886 to 1917. The Endicott Era brought changes to Battery Weed including the addition of new concrete and earthen batteries, cable tanks (used in the storage of mine cable), storage buildings, roads and railways associated with submarine mine defense. In 1902, the name of the fort was changed once again from Fort Wadsworth to Battery Weed after Brigadier General Steven H. Weed who was killed at Gettysburg. The name Fort Wadsworth was reassigned to the entire military reservation.

By the end of World War I in 1918, Battery Bacon had been decommissioned and the garrison at the Fort Wadsworth reservation diminished dramatically.⁶ In 1919 command of the post was transferred from the Coast Artillery Corps to the Infantry and by 1927 only fourteen enlisted men resided on site. In 1935 the Works Progress Administration (WPA) began a series of projects at Fort Wadsworth including the construction of a section of the seawall to the north of the stone dock and miscellaneous forestry work as well as possible enhancements for recreational use.

With the onset of World War II Fort Wadsworth was again readied for military action. Between 1942 and 1944 a series of subsurface mines were deployed across the Narrows by vessels operating from the site of Battery Weed. In 1942, Battery Catlin, the last manned battery, was taken out of service. Until 1945, Fort Wadsworth was home to the Harbor Entrance Control Post (HECP) with an observation tower located on top of Fort Tompkins.

Fort Wadsworth remained militarily active during the postwar period, but Battery Weed and its adjoining landscape essentially became a storage area. Along with lack of use came marked changes in the character of the Battery Weed landscape, notably the growth of trees on formerly maintained open ground. The Verrazano-Narrows Bridge was constructed stretching across the narrows, and across the Fort Wadsworth post immediately to the south of Battery Weed between 1959 and 1964. The fortress grounds at Battery Weed served as a temporary parking area during the construction of the bridge. The construction of the Verrazano-Narrows Bridge resulted in a marked change to the setting of Battery Weed, looming over its southern horizon and slicing through the landscape of Fort Wadsworth.

Through the 1970's, Battery Weed remained largely unused except for the light station that provided an aide to navigation from the barbette tier of the fort. Fort Wadsworth was home to the radar control center for the area's NIKE Missile System until the 1970s. In 1972 federal legislation was drafted to establish Gateway National Recreation Area (GNRA) and Fort Wadsworth was included as a future GNRA site, but the site remained under military administration and use. From 1987 and through 1994, Fort Wadsworth was administered under the jurisdiction of the U.S. Navy and was extensively redeveloped to provide military housing facilities. There was little change, however, within the Battery Weed study area.

The administration of Battery Weed, as a part of Fort Wadsworth, was transferred to the National Park Service from the Department of Defense in 1995. Battery Weed is currently administered by the National Park Service and is an integrated component of the Staten Island Unit of Gateway National Recreation Area.

ENDNOTES

¹ *The American Heritage Dictionary of the English Language*, Fourth Edition (Boston, New York: Houghton Mifflin Company, 2000), s.v., “landscape.”

² *Draft Site Management Plan Fort Wadsworth Gateway National Recreation Area* (Washington, DC: U.S. Department of the Interior National Park Service, 1995), 1.

³ Herman Melville, *Redburn* (Harmondsworth, Middlesex, England: Penguin English Library, 1849), 81, 82.

⁴ Melville, 391.

⁵ Page, Robert R., Gilbert, Cathy A., Dolan, Susan A., *A Guide To Cultural Landscape Reports: Contents, Process, and Techniques* (Washington, DC: U.S. Department of the Interior National Park Service, 1998), 3, 4.

⁶ Frederick R. Black, *A History of Fort Wadsworth, New York Harbor, North Atlantic Regional Office, Cultural Resources Management Study no.7* (Boston, Massachusetts: U.S. Department of the Interior National Park Service, 1983), 111.

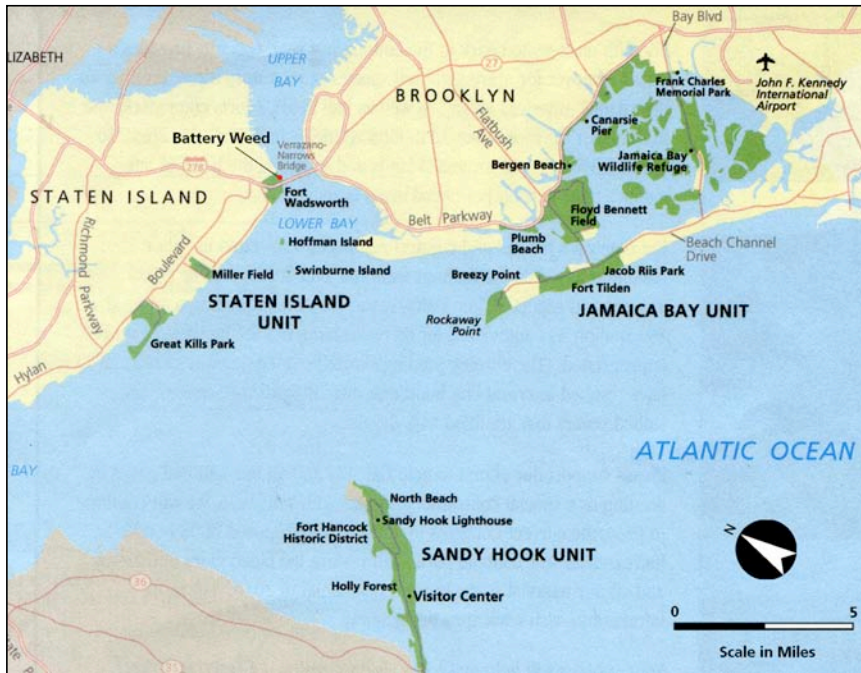


Figure 0.2: Location map of Gateway National Recreation Area showing Battery Weed (in red) just to the north of the Verrazano-Narrows Bridge at Fort Wadsworth on Staten Island, 2004. The map also indicates the other park components (in green). National Park Service, The National Parks of New York Harbor Regional Map, 2004, annotated by SUNY ESF.



Figure 0.3: Satellite image showing Battery Weed (study boundary shown in red) in the context of the Fort Wadsworth military reservation on Staten Island, 2007. Europa Technologies Image, Bluesky. Google. 2007, annotated by SUNY ESF.



Figure 0.4: Looking northeast from the top of the bluff above Battery Weed toward Brooklyn with Manhattan at the upper left and the Verrazano-Narrows Bridge on the right, 2006. SUNY ESF.

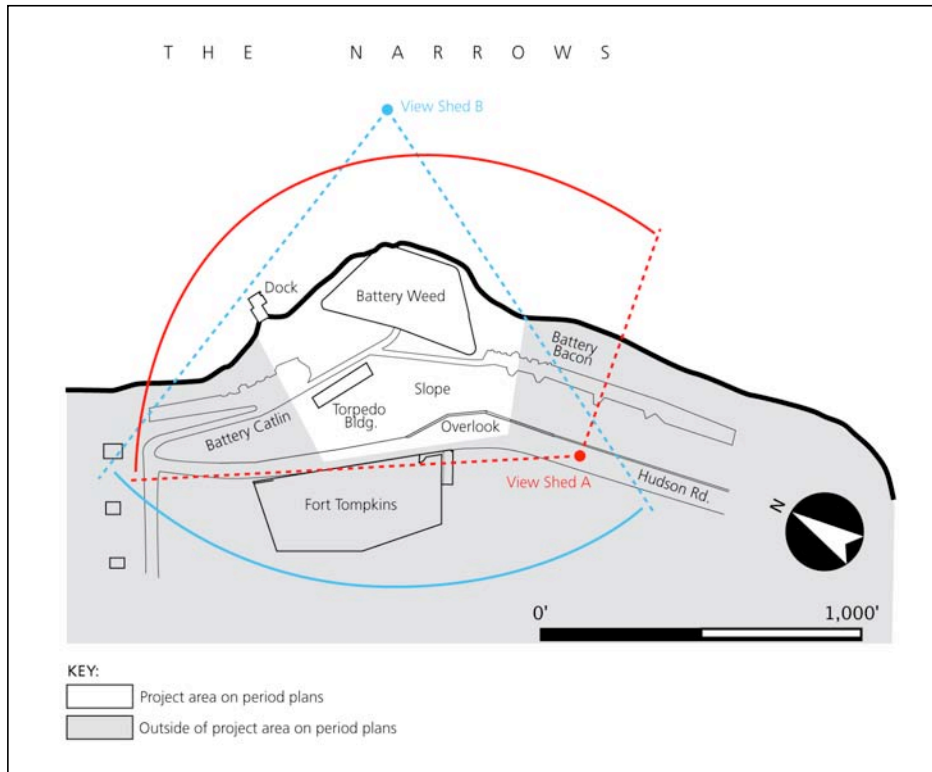


Figure 0.5: The Battery Weed site at Fort Wadsworth on the eastern shore of Staten Island. The project area, indicated by the white area, corresponds to the project area on the period plans in this document. The red and blue arcs describe critical viewsheds across the landscape. SUNY-ESF, 2008.

SITE HISTORY

PRE 1809: NATIVE AMERICANS AND COLONIAL SETTLEMENT

Over many centuries, natural processes and physiographic events have shaped the coastal landscape of Staten Island and endowed it with a wealth of historically important resources both cultural and natural. Landform and habitat changes brought by rising sea levels resulted in the creation of inland marshes and supported a diverse collection of plant and animal species. From the time of the earliest sightings of Staten Island by European explorers, the strategic importance of the bluff forming the western bank of the Narrows has been clear. Colonial agricultural settlement of the area by the Dutch beginning c.1662 included the development of farmsteads featuring simple wooded structures and furrowed fields, but beginning in the mid-eighteenth century, the long and strategic prospect offered from the heights of the bluff above the bay began to overshadow the agricultural value of the land. The vantage point from the bluff above the bay became the site of a semaphore station and lookout as the shipping trade expanded in the region. Later, a recognition of the importance of this vantage point would lead to a continuing effort to effectively protect the entrance to one of the most important cities and trading centers of a young nation.

NATURAL HISTORY

From the time of the retreat of the great ice sheet of the Laurentide Glacier approximately 20,000 years ago, the landscape of Battery Weed at the west bank of the Narrows of New York Bay has been one of drama.¹ The landform visible today, including the steep bluff above the stone fort overlooking the Narrows, remains an index of the events of natural

history. The Ronkonkoma and Harbor Hill moraines, terminal deposits left by the retreating glacier composed of boulders, gravel ridges, striated rock, and surface till, form the heights of the New England south coast islands stretching from Cape Cod to Staten Island (Figure 1.1). These moraines once acted as natural dams holding back glacial melt-water in a series of great lakes to the north. During a period of global warming, the flow of water from the north breached an area of the morainal dam and carved a deep chasm through the till, from the Hudson Highlands, south of the Catskills, to the mouth of the Atlantic Ocean at the site of Battery Weed on the Narrows of New York Bay.²

Although the site of Battery Weed is located within the Atlantic Coastal Plain physiographic region, which is generally characterized by level to gently sloping terrain, the extensive glacial deposits crossing the Staten Island site resulted a much more varied topography.³ Daily tidal flows through the Narrows, to the present day, have eroded the moraine with a water depth in the Narrows of 100 feet to bedrock.⁴

A formation consisting of a scatter of materials such as sandstones, siltstones and schists in a variety of sizes from very large boulders to small stones and topsoils, was left behind at the bluff above Battery Weed as a result of the carving out of this morainal dam. Over the many centuries, the effects of wind and water further shaped the bluff, eroding away the loose material, and exposing large boulders embedded in the coastal bluff. This glacially and weather-carved landscape, although it has since been smoothed out and reshaped by human means, remains evident in the steep drop-off from the crest of the bluff above Battery Weed to the waters edge below.

The site of Battery Weed, at the entrance to the Upper New York Bay, and on the edge of the Hudson-Raritan Estuary, is an historically a rich and diverse ecological region. The paleo-environment (pre 8,000 BCE) was likely dominated by mixed tundra and spruce woodlands supporting herds of large fauna.⁵ During the warming of the Early Archaic period (8,000 BCE - 6,000 BCE), rising sea levels brought environmental changes to the landscape in the form of large inland marsh areas, and a predominance of pine-oak forests and broadleaf tree species. Located on the North American Migratory Flyway, this site is today considered a part of the Eastern Broadleaf Forest (Oceanic) ecological sub-region of the upper Atlantic coastal plain, described as including mostly northeastern oak-pine forest, some fringes of northern cordgrass prairie along the Atlantic coast, some cedar bogs and transitional pine forests and deciduous swamps, pine plains and grassy savannas.⁶

NATIVE AMERICAN HABITATION

The ecological changes that resulted from broad environmental trends after the last ice age began to sustain an increase in the diversity of successful animal populations along with the increasing success of Native American hunter-gatherer groups.⁷ Until late in the seventeenth century, Staten Island was home to a branch of the eastern division of the Delaware people of the linguistic Algonquian family who occupied the East Coast from Maine to the Chesapeake. This branch of the Delaware people, of the Raritan group of Native Americans, was known as the Lenape. Archeologists have unearthed projectile points, ceramic remains, and shell middens dating to 3,000 BCE, evidence of Lenape use of the available natural resources in the vicinity of the site of Battery Weed.

The name for which the island was known to the Lenape was Aquehonga-Monacknong, or Monacknong, meaning ‘enchanted woods’.⁸ Historian George W. Hilton noted in a 1964 publication that Native Americans also called the island ‘Eghquaons,’ meaning high sandy banks.⁹ By any name, the island was host to a prosperous native culture in the Lenape people. The Lenape were hunters and fishers harvesting an abundance of oysters from the shallow beds off the shores of the island. Although it is unknown precisely where, the Lenape also made substantial woodland clearings for the cultivation of corn (maize), beans, pumpkins and tobacco. They made hooks of bone, and wove hemp nets for fishing. The Lenape used rushes, grasses and husks to make baskets and mats, and a variety of island plants and other materials were used for medicinal and ceremonial purposes.¹⁰

EUROPEAN EXPLORATION AND COLONIZATION

European discovery of the Native American territory during the sixteenth century, followed by early seventeenth century Dutch attempts at agricultural settlement, began years of conflict over rights to the land. Giovanni da Verrazano, an Italian in command of the three-masted sailing vessel, the Dauphine, searching for passage to China in the employ of Francis I of France, anchored off Staten Island in April of 1524. He reported that oysters and fish were plentiful, and bear, turkey, wolves, fox, beaver, and muskrat were known to be on the island.¹¹ Verrazano’s report is the first known written description of Staten Island: “. . .this region which seemed so commodius and delightful, and which supposed must also contain great riches, as the hills showed many indications of minerals.”¹² A 1636 map of New Netherland and New England illustrates the abundant resources discovered in early explorations of the new world (Figure 1.2).

Explorations along the eastern seaboard of the United States and up the Hudson River brought several early navigators to the shore of the present Battery Weed site (Figure 1.3). It was not until September of 1609 that Henry Hudson, English navigator sailing on the Half Moon, and employed by the Dutch West India Company, anchored in the Narrows off of the island before embarking on his explorations up the Hudson River. Henry Hudson is credited with naming the island Staaten Eylandt in honor of the States-General, the governing body of Holland. Hudson's mate on the Half Moon wrote in his journal of being welcomed by the native people, "well-dressed in deer skins who brought green tobacco in trade for knives and beads. [They were said to] possess yellow copper and great stores of maize or Indian wheat. . . The country is full of great tall oaks."¹³

Settlement by the Dutch of New Amsterdam began almost immediately following Hudson's reports home. The Dutch constructed a fort and houses on the southern tip of Manhattan Island. By 1626, the population of Manhattan had reached two hundred (Figure 1.4).¹⁴ The government of Holland soon made attempts to colonize nearby Staten Island by offering patroonships (large tracts of land granted for settlement) to wealthy directors of the Dutch West India Company and requiring them to bring farm workers and their families with them.¹⁵ Although repeated attempts at settlement were made during the period between 1639 and 1661, none were successful. The first Patroon, Michael Pauw, was granted all of Staten Island and part of New Jersey by the Dutch West India Company in 1630. Pauw made no attempt to colonize the land and apparently relinquished his rights in 1637. Captain David Pietersz de Vries, a prolific international maritime trader, received land rights on Staten Island soon after, and in 1639 he sent a few families to settle near "The Watering Place," the location of a spring where sailing vessels replenished their stores of

fresh water before the return trip to Europe. The Watering Place is located near what is now Tompkinsville on the coast just two miles north of Battery Weed.¹⁶

Successful colonization of the island was the goal of government of Holland and the Dutch West India Company, but this proved to be a difficult task for early Dutch settlers. The isolated farm complex of Captain de Vries, called *bouwerij* (The Bowery) by the Dutch, in the area of the present Tompkinsville, was attacked and destroyed by the Lenape in 1641.¹⁷ Another grant was made to Cornelius Melyn who was granted all of Staten Island except for the De Vries farm. Although Melyn established a colony of about forty settlers approximately one mile south of the present Battery Weed site in 1642, tensions between the Lenape and the settlers led to abandonment of the settlement by 1643. Several violent incidents occurred between the Dutch settlers and the Lenape in the early years of colonial settlement, resulting in casualties of hundreds of people among both groups. In a particularly disastrous massacre known as The Peach War of 1655, a Lenape woman was killed by a farmer named Van Dycke for allegedly stealing a peach from his orchard. The Lenape people avenged her death with an attack on New Amsterdam where they killed Van Dycke. The Lenape were then forced to retreat to Staten Island where they proceeded to destroy Melyn's entire colony. Following this incident, most of the Lenape people left the island, retreating to a mainland area of what would later become New Jersey.¹⁸

It was not until seven years later, in 1662, that the first permanent Dutch settlement was established approximately one mile south of Battery Weed at South Beach. The settlement, later known as New Dorp was established in an area of fields suitable for the planting of grain with ample room for the pasturage of cattle, and with a creek that gave access to the

lower bay.¹⁹ A record of the explorations in 1679 of two visitors to the island from the Netherlands, Jaspas Dankars and Peter Sluyter contains a description of a climb up a steep bluff along the eastern shore of Staten Island where the two became lost in the woods before they managed to make their way back to the shore, not far from where they had started their ascent.²⁰ This account suggests that in 1679, portions of the bluffs along the eastern shore of the island in the vicinity of Battery Weed were thickly wooded.

As the first Dutch colonists were settling in on Staten Island in 1664, King Charles the II of England made a gift of the Dutch territories of North America to his brother James, the Duke of York. The agreement allowed the Dutch to remain unharmed, with original rights and uses to remain intact.²¹ Following James' accession to the throne of England, and after the Duke of York's purchase of Staten Island from the Lenape on April 13th, 1670, English Crown Land Grants were made to various individuals covering every acre of land on Staten Island. The records of the State of New York disclose a large number of Crown Land Grants on Staten Island that were subject to annual quit-rents, fees payable by the grantee to England.²² A map prepared in 1907 and noted as unofficial shows Colonial Land Patents dating from 1668 to 1712 in the area of the future site of Battery Weed. An unpatented thirty acre area marked "F. Walton" appears to be the location of the present site of Battery Weed (Figure 1.5).

Finnish naturalist Peter Kalm (after whom Carl Linnaeus named mountain laurel *Kalmia latifolia*) visited Staten Island in c.1748 and described the colonial island landscape as:

...extremely pleasing, as it is not so much intercepted by woods, but offers more cultivated fields to view. Hills and vallies [sic] still continued, as usual, to change

*alternately. Near every farm house was an orchard. Cherry trees stood along the enclosures round corn fields. The corn fields were excellently situated, and either sown with wheat or rye. They had no ditches on their sides, but (as is usual in England) only furrows, drawn together at greater or lesser distances from each other. In one place we observed a water mill so situated that when the tide flowed, the water ran up into a pond, but when it ebbed, the flood gate was drawn up and the mill driven by the water flowing out of the pond.*²³

The coastal lands of the New York Harbor, including Staten Island, featured salt-marsh meadows consisting of vast stands of native, saltwater-loving species such as salt cordgrass, *Spartina alterniflora*, and yellow saltgrass, *Spartina patens*, which were mowed for hay even though they were regularly inundated by the tides. The salt marshes of the coast were a valued resource of the coastal lands, as they produced annually without cultivation, large crops of natural grasses, and furnished good year-round natural pastures for cattle and sheep. Salt hay meadows were highly valued by the farmers whose lands bordered on them, as they constituted an unfailing source of hay for winter use and a surplus for exportation. In addition, salt hay meadows attracted a diverse group of coastal wildlife species such as mussels, egrets, and herons.

During the middle and late eighteenth century, until 1794, the point of land at the present site of Fort Wadsworth belonged to John Van Deventer and the Van Deventer family, and was known as Van Deventer's Point (Figure 1.8).²⁴ Under British rule, title to the land remained in the hands of the Van Deventer family. A farmhouse, later known as the Vandeventer-Fountain House was constructed on the point in c.1786. The land at the Narrows immediately to the south of the present site of Battery Weed was located on a deep-water channel, and positioned ideally for launching Atlantic crossings during the eighteenth century. John Van Deventer operated a shipyard during the middle of the

eighteenth century and was commissioned by a group of Moravian settlers to build a sailing vessel at Van Deventer's Point. The ship he built there in 1748, the "Irene," made fourteen round-trip Atlantic crossings, bringing missionaries and settlers from Europe to the new world.²⁵

The Van Deventer property was leased from Ann Jacobsen and Catherine Van Deventer by Cornelius McLean for farming during the late eighteenth century. It is unknown exactly what McLean raised on the leased land, but as illustrated in an etching showing farmland just to the north of the site in 1776, the land would have been suitable for pasturage, and was likely used for this purpose (Figure 1.7).

STRATEGIC DEVELOPMENT AT THE NARROWS

The landscape of the Battery Weed site, at the easternmost point of Staten Island was in a prominent geographic position at the edge of a glacial moraine rising 125 feet above of the North or Hudson River, and overlooking the entrance to New York Harbor. During the early years of the eighteenth century, the harbor entrance became the commercial gateway to New York City, Albany and Montreal by way of the Hudson River. A competitive environment existed between the French and English over important trade routes, especially to the West Indies, and over opportunities for commerce in the region. Although the landscape was not occupied by any fortification at this time, there was a growing recognition of the strategic importance of this and other sites overlooking the entrance to New York Harbor.

Colonial era fortifications in New York Harbor included Fort Amsterdam, built in 1626, at the southern tip of the island of Manhattan, and a battery on Governor's Island. A plan was approved in 1711 for a system of signal guns and fire beacons to be developed for several locations including "some eminence on Staten Island." With a charter for a ferry service between Manhattan and Staten Island given shortly thereafter in 1712, settlers were also beginning to realize the island's potential for agricultural and community development.²⁶

Although concerns related to the outbreak of war in the colonies between the French and the British in 1754 resulted in a proposal by the New York State Legislature for batteries on Staten Island, the proposal was not implemented. However, in 1755 the state legislature did authorize a payment to carry two guns down to the site of the present Battery Weed along with tar barrels and posts for beacons.²⁷ Maps of this period indicate only one building and a ferry landing near the future site of Battery Weed (Figure 1.6).

Following their evacuation of Boston in March of 1776, the British arrived at the Narrows of New York Bay. A drawing dated July 12, 1776, and titled "View of the Narrows between Long Island and Staten Island with our feet at anchor and Lord Howe coming in," illustrates the British arrival at the bay just to the north of the future site of Battery Weed (Figure 1.7). The British used Staten Island as a staging area, and both British and Hessian troops were stationed there throughout the American Revolution. An artillery post, probably of earth with wooden supports, was constructed by the British at the top of the bluff on the west bank of the Narrows above the present site of Battery Weed.

By 1779, British defenses at the Narrows consisted of a redoubt, a line of twenty-six gun platforms, and a hot-shot furnace (used to make munitions). During this period, the bluff above the bay (and the present site of Battery Weed) became known as Flagstaff Hill.²⁸

The island landscape served the needs of the military, as well as the burgeoning population of Manhattan, in supplying forage and firewood.²⁹ The British occupation of the land at the west bank of the Narrows resulted in the harvest of many of the available mature trees in the area that they used for fuel. A British map shows the location of a signal house and fort on the bluff above the present site of Battery (Figure 1.8). By 1783 the British had evacuated New York and the west bank of the Narrows, and the earthen batteries that comprised the fort they constructed on the slope above the present site of Battery Weed, deteriorated in the years that followed.³⁰

In mid-1807, hostilities between Great Britain and the United States, particularly due to the firing upon of the USS Chesapeake by HMS Leopard off of the Virginia capes, renewed an interest in America's coastal fortifications. A new federal program of coastal fortifications was begun that became known as the Second American System. It was distinguished from the First American System by a more frequent use of circular or elliptical forms of construction.³¹ Forts constructed during this period in the New York Harbor area were planned by New York Militia Brigadier General Jonathan Williams, and included Castle Williams on Governor's Island, Castle Clinton at the Battery, Fort Gibson on Ellis Island, and Fort Wood on Bedloe's (Statue of Liberty) Island.³² Although the federal government recognized the merits of fortifications on Staten Island, other sites were funding priorities, and the present site of Battery Weed was not included in the new federal construction program.

During the later years of the eighteenth century Governor George Clinton of New York, fearing insufficient federal funding to protect the port of New York, established a state board of commissioners, the Commissioners of Fortifications. The board was given extensive authority, including the power to “. . . enter and survey any land regarded as required for defense, and to purchase such tracts, and, when owners seemed recalcitrant or unreasonable, to proceed through the Chancery Court of the State of New York to force the sale on fair terms.”³³ Under the advisement of Charles Vincent, an engineer commissioned by the War Department, and also a paid advisor of the state board of commissioners, privately held lands were identified on both banks of the Narrows, on Staten Island and in Brooklyn, as lands required for the defense of the port of New York. Charles Vincent submitted a report and comprehensive survey on the fortification needs of New York Harbor. In his 1794 report, Vincent refers to the site at the top of the bluff on the west side of the Narrows as “Stag Stake” and suggests the site be used to pass along a successive relay of signals from Sandy Hook to Manhattan via Bedloe’s or Statue of Liberty Island two miles to the southwest of the city. By this method he proposed a means to monitor the entrance to New York Harbor for any threats to security and commercial activity.³⁴

In his report to the Commissioners of Fortifications in 1794, Vincent discussed several possible useful sites, but noted the particular suitability of the site at “Sandy Bay” on the west bank of the Narrows. “Sand Bay” is referred to on later maps as a cove just over a mile to the north of the present Battery Weed site, and was the location of a colonial ferry landing. The early ferry known as Dove & Bellue’s Ferry (1713), operated from a point below Flagstaff Hill near the land that would become the site of Fort Richmond, and later Battery Weed. This site is referred to as the sand beach in later reports, and it is likely that a sand

beach existed along the shore at the present site of Battery Weed through the early part of the nineteenth century. The sand beach that once existed may have been lost to the construction of fortifications in this location.³⁵

Vincent considered the site at Sand Bay “much more interesting on account of vessels coming much closer to it, driven by the currents and endeavoring to avoid the advancing high ground,” and he suggested the establishment of a battery there “above the level of the highest tides” and “connected by a covered way with a redoubt to be erected on the extremity of the steep bank where formerly stood a block house.”³⁶

The land identified as particularly suitable for the harbor defenses belonged to the Van Deventer family, and although the family was willing to sell the farm to the state, the board of commissioners considered the price extravagant. In November of 1794, the new state authority was put to use, when twenty-four and one half acres of the Van Deventer property along the shore passed out of private ownership, by order of the Court of Chancery, to the State of New York.³⁷

THE LANDSCAPE OF VAN DEVENTER'S POINT

The landscape setting of the present Battery Weed, dramatic in physiographic form and rich in natural resources, changed relatively little in the centuries prior to 1809. Native American habitation of the area had little impact on the site. Colonial agriculture and pasturage established livestock paths, farm roads and cultivated fields in the coastal landscape. British occupation of the site during the years of the American Revolution had by far the greatest impact on the site as much of the mature forest that existed in the area

was harvested for fuel. In 1809, the site of the future Battery Weed was likely a broad sandy flat, and beach, possibly interspersed with coastal grasses. The steep, irregular bluff above the future site of the present fort was probably still at least partially reforested and featured rock outcroppings, a mix of grasses, wildflowers, and re-growth of tree species such as red cedar, oak and pine. Earthen farm roads provided access to the beachfront site from both the north and south running across and diagonally down the bluff. Although the state had not constructed fortifications since the purchase of the land in 1794, by 1809, plans were in the works for the strategic development of Fort Richmond on the future site of Battery Weed. In the decades to come, these plans would significantly impact the pastoral coastal landscape.

ENDNOTES

¹ Eric Homberger, *The Historical Atlas of New York City: A Visual Celebration of 400 Years of New York City's History* (New York, NY: Henry Holt and Company, LLC, 1995), 14.

² US Geological Survey (USGS), "New York City Regional Geology, Verrazano Narrows" (accessed 8 June 2005), <http://3dparks.wr.usgs.gov/nyc/parks/loc61.htm>.

³ Ingrid Wuebber and Edward M. Morin, URS Corporation, "Phase 1A Archeological Investigation Rehabilitate Battery Weed Seawall and Dock Fort Wadsworth Unit, Gateway National Recreation Area Staten Island, New York" (Unpublished report prepared for the National Park Service, 2006), 3.1.

⁴ USGS.

⁵ W. Henry McNab and Peter E. Avers et al., "Ecological Subregions of the United States," (accessed 14 November 2006), <http://www.fs.fed.us/land/puds/ecoregions/>.

⁶ Wuebber, 3.3.

⁷ Wuebber, 3.4.

⁸ Reginald Pelham Bolton, *Indian Notes and Monographs, Indian Paths in the great Metropolis*, New York Museum of the American Indian (New York, NY: Heye

Foundation, 1922), 187.

⁹ George W. Hilton, *The Staten Island Ferry* (Berkeley, CA: Howell-North, 1964), 53.

¹⁰ Homberger, 16.

¹¹ Henry G. Steinmeyer, *Staten Island 1524 - 1898* (Richmondtown, NY: Staten Island Historical Society, 1987), 12.

¹² Edna Holden, Principle Researcher, Staten Island, *A Resource Manual for School and Community, Board of Education of the City of New York* (New York, NY: Bureau of Curriculum Research, 1964), 10.

¹³ Steinmeyer, 12.

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¹⁵ Holden, 11.

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¹⁷ Marcus P. Meuwese, '*For The Peace and Well-being of the Country*': *Intercultural Mediators and Dutch-Indian Relations In New Netherland and Dutch Brazil, 1600-1664 A Dissertation*, (M.A. diss., University of Notre Dame, 2003), 374, (accessed 14 April 2007), <http://etd.nd.edu/ETD-db/theses/available/etd-09272003-005338/unrestricted/MeuweseMP092003.pdf>.

¹⁸ Holden, 14.

¹⁹ Holden, 20.

²⁰ Frederick R. Black, "A History of Fort Wadsworth, New York Harbor, North Atlantic Regional Office, Cultural Resources Management Study No.7, 1983" (Boston, Massachusetts: U.S. Department of the Interior National Park Service), 19.

²¹ Black, 30.

²² S.L. Mershon, *English Crown Grants* (New York: New York Law and History Club, 1918), 28-30.

²³ Steinmeyer, 32.

²⁴ Black, 21.

²⁵ American Town Network LLC., "Exhibits in the Historical Museum," (accessed 21 March 2007), <http://www.southshore.americantowns.com/servlets/WebPage?actioid=1720>.

²⁶ Hilton, 19.

²⁷ Black, 21.

²⁸ Black, 23.

²⁹ Black, 22.

³⁰ Black, 25.

³¹ Emanuel Raymond Lewis, *Seacoast Fortifications of the United States An Introductory History* (Annapolis, Maryland: Naval Institute Press, 1979), 26.

³² Perer Eisenstadt, Editor, *The Encyclopedia of New York State* (Syracuse, NY: Syracuse University Press, 2005), 588.

³³ Black, 28.

³⁴ Black, 33.

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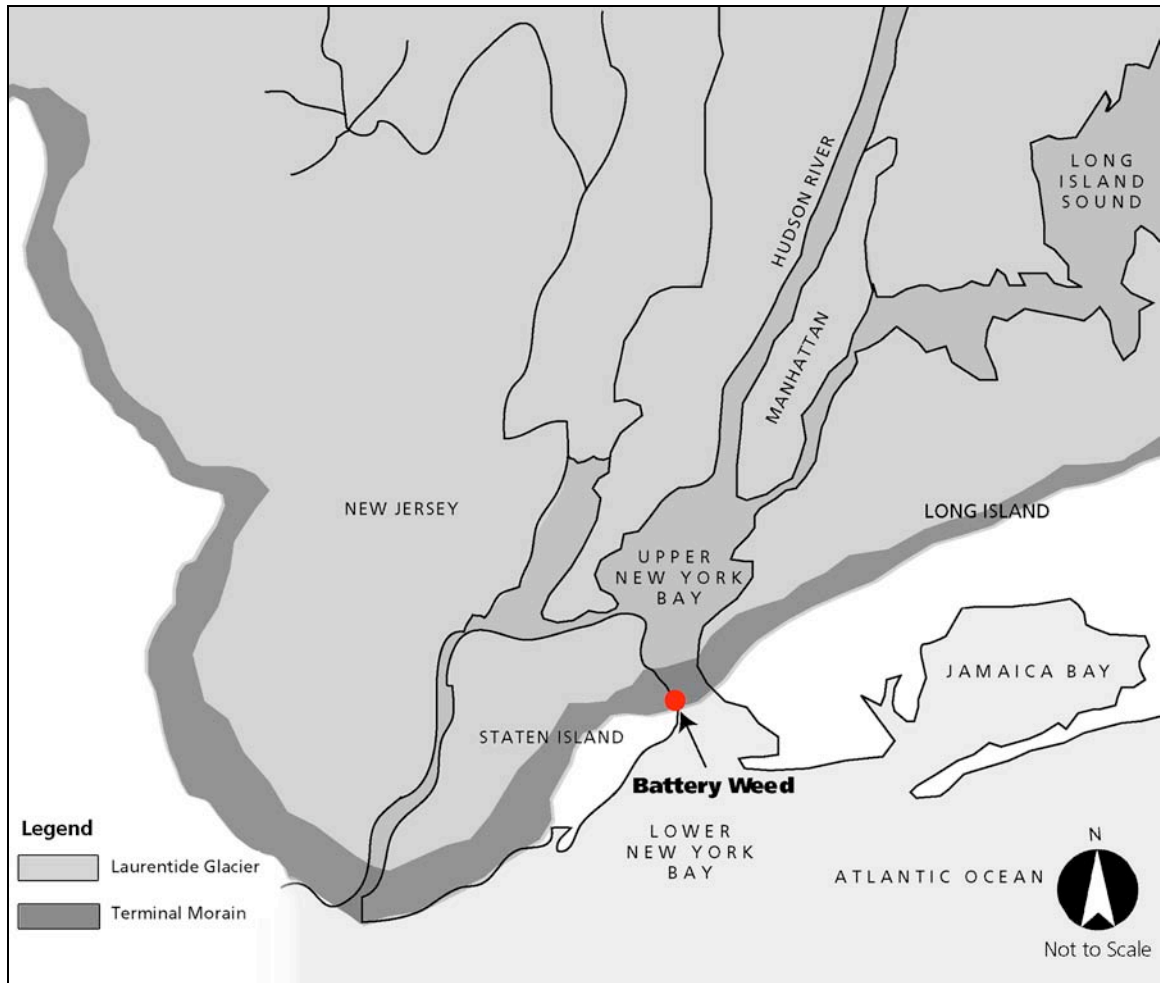


Figure 1.1: Glacial geology of New York City and vicinity showing the extent of the last glacier 12,000 years ago. Based on a map by Charles Merguerian, A.I. Benimoff, ed, <http://images.google.com/imgres?imgurl=http://people.hofstra.edu/>. SUNY ESF, 2007.

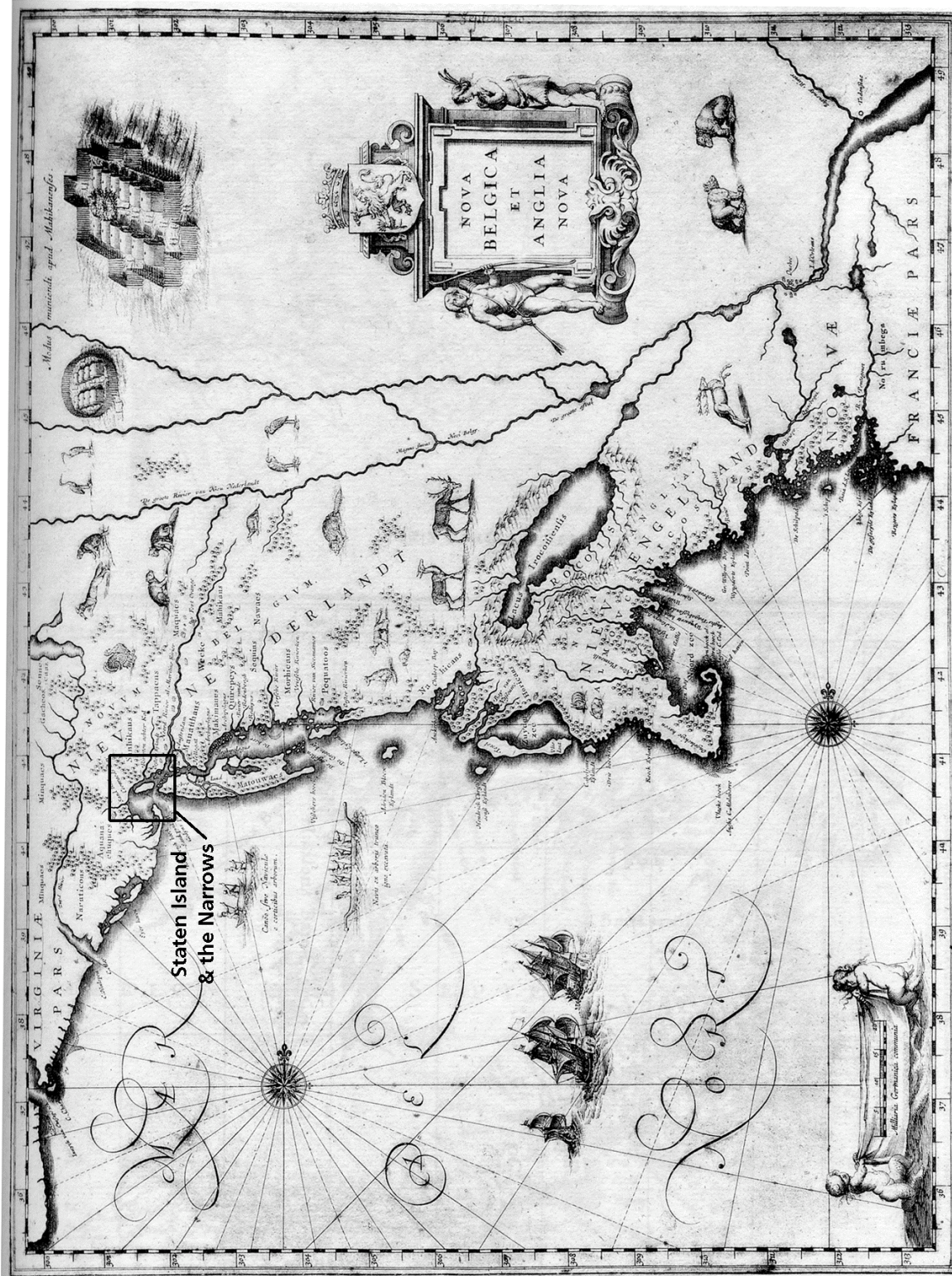


Figure 1.2: A map of New Netherland and New England, titled "Nova Belgica et Anglia nova," 1636. This map indicates the location of Staten Island and the Narrows, and documents Native American settlement patterns and illustrates inland waterways and abundant animal life. Stokes, Vol. 2 CP132, annotated by SUNY ESF.

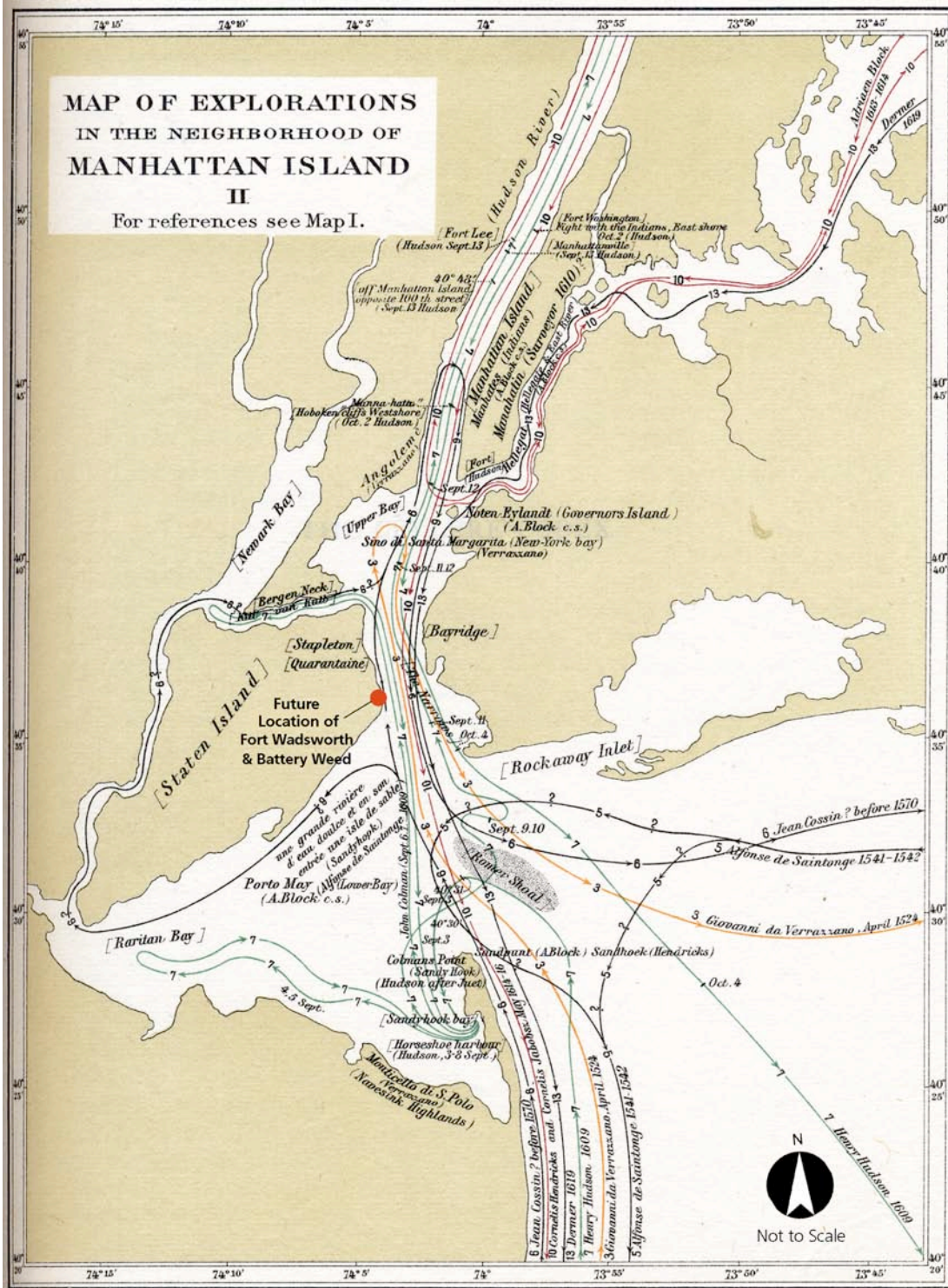


Figure 1.3: A map titled "Map of Explorations in the Neighborhood of Manhattan Island II," 1918. This map indicates routes of European explorers between 1524 and 1619 in the vicinity of the future Fort Wadsworth and Battery Weed. Court Surveys, Stokes, Vol. 2 CP159, 1918, annotated by SUNY ESF.



Figure 1.4: An engraving depicting the Dutch settlement of New Amsterdam (Manhattan Island), c.1650, titled “t Fort nieuw Amsterdam op de Manhattans” and engraved on copper. European and Native American vessels share the surrounding waters. Stokes, Vol. 1, Pl 1-A, 1915.

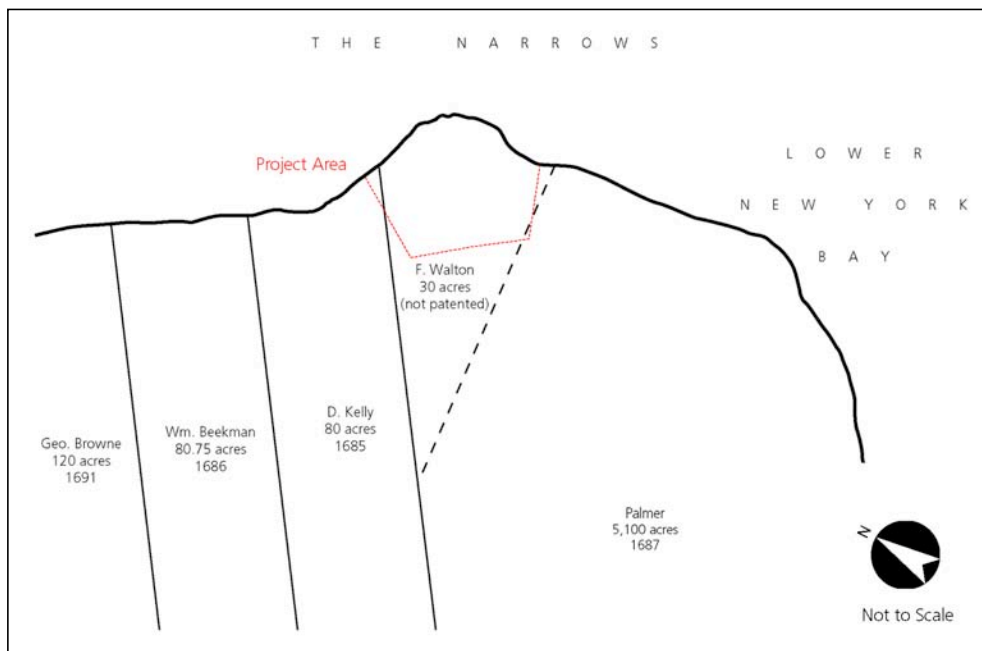


Figure 1.5: Drawing showing some of the colonial land patents from 1668 to 1712. Based on a map of Richmond County, Staten Island, 1668-1712, Staten Island Institute of Arts and Sciences. SUNY ESF, 2007.

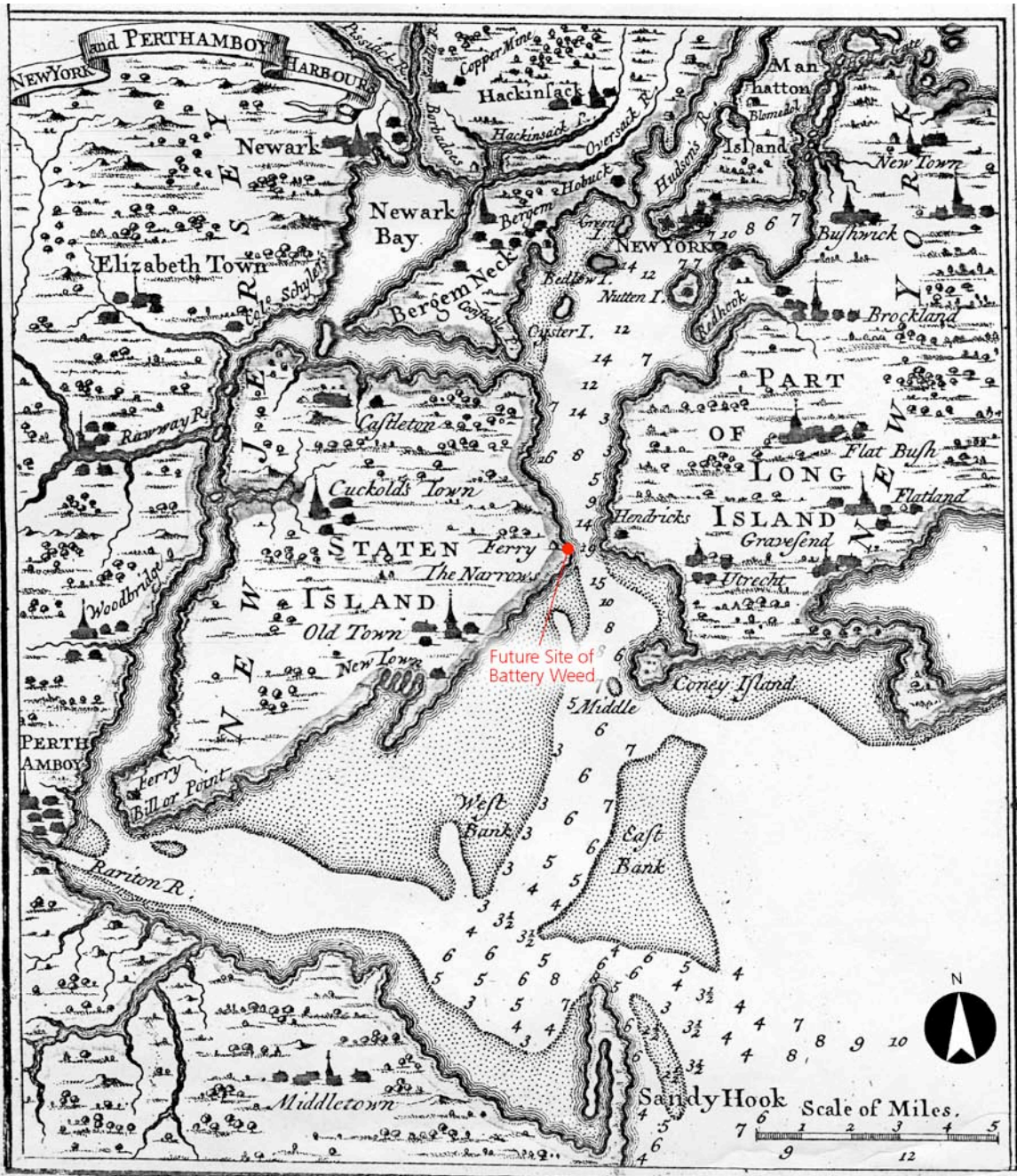


Figure 1.6: Detail of a map titled "Les Principales Fortresses Ports de L'Amerique Septentrionale," 1745. This map indicates one structure and a ferry at the point of the Narrows on Staten Island. New York Public Library Map Division 00-363, annotated by SUNY ESF.

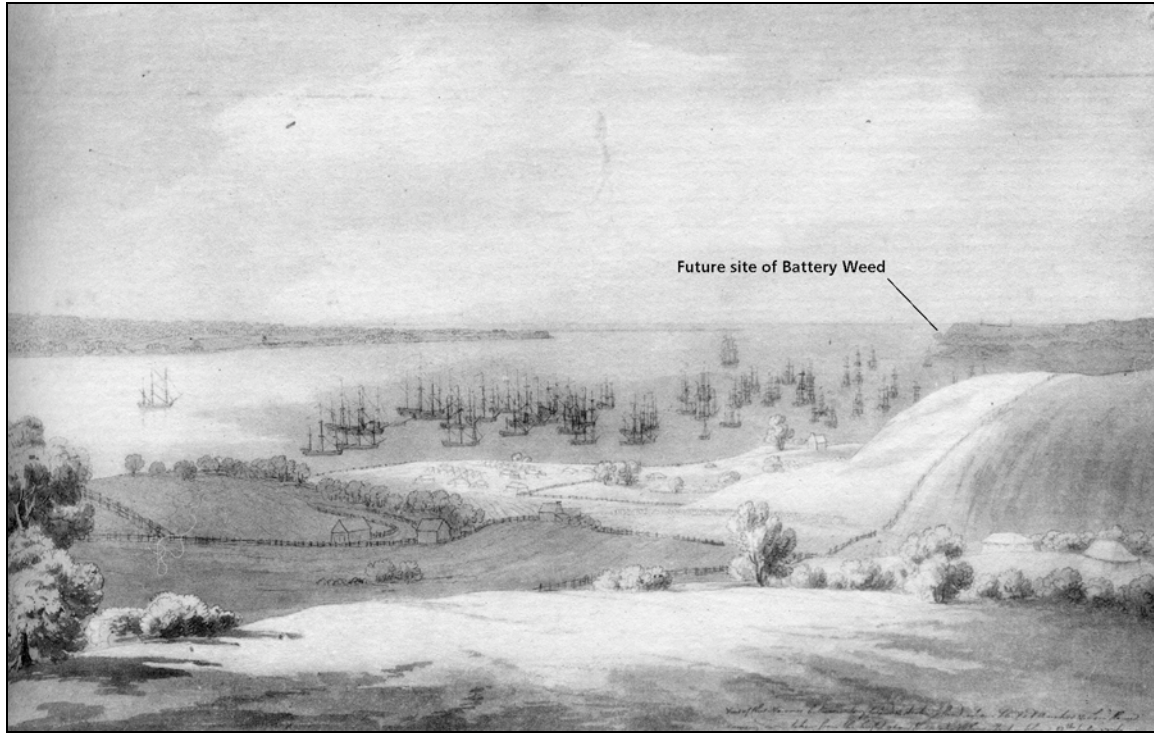


Figure 1.7: An illustration showing farmland, and the July, 1776 arrival of Lord Howe in the bay just to the north of the future site of Battery Weed. Stokes, Vol. 6, Pl 85, 1928, annotated by SUNY ESF.

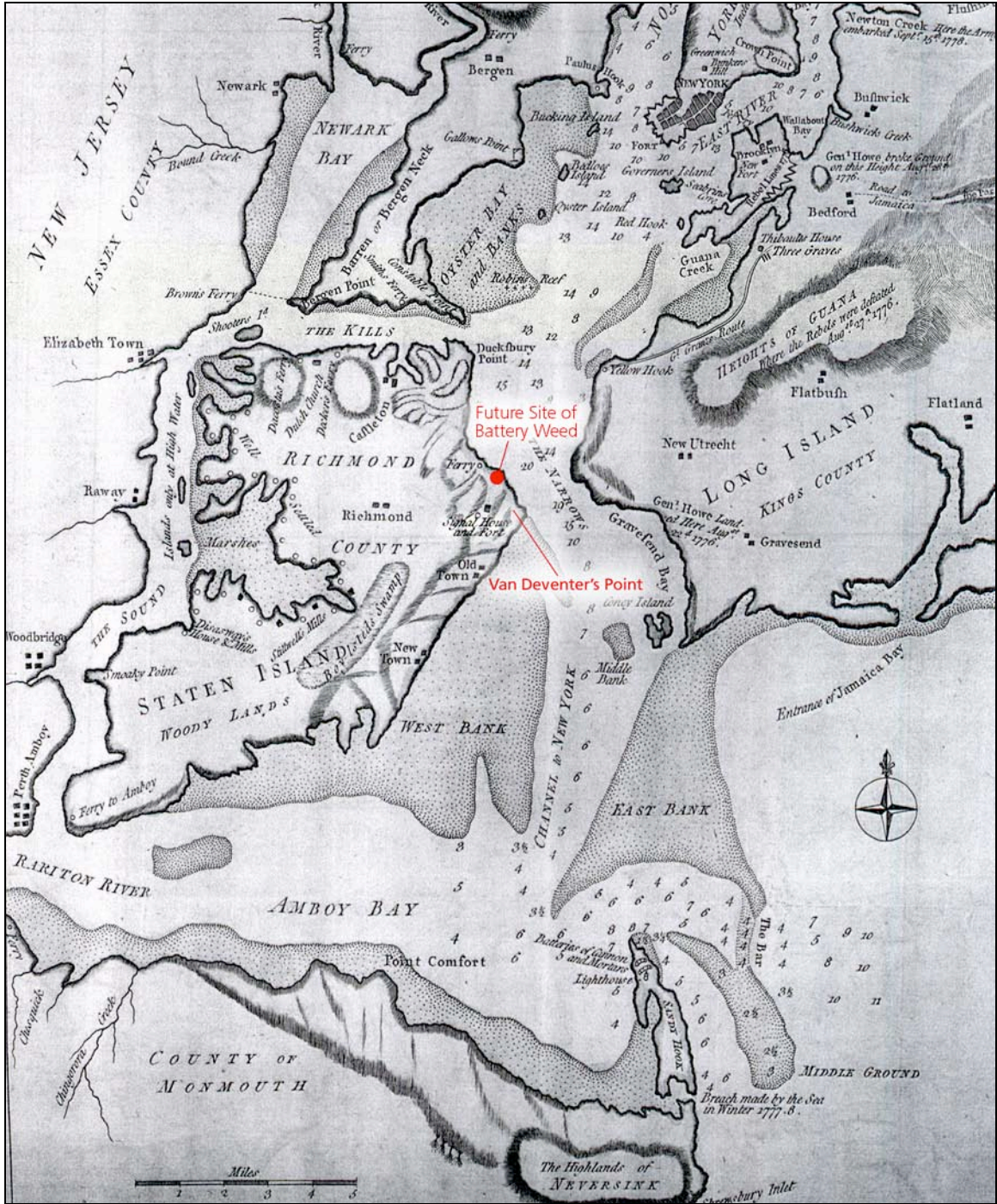


Figure 1.8: Detail of a British map showing a “Signal House and Fort” on the slope above the future site of Battery Weed on Van Deventer’s Point, 1781. The map also indicates a ferry just to the north. (New York Public Library Map Division 00-448) annotated by SUNY ESF.

1809–1846: PASTORAL ISLAND LANDSCAPE AND FORT RICHMOND — SECOND SYSTEM FORT

Between 1809 and 1846, two contrasting cultural values would become evident in the landscape surrounding the present Battery Weed. Previously used mainly for pasturage by colonial settlers, construction of the first major New York State military fortifications began in 1809 on the site overlooking New York Bay. As reflected in etchings and writings of naturalists, authors, and poets of the early nineteenth century, the island, and especially the picturesque site at the easternmost bluff overlooking the bay, also offered visitors a vista of scenic beauty that would begin to bring about a deep public appreciation for the site as a favored recreational landscape. An 1809 map by Charles Loss illustrates these contrasting layers of development with the locations of the Van Deventer farmhouse, “Jacobsons Dwelling,” a barn, and a fish hut on the shore, as well as proposed military works including batteries A and B, Fort Tompkins, Fort Richmond, two barracks, a dwelling, smith shop, office and store. The map shows a new wharf extending eastward into the Narrows to the north of the present dock at the Battery Weed site (Figure 1.9).

THE STATEN ISLAND LANDSCAPE

New York City in the early nineteenth century was a rapidly growing center of trade, finance, and commercial activity. Staten Island, however, less than five miles offshore to the south remained largely a rural and agricultural community. Despite this, the island community, accessible since 1713 by way of a short ferry ride from Manhattan, was beginning to expand quickly in population. For example, in 1800 the total population of

Staten Island numbered 4,564, but by 1810 nearly a thousand more individuals had arrived.¹

The island's agricultural landscape featured plowed fields of corn, hay and rye, with orchards and cherry tree hedgerows between the furrowed fields. Although detailed written descriptions of the historic landscape immediately surrounding the present site of Battery Weed are few, there are many historic accounts of the landscape of Staten Island.

In a book published in 1829 and titled *Three Years in America*, author James Stuart wrote of the Staten Island landscape:

*We saw many comfortable looking farm houses, amidst rich valleys and lands, and orchards abounding in fruit; but what surprised me the most in looking at the fruit, was the extraordinary quantity of cherry trees producing the small black and red cherry. In this ride, I saw a greater number of cherry trees, I am persuaded, than I had seen in the whole course of my life...No part of the wood in Staten Island...is of great size, the British during their occupation of New York, in the Revolutionary War, having cut down for fuel all the wood within their reach.*²

With the increase in population, mid-nineteenth century changes to the island landscape brought the growth and development of village settlements along the eastern shore of the island including Stapleton, Clifton, Tompkinsville and Edgewater, and the establishment of country estates to the north and south of the site of the future Battery Weed. Samuel Akerly, wrote in 1842:

...the whole eastern shore [of Staten Island] is becoming almost a continued village from the Quarantine [Tompkinsville] to the Signal poles at Fort Richmond being occupied by country seats and town plots.³

The island landscape is depicted in an etching showing the view from the northeast shore of the island, looking south across an east shore bay toward the future site of Battery Weed (Figure 1.10). The etching depicts cherry trees in the foreground, and homes lining the eastern shore of the island.

Author Herman Melville visited Staten Island, and in 1839, he made a voyage from New York to Liverpool, and passed through the Narrows just off shore from the present site of Battery Weed both in leaving and returning to New York. His writing, ten years after that voyage in his novel *Redburn*, Melville clearly describes the picturesque character of the early nineteenth century site:

...on the right hand side of the Narrows as you go out, the land is quite high; and on top of a fine cliff is a great castle or fort, all in ruins, and with trees growing round it. . . It was a beautiful place, as I remembered it, and very wonderful and romantic, too. . . On the side away from the water was a green grove of trees, very thick and shady and through this grove, in a sort of twilight you came to an arch in the wall of the fort. . . and all at once you came out into an open space in the middle of the castle. And there you would see cows grazing. . . and sheep clambering among the mossy ruins. . . and I once saw a black goat with a long beard standing with his forefeet lifted high up on the topmost parapet, and looking to sea. . . Yes, the fort was a beautiful, quiet and charming spot. I should like to build a little cottage in the middle of it, and live there all my life.⁴

Henry David Thoreau, at the age of twenty-six, lived as a tutor at the home of Judge William Emerson in the Staten Island neighborhood of Concord less than two miles directly west of Battery Weed. Since the site of Battery Weed was between Judge Emersons' home and the sea, Thoreau presumably had occasion to walk along the waterfront there. In a letter written by Thoreau in 1843, another character sketch of the coastal landscape survives:

I must live along the beach, on the southern shore, which looks directly out to sea. . . The cedar seems to be one of the most common trees here, and the fields are very fragrant with it. There are also gum and tulip trees. . . The woods are full of honeysuckle in full bloom, which differs from ours in being red instead of white. . . The painted cup is very common in the meadows here. Peaches, and especially cherries seem to grow by all the fences. . . The whole island is like a garden, and affords very fine scenery. . . seaweed, water, and sand; and even the dead fishes, horses and hogs have a rank, luxuriant odor; great shad-nets spread to dry; crabs and horseshoes crawling over the sand; clumsy boats, only for service, dancing like sea-fowl over the surf, and ships afar off going about their business.⁵

The Staten Island environment was rich with natural resources, among them oyster beds surrounding the island that were harvested by fishermen aboard sailing vessels. Oysters were abundant in the shallow beds of Princes Bay to the south of the present site of Battery Weed, and were actively harvested. Oystering became a thriving commercial activity on Staten Island during the years of the Civil War when it was not possible to get oysters from the south.⁶

The island landscape, and particularly the future site of Battery Weed overlooking the entrance to New York Harbor drew the attention of many. From the heights of the bluff,

views included Manhattan, the bay and islands to the north and east, and the Fort Tompkins Lighthouse, an aide to navigation, built in 1828 on the Staten Island shore to the south. The coastal landscape offered scenic vistas associated with island agriculture, offshore shipping and fishing activities that appealed to visitors. Prospect from the site atop the bluffs also offered leaders of the developing economic center a sense of security and a means of protecting territory and commerce.

FORT RICHMOND AND MILITARY DEVELOPMENT AT THE NARROWS

By late in the eighteenth century, an intensified international competition for territory and resources influenced American domestic defense policy, including the identification and acquisition of strategic coastal sites. In 1794, the emerging threat of revolutionary France, along with an undeclared naval war, spurred President Washington to urge a congressional committee to provide for the protection of American seaports. Simple and inexpensive defensive works were erected as a result of these emerging threats and are known today as First American System Forts. In 1807, a new federal project for coastal fortifications was drafted and became the first large construction effort to be carried out by American engineers trained at West Point Military Academy. New York City was one of sixteen coastal locations identified as requiring defensive works in this new program of coastal fortification known as the Second American System of Coastal Fortifications.⁷

In 1809 New York State purchased, from private owners, an additional twenty-two acres to the south of the twenty-five acre Van Deventer tract purchased in 1794.⁸ The purchase made possible the construction of substantial defensive works on the site at the Narrows. Federal appropriations for construction of the new system of fortifications were limited,

and for the future site of Battery Weed at the west bank of the Narrows, they were unavailable. It fell to the State of New York to finance the construction of the first substantial fortifications on the site. Two forts were planned for the site, Fort Tompkins at the top of the bluff and Fort Richmond, known as the Water Battery on the beach below.⁹

Fort Richmond was completed by the state on the shore near the water's edge in 1810. The new Second System fort, built in a half-circle with a cluster of support buildings, and a new wharf to the north of the fort was constructed of solid masonry, possibly sandstone, and measured approximately 266 feet along its west side, roughly 500 feet along the curved, channel-facing curtain wall, and was approximately 30 feet high. Two sets of barracks were constructed along the straight west wall of the fort, and a powder magazine was located near the center. The original Fort Richmond was demolished in 1846 to become the site for the present Battery Weed.

By June of 1812, Congress voted for war against Britain, and just a few days later, but prior to the Senate taking the same action, the New York State legislature appropriated \$25,000.00 to build additional fortifications on Staten Island. Although the state had already made plans, funding needs for construction of the defensive works at the Narrows outweighed the available resources and the new Fort Tompkins remained unfinished throughout most of the War of 1812. By late in 1813 a blockhouse was completed by the State of New York on the hill above the present Battery Weed. The exact location of this blockhouse is unknown, thus it is not located on the period plan.¹⁰ Construction of Fort Tompkins, a stone fort featuring rounded corner bastions on the bluff above Fort Richmond did not begin until 1814.

The bluff above the present site of Battery Weed, which had been a signal flag site during the Revolutionary War, became known in the early nineteenth century as “Signal Hill” for its role in the relay of optical signals between Sandy Hook and the Merchant’s Exchange in Manhattan.¹¹ In 1812, the state legislature authorized the governor to arrange with the federal government for the establishment of a telegraph observatory and signal poles at the state-owned site.¹² A semaphore station, an optical telegraph system consisting of tall signal poles with adjustable flags, was constructed at the top of the bluff above Fort Richmond (Figure 1.11). A site map dated 1819 indicates Fort Tompkins and Fort Richmond with several small structures nearby, and Signal Hill on the top of the bluff (Figure 1.12).

Fort Richmond served an important role during the War of 1812, and was considered the most important defensive position at the Narrows. The fort, also called the Water Battery, was used as a checkpoint for all vessels entering or leaving New York Harbor during this period. Although a maximum of 558 men were stationed at the site during the war, in 1814 New York Governor Tompkins stated that there were “quarters and tents at the state works at the Narrows for nearly 750 men.”¹³ The importance of the fortifications at the Narrows was reflected in February of 1815 when, in honor of the ratification of the treaty of peace between Great Britain and the United States, the 46th U.S. Infantry Regiment at Fort Richmond participated in a “national salute” that was given from several New York Harbor defenses.

Following the end of the War of 1812, the state had scarce funding available for the maintenance and repair of the fortifications, which were abandoned due to a lack of funding in 1816. Many rounds of negotiations were held between the State of New York

and the War Department from 1820 to 1845 regarding the transfer of the site to the federal government, but none were completed.¹⁴

THE PICTURESQUE LANDSCAPE

In 1818, following the close of the War of 1812, military use of the site had waned with no troops remaining at Fort Richmond; however, the site continued to attract visitors who came to stroll along, or sit on the crest of the steep bluff viewing the flurry of activities on the bay below. The bayside meadows, in the vicinity of what would later become ground batteries on the southern shore of the point and at the top of the bluff to the southwest of the present Battery Weed, were leased from the state by Staten Island farmers for livestock pasturage adding to the rural pastoral character of the landscape.¹⁵ A c.1819 map indicates Fort Tompkins, the planned location of an earthen battery that would later become Battery Hudson, and Fort Richmond with a dock extending into the bay to the north (Figure 1.13).

During the first half of the nineteenth century, the bluff above Fort Richmond was rugged and irregular, and featured stunning views from its crest of sailboats on the bay often bringing recreational visitors to the site. Even with the presence of the new fortifications, the idle military site overlooking the bay and islands maintained a pastoral character. The bluff, in its unmanaged state, featured outcroppings of large boulders, a variety of trees and wildflowers, and a rough and varied topography due to the ever-changing effects of wind and weather. With its captivating views, the site was becoming a place of leisure retreat for Manhattan residents and a outing destination for Staten Islanders.¹⁶ The bustling activity of the sailing vessels below, the curved stone walls of the two Second System forts—old Fort Tompkins on the top of the bluff, and Fort Richmond on the beach—together with

the wind-blown and weathered quality of the eroding rocky bluff lent a lovely picturesque quality to the site. A c.1830 etching captures the uniquely layered character of the site during this period. In the etching, titled “Scene on Battery Point,” a curious discussion takes place atop the bluff between what appears to be military, government and private interests while sightseers stroll along the crest of the bluff in the background. Portions of the site featured low grasses and wildflowers, and a stand of conifers existed at the base of the slope to the west of the present site of Battery Weed (Figure 1.14).

By 1846 when the federal government finally purchased the land from the state, both Fort Tompkins and Fort Richmond were described by federal engineers as being in ruins.¹⁷ The easternmost point of the island at the Narrows remained of a uniquely layered military and picturesque character well beyond the federal purchase of the land, and would continue to attract frequent public visitation in the years to come.

ENDNOTES

¹ Henry G. Steinmeyer, *Staten Island 1524 – 1898* (Richmond, NY: Staten Island Historical Society, 1987), 57.

² Steinmeyer, 62.

³ Steinmeyer, 62.

⁴ Herman Melville, *Redburn* (Harmondsworth, Middlesex, England; Penguin English Library, 1849), 81, 82.

⁵ Steinmeyer, 63-65.

⁶ Edna Holden, Principle Researcher, Staten island, *A Resource Manual for School and Community* (New York, NY: Board of Education of the City of New York, Bureau of Curriculum Research, 1964), 65.

⁷ Emanuel Raymond Lewis, *Seacoast Fortifications of the United States An Introductory History* (Annapolis, Maryland: Naval Institute Press, 1979), 25.

⁸ Frederick R. Black, *A History of Fort Wadsworth, New York Harbor* (Boston, Massachusetts: U.S. Department of the Interior National Park Service North Atlantic Regional Office, Cultural Resources Management Study N0.7, 1983), 44.

⁹ Ingrid Wuebber and Edward M. Morin, URS Corporation, “Phase 1A Archeological Investigation Rehabilitate Battery Weed Seawall and Dock Fort Wadsworth Unit, Gateway National Recreation Area Staten Island, New York” (Unpublished report prepared for the National Park Service, 2006), 3.8.

¹⁰ Black, 51.

¹¹ Wuebber, 3.8.

¹² Black, 45.

¹³ Black, 53,54.

¹⁴ Black, 57.

¹⁵ Black, 83.

¹⁶ Black, 61.

¹⁷ Black, 70.

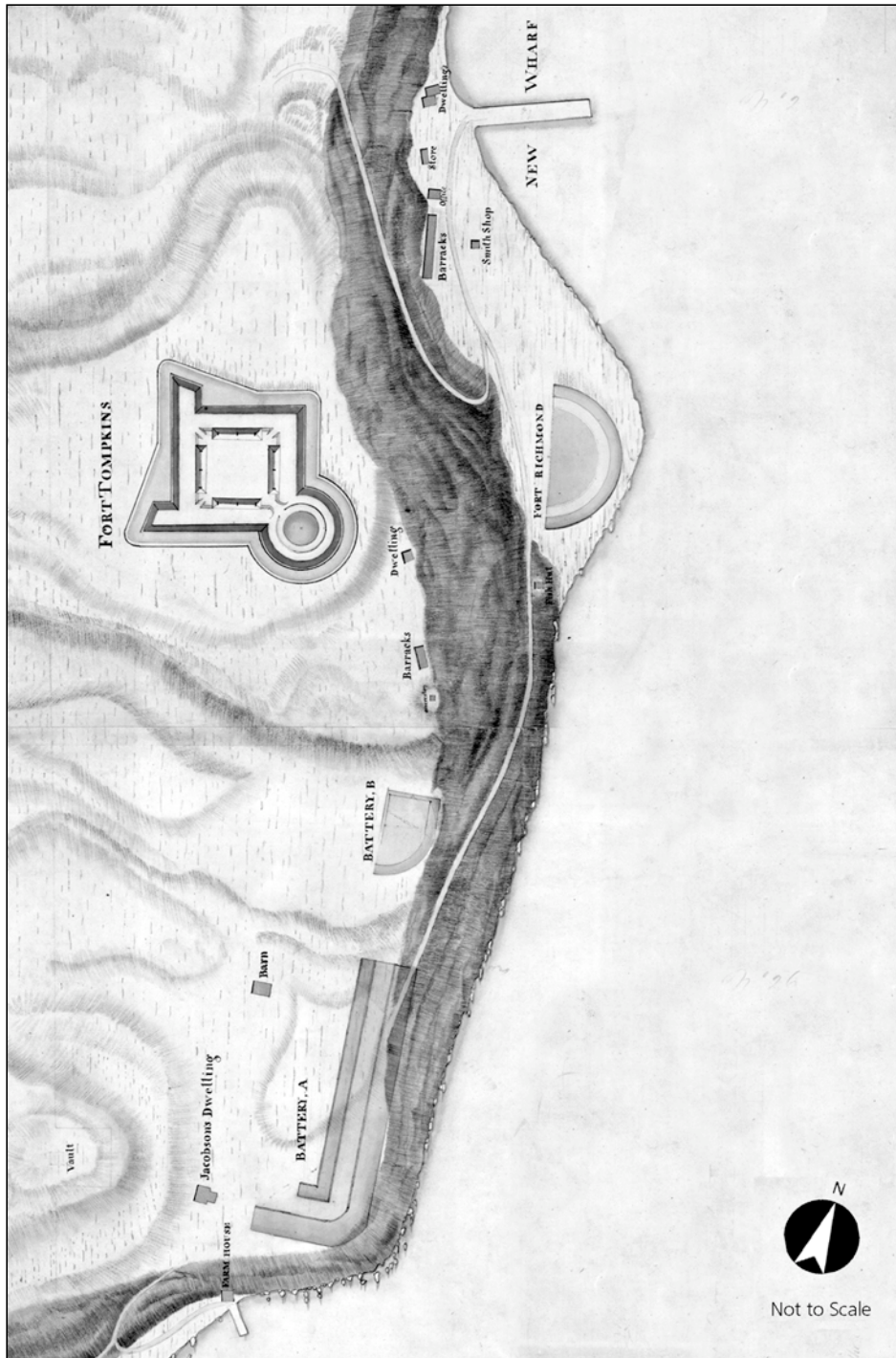


Figure 1.9: A detail of a map by Charles Loss titled "Map of the State Land at Staten Island representing the situation of the ground and the fortifications to be erected," 1809. National Archives Cartographic Division RG 77, Dr 36, Sht. 17, College Park, MD, annotated by SUNY ESF.

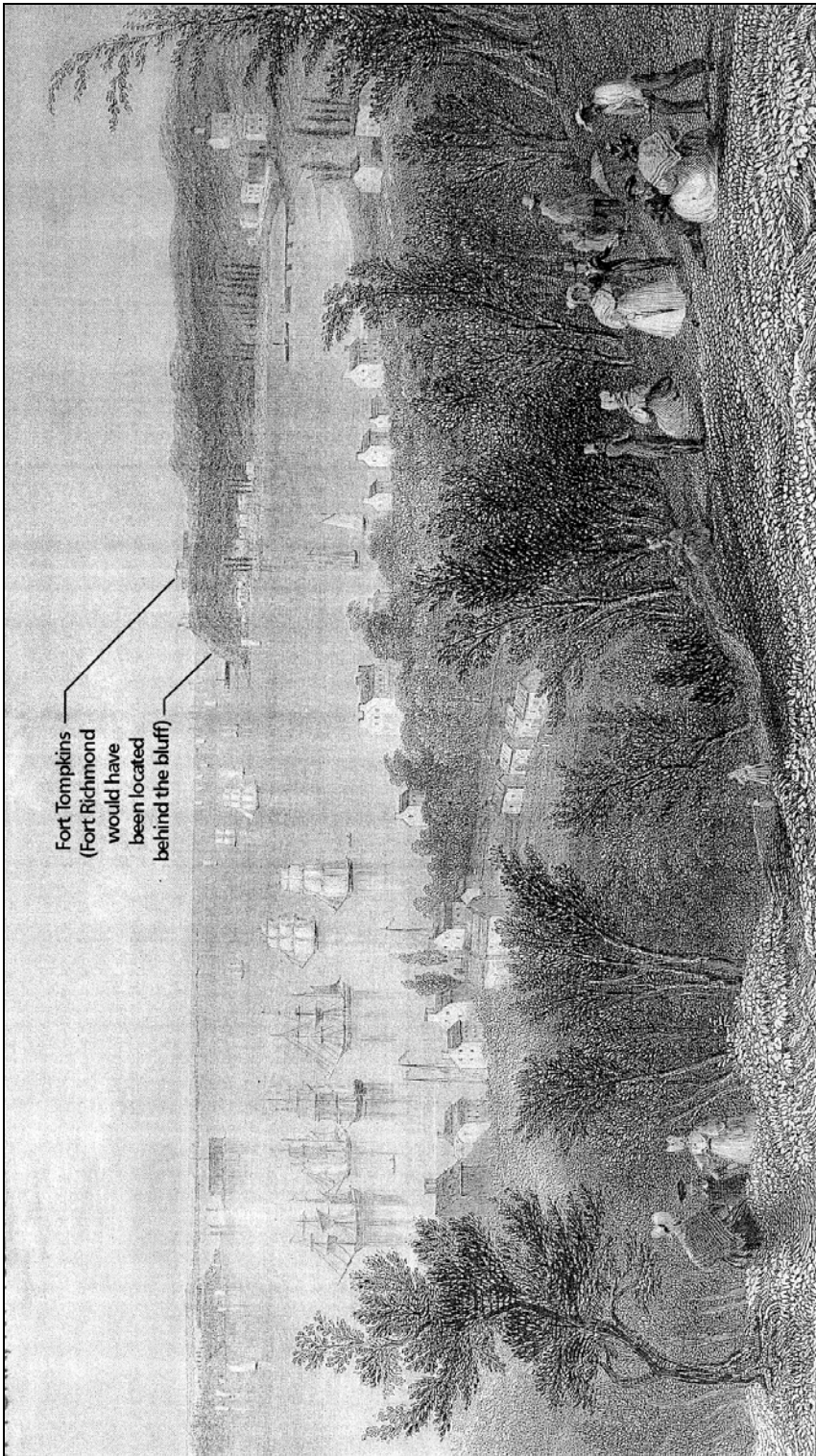


Figure 1.10: An etching of the Staten Island landscape, c. 1840. The view is looking south across the east shore on Upper New York Bay toward the future site of Battery Weed. New York Historical Society PR 020, annotated by SUNY ESF.

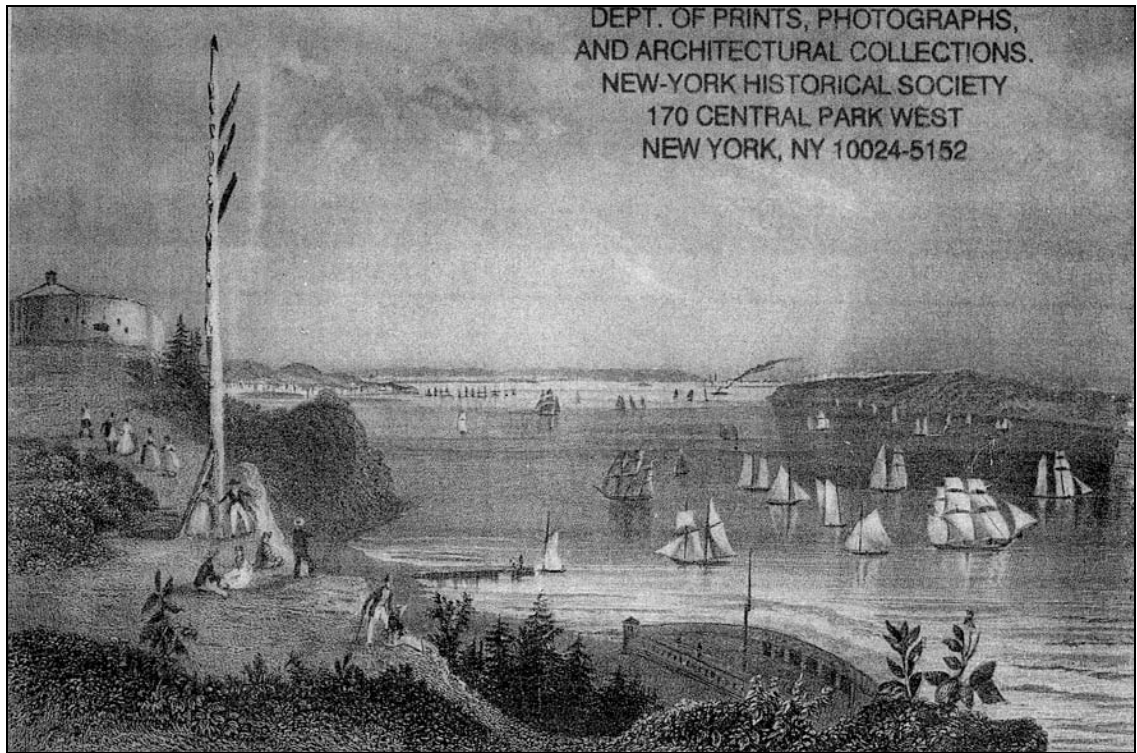


Figure 1.11: A drawing looking north from the bluff above Fort Richmond, by W.H. Bartlett, 1839. The pole to the left is a part of the semaphore system, an optical telegraph of the early nineteenth century. Engraved by R. Wallis, New York Historical Society, PR 020.

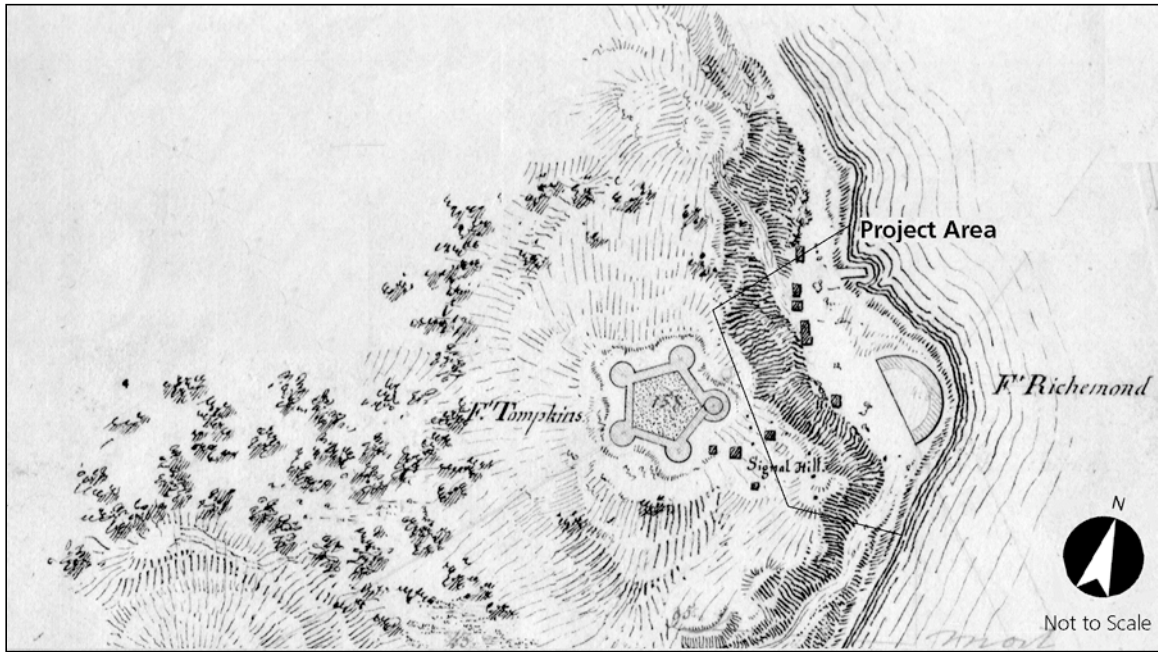


Figure 1.12: A site map indicating Fort Tompkins, 1819. Fort Richmond is shown on the beach with several small structures to the north and west, and Signal Hill is indicated on the top of the bluff. National Archives Cartographic Division RG 77, Dr 41, Sht. 3, annotated by SUNY ESF.

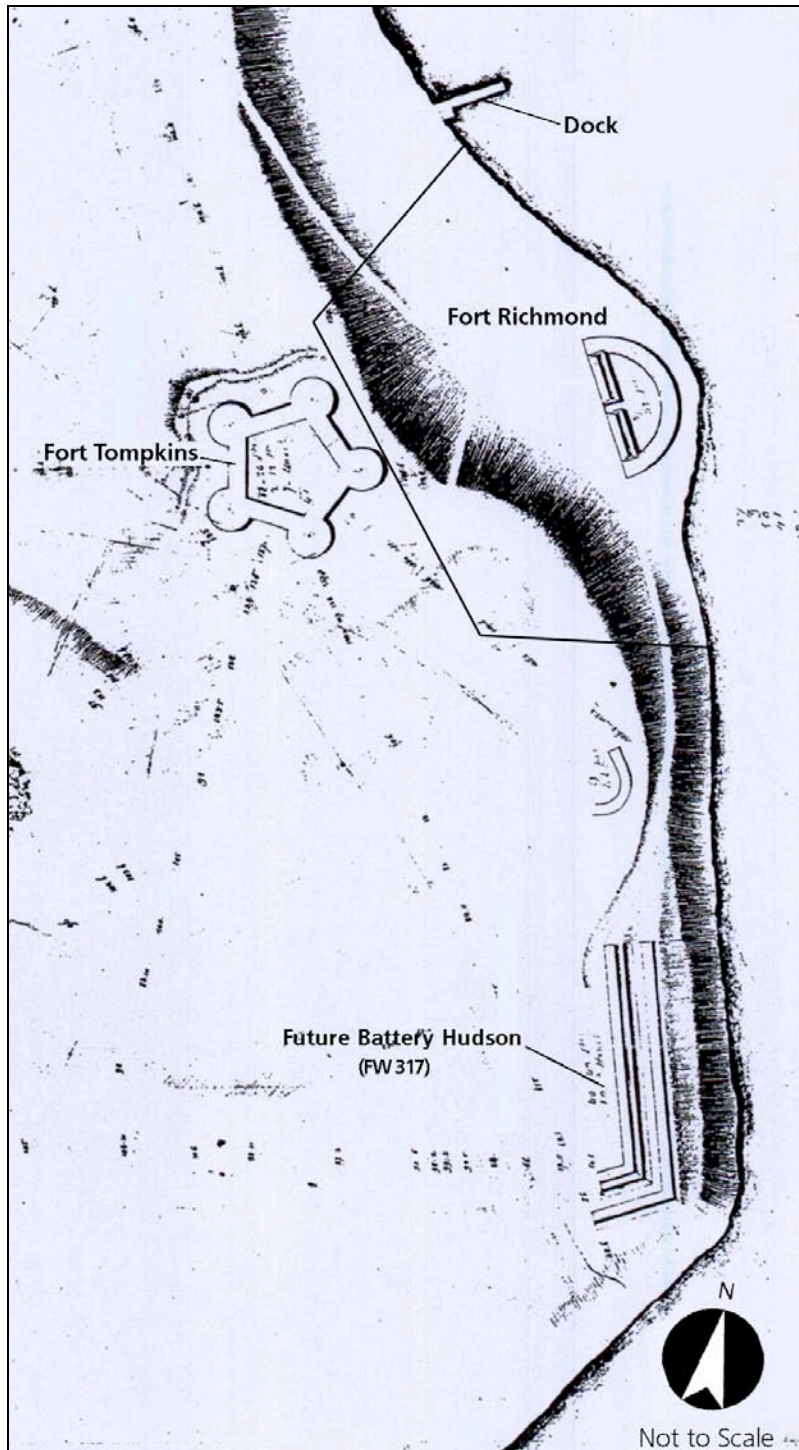


Figure 1.13: A map indicating Fort Tompkins, c.1819. The planned location of a battery that would later become Battery Hudson is also shown along with Fort Richmond and a dock extending into the bay to the north. Support buildings indicated in Figure 1.12 are not shown on this map. National Archives Cartographic Division RG 77, Dr 41, Sht. 2.

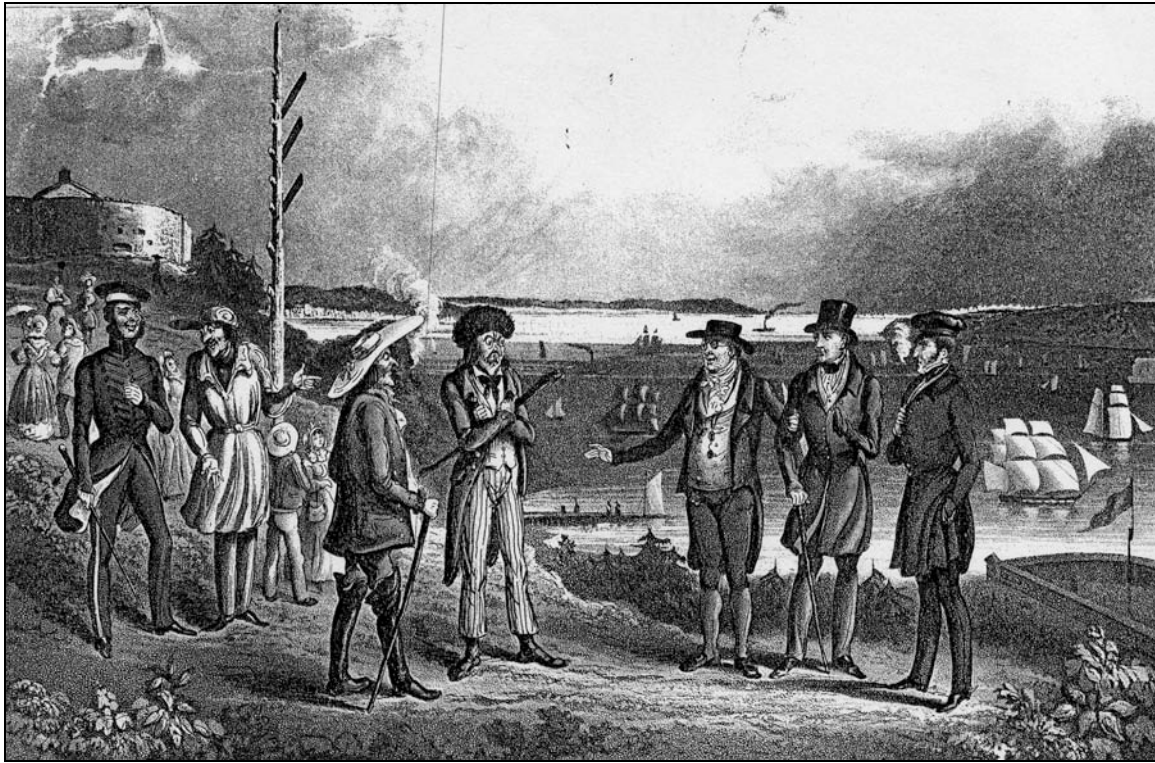
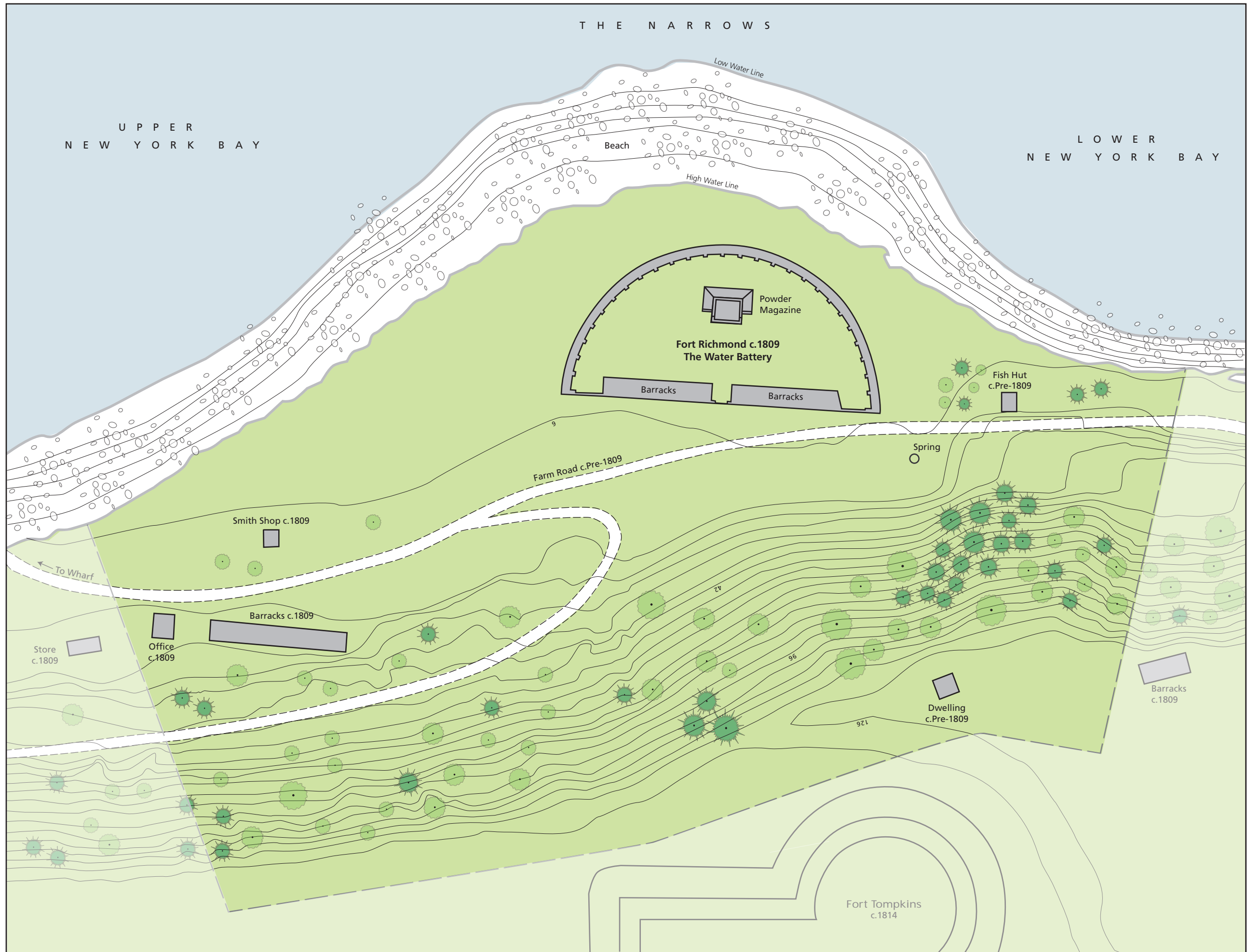


Figure 1.14: An etching looking north from the bluff above Fort Richmond, c.1840, titled "Scene on Battery Point." Staten Island Institute of Arts & Sciences Archives Collection, c.1840.



Cultural Landscape Report

Battery Weed, Fort Wadsworth
 Gateway National Recreation Area
 Staten Island, NY

Second System Era:
 1809 - 1846



National Park Service
 Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in cooperation with:
 SUNY College of Environmental Science and Forestry
 Syracuse, New York

SOURCES

1. New York Harbor, Engineer Dept. 1863 (NARA RG77 DR41 SH36)
2. Charles Loss Map, 1890 (NARA RG77 DR36 SH17)
3. 1892 Topographic Map (NARA RG77 DR43 SH90-2)
4. Captain Poussin Map 1819 (NARA RG77 DR41 SH3)

DRAWN BY

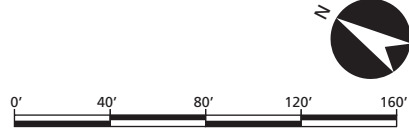
Jean B. Gleisner, Illustrator CS, 2008

LEGEND

- Added During Period
- 6' Contour
- Existing Building
- Unpaved Road
- Project Area
- Meadow or Pasture
- Conifer Tree/Shrub
- Deciduous Tree/Shrub

NOTES

All vegetation shown in approximate scale and location.
 Names indicated are those used during the period, when known.
 Plan illustrates conditions in 1845.



Drawing 1

1847–1886: BATTERY WEED — THIRD SYSTEM FORT AND PUBLIC PROMENADE

The landscape at the west bank of the Narrows, although used consistently for both harbor defense and leisure recreation, changed dramatically during the years between 1847 and 1886. The construction of a new Third System fort, Battery Weed, below the bluff and the reconstructed Fort Tompkins above, brought extensive reshaping of the coastal landscape. The bluff above the present site of Battery Weed, a rocky and partially wooded overlook, was cleared, graded smooth, and seeded with lawn. Technological advancements in weaponry and military tactics lead to the acquisition of more land for the military post and the addition of ground batteries, large new earthen forms, and subsurface structures in the landscape. All the while, visitors came to the increasingly popular seaside site from the burgeoning New York City area to enjoy the scenic vistas and social encounters of a stroll along the crest of the bluff above Battery Weed.

THE NEW YORK HARBOR REGION

Throughout the early nineteenth century, the port of New York, located at the mouth of the Hudson River on New York Bay, effectively served as the gateway to the interior of the rapidly developing nation through connections it provided to the busy New York state canal system and to railroads carrying people and cargo westward. By 1840, New York was the busiest port in America, moving tonnages greater than Boston, Baltimore and New Orleans combined. Shipbuilding activities at the Brooklyn Navy Yard on the Upper Bay also underscored the importance of the security of New York Harbor in the continued economic growth and development of the nation.¹

New York City's population swelled with the influx of immigrants from Europe during the 1840s, and the crowded city had little to offer in the way of publicly accessible green space. Residential squares such as St. John's Park, Gramercy Park, Union Square and Washington Square were usually fenced in with access restricted to neighboring property owners. It was not until 1858 that concerns for public health, in addition to a growing desire for pleasant outdoor public social spaces such as those provided in Europe by noblesse oblige, resulted in the Greensward Plan by Frederick Law Olmsted and Calvert Vaux for Central Park.²

By 1860, New York City, with a population of over one million people, was nearly twice the size of its nearest rival, Philadelphia. New York City had become the financial capital of the nation. Seventy percent of the total imports into the United States passed by Fort Richmond into New York Harbor, and a renewed interest in coastal defense accompanied the rapid industrialization of the nation, and the building of a strong national economic position.

THE ROMANTIC LANDSCAPE OF STATEN ISLAND

Staten Island's wealth of natural resources, and associated ways of life, contributed over time a growing island economy, rapid development of the physical environment, and a profound public appreciation for the picturesque. The rural, coastal landscape of the island, somewhat wild and windswept, provided a welcome relief from the pace and disturbance of rapid industrialization and urban development of Manhattan Island.

Although romantic ideals had their roots in Europe in the late eighteenth century, by the mid-nineteenth century, they were in full flower in the United States. This was especially evident in New York, a cosmopolitan city with continuing ties to European cultural influences. With the increase of wealth generated through manufacturing and trade, New York City, a growing center of production and exchange, was also becoming a place of “refined enjoyment.”³ New urban forms such as public parks and promenades fulfilled the needs of a new leisure class.⁴ Artists, poets, and others actively seeking intellectual and social stimulation, were in pursuit of entertainment as well, all of which could be found in a day by the seaside. Easily accessible places away from the crowds of the city, like the bluff above Fort Richmond along the east shore of Staten Island offered cool breezes and picturesque vistas, and were especially popular destinations for an afternoon stroll (Figure 1.15). Many prosperous New Yorkers settled on Staten Island, establishing large country estates overlooking the bay to the south and west of Fort Tompkins and Fort Richmond (Figure 1.16).

The Staten Island landscape continued to offer its seaside charms and inspirations to many during the nineteenth century including artists such as American landscape painter, Frederick Kost (1861-1923) who resided on the island between 1867 and 1900.⁵ Frederic Kost painted softly lit, and atmospheric scenes in the New York Harbor region featuring the harvesting of salt hay meadows.⁶ Jasper F. Cropsey (1823 - 1841), painter and architect known for landscape and Civil War scenes, was a founder of the American Watercolor Society and was born on his father’s farm in Rossville on Staten Island.⁷ Prior to his partnership with Calvert Vaux in creating the winning design for Central Park in Manhattan, Frederick Law Olmsted, operated a fruit farm on Staten Island from 1848 to 1859.⁸

Beginning in the late 1860s, hourly, steam-driven ferry service from Manhattan to Staten Island brought many visitors and sightseers to the island.⁹ During the 1850s, running time of the ferry was only about thirty minutes, only slightly more than it is presently, and the accommodations aboard included bars with refreshments, and lunch counters stocked with biscuits, sausages, dried beef and fruits. On the approach to the island, passengers were able to view the dramatic rise of the terrain from the water. Todt Hill, 4.67 miles to the west of Battery Weed, at an elevation of 409 feet, was the highest point on the eastern seaboard south of Maine.¹⁰

Between 1865 and 1870, the gain in local population on Staten Island slowed, and was noted to be far below that of towns in Westchester and on Long Island. The disparity resulted in an investigation by a state legislative committee that reported a high incidence of malaria on Staten Island. The committee recommended an elaborate system of drainage of swamp areas to the south of the present site of Battery Weed to relieve the problem.¹¹

In 1880 Erastus Wiman acquired the East Shore-New York Ferries, and a rail service was started in 1886, the Staten Island Rapid Transit Railroad Company, which ran daily from St. George on the eastern shore of Staten Island to South Beach, less than a mile south of the present site of Battery Weed bringing scores of visitors.¹² A trolley also ran along Bay Avenue and New York Avenue to Fort Wadsworth from Tompkinsville.

The island landscape of 1886 included over three hundred working farms growing crops including white potatoes, corn, oats, rye, buckwheat, strawberries, asparagus, cabbage, and sweet potatoes. Milk, butter, cheese and wool were also produced locally. Horses were

used behind simple plows to work the fields and the produce was hauled to market in Manhattan or Jersey City in hand-packed wagons.¹³ In the late nineteenth century, the days of non-mechanized agriculture on the island were nearly over. The last working team of oxen in New York City was at Latourette Farms in Richmond just to the southwest of the military post (Figure 1.17).

FEDERAL FORTIFICATION OF THE NARROWS

New military objectives for the landscape at the west bank of the Narrows began to take shape as hostilities developed over expansion of United States territory. Construction of the present Battery Weed was started in 1847, at the same time the Mexican-American War began. Major General Joseph G. Totten, Chief Engineer of the U.S. was the principle architect of the new Fort Richmond. Totten directed the plans for construction of the fortifications on both sides of the Narrows from 1838 until his death in 1864.¹⁴ General Totten was especially concerned that the field of fire include as much of the shoreline to the north and south of the site on the west bank of the Narrows as possible, and plans for the new fortifications rested on the potential to increase the field of fire by the reorientation of a new fort 15 degrees further to the south. This reorientation in combination with the range of fire possible from the east side of the Narrows, at Forts LaFayette and Hamilton, would secure the harbor entrance (Figure 1.18). Conveyance of the 47-acre military reservation on Staten Island from state to federal control finally occurred in February of 1847. Almost immediately, the construction of the new Fort Richmond began directly on the site of the earlier Second American System fort known as the Water Battery. A new stone dock was also planned just to the north of the new fort (Figure 1.19).

The Third American System of Coastal Fortifications that had been launched in 1817 was employed in the construction of the future Battery Weed beginning in 1847. Although individual fort designs varied widely depending on the surrounding topography, available materials, remoteness or proximity to population areas, and the size and importance of the channel requiring protection, Third System forts shared some common characteristics. One or more tiers of arched casemates nearly always extended the full length of the seaward front, and walls made of stone or brick were a minimum of 5 feet thick.¹⁵ Construction of the new fort employed men with horses and carts and a pivoting crane structure used to move heavy materials into place, and work on the new fort proceeded quickly (Figure 1.20). In mid 1850, however, in the wake of the Mexican-American War, federal appropriations began to dry up. The lack of funding slowed work considerably until 1852 when construction operations were suspended completely. It was not until late in the summer of 1854 that congress renewed appropriations for the project so that work on the new fort could be continued.

Federal acquisition of additional lands at the west bank of the Narrows included five acres in 1854, and seventeen acres at the top of the bluff along New York Avenue conveyed by William Aspinwell in 1856. With these purchases, the federal government was in possession of the area from the waterfront at the Narrows to beyond the crest of Flagstaff Hill, a roughly seventy-acre tract known as the United States Reservation. Grading of the site for Fort Tompkins, on the top of the hill above the new Fort Richmond, began in 1857. The construction of Fort Tompkins, intended in the federal government plans to provide protection for the waterfront fort below, began in 1859.

The years leading up to and during the Civil War brought conflicts of ideologies and commercial interests to the New York City region. Following the election of Abraham Lincoln in 1861, South Carolina, along with ten other southern states, seceded from the United States of America. Economic competition between the northern and southern regions of the nation became an important factor in the years leading up to the Civil War. During this politically tumultuous time, the northeast witnessed a rapidly growing urban population and economy based on industry, family farms, mining, commerce and transportation. New York City had strong commercial and economic ties with the south and resisted demands to discontinue the profitable cotton shipping trade. Mayor Fernando Wood even proposed the secession of the city as a sovereign city-state, but the idea proved to be too radical after the southern bombardment of Fort Sumter in South Carolina, and New York remained Union territory.

In August of 1861 with construction nearing completion, the first troops from the 5th Regiment New York Volunteer Artillery, were garrisoned at Fort Richmond. Through most of the Civil War, the site remained only partially armed with artillery testing continuing, and would have been characterized more as a construction site during this period. In 1863 Major General Richard Delafield was appointed Colonel of Engineers at the military post. In reports, 1864 is given as the year of completion of the fort. That same year, an inventory of armaments indicates guns in every position of the three-tier casemates with more guns added to the earth-covered barbette tier during the following year.¹⁶

At the close of the Civil War in November of 1865, the name of Fort Richmond, the future Battery Weed, was changed to Fort Wadsworth by United States War Department in

honor of Brigadier General James S. Wadsworth who was killed in the Battle of the Wilderness in Virginia the year before.¹⁷

In the isolationist climate of the years following the Civil War, America's concern for domestic affairs, especially economic development, became a national priority. A broadly held belief existed that war was unlikely, and a new attitude of anti-militarism developed. A distrust of the military was even voiced by some of the U.S. citizenry, and this dampened support for the expansion or modification of coastal fortifications.¹⁸

Technological advances in heavy ordinance that had occurred during the 1870s soon rendered the fort on the Staten Island shore militarily obsolete. The Third American System of compactly designed granite casemates proved to be impossible to modify to accommodate the new larger guns and rifles that emerged following the Civil War.

THE FORT WADSWORTH LANDSCAPE

The Fort Wadsworth landscape changed dramatically between 1847 and 1887. Other than Forts Tompkins and Richmond, and batteries Morton and Hudson, the prewar post had few military buildings. The landscape continued to be used for pasturage even beyond the federal purchase of the land. Indeed, 1850s account books of Major General Delafield include entries for pasture rental. Numbers of troops at Fort Wadsworth rose to a high of 1,921 during the years of the Civil War. Wood structures built to support the garrison included twelve two-room barracks, two stables, officer's quarters, a hospital, laundry, kitchens and storage buildings, but by 1867 all were condemned and subsequently removed.¹⁹ Although federal funds were not always forthcoming for modifications to batteries and armaments, engineering and labor was available, and was put to use in the

repair and maintenance of the grounds, Hudson and Battery Weed roads, and structures on post. Shortly after the Civil War the existing roads at Fort Wadsworth were macadamized with an added layer of oil, and in the early 1880s they received a new dressing of gravel.²⁰

The construction of the new Fort Tompkins at the top of the bluff between 1871 and 1876, with its paved and straightened road and expansive manicured lawn, replaced the fenced pastureland and the round stone bastions and gently curving earthen road of the earlier Second System fort. Grading had occurred related to ongoing construction at Fort Wadsworth, but with the major grading of the natural contours of the bluff beginning in 1873, and the careful maintenance of the landscape in the years that followed, a new, dramatically different park-like character developed at the site overlooking the bay. Within the wider scenic context of the island landscape, the dramatic beauty of the bluff overlooking the bay, and the site of the present Battery Weed, drew the attention and praise of both military and non-military visitors. General Sheridan, who inspected the post in the late summer of 1884, wrote of the landscape, “It is a beautiful post...”²¹ Fort Wadsworth was garrisoned by units of the Regular Artillery regiments during the period between the end of the Civil War and the 1890s. By the end of that period, the numbers of men on post had declined from the wartime high of 1,921 to between only 50 and 100 men.²² With much less military activity, the landscape of the fort assumed a park-like character with an occasional test firing of artillery.

Even following the extensive grading of the landscape of the Staten Island post, the grounds retained some areas of woodlands and wildflowers that were enjoyed by visitors and nearby residents. Caroline Winne, wife of surgeon Captain Charles Winne,

ordered to the post in September 1897, wrote shortly before their departure to a new post, that she was “still discovering the attractions at Fort Wadsworth, such as walking in the woods, where she admired the great variety of wild flowers.”²³

THE BATTERY WEED LANDSCAPE

Beginning in 1816, and through 1867, the federal government began another new program of coastal defense known as the Third American System, overseen by officers of the 's Corps of Engineers. The first comprehensive plan for American harbors developed by the Army Corps of Engineers designated the west bank of the Narrows a “class one” project, vital to the security of the nation, and recommended that the development of adequate defenses there be commenced as soon as possible. In spite of this recognition, and probably due to uncertainties of politics and finance, no agreement for the sale of the land was reached. The state continued ownership until the future site of Battery Weed was finally purchased from the state for redevelopment by the federal government in 1847. General Joseph. G. Totten, Chief Engineer of the United States from 1838 to 1864 was the principal architect of the new Fort Richmond, later named Battery Weed, for which he had plans ready in 1845.²⁴ Totten proposed a reorientation of the new Fort Richmond that had a planned strategic relationship to forts LaFayette and Hamilton in securing the Narrows of New York Bay (Figure 1.21).

Construction of the new, larger fort at the waters edge had major impacts on the landscape surrounding the new Fort Richmond. Native coastal flora on the plain at the waters edge was impacted by the construction activities that began with the removal of the Second System fort. The earlier fort lacked the necessary trace for the desired strategic

improvements the Corps of Engineers planned.²⁵ The eastern scarp, or outer edge of the new fort was designed to parallel the main ship channel and was constructed 75 feet further to the east into the Narrows than the center of the curved wall of its predecessor. Woodpiles were driven into the earth and set with large granite slabs to support the new structure, which was constructed literally on the waters edge (Figure 1.22). The northeast bastion was located between the high and low water marks (Figure 1.23).

Landscape circulation patterns were adjusted to accommodate construction activities. To facilitate the delivery of stone and other materials used in the construction of Fort Tompkins at the top of the bluff, U.S. Engineers constructed a temporary inclined railway up the steep slope of the bluff from the waterfront immediately to the north of the present Battery Weed. Construction materials, brought by boat, were lifted on a davit and moved by steam engine a horizontal distance of 700 feet and a vertical lift of 125 feet to the construction site at the top of the bluff (Figures 1.24 and 1.25).²⁶

The increased size of the new Fort Richmond at the base of the slope necessitated the excavation of a part of the slope in the area off the southwest bastion. The granite block fort measured 286 feet along each channel front wall, and 450 feet along the west scarp wall. Designed with three casemated tiers, rising one on top of the other, the fort featured a top fourth tier, the barbette tier which rose 63 feet above the Narrows and was covered with earth, was edged with a four foot high wall (parapet) along the channel side.

Thirty-one gun emplacements, nine on each of the channel fronts and one in each bastion, or corner position were located on the barbette tier of the fort. The gun emplacements, circular raised brick and mortar pedestals featured iron pintles, or pins designed to attach

rotating cannon. The area surrounding the gun emplacements, and the area on top of the parapet were covered with earth and seeded or sodden with grasses. Circulation was along the interior edge of the barbette tier above the parade ground in the center of the fort and this edge was fitted with a low iron railing.

The excavation, of the slope to make room for the fort, which extended from the base of the bluff to and around a prominent outcropping at the top, evened out the contours of the slope in this area (Figure 1.26). Engineers constructed a retaining wall at the base of the steep slope to maintain a clear roadway to the top of the hill (Figures 1.27 and 1.28).

In an effort to prevent an attack on the new fort by land from the west, General Totten designed a moat, along the west and south sides of the fort. Entry to the fort would be only by way of a drawbridge that could be raised or lowered into place over the moat and was later integrated with a guardhouse, c.1860, on the west wall of the fort (Figure 1.29). By 1852 a new wall had been completed with the ends left open allowing water to fill the ditch to a depth of six and one half feet along the gorge curtain, or landward side of the fort. The ditch was 30 feet wide at its widest point at the entrance to the fort and 15 feet wide at the bastions. Because the new Fort Richmond was sited beyond the low-tide mark, a cofferdam was needed to allow for the construction of the channel-facing walls. The cofferdam, in place by 1855, was approximately 40 feet out from the eastern scarp, and about 16 feet wide filled with cobbles and boulders, and topped with timbers (Figure 1.30). The cofferdam served as a temporary wharf. Work proceeded slowly, and by 1857 the fort was reported to be half finished. In 1858, the temporary wharf was replaced when U.S. construction workers built a cut stone wharf measuring 38 feet wide and 81 feet long, supported by cut stone piers located just to the north of Battery Weed.

Public visitation to the site continued throughout this period, and a public fascination with the construction of the waterfront fort had taken hold. A c.1851 etching illustrates the construction of the new Fort Richmond as it began on the waterfront 125 feet below a steep, eroding bluff with rock outcroppings facing east toward the Narrows. A signal house and semaphore station were perched at the edge of the bluff just east of the round bastions of the old Fort Tompkins. A pasture fence ran alongside an unpaved road at the top of the bluff where visitors often lingered to enjoy the view of the activities on the bay below (Figure 1.31). An 1852 newspaper article titled “New York Bay and Harbor” describes the view from the bluff above Battery Weed:

...the view...from this high promontory, is truly beautiful; here opens from the sea, or lower bay, a fairy scene unsurpassed in the world, not excepting the bay of Naples. All tourists agree on this point. The bay...its smooth surface dotted over by numerous snow-white sails; the hurrying to and fro of hundreds of steamboats, packet ships, and smaller craft, continually passing in and out; while here and there is a gigantic ocean steamer from old Europe. The whole forms a picture of brilliancy, which defies the painter's pencil or the poet's pen.²⁷

In an 1860 view looking northeast from the crest of the bluff above Battery Weed with the “Great Eastern” steamship sailing up the Narrows into the harbor of New York, the slope above Battery Weed had not yet been graded. The interior of the cofferdam was flooded to form a water-filled moat, a great variety of mature trees existed on the slope above Battery Weed, and the bluff was rocky and irregular (Figure 1.32).

The new fort occupied a magnificent setting and recreational visitors to the site regularly enjoyed the scenery from the bluff above the bay, even amidst the construction activities.

At the close of the Civil War in 1864, with congressional appropriations having totaled nearly three quarters of a million dollars, the three-tier granite casemate fort at the water's edge had been completed.²⁸

In a painting by soldier, and artist, Seth Eastman in the early 1870s of Battery Weed viewed from Fort LaFayette to the east of Battery Weed in the Narrows, a lighthouse is visible on the bluff to the south of the fort, and the new Fort Tompkins is above Battery Weed. The slope above Battery Weed has been cleared of vegetation, but has not yet been graded.

There is a small building located on the bluff just below the southern end of Fort Tompkins, and another midway between Battery Weed and the lighthouse. The South Cliff Battery, appears in a rhythmic pattern of forms along the road between the lighthouse and Battery Weed (Figure 1.33). Construction work continued on the waterfront landscape, and by 1871 a permanent granite masonry bulkhead, or seawall, the top of which was at an elevation even with the base of the first casemated tier of the fort, was completed immediately adjacent to the inner wall of the cofferdam (Figure 1.34).²⁹

The character of the landscape surrounding Battery Weed changed dramatically in the 1870s. Incomplete construction activities at Fort Wadsworth resulted in irregular piles of earth and improper drainage leading nearby residents to believe them to be contributing to a higher than usual incidence of malaria in the Village of Edgewater (Figure 1.35).

Petitioners to the Secretary of War and Congress sought appropriations for proper grading of the grounds of the military post, and in 1873 the glacis and the slopes surrounding Fort Tompkins and Fort Richmond were cleared of vegetation and graded. During this time, the landscape directly surrounding Battery Weed was graded, seeded with grass, fertilized and manicured quite thoroughly. The irregular, natural contours of the steep

northeast-facing bluff were smoothed out to a consistent, even grade, and a plan was made for paths to be constructed diagonally up the slope (Figure 1.36). The craggy bluff above Fort Richmond, scattered with a variety of mature trees was now an even and carefully groomed, steeply sloping lawn (Figure 1.37). The site was now spatially open and views to the northeast, east, and southeast were no longer framed with trees and rock outcrops, but completely unrestricted.

Earth moved from the grading of the slope was shaped into large mounds on the site in the construction of ground-level batteries and bomb-proof parados (Figure 1.38). The design and siting of these sub-grade structures was altered in an 1871 plan to accommodate rapidly evolving gun technologies (Figure 1.39). Two open barbette batteries, large earthen and concrete berms topped with gun emplacements, known as the North and South Cliff Batteries were constructed on the site of the present Battery Weed, flanking the fort during the years of the Civil War (Figures 1.40 and 1.41). Open barbette batteries offered less limitations of space for modifications, but due to a lack of funding, only six of Fort Richmond's barbettes received necessary alterations between 1871 and 1875.³⁰

Grading and maintenance of the grounds was considered an important contribution to the military readiness of the forts and batteries. After grading out the uneven earth surfaces across the post, the exposed soil on parapets, parados, traverses, terrepleins and elsewhere, was seeded or sodded with grass resulting in a look of manicured lawn.³¹ A postcard image looking north at the Post Headquarters from the top of the bluff illustrates the newly graded sloping lawn c.1890. A raised berm that was constructed between Fort Tompkins and the crest of the slope to the east is visible at the left of the image, and the

road entering the image diagonally from the lower right is the road up from Battery Weed (Figure 1.42).

The construction of the new Fort Tompkins ceased after 1876 due to a lack of funding. The bluff above the present Battery Weed took on a more restful and quiet character without the sounds of hammers and stone-cutters, blacksmithing, the creaking of carts, and the shouting of teamsters. Visitors continued to enjoy the view from the crest of the slope above Battery Weed and the spectacle of the activities on the Bay below. The site, a popular leisure-time destination for its expansive views of the bay and islands and the bustling maritime activity below, was now used mainly for recreation, functioning effectively as a park. Visitors came to picnic along the crest of the slope above, and strolled along the seawall around the waterfront fort.³²

Other changes to the Battery Weed site followed the grading of the slope. Sometime during the 1880s, the moat, or ditch, inside the seawall at Battery Weed was filled except for a small area around the southwest bastion of the fort, where water from a spring filled the walled-in area and was piped into the guardhouse (Figure 1.43).

Perhaps the most revealing description of the Battery Weed landscape during the late nineteenth century comes from an 1889 Staten Island guidebook written by Reau Campbell. This detailed writing clearly expresses the experience of walking along the paths that existed on the slope below the bluff above Battery Weed. In the guide, visitors were advised to take the South Beach branch of the Staten Island Rapid Transit Railroad to Rosebank:

Fort Wadsworth 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...Passing 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 [Battery Weed] 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.³³

By 1887 the landscape surrounding Battery Weed had changed dramatically. The moat around the fort, except for a small area at the southwest bastion, was dry filled with earth and stone. Large earth mounds for ground batteries now flanked the fort to the north and south. The once wooded and rocky bluff had been cleared, graded smooth and planted with grasses. Views of the bay from the crest of the slope, once framed with mature trees, were now spatially open, unrestricted, and covered with neatly groomed lawn. Public visitation to the site continued even as the batteries were being modernized, and frequently involved a stroll along the crest of the bluff above the fort. This activity increasingly lent the site at the overlook a character of public promenade. In the decades to come, the Battery Weed landscape would see the addition of many structures and technological systems related to the development of a new generation of harbor defenses.

ENDNOTES

- ¹ Frederick R. Black, *A History of Fort Wadsworth, New York Harbor* (Boston, Massachusetts: U.S. Department of the Interior National Park Service North Atlantic Regional Office, Cultural Resources Management Study N0.7, 1983), 85.
- ² Elizabeth Barlow Rogers, *Landscape Architecture A Cultural and Architectural History* (New York: Harry N. Abrams, Inc., 2001), 337.
- ³ Norman T. Newton, *Design on the Land The Development of Landscape Architecture* (Cambridge, Massachusetts and London, England: Belknap Press, Harvard 1981), 263.
- ⁴ Rogers, 217.
- ⁵ Edna Holden, Principle Researcher, *Staten Island, A Resource Manual for School and Community* (New York, NY: Board of Education of the City of New York, Bureau of Curriculum Research, 1964), 140.
- ⁶ National Park Service Arrowhead, *From Marsh to Farm, The Landscape Transformation of Coastal New Jersey* (accessed 8 June 2007), http://www.cr.nps.gov/history/online_books/nj3/chap5.htm.
- ⁷ Jasper Cropsey (accessed 8 March 2007), <http://www.newingtoncropsey.com/jasper.htm>.
- ⁸ *Parks Acquires Former Home Of Central Park Designer*, The Daily Plant, Volume XXI, Number 4491, 28 September 2006 (accessed 15 February 2008), http://www.nycgovparks.org/sub_newsroom/daily_plants/daily_plant_main.php?id=19949
- ⁹ Holden, 65.
- ¹⁰ George W. Hilton, *The Staten Island Ferry* (Berkeley CA: Howell-North, 1964), 19, 53.
- ¹¹ Henry G. Steinmeyer, *Staten Island 1524 - 1898* (Richmondtown, NY: Staten Island Historical Society, 1987), 90.
- ¹² Steinmeyer, 93.
- ¹³ Holden, 112.
- ¹⁴ Holden, 65.
- ¹⁵ Emanuel Raymond Lewis, *Seacoast Fortifications of the United States An Introductory History* (Annapolis, Maryland: Naval Institute Press, 1979), 45.

¹⁶ Ingrid Wuebber and Edward M. Morin, URS Corporation, “Phase 1A Archeological Investigation Rehabilitate Battery Weed Seawall and Dock Fort Wadsworth Unit, Gateway National Recreation Area Staten Island, New York” (Unpublished report prepared for the National Park Service, 2006), 3.12.

¹⁷ Holden, 85.

¹⁸ Black, 103.

¹⁹ Black, 82-85.

²⁰ Black, 100.

²¹ Black, 97.

²² Black, 97.

²³ Black, 99.

²⁴ Black, 70.

²⁵ Black, 70.

²⁶ Black, 78, 79.

²⁷ Quote from unidentified newspaper article titled “*New York Bay and Harbor*,” Saturday, September 25, 1852 (Staten Island Institute of Arts and Sciences, 2006).

²⁸ Black, 71.

²⁹ Wuebber, 3.12.

³⁰ Black, 88.

³¹ Holden, 100.

³² Black. 99.

³³ Black, 101,102.

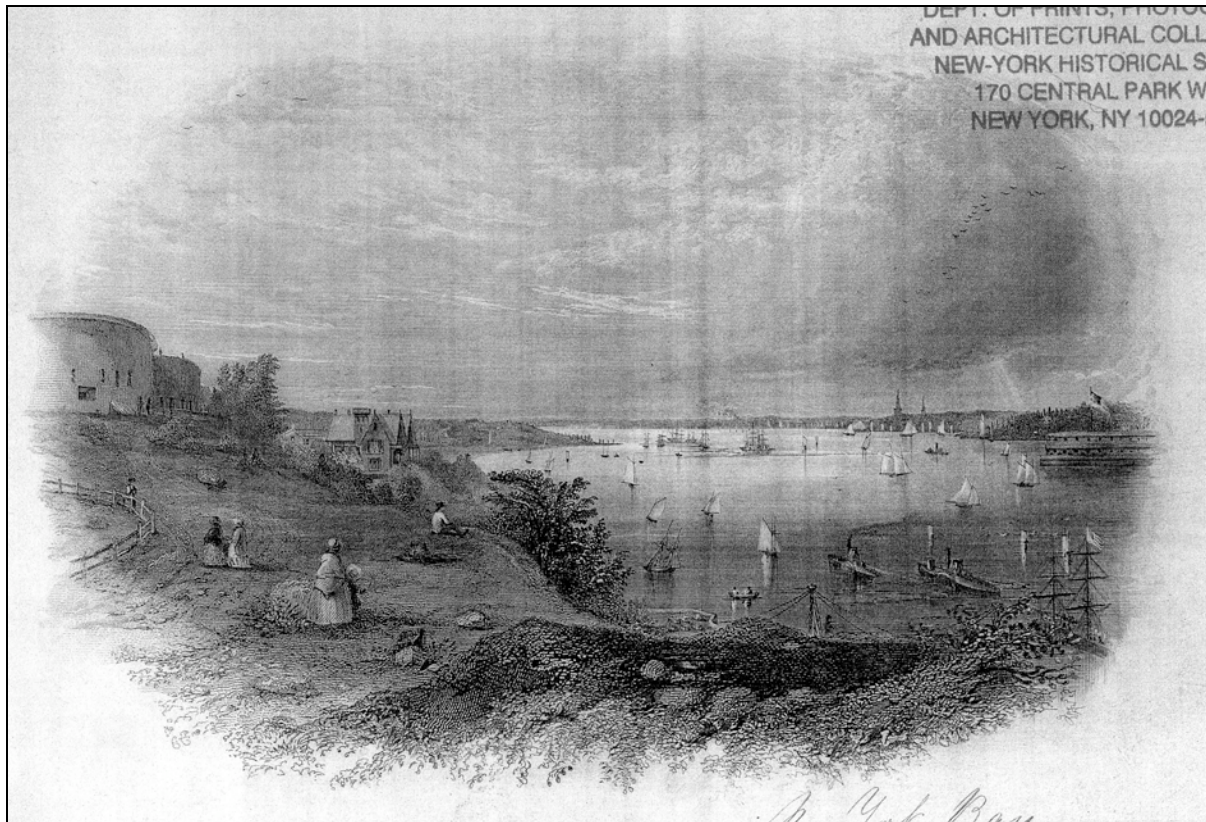


Figure 1.15: View looking north up New York Bay toward Manhattan from the bluff above Fort Richmond, c. 1850. The round bastions of Fort Tompkins and a pasture fence appear to the left. The tops of the construction rig at work on the new fortress on the beach are barely visible below the crest of the bluff to the right. By Henry S. Beckwith. New York Historical Society, PR 020.

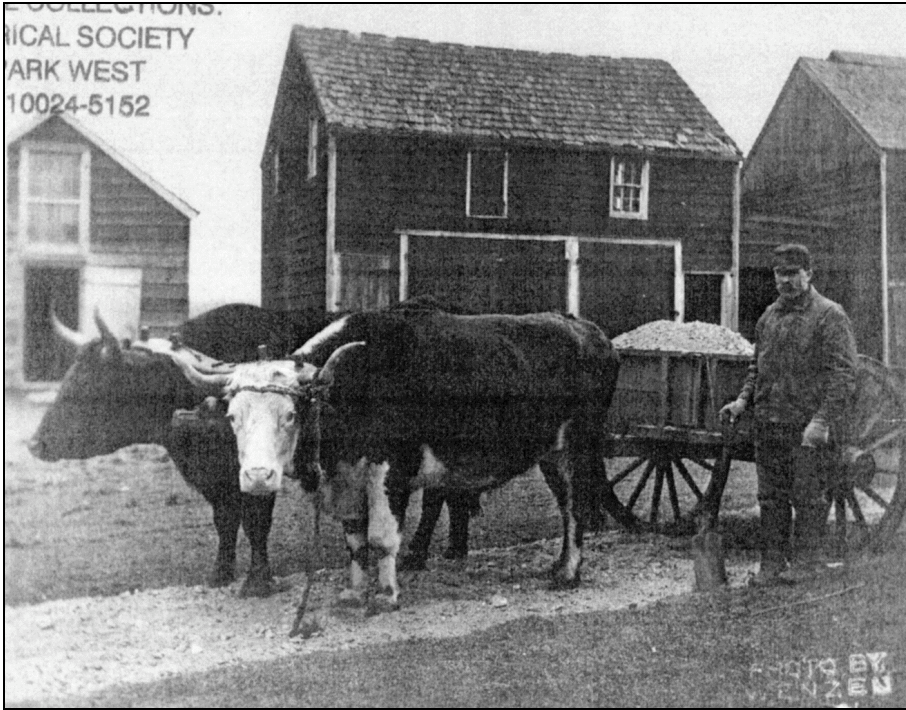


Figure 1.17: The last working team of oxen at work in New York City, taken at Latourette Farms, Richmond, Staten Island, 1904. New York Historical Society Department of Prints, Photographs and Architectural Collections, PR 020, Box No. 1-Staten Island, Folder No. Misc.

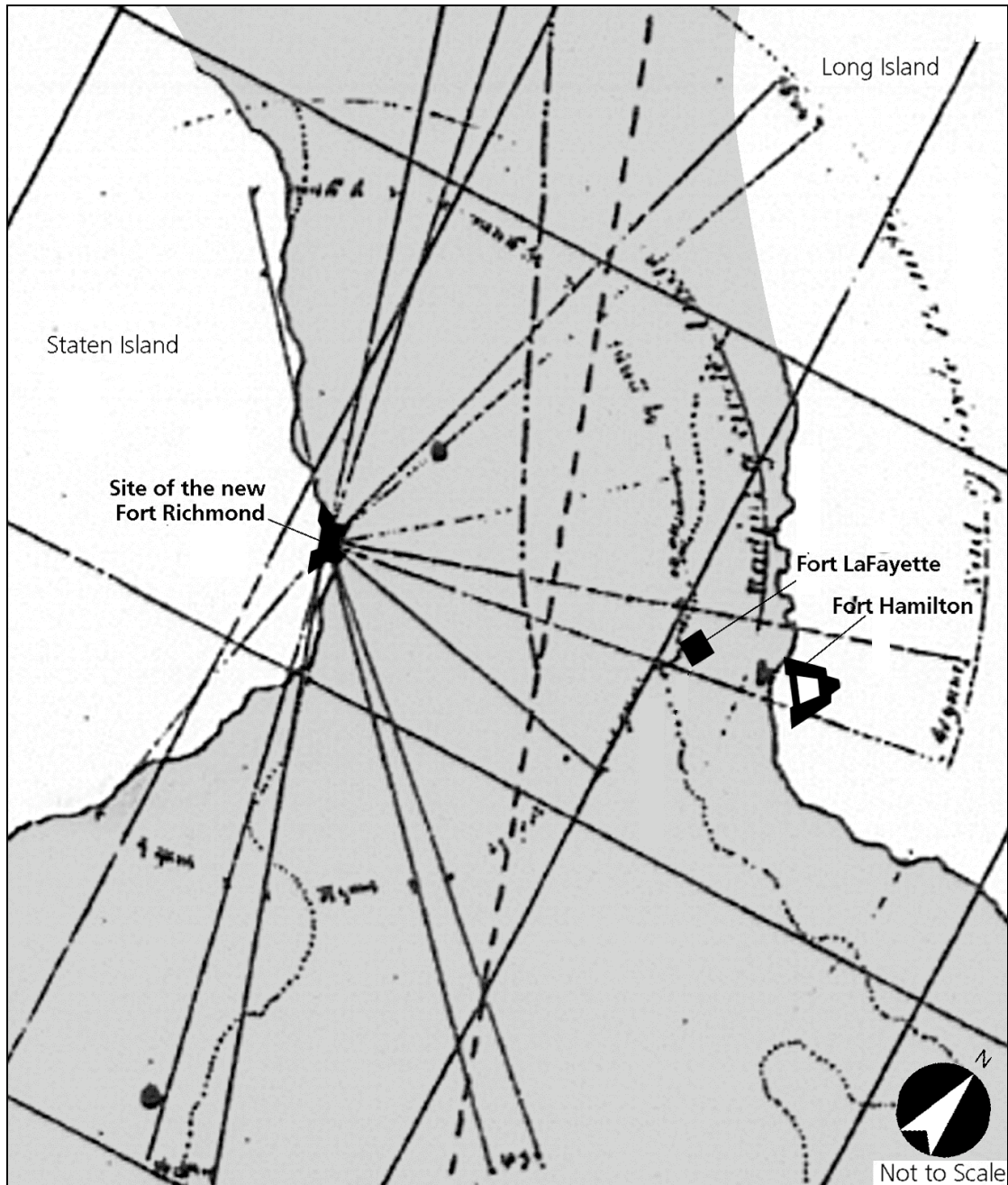


Figure 1.18: Detail from a plan for the construction of the new Fort Richmond (later renamed Battery Weed), 1846. This plan shows the context of the location the new fortress in relation to Forts Hamilton and LaFayette on the Narrows. The radiating lines from Fort Richmond indicate the range of fire planned for the new Fort Richmond. National Archives Cartographic Division RG77, Dr 43, Sht. 3, annotated by SUNY ESF.

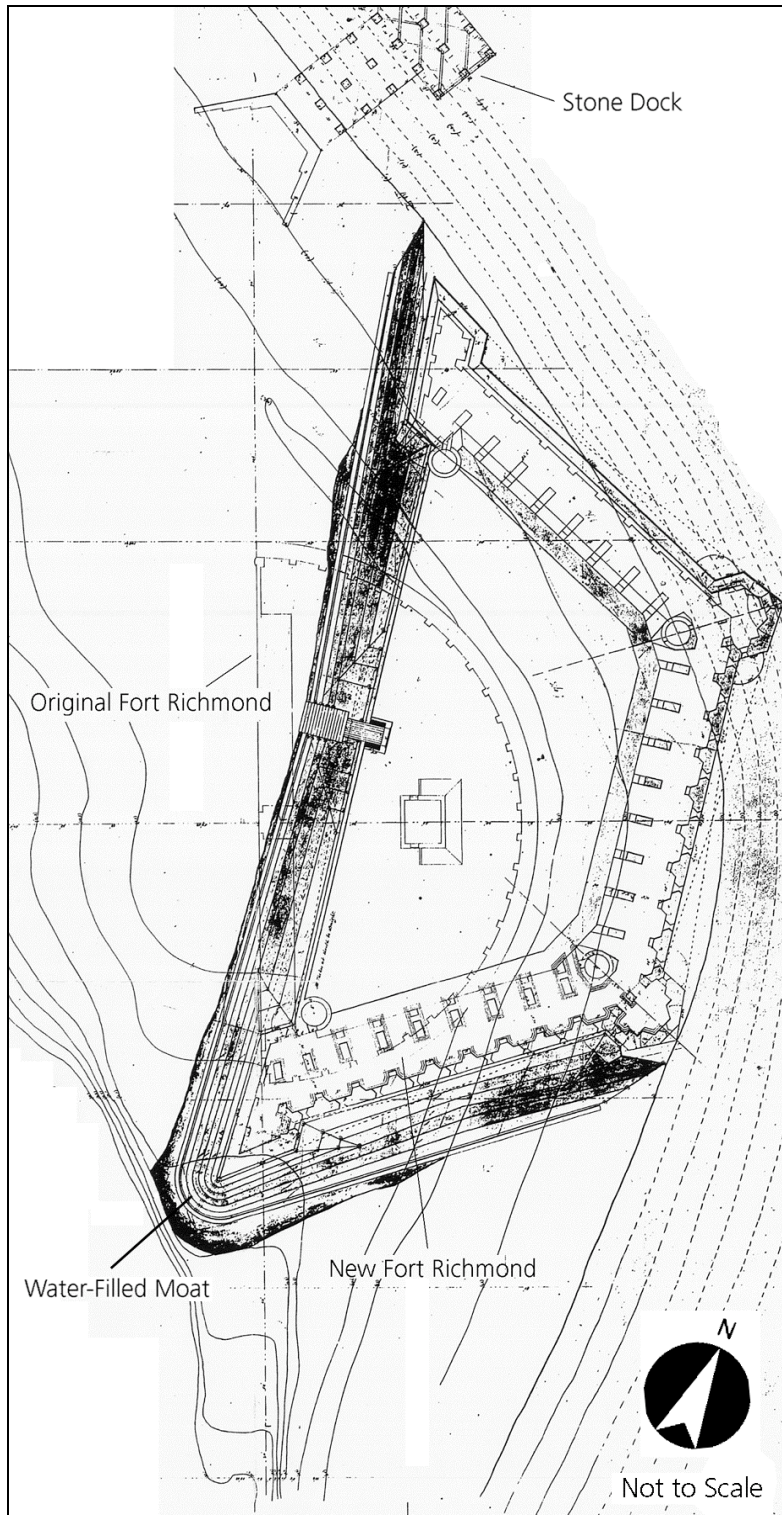


Figure 1.19: Plan dated 1846, showing the location of the new Fort Richmond to be constructed directly on the site of the original Fort Richmond, built in 1809. The North Stone Dock was planned just to the north. National Archives Cartographic Division RG 77, Dr 43, Sht. 3, annotated by SUNY ESF.

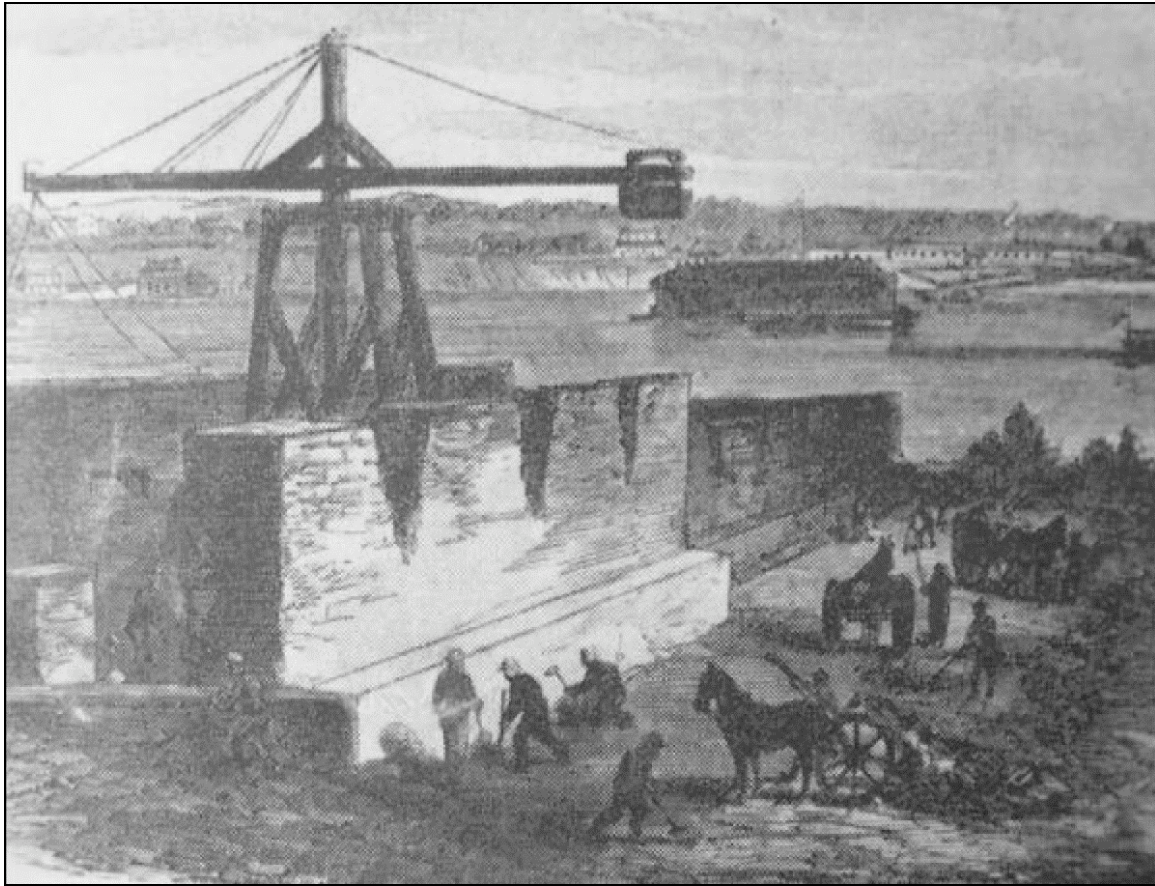


Figure 1.20: An illustration of the new Fort Richmond (later renamed Battery Weed) under construction with the use of a pivoting crane and workmen with horses and carts, c.1846. Gateway National Recreation Area Archives, 19383.

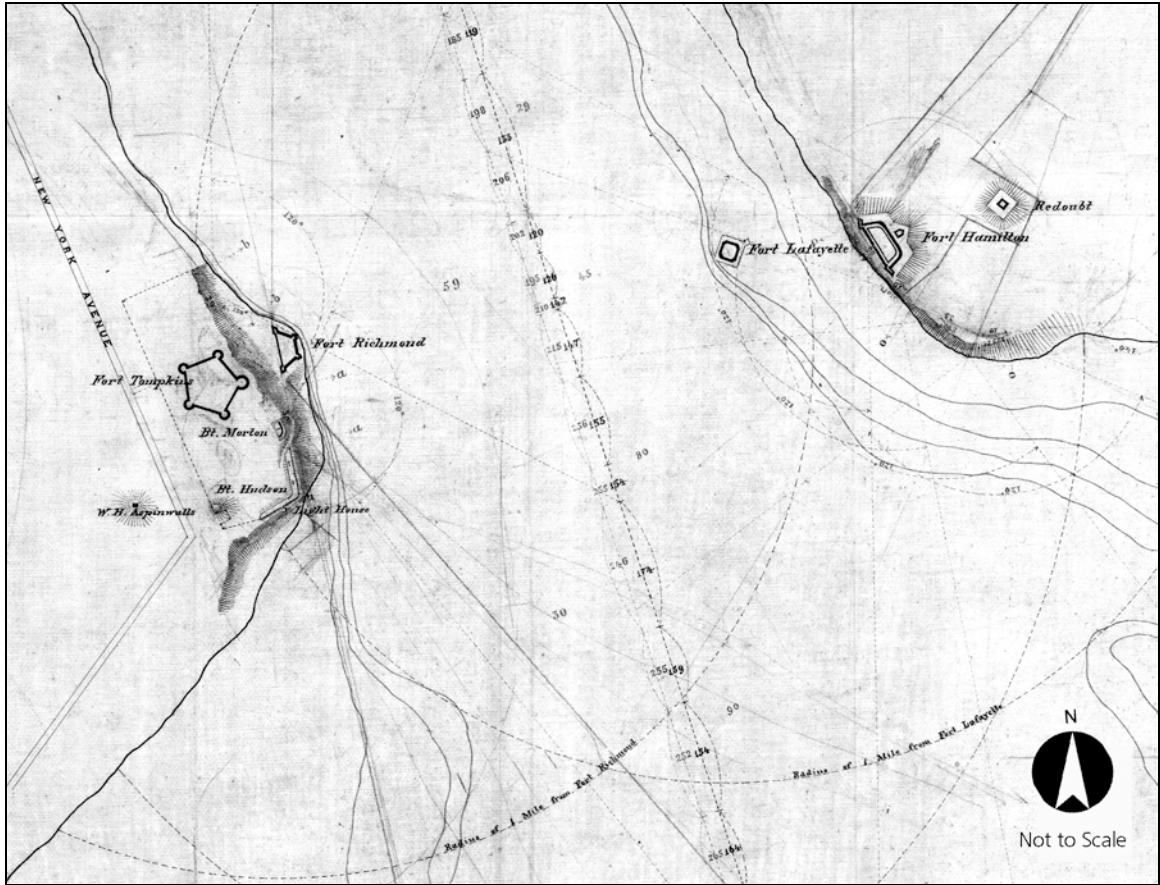


Figure 1.21: Plan showing the context of the new Fort Richmond in the Narrows fortifications, 1857. Forts LaFayette and Hamilton are across the Narrows to the east and the combined range of fire is indicated by the large arcs around the forts. National Archives Cartographic Division RG 77, Dr 36, Sht. 65, annotated by SUNY ESF.

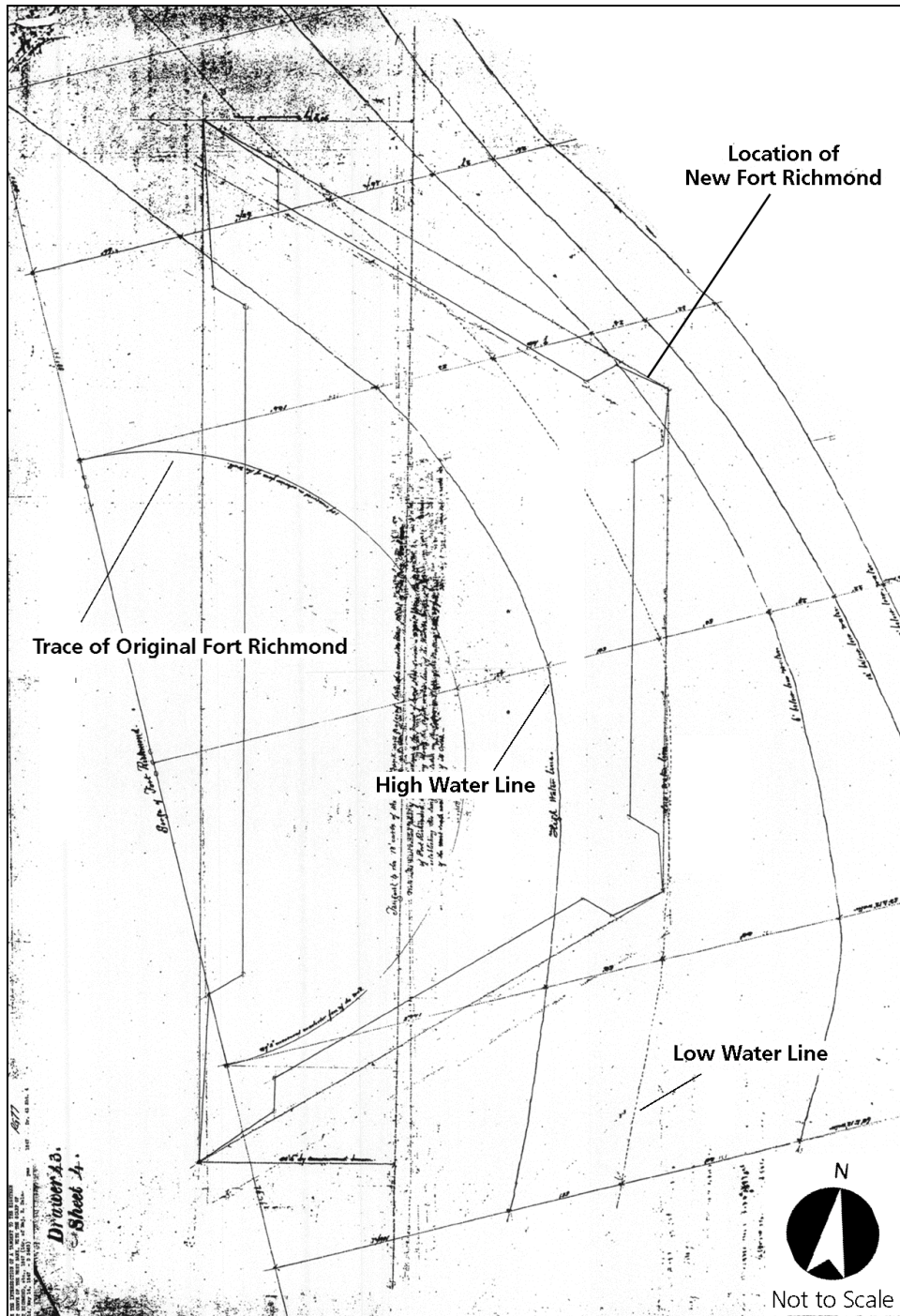


Figure 1.23: Sketch showing the planned location of the new Fort Richmond over the trace of the original Fort Richmond on the waterfront between the high and low water lines, 1847. National Archives Cartographic Division RG 77, Dr 43, Sht. 4, annotated by SUNY ESF.

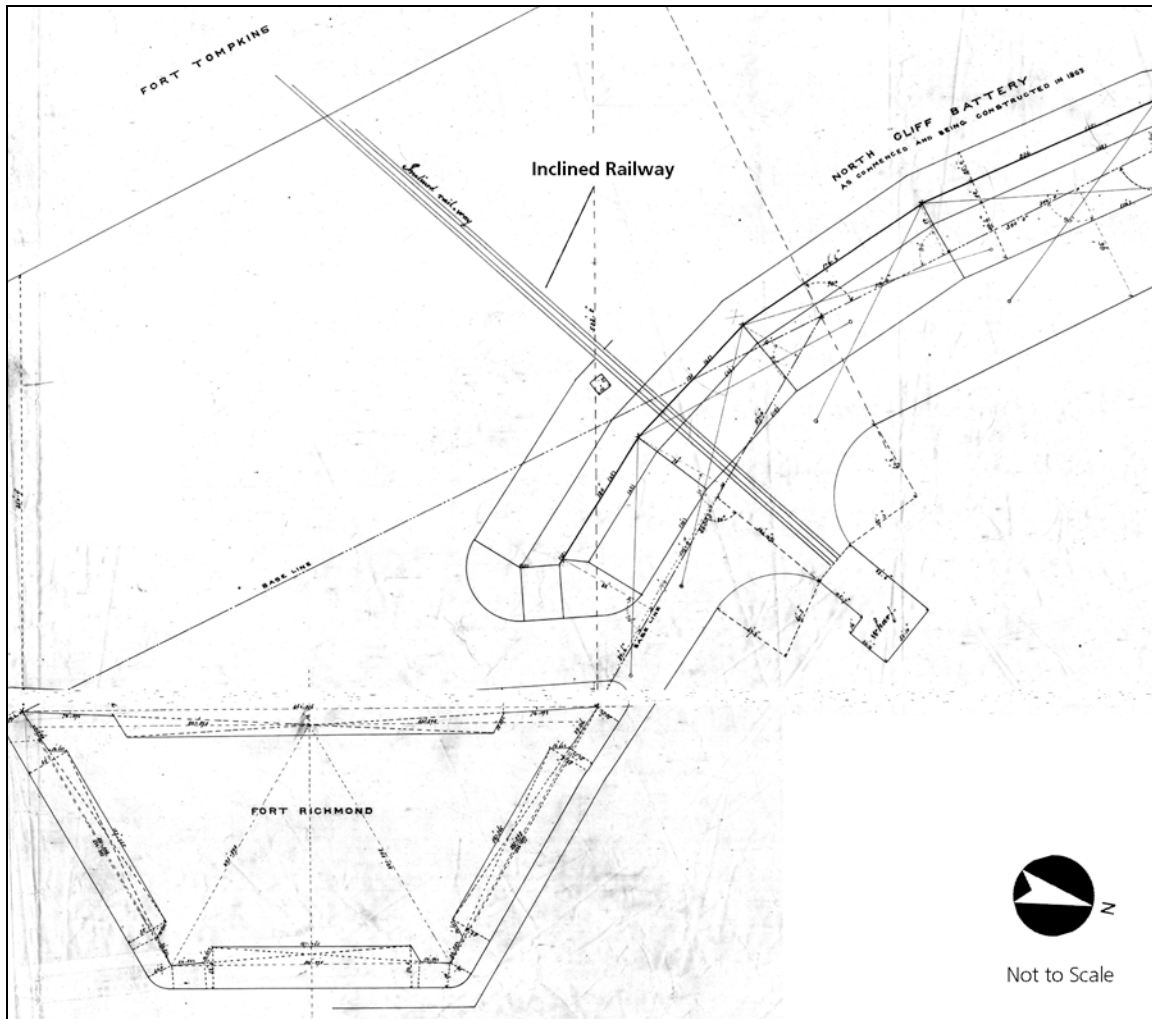


Figure 1.24: Plan showing the inclined railway that was used to move materials up the slope to the construction site of the New Fort Tompkins from the North Stone Dock just north of Battery Weed, 1863. National Archives Cartographic Division RG 77, Dr 41, 44-2, annotated by SUNY ESF.



Figure 1.25: An inclined railway is pictured running up the bluff from the North Stone Dock in this illustration of Battery Weed, from the northwest, c.1863. The rail was used to move construction materials, brought by boat up the slope to the Fort Tompkins construction site at the top of the bluff. Gateway National Recreation Area Archives, 19411, c.1863.

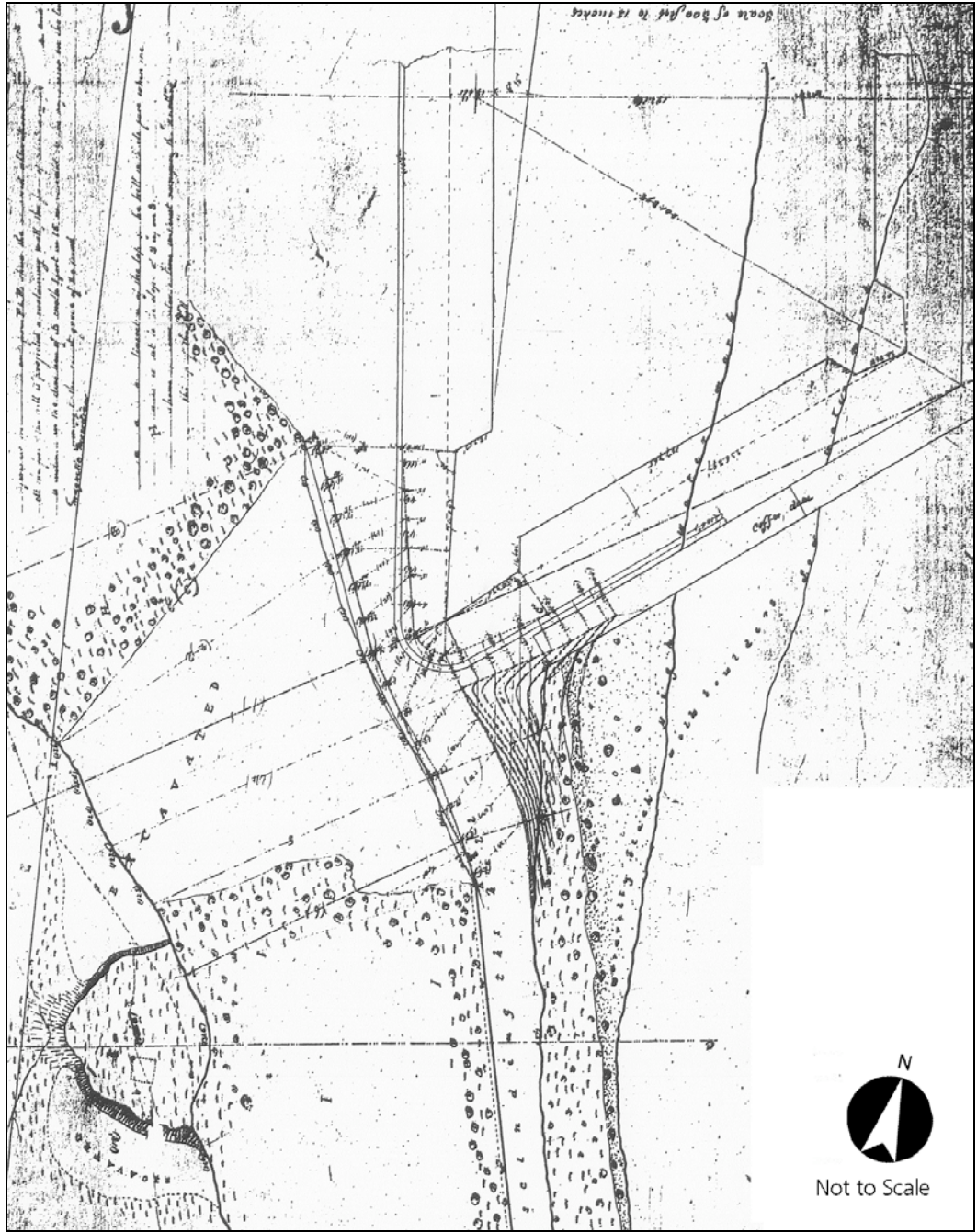


Figure 1.26: Plan titled "Sketch of the ground adjoining the south west salient of Fort Richmond (Staten Island) and the hill with a proposed wall to sustain the foot of the its slope," 1848. The plan shows the excavated portion of the slope above the southwest bastion of the new Fort Richmond. National Archives Cartographic Division RG 77, Dr 43, Sht. 12, annotated by SUNY ESF.

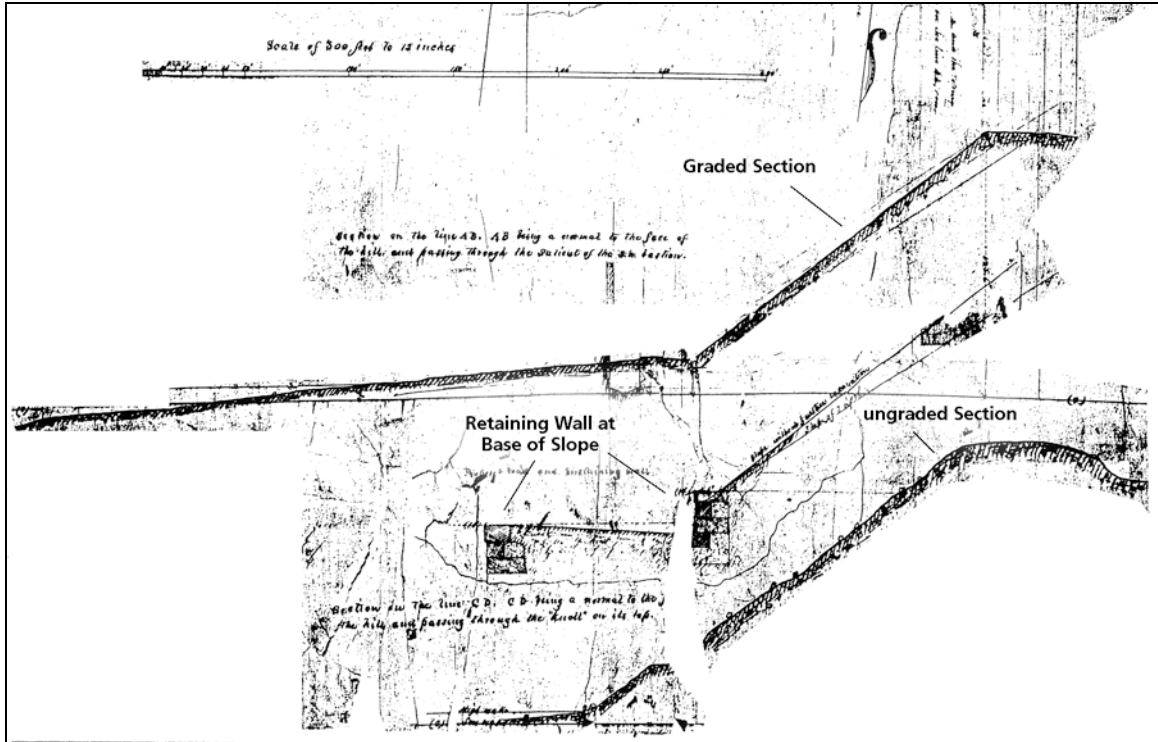


Figure 1.27: Two sections taken across the slope above the new Fort Richmond showing the existing slope and the area to be graded, 1848. The drawing also shows the planned retaining wall to be constructed at the base of the graded area. National Archives Cartographic Division RG 77, Dr 43, Sht. 12, 1848, annotated by SUNY ESF.

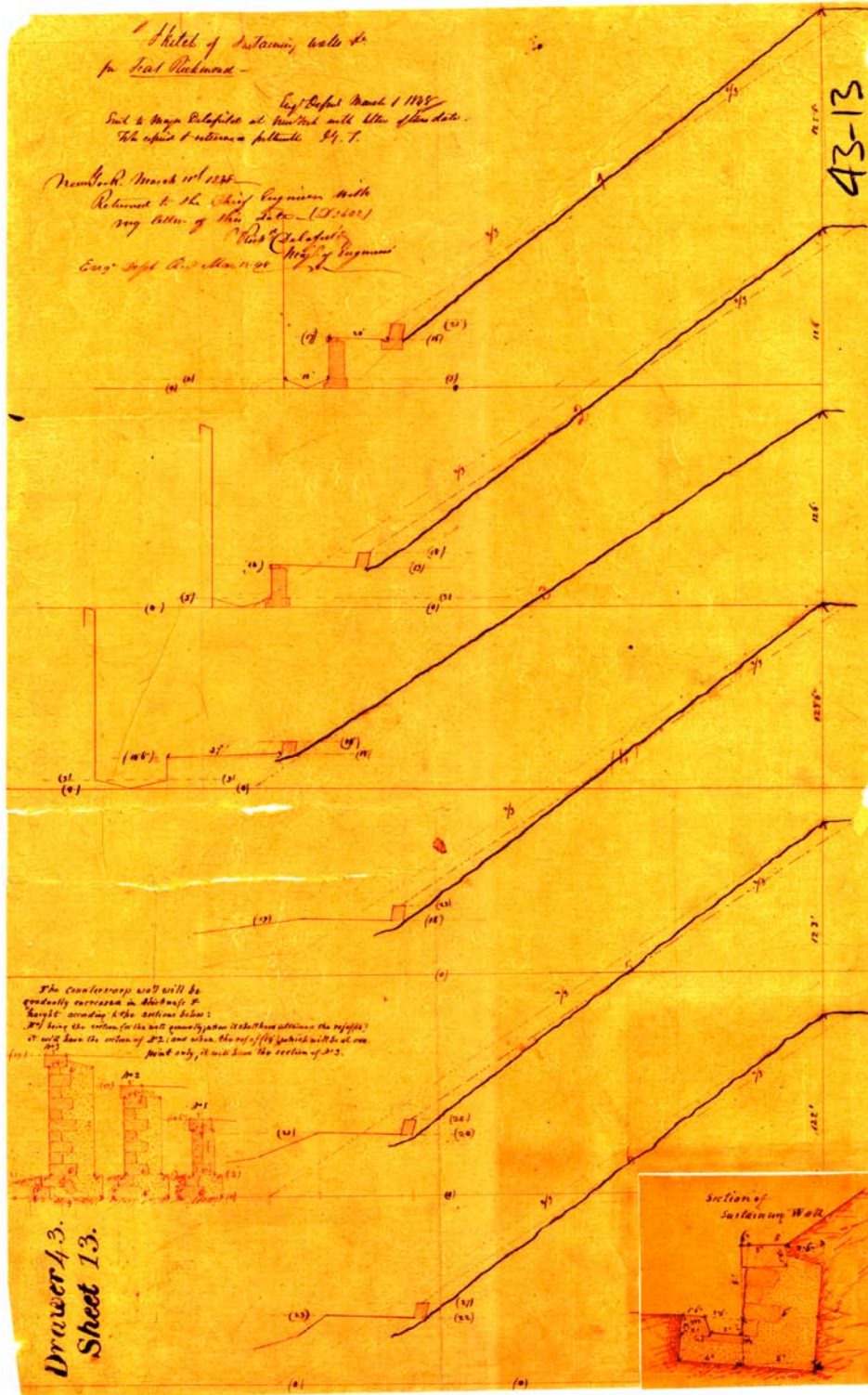


Figure 1.28: Section drawings showing the plan to incrementally grade the area of the slope above the new Fort Richmond, 1848. The plan was gradually increase the thickness and height of the counterscarp (retaining) wall at the base of the slope at the same time. National Archives Cartographic Division RG 77, Dr 43, Sht. 13, 1848.

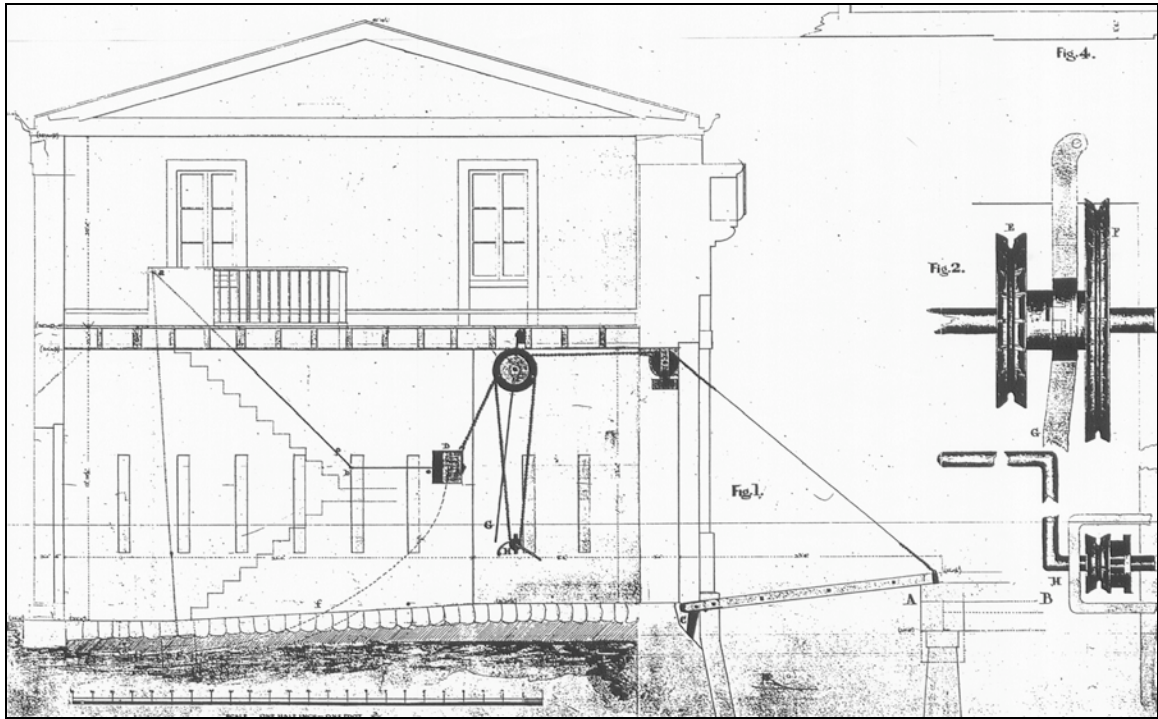


Figure 1.29: Section looking south at the guardhouse and drawbridge, 1860. The drawbridge could be raised or lowered into place over the water-filled moat on the west wall of the fortress and provided the only entrance to the parade ground. National Archives Cartographic Division RG 77, Dr 43, Sht. 53, 1860.

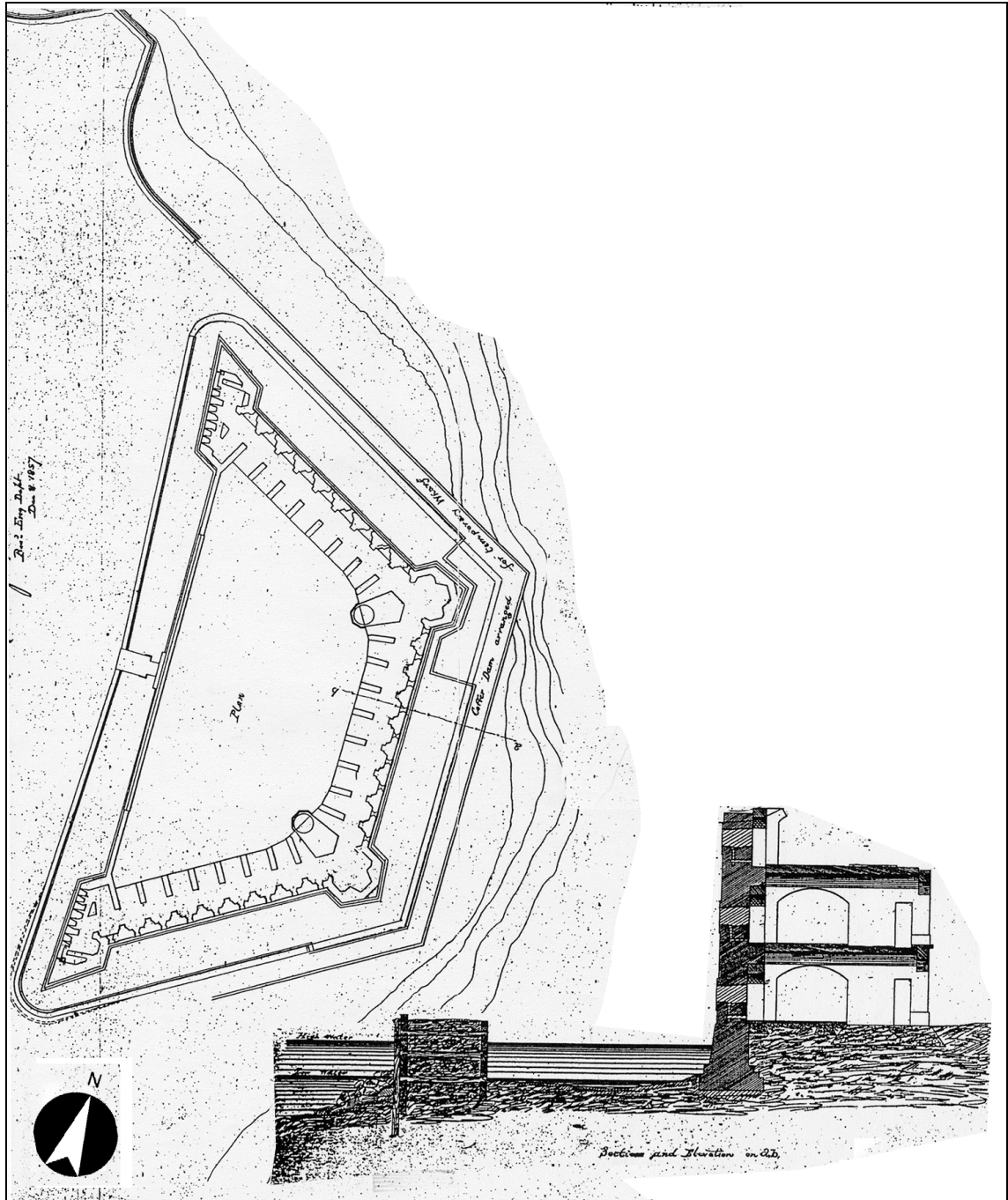


Figure 1.30: Plan and section drawings showing the cobble filled timber cofferdam and temporary wharf to the east of the fortress, 1857. National Archives Cartographic Division RG 77, Dr 43, Sht. 46, 1857, annotated by SUNY ESF.

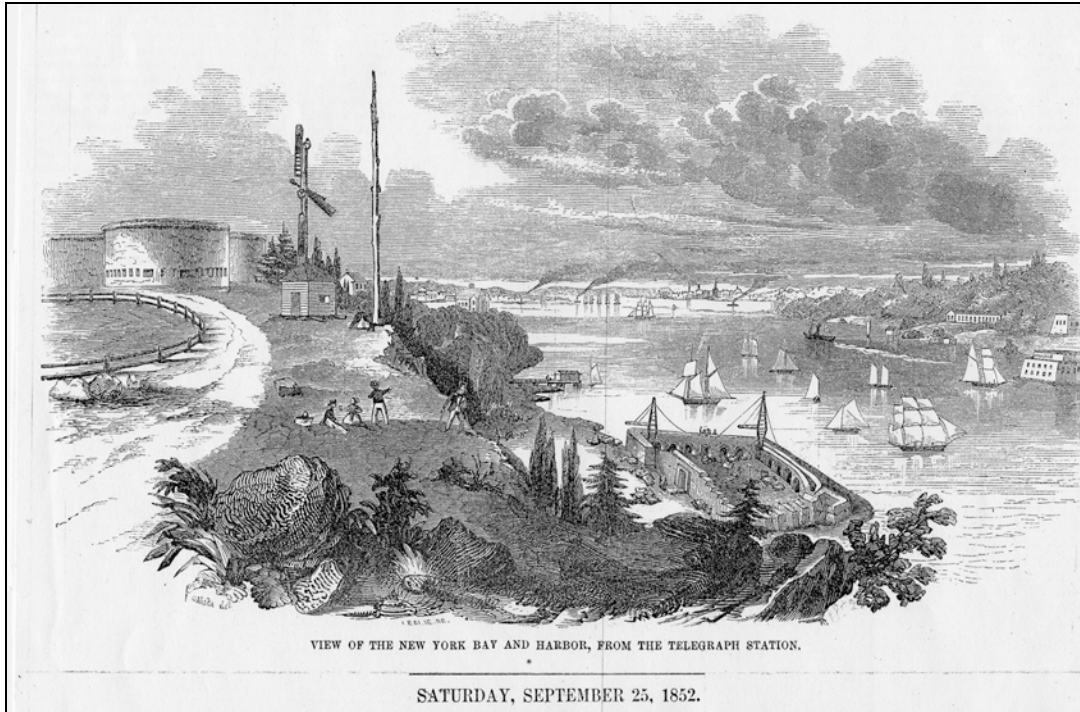


Figure 1.31: Etching, looking north, titled “View of the New York Bay and Harbor, From the Telegraph Station” c.1851. This illustration depicts the construction of the new Fort Richmond on the waterfront below the steep and rocky bluff. Staten Island Institute of Arts and Sciences, c.1851.

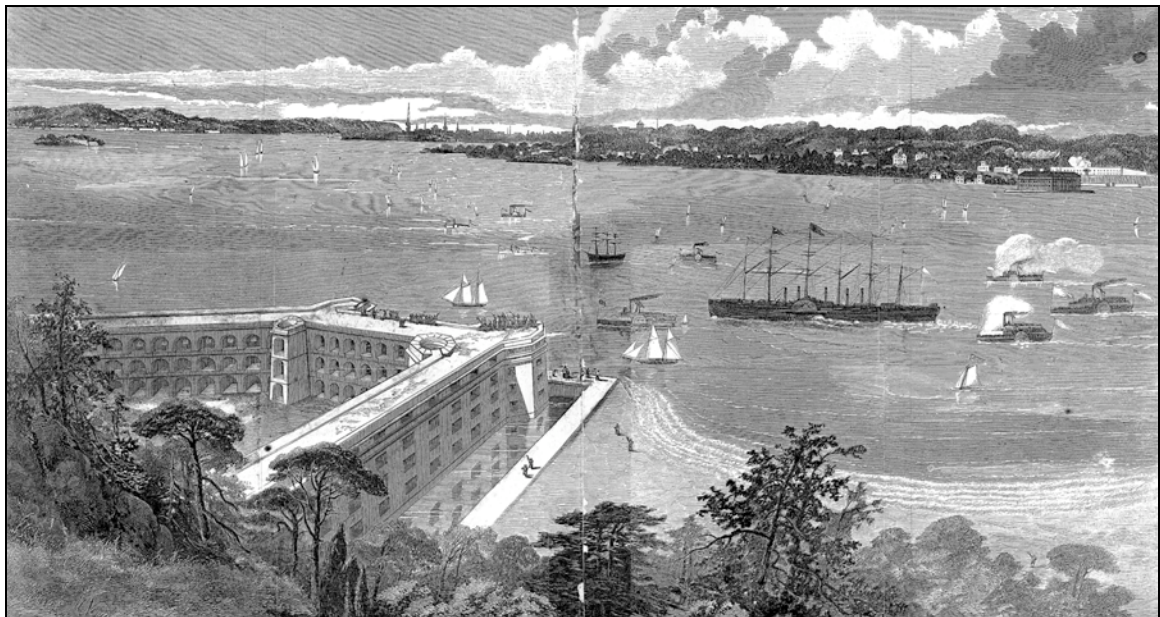


Figure 1.32: Etching looking northeast from the crest of the bluff above Battery Weed with the “Great Eastern” steamship sailing up the Narrows into the harbor of New York, 1860. The slope above Battery Weed featured a variety of tree species, and the interior of the seawall had been flooded to form a water-filled moat. Staten Island Institute of Arts and Sciences, 1860.



Figure 1.33: Painting by artist and Army soldier, Seth Eastman of Battery Weed, looking east from Fort LaFayette in the Narrows, c.1872. *Prints & Posters, The Eastman Forts*, <http://www.history.army.mil/html/artphoto/pripos/eastman1.html>, accessed February 2008.

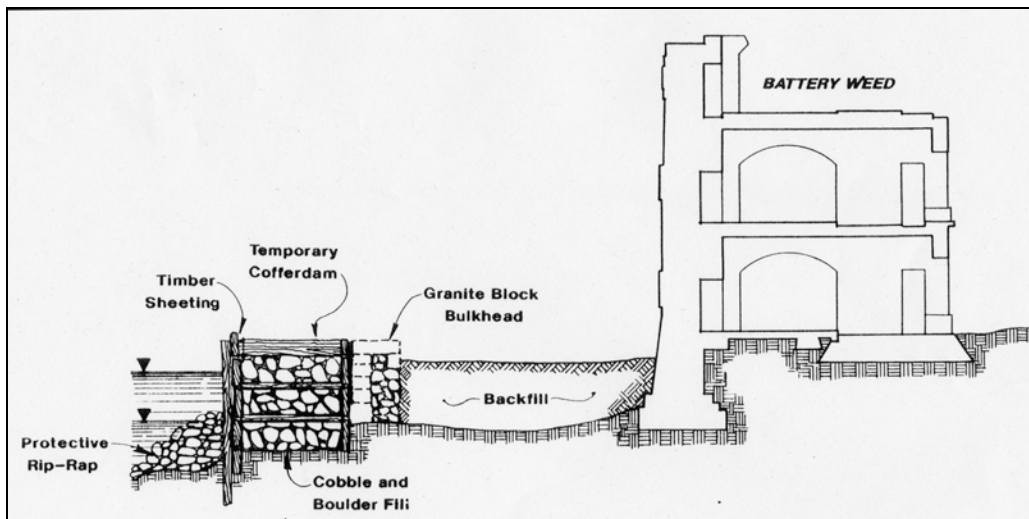


Figure 1.34: Section looking south showing Battery Weed and the construction details of the temporary cofferdam and granite block bulkhead (seawall) to the east of the new fortress, 1995. Timber sheeting was in the construction of the temporary work, along with protective rip-rap and cobble and boulder fill. The space between the east wall of the fortress and the granite block bulkhead was back-filled. Produced by Langan Engineering and Environmental Services, Inc. for the U.S. Navy, 1995, Gateway National Recreation Area Archives, annotated by SUNY ESF.

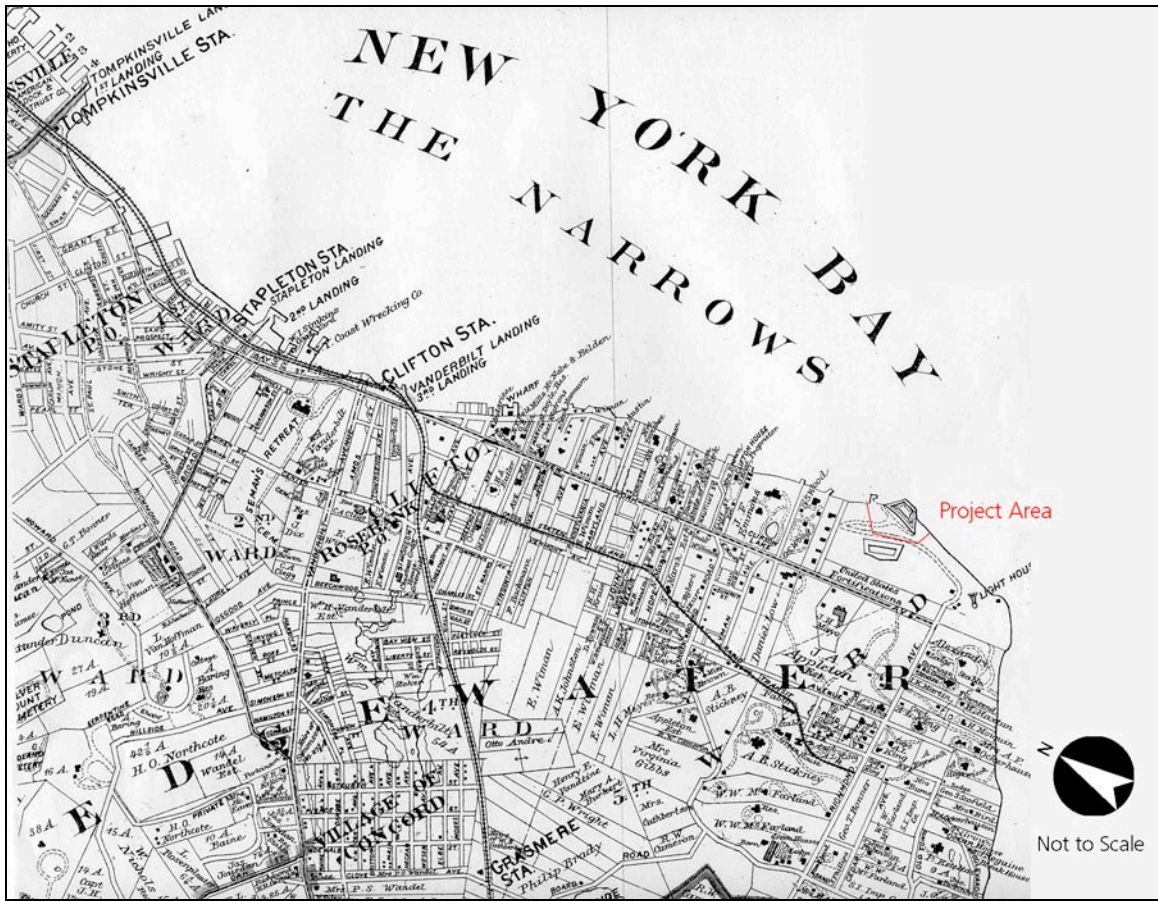


Figure 1.35: Map of the easternmost point of Staten Island in 1887. This map locates several village settlements including Tompkinsville, Stapleton, Clifton, and Concord. The Village of Edgewater referred to and included a broader area of settlement across the point. The project area is indicated on the map to the right. 1887 Atlas, section A, Staten Island Institute of Arts & Sciences, annotated by SUNY ESF.

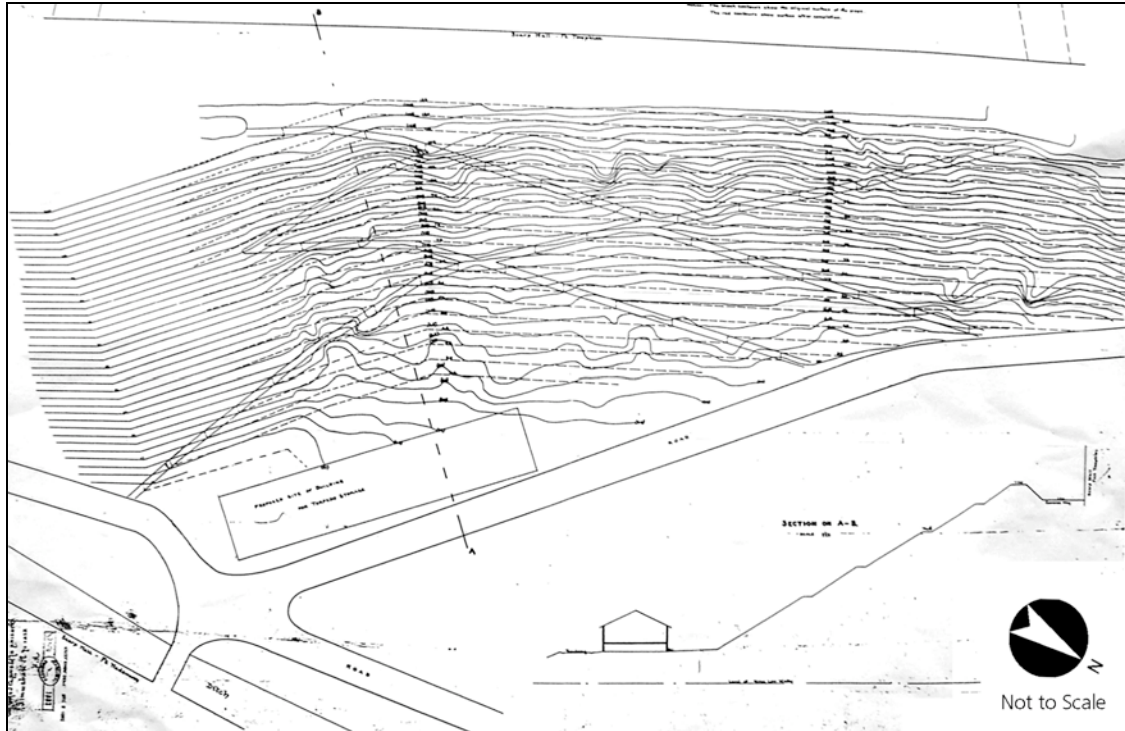


Figure 1.36: Plan showing the pre-1873 natural contours of the steep northeast facing slope and slope paths, 1892. The proposed even contours are also indicated. National Archives Cartographic Division RG 77, Dr 43, 90-2, 1892, annotated by SUNY ESF.

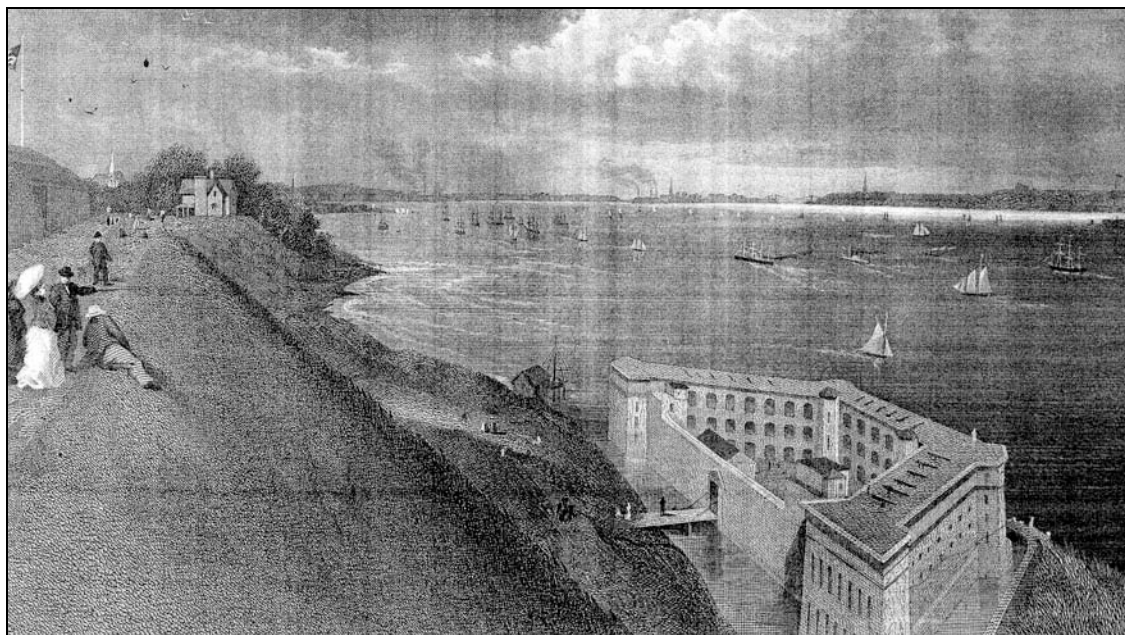


Figure 1.37: Etching looking north, depicting the slope grade with trees removed, the moat filled with water, and the drawbridge lowered to provide access to the interior of the fort. New York Historical Society, PR 020, Box 1-Staten Island, Waterfront Views.

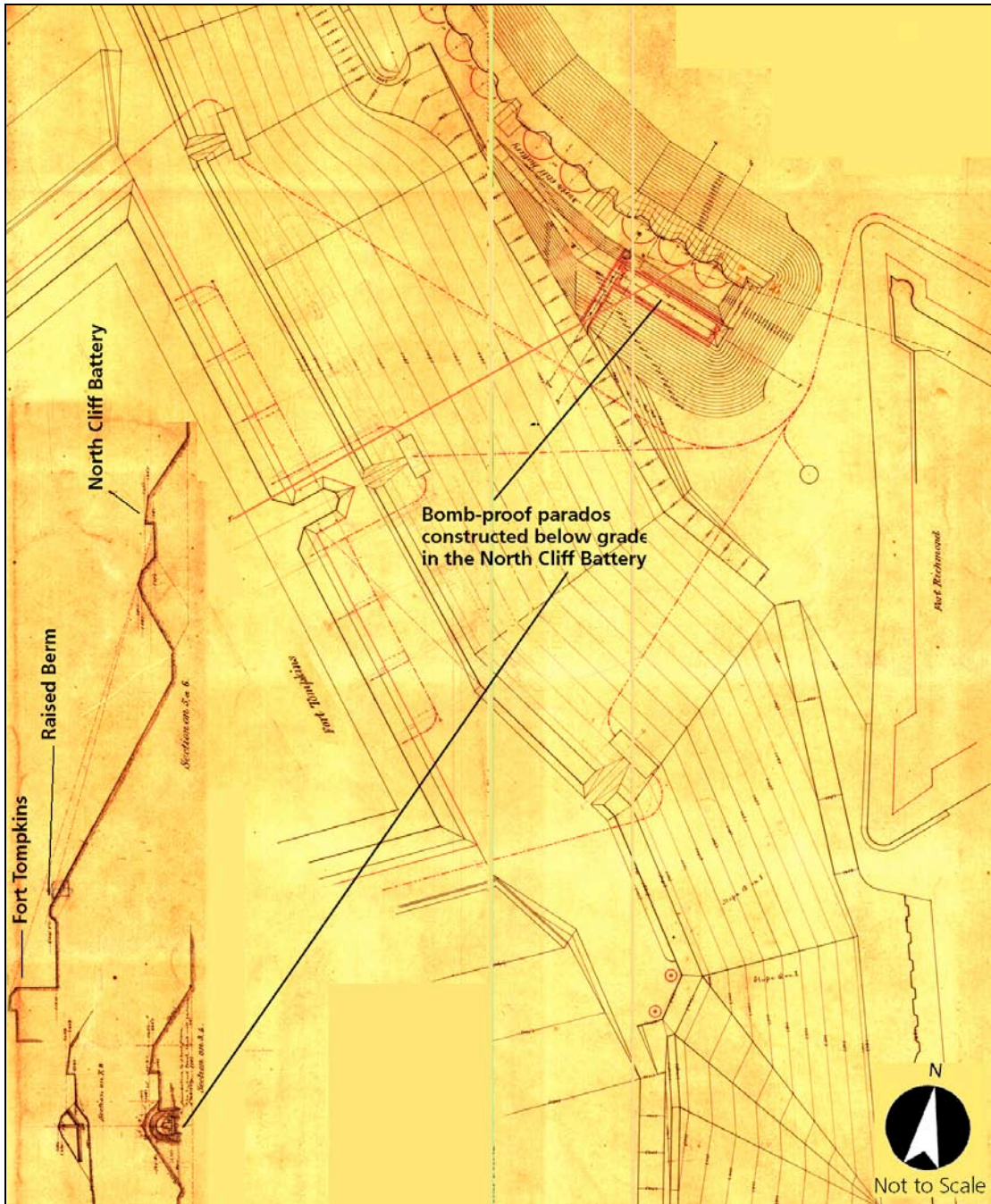


Figure 1.38: Plan and sections showing the location of North Cliff Battery with below grade Bomb-proof Parado, 1865. National Archives Cartographic Division RG 77, Dr 41, Sht. 55, annotated by SUNY ESF.

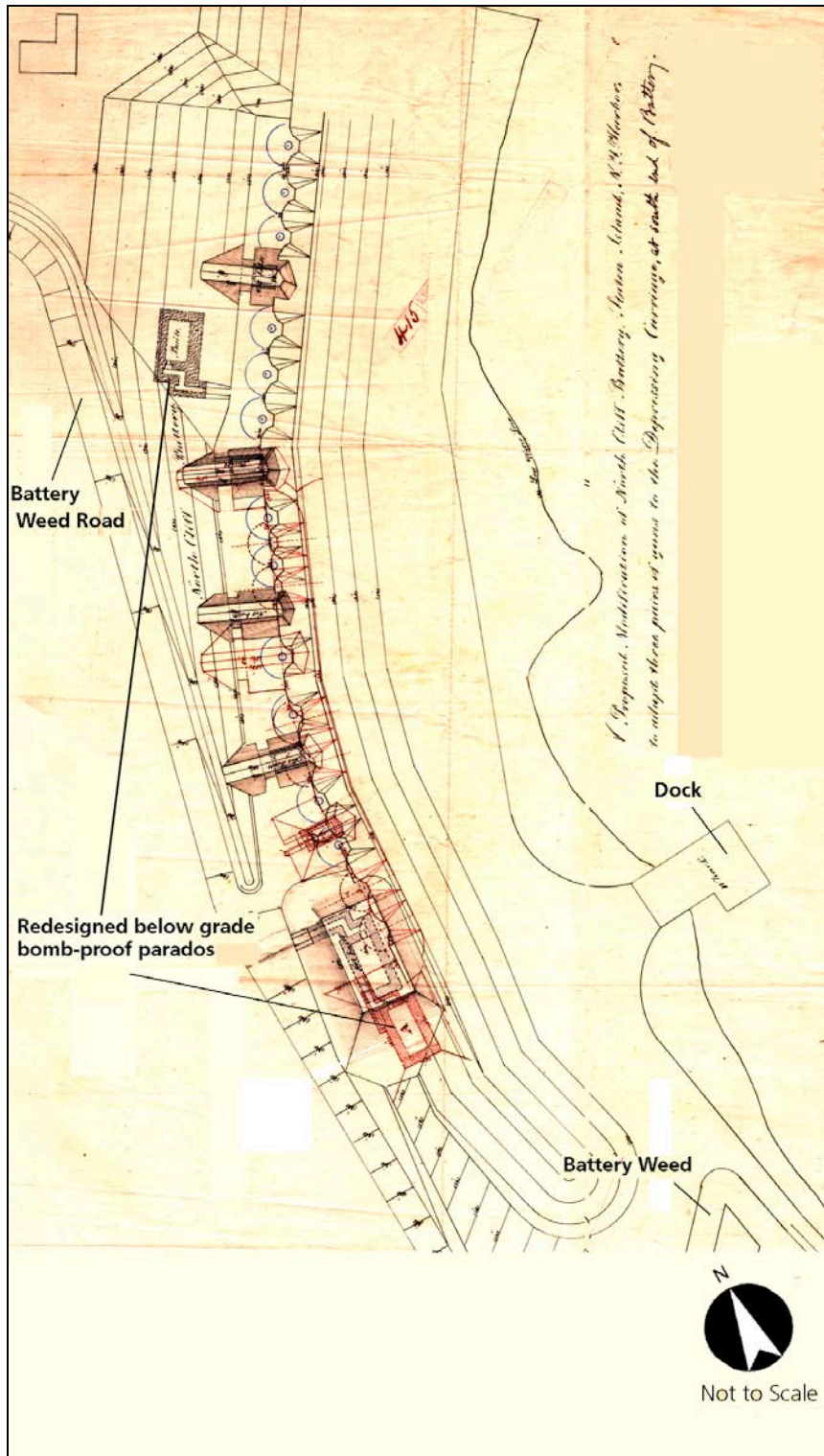


Figure 1.39: Plan showing the redesign of the North Cliff Battery and the sub-surface parados, 1871. (National Archives Cartographic Division RG 77, Dr 41, Sht. 79, 1871) annotated by SUNY ESF.

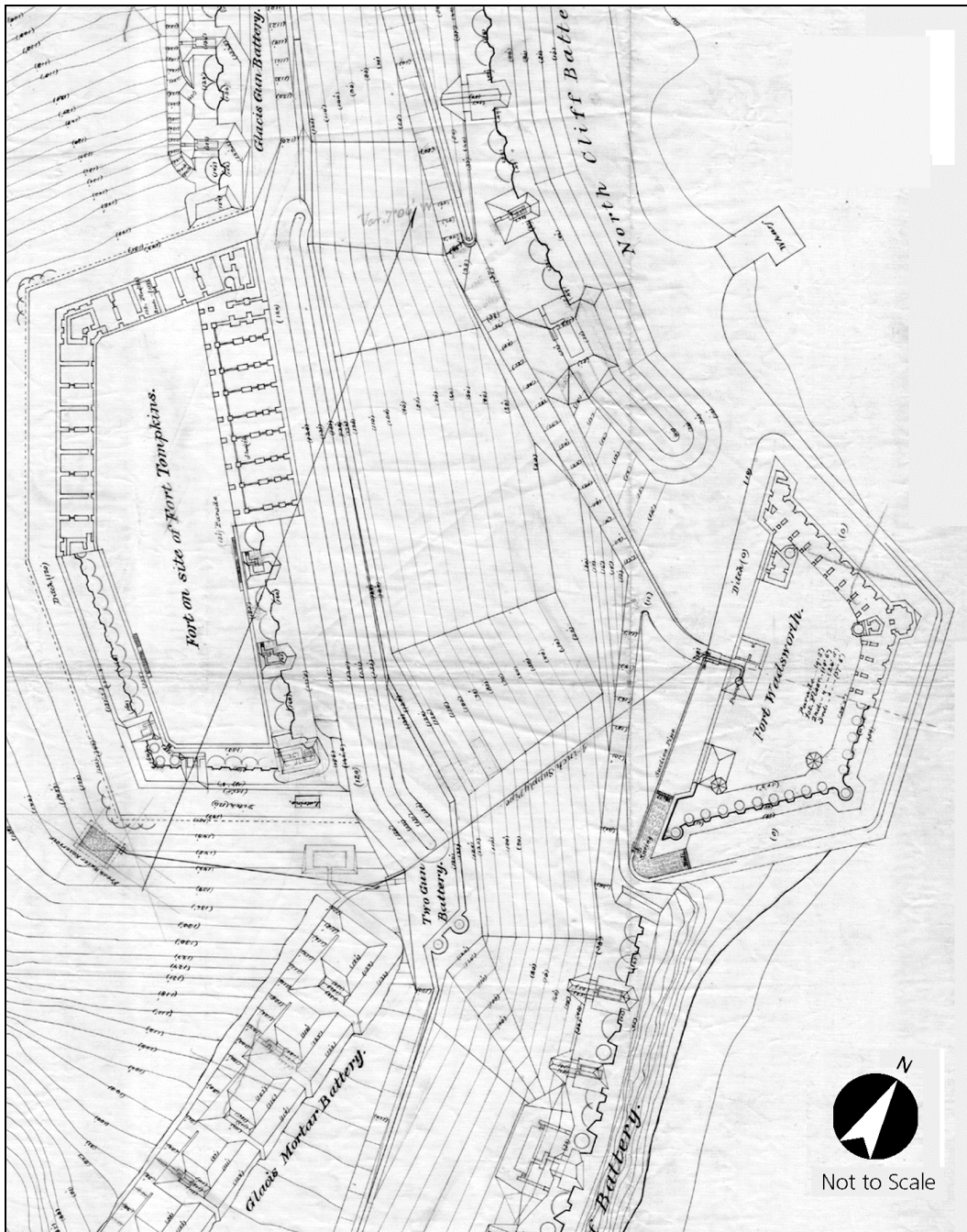


Figure 1.40: Plan showing the location of the north and south cliff batteries flanking Fort Wadsworth (later named Battery Weed), 1886. Earthworks labelled glacis mortar battery and glacis gun battery are also indicated at the top of the slope in front of the new Fort Tompkins. National Archives Cartographic Division RG 77, Dr 41, Sht. A, annotated by SUNY ESF.

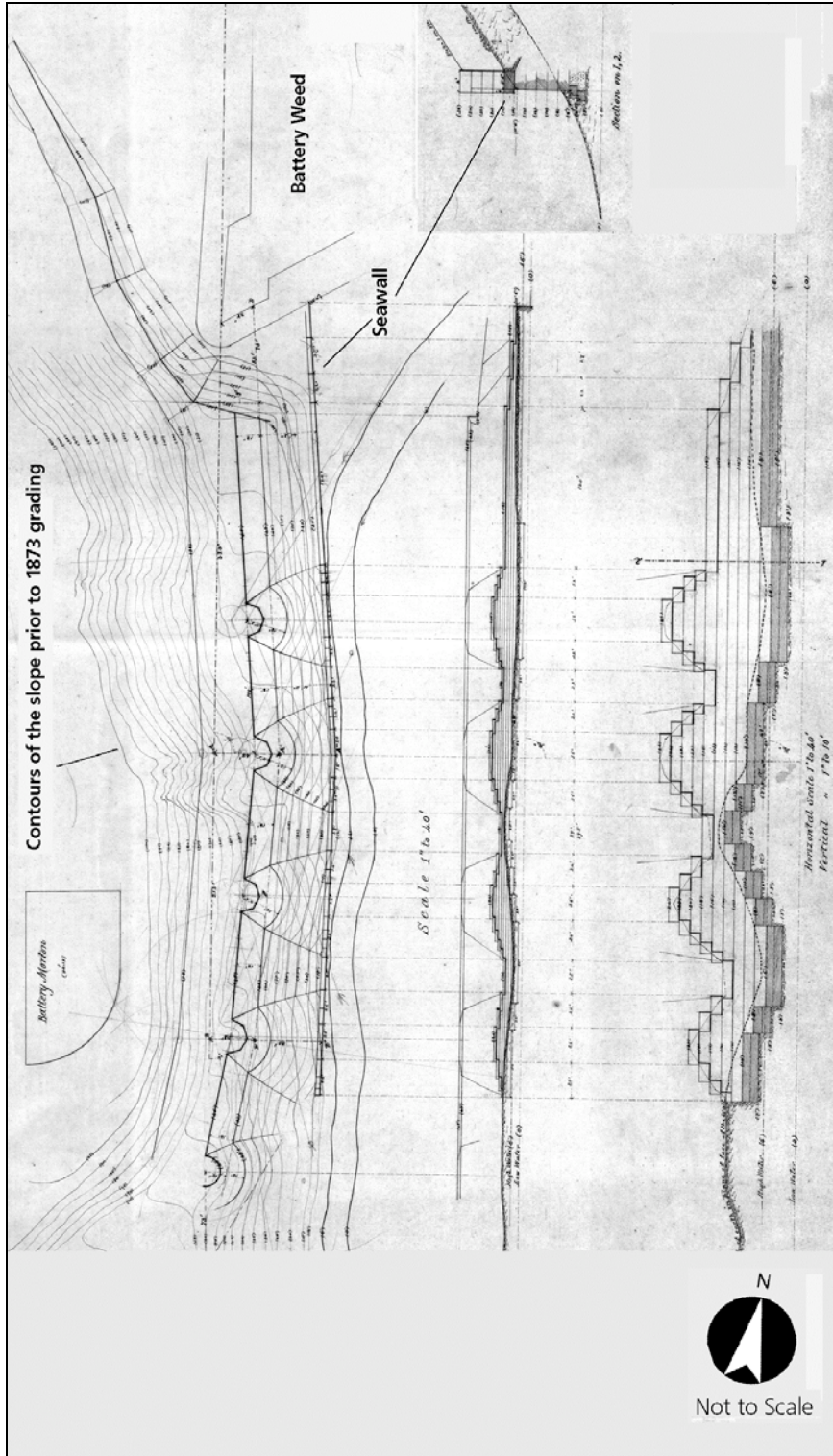


Figure 1.41: Plan and elevations showing the location and design for the south cliff battery including the seawall, 1863. This plan also indicates the natural contours of the bluff as they existed prior to the severe grading that occurred in 1873. National Archives Cartographic Division RG 77, Dr 41, 36, annotated by SUNY ESF.



Figure 1.42: Postcard image looking north at the post headquarters from the top of the bluff graded to an even sloping lawn, c.1890. A raised berm that was constructed between Fort Tompkins and the crest of the slope to the east is visible at the left, and the road entering the image diagonally from the lower right is from Battery Weed. New York Public Library, Digital Gallery Image 104709.

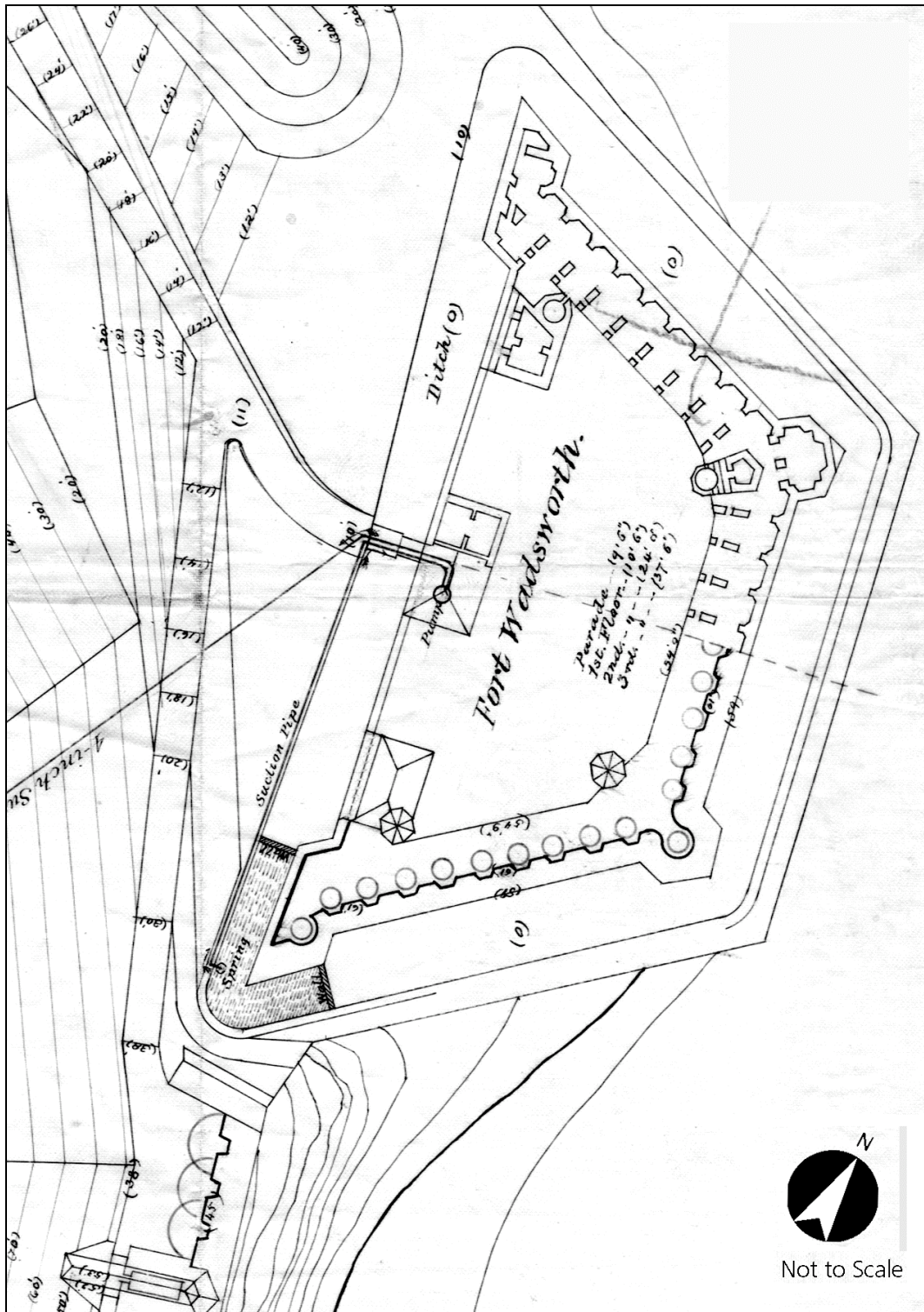


Figure 1.43: Detail of a plan showing the southwest corner of the moat walled around the spring and suction pipe along the moat wall that carried water into the guardhouse pump at Battery Weed, 1886. National Archives Cartographic Division RG 77, Dr 41, Sht. A, 1886, annotated by SUNY ESF.



Cultural Landscape Report

Battery Weed, Fort Wadsworth
 Gateway National Recreation Area
 Staten Island, NY

Third System & Civil War Era:
 1847 - 1886



National Park Service
 Olmsted Center for Landscape Preservation
 www.nps.gov/oclp
 in cooperation with:
 SUNY College of Environmental Science and Forestry
 Syracuse, New York

- SOURCES
1. Aerial Photography, 2007
 2. Vegetation Map, 1995
 3. Field survey completed by Olmsted Center, November, 2007
 4. Topographical survey (Ettlinger & Ettlinger P.C., 1985)

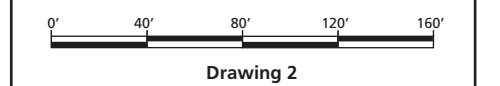
DRAWN BY
 Jean B. Gleisner, Illustrator CS, 2008

LEGEND

- Removed During Period
- █ Added During Period
- 5' Contour
- █ Subsurface Structure/Foundation
- ▬ Existing Building
- ▬ Paved Road
- ▬ Water Pipe
- Pre-1873 Slope Contours
- █ Cofferdam
- ▬ Project Area
- ▬ Moat
- ▬ Meadow
- Conifer Tree/Shrub
- Deciduous Tree/Shrub
- Rocky Beach

NOTES

All vegetation shown in approximate scale and location.
 Names indicated are those used during the period, when known.
 Plan illustrates conditions in 1887.



1887-1945: ENDICOTT & WORLD WAR I-II ERA

From 1887 to 1945, just prior to American involvement in World War II, the landscape surrounding Battery Weed was developed and adjusted repeatedly as technological innovations in coastal defense were engineered and tested on site. The site, which had been relatively open spatially between the top of the slope, and the bay, with the exception of the ground batteries, would see the introduction of several new and interrelated structures and systems. Although, by 1887 most of the changes to the form of the landscape had been accomplished through extensive grading and earth moving in previous years, some additional major changes did occur such as the filling of the moat with earth and rubble, and the construction of a lighthouse on the barbette tier of the fort. Other additions to the site during this period included a system of steel rails, or mine railway installed between a new Torpedo Storage Building constructed at the base of the slope, and several small buildings related to the subsurface mine system. Ground batteries were added and expanded to accommodate upgraded weaponry. Electricity and telecommunication wires were introduced across the site between command centers. In 1902, the entire military reservation was named Fort Wadsworth, and Fort Richmond was renamed Battery Weed, after Brigadier General Steven H. Weed who was killed at Gettysburg.

STATEN ISLAND – NEW YORK CITY BOROUGH OF RICHMOND

At the end of the nineteenth century, farming on Staten Island was in decline. The effects of increased regional industrial air pollution, together with rising land values and labor

difficulties, contributed to a decline in island farming with the exception of greenhouse flower production. Rural lots were transitioning to country places, and villages along the east shore of the island from St. George to Richmond were growing rapidly with the subdivision of larger lots making way for areas of increasing density with more commercial and residential use.

In 1898 Staten Island became a borough of New York City, and although previously accessible only by ferry from Manhattan, was quickly developing new regional transportation linkages, effectively opening the island up to accelerated visitation and development. Fort Wadsworth and Fort Tompkins were located between of Van Deventer's Point and Sand Bay where a ferry landing had been established since 1713. Rail service along Bay Avenue connected St. George to South Beach, less than a mile to the south of Battery Weed (Figure 1.43). In 1889 Staten Island was linked to New Jersey by a railroad bridge. Various companies as well as the City of New York operated light rail lines and trackless trolleys with overhead power lines that connected various points on Staten Island.

By 1906, amusement parks, including Happyland Park, resort hotels and fine bathing beaches at South Beach, less than a mile to the southwest of Battery Weed were becoming well known throughout the New York area. The famed Staten Island amusements of the early twentieth century drew thousands of visitors from near and far to the eastern shore of the island (Figures 1.44 and 1.45).¹

With the rapid growth of New York City, Staten Island's natural resources were in demand. This resulted in related industrial development of the island. Trap rock was quarried for road and wall building materials and natural clay was used in the manufacture

of terra cotta cladding. Quartz pebbles from the island beaches were crushed and made into sand paper. Ice harvesting from the island ponds became a lucrative island business. Products manufactured on the island were shipped out from the docks along the eastern shore to a growing New York market.² By 1910, with growing waste contributions from industry, shipping and sewage, the waters of New York Harbor were becoming increasingly polluted. When typhoid fever was traced to Staten Island oysters in 1916, the oyster beds were condemned and closed down by the New York Health Department.³ The first automobile bridge, the George W. Goethals Bridge was constructed in 1928 over Arthur Kill. It connected Holland Hook and Elizabeth, New Jersey. Outerbridge Crossing, spanning Arthur Kill between Pleasant Plains and Perth Amboy also opened in 1928. Bayonne Bridge opened in 1931 between Port Richmond and Bayonne, New Jersey spanning Kill Van Kull.⁴ In 1934, the City of New York replaced all of the trolley lines on the island with bus service.⁵

Although much of the island remained rural in the early decades of the twentieth century, development was rapidly changing the island landscape and was concentrated on the northeast side of the island surrounding Battery Weed. The population of Staten Island had gained nearly 100,000 to reach a total of 158,346 between 1900 and 1930. In 1933, perhaps in recognition of the loss of open space to rapid development, and in an effort to preserve some of the remaining natural heritage; a fifty-one acre sanctuary for birds was set aside near the center of the island. The preserve, about five miles to the west of the present site of Battery Weed, was maintained jointly by the Audubon Society and the Park Department of the City of New York, and is known today as the William T. Davis Wildlife Refuge.⁶

THE ENDICOTT ERA

Late in the nineteenth century industrialization and major technological advancements continued to rapidly develop. At this time the United States government turned its attention toward establishing a presence among leading world military powers. In 1885, President Cleveland assembled a special board, chaired by Secretary of War William C. Endicott to address the state of the nation's military readiness. Endicott and the board, submitted an ambitious plan for the development of an entirely new seacoast defense system to be employed at key coastal military sites around the nation.

Based on the Endicott plan, the Army Corps of Engineers developed new designs and technologies including concrete reinforced batteries and disappearing guns. The new guns were raised on carriages over defensive walls and then lowered for reloading. The Endicott plan also called for new underwater mine defense systems involving the deployment of contact mines in buoyant cases anchored to float just under the surface of the water where hostile ships would strike them. The mines could be set to explode on contact, or to send a signal to shore where a fire control operator made the decision whether or not to detonate the mine. A single-conductor cable connected each mine to a distribution box on shore, where a multiple cable ran to an operating room or terminal with all necessary electrical and control apparatus. Mines were positioned visibly to force vessels to slow down where guns in on-shore batteries commanded a field of fire that would force the vessels retreat if desired. A high degree of control over the firing of these

mines was important in preserving the safety of friendly shipping traffic, especially in busy and important shipping channels such as the entrance to New York Harbor.⁷

The Endicott Era system of coastal defense also called for new weapon emplacements. They were designed as simple structures, at or near ground level with the objective of blending in with the surrounding the landscape. The Army Corps of Engineers designs featured massive reinforced concrete parapets, twenty feet thick, set behind thirty or more feet of earth. The new batteries would be dispersed widely across the landscape to provide large arcs of fire for the guns, and to make difficult targets for return fire.

In 1923, the Fort Wadsworth reservation included the fully developed Mine Defense Complex at Battery Weed. The vegetation was carefully maintained and paths crossed the slope diagonally. The Appleton estate, just west of New York Avenue, purchased prior to 1901, was as yet not redeveloped (Figure 1.46). Between 1933 and 1938 Works Progress Administration (WPA) labor was used for projects that would expand electrical power and communications systems at Fort Wadsworth.

In January of 1942, with the birth of aerial warfare and the onset of World War II, a major shift in military defense strategy occurred. The War Department initiated a program of “protective obscurement,” instituting an order issued to all military reservations to disperse, conceal, or camouflage themselves in preparation for attacks that might now come from the air.⁸ The emergency response brought elements of two Coast (antiaircraft) Artillery Regiments to Fort Wadsworth for a brief (three week) period. Heightened activity during this period included the movement of various units of Coast Artillery Corps, Military Police, and National Guard through Fort Wadsworth for activation, equipping,

and training for service overseas. In March of 1944, a service unit of two hundred Italian prisoners of war were quartered at Fort Wadsworth and they remained at the Staten Island post until August of 1945.⁹

THE FORT WADSWORTH LANDSCAPE

The federal military reservation at Fort Wadsworth expanded during the last quarter of the nineteenth century, to accommodate the new technologies and systems of coastal defense. This resulted in significant alterations in the landscape setting. By 1901, development of the new Mine Defense Complex at Fort Wadsworth was well underway, and the Army Corps of Engineers transferred the mine defense complex to the Coast Artillery Corps Land purchases by the federal government between 1892 and 1907 extended the military reservation to the west beyond New York Avenue and to the south of Richmond Avenue, and included several country estates overlooking the Lower New York Bay and islands (Figure 1.47). The private country estates, most two or more acres, had been designed in the romantic, curvilinear, English landscape style. Each lot had large residential buildings, but they were of little concern to the Army, and nearly all south of Richmond Avenue were destroyed to clear the way for the construction of modern batteries (Figure 1.48).

By 1907, the trolley line had been extended down Richmond Avenue to Happyland Park at South Beach. Visitors to the island arrived at a pier at South Beach, less than a mile to the south of Battery Weed, or ferry docks at Clifton or St. George, on the eastern shore of Staten Island. The South Beach trolley line ran along New York Avenue to Fort Wadsworth, and continued along Richmond and Ocean Avenues to South Beach. The

romantic era estates would not survive federal redevelopment of the lands; however, the trolley line, a popular public recreational route with a stop approximately 650 feet from the overlook above Battery Weed, would continue to run its route until 1934 (Figure 1.49).

Prior to the America's formal entrance into World War I in 1917, the garrison of military troops at Fort Wadsworth increased to 1,400 men, and remained at close to that number until 1918. With the expansion of the military reservation in support of United States military coastal defense, and an ever-increasing recreational visitation by the public, two contrasting cultural perspectives lent very different layers of meaning to the landscape at the Narrows of New York Bay. It was a landscape of defensive preparedness in the national interest, and it was simultaneously a landscape of refreshment, relaxation, and extraordinary beauty. At the end of World War I, the military garrison at Fort Wadsworth diminished dramatically. In 1927 only fourteen enlisted men resided on post.

RECREATION AND FORT WADSWORTH

During the late nineteenth and early twentieth centuries, recreational land use had become increasingly important on Staten Island including the federal lands at Fort Wadsworth.¹⁰ The proximity of Fort Wadsworth to Manhattan, along with the availability of good public transportation, meant that life at Fort Wadsworth had its advantages. Hotels and theaters were easily accessible as were markets and an ever-increasing variety of shopping opportunities. A variety of recreational opportunities were available in the neighborhood of Fort Wadsworth as well. Tennis courts were laid out on the parade grounds in the quadrangle of Fort Tompkins.¹¹ A nearby country club offered a golf course, and officers at the post were usually invited to become members. Fishing was reportedly fair, and Staten

Island's excellent roads provided "splendid opportunities for owners of automobiles."¹² The single-car South Beach Trolley Line provided a stop at Fort Wadsworth, by this time well known for scenic views from above Battery Weed (Figure 1.50). Visitors traveled the popular route by way of a trolley car named "Fort Wadsworth" (Figure 1.51).

THE BATTERY WEED LANDSCAPE

The waterfront landscape continued to offer a park-like atmosphere to visitors with spectacular views of the bay from the grassy slope above Battery Weed (Figure 1.52) By the 1880s the fort, with few federal appropriations available was largely neglected by the military and was considered a suitable place for storage. Munitions removed from Ellis Island in 1890 were stored in Battery Weed. In addition, mines, submarine nets and accessories of the Third Naval District, and miscellaneous stores of Army Corps of Engineers and the Lighthouse Division of the Treasury Department, were stored among the casemates on all three tiers of Battery Weed (Figure 1.53).

The Endicott era in coastal defenses, c.1886-1917, brought a shift in emphasis to weaponry over fortifications. This shift resulted in substantial changes to the landscape of Battery Weed. Post-Civil War development of new technologies and systems of defense, made necessary the implementation of new and improved designs for gun batteries, facilities in support of mine vessels, and the handling of underwater mines. Resulting changes to the landscape included the addition of new ground-level concrete and earth batteries, storage buildings, roads, and mine railways, all associated features of a new system of submarine mine defense.

The North and South Cliff batteries were completely reconstructed and the new, and now separate batteries, were renamed including Battery Bacon, constructed in 1898 immediately to the south of the present Battery Weed, and Battery Catlin, completed c.1902-1904, to the northwest. Materials from the site, including old masonry, were used in the construction of these new batteries. Sand was excavated from the beaches for the enormous quantities of cement needed for the parapets (Figure 1.54). Reconstruction of the Battery Bacon and Battery Catlin required reinforced concrete structures and expanded earthworks above the shoreline, and earth was moved from other locations on site. A system of trolleys, light inclined trestles, steam hoisting engines, and mixers were moved about the site as work in different locations progressed.¹³

The barbette tier of the fort, an earthen roof planted with grasses was carefully maintained and neatly groomed with the grasses kept short to allow clear access in the operation of weaponry. The barbette tier of Battery Weed in c.1890 had emplacements with guns mounted and rammers, used to load munitions into the guns, on the lawn beside them (Figure 1.55). The new technologies and systems developed throughout the site, beginning late in the nineteenth century, required the careful maintenance of grass and vegetation to retain effective camouflage of ground batteries and clear sight lines between the fire control facilities and the water passage, as well as easy access to the artillery. The result of these requirements was a carefully graded and neatly clipped landscape surrounding Battery Weed (Figure 1.56).

MINE DEFENSE COMPLEX: BUILDINGS, BATTERIES, AND MINE RAILWAY

Plans for retrofitting Battery Weed as the center of Fort Wadsworth's mine defense system began early in the Endicott Era in 1887. In that year, the first alteration to Battery Weed related to the new Mine Defense Complex was made when the Army Corps of Engineers converted the northwest bastion of the fort into a mine casemate, which contained the switchboard used to control the firing of the mines. A large cable conduit ran from the casemate through the seawall and into the waters of the Narrows to the east and northeast. The firing of mines was controlled from the casemate, and the electrical signals used to detonate the mines were sent by way of the subsurface cable to the mine. A solid concrete addition was added to the northwest bastion of the fort that was intended to protect the control center from enemy fire (Figures 1.57 and 1.58).

Mines used in the new underwater system of defense were not permanently planted in the waters, but stored, along with miles of cables, in waterside facilities where they could be quickly deployed when needed. The physical facilities that were developed throughout the Battery Weed site in support of the new system for underwater mine defense, included newly designed ground-level batteries, wood dock extensions, Mine Casemate, and mine and cable storage buildings.¹⁴

The first freestanding structure of the Mine Defense Complex was the Torpedo Storage Building located to the west of Battery Weed at the base of the slope, constructed c.1894. The location of the long storage building near the wharf at the waters edge was important for the ease of transfer of mines, cables, anchors, and other mine system equipment.

When the mine casemate located in the northwest bastion of Battery Weed began to suffer the effects of excessive moisture, a new mine casemate was constructed of masonry and earth on higher ground of Battery Catlin above the North Stone Dock area in c.1905. The new casemate housed the mine firing controls or operating plant.¹⁵ In 1907 a 24 inch cable conduit was laid from the new mine casemate, 130 feet down the slope through the seawall into the Narrows.¹⁶

Many structures supporting the new mine defense system were built on the site surrounding Battery Weed during the years near the turn of the century. The arrangement of these structures was intended to allow the fewest number of men to deliver the mines to the vessels that would deploy them across the bay in the shortest time possible. A steel mine railway was designed to allow specially designed cars to carry mine cases from the Torpedo Storage Building, through the loading and assembly rooms, directly to the North Stone Dock where a crane was used to transfer the mines from the cars to awaiting mine planting vessels. Cables and anchors were also moved along the Mine Railway to the stern of the planter at the North Stone Dock. A return rail track brought cars back to the front end of the Torpedo Storage Building for another load.¹⁷

Six cable tanks, small concrete and wood buildings were constructed at the site of Battery Weed in support of the Endicott system of mine defense. In 1898, Cable Tank Building 1 was constructed across from the Torpedo Storage Building and was enlarged in 1899 to include Cable Tank Building 2. The cable tanks were often divided into three separate segments to hold the cable reels. They typically faced out onto an open area located not far

from the North Stone Dock to store the heavy cable. Anchors were stored on the edge of an associated platform for easy loading.¹⁸

By 1901 the Mine Defense Complex consisted of a stone and brick torpedo storage building, two cable tanks, and a mine casemate in the northwest bastion of Battery Weed. Sometime between 1901 and 1904, a third and separate cable tank was constructed between the first two cable tanks and the west side of Battery Weed (Figure 1.59). A torpedo loading room and testing room, probably of wood, were built in 1904 just outside the west curtain wall of Battery Weed (Figure 1.60). In 1905, cable tank buildings 4, 5, and 6 were added in a single long structure along the outside of the same wall of the fort (Figure 1.61).

The Mine Railway, originally constructed in 1896 that ran between the Torpedo Storage Building and the North Stone Dock soon proved to be insufficient in design (Figure 1.62). The rails with iron ties, had been laid on uneven and improperly prepared ground with little or no ballast to prevent heavy transport cars from overturning. In 1910 the rails were realigned correcting one of the sharp curves. In 1920 a concrete testing tank, or turntable was installed just outside the long cable tank building to handle the cable reels. By 1921, the increasing weight of the larger mines being deployed necessitated further adjustments to the tracks. The second realignment, in 1921, was designed to straighten out more sharp curves and to prevent trucks on their way to and from the wharf from crossing the rails (Figure 1.63).¹⁹

In 1902, a lighthouse, a combined light and signal station, was constructed on the northeast bastion of the barbette tier of Battery Weed. The combined light and signal station included a light tower, bell frame and bell, and a watch room. The Treasury

Department had originally recommended moving the old Fort Wadsworth Lighthouse from its location behind Battery Hudson to the barbette tier of Battery Weed in 1892. The move referred to a new position for the aid to navigation, not an actual move of the lighthouse structure, and would not take place until circa 1902 (Figure 1.64). Between 1892 and 1902, a fog signal was erected on the northeast angle of the seawall near Battery Weed.

As technologies evolved and the Mine Defense Complex developed, requiring space on site for additional buildings and structures, the water-filled moat on the west side of Battery Weed was no longer needed. Existing maps and photographs showing the development of the Mine Defense Complex suggest that the filling in of the moat probably occurred in c.1904. Innovations in illumination and communications technologies were being developed rapidly and, together with new munitions handling systems were deployed throughout site by the Coast Artillery Corps (C.A.C.), a professional service of the Army.²⁰ Sometime after 1904, and just prior to the outbreak of World War I, a 36-inch searchlight was installed on the barbette of the southeast bastion, and was used to help identify passing vessels by illuminating the Narrows at night.²¹ During World War I, advances in ship's gun ranges reduced the effectiveness of the mine defense command, and the defensive system faded in importance.

In 1924, with the exception of one or two very small trees a few trees or large shrubs on the slope and batteries, a few trees near the shore just to the south, and a couple of larger trees near the southwest corner of Battery Weed, the landscape surrounding Battery Weed was kept trim with the grasses on the slope and batteries mowed. A series of paths ran diagonally across the slope to Battery Weed Road. The landscape included the earthworks

of Battery Catlin, with a brick mine casemate, Battery Bacon, and two Coincidence Range-Finder Stations near the base of the slope (Figure 1.65).

EXTENSION OF THE WHARF AND WATERFRONT FACILITIES

The waterfront facilities at Battery Weed were further developed in support of the new Endicott mine system. In 1890, the cut stone wharf was 38 feet wide and 81 feet long, and supported by cut-stone piers. It had long served the purpose of receiving deliveries to the post through the Quartermaster's office located there. The wharf was situated in shallow water and only accommodated one vessel at a time preventing the timely landing of an increasing number of important delivery boats. The primary purpose of the wharf at the turn of the twentieth century, in addition to the receipt of materials and supplies, was the transfer of submarine cables and mines between the on-shore storage facilities and vessels used as mine planters. A wooden extension was added to the North Stone Dock sometime after 1907 (Figure 1.66). In 1913 the new wooden extension along with the interior of the North Stone Dock was damaged severely by a collision of the Old Dominion Line steamer Hamilton with the North Stone Dock. In the intervening years between World War I and World War II, the North Stone Dock reverted to its earlier function as the Quartermaster's Wharf, and a skeleton detachment of troops kept the mine complex in readiness.

By the end of the period, in 1945, the landscape of Battery Weed had seen extensive and complex development, featuring a number of additional structures and systems that significantly altered the spatial organization of the site from the base of the slope to the end of the North Stone Dock at the waterfront. Vegetation on the site, for the most part kept trim and neat, continued to be managed with the objective of providing camouflage of the ground batteries as well as clear sightlines to the Narrows (Figure 1.67).

ENDNOTES

¹ Henry G. Steinmeyer. 1987. *Staten Island 1524 – 1898* (Richmondton, NY: Staten Island Historical Society), 93-95.

² Edna Holden. 1964. Principle Researcher, *Staten Island, A Resource Manual for School and Community* (New York, NY: Board of Education of the City of New York, Bureau of Curriculum Research), 66.

³ Holden, 180, 181.

⁴ Holden, 216.

⁵ Holden, 215.

⁶ Holden, 177.

⁷ Ingrid Wuebber and Edward M. Morin, URS Corporation, “Phase 1A Archeological Investigation Rehabilitate Battery Weed Seawall and Dock Fort Wadsworth Unit, Gateway National Recreation Area Staten Island, New York” (Unpublished report prepared for the National Park Service, 2006), 3.22.

⁸ Wuebber, 3.42.

⁹ Robert Krist, *Fort Wadsworth*, Part II, Volume XVIII, Number 4, October-December 1957, *Staten Island Historian* (Staten Island Historical Society, edited for *Guardian of the Narrows A History of Fort Wadsworth*, Eastern National, 2004), 18, 19.

¹⁰ Steinmeyer, 97.

¹¹ Holden, 109.

¹² Frederick R. Black, *A History of Fort Wadsworth, New York Harbor* (Boston, Massachusetts: U.S. Department of the Interior National Park Service North Atlantic Regional Office, Cultural Resources Management Study N0.7, 1983), 128, 129.

¹³ Black, 114.

¹⁴ Black, 105.

¹⁵ Black, 125.

¹⁶ Wuebber, 3.28.

¹⁷ Wuebber, 3.23.

¹⁸ Wuebber, 3.24.

¹⁹ Wuebber, 3.35.

²⁰ Wuebber, 3.21.

²¹ Black, 124.

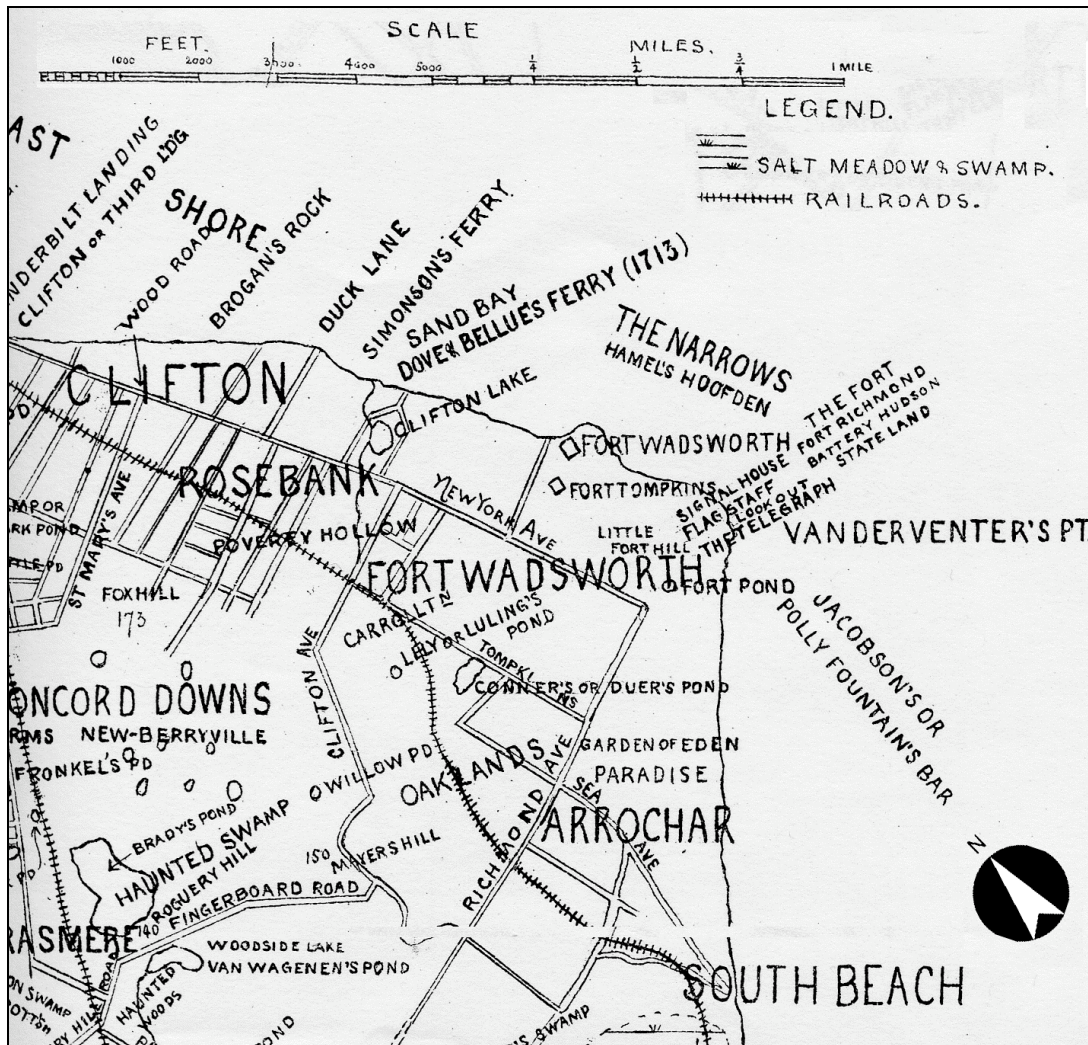


Figure 1.44: A map indicating the location of Fort Wadsworth and Fort Tompkins in relation to Van Deventer's Point, 1896. By Charles W. Leng, and William T. Davis, Staten Island Institute of Arts & Sciences, 1895.

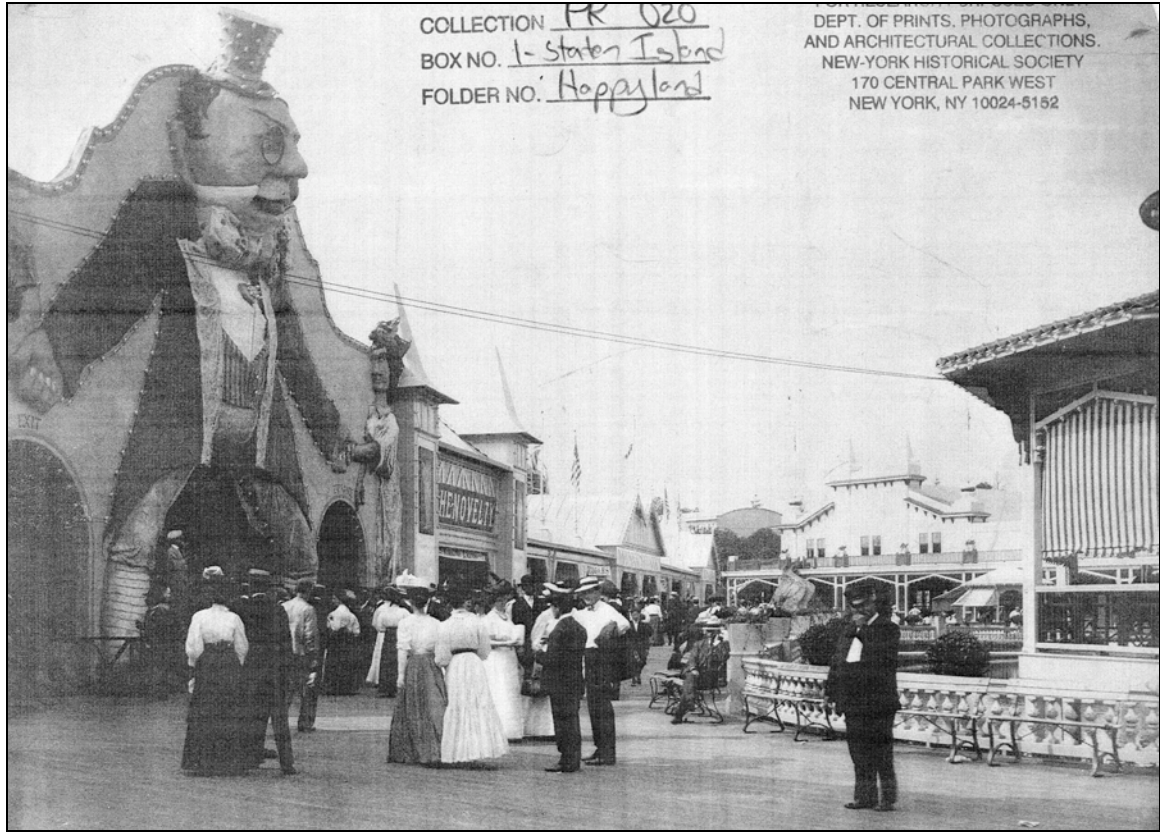


Figure 1.45: Photograph of Happy Land Park, c.1906. New York Historical Society Department of Prints, Photographs and Architectural Collection, PR 020, Box No. 1-Staten Island, Folder No. Happyland, c.1906.

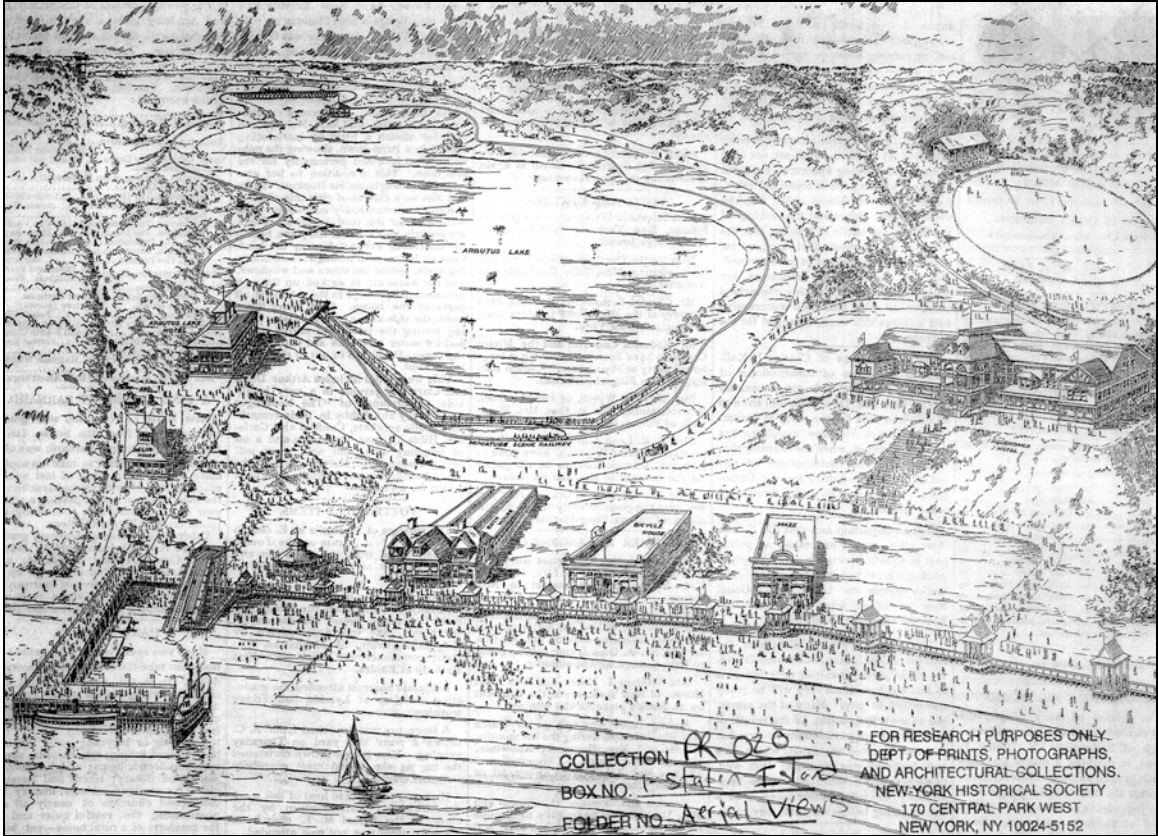


Figure 1.46: Drawing from a bird's-eye view of the June 1899 opening of South Beach resort, 1899. New York Historical Society Department of Prints, Photographs and Architectural Collection, PR 020, Box No. 1-Statens Id, Folder No. Aerial Views, 1899.



Figure 1.47: An aerial photograph taken from above the Narrows looking northwest over the Fort Wadsworth reservation, 1923. In this image the vegetation is groomed carefully and paths cross the slope diagonally. GNRA Archives Photograph Collection, GATE 19397, 1923.

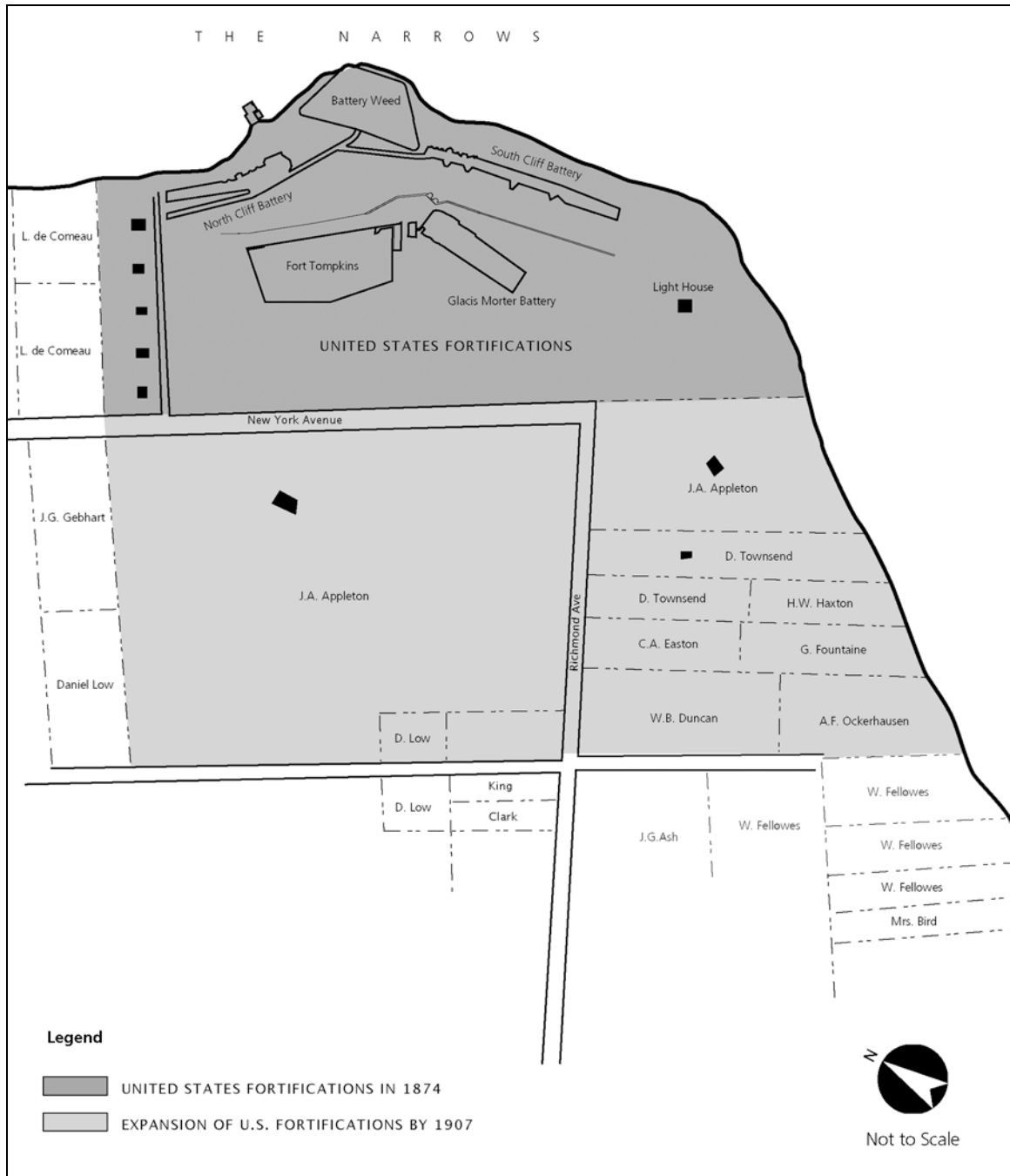


Figure 1.48: Map showing the expansion of the Fort Wadsworth reservation between 1874 and 1907. SUNY ESF, 2007.

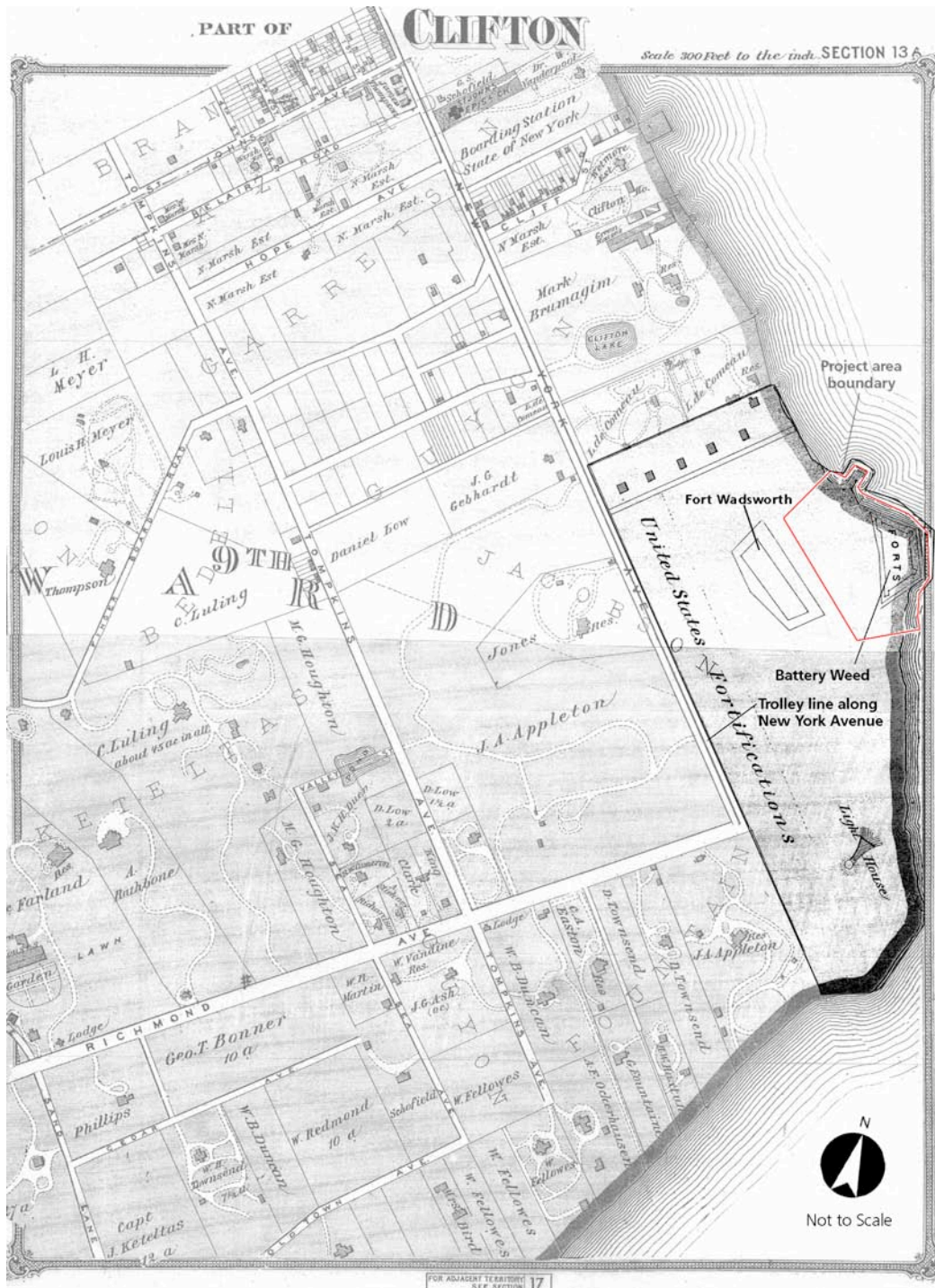


Figure 1.49: Atlas Map showing the context of Battery Weed and Fort Wadsworth prior to the Federal Government purchase of land along Richmond Avenue. Staten Island Institute of Arts & Sciences, 1874 Atlas, annotated by SUNY ESF.

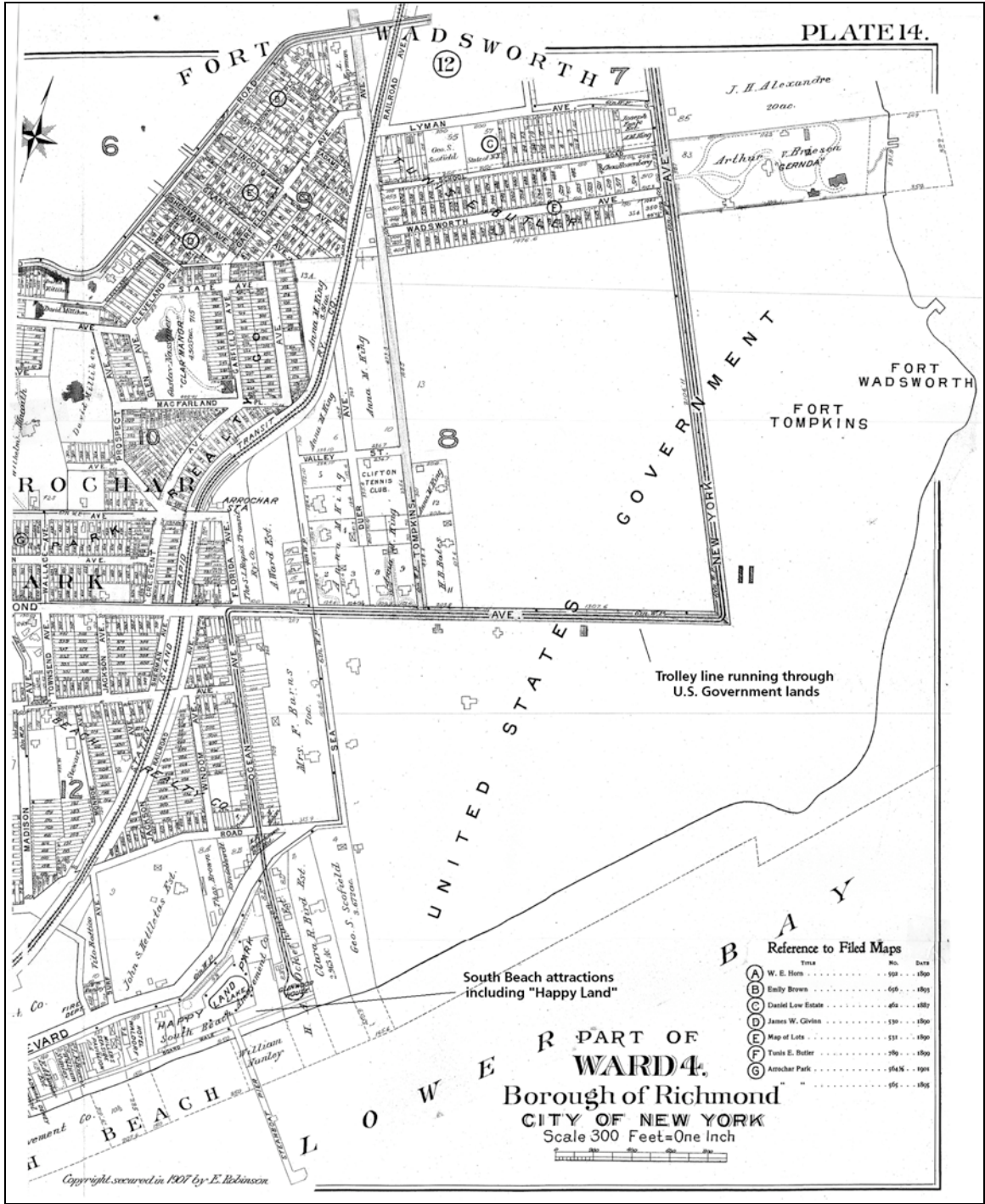


Figure 1.50: Map titled Part of Ward 4 Borough of Richmond, City of New York showing the extension of the trolley line along Richmond Avenue and south to the shore, and the pier where a ferry landed at South Beach., 1907. Staten Island Institute of Arts & Sciences, 1907 Atlas, annotated by SUNY ESF.

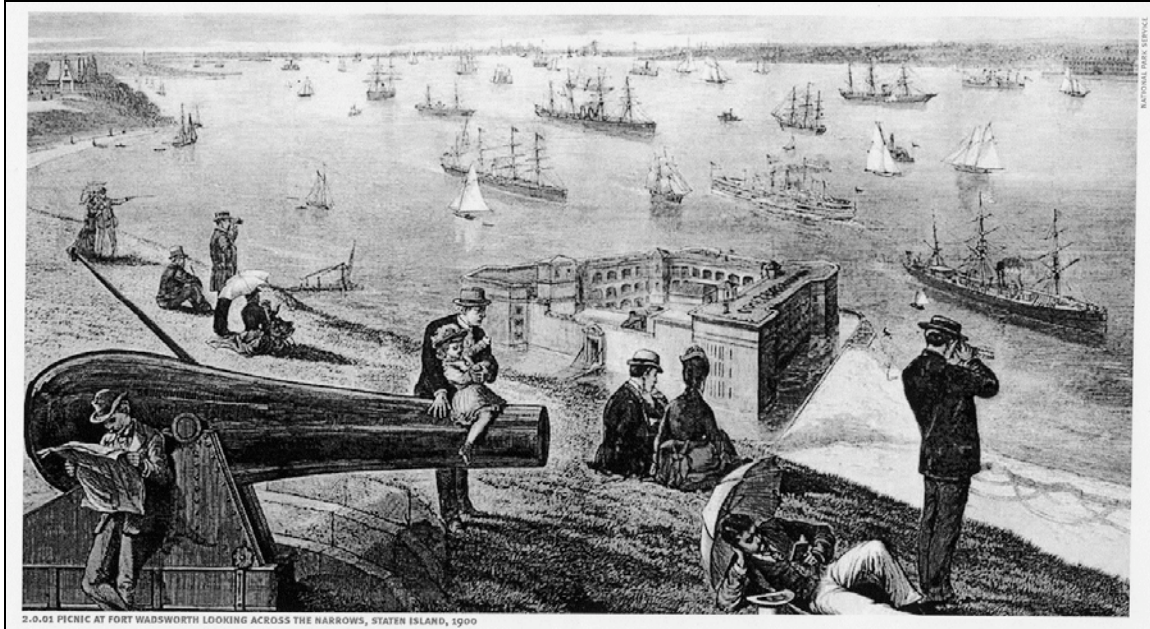


Figure 1.51: Drawing looking northeast from the top of the slope above Battery Weed showing the graded, sloping lawn, wide-open spatial character, and the spectacle of activities on the bay beyond Battery Weed, 1900. Gateway National Recreation Area Archives, 19650, 1900.

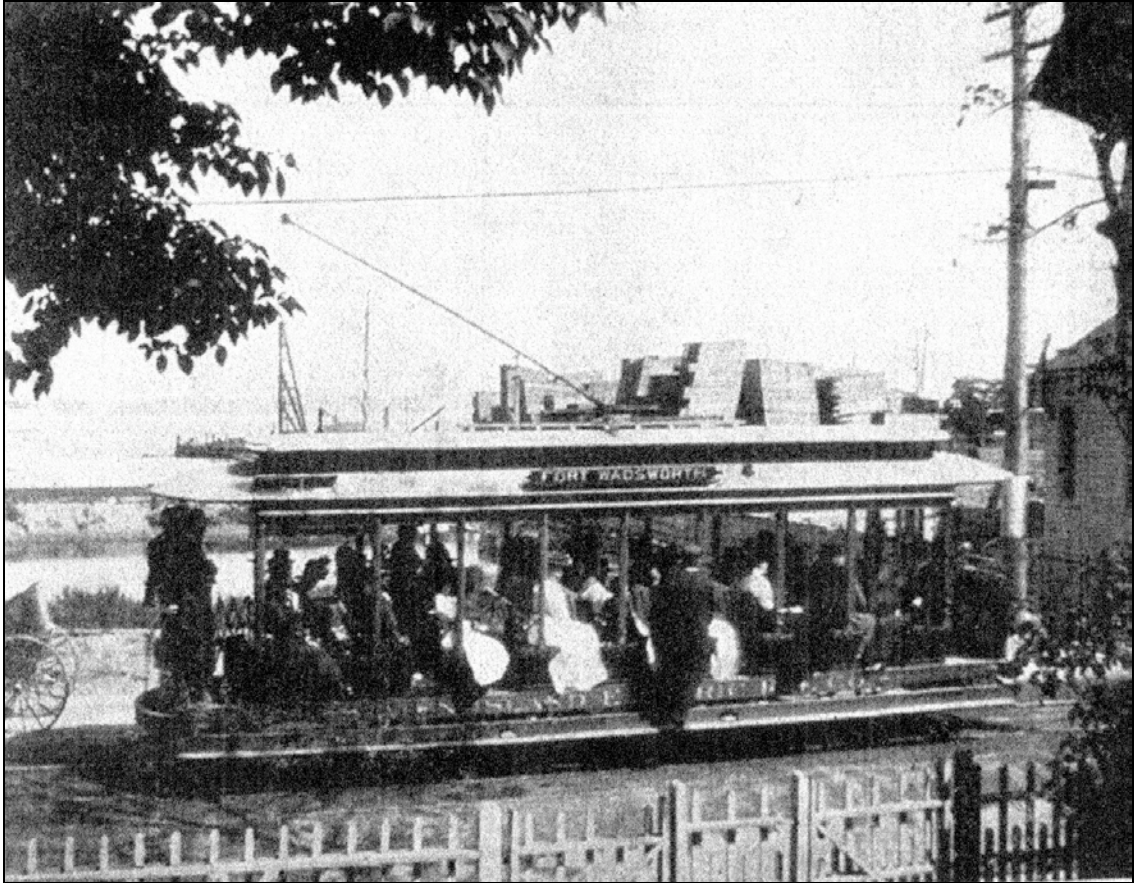


Figure 1.52: Photograph of an early trolley car named "Fort Wadsworth" on its way to South Beach, c.1907. Photo by August Loeffler, *Staten Island and It's People, A History, 1609 – 1929*, by Charles Leng and William T. Davis, Lewis Historical Publishing Company, New York, 1929 – 1933.

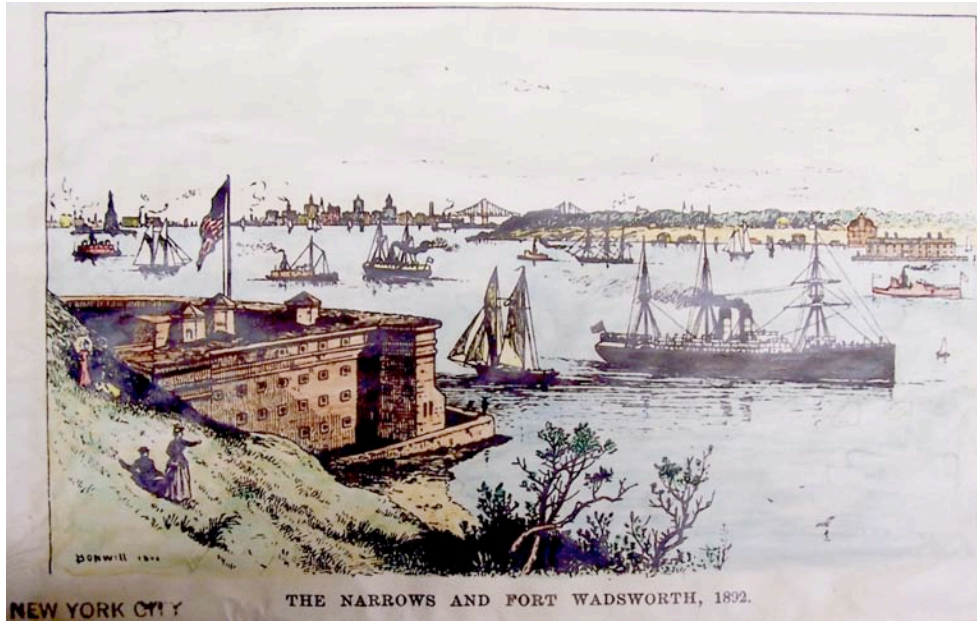


Figure 1.53: Colored etching titled “The Narrows and Fort Wadsworth,” depicting the view from the slope toward Manhattan and the park-like atmosphere of the Battery Weed landscape, Gonwill, 1892. Museum of Harbor Defense, Fort Hamilton, New York, 2007.

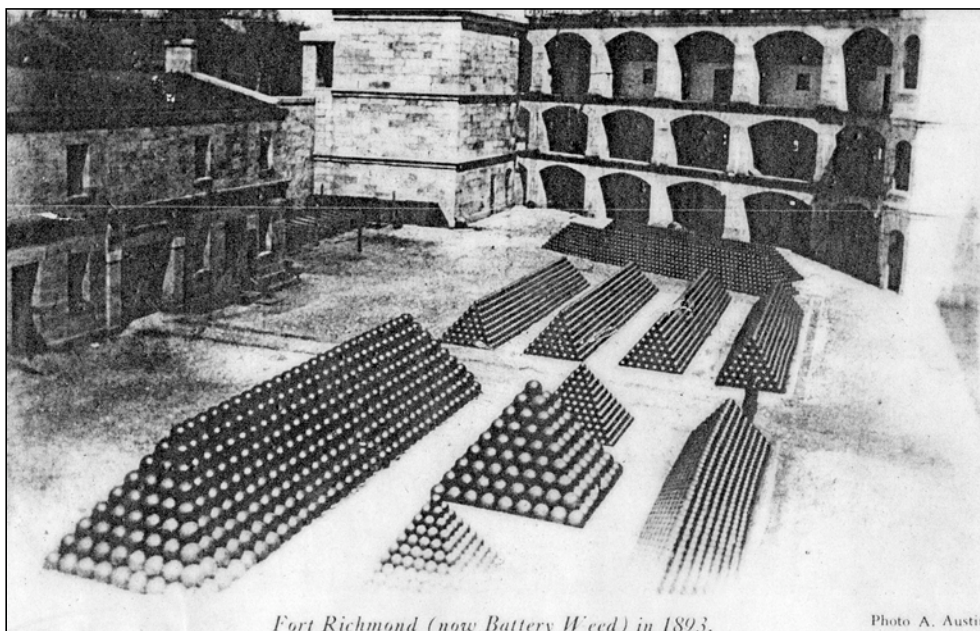


Figure 1.54: Photograph of munitions storage in the Parade Ground of Battery Weed, Photo taken by Alice Austin, 1893. Gateway National Recreation Area Archives, 2006.

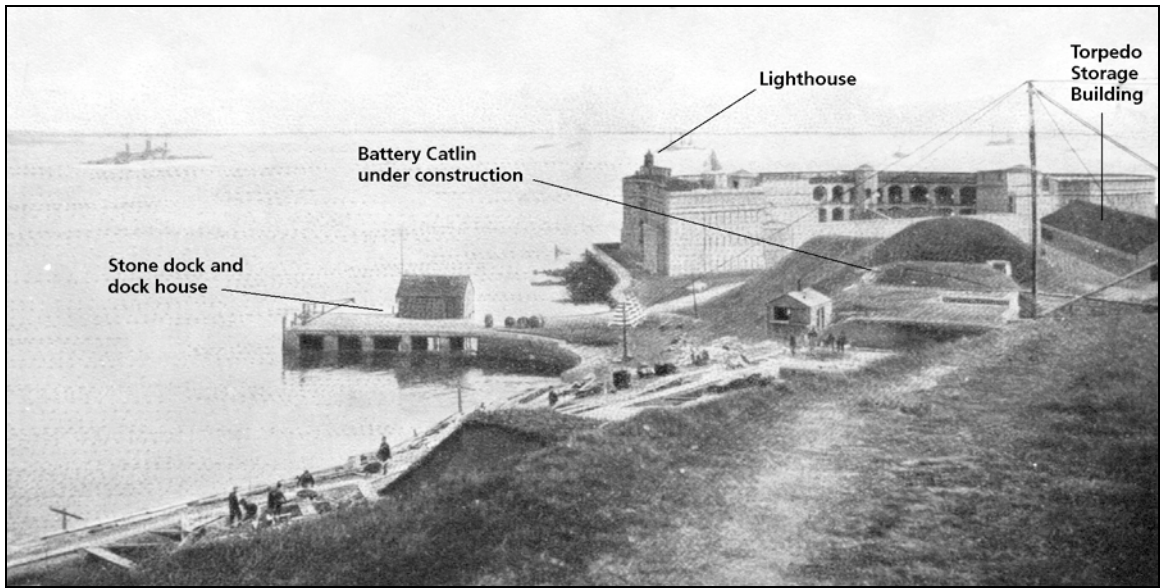


Figure 1.55: Image looking southeast toward Battery Weed showing Battery Catlin and the Mine Casemate under construction, including large earth mounds and concrete platforms, c.1905. Gateway National Recreation Area Archives, 19362, annotated by SUNY ESF.

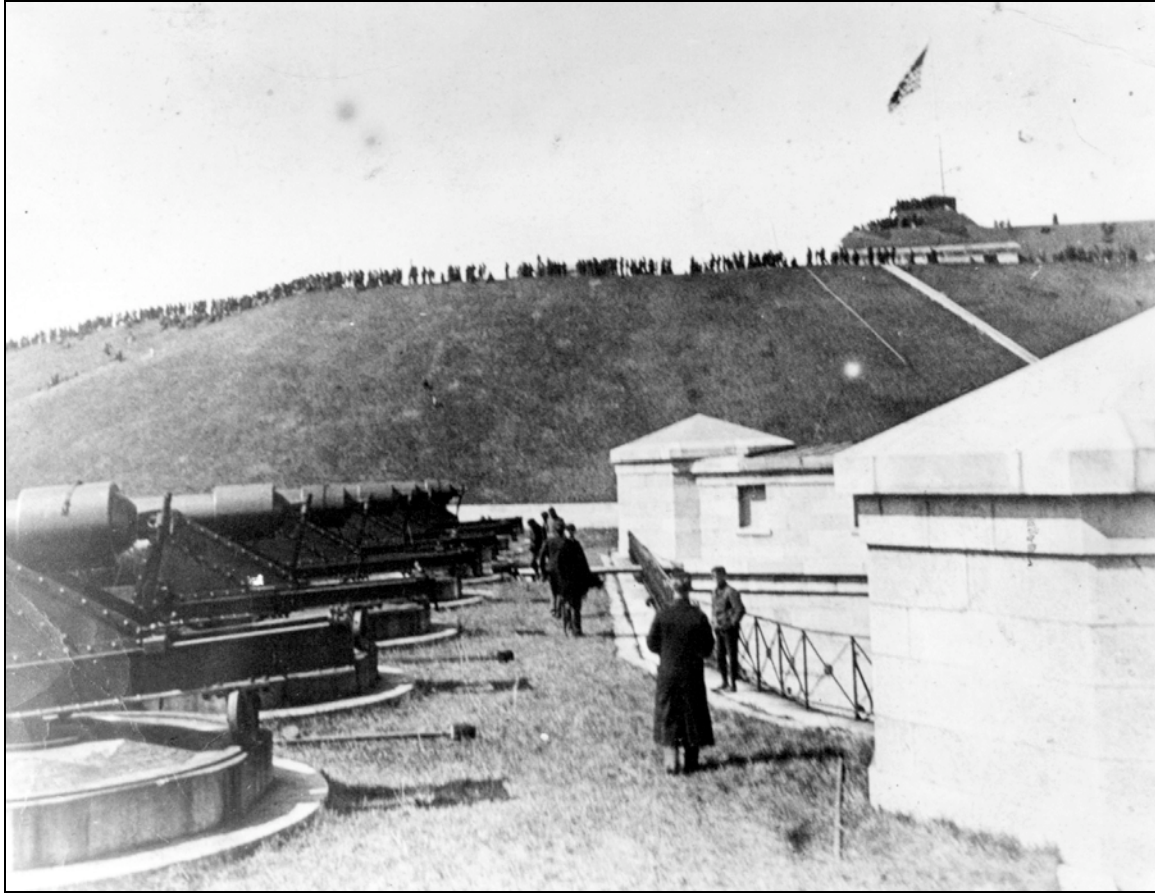


Figure 1.56: A photograph looking west toward Fort Tompkins from the barbette tier of Battery Weed with gun emplacements with guns mounted and rammers, used to load munitions into the guns, c.1890. Gateway National Recreation Area Archives Photographic Collection, c.1890.

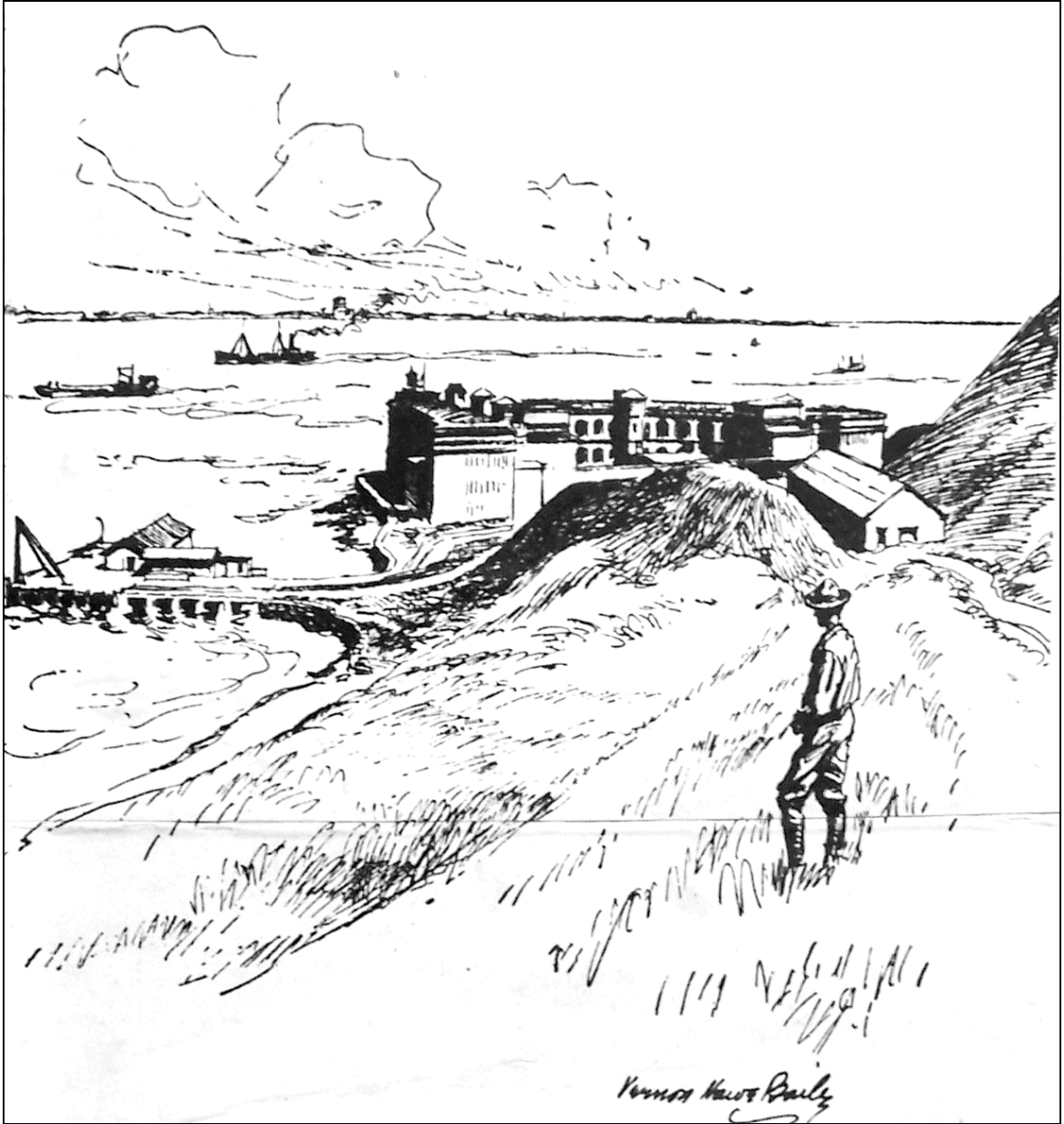


Figure 1.57: Sketch looking east from Battery Weed Road toward Battery Weed, the North Stone Dock, and the Narrows by Vernon Howe Bailey, c.post-1903. Museum of Harbor Defense, Fort Hamilton, New York, 2007.

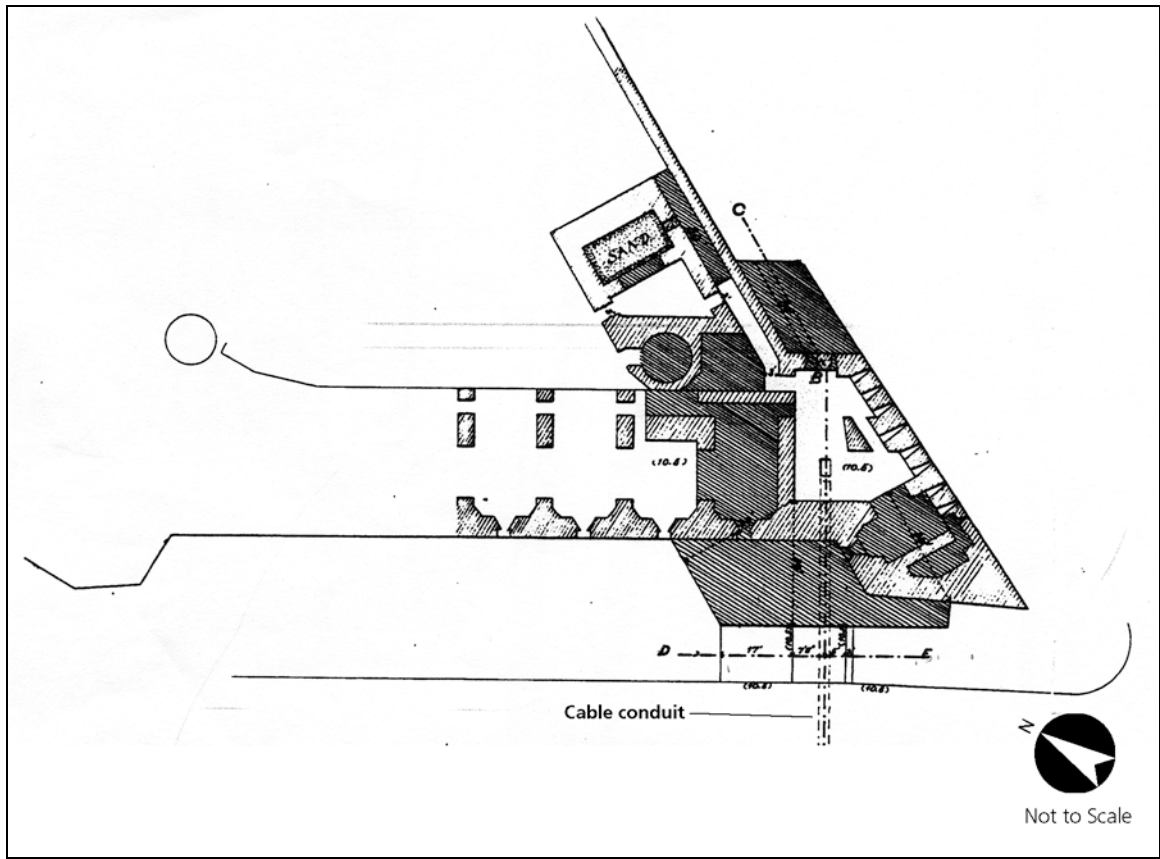


Figure 1.58: Detail of plan showing the new Mine Casemate located at the northwest bastion of Battery Weed, 1887. National Archives Cartographic Division RG 77, Dr 36, Sht. 100-5, 1887, annotated by SUNY ESF.

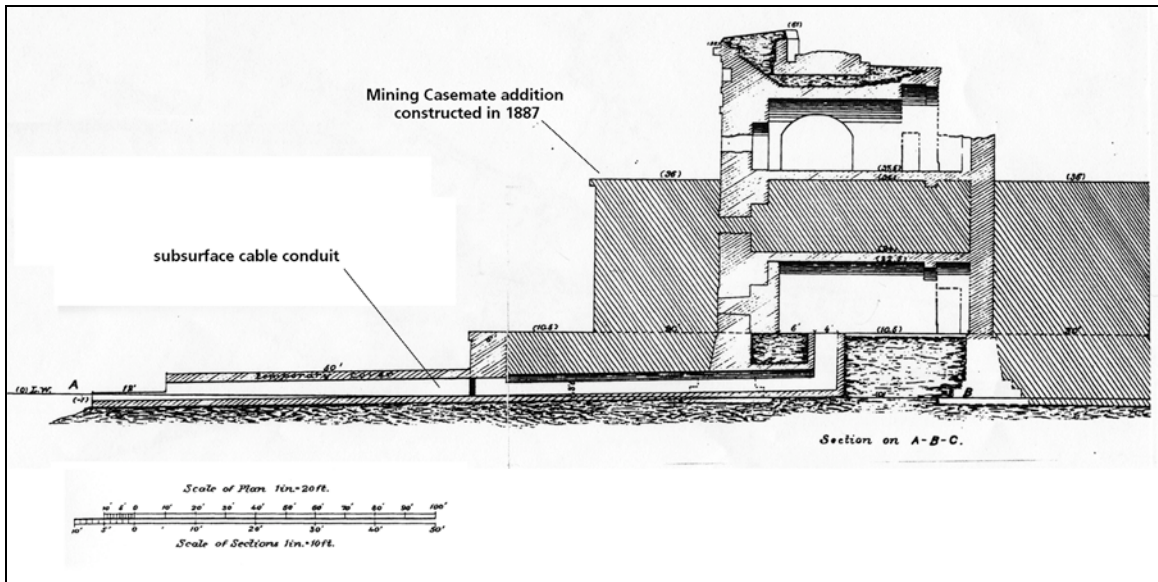


Figure 1.59: Section drawing looking north/northeast showing the northwest bastion of Battery Weed, 1887. The hatched area indicates a solid concrete addition to the northwest bastion intended to protect the control center from enemy fire. National Archives Cartographic Division RG 77, Dr 36, Sht. 100-5, 1887, annotated by SUNY ESF.

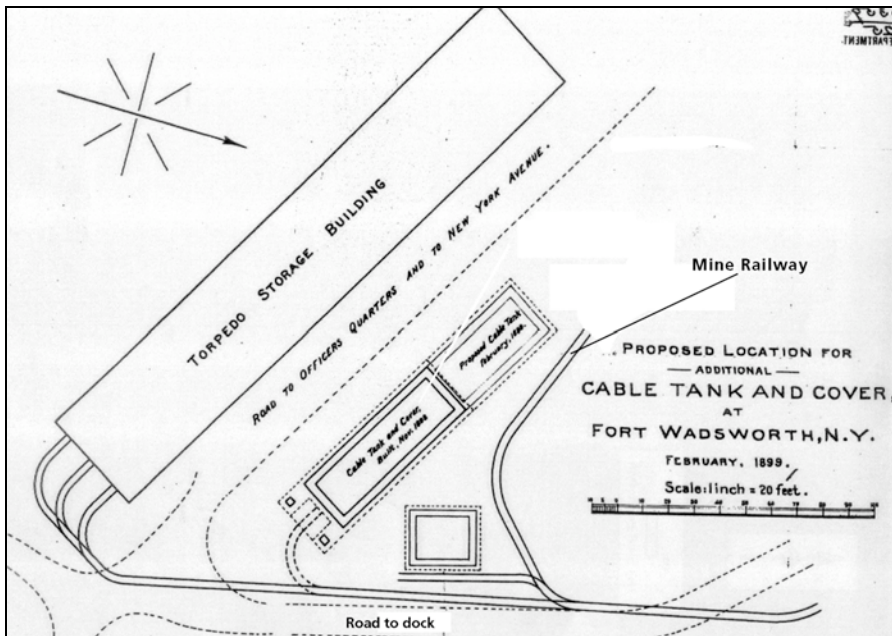


Figure 1.60: Sketch showing the Torpedo Storage Building (# 147), 1892. National Archives Cartographic Division RG 77, Dr 43, Sht. 90-10, annotated by SUNY ESF.

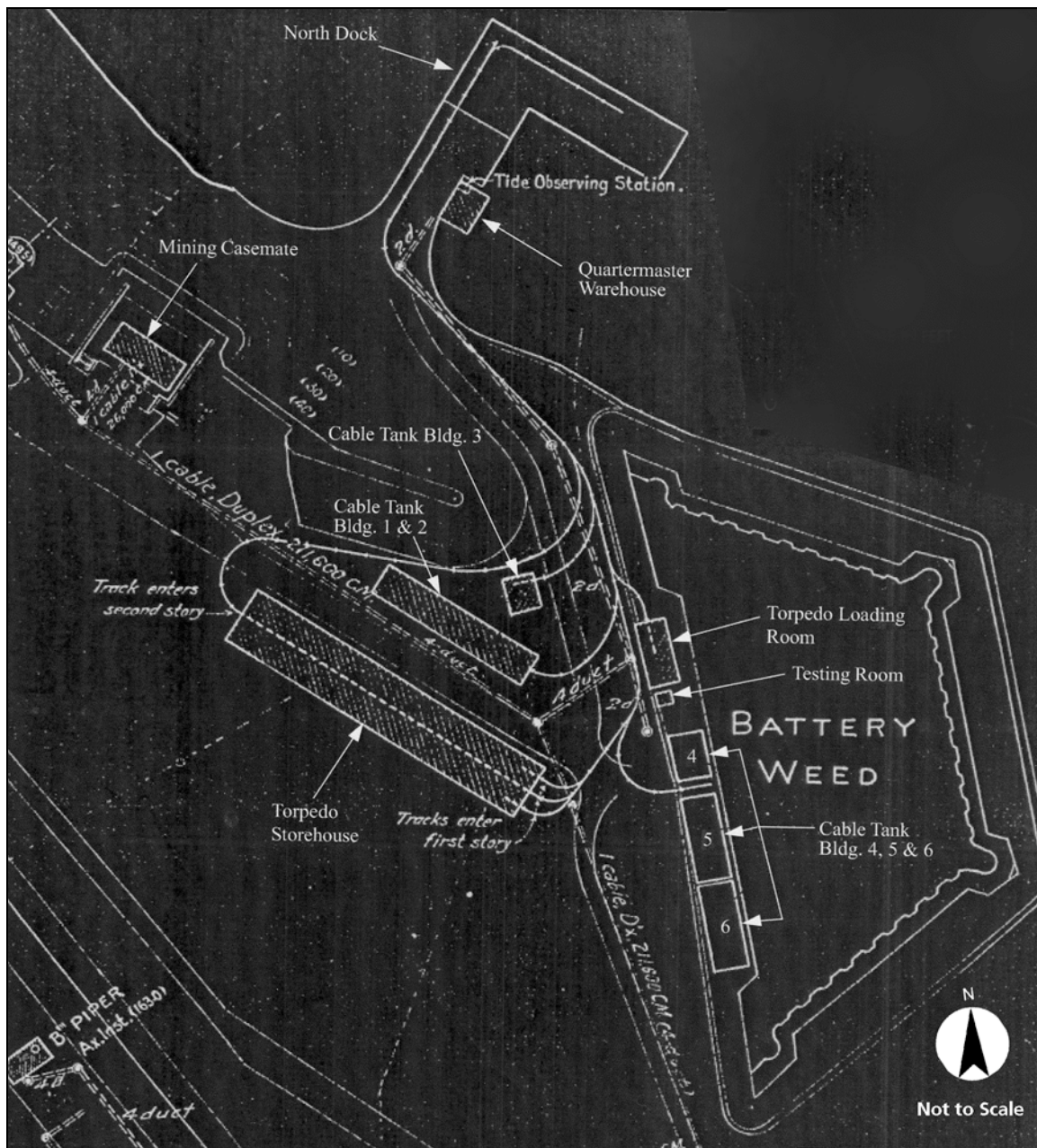


Figure 1.61: Sketch showing the Mine Defense Complex, 1907. National Archives Cartographic Division RG 77, Dr 43, Sht. 21-4, annotated by URS Corporation for the National Park Service, 2006, and SUNY ESF, 2007.

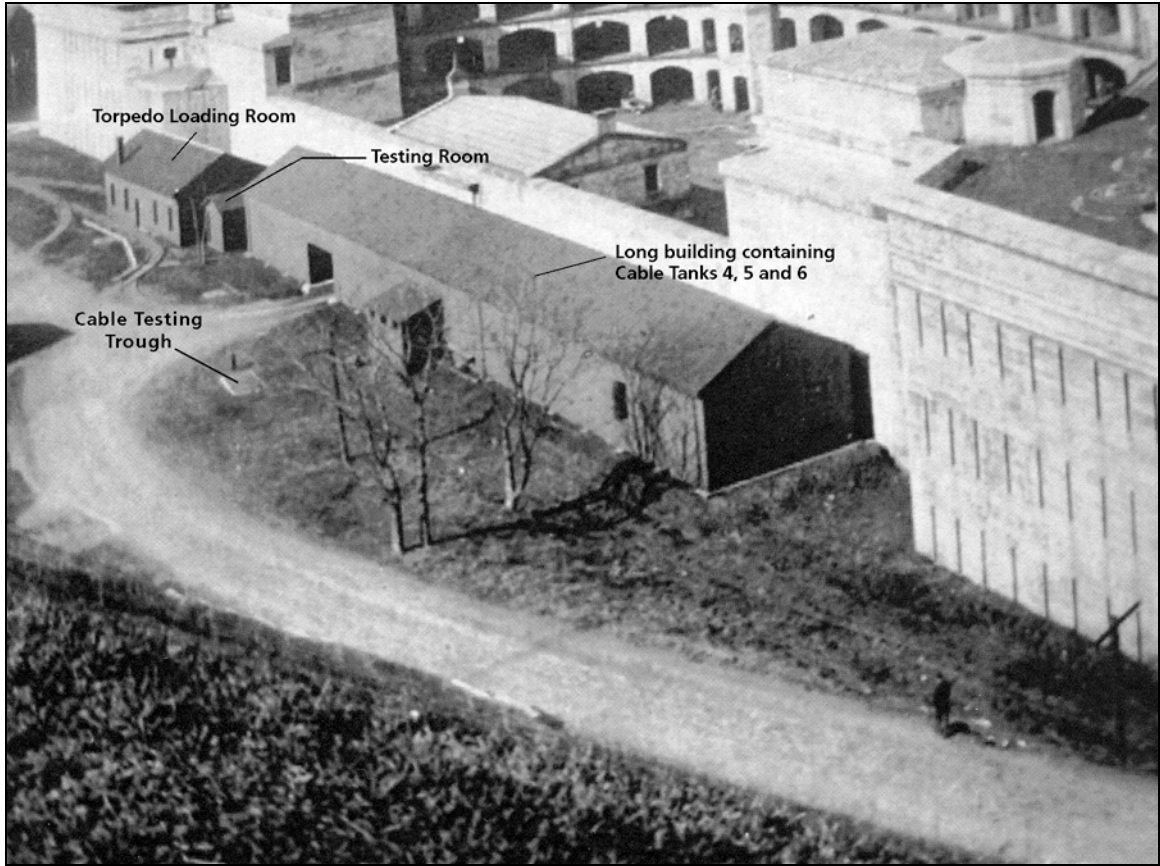


Figure 1.62: Photograph of the long building that housed Cable Tanks 4, 5, and 6, 1907. Annual Report of Construction and Repair, Entry 393, Historical Record of Buildings and Record of Equipment and Condition of Buildings at Active Army Posts, 1905-1942 [Box 269], Folder #7, 1907, annotated by SUNY ESF.

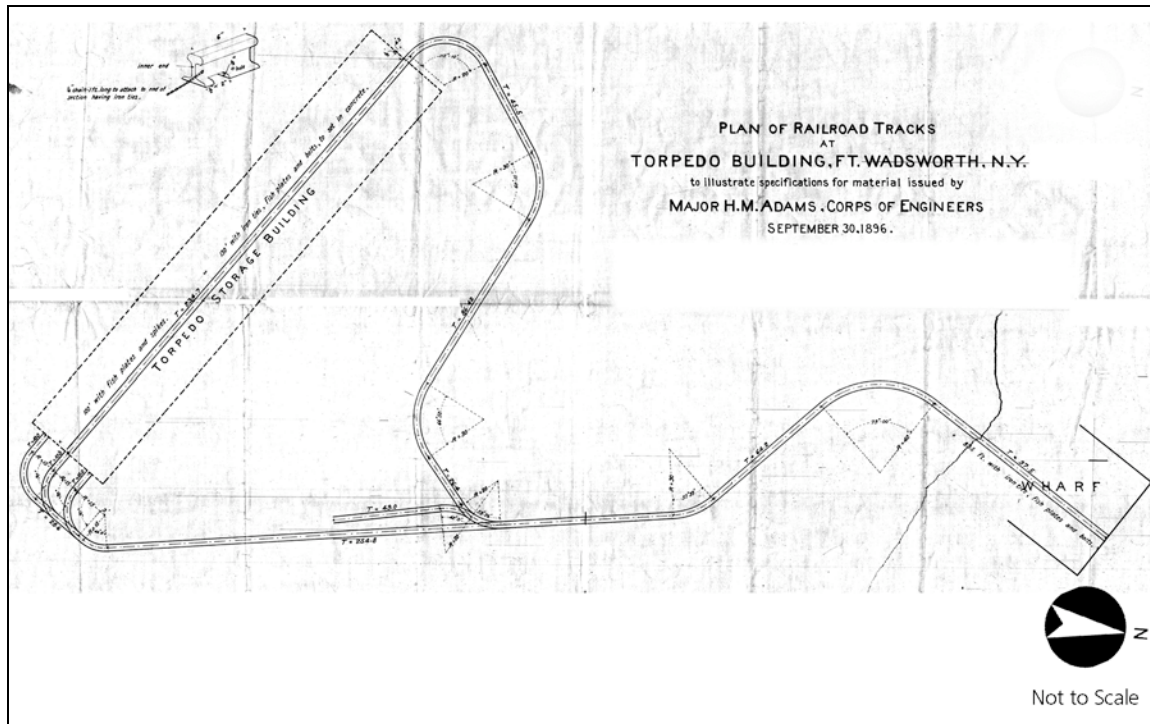


Figure 1.63: Plan showing the original location of the Mine Railway, constructed to move mines and cables between the Torpedo Storage Building and the North Stone Dock, 1896. National Archives Cartographic Division RG 77, Dr 43, Sht. 90-11, 1896, annotated by SUNY ESF, 2007.

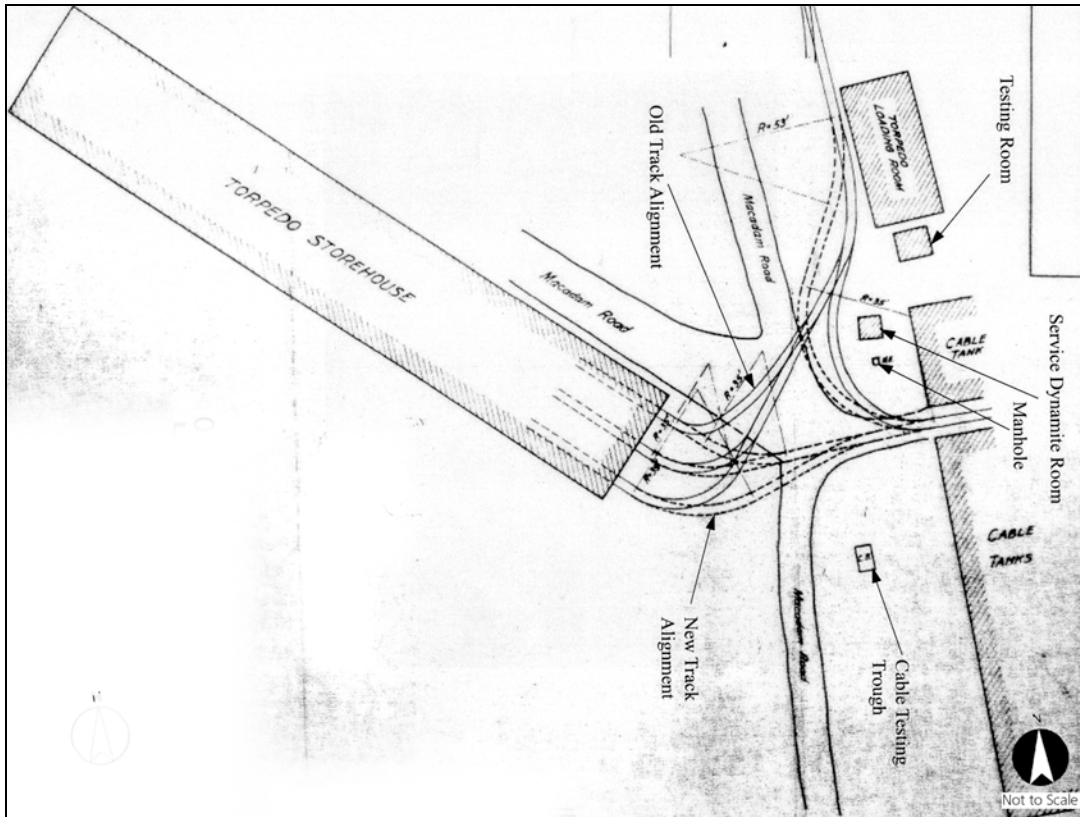


Figure 1.64: Sketch showing the 1910 (solid lines) and the existing 1921 (dashed lines) realignments of the Mine Railway between the Torpedo Storage Building (Torpedo Storehouse) and the North Stone Dock, c.1921. National Archives RG77, Records of the Office of the Chief of Engineers, Entry 802, File #2, Item #91.5, 1921, annotated by URS Corporation for the National Park Service, 2006, and SUNY ESF, 2007.

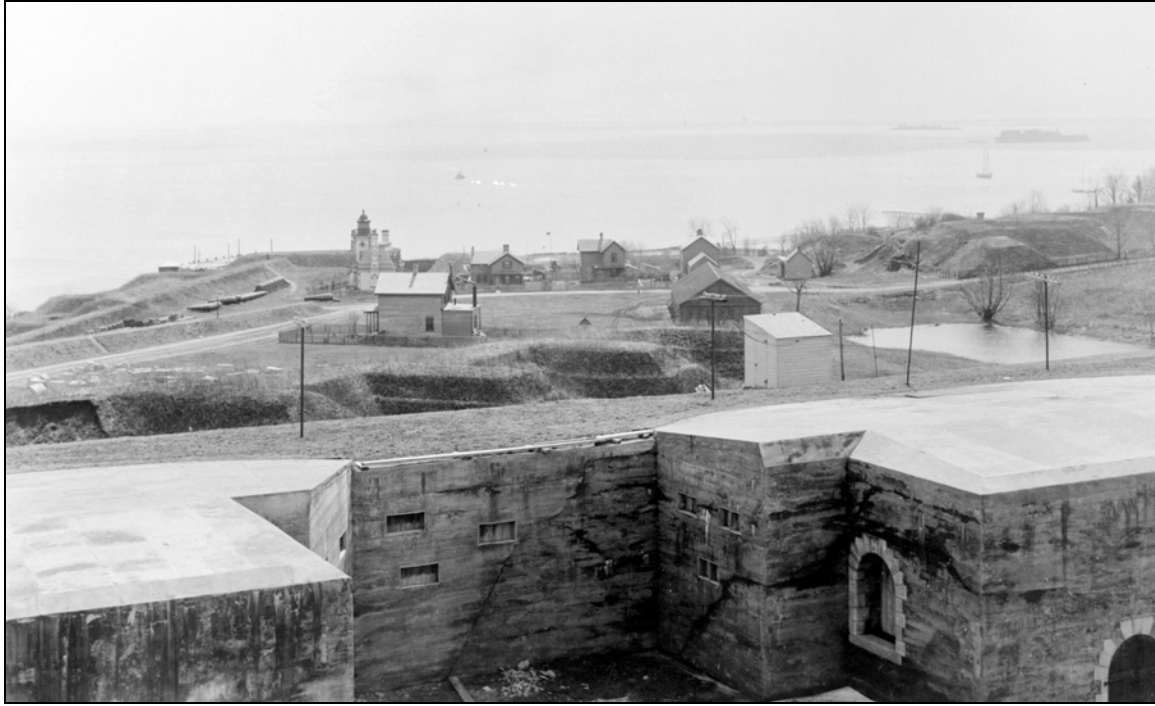


Figure 1.65: Photograph looking southeast from Fort Tompkins toward the Tompkins Lighthouse positioned behind Battery Hudson, c.1900. Gateway National Recreation Area Archives 092-f-72, c.1900.



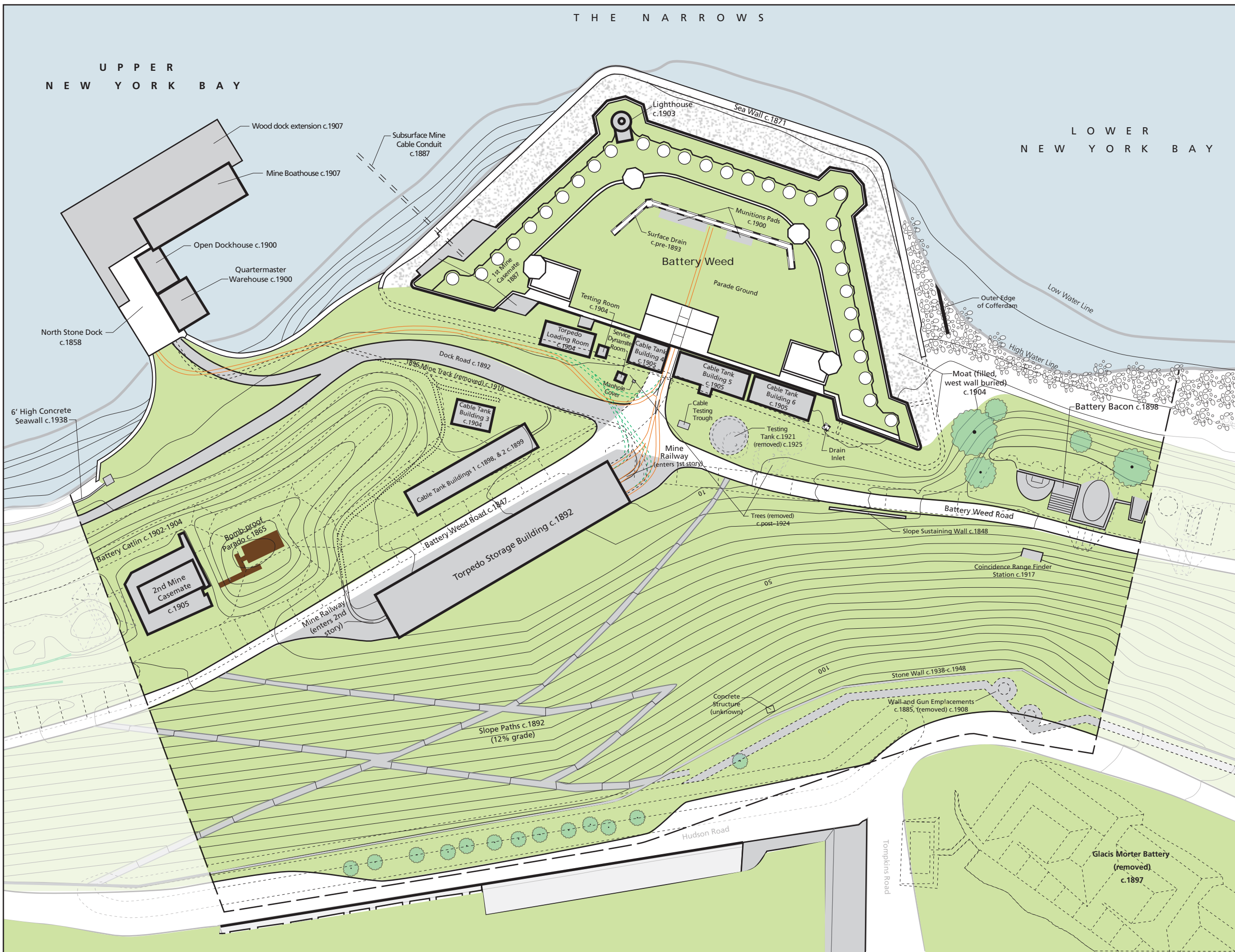
Figure 1.66: An aerial photograph taken from above the Narrows looking toward the west at Battery Weed and the slope above it, 1924. GNRA Archives Photo Collection, 1924, annotated by SUNY ESF, 2007.



Figure 1.67: Photograph showing the wooden extension and marine crane added to the North Stone Dock. c.1907. Gateway National Recreation Area Archives, Photo Collection, Print #19427, c.1907, annotated by SUNY ESF, 2007.



Figure 1.68: Satellite photograph showing Battery Weed at the water's edge, Fort Tompkins, the North Stone Dock with a barge on left, the Torpedo Storage Building and the footings under construction for the Verrazano-Narrows Bridge at lower right, 1940. Pier/Seawall Evaluation and Ferry Feasibility Study, Fort Wadsworth, Staten Island New York, prepared for the National Park Service, 1995, photograph by Aerial Viewpoint Houston, Texas.



Cultural Landscape Report

Battery Weed, Fort Wadsworth

Gateway National Recreation Area
Staten Island, NY

Endicott & World War I-II Era:
1887 - 1945



National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in cooperation with:
SUNY College of Environmental Science and Forestry
Syracuse, New York

SOURCES

1. Aerial Photography, 2007
2. Topographic Dwg. Long Slope, 1892
3. Proposed Relocation of Mine Track, 1921
4. Plan of R.R. Tracks at Mining Building, 1896

DRAWN BY

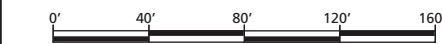
Jean B. Gleisner, Illustrator CS, 2008

LEGEND

- Wall
- Assumed Feature
- - - - - Removed During Period
- █ Added During Period
- █ Meadow
- 5' Contour
- Drainage Inlet
- █ Subsurface Structure/Foundation
- █ Existing Building
- Unpaved Road
- Paved Road
- Project Area
- 1910 Mine Track
- 1921 Mine Track
- █ Gravel
- Rocky Beach
- Deciduous Tree

NOTES

All vegetation shown in approximate scale and location.
Names indicated are those used during the period, when known.
Plan illustrates conditions in 1945.



1945–PRESENT: LATE MILITARY & NPS MANAGEMENT ERA

The ending of World War II, in 1945, was in some sense the closing chapter of the story of Battery Weed in the role of coastal defense. The birth of aerial warfare had launched a new era in military tactical technology. With the development of long-range missiles came changing requirements for the siting of artillery, and the three tiered granite casemated fort overlooking the Narrows of New York Bay would have little use in the new scheme.

THE FORT WADSWORTH LANDSCAPE

Fort Wadsworth remained in the role of an active military reservation following the war. During the last months of World War II, Fort Wadsworth was used by the Army as a Classification and Assignment Detachment, and served as a Separation Center where military service separations and replacements were processed as soldiers returned home from the war. The years 1946 through 1948, with the nation at peace, were quiet years at the post.¹ In 1948 a trailer camp was established at Fort Wadsworth to provide housing on post for 40 military families including those of the arriving Army Signal Service Units. The trailer camp, the first to be established in New York City, was unique in that city zoning prohibited them within the city limits, and the camp at Fort Wadsworth was only possible because of federal ownership of the property.²

With the eruption of the Korean War in 1950, Fort Wadsworth became host to New York National Guard Unit Antiaircraft Artillery Brigades and was used as a basic training station and antiaircraft defense site. An Army unit, the 52d Antiaircraft Artillery Brigade replaced the New York National Guard Unit at Fort Wadsworth in 1952, but the antiaircraft guns

were located in field positions off site in city dumps, vacant lots, farms and parks throughout the New York metropolitan area including New Jersey and Long Island.³ Fort Wadsworth served as the radar command and control center for the New York, New Jersey area NIKE Missile System under Brigadier General W.H. Hennig beginning in 1954. By 1955 NIKE Missile system sites were located in a network throughout the New York metropolitan area, and troops from Fort Wadsworth serviced the remotely located missiles.⁴

In 1955, planning began for the construction of the Verrazano-Narrows Bridge connecting Staten Island with Queens across the Narrows of New York Bay. At two and one half miles long, with two decks and twelve lanes, construction of what was planned to be the world's longest suspension bridge, began in 1959 and continued through 1964. The enormous steel suspension structure, bisecting the military reservation and towering above the granite walls of both Fort Tompkins and Battery Weed, opened to traffic in November of 1964. The new connection provided by the bridge between Staten Island and Queens brought an immensely increased flow of traffic across the island resulting in rapid urban and suburban development. The New York Marathon, traditionally started from the grounds of Fort Wadsworth, and run across the Verrazano-Narrows Bridge, brought a huge swell in visitation annually to the military reservation.

In 1972, Fort Wadsworth was identified in federal legislation that would establish the first two urban national recreation areas, Golden Gate National Recreation Area in California, and Gateway National Recreation Area in New York. The Army continued to administer Fort Wadsworth until 1979. In 1987 Fort Wadsworth became the jurisdiction of the U.S. Navy as the New York Naval Station and remained under Navy administration through 1994.⁵ The administration of Fort Wadsworth was transferred to the National Park Service

from the Department of Defense in 1995. Today, Fort Wadsworth is a part of the Staten Island Unit of Gateway National Recreation Area (GNRA), one of several GNRA units in the New York Bay area.

THE BATTERY WEED LANDSCAPE

The new era in military technology introduced long-range missiles and nuclear weaponry, and although these new technologies never materialized on site at Battery Weed, their existence inevitably had a tangible effect on the character of the landscape. While military housing and training activities continued in other locations across the reservation, the waterfront fort was only minimally staffed. Activity at Battery Weed was focused mainly on decommissioning of a once active defensive complex. Heavy ordinance was no longer useful in coastal defense and was not needed at Battery Weed. Some time after 1945, the Army removed any remaining ordinance from the fort along with the cable tank buildings, loading room, and smaller ancillary structures from the site. The remaining buildings related to the Mine Defense Complex, the Torpedo Storage Building and Mine Casemate, were converted into storage space.⁶

Early in 1955, studies and surveying of the ground immediately to the south of Battery Weed began in support of federally authorized construction plans for the Verrazano-Narrows Bridge. The 215 foot-wide easement for the new bridge cut directly through the military reservation from east to west, and just 340 feet to the south of the southwest bastion of Battery Weed. During the construction of the bridge, the area to the west of Battery Weed near the southern end of Battery Catlin, was used for parking. Some time after 1940 and prior

to 1961, a wood frame building was constructed to the east of Fort Tompkins at the edge of the overlook.

With the new primary defense missile systems moved to off-site locations, maintaining site lines from ground batteries was no longer necessary. Maintenance of the carefully groomed landscape and lawn areas surrounding Battery Weed became less important. Less frequent maintenance of the landscape resulted in early successional growth of vegetation on the slope and batteries by 1958 (Figure 1.69).

In September of 1960, Hurricane Donna brought the high tide up to approximately one foot above the level of the seawall along with four and one half inches of rainfall and seventy mile per hour winds. The storm was likely responsible for the collapse of the Mine Boathouse, the open dock house, the wood dock extension, and sections of the granite seawall (Figure 1.70). The successional growth of shrubs and trees continued on the slope and batteries surrounding Battery weed, along the barbette tier, and at the edges of the parade ground. By 1964, Tree of Heaven *Ailanthus altissima* along the edge of the parade ground had reached above the height of the stair towers of the fort (Figure 1.71). In 1970 Army servicemen provided labor for limited, but much needed landscape maintenance (Figure 1.72).

A satellite photograph taken in 1980 indicates that a wood extension of the dock was still in place, and the successional vegetation on the slope and batteries was continuing to mature and fill in (Figure 1.73). Only the parade ground, the fort grounds to the west of Battery Weed, and the south end of Battery Catlin were maintained as cut grass with the exception of a few scattered trees. Successional vegetation continued to mature and fill in

on the slope above the fort, the north end of Battery Catlin and around Battery Bacon
(Figure 1.74).

ENDNOTES

¹ David M. Alperstien, *Under Three Flags: Fort Wadsworth*, (C.A.M.P. Periodical, Summer 1979) 23.

² Robert Krist, *Fort Wadsworth, Part II, Volume XVIII, Number 4*, October-December 1957, *Staten Island Historian* (Staten Island Historical Society, edited for *Guardian of the Narrows A History of Fort Wadsworth*, Eastern National, 2004), 20.

³ Krist, 22.

⁴ Krist, 23.

⁵ *Draft Site Management Plan Fort Wadsworth Gateway National Recreation Area* (U.S. Department of the Interior National Park Service, 1995), 1,3.

⁶ Ingrid Wuebber and Edward M. Morin, URS Corporation, “Phase 1A Archeological Investigation Rehabilitate Battery Weed Seawall and Dock Fort Wadsworth Unit, Gateway National Recreation Area Staten Island, New York” (Unpublished report prepared for the National Park Service, 2006), 3.48.

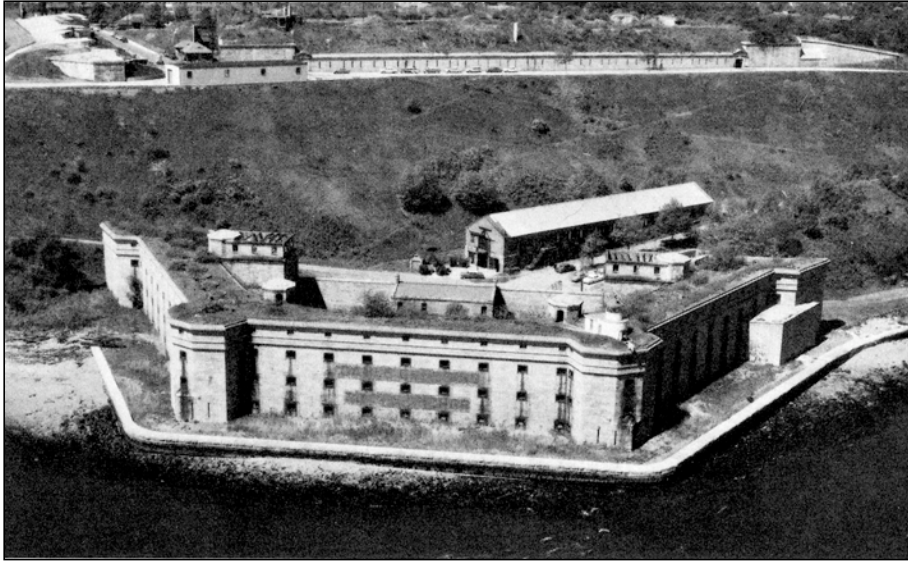


Figure 1.69: Aerial photograph looking west toward Fort Tompkins at Battery Weed, 1958. Note the early successional growth on the barbette tier of the fort and on the slope, and the missing roofs of the magazines. Gateway National Recreation Area Archives Photographic Collection, Print # USN1036443.



Figure 1.70: Satellite photograph showing Battery Weed at the water's edge, Fort Tompkins, the North Stone Dock, the Torpedo Storage Building and the footings under construction for the Verrazano-Narrows Bridge at lower right, 1961. Pier/Seawall Evaluation and Ferry Feasibility Study, Fort Wadsworth, Staten Island New York, prepared for the National Park Service, 1995, photograph by Aerial Viewpoint Houston, Texas.



Figure 1.71: Photograph looking east at the southeast stair tower from the parade ground, June, 1964. National Archives Photographic Print #12C02F.



Figure 1.72: Photograph looking northwest from the parapet on the barbette tier of Battery Weed where an Army crew appears to be on a landscape maintenance detail, 1970. Gateway National Recreation Area Archives Photographic Collection.

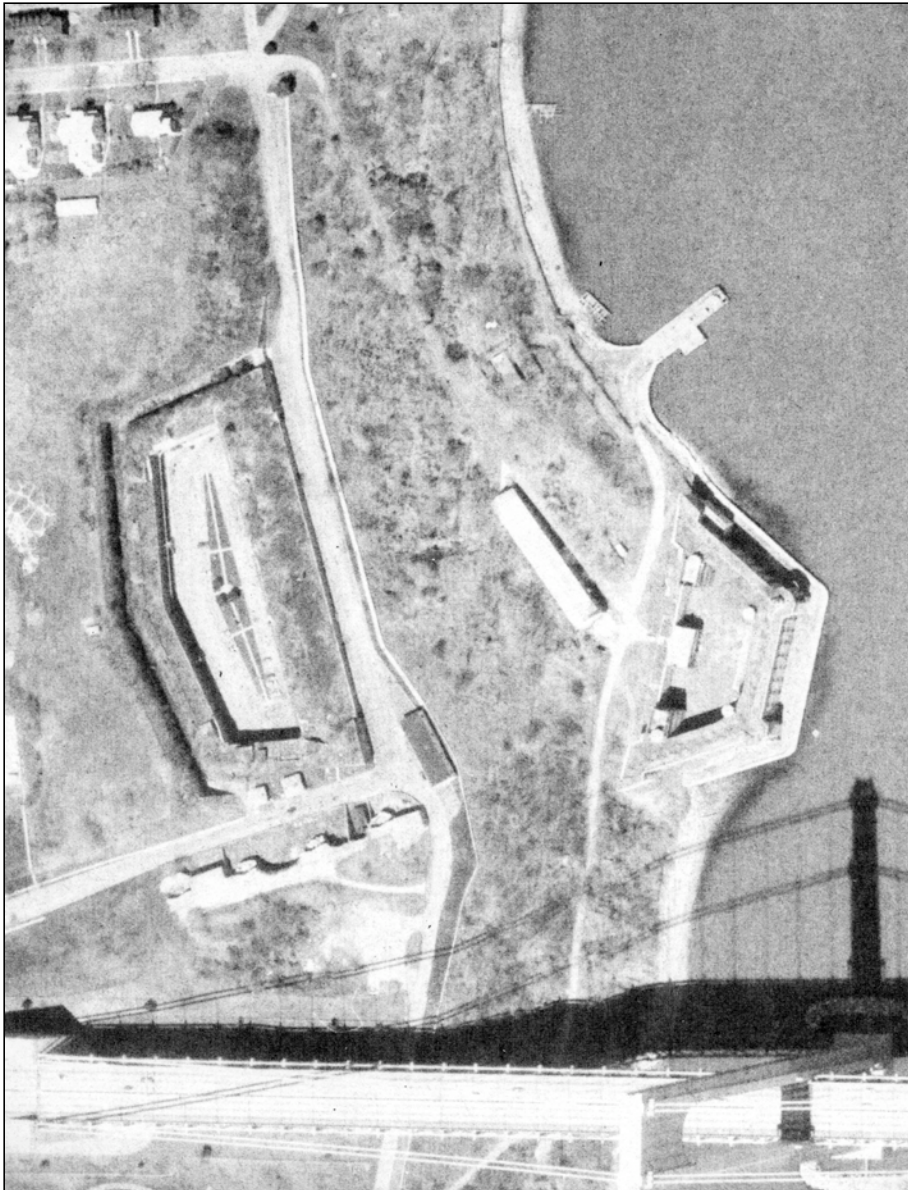
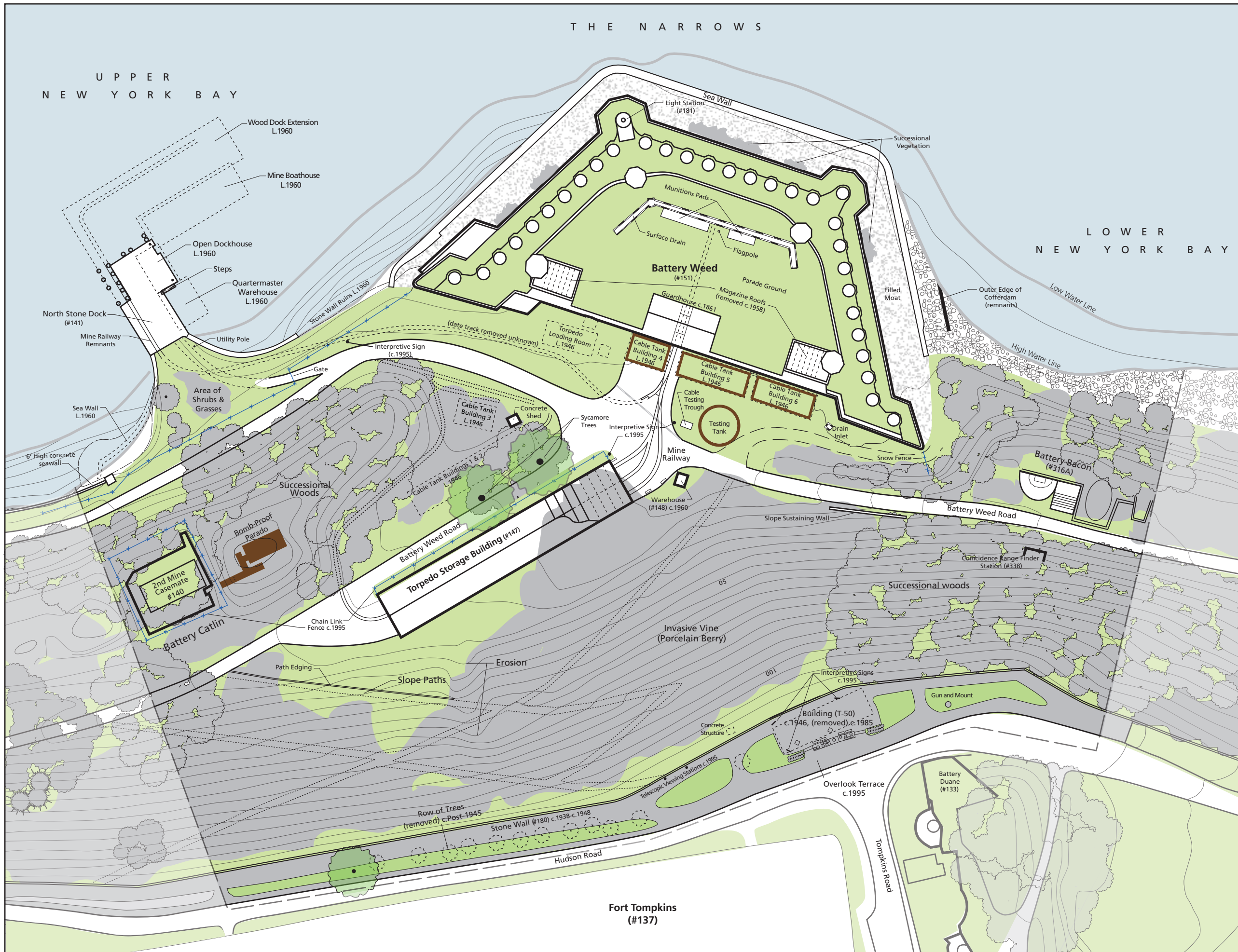


Figure 1.73: Satellite photograph showing Battery Weed, Fort Tompkins, the North Stone Dock, the Torpedo Storage Building and the Verrazano-Narrows Bridge at lower edge, 1980. Pier/Seawall Evaluation and Ferry Feasibility Study, Fort Wadsworth, Staten Island New York, prepared for the National Park Service, 1995, photograph by Aerial Viewpoint Houston, Texas.



Figure 1.74: Satellite photograph showing Battery Weed, Fort Tompkins, the North Stone Dock, the Torpedo Storage Building and the Verrazano-Narrows Bridge at lower edge, 1990. Pier/Seawall Evaluation and Ferry Feasibility Study, Fort Wadsworth, Staten Island New York, prepared for the National Park Service, 1995, photograph by Aerial Viewpoint Houston, Texas.



Cultural Landscape Report

Battery Weed, Fort Wadsworth
Gateway National Recreation Area
Staten Island, NY

Late Military &
NPS Management



National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in cooperation with:
SUNY College of Environmental Science and Forestry
Syracuse, New York

SOURCES

1. Aerial Photography, 2007
2. Vegetation Map, 1995
3. Field Survey completed by Olmsted Center, April 2007
4. Topographical Survey (Ettlinger & Ettlinger P.C. 1985)
5. 1940 Aerial Photograph (Langan Engineering, 1995)

DRAWN BY

Jean B. Gleisner, Illustrator CS, 2008

LEGEND

- Assumed Feature
- Removed After 1945
- Added After 1945
- 5' Contour
- Fencing
- Drainage Inlet
- Subsurface Structure/Foundation
- Existing Building
- Wall or Slope Path Edge
- Unpaved Road
- Paved Road
- Project Area
- Lawn or Meadow
- Gravel
- New York Bay
- Rocky Beach
- c.1917 Approximate Date Constructed
- L.1917 Approximate Date Lost or Removed

NOTES

1. Plan illustrates conditions in 2007.
2. Plan shows character defining features removed since the end of the historic period (c.1847-1945) by dashed lines.
3. Dates shown indicate date of initial construction and/or removal.
4. For features built prior to the period date, no date is given.
5. A-1 and A-2 foundation remnants assumed, but undetermined



Drawing 4



Fort Tompkins
(#137)

EXISTING CONDITIONS

The existing character of the Battery Weed landscape is the result of nearly a century of development and of coastal defense systems as well as public recreational use of the site. The historic character of Battery Weed has been recognized for many years, and although the landscape is not specifically identified in the historic designation, many of its historically characteristic features remain substantially intact today. This chapter provides a general discussion of the existing conditions (2007) of the Battery Weed landscape including an overview of the landscape's environmental conditions, regional context, and immediate setting through review of historical documentation and field investigation of landscape characteristics.¹ The intent of the existing conditions chapter is to clearly identify and describe the characteristics that compose the cultural landscape.²

The landscape of Battery Weed built on the site of an 1809 fort for the purpose of the defense of New York Harbor retains many of its character-defining features from the period of its initial construction between 1847 and 1873. These features, including Battery Weed fortress, earth works in the form of ground batteries with subsurface bomb-proof paradors, a seawall and stone dock, and the graded slope above Battery Weed are characteristic features of the Third American System of Coastal Fortifications. The landscape of Battery Weed also retains several later features and modifications of the United States War Department related to a subsurface mine defense system characteristic of the Endicott era, c.1890–1910. The immediate setting of Battery Weed retains much of its historic coastal fortification and recreational character, despite some mid-twentieth century development including that of the Verrazano-Narrows Bridge just 320 feet from the southwest bastion of Battery Weed.

Although portions of the landscape of Battery Weed have been well maintained, the site today has a feeling of abandonment. The abandoned character of the site is a result of damage and deteriorating conditions of buildings and structures such as the Torpedo Storage Building and the seawall, as well as the overgrowth of vegetation, both successional and invasive species throughout much of the site. Public access to the site is limited to fenced areas by way of remote and somewhat hidden roads resulting in less than desirable use of the site.

ENVIRONMENTAL SETTING

Battery Weed is located within the Atlantic Coastal Plain physiographic region, and considered a part of the Eastern Broadleaf Forest (Oceanic) ecological sub-region of the upper Atlantic coastal plain. This ecological sub-region consists mostly northeastern oak-pine forest, some fringes of northern cordgrass prairie along the Atlantic coast, some cedar bogs and transitional pine forests and deciduous swamps, as well as pine plains and grassy savannas. The region is generally characterized by level to gently sloping terrain, however extensive glacial deposits crossing Staten Island left by an advancing and then retreating North American glacier, resulted in a much more varied topography at the site of Battery Weed. The bluff rising 125 feet above Battery Weed is a formation consisting of a scatter of materials including sandstones, siltstones and schists in a variety of sizes from very large boulders to small stones and topsoils.³

Battery Weed is located within the urban core of the New York Bight habitat area. It includes the New York - New Jersey Harbor and surrounding greater metropolitan New

York City region within a 25-mile radius of Central Park in Manhattan. The site is located on the North American Migratory Flyway at the entrance to the Upper New York Bay, and on the edge of New York/New Jersey Estuary. The area historically was a rich and diverse ecological region due to the confluence of several major river systems at the Atlantic Ocean. Battery Weed is located at the apex of migratory corridors along the east-west oriented shoreline of the New England and Long Island coasts where they meet the north-south oriented shoreline of the mid-Atlantic coast. Although the complex geography and geology of the region, result in an unusually diverse concentration of habitat types and species of birds, insects and fish in the few pockets of open space within the urban core such as the Battery Weed site, the intensity of urban development in surrounding areas has rendered much land and water unavailable to wildlife. Three hundred and ninety five ecologically important species are known to occur within the New York City urban core. They include waterfowl, shorebirds, long-legged waders, raptors, songbirds, butterflies, plant species, and mammals. The rocky intertidal areas, and tidal wetland areas along the shoreline of the east coast of Staten Island, immediately to the north and south of the Battery Weed site, consist of various combinations of associated salt and brackish marshes, tidal creeks, and protected open water coves.⁴

The Staten Island Greenbelt, a system of connected trails, public parkland and natural areas covers 2,800 acres in the central hills of the New York City borough. The island features wetland areas and kettle ponds in low-lying areas. Todt Hill, less than 3 miles west of Battery Weed, at an elevation of 410 feet above sea level, is the highest hill on the Eastern Seaboard south of Maine.

The climate of Staten Island is considered humid continental with hot, humid summers and cool to cold winters. Conditions are affected by close proximity to the Atlantic Ocean. Temperatures below zero degrees (Fahrenheit) only occur about once per decade on average, but temperatures in the 10s and 20s are common in mid-winter. New York winter conditions range from snowstorms that paralyze the city with over a foot of snow, to mild, almost snowless winters. Summers in New York City are hot and humid, with temperatures commonly exceeding 90 degrees (Fahrenheit), however, it is often a few degrees cooler on Staten Island than in other boroughs of the city.

Peregrine Falcons, on the federal and state lists of endangered species, are known to nest on the Verrazano-Narrows bridge immediately to the south of the project area, and Short-nosed Sturgeon, listed as endangered by the national Marine Fisheries Service is known to exist in the Hudson River Basin at New York Harbor.⁵

REGIONAL CONTEXT

Located in the northern mid-Atlantic region of the east coast of the United States, Battery Weed is located within the neighborhood of Edgewater in the New York county of Richmond on the eastern shore of the Staten Island, New York City. The site lies on the western shore of the Narrows of New York Bay at the entrance to New York Harbor and is approximately six miles south of Manhattan. As of 2006, Staten Island had a population of 464,573, is fifty-nine square miles, and has a population density of 7,588 per square mile. In terms of population, it is New York City's smallest borough. In the sixty years between 1840 and 1900 Richmond County experienced population growth of over 900 percent, with continued growth since the opening of the Verrazano-Narrows Bridge in 1964. The

northeastern side of the island near Battery Weed has experienced minimal change since the late nineteenth century.

The Staten Island Expressway (Interstate Route 278) crosses the island and connects the Bronx and Brooklyn with Staten Island and New Jersey. Staten Island, surrounded by the waters of Arthur Kill, Kill Van Kull, Raritan Bay and New York Bay, and is connected to mainland New Jersey by way of the Goethals Bridge, Bayonne Bridge and Outerbridge Crossing (Figure 2.1).

FORT WADSWORTH SETTING

Battery Weed is part of Fort Wadsworth, the former federal military reservation, and once a part of a system of New York Harbor defenses since 1809. Fort Wadsworth is a part of the Staten Island Unit of Gateway National Recreation Area, comprised of over 26,000 acres of recreational, natural, and cultural resources in coastal New York and New Jersey administered by the National Park Service. To the north and east of Fort Wadsworth, Staten Island is a densely settled urban mix of low-rise commercial and residential land uses. Immediately to the north of the Fort Wadsworth property is Arthur Von Briesen Park. To the south, along the shore, a boardwalk and bike path connect a series of public parks and fields that are part of Gateway National Recreation Area. The 4,500 acre William T. Davis Wildlife Refuge is less than six miles to the west and the former New York City landfill, Fresh Kills, closed in 2002, is just a mile farther to the west.

The Fort Wadsworth Military Reservation is comprised of lands administered by a variety of governmental entities. Portions of the reservation are under ownership of the U.S. Coast

Guard, the U.S. Army Reserve, the City of New York, the State of New York and the National Park Service. The reservation extends east and southward to the shore from North Road, Battery Weed Road and North Carolina Road. New York Avenue and Hudson Road bisect the reservation from north to south, and Richmond Avenue enters from the west. Battery Weed Road, a narrow paved road that provides access to the c. 1847 fort, gradually ascends a densely vegetated slope alongside the south cliff batteries at the waters edge, under the Verrazano-Narrows Bridge, until it meets the juncture of Hudson Road and Richmond Avenue. Beyond this juncture, to the south and southwest, the landscape retains a series of old earthen ground batteries hidden in dense vegetation overlooking Raritan Bay to the south. Mont Sec Avenue and South Road are lined with military housing and the c.1938 Officer's Club at the head of a bluff above the shore-front earthworks of Battery Catlin. To the south and east, the Fort Wadsworth reservation is comprised of cul-de-sacs and loop roads, partially treed and lined with late nineteenth century military housing (Figure 2.2). Although the Fort Wadsworth reservation is less densely developed than the surrounding neighborhoods of eastern Staten Island, a random scatter of contemporary wood frame and temporary structures as well as the on/off ramp of the Verrazano-Narrows bridge visually dominate the approach to Battery Weed Road from Richmond Avenue.

THE BATTERY WEED LANDSCAPE

The Battery Weed lies at the base of a 119.5 foot high bluff overlooking the entrance to New York Harbor, just to the north of the Verrazano-Narrows Bridge on the easternmost point of land on Staten Island. The site is surrounded on three sides by the waters of New York

Bay. Access to Battery Weed from Fort Wadsworth is by way of Battery Weed Road, or from the water's edge at the North Stone Dock.

The project area includes three character areas; the fortress grounds, the overlook and slope, and the North Stone Dock and seawall. For the purposes of this study, the Battery Weed landscape is organized into three parts: the overlook and slope, fortress grounds, and the north stone dock and seawall (Figure 2.3). The fortress grounds encompass the lower level of the site between the water's edge and the base of the slope and include Battery Weed Road, the Dock Road, and several buildings, and surface and subsurface structures related to ground batteries and the Mine Defense Complex. The overlook and slope at the head of the bluff above Battery Weed provides public access to one of the most spectacular views of the New York Harbor area, including Manhattan, the Brooklyn shore and the 4,260-foot long Verrazano-Narrows Bridge. At an elevation of 119.5 feet above sea level, the overlook is comprised of a concrete and grass-panel terrace area to the east of Fort Tompkins along Hudson Road. The slope, at a grade of approximately 50 percent, extends from the east edge of the overlook to the Torpedo Storage Building and Battery Weed Road below. The north stone dock and seawall area includes the stone dock and extends north and south along the east shoreline. This waterfront area is features coastal grasses, with a mix of low growing native along with invasive successional vegetation including one small tree. The seawall extends from just north of the north stone dock along the water's edge and around the fort to the east and south, terminating where the shoreline turns southward.

Although the public can access the overlook and some areas of the fort grounds, public access to the entire project site, including the waterfront and the interior of the fort

featuring remnants of a rich military history, is limited to scheduled National Park Service tours. Although many features are currently hidden to varying degrees in overgrown vegetation, they include buildings, gun batteries, and circulation and rail systems. There is no authorized public access to the waterfront seawall and North Stone Dock.

Unauthorized access is possible, however, from existing paths adjacent to the site and from the bay by boat (Figure 2.4).

Fortress Grounds

The area of the fortress grounds surrounding the entrance to Battery Weed is spatially open with mown grass to the edge of the massive granite structure opposite the steep slope below Fort Tompkins. A paved road bisects the space that also features building remnants and earthworks covered in dense vegetation. This area includes the Parade Ground within Battery Weed, a portion of Battery Weed Road, and the remains of buildings and earthworks between Battery Bacon to the south and the Mine Casemate in Battery Catlin to the north. The project area for this report only includes that portion of the earthworks and ground batteries adjacent to Battery Weed; the complete earthworks extend along the shore to the north and to the south several hundred feet beyond the project area boundary.

The former moat, just inside the seawall surrounding Battery Weed on three sides to the northeast and south, is a nearly level strip of filled land approximately thirty feet wide in long sections between bastions where it narrows to some fifteen feet and abuts the granite walls of the fortress. Some grassy areas exist, mostly immediately along the walls of the fortress, but much of the area is a mix of earth and gravel with some surface irregularities collecting water due to runoff erosion.

The area of the fortress grounds between the west wall of Battery Weed and the base of the slope and earthworks is also relatively level with mown grass interrupted with the concrete remains of building foundations and other structures once a part of the Mine Defense Complex. Battery Weed Road, an approximately twelve foot-wide asphalt road enters this area from the south down a gentle slope beneath the Verrazano-Narrows Bridge and along Battery Bacon. A metal guardrail, narrow concrete swales, and concrete curbing edge the road in places. There is a curb cut on the east side of the road approximately eighty feet before the main entrance into the fortress that leads to a dirt access road around the southwest bastion to the waterfront.

At the southeast end of the Torpedo Storage Building, Battery Weed Road widens to an area approximately forty feet by fifty feet with flush concrete sections surrounding the remains of the c.1921 Mine Railway. The steel rails extend between the southeast end of the Torpedo Storage Building and the entrance to Battery Weed. A small concrete block warehouse (building #148) is located beside this paved area, along with three park benches and a park interpretive sign. A drain inlet extends across the forty-five foot wide paved area that leads to the entrance to Battery Weed. In the grass area on the south side of the entrance to Battery Weed is a park interpretive sign, a covered cable testing trough and the circular concrete traces of a cable testing tank, or turntable, along with the concrete foundations of former cable tank buildings.

The fortress grounds to the west of Battery Weed are spatially open with some mown grass. The grounds slope upward gently to the north and to the south from the entrance to Battery Weed along the west curtain wall of the fortress. To the north of the entrance, a

concrete foundation remaining from the Cable Tank Building removed after World War II, is at an elevation about one foot above grade level. Battery Weed Road leads to the northwest, and the Dock Road continues north across the grounds toward the waterfront. Approximately twenty feet from the waters edge, at the north end of Battery Weed, a six-foot high chain link fence with a locked gate prevents public access to the North Stone Dock and seawall area. Beyond the North Stone Dock, above the shoreline to the northwest, is an area of shrubs, a small tree, and coastal grasses.

The area to the south of Battery Weed includes the waterfront seawall and former moat around the fortress and Battery Bacon. Immediately south of the southwest bastion of Battery Weed, the grade rises steeply at an approximately fifty percent slope to Battery Bacon, not visible from Battery Weed because of the dense vegetation. The beach that meets the seawall here is rocky and strewn with rusted pieces of iron, lumber and trash that have washed ashore. At low tide, remnants of the temporary cofferdam are visible at grade level. Battery Bacon was once a part of a series of batteries along the eastern shore to the south of Battery Weed, much of which has been lost to the construction of the Verrazano-Narrows Bridge just 320 feet to the south. Concrete block walls of Battery Bacon edge an iron gun mount platform and the remains of a circular iron rail are set at grade level in a small patch of mown grass.

Battery Catlin, an earthwork rising approximately forty-six feet above the Dock Road and extending some 750 feet to the northwest, is located between the Battery Weed Road and the Dock Road. Only the southeastern portion of Battery Catlin that includes the c.1905 Mine Casemate are considered for this report. A small concrete building and remains of the concrete foundation of a Cable Tank Building are partially covered in vegetation. Remains

of the Mine Railway extend from the Cable tank Building foundations outward to the edge of the Dock Road. Buried in the earthen battery, is a c.1865 bomb-proof parado constructed of concrete approximately twenty feet by forty feet. The subsurface chamber is accessible by way of a set of steps and passageway into the earthwork from a heavy wooden door on the northwest slope of the mound nearest Battery Weed. Immediately to the northwest of this parado is the Mine Casemate that housed the firing controls for the subsurface mine defense system in place throughout the early twentieth century. The earthwork is covered in dense vegetation including mature trees covered in vines.

The interior area of Battery Weed, the parade ground, is open to the sky, but otherwise enclosed within the modified trapezoid configuration of the granite fort. The parade ground is accessed by way of an iron gate along the west curtain wall of the fort into a gently sloping passage through the thirty-five foot wide, two-story stone c.1861 Guardhouse. The drawbridge, no longer in place at the guardhouse, once controlled access to the parade ground and the interior of the fort across the water-filled moat. The parade ground features level mown grass approximately 130 feet by 230 feet and is bounded on three sides in an arcuated system of ashlar granite blocks in three tiers of casemates. Fifty-one open arched casemates face the parade ground rising approximately thirty-five feet from ground level and meeting four-story stair towers in a gentle curve at the four corners of the space. The top tier of the casemates is edged with a delicate iron railing. Two four-story rectangular magazines, approximately thirty feet by forty feet, are located at the northwest and southwest corners of the space and are open to each of the casemated tiers. The grass of the parade ground is nearly level with a surface drain extending across the space toward the east edge where a cistern is located. Adjacent to the surface drain are two concrete munitions pads approximately forty feet by eight feet, and twenty feet by eight

feet. A flagpole is located between the two munitions pads. From the parade ground, the roof of the lighthouse, a small brick building with light tower constructed in c.1903, is visible on the barbette tier, as is the enormous western span and tower of the Verrazano-Narrows Bridge that dominates the skyward view to the south (Figure 2.5).

Overlook and Slope

The overlook at the crest of the steep slope above Battery Weed, faces the fortress to the east and the Narrows of New York Bay. The bay is less than 500 feet to the east. The overlook is bordered along the edge of the slope by a wall in a mix of coursed and uncoursed ashlar stone and a fifteen-foot wide sidewalk that extends approximately 800 feet to the north and eighty feet to the south from the terrace area along Hudson Road. Two telescopic viewing stations and four interpretive park signs are located along the wall of the terrace area which is bordered on the west side of the central area with a low concrete wall with sections of metal rail fencing along the top edge. Four concrete and composite park benches, and a flagpole also occupy the central area of the overlook. The view of the bay from the overlook above Battery Weed is panoramic featuring New York Harbor and the Manhattan skyline to the northeast, the Shore Parkway and Brooklyn across the Narrows to the east, the Verrazano-Narrows Bridge immediately to the south, and the granite walls and grassy parapets of Battery Weed at the base of the slope below.

The slope extends eastward from the sidewalk and overlook terrace down to Battery Weed Road at an incline of approximately fifty percent. It is densely vegetated with areas of successional woodland including white ash, American elm, princess tree, Norway maple, tree of heaven, sweet birch and poplar. Patches of tall grasses and shrubs such as common mulberry and California privet are also visible, but most of the slope is covered in a thick

mat of porcelain berry (*Ampelopsis brevipedunculata*), a vigorous invasive perennial vine in the grape family. Paths that were established diagonally across the formerly grassy slope in the late nineteenth century may still exist, but are not visible and mostly inaccessible due to the overgrowth of vegetation. Remnants of one of the paths with concrete edging remain just above the base of the slope to the northwest of the Torpedo Storage Building, but erosion of the slope in the area has left the path and edging unearthed and broken. Small, unidentified concrete structures set into the slope appear amidst the vines and may possibly be the remains of a system of drainage and latrines from the 1860s (Figure 2.6).

North Stone Dock and Seawall

The North Stone Dock and Seawall form the north, east, and south edge of the Battery Weed landscape along the waterfront of New York Bay. Beyond the chain link fence that bounds the fortress grounds on the north, the shoreline curves slightly to the north to a filled bulkhead area from which a stone dock extends. Access to the dock area is by way of a somewhat undefined earthen trail that begins just to the northwest of Battery Weed and passes through tall coastal grasses and shrubs to the beginning of the North Stone Dock.

The granite seawall that surrounds the fortress on three sides of Battery Weed, splits at the northwest bastion of the fort with one section continuing straight to the northwest, and the other section curving inward toward the west around the bastion where it terminates. The straight section of the seawall beginning about eight feet to the north of Battery Weed, and extending about forty-five feet further to the northwest, has collapsed due to extreme wave and tide action on the northeast facing shoreline brought by storms like Hurricane Donna in 1960. Seawall capstones as well as their large supporting stones have been tipped and tossed about, and they remain in a scatter just above the water's edge. An

electric utility pole is located near the southwest corner of the North Stone Dock. A sand and rocky beach bordered along the shore by a six-foot high concrete wall extends to the north from the dock area.

The North Stone Dock is located approximately 150 feet to the northwest of Battery Weed. It measures approximately forty feet by eighty feet in an irregular L shape with some collapsed sections. It is surfaced in an alternating pattern of large granite blocks, concrete, and small cobbles, the North Stone Dock has a variety of grasses and other low plants growing between the stones. A bronze National Ocean Survey Benchmark is set into the concrete surface, and a set of granite block steps descend into the water at the southwest inner corner of the North Stone Dock. A pair of iron rails, a part of the Mine Railway are visible at ground level just before the west end of the North Stone Dock and extend along the surface of the dock to the northeast end where it has collapsed and only iron beams and wood piles remain extending out into the water. Several freestanding wooden piles remain in the water on the northeast side of the North Stone Dock from the wooden extension constructed in c.1907, and destroyed in a collision in 1913. Two iron bollards remain set into the granite blocks of the southeast end of the dock. The view from the North Stone Dock is a panoramic 180 degrees from Battery Weed and the Verrazano-Narrows Bridge to the south, across the Narrows toward the Brooklyn shore, to the Manhattan skyline and the northeast coast of Staten Island. To the southwest a chain link fence at the base of the densely vegetated Battery Catlin with the Torpedo Storage Building and steep slope beyond (Figure 2.7).

PARK OPERATIONS

Visitor services for Battery Weed are provided by the National Park Service and are located at building 210 near the New York Avenue entrance to Fort Wadsworth. Visitors enter through the main gate and park at the Visitor's Center. The Visitor's Center has a gift shop and serves as an orientation center featuring a collection of interpretive displays and materials including an orientation film that provides an introduction to the military history of Battery Weed. Visitors are encouraged to walk to the overlook above Battery Weed from the Visitor's Center, a distance of approximately 650 feet. Tours of Battery Weed are available depending on the availability of NPS staff and can be arranged in advance of a visit to the park. Local schools and cultural groups visit the park. Occasional special events such as a school Halloween visit to Battery Weed are held in the park. The New York City Marathon begins annually at Fort Wadsworth.

Landscape maintenance is provided through National Park Service staff and contractual services. The degree of management of the landscape of Battery Weed has varied greatly over the course of the history of the site. Management has been minimal at times, especially prior to the late nineteenth century grade alterations of the slope above the fort. Beginning in c.1873, and through the onset of World War II, the landscape including the slope above Battery Weed and Batteries Catlin and Bacon was carefully groomed and maintained as mown grass. Since 1945, the end of the historic period, the management of the landscape surrounding Battery Weed has been focused less on careful maintenance of the vegetation and mainly on addressing emergency stabilization issues. The consequences of limited vegetation management in recent years has resulted in maturing successional woods on

the slope and batteries, and dense coverage of a non-native invasive vine that has obscured many of the remaining historic features. In 1995, a portion of the successional and invasive vegetation was cleared from the slope above Battery Weed. Without the implementation of a consistent vegetation management plan in the intervening years, much of the vegetation removed from the slope has returned.

ENDNOTES

¹ Existing conditions as presented in this report are based on the site history and on fieldwork completed in November of 2006 and 2007, as well as discussions with Phil Melfi, Site Manager at Fort Wadsworth.

² Page, Robert R., Gilbert, Cathy A., Dolan, Susan A., *A Guide To Cultural Landscape Reports: Contents, Process, and Techniques* (Washington, DC: U.S. Department of the Interior National Park Service, 1998), 56.

³ W. Henry McNab and Peter E. Avers et al., “*Ecological Subregions of the United States*,” (accessed 14 November 2006), <http://www.fs.fed.us/land/puds/ecoregions/>.

⁴ U.S. Fish & Wildlife Service, National Conservation Training Center, *New York – New Jersey Harbor/Urban Core Overview*, (accessed 28 July 2007), http://training.fws.gov/library/pubs5/web_link/text/urb_core.htm

⁵ *Draft Site Management Plan Fort Wadsworth Gateway National Recreation Area*, (U.S. Department of the Interior National Park Service, 1995) 84.

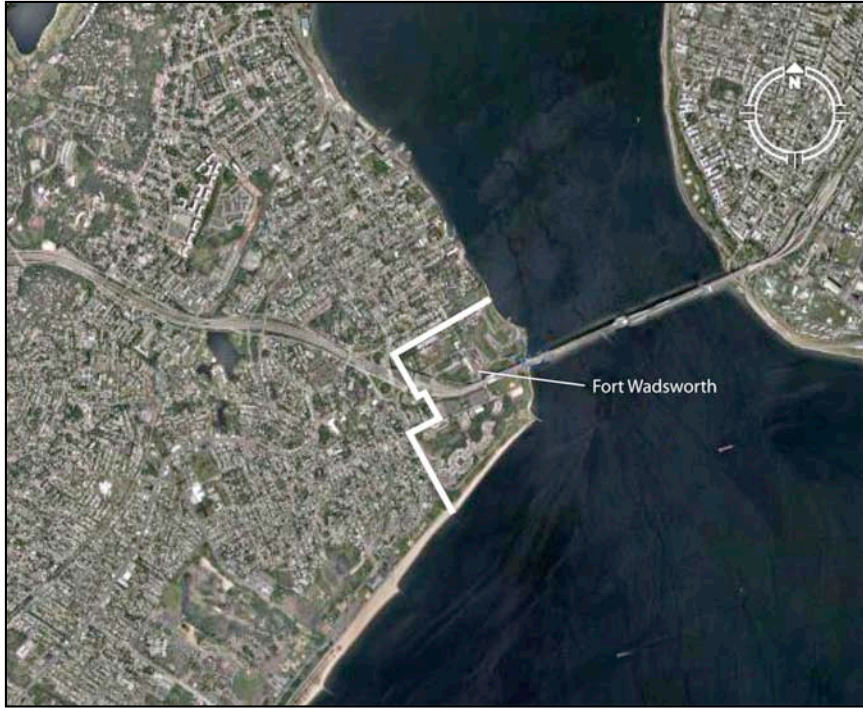


Figure 2.1: Satellite image showing the location of Fort Wadsworth on Staten Island, 2007. Europa Technologies Image, Bluesky. Google. 2007, annotated by SUNY ESF.

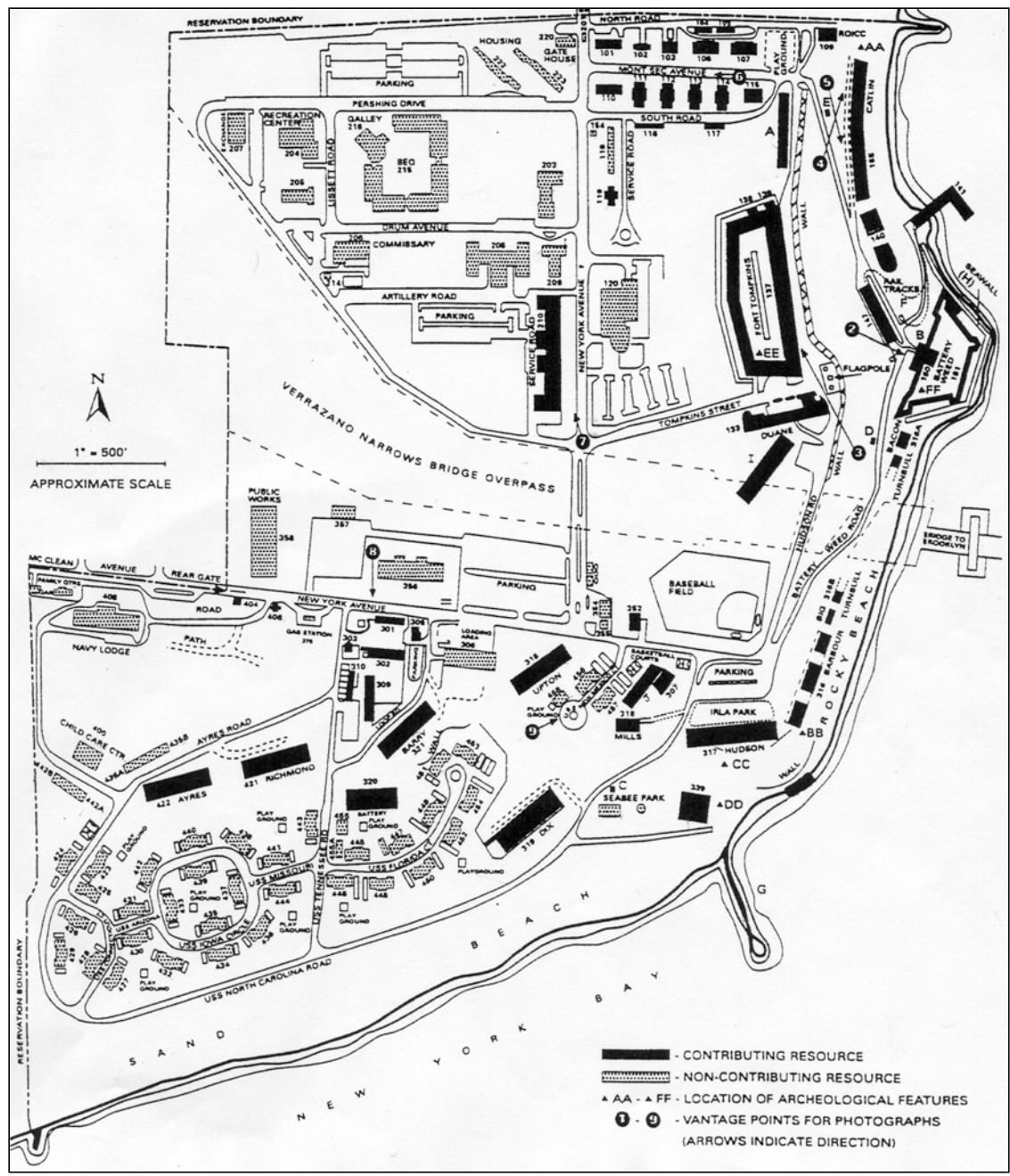


Figure 2.2: Map showing the Fort Wadsworth Military Reservation (Gateway NRA), 1997.

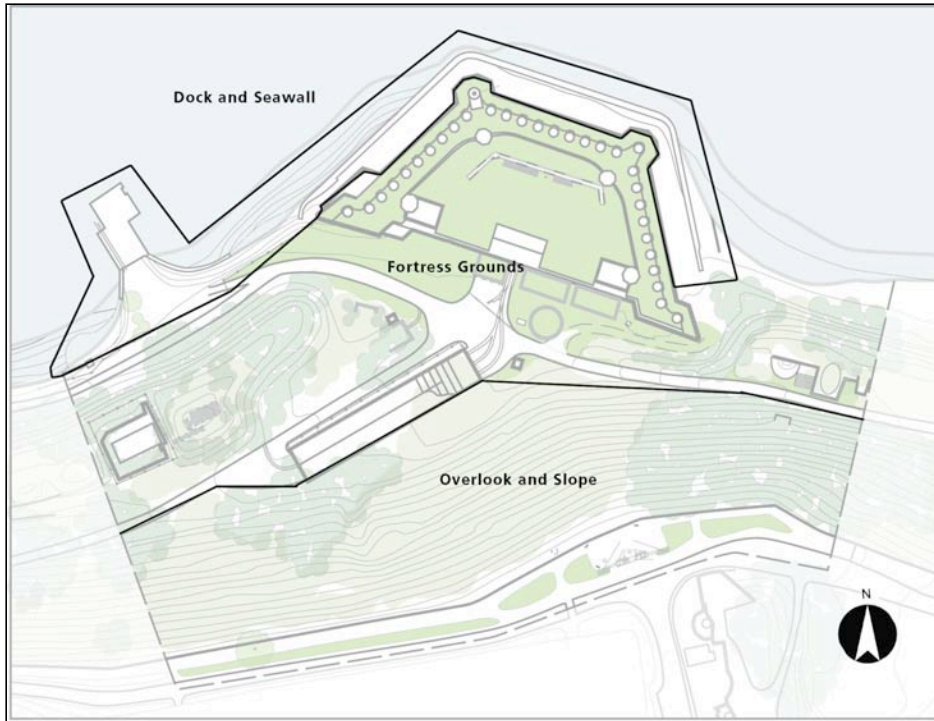


Figure 2.3: The three areas of the Battery Weed landscape as organized for the existing conditions section of this report. SUNY ESF, 2008



Figure 2.4: Aerial photograph looking west at the Fort Wadsworth military reservation with Battery Weed, the Overlook and Slope, and the North Stone Dock and Seawall in the foreground. *Pier/Seawall Evaluation and Ferry Feasibility Study Fort Wadsworth, Staten Island, New York*, Landgan Engineering and Environmental Services, 1995.



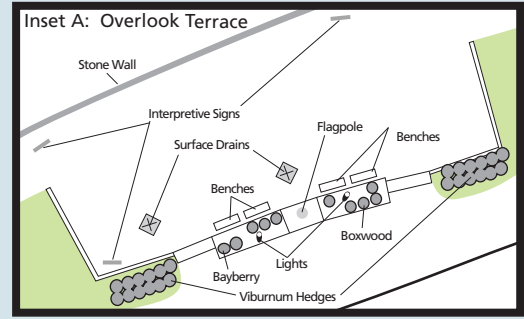
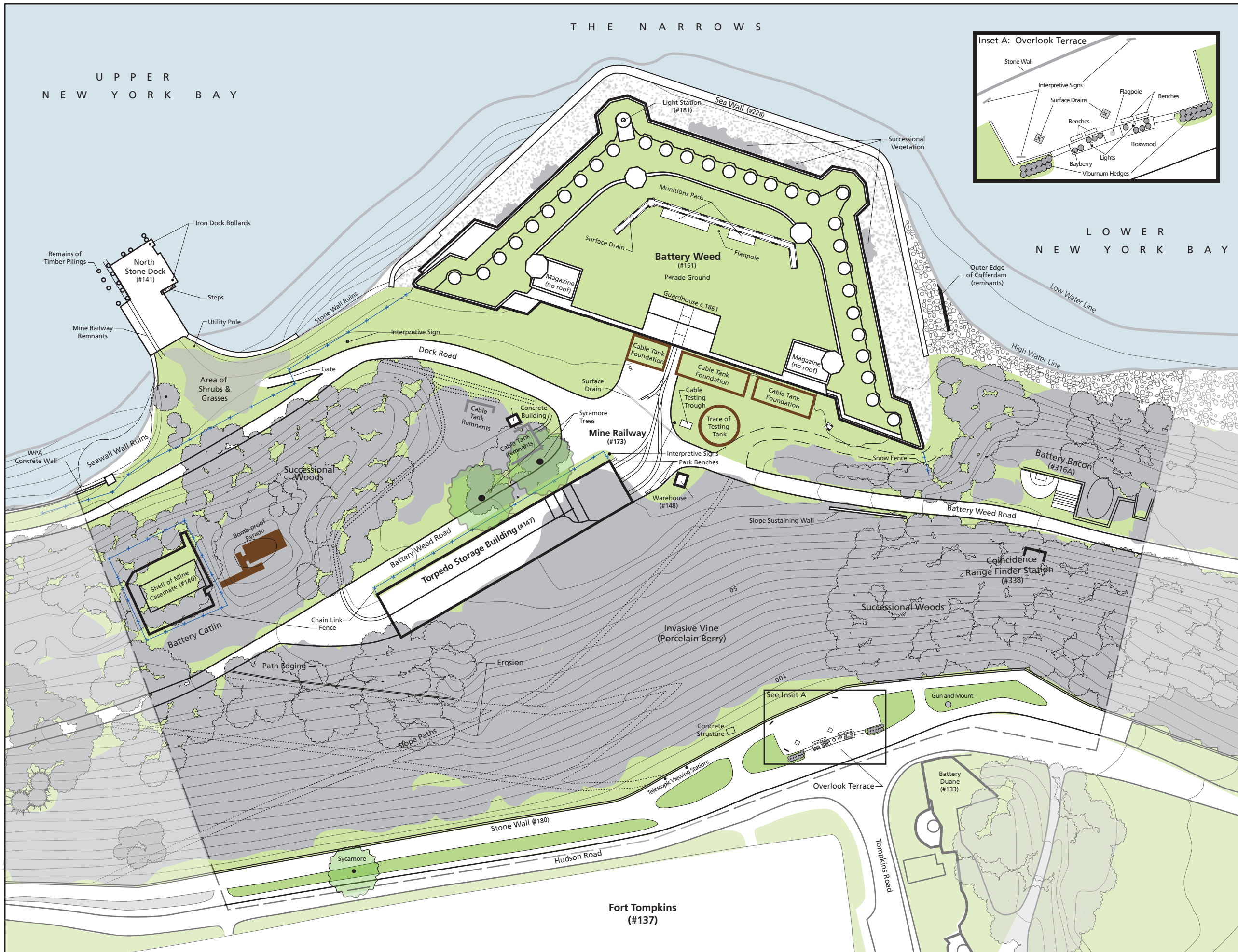
Figure 2.5: The Fortress Grounds looking northeast from the Overlook. SUNY ESF, 2007.



Figure 2.6: The Overlook and Slope looking north from the terrace above Battery Weed. SUNY ESF, 2007.



Figure 2.7: The North Stone Dock and Seawall Looking northwest. SUNY ESF, 2007.



Cultural Landscape Report

Battery Weed, Fort Wadsworth
Gateway National Recreation Area
Staten Island, NY

Existing Conditions 2007



National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp

in cooperation with:
SUNY College of Environmental Science and Forestry
Syracuse, New York

SOURCES

1. Aerial Photography, 2007
2. Vegetation Map, 1995
3. Field Survey completed by Olmsted Center, April 2007
4. Topographical Survey (Ettlinger & Ettlinger P.C. 1985)

DRAWN BY

Jean B. Gleisner, Illustrator CS, 2008

LEGEND

- Assumed Feature
- 5' Contour
- Fencing
- Drainage Inlet
- Subsurface Structure/Foundation
- ▭ Existing Building
- Wall or Slope Path Edge
- Unpaved Road
- Paved Road
- Project area
- Mown Grass
- Successional Vegetation
- Gravel
- New York Bay
- Rocky Beach
- Successional Woods

NOTES

All vegetation shown in approximate scale and location.
Names indicated are those used during the period, when known.
Plan illustrates conditions in 2007.



ANALYSIS AND EVALUATION

This chapter provides an analysis of the Battery Weed landscape and an evaluation of its historical character based on the findings of the site history and existing conditions.

These recommendations have been developed according to the National Register Criteria for Evaluation and the National Park Service *Guide to Cultural Landscape Reports:*

Contents, Process, and Techniques. This chapter is divided into two sections

corresponding to the National Register program and the National Park Service cultural landscape program:

1. **Historical Significance:** Summary of existing National Register documentation for Battery Weed; recommendations for updating the documentation pertaining to the landscape including the period of significance and area of significance, and boundaries; an evaluation of historical integrity according to the seven aspects defined by the National Register.

2. **Landscape Evaluation:** An evaluation of the landscape comparing historic and existing conditions for the purpose of defining historic character and updating the list of contributing and non-contributing resources and associated features in the National Register documentation. This section evaluates existing landscape characteristics and features and also describes those character-defining features that have been removed since the end of the historic period. Features removed during the historic period are not evaluated. The landscape of Battery Weed included in this analysis and evaluation includes the CLR project area encompassing the fortress grounds from the water's edge

along the Narrows to the center of Hudson Road, and from Battery Bacon to the Mine Casemate located on Battery Catlin.

HISTORICAL SIGNIFICANCE

SUMMARY OF EXISTING NATIONAL REGISTER DOCUMENTATION

Battery Weed was listed in the National Register in 1972 as a structure for significance in the areas of “Military” and “Architecture,” in the context of Third System coastal fortifications. The current National Register documentation for Battery Weed is limited to the granite structure itself, with a period of significance given as 1847-1861. The exact boundary of the structure is not described, and since the documentation describes only the structure, it does not discuss contributing features of the surrounding landscape such as the Endicott batteries (c.1899-1905), Mine Defense Complex, the North Stone Dock (c.1850), and the overlook and slope above Battery Weed.

Other portions of Fort Wadsworth have been either listed or nominated in the listing for the National Register. In 1973, Fort Tompkins was listed in the National Register for significance as an example of nineteenth-century historic military architecture. The entire 247-acre Fort Wadsworth reservation, including Battery Weed and fifty-seven other resources, was nominated to the National Register in 1998 as an historic district for significance in areas of military, architecture, social history and engineering, but the nomination was not accepted by the Keeper of the National Register, although it was listed in the New York State Register of Historic Places. This nomination was not listed due to the extensive redevelopment of Fort Wadsworth by the Navy in the 1980's. The

period of significance for the historic district is given in the 1998 nomination and state listing as 1750-1924.

RECOMMENDATIONS FOR AMENDING NATIONAL REGISTER DOCUMENTATION

This section provides an overview of how the Battery Weed landscape meets the National Register Criteria based on the findings of this Cultural Landscape Report. Because Battery Weed is a part of the Fort Wadsworth military reservation and the Staten Island Unit of Gateway National Recreation Area (GNRA), this chapter addresses the historical significance of Battery Weed in its context as a part of the larger reservation and also as a part of the system of fortifications of New York Harbor. The following statements address the criteria specifically related to the landscape and will require further elaboration in future National Register documentation.

[The most comprehensive and accurate documentation of significance of Battery Weed would be through a multiple property nomination embracing all of the harbor defenses of New York. Should the larger Fort Wadsworth historic district become listed in the National Register, Battery Weed would be a contributing component of that district.]

A property is considered eligible for listing in the National Register of Historic Places if it possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:

A. Is associated with events that have made a significant contribution to the broad patterns of our history; or

B. Is associated with the lives of persons significant in our past; or

C. That embodies the distinctive characteristics of a type, period, or method of construction, or that represents the work of a master, or that possesses high artistic values, or that represents a significant and distinguishable entity whose components may lack individual distinction; or

D. That have yielded, or may be likely to yield, information important in prehistory of history.

Battery Weed meets National Register Criterion A in the areas of military history, as presently documented in the 1972 National Register nomination form. Based on the findings of this thesis, it is recommended that the period of significance be expanded to 1945, and that the boundary expanded to include the surrounding landscape. It is also recommended that the site be nominated for significance under Criterion A in the area of Entertainment/Recreation, and under Criterion C in the areas of Military Architecture and Engineering. The recommendations that follow describe how the landscape of Battery Weed contributes to the historic significance of the property in these three areas.

National Register Criterion A

Area: Military History

As documented in the existing nomination form, Battery Weed derives its primary significance under National Register Criterion A in the area of military history within the national context of coastal defense, and specifically for its central role in the defense of New York Harbor during the nineteenth and twentieth centuries. The site surrounding Battery Weed including the steep slope rising 120 feet above the Narrows of New York Bay, a significant geological feature remaining from the last glacial period, provided an ideal strategic landform for over two centuries of military development. Although its most active period was from the Civil War through World War I, Battery Weed remained a vital military installation into World War II.

As early as the mid-eighteenth century, colonial government authorization was given for guns and signal beacons at this site on the Narrows of New York Bay. Throughout the period of significance, 1847- 1945, Battery Weed was a manned and active military site, with a landscape that was physically developed within the context of an evolution in the philosophy and technology of American coastal defense. Numerous features, dating from 1847 to World War I, continued to be used through World War II and remain in the landscape today, including earthworks, buildings and structures related to the second, third, and Endicott era systems of coastal defense, providing evidence of Battery Weed's long and prominent military history. Many of these earlier features continued to be used in the mounting of later artillery technologies through the beginning of World War II in 1942 before all remaining artillery was removed from the site in c.1944. From 1942 through 1945, Battery Weed was the site of World War II home-front activities such as training, equipping, and decommissioning operations. After 1945, Battery Weed was largely abandoned, serving primarily as a storage area related to military activity elsewhere at Fort Wadsworth.

Area: Entertainment/Recreation

In addition to significance in the area of military history, Battery Weed has significance in the area of Entertainment/Recreation within the context of the development and practice of leisure activities for refreshment and amusement within its historic informal use as a public park. The overlook above Battery Weed and the seawall around the fort served as scenic public promenades during the nineteenth and early twentieth centuries, and the slope above Battery Weed was used as a public park. The distinguishing landscape characteristics of Battery Weed included the open park-like spatial quality, steep

waterfront topography, overlook and stonewall, waterfront seawall walk, and dramatic views of New York Bay. These more ephemeral but important characteristics were documented by artists such as Henry S. Beckwith, Seth Eastman, and W.H. Bartlett and gave the site wide renown. Visitors came to enjoy the site consistently throughout periods of military development. Writer Herman Melville, in his 1849 novel *Redburn*, refers to the Battery Weed landscape as “a beautiful, quite and charming spot [in which he] should like to . . . live there all my life.” The Staten Island Institute of Arts & Sciences collection includes porcelain pieces featuring historic views of the Narrows and the Fort Wadsworth landscape. A stone wall built in the 1930’s, as well as the characteristics and features that inspired nineteenth century works of art and literature remain in the landscape today and reflect an important role in recreational landscape history and in the evolution of the function of the site as an early New York City park.

National Register Criterion C

Architecture and Engineering

The existing National Register listing documents the architectural significance of Battery Weed, with its granite block construction in three casemated tiers and former moat bounded by a granite seawall, it is an excellent example of the Third System era (1817-1861) in coastal defense. The Battery Weed landscape is also significant under National Register Criterion C in the areas of Architecture and Engineering for illustrating the evolution in American coastal defense systems. Contributing features remaining in the Battery Weed landscape today include the Endicott Era earthworks, Batteries Catlin and Bacon flanking the fort, the Mine Defense Complex, and the North Stone Dock. These features represent components of the outwardly expanding New York Harbor system of

defenses, and illustrate the progression over time of coastal military architecture and engineering technologies.

Following the 1794 and 1809 State of New York purchases of land at the Narrows on Staten Island, initial military development began with the construction of the “Second System” Fort Richmond of red sandstone, accompanied by several ancillary structures at the water’s edge. Federal purchase of the site in 1846 led to the removal of the Second System fortress, and the construction of a new granite “Third System” fort, later named Battery Weed, in its place between 1847 and 1861. The new fort was conceived as a component of a larger system of defenses designed to secure the entrance to New York Harbor in conjunction with Fort La Fayette on the Narrows and Fort Hamilton located along the eastern edge of the Narrows. Battery Weed, with its three tiers of granite casemates was designed in a half-hexagon and carefully situated to complete range of fire objectives together with Forts LaFayette and Hamilton across the Narrows of New York Bay.

The Battery Weed landscape was engineered as a strategically important component of the overall coastal defense system. The comprehensive grading of the site by the Army for a series of earth and concrete ground batteries began in the 1860s. The earlier South and North Cliff Batteries were reconstructed between 1895 and 1904 as Batteries Bacon and Catlin incorporating earlier features such as a c.1865 subsurface parados. These late nineteenth century batteries and Civil War era parados remain in the landscape today. Gun emplacements located on the batteries were updated throughout the historic period making it difficult to attribute accurate dates to remnants of the artillery system. In 1918, at the time of the World War I Armistice, Battery Bacon’s two three-inch guns were

dismounted and sent to Aberdeen Proving Ground in Maryland. Guns mounted on Battery Catlin were out of service by 1942.¹

As a result of the recommendations for the modernization of coastal fortifications made by the Endicott Board in 1885, the Army developed subsurface mine systems at some U.S. coastal fort locations including Fort Wadsworth. The Endicott Era modifications to the Battery Weed landscape began in 1887 with the addition of structures used in the storage, handling and transport of subsurface mines and related equipment. The Torpedo Storage Building, c.1892, portions of a mine railway, c.1896-1921, a mine casemate, c.1905, and remnants of 5 cable tank buildings, c. 1899-1904, although incomplete, remain in the landscape today.

On the slope above batteries Bacon and Catlin, two Coincidence Range-Finder (CRF) Stations were constructed c.1917 and remain in place today. A concrete seawall constructed by the WPA in 1938 remains along the beach north of the north stone dock.

Few substantial changes are evident from the period following World War I with the exception of the removal of several of the mine era buildings following World War II. Vegetation management practices changed in response to a 1942 federal order for a new program of obscurement from aerial attack at the outset of World War II. Although some successional vegetation was allowed throughout the site as a result of this program, it was not design intent so much as the lack of sufficient federal funding later in the century that resulted in the less frequent management of the landscape and vegetation and the maturing of the existing successional woods.

The structures remaining in the Battery Weed landscape today including remnants of the mine defense complex, structures such as the c. 1858 north stone dock, the c. 1871 seawall, the engineered landforms of Batteries Bacon and Catlin, the existing engineered slope above Battery Weed, and the filled moat surrounding the fort all represent historically significant military architecture and engineering features remaining as evidence of several stages of military development of the landscape.

Period of Significance, 1847-1945

The period of significance for Battery Weed extends from the beginning of construction of the Third System fort in 1847 through the World War II period until 1945. The period prior to 1847 has not been included in the period of significance because there are no physical remains from that time with the possible exception of the alignment of Battery Weed Road with an earlier farm road. The earlier fort was removed and the landscape was largely reformed. After 1945, there was no substantial new construction, and the site was no longer actively used in coastal defense.

EVALUATION OF HISTORICAL INTEGRITY

Integrity as defined by the National Register is the ability of a property to convey its significance through its physical resources. Within the concept of integrity, the National Register recognizes seven aspects: location, design, setting, materials, workmanship, feeling and association. The following evaluation of the Battery Weed landscape, a component of the larger Fort Wadsworth National Historic District and defined by the project boundaries of this CLR, is based upon a comparison of existing conditions with conditions of the period of significance extending from 1847 through 1945.

The project area, defined by critical viewsheds across the landscape, includes only the portions of Batteries Catlin and Bacon adjacent to Battery Weed. Batteries Catlin and Bacon, along with the panoramic views from the overlook remain in the landscape today, although they have been obscured with the advancing natural succession and the dense and rapid spread of an invasive vine. Since 1945, changes to the site have resulted largely from a lack of vegetation maintenance, and are therefore reversible.

Location

Location is defined by the National Register as the place where the historic property was constructed, or the place where the historic event occurred. Battery Weed, a part of the Fort Wadsworth reservation, retains all of the land included in its development in 1847-1945. The landscape retains the historic position on the heights above, and along the western shore of the Narrows of New York Bay.

Evaluation: Retains integrity of location.

Design

Design is defined by the National Register as the combination of elements that create form, plan, space, structure and style of a property. Battery Weed retains the original fortification plan as laid out in 1847-1864, and is a representative example of the “Third American System” of coastal fortifications. In addition to the granite fortress, the landscape retains a Civil War era subsurface parados (c.1865), Endicott era batteries and remnants of Mine railway systems, buildings and subsurface structures from the subsurface Mine Defense Complex (c.1892-1907), battery control and Coincidence Range-Finder (CRF) stations

(c.1917), and the north stone dock (c.1850). In addition, the landscape retains historic circulation patterns.

Since there was little new construction after 1945, the design has been largely unaltered except through forces of natural succession and deterioration. Although some loss of design integrity is evident in the effects of successional vegetation, which has impacted the slope, paths, and batteries where it has been allowed to mature, the loss of integrity at present is minimal, and the condition is reversible. Portions of the rail tracks of the mine system have been lost to the resurfacing of Battery Weed Road and the dock road. Wood extensions to the North Stone Dock, c.1907 and reconstructed following a steamer collision in 1913, have been lost to storm damage. The water-filled moat was drained in c.1887 and filled in c.1904. Although some historic fabric has been lost, the Battery Weed landscape retains much of its historic design as a military installation.

Evaluation: Retains integrity of design.

Setting

Setting is the physical environment of a property, and in particular the general character of the place. Battery Weed retains its overall setting defined by expansive views of New York Bay, steep slope to the west, and flanking ground batteries. The integrity of setting has been diminished by the successional vegetation on the slope and batteries, as well as the introduction of the Verrazano-Narrows Bridge after 1945. The historically open setting of the slope and Battery Catlin to the northwest that permitted views of Battery Weed and the North Stone Dock from northwestern vantage points has been diminished by the growth of successional woods in these areas (Figure 3.1). The setting from the north to the

southeast of the fort retains its historic character with the exception of a strategic relationship to the removed Fort LaFayette and views of Lower New York Bay altered by the Verrazano-Narrows Bridge. The larger setting of Fort Wadsworth outside of the project boundaries to the south and west along the extension of Richmond Avenue, on the approach to Battery Weed, has been diminished with the addition of multi-family housing units and other structures on the Fort Wadsworth parade ground.

Evaluation: Retains diminished integrity of setting.

Materials

Materials are the physical elements that in a particular pattern or configuration give form to the property. Battery Weed retains historic built materials of granite, concrete, stone, earth, brick, asphalt, iron and steel in its buildings, walls, batteries, roadways, rail tracks and dock.

Historic materials have been diminished as a result of the removal of sections of the Mine railway in the resurfacing of Battery Weed Road, storm damage to stone, wood and iron components of the North Stone Dock, and from fire damage to the Torpedo Storage Building. The palette and location of historic plant materials has been altered as a result of natural succession, invasive vines, and the expansion of the concrete terrace at the crest of the Overlook.

Evaluation: Retains diminished integrity of materials.

Workmanship

Workmanship is the physical evidence of the crafts and methods of construction used during the historic period. Battery Weed retains workmanship characteristic of its initial development through the evolution of coastal defense systems and technologies during the nineteenth and twentieth centuries in the stonework of Battery Weed, the north stone dock and overlook wall, in the masonry of the subsurface paradoss, earthen batteries and gun emplacements, in the metalwork of the Mine railway, iron building details and dock bollards. The mine casemate additions to the northwest corner of the fort display early workmanship in poured concrete.

Some later workmanship of the mid-twentieth century is represented in the modular concrete block construction of the small warehouse to the south of the Torpedo Storage Building.

Evaluation: Retains integrity of workmanship.

Feeling

Feeling is the expression of the aesthetic or historic sense of a particular period of time resulting from the presence of physical features that, taken together, convey a property's historic character. Battery Weed retains the commanding presence that characterized it historically and related it to its companion Third System era (1817-1861) coastal fortifications; however, the landscape surrounding the fort does not convey the feeling of a military property. There is a loss of integrity of feeling in the sense of abandonment that exists on the site today as a result of limited public access, fenced off areas of the fort grounds, the deterioration of several abandoned buildings, and the lack of a high level of

landscape maintenance that together contribute to a loss historic feeling of spatial openness, and thus a loss of integrity of feeling.

Evaluation: Retains diminished integrity of feeling.

Association

Association is the direct link between an important historic event or person and a historic property. Battery Weed's historic association with the Army no longer remains, but the physical features continue to reflect that relationship. Battery Weed remains closely associated with the Third System era (1817-1861) of coastal defense, Endicott era defense systems, and the New York Harbor defense system from before the Civil War through the mid-twentieth century with several buildings and structures remaining including ground batteries, gun emplacements, a subsurface parados, stone and concrete walls, North Stone Dock and seawall. Battery Weed is associated with the Works Progress Administration (WPA) programs of the 1930s and 40s for the Concrete Seawall north of the North Stone Dock constructed by the WPA in c.1938 as well as a long association with the United States federal government through its administration since 1846.

The Battery Weed landscape also has an association with public recreational use. Historically, this use was informal without extensive programmatic development of the landscape. Today, public recreational use of the Battery Weed landscape has become more institutionalized with its incorporation into Gateway National Recreation Area.

Evaluation: Retains integrity of association.

Summary Evaluation of Integrity

Battery Weed retains integrity of location, design, setting, materials, workmanship, association and feeling, although the integrity of its setting, materials and feeling has been diminished. As a whole, the Battery Weed landscape conveys its significance for association with the Third System era (1817-1861) of coastal defense, the Endicott era of defense systems, and as a component of the New York Harbor defense system as initially developed during the pre-Civil War period through the mid-twentieth century under War Department Administration. Battery Weed also continues to convey its significance for association with Recreation for nineteenth and twentieth century use as a public promenade and park. While the diminished aspects of integrity of setting, materials, and feeling detract from the historic character, most of them are reversible.

LANDSCAPE EVALUATION

This section evaluates the historic character of the Battery Weed landscape by contrasting historic conditions (1847-1945) with existing conditions (2007). The evaluation is organized by a brief narrative of the overall landscape characteristic followed by historic condition, existing condition, and evaluation of extant associated features. Character-defining features that have been lost since the end of the historic period are described in the characteristic narrative. Features are evaluated as contributing or non-contributing to the historic character of Battery Weed, or unevaluated if there is insufficient information.

The Battery Weed landscape is a component of the larger Fort Wadsworth district. This evaluation addresses only the portions of Batteries Bacon and Catlin within the CLR project area, but considers these features in their wider context as a part of a larger system

of defensive structures. In the evaluation, features may contribute to the Third System Era, the Endicott Era, and the World War II Era.

NATURAL SYSTEMS AND FEATURES

This characteristic is comprised of the natural aspects that often influence the development of a landscape, and in the Battery Weed landscape include natural flora, landforms and hydrology. Natural flora (successional woods) are considered a natural system while managed vegetation (specimen trees, hedgerows, lawn, etc.) is not. Since the historic period, planted grasses have been succeeded by a mix of hardwoods and shrubs, and an invasive wild grape species, Porcelain Berry (*Ampelopsis brevipedunculata*).

Porcelain Berry has its origins in northeast Asia and was originally cultivated in the U.S. as a bedding and landscape plant in c.1870. Natural succession since the historic period has led to an increased area of wooded and scrub land in Battery Weed's northwestern and southwestern setting.

Also within this characteristic is the natural landform, not including constructed topography (drainage ditches, earthworks, etc.). Battery Weed was developed on this site specifically because of the steep bluff rising approximately 125 feet above the Narrows of New York Bay, and the relatively level area at the water's edge of a deep-water channel and entrance to the interior of the continent. At the beginning of the historic period, the bluff above Battery Weed featured steep and irregular form with rock outcroppings and eroded ravines. During the historic period, the bluff was graded to an even and consistent slope and planted with grasses, but the over-all change in elevation from the shorefront to the crest of the bluff was not significantly changed. Today, the steep slope above Battery Weed remains characteristic of the landscape.

The hydrology, another natural system, includes the waterfront and rocky beach on the Narrows of New York Bay, a part of the Hudson-Raritan Estuary. The landscape of Battery Weed forms the southern edge of a protected open water cove in an estuarine system influenced by both fresh and salt water and strong tidal currents. Also present in some form during the historic period, was a fresh water spring located below the bluff that emerged from the ground approximately 120 feet from the high water line near the southwest bastion of Battery Weed. Prior to c.1860, this spring was probably minimally managed as a water resource. A moat and granite seawall, completed in 1871, surrounded the fort and incorporated the spring in its design to fill and keep the structure supplied with water, providing protection from invasion on the landward side of Battery Weed. The moat was dewatered in c.1887, except for a small walled-in section at the southwest corner of the fort where the spring water was captured and piped along the west wall of the moat to supply the interior of the fort at the guardhouse. In c.1904, the moat was filled in with earth and rubble, and the spring was probably engineered to supply a subsurface cistern and water supply for Battery Weed.

NS-1. Successional Woods and Vines

Historic Condition

During the construction of Battery Weed from 1847 through the completion of the seawall surrounding the fort in 1871, the broad sandy beach was probably interspersed with coastal grasses including saltwater-loving species such as salt cordgrass, *Spartina alternifolia*, and yellow saltgrass, *Spartina patens*. A mix of grasses, wildflowers, and successional tree species such as cedar, oak and pine existed on the steep, irregular bluff

above the site of the fort. The natural flora was likely removed when the site was graded in c.1873 and replaced with managed grasses for a period of many years until 1945.

Existing Condition

Since the end of the historic period in 1945, natural succession reclaimed most of the disturbed lawn areas on the slope and on the batteries in a mix of native and non-native species including Norway maple, *Acer platanoides*, tree of heaven, *Ailanthus altissima*, black cherry, *Prunus serotina*, and a wild grape or porcelain berry, *Ampelopsis brevipedunculata*. The flora today consists of some areas of successional woods composed of the post-1942 native and non-native mix of species mainly to the northwest of Battery Weed on Battery Catlin and on the slope, as well as to the southwest on Battery Bacon and the slope above (Figure 3.2). In addition, the rapid and densely growing invasive wild grape is blanketing much of the slope above Battery Weed and has choked out most of the grasses and wildflowers (Figure 3.3). The vine is climbing many of the trees in the successional woods and covering the earthworks of the batteries, the remains of the Mine Casemate, a granite retaining wall along Battery Weed Road, and the Coincidence Range-Finder Station above Battery Bacon.

Evaluation: Non-contributing

Since the historic period, the vegetation at Battery Weed has converted to plant communities not present prior to 1945. The successional vegetation does not contribute to the historic character of the Battery Weed landscape because it was not present during the historic period, and it detracts from the historically well-maintained character of the landscape.

SPATIAL ORGANIZATION

This characteristic concerns the arrangement of elements creating the ground, vertical, and overhead planes that define and create spaces. During the historic period, Battery Weed was defined spatially by the steep slope to the west along Hudson Road, batteries to the south and northwest, and the Narrows of New York Bay to the east. Battery Weed Road crossed the open, grassy site from the south to the northwest above the batteries. Historically, the large earthworks of Batteries Bacon and Catlin, flanking the fort to the south and northwest defined the fortress grounds spatially. Since 1945, the spatial organization has been altered mainly through natural succession, fire and storm damage and the removal of some of the mine complex buildings and structures. Despite these changes, the landscape retains the overall organization that has defined it since its development between 1847 and 1894, although it has become much more enclosed due to the growth of successional woods.

SO-1. Parade Ground

Historic Condition

Early in 1847 with the start of construction of the granite block half-hexagon fort that would later be known as Battery Weed, the plan for the parade ground began to take shape on the site below the bluff at the water's edge. When the fort was completed in c.1861-1864, the space at its center, the parade ground, was a nearly level lawn area, open to the sky above with a passage to the outside of the fort on the west side, and a cistern set below grade adjacent to each of the eastern stair towers. From the parade ground within

the fort, the only exterior views were through the iron entry gate on the west side, when the wooden drawbridge was down, and glimpses through the narrow slot openings in the granite casemates. The spatial character of the parade ground, with the exception of brief periods of use for storage of munitions, formed an enclosed and protected, but open and uncluttered interior military courtyard typical of the Third System era (1817-1861) of coastal fortifications.

Existing Condition

Little change has occurred in the parade ground since the end of the historic period in 1945. Measuring approximately 260 feet by 140 feet, the parade ground is enclosed and framed to the east by three sides of a gently rounded half-hexagon of arched granite casemates in three tiers at a height of approximately thirty-six feet with two four-story stair towers and a delicate iron railing between the towers along the top tier (Figure 3.4). A lower, straight granite wall encloses the parade ground on the west side and incorporates a two-story guardhouse with iron entry gate and two four-story magazines with stair towers at the northwest and south corners. The parade ground is maintained entirely as mown lawn.

Evaluation: Contributing

The parade ground, designed in 1846 and built between 1847 and 1864, contributes to the historic character of the Battery Weed landscape as a defining spatial feature of the Third System Era (1817-1861). The spatial character of the parade ground as originally designed remains intact.

SO-2. Moat Space

Historic Condition

Construction of the moat beginning in c.1851 on the west and southeast flanks of Battery Weed resulted in the creation of a space surrounding Battery Weed defined by the high granite walls of the fort, rising approximately forty-eight feet above the reflective surface of the calm water of the moat, the granite seawall and the expansive views beyond to the north, east and southeast across the bay and Narrows. The excavation of the seven-foot deep ditch edged with a stone or concrete retaining wall and extending to the high-water line at both the northwest and southeast bastions of the fort where the granite seawall defined the outer edge of the moat completely surrounding Battery Weed. From the time of its completion in 1871 through c.1887, the water-filled moat provided protection from landward attack. The granite seawall at the edge of the moat was enjoyed as a waterfront walkway throughout the historic period after its completion in 1871. In c.1887 water was drained from the moat, and in c.1904 the moat was filled in with earth and rubble. The filled moat was used by the public for scenic walks around Battery Weed throughout the later years of the historic period.

Existing Condition

Since the end of the historic period in 1945, the moat has been top-dressed with gravel between the granite seawall and the fort walls to fill areas of outwash (Figure 3.5). The filled moat surrounds Battery Weed to a distance of approximately thirty-three feet from the scarp, the approximately forty-eight foot high outer granite walls of the fort walls of the fort. Grasses, weeds and reeds fill in patches along the fort walls. The space of the

filled-in moat to the south, east, and northwest defines a bay-front terrace along the exterior edge of the massive structure. Although historically the moat completely surrounded Battery Weed, along the west wall of the fort, the space of the filled moat is no longer defined or discernable with lawn extending across the grounds to the west wall of Battery Weed.

Evaluation: Contributing

Although filled in c.1904, the moat remains clearly defined as a perimeter space around the fort. The space delineated by the former moat contributes to the historic character of the Battery Weed landscape as a spatial feature of the Third System Era (1817-1861).

SO-3. The Overlook Space

Historic Condition

At the beginning of the historic period in 1847, the overlook was a grassy knoll at the crest of a weathered and eroding, partially treed bluff 125 feet above the Narrows of New York Bay and the construction site of the new Fort Richmond, later named Battery Weed. The space was defined by a large rock outcropping to the south, a pasture fence, dirt road, and the round stone bastions of the original Fort Tompkins to the west atop the bluff. A small signal house and semiphore signal system was located at the crest of the bluff above the bay. By 1865, plans were being made for leveling of the overlook and slope along with grading for the new Fort Tompkins begun in c.1871. A raised earthen berm, covered with cut grasses, was added in front of the new Fort Tompkins, and a two-gun battery constructed at the southern end. After the slope was graded and planted with lawn in c.1873, a broad earthen path possibly dressed with gravel or sand extended several

hundred yards north along the crest of the slope above Battery Weed to Gernda, a private estate perched on the bluff. Sometime after 1924, the overlook was again graded, terraced in concrete and edged with a stone wall possibly constructed by the WPA in c.1938.

Existing Condition

Between 1945 and 1961, a temporary structure, probably a wood-frame building, was constructed at the overlook and removed prior to 1990. The overlook was redesigned sometime in the 1990s to incorporate a sidewalk and grass panels edging Hudson Road. The overlook extends approximately 1,300 feet along the crest of the slope above Battery Weed (Figure 3.6). At this time, a gun mount, four park benches, a lighted flag pole, two viewing stations, and interpretive signs were also added in the central terrace area at the head of Tompkins Road with planting beds featuring viburnum hedges, bayberry and boxwood.

Evaluation: Contributing

The overlook, spatially extended by long distance views of Manhattan and New York Bay and bounded by Hudson Road to the west, contributes to the historic character of the Battery Weed landscape throughout the historic period (1847-1945). The overlook played a leading role within the context of the development and practice of leisure activities for refreshment and amusement in New York City. The spatial character of the overlook as it existed during the historic period remains intact .

SO-4. Slope

Historic Condition

Prior to c.1873, the slope above Battery Weed was a steep and craggy, eroded bluff scattered with coastal grasses, wildflowers, and a variety of species of trees such as cedar and pine. The irregular crest of the bluff was 125 feet above the Narrows of New York Bay. Beginning in c.1873 the bluff was graded in sections to an even grade of approximately 50 degrees, seeded or sodded with grasses, and maintained as lawn. When the grading was complete, with a stone retaining wall constructed at the portion of its base nearest the southwest bastion of Battery Weed, approximately two feet of its earlier 125-foot elevation had been lost and the slope crested at 123 feet above the Narrows. A series of paths were installed across the slope from the top to the level area surrounding Battery Weed below in c.1892. Following World War II, maintenance of the grasses was less regular, and successional woods began to take hold across the slope.

Existing Condition

Since the end of the historic period in 1945, the slope above Battery Weed, with a grade of approximately 50 degrees, has been nearly completely covered in successional growth including shrubs and maturing trees, blanketed with an invasive vine, porcelain berry (Figure 3.7).

Evaluation: Contributing

The space of the slope, delineated by the stone wall to the west and Battery Weed Road to the east at the base, contributes to the historic character of the Battery Weed landscape as a spatial feature from its Third System Era. Although the presence of successional

vegetation has dramatically impacted the spatial character of the slope as originally designed, this condition is reversible.

LAND USE

This characteristic describes uses that affect the physical form of the landscape. During the historic period, the Battery Weed landscape was characterized primarily by military and secondly by recreational land uses. Although the land was under United States military jurisdiction, and was part of an active military base at Fort Wadsworth until 1994, the Battery Weed landscape largely fell out of active military use after 1945. The site was used for recreational purposes, effectively functioning as a bayside public park and promenade throughout the historic period. Recreational use was likely limited sometime after 1945 to the overlook area. Since 1945, military use of the land at Battery Weed has been largely replaced with recreational use of the land. In 1995, recreational use became institutionalized with the incorporation of Fort Wadsworth into Gateway National Recreation Area.

CIRCULATION

This characteristic describes systems of movement through the landscape. Circulation through the Battery Weed landscape during the historic period evolved from a simple dirt access road bisecting the site from south to northwest to a wide footpath and a dressing of gravel added at the crest of the slope in c.1883; the addition of a spur road that provided access to the north stone dock constructed in c.1892; the addition of footpaths across the slope between the upper and lower forts in c.1892 and actively used through c.1938; and a mine railway used to transport mines between storage and deployment across the site designed in c.1896-1921. Since the historic period, access to the north stone dock and the

seawall on the east side of Battery Weed has been restricted, with the installation of security fencing, to park employees only.

C-1. Battery Weed Road

Historic Condition

During the historic period, Battery Weed Road, built in c.1847, roughly following an earlier farm road, entered the site from the south along the edge of the cliff, at the east end of Richmond Road, and turned to the northwest near the entrance of the fort ascending the slope above the north stone dock and connecting with Mont Sec Avenue. In c.1883 the road surface was first dressed with macadam and gravel. When the Torpedo Storage Building was constructed in c.1894, Battery Weed Road was widened at the north and south entrances of the new building. The steel rails of the mine railway were set into the road surface around the Torpedo Storage Building beginning in c.1910.

Existing Condition

Aside from repaving, little change has occurred to Battery Weed Road since the end of the historic period in 1945. Measuring approximately twelve feet wide, with the exception of widened areas at the north and south ends of the Torpedo Storage Building, Battery Weed Road is surfaced in asphalt with some areas of concrete adjacent to the remaining sections of the Mine railway crossing the road surface (Figure 3.8). Curbing edges the road only along the east edge above Battery Bacon. The wider area at the southern end of the Torpedo Storage Building is occasionally used for short-term visitor parking.

Evaluation: Contributing

Battery Weed Road, constructed beginning in c.1847, contributes to the historic character of the Battery Weed landscape as a defining circulation feature of the Third System era. No substantial changes have been made to Battery Weed Road since the historic period.

C-2. Hudson Road

Historic Condition

Hudson Road evolved from a dirt farm road at the crest of the bluff from sometime during the eighteenth century, to a level and likely gravel surfaced road in c.1871. At this time, the bluff was graded for the construction of Fort Tompkins and the path of Hudson Road was realigned and straightened. Hudson Road was first given a macadam (asphalt) surface in c.1880.

Existing Condition

Between 1945 and 1961, Hudson Road was widened at its mid-section and at the north end to incorporate perpendicular parking spaces on the east side of the road. The last realignment of the road took place in the 1990s with a return to a narrower configuration as in the 1940s, removing the parking spaces at the north end, and softening the curve around Battery Duane across from the overlook terrace. Hudson Road has an asphalt surface and is approximately twenty feet wide and 2,000 feet long running along the top of the slope above Battery Weed immediately to the east of Fort Tompkins has concrete curbs with integral gutters. It connects to Battery Weed Road completing a loop that circumnavigates the slope between Battery Weed and Fort Tompkins (Figure 3.9).

Evaluation: Contributing

Probably first constructed as a farm road sometime prior to 1850 and reconstructed beginning in c.1871, Hudson Road contributes to the historic character of the Battery Weed landscape as a defining circulation feature from its Third System era.

C-3. Overlook Promenade

Historic Condition

The overlook promenade was not a designed feature prior to c.1873, although the grassy knoll along the crest of the bluff above Battery Weed did attract visitors who walked there and enjoyed the view as early as c.1830. Following the grading of the bluff in c.1873, a wide footpath, probably dressed in gravel ran along the crest of the bluff. By the early 1890's, a level overlook terrace was constructed measuring approximately 250 feet long by thirty feet wide. In c.1892, the overlook terrace and walk were linked to new paths that diagonally crossed the slope above Battery Weed connecting the overlook terrace and walk with Battery Weed Road below. A stone wall was constructed along the top edge of the slope by the WPA in c.1938 disconnecting the overlook terrace and walk from the paths on the slope.

Existing Condition

Since the end of the historic period in 1945, a widened terrace section was added to the overlook promenade (Figure 3.10). The promenade, approximately 1,300 feet long, was constructed in c.1995 in sections of poured concrete abutting a stone wall along the edge of the slope. The promenade incorporates a widened terrace area at the juncture of Tompkins Road with concrete paths through grass panels. The walk extends

approximately seventy feet to the south of the terrace and 600 feet to the north along Hudson Road.

Evaluation: Contributing

Although the existing design and materials of the walk and terrace are not contributing, the path of the overlook promenade, established in c.1873, contributes to the historic character of the Battery Weed landscape as a circulation feature of the historic period (1847-1945). The path of the promenade remains intact and illustrates the early development and practice of leisure activities for refreshment and amusement in New York City.

C-4. Slope Paths

Historic Condition

In c.1892, the Army constructed three paths crossing the steep slope above Battery Weed diagonally from the crest of the slope to Battery Weed Road below. One approximately 660 foot-long path extended from the northwest to the southeast crossing the other two paths at a switchback about halfway down. The other two paths extended from the northwest along Battery Weed Road to the southeast, connected in an acute angle and joined the path at the crest of the slope near the overlook. The paths were approximately six feet wide with concrete edging; the historic surface is unknown.

Existing Condition

Since the end of the historic period in 1945, the slope paths have been obscured with successional vegetation including a thick invasive vine. It is unknown whether they still

exist in total across the slope. One of the paths remains partially accessible from Battery Weed Road north of the Torpedo Storage Building. Approximately 120 feet of concrete edge remains along the path in this section extending from just above Battery Weed Road to an area of soil erosion near an undetermined subsurface structure lost in the vegetation (Figure 3.11).

Evaluation: Undetermined

If investigation determines that the paths exist in large part across the slope, they should be considered a contributing feature.

C-5. Waterfront Promenade

Historic Condition

The waterfront promenade established by default in c.1871 with the completion of the granite seawall along the water's edge to the southeast, east and north of Battery Weed to the North Stone Dock, was a popular path along which visitors frequently strolled. The approximately six-foot wide granite blocks of the seawall separated the waters of the bay from the water in the moat surrounding Battery Weed from c.1871 through c.1898 when the moat was drained. When the moat was filled in n c.1904, the promenade widened to include the filled moat, and visitors continued to enjoy walks around the fort while viewing all of the activities on the bay.

Existing Condition

Since the end of the historic period in 1945, access to the waterfront promenade around Battery Weed to the north stone dock has been discouraged with temporary plastic

fencing across the path at the southwest bastion, and a six-foot high chain-link fence at the north end of the fort between the northwest bastion and along Battery Catlin. The earth and rubble surface of the filled moat has been dressed with gravel since c.1995 in areas of wash out and is uneven and puddling in places (Figure 3.12). Phragmites and other vegetation has established in many areas along the waterfront surrounding the fort, and a section of the seawall to the north of Battery Weed has collapsed.

Evaluation: Contributing

The waterfront promenade, in use by c.1871, contributes to the historic character of the Battery Weed landscape as a defining circulation feature of the historic period. The promenade illustrates the early development and practice of leisure activities for refreshment and amusement in New York City. Although access is discouraged at present, the characteristic circulation pattern of the historic period remains intact.

C-6. Mine railway

Historic Condition

In 1896, a mine railway was laid across the site to facilitate the transport of mines from storage to deployment by boat. One pair of rails entered the north end, and three pairs entered the south end of the Torpedo Storage Building at the base of the slope to the south of the North Cliff Battery (later Battery Catlin) where they merged into one pair of rails extending to the bulkhead of the North Stone Dock at the water's edge. In 1910, the rails were realigned to ease the sharpness of the curves at the south end of the Torpedo Storage Building, and an extension was added from the cable tank building in c.1905, immediately west of Battery Weed. In 1921, the steel rails were again realigned to improve

the curves and this time with extensions of the system through the main gate of Battery Weed into the parade ground where munitions were stored, and to the end of the wood extension of the North Stone Dock.

Existing Condition

Since the end of the historic period in 1945, some sections of the mine railway may have been removed. Portions of both the 1896 and 1921 configurations of the mine railway remain set into the surface of Battery Weed Road at the north and south ends of the Torpedo Storage Building, and extending into the landscape near Battery Catlin and at the bulkhead of the north stone dock. Where the rails are covered by vegetation it is unknown whether they still exist or have been removed. The rails set into Battery Weed Road are surrounded with an area of concrete flush with the road surface (Figure 3.13). A spur from the exterior of the entrance of Battery Weed turns toward the north stone dock and terminates less than 40 feet from the fort.

Evaluation: Contributing

The mine railway initially built in c.1896, and realigned in 1910 and again in 1921, contributes to the historic character of the Battery Weed landscape as a defining circulation feature from the Endicott (1886-1917) and World War I (1917-1918) eras.

C-7. Dock Road

Historic Condition

Prior to c. 1892, circulation to the north stone dock was likely a dirt wagon path without any defined roadbed. In c.1892, a road was constructed from Battery Weed Road, near

the location of the new Torpedo Storage Building, to the north stone dock. The surface of the road was likely stone earth and stone. The dock road was extended at some time after 1913 along Battery Catlin to the north.

Existing Condition

Since the end of the historic period in 1945, the dock road has lost some edge definition and surface to vegetation growth at its north end near the dock. The dock road is asphalt with worn and indefinite edges. A chain link fence cuts off access to the dock road at the north end of Battery Weed where it turns northwest, becomes an earthen trail and disappears into the vegetation.

Evaluation: Contributing

Although the dock road, built in c. 1892, has a loss of surface that detracts from its historic character; it remains in its historic configuration and contributes to the historic character of the Battery Weed landscape.

TOPOGRAPHY

This characteristic is defined as the built, three-dimensional configuration of the landscape. Natural contours of the land are considered part of the natural systems and features characteristic. In the initial development of the Battery Weed landscape, the natural contours of the land were manipulated to provide more even, level surfaces adequate for circulation of laborers, carts and materials involved in the construction of the fort. In c.1862, construction of large earthworks for the South Cliff and North Cliff Batteries began on the level waterfront area and continued with reconfigurations of the topography through c.1905 with the completion of Battery Bacon and Battery Catlin. The

topography of Battery Weed was characterized by a dominance of engineered slopes with even grades used to cover earthworks as well as stabilize slopes. Since the historic period, an area of soil erosion has developed on the slope above the Torpedo Storage Building, and the crest of the Overlook has been leveled with the construction of a broad concrete terrace.

T-1. Engineered Slope

Historic Condition

In c.1848 with the construction of Battery Weed, engineering of the slope began with grading and the addition of a slope retaining wall near the southwest bastion of the fort.

In c.1873, in an effort to establish clear sight lines to the Narrows and clear lines of communication between command posts and batteries, the remaining sections of the uneven, weathered bluff above Battery Weed was cleared and graded in stages to a nearly even slope from its crest to its base of approximately fifty percent. Rock outcroppings were removed and gullies filled, and the newly engineered slope was seeded or sodded with grass.

Existing Condition

Since the end of the historic period in 1945, some soil erosion has occurred above the north end of the Torpedo Storage Building where a gully has formed as a result of water runoff (Figure 3.14). Aside from this change, the engineered slope above Battery Weed exists in largely the same configuration it had throughout the historic period.

Evaluation: Contributing

The engineered slope, constructed beginning in c.1873 contributes to the historic character of the Battery Weed landscape as a defining topographic feature of the era of the Third System era (1817-1861).

T-2. Battery Catlin Earthworks

Historic Condition

The portion of Battery Catlin evaluated for this report is the southernmost end of a large earthwork (to the northwest of Battery Weed) initially constructed in c.1863-1867 as the North Cliff Battery which was reconstructed in c.1902-1904 as the approximately 140 foot wide and 720 foot long Battery Catlin. Redesigned to accommodate new Endicott-era technology in coastal defense artillery but retaining subsurface parados, Battery Catlin in its entirety was a series of earth mounds rising approximately forty-five feet above the level of the North Stone Dock just above the shoreline, incorporating several poured concrete structural walls, gun emplacements, steps, an earthen access path with earth-covered concrete arches. A brick mine casemate was added near the south end of the battery in c.1905.

Existing Condition

With the exception of some erosion and deterioration of structural elements, little change has occurred to the Battery Catlin earthwork since the end of the historic period in 1945. The southern end of Battery Catlin consists of a large earth mound measuring approximately 320 feet by 140 feet rising to a height of forty-five feet above the level of

the north stone dock and incorporating a subsurface concrete parado and brick mine casemate (Figure 3.15).

Evaluation: Contributing

The southern portion of the Battery Catlin contributes to the historic character of the Battery Weed landscape as a defining topographic feature of the Endicott Era in coastal defense. Aside from minor erosion, the battery earthwork remains in its historic configuration.

T-3. Battery Bacon Earthworks

Historic Condition

The portion of Battery Bacon evaluated for this report is the northern end of a large, approximately 600 foot-long earthwork to the southwest of Battery Weed initially constructed in c.1862-1866 as the South Cliff Battery that was reconstructed in c.1898 as Battery Bacon. Redesigned to accommodate new Endicott era technology in coastal defense artillery, the earthwork of Battery Bacon rose approximately fifty feet above the water level of the Narrows just above the shoreline and incorporated poured concrete structural walls, steps and gun emplacements (evaluated under BS-9).

Existing Condition

With the exception of the overgrowth of vegetation on the battery, little change has occurred to the Battery Bacon earthwork since the end of the historic period in 1945. The northern end of Battery Bacon consists of a large earthen mound measuring approximately 200 feet by 80 feet, rising to an elevation of fifty feet above the water level

of the Narrows and incorporating concrete walls, steps and gun emplacements (Figure 3.16).

Evaluation: Contributing

The northern portion of the Battery Bacon earthwork contributes to the historic character of the Battery Weed landscape as a defining feature of the Endicott era in coastal defense. Aside from the overgrowth of vegetation, the battery remains in its historic configuration.

CONSTRUCTED WATER FEATURES

This characteristic is defined as the built features of a landscape designed to capture, hold, or transport water on the site. Natural streams and springs are considered part of the natural systems and features characteristic. The only constructed water feature in the landscape of Battery Weed was a ditch, or moat that was designed by Army Chief Engineer, General Joseph G. Totten to be filled by a combination of water sources including a spring located near the fort and tidal waters of New York Bay. The moat was designed to surround the fort providing highly controlled access, and thus protection from landward attack. Construction of the moat, beginning in c.1850 was undertaken in stages that included the temporary construction of a timber and stone cofferdam below the high tide line that allowed the permanent construction of the granite seawall defining the outer edge of the moat. The spring-fed, water-filled moat surrounding Battery Weed, approximately thirty feet wide and seven feet deep, was completed with the completion of the seawall in c.1871. The moat was dewatered in c.1887, and filled with earth and rubble in c.1904.

VEGETATION

This characteristic describes the managed trees, shrubs, vines, ground covers, and herbaceous materials in the landscape, and does not include natural flora such as successional woods, considered part of the natural systems and features characteristic. There is no record of planted vegetation on the site prior to 1873. After c.1873, and throughout the remainder of the historic period, perennial grasses were established as lawn covering the grounds, slope and batteries, along with a very few planted trees along Battery Weed Road. Since the historic period planted grasses have been lost to the growth of invasive plants and successional woods.

V-1. Parade Ground Lawn

Historic Condition

The Army established lawn on the parade ground within the walls of Battery Weed from the initial construction period c.1847-1864 throughout the historic period.

Existing Condition

Little change has occurred to the parade ground lawn since the end of the historic period in 1945. The vegetation on the parade ground within Battery Weed consists of perennial grasses maintained as lawn mown short, less than four inches. There are no other plantings on the parade ground of the fort (Figure 3.18).

Evaluation: Contributing

The parade ground vegetation remains in its historic condition and contributes to the historic character of the Battery Weed landscape as a defining vegetation feature of the Third System (1817-1861).

V-2. Fortress Grounds Meadow

Historic Condition

Open ground around Battery Weed including the slope and overlook, Batteries Catlin and Bacon, and the level areas along the roads and adjacent to the fort were planted with grasses as the land was graded in stages from c.1862 through c.1904. Although the topography of the slope and batteries was adjusted to accommodate new gun technologies, the vegetation was maintained as meadow throughout the historic period with some shrub growth on or near the batteries by World War II.

Existing Condition

Since the end of the historic period in 1945, most of the fortress grounds meadow has been lost. With the exception of the areas along the overlook walk at the crest of the slope, the area between Battery Weed Road and the west wall of the fort, and some spotty patches near Battery Bacon, the fortress grounds meadow no longer exists. Most of the former areas of maintained meadow on the slope and batteries have been lost to successional woods and a thick and extensive, massing layer of porcelain berry, an invasive member of the grape family with origins in northeast Asia originally cultivated in the U.S. as a bedding and landscape plant (Figure 3.19).

Evaluation: Contributing

Since the historic period, much of the meadow that existed on the fortress grounds (approximately eighty percent) has been lost to a lack of landscape maintenance and the resulting growth of successional vegetation and the invasive vine, porcelain berry. The loss of meadow is reversible. The remaining areas of fortress grounds meadow that exist as they did since c.1873 and throughout the historic period, contribute to the historic character of the Battery Weed landscape as a defining vegetation feature of the Third System era (1817-1861), Endicott, and World War I eras in coastal defense.

V-3. Specimen Trees

Historic Condition

A row of sycamore trees was probably established along the east side of Battery Weed Road, across from the Torpedo Storage Building in c.1938 and may have been related to recreational use of the landscape. Another row of sycamore trees was likely planted as ornamental or aesthetic enhancement to the landscape along the overlook sometime prior to 1945.

Existing Condition

Three sycamore (*Platanus occidentalis*) trees remain at Battery Weed. One is located on the east side of Hudson Road across from Fort Tompkins, at a diameter of approximately fourteen inches (Figure 3.20). The fourteen-inch sycamore along the overlook on Hudson Road may have been planted during the 1990s as a replacement for an historic tree since it is located in the position of a row of unidentified trees that existed during the historic period. Two seventy-year old sycamore trees are located along the east side of Battery Weed Road across from the Torpedo Storage Building, one at a diameter of

approximately forty-two inches, and the other at a diameter of approximately thirty-six inches (Figure 3.21). All three of the sycamore trees are in fairly healthy condition.

Evaluation: Contributing

The three sycamore trees planted along the east side of Battery Weed Road and along the overlook contribute to the historic character of the Battery Weed landscape as vegetation features illustrating the recreational use of the military site during the early twentieth century.

BUILDINGS AND STRUCTURES

This characteristic includes three-dimensional constructs, with buildings defined as constructs for shelter such as houses, barns, and garages; and structures as constructs that do not provide shelter, such as docks, walls and bridges. Buildings and structures including Battery Weed were developed in an evolving cluster of coastal defense systems on the level area at the base of the slope over a period of approximately seventy-four years until c.1921. Portions of the Mine railway (c.1896-c.1921) were removed during the historic period along with the two gun emplacements at the south end of the overlook terrace (c.1895-c.1938). The wood extension to the north stone dock built in c.1907, was lost to a steamer collision in 1913, rebuilt at some undetermined time later, and lost again to hurricane damage in 1960. The water-filled moat, c.1850-1871 surrounding Battery Weed was drained in c.1887, except for the southwest corner that was sectioned off to function as a reservoir, and finally filled in c.1904. Buildings and structures removed since the historic period with only foundations remaining include cable tank buildings 1 (c.1898-c.1950), 2 (c.1899-c.1950), 3 (c.1904-c.1950), 4, 5 & 6 (c.1905-c.1950), a testing room (c.1904-1950), and the torpedo loading room (c.1904-c.1950).

BS-1. Battery Weed (#151)

Historic Condition

Battery Weed was designed in c.1846 primarily by Army Chief Engineer General Joseph G. Totten in the Third System era (1817-1861) of Coastal Fortifications. Constructed in c.1847- c.1864 of granite slabs over timber piers, the Third System era (1817-1861) fort featured a surrounding water-filled moat and the only access to the interior of the fort was by way of a wooden drawbridge at the entry gate on the west curtain wall. The west side of the fort enclosed the slope space with a massive granite wall. The north, east and south walls of the fort provided an edge to an open easterly expanse of water with views extending across the bay to Long Island, northward to Manhattan, and southerly to the Atlantic Ocean. The earth/turf-covered top tier of the fort rose sixty-three feet above the Narrows, and forty-eight feet above the water in the surrounding moat, and featured 220 degrees of strategic views of the New York Bay. The enclosed, interior parade ground was framed on three sides of a gently rounded half-hexagon of arched granite casemates in three tiers at a height of approximately thirty-six feet, and with a straight granite wall on the west side that incorporated a two-story granite guardhouse. In c.1887, two concrete sections were added to the north and west sides of the northwest bastion to provide protection for the first Mine Casemate. In c.1902, a brick lighthouse structure was added to the barbette tier of the fort at the northeast bastion. It is likely that armaments were removed from the fort soon after the Civil War.

Existing Condition

Since the end of the historic period in 1945, the only substantial change to Battery Weed has been the loss of the roofs of the magazine towers, which occurred prior to 1958. Battery

Weed, constructed in c.1847-c.1864 of granite, measures 286 feet along each channel front wall, and 450 feet along the west scarp wall. The fort features three casemated tiers, rising one on top of the other, and an open earth-covered top barbette tier with a breast height wall, or parapet, along the channel side (Figure 3.22). Thirty-one gun emplacements are located on the barbette tier, each a circular raised brick and mortar pedestal with iron pintles that held rotating canon. The area surrounding the gun emplacements, and the area on top of the parapet are planted with grasses. The barbette tier of the fort rises sixty-three feet above the Narrows, and forty-eight feet above the earth-filled moat. The wooden drawbridge at the entry gate is missing.

Evaluation: Contributing

Battery Weed, constructed in c.1847-c.1864, is the defining structure of the surrounding landscape, and reflects the historic character of the Third System era (1817-1861). The only significant historic changes to the structure after this period are the removal of the drawbridge, filling of the moat, and the concrete mine system additions that recall its adaptation during the Endicott ear (1886-1917). Aside from the loss of the magazine tower roofs, Battery Weed remains largely unchanged since the end of the historic period.

BS-2. Seawall

Historic Condition

Construction of the granite seawall, completed in c.1871 on the north, east, and southeast flanks of Battery Weed, began with the construction of a temporary timber and stone cofferdam in c.1851. A granite seawall, a gravity-earth structure, was constructed immediately adjacent to and inside the cofferdam. Upon its completion in 1871, the

cofferdam was removed. Through c.1887, the granite seawall formed the outer enclosure of the water-filled moat that provided protection of the fort from landward attack. The moat inside the seawall was filled in c.1904. The wide granite seawall was enjoyed as a public promenade throughout the historic period from the time of its completion in 1871.

Existing Condition

Since the end of the historic period in 1945, many of the granite blocks in the seawall in a section approximately seventy feet long to the northwest of Battery Weed have shifted or fallen due to repeated storm action (Figure 3.23). The seawall extends approximately 1,000 feet from the North Stone Dock north of Battery Weed, around the east of the fort to the rocky beach below Battery Bacon on the south (Figure 3.24). The seawall is located approximately thirty-three feet seaward of Battery Weed and twenty feet at the northeast and southeast bastions. A portion of the collapsed seawall along the east side of Battery Weed was rebuilt in 2006.

Evaluation: Contributing

The granite seawall along the bay side of Battery Weed contributes to the historic character of the Battery Weed landscape as a defining structural feature of the Third System era (1817-1861). Other than storm damage to some sections since the historic period, the character of the seawall as originally designed remains intact. The filling of the moat occurred in c.1904 during the historic period.

BS-3. Torpedo Storage Building (#147)

Historic Condition

The first freestanding structure to be constructed as a part of the Mine Defense Complex was the Torpedo Storage Building (#147) in c.1894. At the base of the slope on the west side of Battery Weed Road, the two-story stone, brick, granite, and steel Torpedo Storage Building was constructed with three mine railway entry doors on the south end at the first story level, and one on the north end at the second story level. The structure was used to house underwater mines and cables, and featured several windows with steel shutters along the east and west walls of the second story and a decorative brick cornice.

Existing Condition

Since the end of the historic period in 1945, the Torpedo Storage Building was likely used for storage and suffered fire damage in the 1980s. The roof skin no longer exists and the windows and some of the steel shutters are missing. A portion of the steel roof trusses as well as the second story walls on the south end have collapsed. Overall, the brick and stone building with a steel-truss gable roof measures approximately 230 feet by 40 feet (Figure 3.25).

Evaluation: Contributing

The Torpedo Storage Building, constructed in c.1894, contributes to the historic character of the Battery Weed landscape as a defining feature of the Endicott Era (1886-1917). Although in poor condition and changed from its historic appearance, the building nonetheless is a key feature in illustrating the later military use of the site. The building is scheduled for rehabilitation into the park's education and visitor's center.

BS-4. Small Concrete Block Warehouse (Bldg.148)

Historic Condition

Sometime between 1924 and 1940, a small, gable-roof, concrete-block structure was erected at the base of the slope to the south of the Torpedo Storage Building. The building may have been used for storage or as a utility building.

Existing Condition

The small concrete block warehouse at the base of the slope to the south of the Torpedo Storage Building measures approximately nine feet by eleven feet (Figure 3.36). The building is constructed of rock-faced concrete block and has a gable-front roof with a boarded-up garage door and attic vent in the front gable wall. The asphalt-sheathed roof of the small concrete warehouse has deteriorated and has a large hole on the north side.

Evaluation: Contributing

The small concrete block warehouse, built in c.1924-1940, contributes to the historic character of the Battery Weed landscape as a feature of the World War II era. Although in poor condition, no substantial changes have been made to the building since the end of the historic period.

BS-5. Small Concrete Shed

Historic Condition

Sometime between 1924 and 1945, a small poured-concrete shed was constructed immediately to the east of cable tank buildings 1 and 2 on the west side of the dock road. Its historic use is unknown.

Existing Condition

The small, one-story, poured-concrete building on the west side of the dock road measures approximately ten feet by twelve feet and has a low-pitched concrete shed roof and a door opening on the southwest side (Figure 3.27). The door is missing.

Evaluation: Contributing

The small concrete shed on the west side of the Dock road contributes to the historic character of the Battery Weed landscape from the World War II era. The vines covering the building detract from its historic character.

BS-6. North Stone Dock

Historic Condition

Construction of the north stone dock to the north of Battery Weed began in c.1858 and continued through c.1871. The original L-shaped granite masonry structure was approximately forty-feet wide by eighty-feet long and was supported by granite columns and a deck surfaced in varying sizes of granite block, the same material used in the construction of Battery Weed. A timber extension was added perpendicular to the dock

in c.1907, measuring 154 feet long by sixty-five feet wide. Steel rails of a mine railway were laid in c.1896 from the Torpedo Storage Building across the masonry part of the dock to the timber extension so that subsurface mines could be transported to vessels that deployed them. A tide station, used to measure the status of the tides, was constructed in association with a quartermaster warehouse in c.1925, but was removed sometime before 1945.

Existing Condition

Since the end of the historic period in 1945, the original stone portion of the dock has collapsed at the northeast corner, along with remnants of the supporting iron channel beams and the broken ends of the steel rails that once extended out onto the wood dock (Figure 3.30). A quartermaster warehouse and open dock house constructed on the south side of the stone dock in c.1900, and a mine boathouse constructed on the west side of the wood extension in c.1907, remained throughout the historic period, but were destroyed in a 1960 hurricane. Freestanding timber piles remain in the water. Stone steps descend into the water at the interior northwest corner of the dock. The north stone dock, extending from the shoreline north of Battery Weed in an L shape, is approximately forty feet wide by eighty feet long (Figure 3.28). Granite masonry columns, spaced approximately sixteen feet in each orthogonal direction, are spanned by granite lintels north to south, and iron channel beams from east to west. Brick arches and horizontal slabs of slate span the flanges of the iron beams. The deck is constructed in patterns of small to medium size granite blocks and concrete with steel rails set into the surface along the north side (Figure 3.29).

Evaluation: Contributing

The north stone dock, constructed in c.1858-1871, contributes to the historic character of the Battery Weed landscape as a defining structure of the Third System era. Since the end of the historic period, the north stone dock suffered storm damage and the loss of the timber extension and dock buildings no longer illustrating later changes during the Endicott era. The stone dock is largely intact.

BS-7. Mine Casemate

Historic Condition

During the Endicott Era, in c.1905, a brick and concrete structure was built set into the newly constructed earthwork, Battery Catlin. A mine casemate was designed and constructed to house a switchboard connected to a network of cables across the Narrows of New York Bay. Firing of the mines was controlled via a twenty-four inch cable conduit extending 130 feet from the mine casemate through the seawall into the Narrows. From its perch, thirty-five feet above the Narrows, the mine casemate provided a commanding view, and was linked to other sites by telephone communications used in monitoring activities on the waterway.

Existing Condition

Since the end of the historic period in 1945 the Mine Casemate has lost its roof and windows. The Mine Casemate, measuring approximately sixty feet by seventy-five feet, is buried in the invasive and successional vegetation on Battery Catlin. The brick structure has window openings with slate sills, but has no roof (Figure 3.31).

Evaluation: Contributing

The Mine Casemate located on Battery Catlin, constructed in c.1905, contributes to the historic character of the landscape as a defining building feature of the Endicott Era in coastal defense (1886-1917). Although the building is not entirely intact, it is a surviving example of coastal defense design of the Endicott Era.

BS-8. Bomb-Proof Parado

Historic Condition

In c.1865, during the construction of the North Cliff Battery, the Army constructed a concrete subsurface chamber within the earthwork. In the 1865 plans for this structure, it is labeled as a Bomb-proof Parado. Covered under several feet of earth in the south end of the earth berm, it was designed to provide emergency protection from incoming fire. The only evidence of the existence of the chamber was an entry door to the Bomb-proof Parado set into the steep slope facing the Mine casemate to the north. The three-inch thick, bronze-fastened, wood plank door had a small vertical window and opened outward. The hillside doorway was flanked by a granite block earth retaining structure, and led to four steps down inside to two narrow barrel-vaulted concrete corridors, one of which was connected with a concrete underground chamber. In c.1902-c.1904, the North Cliff Battery was rebuilt as Battery Catlin with regrading of the earthwork and rebuilding of the gun emplacements, but the redesign did not include changes to the underground parado.

Existing Condition

Since the end of the historic period in 1945, the entry retaining structure of the Bomb-proof Parado has shifted out of position. The Bomb-Proof Parado located at the south

end of Battery Catlin measures approximately twenty feet by forty feet and is set into the earthen battery and accessed from an entry on the north side of the steep mound surrounded by a granite block earth retaining structure. One of the granite cap blocks of the entry retaining structure is heaving probably due to the extensive growth of invasive vines and other vegetation covering the earthwork (Figure 3.32). A three-inch thick, bronze-fastened, wood plank door with a small vertical window opens outward and leads to steps down into a narrow, barrel-vaulted concrete corridor and interior chamber (Figure 3.33).

Evaluation: Contributing

The Bomb-proof Parado, constructed in c.1865, contributes to the historic character of Battery Weed as a defining structural feature of the Third System era (1817-1861) of coastal fortifications (1817-1867). The character of the Bomb-Proof Parado as originally designed remains intact.

BS-9. Battery Bacon North Gun Emplacement

Historic Condition

In c.1898, South Cliff Battery was reconstructed in a new series of earth and reinforced concrete batteries to accommodate new gun emplacements. The northernmost of these batteries, immediately to the south of Battery Weed was Battery Bacon. Battery Bacon consisted of an earthen mound rising approximately forty-nine feet above the Narrows, just east of Battery Weed Road, with a raised concrete platform accessible by concrete steps on each side. To the north of, and extending from this platform was a gun emplacement edged with a low granite wall retaining with a round concrete pad, iron

pintle and semi-circular rail set into the ground. Guns were mounted at Battery Bacon throughout the historic period until c.1942.

Existing Condition

Since the end of the historic period in 1945, the concrete platform of the gun emplacement has suffered some cracking and the concrete steps have been broken in places. Battery Bacon, located just to the south of Battery Weed along the east side of Battery Weed Road, is partially covered in invasive vines, especially over the granite retaining walls and the southern end of the battery (Figure 3.34). Although there is some cracking in the reinforced concrete platform, the concrete pad, iron pintle, and traverse circle in good condition (Figure 3.35).

Evaluation: Contributing

The North Gun Emplacement of Battery Bacon, built in c.1898, contributes to the historic character of Battery Weed as a defining structural feature and surviving example of the Endicott Era in coastal defense (1886-1917).

BS-10. Hudson Road Stone Wall

Historic Condition

It is not known precisely when the mortar-laid stone wall along Hudson Road was constructed, but it is believed to have been a Works Progress Administration (WPA) project in c.1938. The wall along the east side of Hudson Road at the crest of the slope above Battery Weed was constructed of a mix of random, uncoursed stone and ranged in

height from approximately eighteen inches at the northern end to approximately thirty-eight inches at the southern end.

Existing Condition

Since the end of the historic period in 1945, a layer of concrete, cracking and lifting in places, has been added to the top of the stone wall. Repairs to the mortar and concrete have been made with white Portland cement in some areas. The stone wall along the crest of the slope above Battery Weed measures approximately 2,000 feet in length and ranges in height from approximately eighteen to thirty-eight inches. It is constructed of a mix of random, uncoursed stone, although some sections appear to have been reconstructed in an ashlar coursed pattern (Figure 3.36).

Evaluation: Unevaluated

Since the end of the historic period, the wall has been repaired in places with white Portland cement. Documentation on the Hudson Road Stone Wall, possibly built in c.1938 by the WPA has not been located. As a result, it is not possible at this time to provide a conclusive evaluation for the structure.

BS-11. Overlook Concrete Structure

Historic Condition

The history of the square concrete structure to the east of the stone wall at the top of the slope above Battery Weed is unknown. A structure in this location is indicated on a plan dated 1865 and labeled as a latrine. It is possible that the structure is a portion remaining from that period, although its shape appears to be different from that on the 1865 plan.

Existing Condition

A square concrete structure measuring approximately fifty-two inches and set into the slope immediately to the east of the stone wall at the top of the slope is flush with the surface of the slope on the west side and approximately eighteen inches above grade on the east side. The concrete is weathered and worn away in places, and the center of the structure appears to have been an opening that was patched closed with concrete (Figure 3.37).

Evaluation: Unevaluated

The history of the square concrete structure is unknown and therefore cannot be conclusively evaluated.

BS-12. Stone Drainage Swale and Cistern

Historic Condition

Information or plans indicating the date of construction of the stone Drainage Swale and Cistern in the parade ground of Battery Weed have not been found. An 1893 photo of the Parade Ground indicates that the Stone Drainage Swale was present at that time.

Existing Condition

The stone Drainage Swale and Cistern, approximately 180 feet long and twenty-four inches wide is located along the eastern edge of the parade ground approximately twenty-five feet from the casemate walls of the fort. The swale, although not curved, echoes the slight curve of the east casemate wall with the angle change at its ends that corresponds to

the north and south casemate walls. The stone of the swale is set in a depression in the grade of the parade ground lawn and guides water along its channel length to an underground cistern covered with a steel door at the northeast corner (Figure 3.38).

Evaluation: Contributing

The Stone Drainage Swale and Cistern in place since 1893 contribute to the historic character of Battery Weed as a feature of the Third System era (1817-1861).

BS-13. Concrete Seawall

Historic Condition

Although specific information or plans indicating the date of construction of the concrete seawall have not been found, and no images of the historic structure have yet been located, WPA records indicate that part of the seawall was constructed in c.1938. The WPA records likely refer to the concrete seawall that is located to the north of the north stone dock.

Existing Condition

Since the end of the historic period in 1945, the concrete seawall has suffered some cracking. The concrete seawall, approximately 550 feet long and seven feet high and covered in vines, extends from a large end pilaster measuring approximately six feet square, just to the north of the north stone dock and continues along the edge of the beach (Figure 3.39).

Evaluation: Contributing

The concrete seawall, probably constructed by the WPA in c.1938 contributes to the historic character of Battery Weed as a defining structural feature and surviving example of WPA era construction.

BS-14. Slope Sustaining Walls

Historic Condition

The slope sustaining walls along Battery Weed Road were constructed of eight inch thick granite blocks in c.1848 to sustain the steep slope above the southwest bastion of the new fort then under construction.

Existing Condition

No substantial change has occurred to the slope-sustaining wall since the end of the historic period in 1945. The wall extends approximately fifty-six feet in length and follows the slope of Battery Weed Road rising from approximately eight inches at the north end to approximately twenty-six inches on the south end (Figure 3.40).

Evaluation: Contributing

The Slope Sustaining Wall contributes to the historic character of Battery Weed as a feature of Third System era (1817-1861).

BS-15. Coincidence Range-Finder (CRF) Station

Historic Condition

The Coincidence Range-Finder (CRF) Station was constructed on the slope above Battery Bacon in c.1917 as part of the modifications to the site in support of firing accuracy from the batteries. Another CRF Station, although not within the project area for this report, was built at approximately the same time on the slope above Battery Catlin.

Existing Condition

Since the end of the historic period in 1945, there has been some rusting of the metal in the structure (Figure 3.41). The Coincidence Range-Finder (CRF) Station is obscured in dense vegetation and could not be fully evaluated.

Evaluation: Contributing

The Coincidence Range-Finder (CRF) Station contributes to the historic character of Battery Weed as a feature of the World War I Era in coastal fortifications.

BS-16. Surface Drain

Historic Condition

The Surface Drain did not exist historically.

Existing Condition

The surface drain across Battery Weed Road near the entrance of Battery Weed is approximately fifty feet long and one foot wide, and was installed in c.1995 to intercept surface water flow to the fortress grounds (Figure 3.17).

Evaluation: Contributing

The Surface Drain does not contribute to the historic character of Battery Weed.

VIEWS AND VISTAS

This characteristic describes a prospect, either natural or constructed. Views are broad prospects of a general area, while vistas are designed and directed views of a particular scene or feature. During the historic period, the panoramic view from the overlook northeast to Manhattan, and south to Lower New York Bay, as well as the maritime activity through the Narrows, was a character-defining feature of the landscape and setting, and drew many visitors to the site to enjoy the scenery. Throughout the historic period, visitors also enjoyed sweeping views north and south, of the New York Bay and Brooklyn, from the granite seawall of Battery Weed and from the North Stone Dock. The view from the barbette tier of Battery Weed was also panoramic, but this was a strategic one allowing an ideal range and angle of fire for the guns mounted there. During times of military inactivity, visitors to the site climbed the circular granite steps and enjoyed the spectacular views from the barbette tier. Since the historic period, the panoramic views from the overlook have been constrained, and in some locations obstructed, by successional woods on Battery Catlin and along the edges of the slope above Battery Weed. The landscape retains three historic views, although they have been altered since the historic period.

VV-1. Panoramic View from the Overlook

Historic Condition

The approach to the overlook at crest of the bluff, later the slope, above Battery Weed, whether from the north, south or west was rewarded upon arrival with an open, panoramic view from north to south. The expansive view from the overlook of the bluffs along the north shore of Staten Island, Upper New York Bay, the skyline of Manhattan, Brooklyn, Fort LaFayette on an island to the east in the Narrows, the Atlantic Ocean to the southeast, and Lower New York Bay to the south. This spectacular view from an elevation of 123 feet above the bay also included the North Stone Dock on the waterfront, Battery Weed and the earthen batteries.

Existing Condition

Since the end of the historic period in 1945, the panoramic view from the overlook, although remaining generally expansive, has been partially obscured by the growth of successional woods to the north and south along the coast, and on the slope and batteries to the northeast and southeast (Figure 3.42). Maturing trees on the bluff at Von Briesen Park to the north obscure views to the north between Battery Weed and the park, and trees on Battery Catlin obscure views of the North Stone Dock and waterfront. Successional woods near the top of the slope in the south section of the overlook obscure historic views of the bay and Narrows, Brooklyn, Battery Weed and Battery Bacon. The addition of the Verrazano-Narrows Bridge across the bay from Brooklyn has also impacted the view from the overlook.

Evaluation: Contributing

The view contributes to the historic character of Battery Weed as a defining feature of the period of recreational use within the context of the development and practice of leisure activities for refreshment and amusement. The panoramic view from the overlook above Battery Weed has been enjoyed by the visiting public on a regular basis since the early nineteenth century, well before the historic period, and continues to regularly draw visitors to the site today. The character of the panoramic view from the overlook as it existed during the historic period, although impacted since by the growth of successional woods and the introduction of the Verrazano-Narrows Bridge, remains largely intact.

VV-2. Panoramic Waterfront Views

Historic Condition

The panoramic waterfront views, from the seawall encompassed all from the northeast coast of Staten Island to the Manhattan skyline, Brooklyn, Fort LaFayette on an island to the east in the Narrows, the Atlantic Ocean to the southeast, and Lower New York Bay to the south. Views of the bay from the waterfront included the massive and imposing structure of Battery Weed, surrounded by its water-filled moat at the water's edge.

Existing Condition

Since the end of the historic period in 1945, access to the waterfront was blocked in c.1995 with the installation of chain-link fencing. The panoramic waterfront views within an arc of 180 to 235 degrees along the seawall and dock area include the northeast coast of Staten Island, the Manhattan skyline, Brooklyn, the Verrazano-Narrows Bridge, New York Bay, and the coast to the south of Battery Weed (Figure 3.43). The waterfront view also includes the massive and imposing structure of Battery Weed at the water's edge.

Evaluation: Contributing

The panoramic waterfront view contributes to the historic character of Battery Weed as a defining feature of the period of recreational use within the context of the development and practice of leisure activities for refreshment and amusement. The panoramic view from the waterfront at Battery Weed has been enjoyed by the visiting public on a regular basis since the early nineteenth century, well before the historic period, and continues to regularly draw visitors to the site today. The character of the panoramic view from the waterfront as it existed during the historic period, although impacted since the historic period by the growth of successional woods and the introduction of the Verrazano-Narrows Bridge, remains largely intact.

SMALL SCALE FEATURES

This characteristic describes aesthetic or utilitarian elements that provide detail and diversity in the landscape, including benches, signs, light fixtures, bollards and fencing. Historically, the Battery Weed landscape featured small-scale features that were reflective of the state of the art in coastal defense artillery such as various cannons, long-range rifles, munitions pads and gun mounts, but also included features such as flag poles, utility poles, and iron dock bollards. After c.1942, the artillery was removed from the site to other locations, or for use as scrap metal in the World War II effort. Small-scale features introduced after 1945 such as park benches, light fixtures, signage, and fencing were more reflective of the recreational use of the site, and these included some guns and mounts that were installed near historic locations of such features as interpretive elements.

SS-1. Chain Link Fencing

Historic Condition

Chain-link fencing did not exist in the landscape during the historic period.

Existing Condition

Six-foot high chain-link fencing, probably installed sometime during the 1990s, along the east side of the Torpedo Storage Building, around the Mine Casemate on Battery Catlin, has a locked gate from the northwest bastion of Battery Weed across the dock road to Battery Catlin closing off access to the North Stone Dock and waterfront (Figure 3.44).

Evaluation: Non-Contributing

The chain-link fence, probably installed during the 1990s, does not contribute to the historic character of Battery Weed.

SS-2. Overlook Telescopic Viewing Stations

Historic Condition

Telescopic viewing stations did not exist in the landscape during the historic period.

Existing Condition

Two binocular telescopic viewing stations, installed after 1994 are located along the west side of the stone wall at the overlook terrace (Figure 3.45). The viewing stations allow visitors to get a closer look at sights such as Battery Weed, shipping traffic in the Narrows, the Manhattan skyline, Brooklyn and the Verrazano-Narrows Bridge from the overlook above Battery Weed.

Evaluation: Non-Contributing

The telescopic viewing stations do not contribute to the historic character of Battery Weed.

SS-3. Overlook Flagpole

Historic Condition

The flagpole at the overlook did not exist during the historic period.

Existing Condition

A flagpole with yardarms, approximately fifty feet tall, was installed at the overlook above Battery Weed in c.1995. The pole displays an American flag, a National Park Service flag, and another flag at the center of the overlook terrace above Battery Weed (Figure 3.46).

Evaluation: Non-Contributing

The flagpole at the overlook does not contribute to the historic character of Battery Weed as a defining small-scale feature.

SS-4. Overlook Gun and Mount

Historic Condition

Although two cannons did exist in a nearby location of the overlook for approximately twenty years at the turn of the twentieth century, the present Overlook Gun and Mount did not exist during the historic period.

Existing Condition

The overlook gun and mount was installed at the Overlook above Battery Weed as in interpretive element in c.1995 immediately to the south of the Overlook terrace above Battery Weed. The overlook gun and mount are much smaller in scale than those that existed at the Overlook historically (Figure 3.47).

Evaluation: Non-Contributing

The overlook gun and mount does not contribute to, but is compatible with the historic character of Battery Weed.

SS-5. Cable Testing Tank and Trough

Historic Condition

Little documentation on the design or operation of the cable testing tank and trough has been located. They were used to test mine cable and constructed in association with upgrades to the Mine Defense Complex in c.1921.

Existing Condition

The cable testing trough, a metal covered chamber located on the fortress grounds near the entrance to Battery Weed measures approximately four feet by six feet and is set flush with the lawn. A trace of the cable testing tank remains in two concentric concrete circles set flush with the lawn surface immediately south of the cable testing trough (Figure 3.48).

Evaluation: Contributing

Although little is known about the design and function of the cable testing trough and Tank, they do contribute to the historic character of Battery Weed.

SS-6. Parade Ground Munitions Pad

Historic Condition

No documentation has been located on the design or construction of the Parade Ground Munitions Pads other than a photo taken by Alice Austin, dated 1893 showing munitions stored in the Parade Ground of Battery Weed in the area of the Munitions Pads. A c.1880 etching indicates two small buildings in the Parade Ground of Battery Weed in approximately the same location as the Munitions Pads and may explain their origin as building foundations; however, this possibility has not been supported by any other documentation.

Existing Condition

Since the end of the historic period in 1945, some cracking of the concrete of the pads has occurred. The Parade Ground Munitions Pads are two rectangular concrete areas located near the east edge of the Parade Ground beside the Stone Drainage Swale and Cistern. They are approximately seven feet wide and twenty, and thirty-two feet long. The concrete is laid in sections flush with the lawn and is in fair condition with some cracking and flaking of the surface (Figure 3.49).

Evaluation: Contributing

The Parade Ground Munitions Pads contribute to the historic character of Battery Weed as a feature of the late nineteenth century in coastal defense.

SS-7. Parade Ground Flagpole

Historic Condition

No documentation has been located regarding the existence of the parade ground flagpole during the historic period.

Existing Condition

The parade ground flagpole is aluminum with a concrete base. It is located between the two parade ground munitions pads near the north/south center of the parade ground and is approximately twenty-five feet tall (Figure 3.50).

Evaluation: Non-contributing

Although no documentation has been located regarding the existence of a flagpole in the parade ground during the historic period, flagpoles were an essential component of military parade grounds. The parade ground flagpole does not contribute to, but is compatible with the historic character of Battery Weed.

SS-8. Park Benches

Historic Condition

The eight park benches at Battery Weed did not exist during the historic period.

Existing Condition

Four of the park benches are located at the Overlook Terrace, three are outside the south end of the Torpedo Storage Building, and one is along the west wall of Battery Weed. They are constructed of plastic or fiberglass and metal with concrete bases and are in good condition (Figure 3.51).

Evaluation: Non-contributing

The benches do not contribute to the historic character of Battery Weed.

SS-9. Park Interpretive Signs

Historic Condition

The six park interpretive signs at Battery Weed did not exist during the historic period.

Existing Condition

Three of the park interpretive signs are located at the Overlook Terrace, one is located near the south end of the Torpedo Storage Building, one is located near the entrance to Battery Weed, and one is located along the Dock road near the chain link fence. They are constructed of metal and plastic, and are in fair condition with some deterioration of the clear plastic covers and some fading of the art boards (Figure 3.52).

Evaluation: Non-contributing

The park interpretive signs do not contribute to the historic character of Battery Weed.

SS-10. Dock Utility Pole

Historic Condition

The dock utility pole at the shoreline was installed in c.1907 and likely served to supply electricity or communications to the North Stone Dock.

Existing Condition

The spruce dock utility pole is approximately thirty feet tall with climbing hardware and a single wire remaining attached (Figure 3.53).

Evaluation: Contributing

The dock utility pole contributes to the historic character of Battery Weed as a feature of early twentieth century coastal defense systems.

SS-11. Iron Dock Bollards

Historic Condition

Although no specific documentation has been located for the iron dock bollards, it is likely that they were installed in the north stone dock soon after its construction in c.1858.

Existing Condition

Since the end of the historic period in 1945, the bollard at the southeast corner has started leaning to the east with the stone column it is set upon. The two iron dock bollards located on the southeast and southwest corners of the north stone dock are

approximately three feet tall in a gently tapered and simply detailed column approximately eleven inches in diameter at the base (Figure 3.54). The surface of the bollards is rusted and smooth, and they are in good condition.

Evaluation: Contributing

The iron dock bollards remain as they existed during the historic period and contribute to the historic character of Battery Weed as a defining feature of Third System era (1817-1861).

ARCHEOLOGICAL SITES

Archeological testing completed by the U.S. Navy in support of the environmental impact statement for the Navy homeport suggests a likelihood of pre-historic and pre-Fort Wadsworth era archeological remains; however, there are presently no documented archeological sites within the project area at Battery Weed. There are several areas and features at Battery Weed that may have potential to reveal information. The North and South Cliff Batteries were incorporated into Batteries Catlin and Bacon and these batteries may retain resources of the earlier era.² Other areas that may retain archeological resources related to the Second American System in Coastal Defense (1807-1817) or the Endicott Era (1886-1917) include the following:

A-1. Cable Tank 1 and 2 Foundations

A-2. Cable Tank 3 Foundation

A-3. Cable Tank 4, 5 and 6 Foundations

A-4. Torpedo Loading and Testing Rooms

A-5. Granite block remnants of Cofferdam

A-6. Mine railway

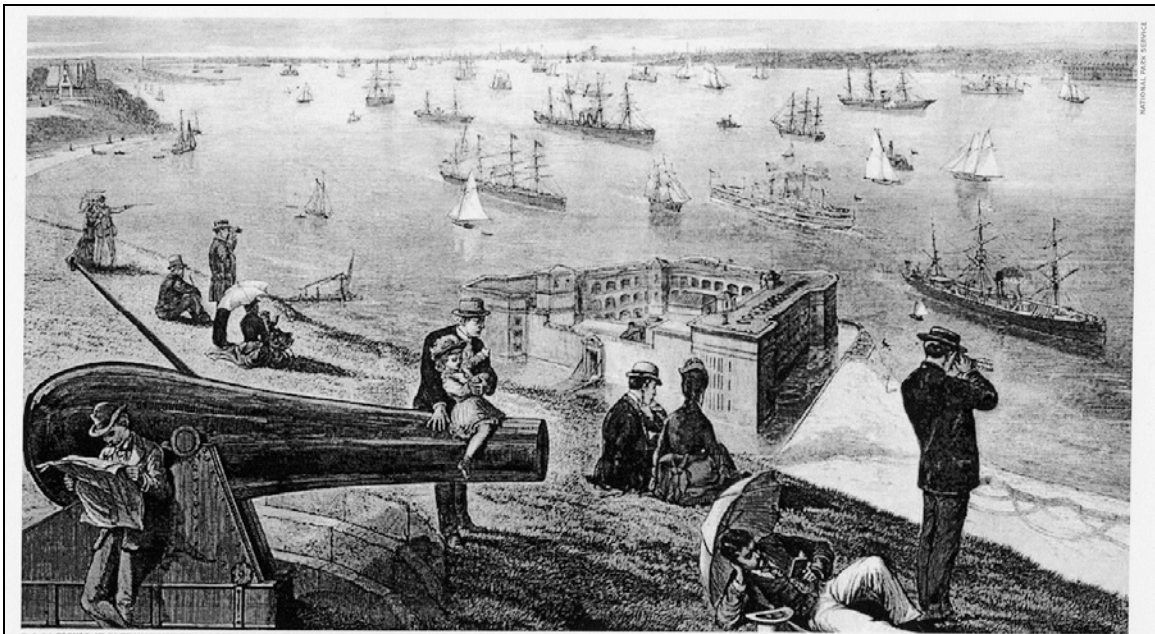
ENDNOTES

¹ Frederick R. Black, *A History of Fort Wadsworth, New York Harbor* (Boston, Massachusetts: U.S. Department of the Interior National Park Service North Atlantic Regional Office, Cultural Resources Management Study N0.7, 1983), 111.

² USDI/NPS National Register of Historic Places Registration Form OMB No. 1024-0018, Fort Wadsworth, 1997.



Figure 3.1: These two photographs illustrate the contrasting site conditions between 1923 and 1995. The top photograph shows the historic character of the highly maintained landscape of Battery Weed in 1923. GNRA Archives Photograph Collection, GATE 19397, 1923. The bottom photograph shows the character of the landscape of Battery Weed with the maturing successional vegetation in 1995. *Pier/Seawall Evaluation and Ferry Feasibility Study Fort Wadsworth, Staten Island, New York*, Landgan Engineering and Environmental Services, 1995.



2-0-01 PICNIC AT FORT WADSWORTH LOOKING ACROSS THE NARROWS, STATEN ISLAND, 1900



Figure 3.2: A drawing and photograph illustrating the contrasting site conditions from the overlook looking northeast at the top of the slope above Battery Weed. The top image shows character of the landscape during the historic period in 1900. Gateway National Recreation Area Archives, 19650, 1900. The bottom image shows the stone wall built in c.1938, and the existing conditions with successional vegetation obstructing the view in the same location at the top of the slope above Battery Weed in 2007. SUNY ESF.



Figure 3.3: Porcelain Berry *Ampelopsis brevipedunculata* blankets much of the slope above Battery Weed, 2006.



Figure 3.4: The parade ground, measuring approximately 260 feet by 140 feet, is enclosed and framed to the east by three sides of a gently rounded half-hexagon of arched granite casemates with two four-story stair towers and a delicate iron railing between the towers along the top tier. SUNY ESF, 2006

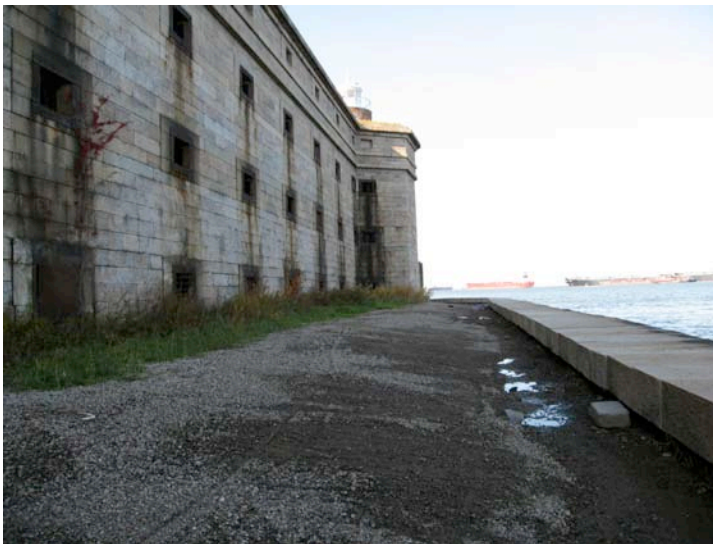


Figure 3.5: The moat is filled with earth and rubble and top-dressed with gravel between the granite seawall and the fort walls. SUNY ESF, 2006



Figure 3.6: The overlook incorporates a sidewalk and grass panels edging Hudson Road and extends approximately 1300 feet along the crest of the slope above Battery Weed. SUNY ESF, 2006



Figure 3.7: The slope above Battery Weed, with a grade of approximately 50 degrees, is nearly completely covered in successional growth including shrubs and maturing trees, blanketed with an invasive vine, porcelain berry. SUNY ESF, 2006



Figure 3.8: Battery Weed Road, measuring approximately twelve feet wide, with the exception of widened areas at the north and south ends of the torpedero storage building, is surfaced in asphalt with some areas of concrete adjacent to the remaining sections of the Mine Railway crossing the road surface. SUNY ESF, 2006



Figure 3.9: Hudson Road, with an asphalt surface, is approximately twenty feet wide and 2,000 feet long running along the top of the slope above Battery Weed immediately to the east of Fort Tompkins. SUNY ESF, 2006



Figure 3.10: The overlook promenade, including a widened terrace section of the approximately 1,000 foot long and twenty two foot wide overlook walk, measures approximately 320 feet by sixty feet. SUNY ESF, 2007.



Figure 3.11: Approximately 120 feet of concrete edge remains along the path in this section extending from just above Battery Weed. SUNY ESF, 2007.



Figure 3.12: The surface of the filled moat consists of gravel and earth and is uneven and puddling in places. SUNY ESF, 2007.



Figure 3.13: The rails set into Battery Weed Road are surrounded with an area of concrete flush with the road surface. SUNY ESF, 2007.



Figure 3.14: The engineered slope above Battery Weed exists in much the same configuration it had throughout the historic period. SUNY ESF, 2007.



Figure 3.15: The southern end of Battery Catlin consists of a large earth mound measuring approximately 320 feet by 140 feet and rises to a height of forty-five feet above the level of the North Stone Dock SUNY ESF, 2007.



Figure 3.16: The northern end of Battery Bacon consists of a large earth mound measuring approximately 200 feet by 80 feet rising to an elevation of fifty feet above the water level of the Narrows of New York Bay and incorporating concrete walls, steps and gun emplacements. SUNY ESF, 2007.



Figure 3.17: Surface Drain Inlet. SUNY ESF, 2007.



Figure 3.18: The vegetation on the parade ground within Battery Weed consists of perennial grasses maintained as lawn. SUNY ESF, 2007.



Figure 3.19: Most of the former areas of maintained meadow on the slope and batteries have been lost to successional woods and a thick and extensive, massing layer of porcelain berry, an invasive member of the grape family. SUNY ESF, 2007.



Figure 3.20: One sycamore tree is located on the east side of Hudson Road across from Fort Tompkins, at a diameter of approximately fourteen inches. SUNY ESF, 2007.



Figure 3.21: Two sycamore trees, c.1938, are located along the east side of Battery Weed Road across from the torpedo storage building, one at a diameter of approximately forty-two inches, and the other at a diameter of approximately thirty-six inches. SUNY ESF, 2007.



Figure 3.22: Battery Weed, constructed in c.1847- c.1864 of cut granite block, measures 286 feet along each channel front wall, and 450 feet along the west scarp wall. Three casemated tiers, rising one on top of the other, and the fort features a top barbette tier, which is open, and earth covered with a breast height wall, a parapet, along the channel side. SUNY ESF, 2007.



Figure 3.23: The seawall extends approximately 1,000 feet, from the stone dock north of Battery Weed, around the east of the fort to the rocky beach below Battery Bacon. SUNY ESF, 2007.



Figure 3.24: A section of the seawall, approximately seventy feet long, to the northwest of Battery Weed has collapsed. SUNY ESF, 2007.



Figure 3.25: The torpedo storage building, a brick and stone structure with a steel truss, gable roof, measures approximately 230 feet by 40 feet. SUNY ESF, 2007.



Figure 3.26: The small concrete block building at the base of the slope to the south of the torpedo storage building measures approximately 9 feet by 11 feet. SUNY ESF, 2007.



Figure 3.27: The small, one story, poured concrete shed on the west side of the dock road measures approximately 10 feet by 12 feet and has a concrete shed roof and a door opening on the southwest side. SUNY ESF, 2007.



Figure 3.28: The stone dock, extending from the shoreline north of Battery Weed in an L shape, is approximately forty feet wide by eighty feet long. SUNY ESF, 2007.



Figure 3.29: The deck is constructed in patterns of small to medium size granite blocks and concrete with steel rails set into the surface along the north side. SUNY ESF, 2007.

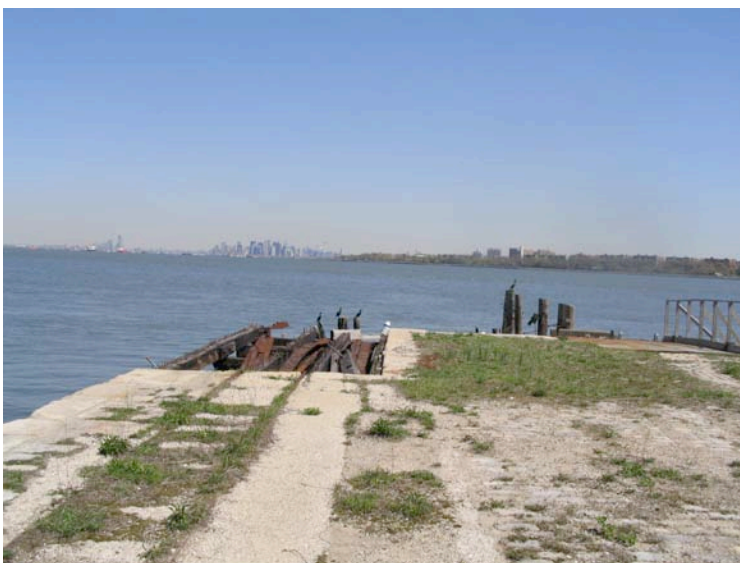


Figure 3.30: Freestanding timber piles remain in the water where the dock has collapsed the at the northeast corner, along with remnants of the supporting iron channel beams and the broken ends of the steel rails that once extended out onto the wood dock. SUNY ESF, 2007.



Figure 3.31: The Mine Casemate, measuring approximately sixty feet by seventy-five feet, is buried in the invasive and successional vegetation on Battery Catlin. The brick structure has window openings with slate sills, but has no roof. SUNY ESF, 2007.



Figure 3.32: One of the granite cap blocks of the entry retaining structure of the Bomb-Proof Parado is heaving probably due to the extensive growth of invasive vines and other vegetation covering the earthwork. SUNY ESF, 2007.



Figure 3.33: A three-inch thick, bronze-fastened, wood plank door with a small vertical window opens outward and leads to steps down into a narrow, barrel-vaulted concrete corridor and interior chamber. SUNY ESF, 2007.



Figure 3.34: Battery Bacon, located just to the south of Battery Weed along the east side of Battery Weed Road, is partially covered in invasive vines, especially over the granite retaining walls and the southern end of the battery. SUNY ESF, 2007.



Figure 3.35: Although there is some cracking in the reinforced concrete platform of Battery Bacon, the concrete pad, iron pintel, and traverse circle remain in good condition. SUNY ESF, 2007.



Figure 3.36: The mortar-laid stone wall along the crest of the slope above Battery Weed measures approx. 2,000 feet in length and ranges in height from approximately eighteen inches to approximately thirty-eight inches. It is constructed of a mix of random, uncoursed stone, although some sections appear to have been reconstructed in an ashlar coursed pattern. SUNY ESF, 2007.



Figure 3.37: A square concrete structure measuring approx. fifty-two inches and set into the slope immediately to the east of the stone wall at the top of the slope is flush with the surface of the slope on the west side and approx. eighteen inches above grade on the east side. The concrete is weathered and worn away in places, and the center of the structure appears to have been an opening that was patched closed with concrete. SUNY ESF, 2007.



Figure 3.38: The stone of the swale is set in a depression in the grade of the parade ground lawn and guides water along its channel length to a cistern covered with a steel door at the northeast corner. SUNY ESF, 2007.



Figure 3.39: The Concrete Seawall, approximately 550 feet long and seven feet high, extends from a large end pilaster measuring approximately six feet square just to the north of the North Stone Dock. SUNY ESF, 2007.



Figure 3.40: The Slope Sustaining Wall extends approximately fifty-six feet along Battery Weed Road near the southwest bastion of Battery Weed. SUNY ESF, 2007.



Figure 3.41: The Coincidence Range-Finder Station retains its walls and roof with some rusting metal parts of the structure. SUNY ESF, 2007.



Figure 3.42: The Panoramic View from the Overlook is partially obstructed by the growth of successional woods to the north and south on the slope and batteries. SUNY ESF, 2007.



Figure 3.43: Panoramic waterfront views include Battery Weed, New York Bay, Brooklyn, the Manhattan skyline and the northeast coast of Staten Island. SUNY ESF, 2007.



Figure 3.44: The Chain Link Fencing and locking gate installed between the northwest bastion of Battery Weed and Battery Catlin Chain link fencing also surrounds the Mine Casemate and along the east side of the Torpedo Storage Building. SUNY ESF, 2007.



Figure 3.45: One of the two Overlook Telescopic Viewing Stations. SUNY ESF, 2007.



Figure 3.46: The Overlook Flagpole with yardarms is approximately fifty feet tall and displays an American flag, a National Park Service flag and another flag at the center of the Overlook Terrace. SUNY ESF, 2007.



Figure 3.47: The Overlook Gun and Mount are much smaller than those that existed historically in a nearby location. SUNY ESF, 2007.



Figure 3.48: The Cable Testing Trough and Cable Testing Tank are located near the entrance of Battery Weed and were used in the testing of mine cable. SUNY ESF, 2007.



Figure 3.49: The Parade Ground Munitions Pads, two rectangular concrete areas located near the east edge of the Parade Ground are approximately seven feet wide and twenty, and thirty-two feet long and in fair condition. SUNY ESF, 2007.



Figure 3.50: The Parade Ground Flag Pole is located between the two Parade Ground Munitions Pads near the north/south center of the Parade Ground and is approximately twenty-five feet tall. SUNY ESF, 2007.



Figure 3.51: The eight park benches at Battery Weed are constructed of plastic or fiberglass and metal with concrete bases and are in good condition. SUNY ESF, 2007.



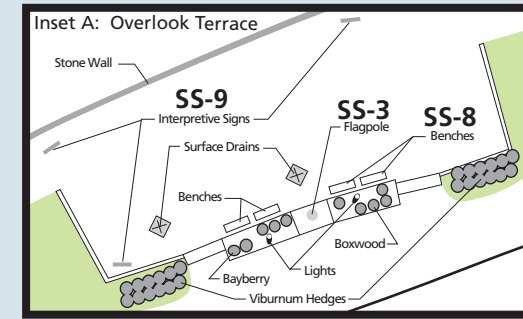
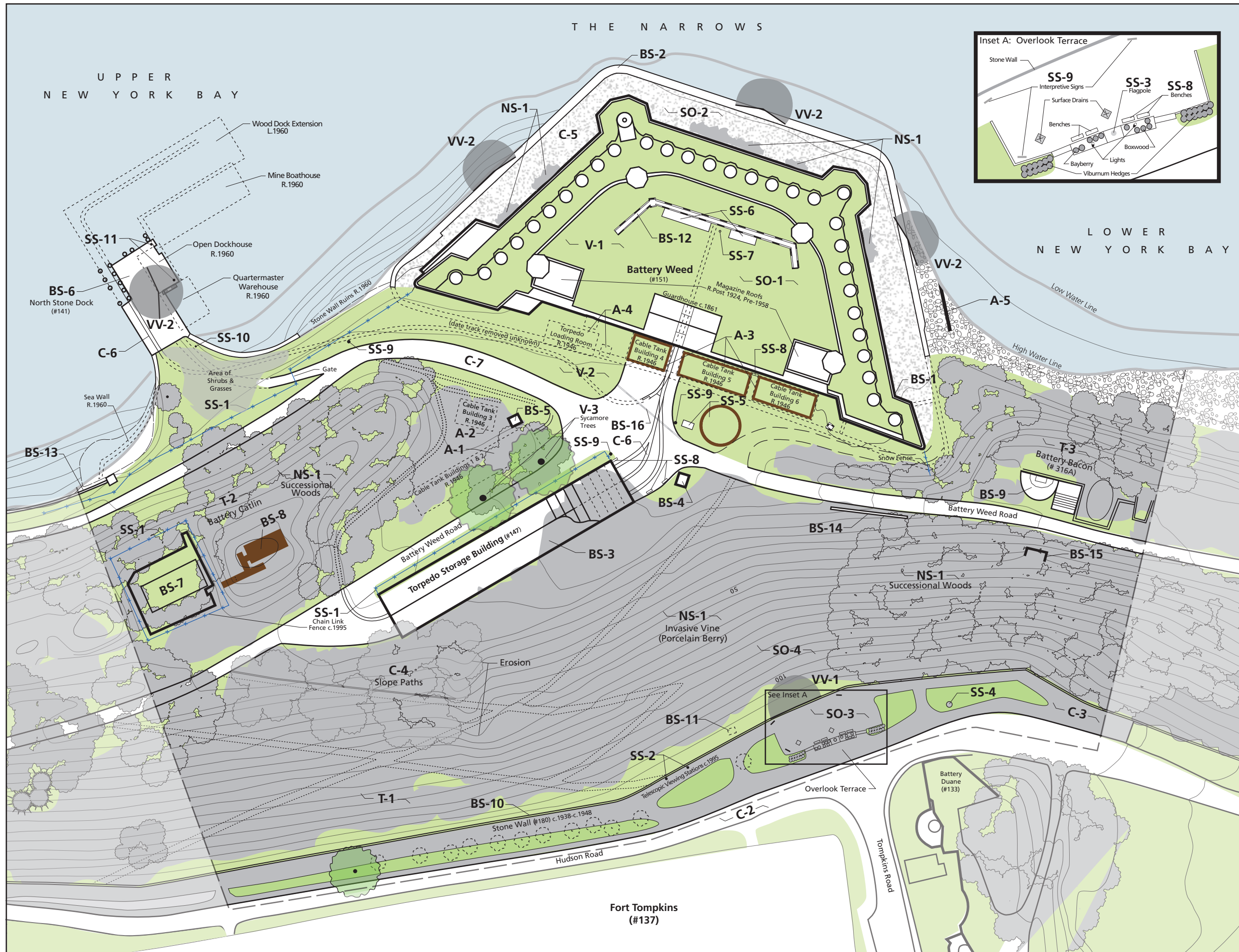
Figure 3.52: The Park Interpretive Signs are constructed of metal and plastic with some deterioration of the clear plastic covers and fading of the art boards. SUNY ESF, 2007.



Figure 3.53: The Dock Utility Pole is approximately thirty feet tall with climbing hardware and a single wire remaining attached. SUNY ESF, 2007.



Figure 3.54: The Iron Dock Bollards are approximately three feet tall in a gently tapered and simply detailed column approximately eleven inches in diameter at the base. SUNY ESF, 2007.



Cultural Landscape Report

Battery Weed, Fort Wadsworth
Gateway National Recreation Area
Staten Island, NY

Analysis & Evaluation



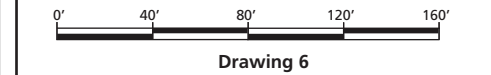
National Park Service
Olmsted Center for Landscape Preservation
www.nps.gov/oclp
in cooperation with:
SUNY College of Environmental Science and Forestry
Syracuse, New York

- SOURCES**
1. Aerial Photography, 2007
 2. Vegetation Map, 1995
 3. Field Survey completed by Olmsted Center, April 2007
 4. Topographical Survey (Ettlinger & Ettlinger P.C. 1985)
 5. 1940 Aerial Photograph (Langan Engineering, 1995)

DRAWN BY
Jean B. Gleisner, Illustrator CS, 2008

- LEGEND**
- Assumed Feature
 - Removed During Period
 - Added After the Historic Period
 - 5' Contour
 - Fencing
 - Drainage Inlet
 - Subsurface Structure/Foundation
 - Existing Building
 - Wall or Slope Path Edge
 - Unpaved Road
 - Paved Road
 - Project Area
 - Lawn or Meadow
 - Gravel
 - New York Bay
 - Rocky Beach
 - c.1917 Approximate Date Constructed
 - R.1917 Approximate Date Lost or Removed
 - NS-2 Landscape Evaluation Feature #s

- NOTES**
1. Plan shows character defining features removed since the end of the historic period (c.1847-1945) by dashed lines.
 2. Dates shown indicate date of initial construction and/or removal.
 3. For features built prior to the period date, no date is given.
 4. A-1 and A-2 foundation remnants assumed, but undetermined



Drawing 6

CONCLUSION

In the preceding sections, this thesis addressed the broad research objectives set forth in the introduction. Through comprehensive research of existing documentation, a detailed narrative history of the evolution of the Battery Weed landscape has been presented as well as a study of existing conditions of the landscape. A series of period plans to aid in understanding the development of the cultural landscape was created and presented with the site history and existing conditions. Through documentation of the changing form, use, and perceptions of the Battery Weed landscape, its many layers of cultural meaning are revealed, from Native American habitation, through colonial farming and military development to the observations of painters and writers like Herman Melville.

In the analysis and evaluation, the body of research was drawn upon to inform a comparison of historic and existing conditions of the landscape. Historic significance was evaluated to determine whether or not each feature of the landscape contributes to its historic character. In order to better manage the Battery Weed landscape in the future, and to preserve opportunities for interpretation of its many layers of cultural meaning; the conclusion of this thesis sets forth general recommendations for the stewardship of the landscape in response to findings of the analysis and evaluation.

FRAMEWORK FOR TREATMENT

Treatment of a cultural landscape is framed by enabling legislation and the mission of the park; by National Park Service policies, standards and guidelines for cultural resources; and by the park's current planning efforts. The enabling legislation of October 1972

established Gateway National Recreation Area “in order to preserve and protect for the use and enjoyment of present and future generations an area possessing outstanding natural and recreational features.”¹ The legislation authorized the creation and administration of Gateway National Recreation Area as one of the first two urban national parks (the other was Golden Gate National Recreation Area in San Francisco), and mandated “inventory and [evaluation of] all sites and structures having present and potential historical, cultural, or architectural significance and [provision] for appropriate programs for the preservation, restoration, interpretation, and utilization of them.”² This 1972 legislation sets forth historic preservation as a fundamental approach toward treatment of the Battery Weed landscape. The National Park Service provides further treatment guidance in its policies, standards and guidelines in *The Secretary of the Interior’s Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes* (1996), and *NPS Cultural Resource Management Guideline (DO-28)*.

Treatment of the landscape is also framed by a number of park planning documents. The *General Management Plan for Gateway National Recreation Area* (NPS, 1979) provided broad recommendations for Fort Wadsworth including a recommendation for more detailed site planning upon its anticipated transfer from the Department of Defense to the National Park Service. The 1995 *Draft Site Management Plan/Environmental Assessment* provided two alternatives for site management with a comparative analysis of the potential effects of the alternatives on the site and on neighboring communities. Alternative 1, the park’s preferred alternative, emphasizes future management of Fort Wadsworth as a cultural resource. Alternative 2 is for a protected cultural resource (a continuation of existing trends). The 1995 plan was intended to serve as a twenty-year management policy and guidance document. Although Gateway was identified and established as a

recreational park system, the 1995 report recognizes the need “to improve interpretation, and educational programs, make more of the site available to visitors, and preserve and protect the resources.”³ The 1995 plan also identifies preservation, protection and interpretation of historical and cultural features related to U.S. coastal defense systems, interconnected natural and cultural histories of the Hudson-Raritan Estuary, and the historic relationship of Fort Wadsworth to New York Harbor and the growth of the New York metropolitan area.⁴

Other reports and plans have been developed addressing vegetation and interpretation issues. A *Woody Plant Inventory For Fort Wadsworth* was developed by the NPS Olmsted Center for Landscape Preservation in 1995, including identification of management issues and recommendations. A subsequent report titled *Vegetation Management Alternatives and Maintenance Guidelines*, was developed by the Olmsted Center in 1998.

Another planning document that is key to establishing a framework for the treatment of the Battery Weed landscape is the *Long-Term Interpretive Plan for the Staten Island Unit (LRIP)*, developed by park staff from workshops conducted by the NPS between 2000 and 2003, and in 2004. The LTIP represents interpretive themes from the 1995 Draft Site Management Plan and examines issues and influences affecting interpretation. The LTIP proposes interpretive themes addressing programming, safety, research and collections.

Current planning efforts anticipate the development of a new General Management Plan for Gateway National Recreation Area that will supersede the 1979 *General Management Plan*. It will become the primary planning document for Fort Wadsworth and the Battery Weed landscape over the next two to three decades. Completion of the updated general

management plan is not expected for another five years. While it is not possible at this time to draw on the guidance of an updated plan, the general recommendations outlined in this thesis attempt to anticipate future management issues pertinent to the preservation of the historic landscape of Battery Weed.

Management of the Battery Weed site has been limited to securing unsafe areas of the site, and the maintenance of lawn areas immediately surrounding, and on the barbette tier and parapet (grass-covered roof) of Battery Weed. The last major attempt to contain the encroaching vegetation was made in 1994 when the slope above Battery Weed and most of the major structures were at least partially cleared of mature successional growth. Other maintenance issues have been addressed as they are recognized by NPS personnel as emergency stabilization needs.

This framework for the treatment of the landscape also addresses approved construction projects anticipated for implementation in the near future. These include *PMIS 16639 Rehabilitate Torpedo Building into Visitor Use Facility* (a project that would remove and replace fire-damaged portions of the structure and rehabilitate the masonry), *PMIS 47251 Manage Vegetation at Endicott-Era Batteries* (a project that continues on-going effort to clear invasive vegetation from six of the Endicott batteries and their magazines), and *PMIS 11410 Reproduce 10 Cannons & Carriages for Exhibit at Battery Weed* (to create ten replica cannons and their carriages for display in Battery Weed). Projects currently in review include *PMIS 16634 Rehabilitation of Battery Weed Seawall and Dock* (a project to rehabilitate the dock and seawall and prevent erosion from undermining the foundation of the seawall), *PMIS 47261 Replace Roof Historic Torpedo Magazine* (a project that would remove the fire-damaged roof and superstructure of the Torpedo Storage Building #147),

PMIS 114176 Replacement of all Windows & Doors for Historic Torpedo Magazine (a project that would remove and replace damaged and missing windows and doors and install historically correct replacements), and *PMIS 134585 Stabilize Battery Weed Seawall and Walkway to Provide Visitor Access* (a project to stabilize the historic Battery Weed Seawall and adjacent walkway).

In 1995, the National Park Service prepared a Site Management-Environmental Assessment for Fort Wadsworth that identified the need for critical repairs to important park resources at Battery Weed including the north stone dock and seawall. In a 2001 report prepared by Volpe National Transportation Systems Center, the Battery Weed dock at Fort Wadsworth as a potentially vital transportation resource for Gateway National Recreation Area. Studies completed for this project to date directly address issues concerning the condition of the north stone dock and seawall, and include the *Pier Seawall and Evaluation and Ferry Feasibility Study, Fort Wadsworth Staten Island, New York*, by Langan Engineering and Environmental Services (1995) which was conducted to document the existing conditions of the seawall and dock, identify structural deficiencies, and prepare recommendations for repairs as well as determining feasibility of ferry use.

Finally, the framework for the treatment of the Battery Weed landscape also includes the *Pre-Disturbance Clearance Report Battery Weed Dock Rehabilitation Battery Weed Seawall Repair Gateway National Recreation Area PMIS #115899, 47255, 16634*, by David Conlin, Franklin Price and Ken Hanaki (2005) which provided an archeological survey for submerged resources in areas of potential impact in advance of dock rehabilitation and seawall stabilization at Battery Weed.

TREATMENT APPROACH

Since 1995, the National Park Service has followed a general preservation approach toward the Battery Weed landscape, but with the lack of a high level of vegetation maintenance and the loss of many historic landscape features prior to that time, the historic character of the landscape has been impacted. A treatment approach is needed to reestablish the historic character of the landscape and to ensure *preservation* of contributing character-defining features, with recommendations based on the significance, existing conditions, and contemporary use of the cultural landscape.

Primary Treatment

The recommended primary treatment for the Battery Weed landscape is *Rehabilitation*, one of four treatment standards identified in *The Secretary of the Interior's Standards for the Treatment of Historic Properties With Guidelines for the Treatment of Cultural Landscapes* (1996) (the other three being Preservation, Restoration, and Reconstruction). The intent of this recommended treatment is that it serve as a general treatment for the entire landscape, and to "... [make] possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features which convey its historical, cultural, or architectural values."⁵ Rehabilitation could include, for example, alteration of an historic building for a contemporary new use, resurfacing park drives for universal access, or adding new facilities such as restrooms or a transportation shelter in support of appropriate contemporary use.

The ten standards for rehabilitation are:

- 1. A property will be used as it was historically or be given a new use that requires minimal change to its distinctive features, spaces, and spatial relationships.*
- 2. The historic character of a property will be retained and preserved. The removal of distinctive materials or alterations of features, spaces, and spatial relationships that characterize a property will be avoided.*
- 3. Each property will be recognized as a physical record of its time, place and use. Changes that create a false sense of historical development, such as adding conjectural features or elements from other historic properties, will not be undertaken.*
- 4. Changes to a property that have acquired historic significance in their own right shall be retained and preserved.*
- 5. Distinctive materials, features, finishes, and construction techniques or examples of craftsmanship that characterize a property will be preserved.*
- 6. Deteriorated historic features will be repaired rather than replaced. Where the severity of deterioration requires replacement of a distinctive feature, the new feature will match the old in design, color, texture and where possible, materials. Replacement of missing features will be substantiated by documentary and physical evidence.*
- 7. Chemical or physical treatments, if appropriate, will be undertaken using the gentlest means possible. Treatments that cause damage to historic materials will not be used.*
- 8. Archeological resources will be protected and preserved in place. If such resources must be disturbed, mitigation measures shall be undertaken.*

9. *New additions, exterior alterations, or related new construction will not destroy historic materials, features, and spatial relationships that characterize the property. The new work will be differentiated from the old and will be compatible with the historic materials, features, size, scale, proportion, and massing to protect the integrity of the property and its environment.*

10. *New additions and adjacent or related new construction will be undertaken in such a manner that, if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.*⁶

Recommended Treatment Date

The year 1945 provides an appropriate benchmark for treatment of the landscape because it represents the most complete and enduring military development of the site during which the military's management practices for the landscape had become well established, and the manifold of contributing features were in place. Therefore, by managing the landscape character it had attained through 1945, the landscape can convey the many changes it had accrued over nearly one hundred years of development. The goal of the following recommendations is to retain the character-defining features that contribute to the historic character of the site rather than to freeze the Battery Weed landscape to reflect a single year. As discussed in the analysis and evaluation, the recommended end date for the period of significance is 1945 at the end of World War II and active military use of Battery Weed. After 1945, although Battery Weed continued to be managed by the military, all of the guns had been removed from the batteries, and the site was no longer actively use in coastal defense. Later defense systems that had come into favor such as the NIKE missiles of the 1950s and 1960s were not located on site at Fort Wadsworth.

Although changes in the landscape after 1945 are not considered historically significant, and need not be retained, these later changes do not necessarily need to be erased. As previously defined, landscapes are by their very nature—dynamic expressions of cultural meaning and ecology from which a society may learn continually about itself and its place in the world. Therefore, it is not the intent of this study to suggest a freezing of the landscape at a particular point in time or stage in development. Post 1945 changes such as the maturation of trees and the weathering of materials may indeed be helpful in illustrating the later history of the landscape in providing a sense of time passage, in providing wildlife habitat, and enhancing aesthetic qualities, thus adding a richness to the historic character of the landscape.

GENERAL RECOMMENDATIONS

Through the development of the analysis and evaluation and discussions with park staff, and in consideration of the guiding framework for treatment, the general recommendations for the landscape are:

Balance Preservation and Rehabilitation with Natural Systems

One of the most pressing treatment issues for the Battery Weed landscape is the extent to which invasive vegetation and successional plants are currently diminishing the historic landscape character as well as impacting historic structures. Implementation of a vegetation management plan is crucial in recovering historic character as well as protecting cultural landscape resources, but must be balanced with the protection of natural resources that support wildlife habitat on site.

Finding a balance between cultural and natural resources is possible, and indeed important in maintaining sustainable landscapes that contribute to healthy cultural and environmental interdependencies. Removal of the invasive vine, porcelain berry, *Ampelopsis brevipedunculata* and other successional plants from the slope is recommended along the entire length of the overlook terrace and promenade along Hudson Road. An incremental method of rotational eradication is recommended with introduced goats used to consume the herbaceous material. Eradication of the porcelain berry should be followed by the establishment of a low maintenance perennial native grass such as Switch Grass, *Panicum virgatum*, an alternative warm season bunchgrass (as likely existed historically) that spreads by short rhizomes. Switch Grass grows four to six feet tall, but can be kept low by mowing once in mid-summer and once in late fall. It is a very good competitor to invasive species once established, and in addition, provides excellent food and cover for visiting meadow birds. In areas that will not obstruct historic views, non-invasive plants including clusters of low-growing native shrubs that are easily maintained and attractive to migrating birds and butterflies may be retained and added.

Improve Public Access and Site-wide ADA Accessibility

Another important treatment issue is the limited public access, including the challenges of safety and use of deteriorating historic structures such as the North Stone Dock, the long and circuitous route from the overlook to Battery Weed and the dock area, and the site-wide lack of ADA accessible circulation. One of the greatest assets Battery Weed continues to offer is its spectacular natural setting, which is readily accessible through its proximity to the New York metropolitan regional population, and potential connectivity to the New York City Parks system via public transportation by both land and the New York Harbor. In order to realize this potential, a coherent pedestrian circulation system must be

developed throughout the site, including facilities for both marine and alternative fuel ground transportation, without compromising the historic character of contributing features. Circulation routes that existed historically such as the slope paths or mine railway should be used when introducing new circulation through the landscape.

Enhance Visitor Education and Experience

With improved visitor access to and throughout the site, another important recommendation is the enhancement of visitor education and experience. The park has a long history of public access and recreational use as illustrated in the site history of this thesis. At present, facilities such as drinking fountains, lighting, seating and shelter are lacking, and should be provided to ensure visitor comfort. Educational programming such as interpretive exhibits of landscape features will contribute to the quality of the visitor experience and to public understanding and appreciation of the historical significance of the landscape. In order to minimize impacts on the historic character of Battery Weed, general design guidelines should be developed and followed for the introduction of new elements into the landscape.

Landscape interpretation at present is limited to fading informational displays at a few locations that illustrate the major buildings and structures of the historic landscape. Existing displays included the *Torpedo Wharf*, *Torpedo Building*, *Battery Weed*, a *Fort Wadsworth location Map*, *Defending New York Harbor*, *Verrazano-Narrows Bridge*, and *Fort Tompkins*. Interpretation of the historic landscape of the working mine complex as well as the historic setting of Battery Weed within the context of other New York Harbor defenses is minimal. As a part of a site-wide unified system of waysides, interpretive references to the moat, the drawbridge that once provided the only access across the moat

to Battery Weed, and remnants of the c.1850 cofferdam that appear at low tide should also be developed.

Other layers of cultural meaning of the Battery Weed landscape revealed through this study should also find a place in its interpretation. The history of recreational use of the landscape, its position on the North American Migratory Flyway, and at the gateway to America as experienced by countless immigrants who sailed through the Narrows of New York Bay, as well as its cultural representation through the arts and literature are important interpretive themes.

EPILOGUE

The development of this thesis has involved an exploration of landscape as combined expression of cultural practices and natural systems. Cultural landscapes are constructed both physically and intellectually through the application of human intention and environmental processes over time. They are material, spatial, and temporal expressions reflecting inter-dependencies of physiography and human existence.

In the identification and preservation of culturally valued landscapes like Battery Weed, knowledge gained through in-depth historical landscape research offers a broad view, but a focused perspective on historical conditions, events, and contexts. This focused perspective provides a comprehensive and salient reading of landscape history, and makes possible the development of insightful and appropriate frameworks for future stewardship of cultural landscapes.

The landscape of Battery Weed, from the time of its physical formation as a result of environmental forces twenty thousand years ago, and through continued ecological evolution, became the setting for cultural development of diverse groups of people and remarkable historic events. Narratives of literature, architecture, engineering, art, and ecology reveal the significance of the Battery Weed landscape. Although hidden in areas, the history and cultural significance of this landscape remain remarkably intact, and with appropriate treatment the landscape of Battery Weed can fully express its cultural significance.

The study of interrelationships between cultural and ecology offers new understandings and approaches to the development of sustainable land use practices. This thesis has shown that cultural and natural heritage are inextricably bound through the interplay of human history, social values, and ecological systems. Exploration of the critical relationship between cultural landscape heritage and natural resources can bring to light the ways in which the unique characteristics of place are reflected in culturally meaningful landscapes.

ENDNOTES

¹ NPS D-200 *Draft Site Management Plan Environmental Assessment Fort Wadsworth Gateway National Recreation Area New York/New Jersey* (U.S. Government Printing Office, 1995), 1.

² NPS D-200, 67.

³ NPS D-200, 3.

⁴ NPS D-200, 8.

⁵ Charles A. Birnbaum and Christine Capella Peters, eds. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes* (Washington, D.C.: U.S. Department of the Interior, 1996), 48.

⁶ Birnbaum and Capella Peters, 49.

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Gateway National Recreation Area (GNRA) Archives

National Archives (NARA I)

Record Group 159

Inspectors General

Office of the Inspector General (Army)

National Archives (NARA II), Cartographic Collection

Record Group 77

Fort Wadsworth, Staten Island NY

Defense of New York Harbor and Defense of the Narrows

National Archives (NARA II), Photographic Collection

Record Group 92

New York Historical Society

New York Public Library, Humanities and Social Sciences Library

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REPOSITORIES CONSULTED AND RESULTS

Gateway National Recreation Area Archives, Staten Island, NY

Historic photographs, plans and documents pertaining to Battery Weed and Fort Wadsworth, although few historic images of the Battery Weed landscape. The collection included several historic plans and documents, annotated section drawings and copies from the National Archives collection.

Harbor Defense Museum, Fort Hamilton, Brooklyn, NY

Drawings, a painting, plans and texts related the defense of the Narrows, Staten Island and Fort Wadsworth

National Archives (NARA I), Washington, DC

Record Group 159

Inspectors General

Office of the Inspector General (Army)

1813 – 1842 on microfilm in three volumes on microfilm were reviewed. No inspection reports for a fort on the west side of the narrows were discovered. Reference indexes indicated several collections of inspection reports generally organized in approximately ten series by date, although many entries overlapped. Inspection Reports for 1843 – 1890 were not listed in RG 159. The content of each series, some containing as many as 62 boxes of records, was not indexed to post names or even to states. Reports for New York posts were within the “Eastern Division” category, and 18 boxes were found in this division under Entry 9. Entry 3, Vol.s 1 and 2, were also reviewed with no results. The books were organized by the name of the officer in charge at the time which made locating records for Fort Richmond or Fort Wadsworth time consuming. Entry 9, Boxes 18 and 19 did not contain records for Fort Wadsworth. Box 17 contained Inspection records made in late 1899 and reported in early 1900 for Fort Wadsworth. Future review of the remaining listings in the Army Dept. of the East, RG 159, Stack Area IIWI, (Boxes 28, 29, 43, 79, 80, 97, 109, 110, 114, 131, 136, 137, 151 and 154) may provide further insights into the evolution of the landscape at Battery Weed.

National Archives Records Administration (NARA II), College Park, Maryland

Cartographic Collection

Record Group 77

Fort Wadsworth, Staten Island NY

Defense of New York Harbor and Defense of the Narrows

Many oversize maps, charts, plans and drawings were located pertaining to the Battery Weed site. Other records that should be reviewed in the future from the Cartographic Collection are: aerial photographs for Staten Island, RG 77 War Department Map Collection (no. 155 - New York Topographical Map 1912), and RG 77 Real Estate Division, Wadsworth, Fort, NY Land Purchases 1898, 1893, 1892, Site Plan 1910.

Photographic Collection
Record Group 92

SC 616994 contained several photos of Battery Weed, and Box 20, Series F contained one photo showing Tompkins lighthouse from Fort Tompkins (92-F-72-1) and a view of the upper road and mowed grasses on bunkers (92-F-72-2).

New York Historical Society, Manhattan, NY

New York Historical Society Library Collection included the notebooks of General Delofield, Engineer at Fort Wadsworth during the mid-nineteenth century, geological maps, etchings and photographic views of recreation and amusements on Staten Island.

New York Public Library, Manhattan, NY

Humanities and Social Sciences Library

The Lionel Pincus and Princess Firyal Map Division

The collection provided several early maps of the New York Bay region and harbor entrance.

New York Public Library, Manhattan, NY

Humanities and Social Sciences Library

Irma and Paul Milstein Division of United States History,

Local History and Geneology

This collection contained several early photographic views of the Narrows and the Fort Wadsworth site and would be worth revisiting in the future.

Staten Island Institute of Arts and Sciences (SIIAS), Staten Island, NY

The SIIAS archives collection included many etchings and drawings depicting the Fort Wadsworth site on the Narrows from the mid to late 19th century as well as colonial land patents dating from the mid 17th century to the early 18th century. The SIIAS Museum collection included paintings, etchings and porcelain pieces featuring historic views of the Narrows and the Fort Wadsworth site as well as archeological and natural history collections.

United States Military Academy Library, West Point, NY

The collection contained several news articles and periodical publications with photos and text regarding Fort Wadsworth and Battery Weed.

APPENDIX A

SITE CHRONOLOGY

prehistory	Indigenous people of Raritan Group - Lenape
1524	Giovanni de Verrazano sails into the Narrows
1609	Henry Hudson names Staaten Eylandt (Island of the States) in honor of the States General of the Netherlands
1621 - 1664	Part of the Province of New Netherland/Dutch West India Company
1630	Staten Island granted to Michael Pauw by Dutch West India Company
1655	Peach War
1661 - 1662	First colonial agricultural settlement, Oude Dorpe, established
1664	King Charles II of England grants Staten Island lands to the Duke of York
1680's	site designated to F. Walton (not patented)
1683	Staten Island designated Richmond County
1711	Plan approved for a system of signal guns and fire beacons to be developed in several locations at the Narrows including Staten Island
1712	First ferry charter between Manhattan and Staten Island
c.1750 - 1794	VanDeventer family maintains ownership of "Bluff Point" "Van Deventer's Point"
1754	NYS proposal for batteries on Staten Island (not implemented)
1755	NYS legislation authorizes payment to carry to the site two guns along with tar barrels and posts for beacons
1776 - 1783	Under British occupation and rule. British harvest of all mature trees. Signal Hill established (land title remained with Van Deventer)
1779	British defenses at VanDeventers' point included earthen batteries, redoubt, 26 gun platform, and hot-shot furnace
1782	British construct four-bastion fort and several barbette batteries
1794	NYS acquires 24 1/2 acres from Ann Jacobsen and Catherine Van Deventer
1794 - 1807	1st American System of Coastal Fortifications
1799 - 1858	Quarantine station located at Rosebank
1800	Population of Staten Island is 4,564
1807	Growing British hostility
1807 - 1817	2nd American System of Coastal Fortifications
1807 - 1812	Castle Williams, Governor's Island, Jonathan Williams
1808	Army Engineer Jonathan Williams plan for fortification at the Narrows
1809	NYS acquires 22 additional acres from John Jacobsen ("Jacobsen's Dwelling," farm house, barn and road)
1809 - 1814	Castle Clinton, Manhattan, Jonathan Williams
1810	Water Battery-Fort Richmond, Second System Fortress completed

- 1812 War of 1812, NYS and federal government authorize telegraph observatories and signal poles
- 1814 Construction of 2nd System Fort Tompkins substantially begun, Ft. Richmond serves as a checkpoint for all vessels entering or leaving New York Harbor
- 1816 Fort Wadsworth site largely abandoned by NYS due to lack of funds
- 1817 – 1861 3rd American System of Coastal Fortifications
- 1818 No troops on site
- 1820 – 1845 Unresolved negotiations between NYS and federal government over ownership of the site
- 1828 Ft. Tompkins Light constructed at Ft. Wadsworth
- 1838 - 1864 Major General Joseph G. Totten directs construction of fortifications at Ft. Wadsworth
- 1839 Herman Melville writes about the landscape in his novel *Redburn*
- 1840 NYC becomes busiest port in U.S.
- 1847 Conveyance of land at the point from NYS to federal government. Construction of Fort Richmond begins
- 1848 Slope sustaining wall constructed
- 1852 West wall of moat completed
- 1854 Jacobsen 5.2 acre parcel purchased by federal government on westside
- 1855 Cofferdam completed
- 1856 Aspinwell 17 acre strip parcel along New York Avenue purchased by federal government
- 1857 Congress appropriates \$150,000 for reconstruction of Fort Tompkins
- 1858 North stone dock constructed
- 1860 Two story guardhouse w/drawbridge built on the west face of Battery Weed. Hourly ferry service from Manhattan
- 1861 5th Regiment NY Volunteer Artillery garrisoned at Fort Wadsworth
- 1862 – 1866 South cliff battery constructed
- 1863 Major General Richard Delafield appt'd Colonel of Engineers. Inclined railway constructed from dock up slope
- 1863 – 1867 North cliff battery constructed
- 1864 Fort Richmond completed at a cost of 750,000.00
Number of troops at the post peaks at 1,921
Construction of many wooden buildings begins
- 1865 War Department changes name of Fort Richmond to Fort Wadsworth.
- 1867 Many temporary wartime buildings demolished
- c. 1870 Macadem added to roadways at Ft. Wadsworth
- 1871 Seawall completed
- 1871 - 1875 South and North Cliff and Hudson Batteries modernized.

- 1872 Swinburn and Hoffman Islands created artificially as quarantine centers
- 1873 Fortress grounds, glacis, slopes and batteries graded and seeded. Draining and filling of swamp at foot of glacis at New York Avenue
- 1876 Second Fort Tompkins completed
- 1877 Boathouse constructed on dock
- early 1880's Roadways receive a new dressing of gravel
- 1880 Rail service established from St. George to South Beach.
- 1884 41 troops stationed at Fort Wadsworth
- 1885 President Cleveland establishes Endicott Board to study coastal defenses. Covered way/raised earthen berm constructed at top of slope
- 1886 1st Mine tracks constructed. Rectangular magazines added in west bastions of Battery Weed. 2 gun battery constructed at top of slope. SW corner of moat walled and water piped to guardhouse. Staten Island Rapid Transit Railroad Company founded. S.I. railroad extended from St. George to Richmond Ave. Over 100 working farms on the island
- 1886 – 1917 Endicott Era in Coastal Fortifications
- 1887 NW bastion of Battery Weed converted to a Mining Castemate. Moat dewatered
- 1889 Cable tank #2. Staten Island linked to New Jersey by a railroad bridge
- c. 1890 Battery Weed used for storage of munitions from Ellis Island
- c. 1892 Tennis courts at Ft. Tompkins
- 1892 – 1894 Mine storage building constructed west of Battery Weed
- 1892 - 1901 141 acres purchased in ten parcels from various owners to the south and west by the federal government expanding the Fort Wadsworth reservation from 90 to 226 acres
- 1892 – 1902 Fog signal installed on NE angle of seawall
- 1895 - 1904 Six new batteries constructed for higher-powered artillery
South and North Cliff and Hudson Batteries equipped with modern guns
- 1896 Population of Staten Island 60,000 plus
- 1898 Spanish-American War begins. S.I. becomes a borough of NYC. Cable tank #1 is constructed
- 1898 - 1899 Battery Bacon constructed
- 1901 Army Corps of Engineers transfers mining complex to Coast Artillery Corps
- 1902 Entire reservation renamed Ft. Wadsworth
- 1902 - 1903 Wadsworth Lighthouse relocated from behind Battery Hudson
Combined fog signal and lighthouse constructed on barbette of Battery Weed's northeast bastion.
- 1902 - 1904 Battery Catlin (Endicott battery) constructed
- 1904 Moat filled in. (2) 3" rapid fire guns mounted at Battery Bacon

- 1905 2nd Mining casemate constructed at Battery Catlin. Cable tank #4,5, and 6 constructed outside west wall of Battery Weed
- 1906 “Carnival of Venice” at Happyland amusement park, South Beach Resort
- c.1907 Timber addition to dock constructed. One story mine boathouse constructed at dock. Trolley extended from Richmond Ave. to South Beach
- 1910 Mine tracks realigned
- 1913 (6) 3” rapid fire guns mounted at Battery Catlin. Timber addition to dock destroyed by steamer “Hamilton” collision
- 1916 NYC health department closes oyster beds due to pollution/typhoid outbreak
- 1916 – 1918 1,400 troops garrisoned at Ft. Wadsworth
- 1918 Battery Bacon taken out of service
- 1919 Command shifts from Coast Artillery Coprs to the infantry
- 1920 Four anti-aircraft guns emplaced at Fort Wadsworth
- 1921 Mine tracks realigned and extended into parade ground of Battery Weed
- 1926 The first commercial airport on S.I. is founded
- 1927 Only 14 enlisted men on post
- 1928 First automobile bridge, the George W. Goethals Bridge, is constructed over Arthur Kill to Elizabeth City, NJ. Outerbridge Crossing opens between Port Richmond and Bayonne, NJ
- 1931 Bayonne Bridge opens
- 1933 51 acre bird sanctuary is created in New Springfield, SI
- 1934 All S.I. trolley lines replaced with bus service
- 1935 WPA laborers begin work at Fort Wadsworth CCC (390 Veterans Co.) construct part of seawall/limited forestry work
- 1939 Staten Island Airport established
- 1941 Jurisdiction of Battery Weed returned to the Coast Artillery Corp
- 1940 - 1944 Anti-submarine net (series of subsurface mines) across the Narrows
- 1942 Battery Catlin taken out of service
- 1942 – 1945 Harbor Entrance Control Post (HECP) command center at Ft. Wadsworth
- 1944 - 1945 Fort Wadsworth housed a service unit of Italian prisoners of war
- 1948 Trailer camp developed for military housing
- 1952 Korean War anti-aircraft unit assigned to Fort Wadsworth
- mid 1950’s Nike Surface-to-Air Missile Command located at Fort Wadsworth
- 1956 Bird sanctuary becomes William T. Davis Wildlife Refuge, 260 acres
- 1960 Hurricane Donna, 70 mph winds, 4.6” rain, high water 1’ above seawall destroys timber dock extension and buildings
- 1960 Ft. Wadsworth becomes headquarters for WWII U.S. Army Corps
- 1959 - 1964 Verrazano-Narrows Bridge constructed across site
- 1972 Battery Weed NR: Significance given as 1847-1861

1972 DOD announces plans to designate Fort Wadsworth as “Surplus” Fort
Wadsworth identified to be managed by NPS for GNRA

1972 Battery Weed NR: Significance given as 1847-1861

1973 Fort Tompkins NR: No Significance date given – construction date
incorrectly 1847-1861

1983 U.S. Navy announces plans to use the site for a home port

1994 Naval Station decommissioned

1995 National Parks Service assumes jurisdiction

1998 Fort Wadsworth Site NR (51 contributing buildings). Significance given as
1755-1945

APPENDIX B

MILITARY TERMINOLOGY

Barbette: An earthen terrace or platform situated inside the parapet or a rampart, upon which cannon were mounted so that they could be fired over a wall rather than through a gun port. A battery in this situation is called a “battery en barbe” (or barbet). (L. barba, beard). Also Barbe, Barbet, Barquette.¹

Bastion: A work consisting of two faces and two flanks, all of the angles being salient. A curtain connects two bastions. Viewed from the interior of the fort the bastion is divided at the salient creating a right face/flank and a left face/flank.²

Battery: A work consisting of an epaulment or breastwork was used to protect a gun or mortar emplacement.¹

Block house: A fortification used for seaward defense provided with; shot deflecting battlements, hand gun ports and a single embrasure for a long range cannon, used during the 16th century.¹

Casemate: (1) A chamber within a tower used to house artillery away from the elements such as catapults, Greek from the 4th century BC. (2) A gallery which was built at the base of a fortifications wall from which defenders could fire into the faces of surface miners and battering ram parties. (3) A well having a number of underground branches which can be extended to intercept enemy mines. (4) A magazine for storage of explosives. (5) A place for quartering troops. (F. casemate, fr. It. casamatta, prob. from casa house + matto, f. matta, mad, weak, feeble, dim. from the same source as E. -mate in checkmate). Also Casement, Cazemate, Cazematte.¹

Also, simply, the interior gun chamber behind a fort wall. The gun is fired through a protected opening in the wall (casement). Casemates protect the guns and gunners and allow a fort's guns to be arranged in multiple levels. This type of fortification feature was developed during the Second American System from 1794-1807 (e.g. Castle Williams, New York, and was used extensively in Third American System forts from 1817-1867 (e.g. Fort Carroll, Baltimore, MD).²

Emplacement: A location on which an artillery piece is positioned. In order to mount a gun either a platform or a traverse and pintle is constructed.²

Escarpment: The foreground of a fortification, which was excavated precipitously to hinder an enemy's approach.¹

Glacis: (1) The area outside the ditch which was scarped into a gentle slope running downwards from the covered way towards the open country, which was kept deliberately free of any form of cover. The glacis brought an approaching assailing force into clear view from the parapet of a fortification under attack. See declivity. (2) The masonry sloped scarp of a curtain wall, a design which was developed to offset the effect of artillery fire. See talus. (L. glucies, ice).¹

Magazine: A storehouse for munitions.²

Parapet: (1) The top of a wall of either a fortification or fieldwork, either plain or battlemented. Used to provide protection to the defenders behind the wall. See battlement, crenel, embrasure, merlon, reveal. (2) A breastwork or wall used to protect the defenders on the ramparts of a fortification, either plain or provided with embrasures.¹

Pintle: The pin on which a gun carriage revolves.¹

Postern: A small secondary entrance, sometimes concealed, and usually at the rear of a castle. Used as a sally port for sorties, and as a route of escape. See sally port.¹

Ravelin: A detached outwork developed from the demilune, consisting of a triangular work with two embankments raised before the counterscarp, the work itself was isolated in the ditch of moat. One purpose of the ravelin was to shield the entrance to a fortification from direct bombardment. The ravelin was accessible either by a drawbridge if it formed a part of the road system of a fortification, or if only part of the defence works access was by a tunnel or timber bridge from the inner works. A demilune is a work in the shape of a halfmoon, which was used to defend the entrance of a fortification. Later, the demilune developed into a detached work called a ravelin, which was situated within the line of the main ditch and was formed by two faces meeting in an outward angle, its purpose was mainly to cover the curtain it fronted and to prevent the flanks from being attacked from the side. Also known as a halfmoon. (L. Luna, moon).¹

Redan or Reden: (1) A field work consisting of two faces and an open gorge. (2) A triangular work situated forward of the main fortification, consisting of two faces and an open gorge, like but larger than a flèche. Used to fortify walls when the necessity and expense of constructing bastions was required. A system of fortifications using redans produced a series of serrations, the distance between the redans should not exceed the length of musket shot, so that fire from the faces of a redan will be able to the salients of the neighbouring redans. (Re + L. den, tooth).¹

Redoubt: A small fort of varying shape, usually of a temporary nature.² Also, (1) A small work placed beyond the glacis, but within musket shot of the covert way, made in various

forms, known as a detached redoubt. (2) A small work built in a bastion or ravelin of a permanent fortification. (3) An outwork or fieldwork, square or polygonal in shape without bastion or other flanking defences, sited at a distance from the main fortification, used to guard a pass or to impede the approach of an enemy force. Also Redout, Redit.¹

Terreplein: (1) The open country surrounding a field work. (2) The rear talus of a rampart. (3) The gun position on the top of a rampart located behind a parapet.¹

Traverse Circle: In gunnery, a circular plate of iron fastened to a bed of solid masonry or stone on which the traverse wheels that support the gun chassis roll.

Water Battery: A battery consisting of two or more guns that is nearly level with the water.

(Note: military personnel over the life of Battery Weed did not know the meanings of all of these terms. Contemporary usage is not always as precise as these definitions may imply. Consequently, the information on some historic maps and documents can be misleading.)²

ENDNOTES

1. Stephen Francis Wyley, <http://militaryhistory.about.com/od/militaryterminology/> Dictionary of Military Architecture, A Dictionary of Military Architecture, Fortification and Fieldworks from the Iron Age to the Eighteenth Century.

2. <http://www.bcpl.net/~etowner/glossary.html>
Baltimore County Public Library Glossary

APPENDIX C

INVASIVE VINE ERADICATION METHOD FOR OS-TASK 1

Rotational Introduction of Goats

The invasive vine, porcelain berry, *Ampelopsis brevipedunculata* should be removed from the slope and batteries. An incremental method of rotational eradication in sections, using introduced goats in fenced areas to consume the herbaceous material is recommended.

Step 1: Goats are to be introduced in Section A, where they consume nearly all of the herbaceous matter, and then are moved to Section B to remove all of the herbaceous material in that section.

Step 2: Once the goats have been moved out of Section A, the remaining herbaceous and woody material in that section should be cut to ground level and removed to a location where it can be disposed of safely by burning to prevent further spread of the vine in other locations.

Step 3: *Ampelopsis* grows vigorously and covers a wide area from a central root system, and therefore once cut, is relatively easy to treat with an herbicide. Roundup (glyphosate) should be applied by brushing the liquid onto all cut root systems that remain in the ground. This will kill all of the established vines in Section A, however; soils where *Ampelopsis* has established contain a buried seed bank that can contain as many as 10,000 seeds per square meter. This buried seed bank must be dealt with to ensure that the porcelain berry does not reestablish.

Step 4: Once Section A has been cleared of all remaining plant material and the root stumps treated with Roundup (glyphosate), the remaining seeds buried in the soil in Section A should be allowed to sprout fully across the section. These new *Ampelopsis* plants, from the seed bank, can then be eradicated by returning the goats to section A to eat them before the plants can bare new seeds.

Step 5: Once the goats have been moved out of Section B, the remaining herbaceous and woody material in that section should be cut to ground level and removed to a location where it can be disposed of safely by burning to prevent further spread of the vine in other locations.

Step 6: Roundup (glyphosate) should be applied by brushing the liquid onto all cut root systems that remain in the ground in Section B.

Step 7: Once Section B has been cleared of all remaining plant material and the root stumps treated with Roundup (glyphosate), the remaining seeds buried in the soil in Section B should be allowed to sprout fully across the section. These new *Ampelopsis* plants, from the seed bank, can then be eradicated by returning the goats to section B to eat them before the plants can bare new seeds.

Note: This rotational sprouting of the buried seeds, and consuming of the seedlings by goats, section by section, should be repeated until the *Ampelopsis* seed bank no longer produces a flush of new *Ampelopsis* seedlings. Depending on the extent of the seed bank, this may take three or more rotations for each section of the landscape.

Step 8: Once the *Ampelopsis* (porcelain berry) has been eradicated from a section, the root stumps within that section should be removed, the soil turned and raked smooth, and an erosion control blanket applied on any slope over 30 degrees.

Step 9: Establish a low maintenance perennial native grass such as Switch Grass, *Panicum virgatum* in each prepared section by planting 2 inch plugs of *Panicum virgatum* across the recovered areas. *Panicum virgatum* is a warm season bunchgrass that spreads by short rhizomes and grows 4 to 6 feet tall and can be mowed once each year in the fall. It is a very good competitor to invasive species once established, and in addition, provides excellent food and cover for wildlife. Two-inch plugs can be expected to fill an area approximately one meter square in two years.

Recommended native grasses for the shorefront areas include *Spartina pectinata*, *Spartina alternifolia*, and *Spartina Patens*. Recommended native shrubs that are easily maintained and will attract and support wildlife are low-growing sumac, *Rhus copallina* and *Rhus aromatica*, and Bayberry, *Myrica Pensylvanica*.

Step 10: Maintain native grasses by mowing twice annually; in mid-summer and again in late fall.

Note: a good source for 2-inch plugs of native grasses is Pinelands Nursery, 323 Island Road, Columbus, NJ 08022

SOURCE

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