

**CONNECTICUT STATE HISTORIC PRESERVATION OFFICE
HISTORIC PROPERTY DOCUMENTATION**

**US COAST GUARD ACADEMY
NEW LONDON, CONNECTICUT
PIERS & STRUCTURES**

LOCATION: Thames River shoreline at United States Coast Guard Academy
15 Mohegan Avenue Parkway (State Route 32)
New London, Connecticut

USGS New London, Connecticut Quadrangle
UTM Coordinates: 18.742959.4584105

**BUILDER/
DESIGNER:** United States Coast Guard Academy

DATE BUILT: 1931-1932, 1942, 1943

PRESENT OWNER: United States Coast Guard

ORIGINAL USE: Piers, pier access structures and boat houses

PRESENT USE: Same

PREPARED FOR: United States Coast Guard Academy
Environmental & Safety Branch
15 Mohegan Avenue
New London, Connecticut 06320-4195

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PREPARED ON: September 21, 2009

PROJECT INFORMATION

The United States Coast Guard Academy (Academy) in New London, Connecticut, is one of the nation's military service academies. It was established at the current site in 1931. The core of the Academy structures, including waterfront structures that are the subject of this report, date to the 1932 construction of the original campus. Though the Academy has been in a constant state of development and repair since its inception, most of the structures retain their original character and use. The Academy was evaluated in accordance with Section 110 of the National Historic Preservation Act (NHPA) and a potential National Register/National Historic Landmark (NR/NHL) Historic District identified.

The Academy has proposed a project to replace the Main Pier and associated structures including the Bridge and Ramp to the Main Pier, the North and South Boat houses, and the T-Boat Pier. These structures were evaluated under Section 110 of the NHPA and deemed to be contributing elements of the potential Academy NH/NHL Historic District. In accordance with Section 106 of the NHPA, the Academy consulted with the Connecticut State Historic Preservation Office (CTSHPO) on the proposed project. As a mitigative measure the Academy has agreed to document the Main Pier and associated structures in accordance with the new CTSHPO State-Level Documentation Standards.

This report is presented in three sections, Narrative Section, Photo Section, and Drawing Section. Archival prints of the project photographs are sleeved and packaged in the attached archival envelope along with the Index and Key to photographs. The Photo Section also contains the Index and Key to photographs and the project photographs printed two per page, to accompany the narrative without handling the archival photographic prints. The Drawing Section contains selected original drawings of the project resources referred to in the narrative. The drawings are reproduced on 11x17" archival paper.

PROJECT AREA

The Coast Guard Academy is located on a roughly 100-acre parcel on the west side of the Thames River, just over a half-mile north of the Route 95 Bridge (Figure 1). The core academic, administrative and residential buildings are located on high land facing west toward Mohegan Avenue Parkway/State Route 32. From an elevation of over 100 feet, the property slopes steeply down to the river to a flat waterfront area built largely on filled land that projects out into the river and is retained by a steel bulkhead or seawall.¹ The piers and structures that are being documented are located on the east side of the Academy property along the waterfront area of the Thames River (Figures 2 and 3, Photo No. 1) and are discussed in detail below.

The tracks of the former New London Northern Railroad run along the edge of the river and separate the shoreline from the upland campus. The rail line dates to 1849 when it opened as the New London Willimantic and Palmer Railroad. It became the New London Northern Railroad in 1861, was leased to Central Vermont Railroad in 1871 and taken over by the Grand Trunk Railway about 1900. The railroad went through a succession of names and owners during the 20th century and up to its current operation as the New England Central Railroad. The railroad

was a factor in the design of the Academy's waterfront facilities and is further discussed below. Changes to the area that came during the period of construction of the Academy and project area resources are also discussed below.

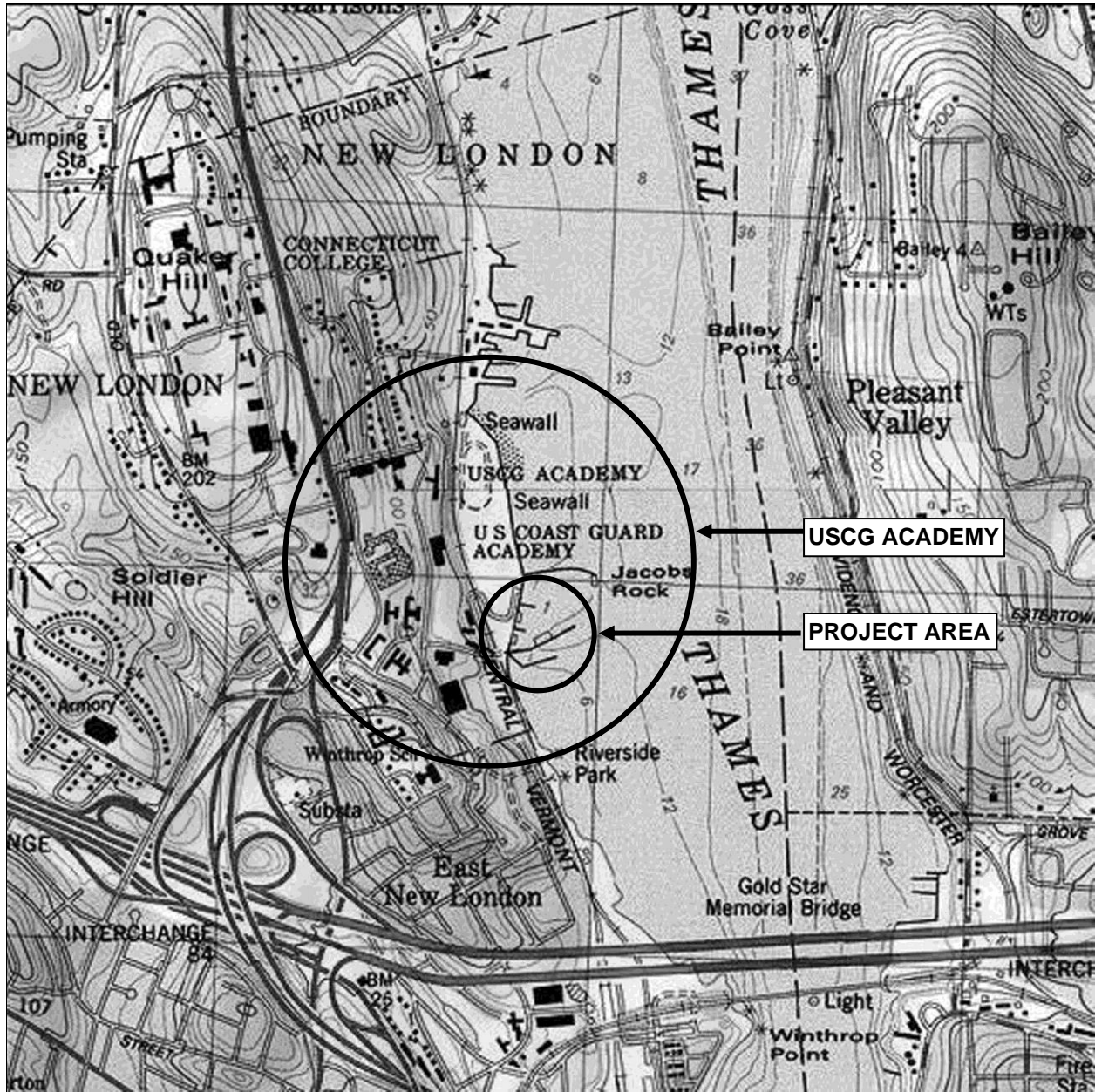


Figure 1: Project Location Map: USGS Uncasville CT Quadrangle, 1984, revised 1989.

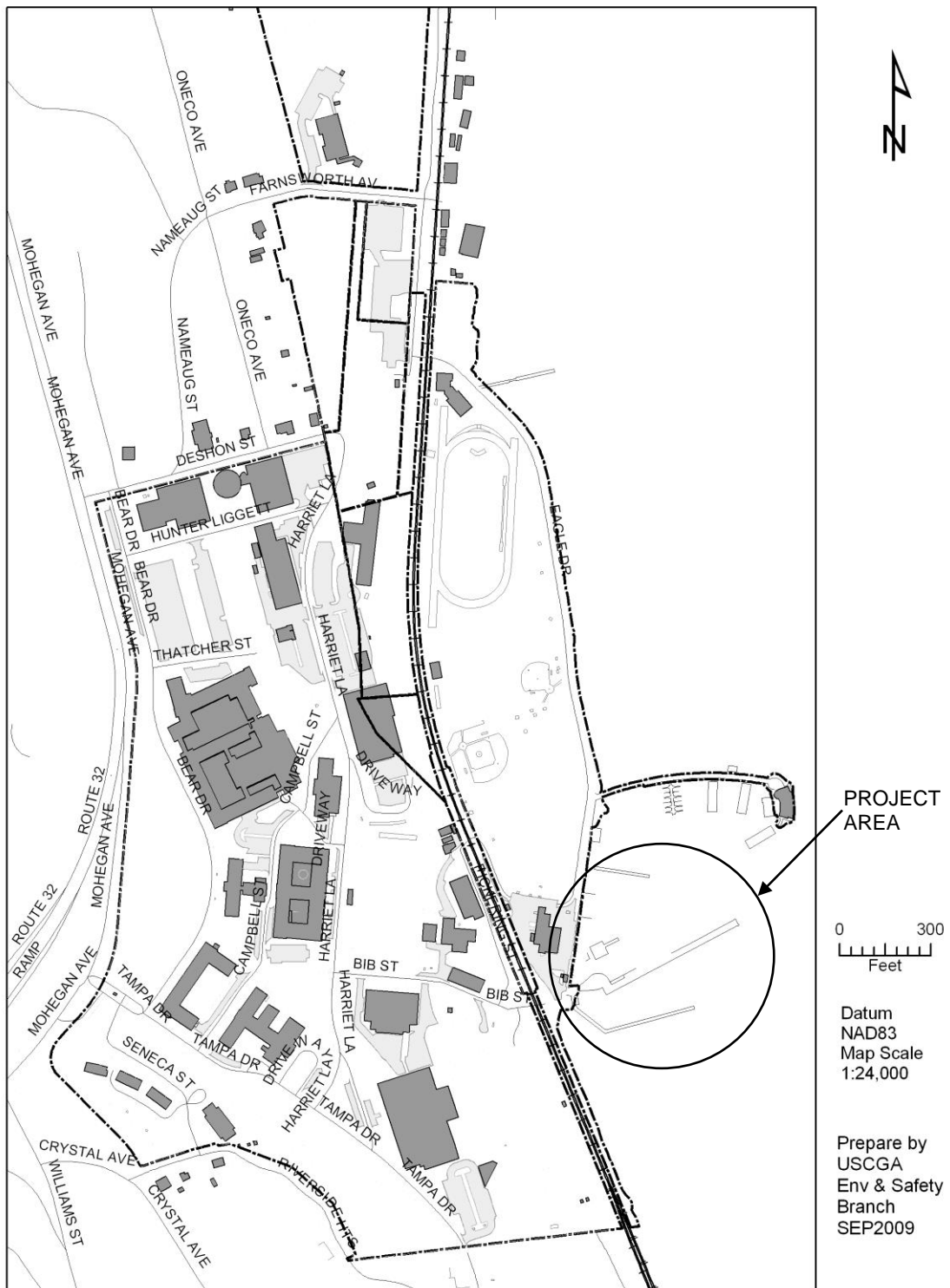


Figure 2: US Coast Guard Academy property, New London, Connecticut

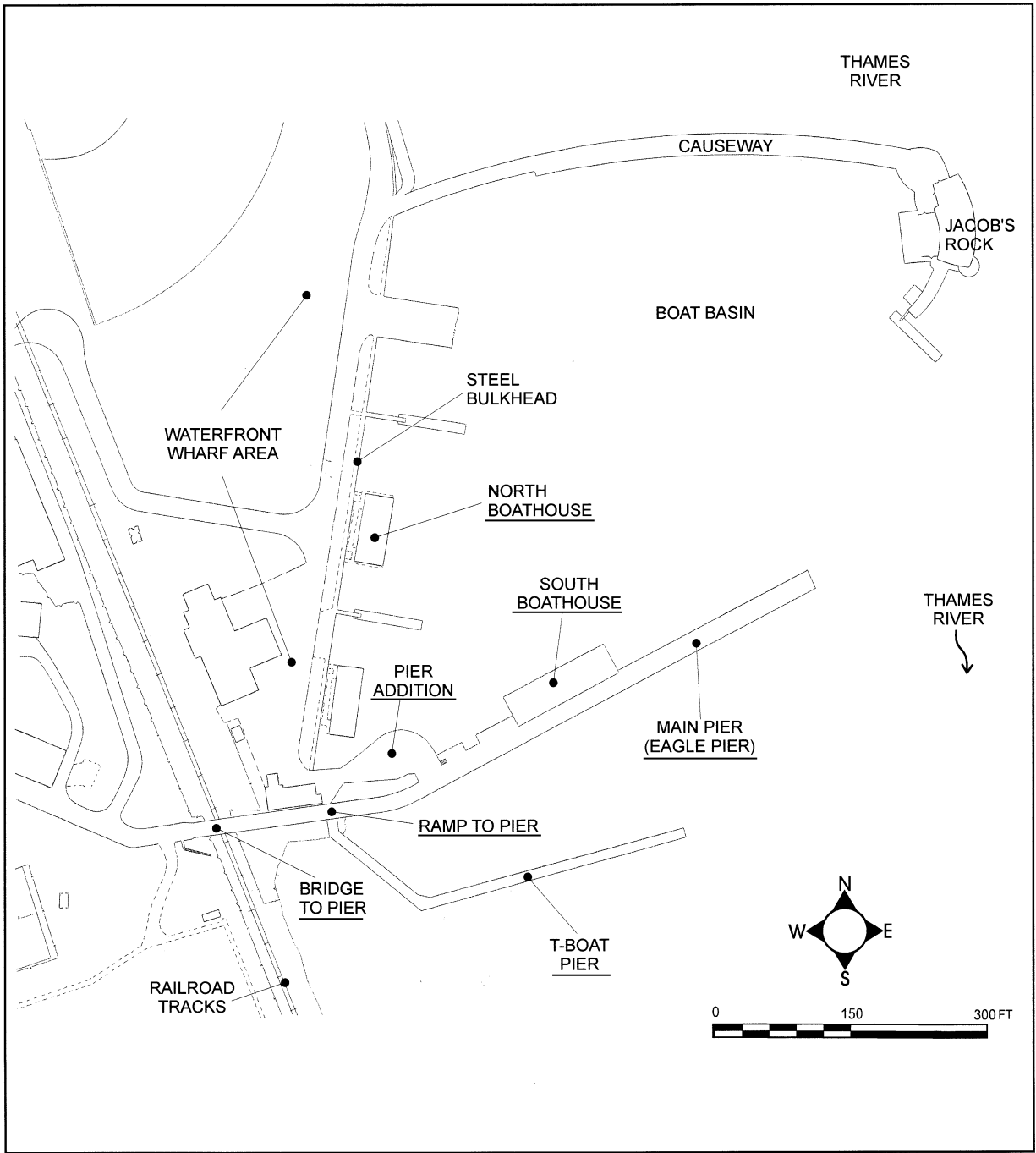


Figure 3: USCG Academy waterfront facilities showing Main Pier and structures being documented underlined.

HISTORICAL BACKGROUND

Chronological History of the Coast Guard

The U.S. Coast Guard Historian's Office maintains an extensive website with dozens of downloadable articles and papers on all aspects of the history of the Coast Guard. The site is located at: <http://www.uscg.mil/history>.

The Coast Guard today is the product of the creation and merging of five formerly separate federal services over the course of 230 years. The highlights of that history is presented in the following chronology taken and edited from USCG Historian's website.²

- 7 August 1789: The Treasury Department establishes the US Lighthouse Service.
- 4 August 1790: Congress authorized the Secretary of the Treasury, Alexander Hamilton, to create a maritime service under the Treasury Department to enforce customs laws which became known as the Revenue Cutter Service.
- 7 July 1838: Service created under the Justice Department to *provide better security of the lives of passengers on board of vessels propelled in whole or in part by steam* later named the Steamboat Inspection Service.
- 30 August 1852: Steamboat Act established Steamboat Inspection Service under the control of the Treasury Department.
- 9 October 1852: The Lighthouse Board was organized to administer the nation's lighthouse system and other aids to navigation. The coast of the United States was divided into twelve lighthouse districts, each with an army or navy officer assigned as lighthouse inspector. Dissolved 1 July 1910.
- 18 June 1878: U.S. Life-Saving Service established as a separate agency under the control of the Treasury Department.
- 5 July 1884: Bureau of Navigation established under the control of the Treasury Department.
- 14 February 1903: Bureau of Navigation and the Steamship Inspection Service transferred to newly formed Department of Commerce and Labor.
- 28 January 1915: President Woodrow Wilson signed into law the "Act to Create the Coast Guard," an act passed by Congress on 20 January, 1915 that combined the Life-Saving Service and Revenue Cutter Service to form the Coast Guard.
- 6 April 1917: With the declaration of war against Germany the Coast Guard was transferred by Executive Order to the control of the Navy Department.
- 28 August 1919: Coast Guard reverts back to Treasury Department after the war.
- 30 June 1932: Steamboat Inspection Service and Bureau of Navigation combined to form the Bureau of Navigation and Steamboat Inspection under the Commerce Department.
- 27 May 1936: Bureau of Navigation and Steamboat Inspection Service renamed Bureau of Marine Inspection and Navigation.

- 1 July 1939: Lighthouse Service became part of the Coast Guard.
- 1 November 1941: President Roosevelt transfers the Coast Guard to Navy Department control.
- 28 February 1942: President Roosevelt transfers Bureau of Marine Inspection temporarily to the Coast Guard under Navy Department control.
- 1 January 1946: Coast Guard returned to Treasury Department control.
- 16 July 1946: Bureau of Marine Inspection abolished and became a permanent part of the Coast Guard under Treasury Department control.
- 1 April 1967: Coast Guard transferred from Treasury Department to the newly created Department of Transportation.
- 1 March 2003, the Coast Guard transferred from the Department of Transportation to the newly created Department of Homeland Security.

History of Coast Guard Training and the Establishment of the Academy

For the first 85 years of the Revenue Cutter Service, its officers came from the ranks of the Navy and the Merchant Marine. Congress established the first official training program for cadets, known as the Revenue Cutter School of Instruction, in 1876. The school was initially based on the schooner *Dobbin* but in 1878 moved onto the *Chase*, a new 106-foot three-masted bark built expressly as the school's training ship. The *Chase* was homeported in New Bedford, Massachusetts where she tied up at the north end of Fish Island. Classes were held aboard the *Chase* and in leased buildings on the island that also served as drill halls and storage.³

The first real land-based home for the School was established in 1900 on a 65-acre parcel at Arundel Cove near Curtis Bay, Maryland. The property came with a dock, boat shed, carpenter shop, storehouse and a dwelling, which were adapted to the school's needs. In 1907 the *Chase* was replaced by the 190-foot bark *Itasca*, powered by both wind and steam. "While under sail, *Itasca's* triple-expansion steam engines were the focus of engineer cadets, who dismantled and reassembled the engines to learn the purpose of the components and the theory of operation."⁴

Arundel Cove proved incapable of supporting the needs of the school, particularly the *Itasca*. In 1910 the School moved into the Revolutionary-period Fort Trumbull in New London, Connecticut and officially became the US Revenue Cutter Service Academy (Figure 4). New London was a great improvement in terms of location, both sea and land, but the Fort itself was "decrepit" and funds for its improvement were lacking.⁵

In 1915, following budget-cutting efforts that threatened to eliminate the Revenue Cutter Service entirely; Congress instead moved the Life-Saving Service under the command of the Revenue Cutter Service and named the new organization the United States Coast Guard.

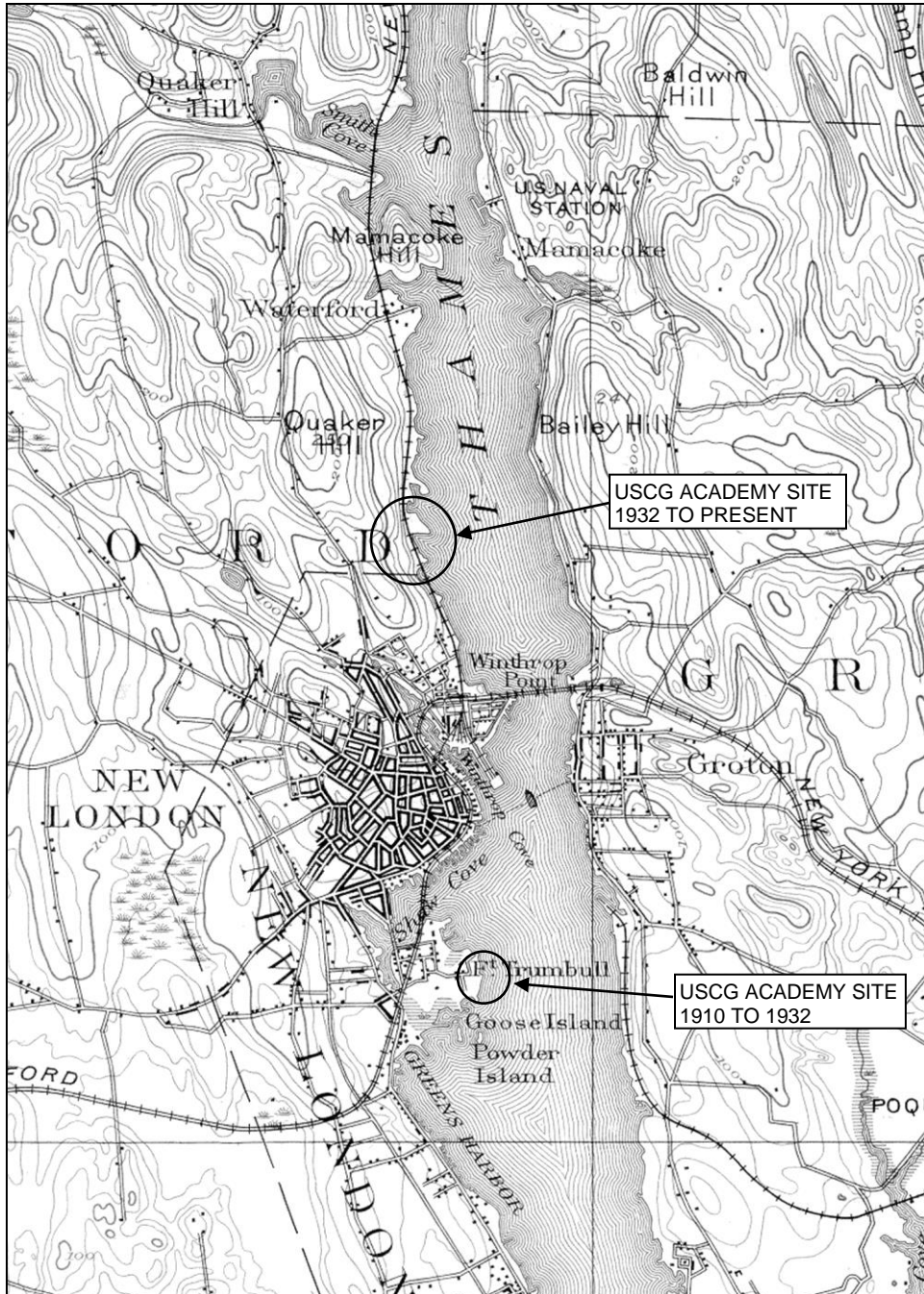


Figure 4: 1893 USGS Topo map (New London 15 min. quadrangles, 1893 survey).

Although two modest wooden buildings were erected at the Fort during the World War to serve as barracks, mess hall and school quarters, the facility remained woefully inadequate.⁶ During the 1920s increasing pressure was put on the Coast Guard to do more to interdict Prohibition-era alcohol-smuggling vessels known as Rum Runners, yet Congress refused to grant appropriations for improvements to the Academy at Fort Trumbull. By 1925, USCG Commandant Rear Admiral Frederick C. Billard was at wit's end and complained bitterly to Congress that the "lack of proper building, good roads and walkways, and a suitable space for drill and athletics...is a profound discouragement to the school."⁷ Congress finally acted in February 1929, appropriating \$1.75 million (later increased to \$2.5 million) for the construction of a new academy.

New Bedford, Seattle, and other cities with waterfront and good ocean access competed for the new Academy site, but New London was determined not to lose the Coast Guard and moved quickly. The city purchased two adjoining parcels fronting on the Thames River comprising roughly 100 acres with plenty of waterfront and a desirable location between Riverside Park to the south and Connecticut College for Women to the north – which were then conveyed to the Coast Guard. By 1930 the engineering department of the Coast Guard Academy was designing the overall plan and layout of the new Academy campus, assisted in the architectural design of the buildings by the Supervising Architect's Office of the Treasury Department. The ground breaking ceremony was held on January 28, 1931.⁸ The Academy moved into the new campus in September 1932.

DESCRIPTION OF RESOURCES DOCUMENTED

Design and Construction of Piers and Associated Structures

Planning and engineering of the waterfront facilities was underway in 1930 and by October drawings of the Main Pier were completed (see Drawings 1, 2, 3). The primary design objective would be the location of the main pier and a road down to the waterfront to access it and the future waterfront facilities to be built. The pier location depended on the depth and characteristics of the river bottom in front of the property and to a lesser degree on the existing waterfront, which could be altered and created by filling to suit.

At the south end of the property was a rock outcrop that sloped down and projected out into the river about 100 feet. The shoreline running north from the outcrop hugged the railroad tracks for several hundred feet then turned abruptly east to form a much larger projection of land extending about 500 feet out into the river (see Figure 4). Six hundred feet out in the river beyond that north point of land was Jacob's Rock, rising above the water and marking the edge of the shoals and shallows that lay between. The underwater conditions in the vicinity of Jacob's Rock were apparently unsuitable for the location of the Academy's main deepwater pier; the river bottom in front of the south end of the property was deeper and more favorable for dredging. The area between the north and south points of shoreline formed a shallow cove that could be effectively filled-in with dredged material placed behind a seawall to create land.

The railroad tracks running along the shoreline presented a major inconvenience to the design and use of the waterfront and forced a somewhat unusual design for the Main Pier. At the time of construction of the Academy (1931-1932), the rail line was busy, making a vehicular bridge over the tracks to the waterfront a necessity, both for safety reasons and for uninterrupted access to the pier and future shore-based training facilities. The location of the overpass bridge would be a decision to be lived with for a long time.

Attention turned to the rock outcrop at the south end of the shoreline. In 1848 the railroad had cut straight through it to maintain grade, leaving rock walls on either side of the tracks that could now be used as natural abutments for the railroad overpass bridge. The final step was to integrate the bridge and main pier into a single structure, using the sloping outcrop as a ready-made foundation to carry the road on a series of short spans down to water and directly onto the main pier. The last 70 feet of the ramp extended out over the water on wood-pile bents and was curved approximately 20 degrees to the north to keep the pier within the south riparian boundary line (see Figure 5 and Drawing 1).

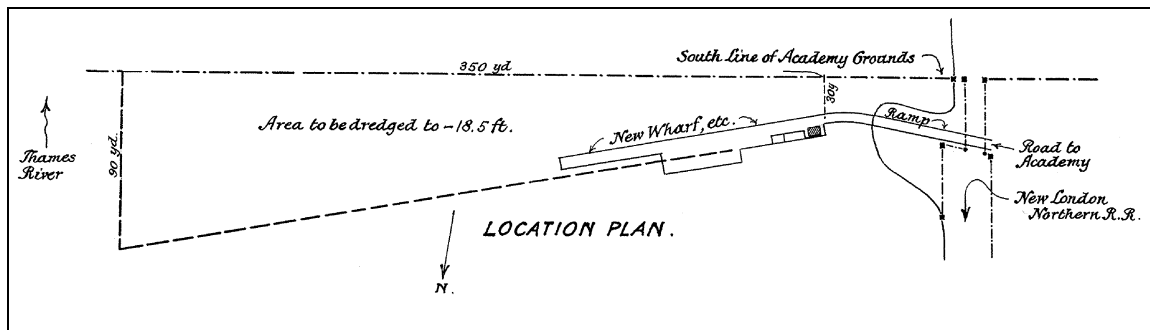


Figure No. 5: Layout of Main Pier (called "Wharf" on plan). Note the rocky point of land carrying the road on a ramp out to the pier. From USCGA Drawing No. W-401, 6 October 1930. See Drawing 1

The structural design of the Pier was no different than any other wood pier of the day, consisting of regularly spaced pile bents, capped and cross braced, with longitudinal stringers and a single layer plank deck. The south side of the 410-foot pier was dredged to 18.5 feet along the entire length for berthing the *Alexander Hamilton* training ship and other large vessels. The north side of the pier however, was equipped with special operational features unique to the Academy's mission that included a Boat Shelter for ten boats (known as the North Boat House today), a boat repair bay with davits for hoisting small boats up to be worked on (no longer extant), and two small boat landing areas set at lower elevations than the main pier for low tide and high tide docking. The low tide landing is no longer extant. A small 12' x 20' wharf house (no longer extant) was originally located on the north side/shore end of the pier on a small extension of the main pier (see Drawings 1, 2 and 3).

In July 1932, as construction of the campus was rapidly proceeding toward completion in time for occupancy by the incoming class in September, the Academy engineering department was

designing changes and additions to the Main Pier. The timber bulkhead (seawall) was in place running over 500 feet in a northeasterly direction across the cove to the north point. Dredged fill was being placed behind it in stages to allow for settling.⁹ A seaplane ramp was being constructed at the north end of the filled area. It was decided that direct access between the pier and the newly created waterfront area was needed by means of a pile-supported ramp between the two. The plan chosen entailed the removal of the wharf house and widening the wharf house platform to connect with the new 14-foot wide ramp to shore (see Drawing 4). This design required vehicles crossing the bridge to reach the waterfront to make a three point turn on the pier in order to reverse direction and take the pier ramp to shore. It was found impractical and modified during World War II.

The onset of World War II brought further expansion of the Academy. Major improvements to the waterfront facilities in 1942 included a filled causeway leading out to Jacob's Rock to reach a new boat house being built atop it, a new boat storage building on the filled area close to the main pier, and two additional in-water boat houses attached to the timber bulkhead (see Drawing 5). The pier ramp to shore was greatly widened with a curved extension to provide the necessary turning radius for vehicles and is known today as the Pier Addition (see Drawings 5 and 6). The major improvements of 1943 were the construction of a dock office adjacent to the bridge ramp to the Main Pier (no longer extant), and a new finger pier located south of the Main Pier, known today as the T-Boat Pier (see Drawings 7 & 8).

A map comparison of the Academy property before and after World War II is provided in Figures 6 & 7.

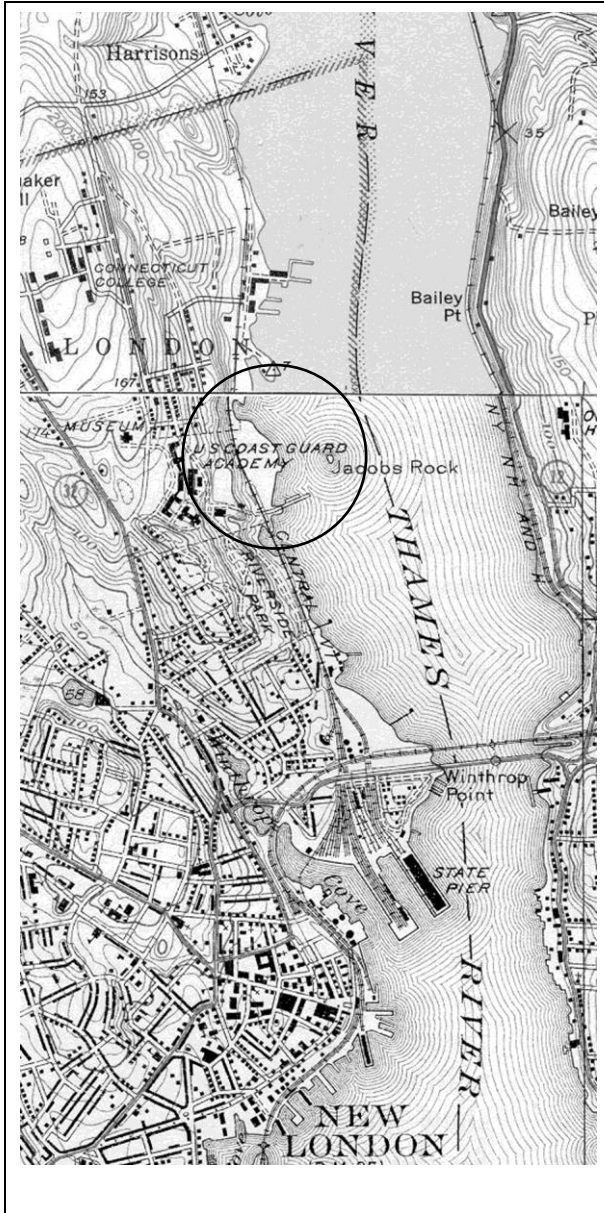


Figure 6: 1938 USGS Topo map (New London and Uncasville 7.5 min. quadrangles, 1938 survey). Note waterfront area filled-in behind a seawall constructed from the Main Pier to the north point of land shown on the 1893 map (Figure 4). T-Boat Pier and causeway to Jacobs Rock not built yet.

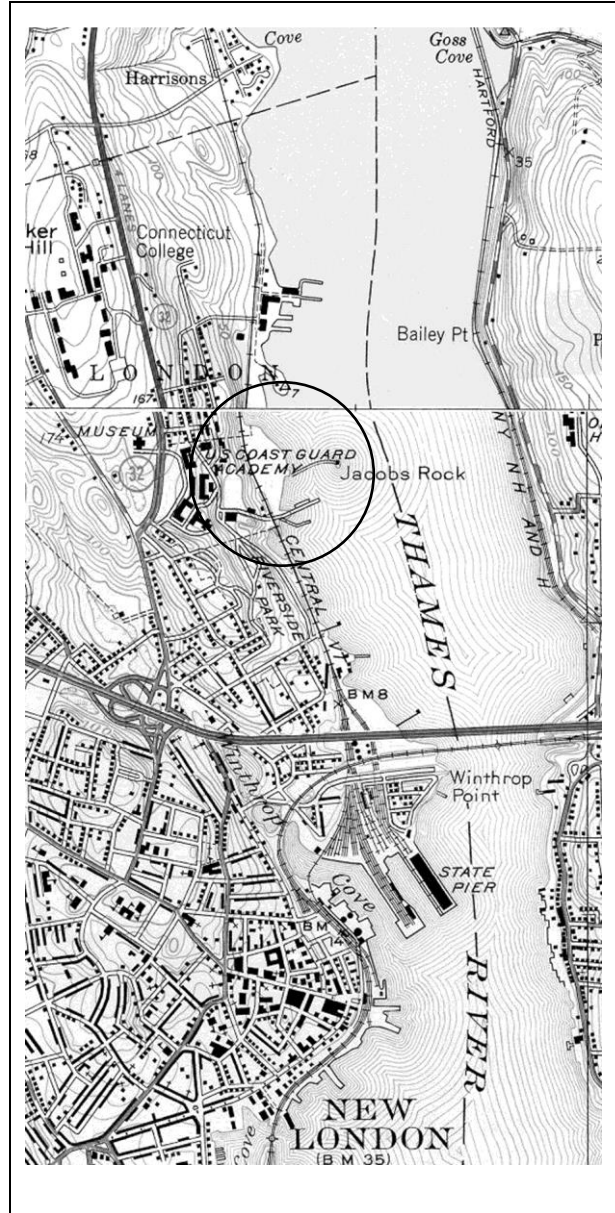


Figure 7: 1949 USGS Topo map (New London and Uncasville 7.5 min. quadrangles, 1949 survey). Note T-Boat Pier and causeway to Jacobs Rock shown. Mohegan Avenue Parkway built and designated State Route 32. US Route 1 drawbridge over Thames removed and replaced by Route I-95 high-level bridge.

Description of Piers and Associated Structures Documented

Main Pier

A unique aspect of the Main Pier is the Bridge and Ramp (1932) that carries the pier access road from the upper campus over the railroad tracks and down onto the pier (see Photos 1-6 and Drawing 1). The ramp is 16 feet wide, 205 feet long and at a 10-degree incline. The Ramp and the Main Pier are at an angle of approximately 20 degrees to one another as shown in Figure 5.

The lower, curved section of the Ramp is 70' long, of timber construction, and carried over the water on wood 3-pile bents, 16' wide, spaced 10' apart. Each bent has four diagonal braces, two on each face. The eight bents are also diagonally braced to one another. Structural elements consist of 3"x10" decking, 4"x10" stringers, 12"x12" pile caps and 16" piles. Various repairs and selected replacement of timber members were made to the curved ramp in 1976 and 1990, but it retains most of its original design features and materials.¹⁰

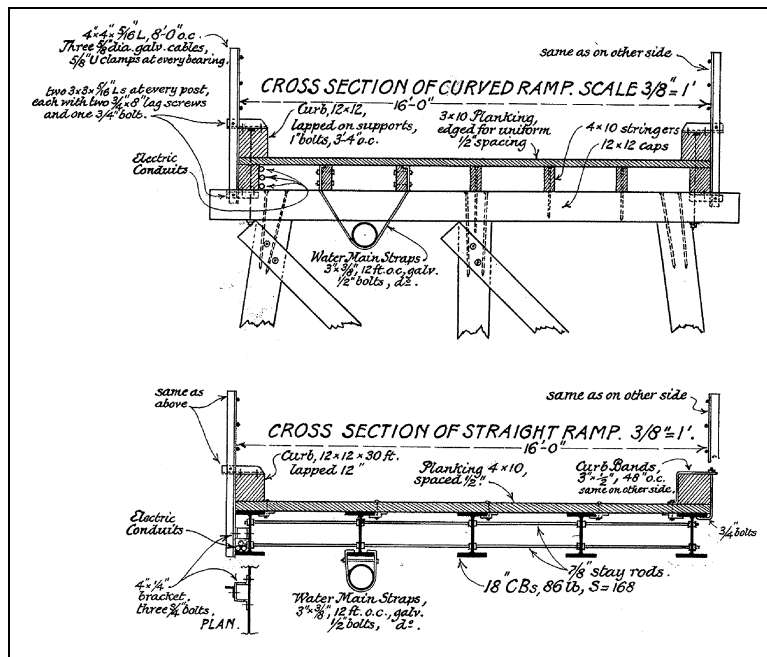


Figure No. 8: Cross sections of Ramp to Main Pier. From: USCGA Drawing No. W-401, 6 October 1930. See Drawing 1.

The upper straight section of the Ramp is 135' long, of wood, steel and concrete construction, and carried over the rock outcrop on four concrete piers, 16'-6" wide, 3'-6" deep and spaced approximately 34 feet apart. The piers vary in height due the varying elevation of the outcrop. The deck spans consist of 4"x10" wood decking clipped to five 18"x 86 p.l.f. wide-flange steel stringers spaced on 4-foot centers.

The Bridge to the Main Pier (1932) is of steel girder and floorbeam construction with a concrete slab deck with a clear span of approximately 55' and a width of 16' (see Photos 7, 8, 9). Six wide-flange floor beams on roughly 9' centers span between the two outside wide-flange girders. The east end rests on a concrete pier, the west end is on a low concrete stub abutment founded directly on the rock outcrop. The bridge spans the railroad tracks at a height of 18 feet.

The Main Pier (1932) is of timber construction, 410' long by 16' wide, with 4-pile bents, 20' wide, spaced 10' apart (see Photos 10-15; Drawing 1). Structural elements consist of 3"x10" decking, 12"x10" curbs, 4"x10" inside stringers, 12"x10" outside stringers, 12"x12" pile caps and 16" piles. The entire pier is equipped with a typical wood pile fender system with a batter pile at each bent extending above the deck 3' with chocking between bolted to the outside stringers. The pier is equipped with its original cast iron bollards and cleats (see Photos 13, 14; Drawing 3).

The Pier Addition (1932, 1942) is of timber pile construction of the same type of design and materials as the Main Pier (see Photos 2, 3; Drawings 4, 5, 6). As previously discussed above, it is composed of two additions to the Main Pier, the "lower ramp" section built in 1932 to connect the Pier to the waterfront bulkhead, and the wide curved extension added in 1942 to the south side of the lower ramp in order to provide room for vehicles to swing the turn on or off the Ramp to the railroad overpass Bridge. The lower ramp portion is approximately 130' long, and 16' wide with 3-pile bents spaced 10' apart like all the pier work. The curved addition differs in construction only in the widths of the bents and their spacing. The widest bents contain six piles and extend out approximately 50' from the Main Pier. Three bents are set at angles to follow the 20-degree angle between the ramp and the pier.

Repairs over the years include: replacement of the fender system in 1967,¹¹ selected decking and cross bracing replacement in 1983,¹² and entire deck and selected pile cap replacement in 1993.¹³

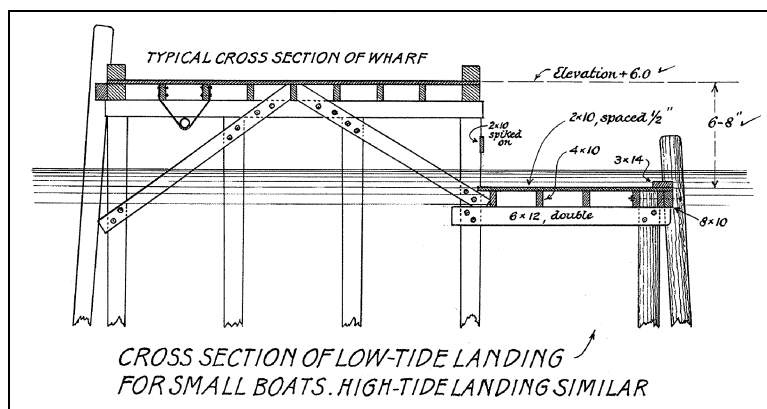


Figure No. 9: Cross section of Main Pier (called "Wharf" on plan). Note: Low-tide landing has since been raised up to the level of high tide landing. From: USCGA Drawing No. W-403, 6 October 1930. See Drawing 3.

South Boathouse

The South Boathouse (1932), was formally called a boat shelter. It is attached to the south side of the Main Pier and measures 120' long by 32 feet deep. It is an open sided wood structure, consisting of a low-pitch gable roof supported on wood pilings (see Photos 11, 16-19; Drawings 1,2). It is equipped with ten boat bays, 12' wide by 32' long, open on the north end to the boat basin where the small boats enter. It was originally designed for the storage of double-ended rescue boats that were lifted straight up out of the water on cradles hoisted with chain-falls. The same use continues today except the boats are inflatable, the hoisting gear is electric and cradles are not used.

The design of the shelter is simple: four wood pilings separate each boat bay and extend up about 8' above the pier deck to carry the roof; narrow walkways are bolted to the pilings between each bay. The original 2x6" roof rafters, plank roof deck and copper sheet roofing have been replaced with new 2x6" rafters, plywood and flat roll roofing.

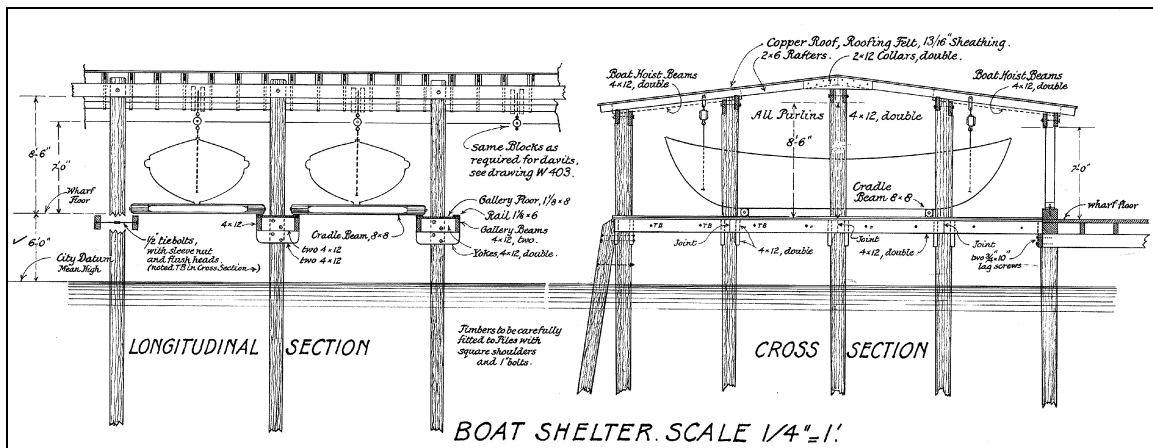


Figure No. 10: Cross sections of South Boathouse on Main Pier. From: USCGA Drawing No. W-402, 6 October 1930. See Drawing 2.

North Boathouse

The North Boathouse (1942), is of the same design, construction and use as the South Boathouse, previously described, with the exception of the gable roof which is steeper, fitted with gable endwalls, and trimmed-out (see Photos 20-24). The gable endwalls are sided with molded wood ship-lapped siding of a type known as drop siding, German siding, or novelty siding that was popular during the early half of the 20th century (see Photo 23). The roof eaves and rake are trimmed with a heavy cornice molding. An open wood-framed observation or reviewing platform is mounted on the south end of the roof and appears to be a later addition.

T-Boat Pier

The "T-Boat" Pier (1943), as it is now called, is short for Tug Boat Pier; it is called the "Finger Pier" or "New Wharf" on the drawings. It is a timber pier of the same type of design and construction as the Main Pier, only narrower and shorter (see Photos 1, 2, 6, 25, 26; Drawings 7,8). The pier is only 10' wide with two piles per bent, plus fender piles. The shore end of the T-Boat Pier is attached at a right angle to the shore end of the Main Pier (the section labeled "lower ramp" on the drawings). It runs south for about 60 feet, passing between two concrete piers supporting the Ramp (see Photo 6), then turns southeast for 133', then turns due east for 304' to the end. It remains as originally built with the exception of a new deck and selected fender-pile replacement done in 1983.¹⁴

Architectural and/or Engineering Features Compared to Similar Properties

With the exception of the wood siding and cornice molding on the North Boathouse, the documented properties do not possess architectural features, character or style. From the structural engineering standpoint the resources are all utilitarian structures based on simple beam spans carried on columns. The braced pile or timber bent is an ancient structural form used for bridges and docks for thousands of years. The principle advancements in the technology have been sawn lumber, metal fasteners, and wood preservative treatment, all of which pre-date the 20th century. The exact form of the pile bents used in construction of the Academy piers and structures – wood pile, sawn pile cap, stringers, braces and decking – has been used for wharves and piers from the late 19th century to the present day. Less toxic wood treatment chemicals in place of creosote, and less costly hot-dipped galvanized steel fasteners instead of hardened bronze, are the major advancements of the 20th century.

The overpass bridge is undistinguished in terms of technology. The simple steel girder deck span with transverse floor beams carrying a concrete deck is a late 19th century development. The 55-foot span of the bridge was short for the bridge type at the time (1932), and did not challenge the standard materials or methods of construction of the day.

The combination of the inclined trestle and pier was not a new concept; it was used in 18th century England to carry narrow-gauge coal cars long distances over land and out onto piers to be dumped into barges. In the United States there are many late-19th and early-20th century examples of timber trestles and piers merged at waterfront terminals to facilitate the transport of bulk materials by water such as coal, ore and grain.

NOTES

¹ For additional information on the physical characteristics of the property, including, soils, prehistory, archaeology, and historical development of the New London area, see *Historic Resources Inventory and Determination of Eligibility Report for United States Coast Guard Academy*. Prepared for U.S. Coast guard – FDCC Atlantic by Greenhorne & O'Mara, Inc., Greenbelt, Maryland, February 1996. [Hereafter cited as Greenhorne & O'Mara, Inc., 1996].

² From "Coast Guard History: Frequently Asked Questions: When was the Coast Guard established?" Found on U.S. Coast Guard Historian's Office website at <http://www.uscg.mil/history/faqs/when.asp>.

³ "Cutter History." U.S. Coast Guard Historian's Office website at www.uscg.mil/history. For more history of the Academy see "The United States Coast Guard Academy: A Brief History," at http://www.cga.edu/uploadedFiles/uscg_a_history_final.pdf.

⁴ "The United States Coast Guard Academy: A Brief History," p. 11. Available online at http://www.cga.edu/uploadedFiles/uscg_a_history_final.pdf. This pamphlet provides a good history of the Academy.

⁵ "The United States Coast Guard Academy: A Brief History," p. 12.

⁶ "Coast Guard Academy Moves to a New Home." *New York Times*, September 25, 1932.

⁷ Robert Erwin Johnson. *Guardians of the Sea: History of the United States Coast Guard, 1915 to the Present*. Annapolis: Naval Institute Press. As quoted in Greenhorne & O'Mara, Inc., 1996

⁸ Greenhorne & O'Mara, Inc., 1996, p. 12. Drawings of the Main Pier are dated October 6, 1930.

⁹ Greenhorne & O'Mara, Inc., 1996, p. 16.

¹⁰ USCGA Plan CC-344, 5/7/76, Waterfront Bridge and Ramp Repair, sheets 1-3; USCGA Plan CC-719, 13 Mar 1990, Curved Timber Ramp Bracing Repairs, sheet 1 of 1.

¹¹ USCGA Construction & Planning Branch, Plan CC-211, 5/31/67, Main Wharf Fender Pile Replacement, 1 sheet.

¹² USCGA Facilities Engineering, Plan CC-500-3034, Main & Finger Piers Decking and Bracing Repairs, 3 sheet.

¹³ USCGA Construction & Engineering, Plan CC-767, 11/9/93, Eagle Pier Repairs, sheets 5 and 6.

¹⁴ USCGA Facilities Engineering, Plan CC-474-9086, 5/3/82, Pier Repairs, sheet 1 of 1.

BIBLIOGRAPHY & SOURCES OF INFORMATION

"Coast Guard Academy To Have a New Home." *New York Times*, March 15, 1931.

"Coast Guard Academy Moves to a New Home." *New York Times*, September 25, 1932.

Greene, Carleton. *Wharves and Piers, Their Design, Construction and Equipment*. New York: McGraw-Hill Book Company, 1917.

Greenhorne & O'Mara, Inc. *Historic Resources Inventory and Determination of Eligibility Report for United States Coast Guard Academy*. Prepared for U.S. Coast guard – FDCC Atlantic by Greenhorne & O'Mara, Inc., Greenbelt, Maryland, February 1996

Johnson, Robert Erwin. *Guardians of the Sea: History of the United States Coast Guard, 1915 to the Present*. Annapolis: Naval Institute Press.

U.S. Coast Guard Academy. "The United States Coast Guard Academy: A Brief History." Available online at http://www.cga.edu/uploadedFiles/uscg_history_final.pdf.

U.S. Coast Guard Historian's Office. The U.S. Coast Guard Historian's website at <http://www.uscg.mil/history> is the source of the following online publications:

"Coast Guard History: Frequently Asked Questions: When was the Coast Guard established?"
<http://www.uscg.mil/history/faqs/when.asp>.

"Cutter History." U.S. Coast Guard Historian's Office website at www.uscg.mil/history.

"U.S. Coast Guard National Security & Military Preparedness: A Historical Bibliography of Sources Published Through 2007." <http://www.uscg.mil/history/uscghist/Nationalsecuritybib.pdf>

U.S. Coast Guard Academy. Drawings:

USCGA Drawing No. M-137 "Main Pier and Extension," dated 9/3/59.

USCGA Construction and Planning Branch Drawing No. CC-211 "Main Wharf and Fender Pile Replacement," dated 5/31/67.

USCGA Plan CC-344, 5/7/76, Waterfront Bridge and Ramp Repair, sheets 1-3.

USCGA Plan CC-719, 13 Mar 1990, Curved Timber Ramp Bracing Repairs, 1 sheet.

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USCGA Facilities Engineering, Plan CC-500-3034, Main & Finger Piers Decking and Bracing Repairs, 3 sheets.

USCGA Construction & Engineering, Plan CC-767, 11/9/93, Eagle Pier Repairs, sheets 5 and 6.

USCGA Facilities Engineering, Plan CC-474-9086, 5/3/82, Pier Repairs, 1 sheet.

INDEX TO PHOTOGRAPHS

Photographer: Richard M. Casella, August 2009

Digital images are stored in TIF format on CD-ROM.

Image file names are preceded with the following file name followed by the number:

USCG_Academy_NewLondon_Piers_

- 01 Overview of project area, looking northeast, showing T-Boat Pier at right, Main Pier with access Ramp from shore and South Boat House attached to north side midway out. South Boat House just visible at far left (with observation platform on roof).
- 02 Ramp to Main Pier, looking east, showing Pier Addition on left connecting to shore, T-Boat Pier on right and South Boat House attached to north side of Main Pier.
- 03 Ramp and Pier Addition, looking west to shore, showing stairs to Low-Tide Dock on north side of Main Pier.
- 04 Ramp to Main Pier, south elevation, looking north, showing wood trestle section and steel stringer section on concrete piers passing over shore leg of T-Boat Pier.
- 05 Detail of Ramp structural system, looking northeast, showing trestle and steel stringer sections.
- 06 Detail of Ramp structural system, looking southwest, steel stringer sections on concrete piers passing over shore leg of T-Boat Pier. Bridge to Pier spanning railroad tracks visible at top of Ramp.
- 07 Bridge to Pier, spanning railroad tracks, looking northwest.
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- 09 Bridge to Pier spanning railroad tracks, looking east.
- 10 Overview of Main Pier, looking northeast, showing connection to Ramp on left and South Boat House on opposite side of pier.
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KEY TO PHOTOGRAPHS

Photographer: Richard M. Casella, August 2009

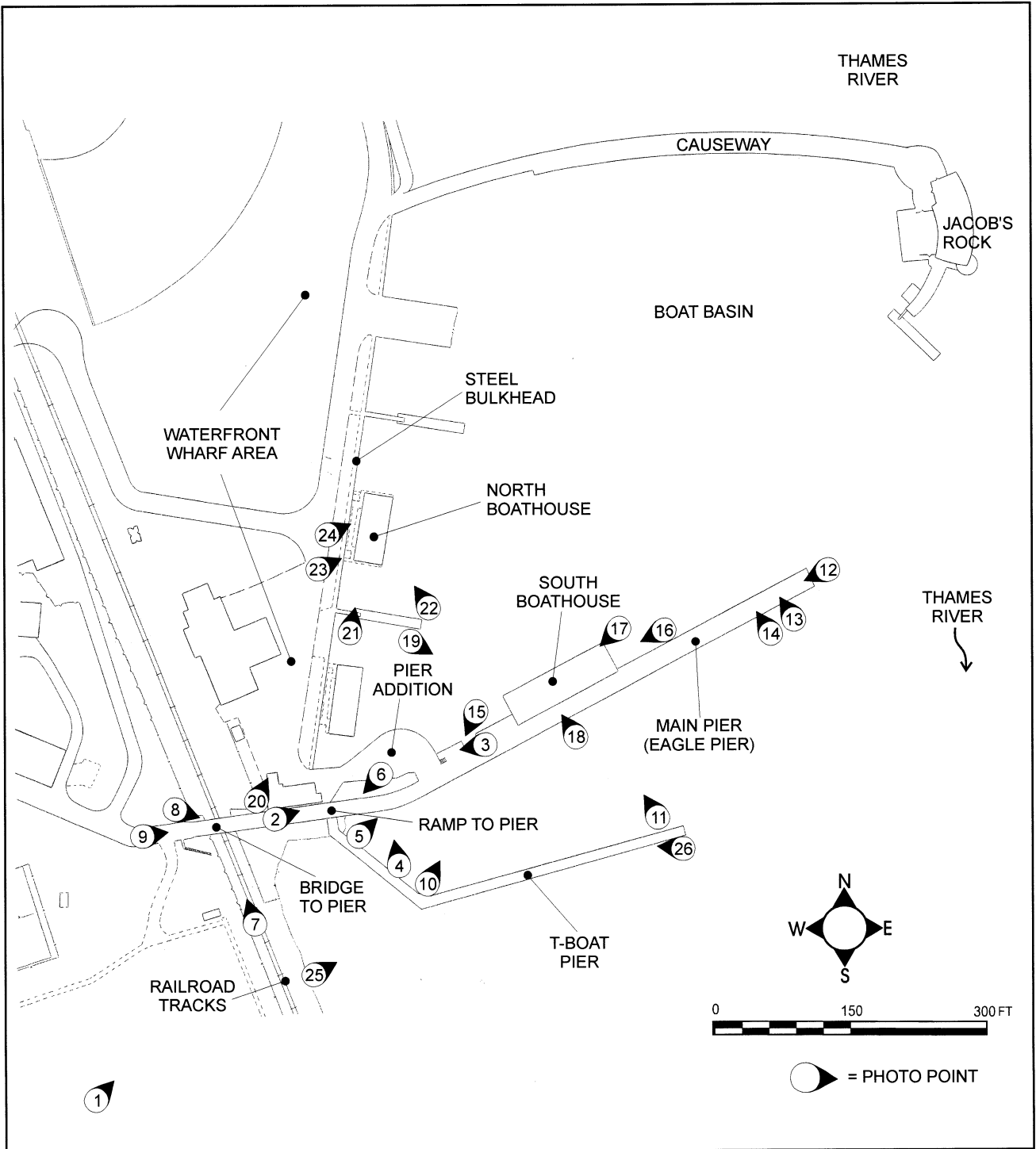




Photo # 01 Overview of project area, looking northeast, showing T-Boat Pier at right, Main Pier with access Ramp from shore and South Boat House attached to north side midway out. South Boat House just visible at far left (with observation platform on roof).



Photo # 02 Ramp to Main Pier, looking east, showing Pier Addition on left connecting to shore, T-Boat Pier on right and South Boat House attached to north side of Main Pier.



Photo # 03 Ramp and Pier Addition, looking west to shore, showing stairs to Low-Tide Dock on north side of Main Pier.



Photo # 04 Ramp to Main Pier, south elevation, looking north, showing wood trestle section and steel stringer section on concrete piers passing over shore leg of T-Boat Pier.



Photo # 05 Detail of Ramp structural system, looking northeast, showing trestle and steel stringer sections.



Photo # 06 Detail of Ramp structural system, looking southwest, steel stringer sections on concrete piers passing over shore leg of T-Boat Pier. Bridge to Pier spanning railroad tracks visible at top of Ramp.



Photo # 07 Bridge to Pier, spanning railroad tracks, looking northwest.



Photo # 08 Detail of Bridge to Pier, looking east, showing steel girder, floor beam and concrete slab structural system.



Photo # 09 Bridge to Pier spanning railroad tracks, looking east.



Photo # 10 Overview of Main Pier, looking northeast, showing connection to Ramp on left and South Boat House on opposite side of pier.



Photo # 11 North elevation of Main Pier and South Boat House, looking northwest.



Photo # 12 Main Pier, view from end looking southwest to shore.



Photo # 13 Detail of iron Bollard (or Bitt) on Main Pier for securing hawsers, looking northwest.



Photo # 14 Detail of iron Cleat on Main Pier for securing lines, looking northwest. Cleat embossed "F. Ferguson & Son, Hoboken, NJ."



Photo # 15 Detail of Main Pier structural system, looking southwest under pier, showing wood pilings, heavy timber pile caps, cross bracing, stringers and decking.



Photo # 16 South Boat House, east elevation, looking west.



Photo # 17 South Boat House, interior, looking west, showing wood pilings supporting walkways between boat slips. Roof system is not original.



Photo # 18 South Boat House, south elevation, looking north with Main Pier in foreground.



Photo # 19 South Boat House, north and west elevations, looking southeast.



Photo # 20 Waterfront Area, looking north from Ramp, showing North Boat House at center (with observation platform on roof).



Photo # 21 North Boat House, south elevation, looking north, showing steel shoreline bulkhead on left and observation (reviewing) platform on roof.



Photo # 22 North Boat House, east elevation, looking northwest. Note slip walkways are mounted on piles just above high waterline.



Photo # 23 Detail of North Boat House, looking northeast, showing original wood siding and roof trim.



Photo # 24 North Boat House, interior, looking northeast.



Photo # 25 T-Boat Pier, south elevation, looking northeast.



Photo # 26 T-Boat Pier, looking west from end of pier, showing deck, curbing, and dogleg shore section passing under Ramp to connect with Main Pier and wharf.