

HUNTERS POINT NAVAL SHIPYARD,
COMMERCIAL DRYDOCK AREA, DRYDOCK 2
East of the intersection of Robinson Avenue & Fischer Drive
San Francisco
San Francisco County
California

HAER NO. CA-2273-E

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
Department of the Interior
San Francisco, California 97104

HISTORIC AMERICAN ENGINEERING RECORD

Hunters Point Naval Shipyard, Commercial Drydock Area, Drydock 2

HAER No. CA-2273-E

Location: Hunters Point Naval Shipyard, San Francisco, California
USGS Quadrangle Hunters Point, 1993
UTM Coordinates for Drydock 2: 10 mE556500 mN4175896

Significance:

Drydock 2 is located within the Hunters Point Naval Shipyard, Commercial Drydock Area. The Hunters Point Naval Shipyard, Commercial Drydock Area is significant at the state level for its important association with the development of commercial shipping and ship-repair in the San Francisco Bay area. The historic area is also a significant example of marine engineering, the work of master engineer, Howard C. Holmes, and a significant example of Neoclassical Revival architecture used for industrial buildings. Drydock 2, engineered by Holmes, and utilized as a commercial ship repair drydock from 1903 - 1941, contributes to the significance of the historic area.

Description:

Drydock 2, just south of Building 205, is a 750' long, 89' wide, and 28' 10" deep graving dock. This drydock, constructed in 1901-03, is currently open to the bay, therefore only approximately 6' of the drydock chamber was visible between the water line and drydock coping. The basin is sheathed in concrete, smooth around the bow and at the entrance (stern) end. The top five of twelve altars (steps in the wall of a drydock) beneath the coping are currently visible. A series of fourteen service galleries line each side of the drydock just beneath the curb. Each gallery has a metal railing around the perimeter. Two sets of metal flush-mounted staircases on each wall descend into the water. A chain handrail consisting of posts with an eye at the top, and at mid-level support two chains, stretch around the drydock, with breaks at access points (**Photograph 1**). Original capstans, some electric, some hand-operated, were replaced by the Navy, and remnants of the replacements remain around the perimeter (**Photograph 6**). Original crane tracks have mostly been removed from the perimeter as well. The floating caisson, a replacement built by Pacific Coast Engineering Company of Alameda in 1952, remains afloat at the bow end of the drydock (**Photograph 6**). Eight valves flood the drydock through the caisson, and two valves flood the caisson to sink it in place. The caisson deck is enclosed by the same type of chain handrail around the perimeter of the drydock. Cleats and capstans are also present on deck level of the caisson.

History:

For a detailed history of Hunters Point Naval Shipyard, Commercial Drydock Area, please refer to **HAER No. CA-2273**.

The San Francisco Dry Dock Company, successor of California Dry Dock Company, owned and operated the original Drydock 1 at Hunters Point at the turn of the twentieth century. Since construction of that original drydock at Hunters Point in 1868, ships had increased in size. In order to accommodate the larger commercial ships, San Francisco Dry Dock Company decided to construct a new, larger drydock at its site. The company offered well-established engineer Howard C. Holmes a position as chief engineer to design the new drydock, which he accepted, resigning his post as chief engineer of the California State Board of Harbor Commissioners.¹

Once Holmes had prepared plans and specifications for the new drydock, San Francisco Dry Dock Company opened construction bids late in October 1900 and awarded the contract to the City Street Improvement Company. Work began on January 9, 1901 and on February 1, 1903, the first vessel drydocked.²

The new drydock, Drydock 2, was significantly larger than the old drydock at 750' long compared to 462'. While not the largest drydock in the world, its dimensions and engineering put it in the same class with the largest, most modern drydocks. The new drydock was not intended to replace Drydock 1, but to expand the Hunters Point facility. The Holmes plan called for the new drydock to be situated south of existing Drydock 1, with the axes of the two drydocks at about a 14 degree angle. The composition of the peninsula, green serpentine, provided an ideal location for excavating another drydock. Construction crews used excavated material to fill the embankment adjacent to the south side of the new drydock. Holmes specified that the rock be excavated close to the actual contours of the drydock chamber so that only a thin layer of concrete would be required to finish the drydock. Concrete lined all parts of the drydock chamber except the sides of the approach, seat for the caisson, and the apron arch, all cut of granite masonry.³ Sixteen altars, eleven at the top, five on the bottom, lined the sides of the basin from 100' from the gate to 150' from the head of the chamber. Construction crews poured concrete flush with timbers bolted to the stone basin to form the drydock floor. Cedar bilge blocks had eye bolts to accommodate ropes connected to pulley blocks on the side walls. Belaying and locating pins were set into the concrete on the curb and the first step. Crews installed three hand operated capstans on the north side of the drydock, and four steam powered capstans on the south side. A chain handrail, with cast iron posts each with two eyes to accommodate chains, was installed along the curb.⁴

¹ "Four Wharves to Cost Nearly Half a Million," *San Francisco Call*, October 11, 1900, 12; "Ready to Begin the Construction of a Drydock of Gigantic Size," *San Francisco Call*, November 18, 1900, 23; "Chief Engineer Holmes Resigns His Position," *San Francisco Chronicle*, February 21, 1901, 12.

² Howard C. Holmes, *Plan Showing Location of Old and New Dry Docks at Hunters Point San Francisco Cal, Property of San Francisco Dry Dock Co*, 1903, Water Resources Center Archives, Berkeley, Charles Derleth Papers, Box 18, Folder 96.

³ The caisson seat is the place at the entrance of the drydock where the caisson is secured in place.

⁴ Howard C. Holmes, *Plan Showing Location of Old and New Dry Docks*, 1903; "Four Wharves to Cost Nearly Half a Million," *San Francisco Call*, October 11, 1900, 12; "Ready to Begin the Construction of a Drydock of Gigantic

Drydock 2 required construction of a new floating steel caisson, or gate. Holmes also designed the new caisson, built by Union Iron Works. Rather than requiring a separate tunnel for flooding the drydock around the caisson, this caisson's design included thirteen, 30" valves that allowed water to flood the drydock through the caisson. Union Iron Works ceremoniously launched the gate on August 23, 1902 with Holmes and other engineers present. Union Iron Works had previously produced a smaller version of this caisson for the Navy shipyard at Mare Island. At the time of the launching, two other replicas of the Hunters Point caisson were under construction, commissioned by the Russian government. This caisson remained in operation until the Navy replaced it in 1952.⁵

At the end of January 1903, just a few days after completion of Drydock 2, the first vessel drydocked. The battleship *Ohio* was successfully docked in the presence of an audience of engineers, W.F. Babcock, president of the drydock company, the other directors, and about 100 "friends" interested in the operation. As the water level receded in the drydock, workers scraped and cleaned marine undergrowth off the bottom of the vessel; the drydock was completely drained in two hours. The *San Francisco Call* reported after the successful docking, that the drydock was a "monument to mechanical skill of which any engineer might well be proud." Reporters also noted that although the *Ohio* was a large vessel at 388' in length, it looked small in the 750' long drydock, one of the largest in the world at the time.⁶

In the late 1930s, the Navy took interest in acquiring Hunters Point in response to war in Europe and the Pacific. A congressional act in 1939 allowed Bethlehem Shipbuilding to sell Hunters Point to the Navy and in December 1941, after the attack on Pearl Harbor, the Navy moved onto the site. Although operating successfully since 1903 and 1918, the drydocks and pumping houses needed modernizing and rehabilitation to accommodate the Navy's wartime needs. This work began in earnest in early 1942 with construction of new buildings, and particular attention to repair of the drydocks themselves.⁷

Between 1942 and 1943 the Navy added a series of concrete service galleries just below the rim of Drydock 2, followed by a series of new cleats. They installed two new capstans around the drydock, and the capstan from the bow end of Drydock 3 was relocated to Drydock 2 in 1943. The Navy scheduled a replacement deck for the caisson of Drydock 2 during August 1946, and then replaced the caisson entirely in 1952. One of the more significant alterations came in 1952 when they replaced the entire original wood plank drydock floor with reinforced concrete. They

Size," *San Francisco Call*, November 18, 1900, 23; "The New 750-Ft. Dry-Dock of the San Francisco Dry-Dock Co., at Hunter's Point, Cal.," *Engineering News* (October 1900), 276-278.

⁵ "Will Launch Caisson," *San Francisco Call*, August 23, 1902, 10; "Mammoth Gate Floats on Bay," *San Francisco Call*, August 24, 1902, 26; "Launch of Water Gate for Dry Dock," *San Francisco Chronicle*, August 24, 1902, 12; "The New 750-Ft. Dry-Dock at Hunter's Point, Cal.," *Engineering News* (October 1900), 277; *Drydock No. 2, General*, Department of the Navy, Bureau of Yards & Docks, San Francisco, P.W. Drawing No. 16020-154, April 7, 1954.

⁶ "Big Battleship Ohio Seems Lost in New Hunters Point Drydock," *San Francisco Call*, January 30, 1903, 12; "New Dry Dock Opens with Big Battleship as Guest," *San Francisco Chronicle*, January 30, 1903, 9.

⁷ "History of Bethlehem's San Francisco Yard, 1849-1949," *Pacific Marine Review* (October 1949), 27-34, 88.

installed steel mesh staircases in Drydock 2 and added service lines supplying salt water, compressed air, and chemicals to the full length of the drydock on both sides, near the bottom.⁸

After World War II the Hunters Point facility continued to serve as a docking area for Navy ships for repair, overhaul, maintenance and conversion. In 1974, the Navy deactivated the shipyard and leased the facility to private industry; however, the Navy continued to station several of its ships at Hunters Point. In 1991, the Base Realignment and Closure (BRAC) Commission identified Hunters Point for closure. Over the next decade, the Navy and City and County of San Francisco negotiated terms for the lease and subsequent transfer of the facility.⁹

Sources:

Bamburg, Bonnie L. "Historical Overview of Hunters Point Annex Treasure Island Naval Base and Descriptions of Properties that Appear Eligible for Listing in the National Register of Historic Places." Submitted to Western Division, Naval Facilities, Engineering Division, 1988.

Black, Steven R. "Mare Island Naval Shipyard." Historic American Engineering Record for Hunters Point Naval Shipyard, Drydock No. 4, HAER No. CA-181-A, (April 1994).

Holmes, Howard C. "Plan Showing Location of Old and New Dry Docks at Hunters Point San Francisco Cal, Property of San Francisco Dry Dock Co, 1903." Water Resources Center Archives, Berkeley, Charles Derleth Papers, Box 18, Folder 96.

Engineering News

"The New 750-Ft. Dry-Dock of the San Francisco Dry-Dock Co., at Hunter's Point, Cal." (October 1900): 276-278.

JRP Historical Consulting Services. "Historic Context and Inventory and Evaluation of Buildings and Structures, Hunters Point Shipyard, San Francisco." September 1997.

Pacific Marine Review

"San Francisco Naval Shipyard in Permanent Status," (June 1947): 63-65.

"History of Bethlehem's San Francisco Yard, 1849-1949," (October 1949), 27-34, 88.

⁸ *Photograph*, May 13, 1942. NARA (San Francisco), RG 181, Records of Naval District and Shore Establishments, 12th Naval District, SF Naval Shipyard – Hunters Point, Historical Shipyard Photographic Collection, 1904-74, 9NS-S 181-95-010, Box 1, Folder Hunters Point Aerial Views Folder, 2 of 7; *Photograph*, November 12, 1941, Box 2, Hunters Point Aerial Views Folder, 4 of 7, RG 181, NARA (San Francisco); *Location & Details of Cleats at D.D. #2 (M.I.5) & D.D. #3 (M.I.6)*, April 9, 1943, Naval Drydocks Hunters Point, Calif., P.W. Drawing No. 114689; *Location Plan for New Capstans at Drydocks 2 & 3*, Naval Dry Docks, Hunters Point, Calif., BRAC PMOW Caretaker Site Office, Treasure Island, P.W. Drawing No. 114691; *Drydock No. 2, General*, Department of the Navy, Bureau of Yards & Docks, San Francisco, P.W. Drawing No. 16020-154, April 7, 1954.

⁹ JRP Historical Consulting Services, *Historic Context and Inventory and Evaluation of Buildings and Structures, Hunters Point Shipyard, San Francisco*, September 1997, 27-28; "San Francisco Naval Shipyard in Permanent Status," *Pacific Marine Review* (June 1947), 63-65, 120; Bonnie L. Bamburg, *Historical Overview of Hunters Point Annex Treasure Island Naval Base and Descriptions of Properties that Appear Eligible for Listing in the National Register of Historic Places*, Submitted to Western Division, Naval Facilities, Engineering Division, 1988, 44-45; Steven R. Black, Mare Island Naval Shipyard, Historic American Engineering Record for Hunters Point Naval Shipyard, Drydock No. 4, HAER No. CA-181-A, (April 1994) 11-12.

Photograph, May 13, 1942, National Archives and Records Administration (San Francisco), RG 181, Records of Naval District and Shore Establishments, 12th Naval District, SF Naval Shipyard – Hunters Point, Historical Shipyard Photographic Collection, 1904-74. 9NS-S 181-95-010, Box 1, Folder Hunters Point Aerial Views Folder, 2 of 7.

Photograph, November 12, 1941, National Archives and Records Administration (San Francisco), RG181, Records of Naval District and Shore Establishments, 12th Naval District, SF Naval Shipyard – Hunters Point, Historical Shipyard Photographic Collection, 1904-74. 9NS-S 181-95-010, Box 1, Folder Hunters Point Aerial Views Folder, 2 of 7.

San Francisco Call

San Francisco Chronicle

U.S. Department of the Navy, Bureau of Yards & Docks. “Drydock No. 2, General.” P.W. Drawing No. 116793, San Francisco, April 7, 1954. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

_____. “Drydock No. 2, Cross Sections.” P.W. Drawing No. 116948, Mare Island, April 7, 1954. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

_____. “Drydock No. 2, Longitudinal Section.” P.W. Drawing No. 116791, Mare Island, April 7, 1954. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

_____. “Location & Details of Cleats at D.D. #2 (M.I.5) & D.D. #3 (M.I.6), Naval Drydocks, Hunters Point, Calif.” P.W. Drawing No. 114689, Mare Island, April 9, 1943. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

_____. “Location Plan for New Capstans at Drydocks 2 & 3, Hunters Point, Calif.” P.W. Drawing No. 114691, Mare Island, n.d. BRAC PMO West Caretaker Site Office, Yerba Buena Island.

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Project Information: This project was undertaken to fulfill the requirements of the *Memorandum of Agreement Among The United States Navy, The Advisory Council for Historic Preservation and The California State Historic Preservation Officer Regarding the Interim Leasing and Disposal of Historic Properties on the Former Hunters Point Naval Shipyard, San Francisco, California*. Heather Norby and Toni Webb of JRP Historical Consulting, LLC (JRP) prepared this document for the Navy. Both Ms. Norby and Ms. Webb conducted fieldwork, contributed to architectural descriptions and the historic context. JRP conducted research at the California State Library, Hunters Point Naval Shipyard (Building 383), National Archives and Records Administration (San Bruno), San Francisco Public Library, San Francisco Maritime National Historical Park Library, and the BRAC PMO West Caretaker Site Office on Treasure Island. William B. Dewey produced the photography.

SITE MAP:

