1. NAME AND LOCATION OF PROPERTY

Historic Name: Fort Worden

Other Name/Site Number:

Street and Number (if applicable)**:** Cherry Street at W Street

City/Town: Port Townsend **County:** Jefferson **State:** WA

2. SIGNIFICANCE DATA

NHL Criteria: 1, 4

NHL Criteria Exceptions: 2

NHL Theme(s): IV. Shaping the Political Landscape, 3. military institutions and activities
III. Expressing Cultural Values, 5. architecture, landscape architecture, and urban design
VI. Expanding Science and Technology, 2. technological applications

DRAFT

Period(s) of Significance: 1898-1945

Significant Person(s) (only Criterion 2)**:**

Cultural Affiliation (only Criterion 6)**:**

Designer/Creator/Architect/Builder:

Historic Contexts: Coastal Defenses of the United States, 1885-1945

Paperwork Reduction Act Statement. We are collecting this information under the authority of the Historic Sites Act of 1935 (16 U.S.C. 461-467) and 36 CFR part 65. Your response is required to obtain or retain a benefit. We will use the information you provide to evaluate properties nominated as National Historic Landmarks. We may not conduct or sponsor and you are not required to respond to a collection of information unless it displays a currently valid OMB control number. OMB has approved this collection of information and assigned Control No. 1024-0276.

Estimated Burden Statement. Public reporting burden is 2 hours for an initial inquiry letter and 344 hours for NPS Form 10-934 (per response), including the time it takes to read, gather and maintain data, review instructions and complete the letter/form. Direct comments regarding this burden estimate, or any aspects of this form, to the Information Collection Clearance Officer, National Park Service, 12201 Sunrise Valley Drive, Mail Stop 242, Reston, VA 20192. Please do not send your form to this address.

3. WITHHOLDING SENSITIVE INFORMATION

Does this nomination contain sensitive information that should be withheld under Section 304 of the National Historic Preservation Act?

___ Yes

_X_ No

4. GEOGRAPHICAL DATA

1. **Acreage of Property:** 503.14

2. **Use either Latitude/Longitude Coordinates or the UTM system:**

Latitude/Longitude Coordinates:

Reference	Latitude	Longitude
A	48.143157	-122.775951
B	48.14411	-122.756264
C	48.142381	-122.755154
D	48.131545	-122.762434
E	48.13299	-122.774091
F	48.138005	-122.775951

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3. **Verbal Boundary Description:**

Commencing at a Point on the Meander Line of the Strait of Juan de Fuca in Section 25 Township 13N, Range 1W, WM, thence S 92.98 ft. to Witness Mon. J. Co. No. 40; thence continuing S 1786.0 ft., thence N 89 deg. 54’ E 208.5 ft., thence S 0 deg. 07’ W 835.5 ft., thence N 89 deg. 52’ E 232.3 ft., thence S 0 deg.o5’ E 544 ft., thence S 38 deg. 45’ E 128.4 ft., thence S 10 deg. 40’ W 356.95 ft., thence S 79 deg. 30’ E 2733.4 ft. to Witness Mon. J. Co. No. 29, thence S 79 deg. 30’ E 161.6 ft. to a Point on the Meander Line, thence northerly and westerly along Meander Line (excluding Pt. Wilson L. H. Reservation) to Point of Beginning, containing 503.14 acres plus Tide Lands and wharf.

4. **Boundary Justification:**

The boundary of the historic district encompasses all of the resources that contribute to the significance of the NHL and conforms to the boundary of the Fort Worden Military Reservation at the close of the period of significance.

5. SIGNIFICANCE STATEMENT AND DISCUSSION

INTRODUCTION: SUMMARY STATEMENT OF SIGNIFICANCE

Fort Worden is significant under Criterion 1 for its association with the establishment and development of the national coastal defense system put into place at the end of the nineteenth century and expanded during World War II. As the headquarters of the Coast (later Harbor) Defenses of Puget Sound, Fort Worden served as an essential component of the national coastal fortification system developed in response to the recommendations of the Endicott Board in its 1886 report to Congress. The first truly national system of defending the nation's most important harbors, the Endicott system included construction of coastal fortifications and associated garrisons on the Atlantic, Gulf, and Pacific coasts. The coastal forts of Puget Sound—including Fort Worden, Fort Casey, and Fort Flagler—were unique in that when they were built, they alone of all United States fortifications were within sight of a foreign nation and potential military threat—namely English naval vessels based at the British Columbia ports of Victoria and Esquimalt. During World War II, coastal defense again became a national priority, resulting in the construction of additional fortifications and temporary mobilization buildings at Fort Worden and other coastal installations designed for modern warfare. Fort Worden continued to play a significant role in seacoast defense through the war, serving as the focal point of cooperation with allied Canadian defenses that closed the Strait of Juan de Fuca to possible assault by Japanese naval forces. No other coastal fortification in the United States shared its responsibilities for defense with another nation.

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Under Criterion 4, Fort Worden is nationally significant because it outstandingly illustrates key features of the design of coastal fortifications from the late nineteenth century through World War II that are not as well represented at other sites. Although almost all its armament was removed by the end of World War II, Fort Worden embodies key features of an Endicott fortification and contains intact examples of important types of fortification structures and unique expressions of fortification design. It contains, in its main battery, an important representation of creative fortification design, and the defensive structures, taken as a whole, dramatically depict the intent of the Endicott Board to incorporate the most modern technology, materials, and concepts into the national coast defense system. Fort Worden's World War II fortifications illustrate modifications in fortification design resulting from changing military and communications technology. Not only are its defensive structures largely intact, but so too is much of the garrison constructed to house and support the troops stationed there. Fort Worden's garrison buildings—primarily comprised of buildings constructed between 1904 and 1920 with a smaller number of additions from the 1930s and 1940s—collectively portray the almost unaltered appearance of a military post of the early twentieth century.

Together, the Endicott- and World War II-era resources at Fort Worden represent a unique and significant collection of buildings and structures related to coastal defense. The Coast Defense Study Group, a non-profit organization centered on the examination and preservation of American coastal fortifications, has judged Fort Worden "possibly the premier, publicly-owned, intact Endicott-era reservation in the U.S." and has called the structures there a "superb collection."[1]

The period of national significance begins with construction of the first fortifications in 1898 and concludes in 1945 with the end of World War II. While nearly all contributing resources remain in locations from the period of significance, two resources—the temporary noncommissioned officer's quarters (Building 235) and the guard shack (Building T-22)—were moved to new locations after the war. The setting for Building 235 is

[1] Mark A. Berhow, editor, *American Seacoast Defenses: A Reference Guide,* Third Edition (McLean, VA: The CDSG Press, 2015), 520.

compatible with the original location while the guard shack is a unique surviving example of the building type and retains a high degree of architectural integrity. Both resources qualify for inclusion as contributing resources under NHL Criteria Exception 2, and the district retains a high degree of overall integrity.

Designation History

In response to the 1966 National Historic Preservation Act, the Washington state legislature in 1967 passed a bill that established a historic preservation program within the state park agency. The director of the Washington State Parks and Recreation Commission was designated the State Historic Preservation Officer, and in that dual capacity he emphasized the inclusion of those state parks that met the criteria for the National Register of Historic Places. Accordingly, Fort Worden was nominated as a district and was listed in the National Register in 1974.

In 1975, the American Association of State and Local History (AASLH), acting under a contract with the National Park Service, queried the Washington State Parks and Recreation Commission regarding properties listed in the National Register of Historic Places that might qualify for National Historic Landmark (NHL) designation under the theme "Political and Military Affairs, 1900–1929." State Parks' historic preservation office responded with several suggestions, Fort Worden among them. George R. Adams, the director of the AASLH effort on behalf of the NHL program, identified Fort Worden as having the greatest potential. He subsequently prepared an NHL nomination for Fort Worden and visited the property. Fort Worden was declared a National Historic Landmark on December 16, 1976.

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This update to the original nomination revises the statement of significance and expands the inventory of contributing resources to provide a more complete assessment of Fort Worden's national significance and to guide the property's preservation and management. The update also includes a reassessment of World War II-era resources at Fort Worden that were excluded from the original nomination because they were less than fifty years old at the time. The Harbor Defense Command Post/ Harbor Entrance Control Post (Building 430) and the associated groupment command post (Building 431) are identified as nationally significant fortifications in association with the joint protection of the Strait of Juan de Fuca by the United States and Canada during the war. Fifteen additional mobilization buildings dating to World War II are also identified as contributing due to their association with the fort's renewed importance and function in coastal defense during the war. A wharf constructed in 1943 to replace an earlier wharf in the same area is also added as a contributing resource. The period of national significance is updated to 1898 to 1945 to include these resources.

PROVIDE RELEVANT PROPERTY-SPECIFIC HISTORY, HISTORICAL CONTEXT, AND THEMES. JUSTIFY CRITERIA, EXCEPTIONS, AND PERIODS OF SIGNIFICANCE LISTED IN SECTION 2.

Criterion 1: Fort Worden as an outstanding representation of the history of seacoast defense of the United States, 1898-1945.

U.S. Defense of Puget Sound, 1846–1885

The fortification of important harbors in the United States began in the colonial period and continued through World War II. As centers of shipping, finance and population, large port cities required protection from potential assault and depredation by the warships of hostile nations. The Atlantic and Gulf coast ports received much of the construction beginning in the eighteenth century. Puget Sound became a matter of interest only after 1846 when a treaty in that year between the United States and Great Britain ceded sovereignty of the

region to the United States.

Puget Sound is a network of deep-water channels and bays lying south of Admiralty Inlet, a wide opening that is the eastern end of the Strait of Juan de Fuca, a channel that separates the north coast of the Olympic Peninsula in Washington State from Vancouver Island, Canada and that connects to the Pacific Ocean. European and U.S. settlement was already well underway at the time the treaty was signed, although there were no notable settler communities to speak of and nothing that would justify the cost of fortifications. However, military planners saw the area as one of growing importance, and in the 1850s, they began a series of studies of how best to defend the complex waterway. There were two central problems. First, the immediate concern was the threat of attack by Native American tribes rather than the ships of hostile European nations. Second, the extent of the water area to be protected was great, and it was not clear where development would take hold; without knowing what was to be defended or where it might be located, it would not be possible to determine where any fortification should be built.

To address the first issue the federal government established several military posts as a guard against attack by Native Americans. These were garrisons only and had no capacity for coast defense. The resolution of the second point was much longer in coming. In 1860 it received careful consideration from Brigadier General Joseph G. Totten, who as chief engineer from 1838 to 1864, was the U.S. Army's formidable expert on fortification design and construction. His 1860 vision for protecting the area was influenced by the extent of British military and naval power in the vicinity as well as its remote location and scant settlement. There was little to protect with fortifications, although the arrangement of the headlands bordering Admiralty Inlet (Point Wilson, Admiralty Head and Marrowstone Point) suggested to Totten that they would be excellent sites for defenses at some future date.

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Military interest in defending Puget Sound waned during the Civil War (1861-1865) but by 1866 had returned with enough strength to inspire a presidential executive order that set aside twenty-four sites as possible locations of future fortifications. The headlands of Admiralty Inlet were among the reservations of 640 acres each established by the executive order, although existing private claims already covered much of the same land area and limited the extent of government ownership. No development followed. Within the army's engineering department, discussions and studies continued through the 1860s and reaffirmed that the headlands were the most promising defensive sites, but there was no money for any new permanent defenses. The guns of the day also lacked the range to effectively close Admiralty Inlet. There was some consideration of building an artificial island in the middle of the inlet that could become the base for a fortification, but the idea was rapidly dismissed as impossibly expensive. Coloring the discussions was the remoteness of Puget Sound itself, both geographically and economically. Settlement and development were expanding, but it was uncertain just how those changes would mature.

The American Civil War demonstrated that coastal fortifications of brick and stone, mounting muzzle-loading smoothbore cannon, were no longer adequate; they belonged to a military technology whose period of usefulness was firmly past. There would have to be permanent fortifications of a different sort to counter a new threat to the nation's most essential harbors: steam-powered steel warships. The 1860s marked the demise of sailing ships, and many nations began building modern vessels whose armament could pose a great threat to the commerce and industry of America's coastal cities. The U.S. Navy was also adding steel ships to its fleet at this time, but it was a small force and could not protect the coast and protect American merchant vessels at sea. An improved system of coast defense would ensure the security of important cities and would allow the Navy to operate more freely. Near scrapes with vessels of European navies in Samoa in 1889 and potential conflicts with Chile and Venezuela several years later showed that the world could be a more dangerous place than previously

thought.[2] The growth of American commercial and imperial interests in the Pacific overlapped the development of a view of coast defense that had begun in an era characterized by a much narrower concept of national security.

Coastal Defenses at Fort Worden, 1898–1921

In 1885, Congress convened a board of military experts to examine the grave condition of the national coast defense system. The panel pursued its work under the direction of Secretary of War William C. Endicott and after a year of study, it recommended a wholly new system of fortifications that embraced all that was modern at the time. Steel breech-loading cannon, rifled for greater accuracy and longer ranges, would be mounted on special carriages that could move them out of sight after firing. Barriers of underwater mines would be controlled from the shore, and specially designed coast defense ships would be positioned in each harbor. The Endicott Board identified twenty-nine locations on the Atlantic, Gulf and Pacific coasts where the defenses would be built. The list did not include any sites in Puget Sound.

The board members were initially indifferent to Puget Sound, apparently basing their assessment of the need for fortifications on the statistics contained in the 1880 census, data that did not accurately reflect the growth and prosperity of the region at the time of the board's sitting. In the years that followed the publication of the report of the Endicott Board, members of Congress and commercial groups pressed for the addition of Puget Sound to the national defense scheme. In 1887, no less a figure than Admiral David D. Porter, the hero of many Civil War naval campaigns, emphasized that the "beautiful inland sea" of Puget Sound was entirely unprotected and ripe for the taking, noting the fresh efforts of Britain to add to the already strong armament at Esquimalt.[3] Some years later, a U.S. representative from New York described the Vancouver Island defenses as mounting "the very best cannon which can be constructed in England . . . and pointed toward American soil."[4] Still, it was only after the Navy established a major naval shipyard and dry dock at Bremerton, west of Seattle, in 1891 that the Board of Engineers—responsible for the implementation of the recommendations of the Endicott Board—agreed to build coastal defenses for Puget Sound, discovering in its 1894 amendment that the area was an important center of commerce and a key national asset with substantial real and personal property that amply justified the construction of permanent fortifications.[5]

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The plan for Puget Sound placed batteries of heavy guns and mortars on the reservations established by the 1866 executive order; advances in ordnance during the intervening years had been substantial and now the range of the modern weapons easily spanned Admiralty Inlet from shore to shore. The outline included a provision that gave early indication that the defense of the waterway would not be straightforward. A key element of the defenses envisioned by the Endicott Board was a submarine mine field, a collection of underwater explosives that could be detonated from shore at the approach of attacking warships. However, Admiralty Inlet was far too deep to be mined effectively. (In fact, the technical impossibility of mining the inlet played an important part in the military's earlier disinclination to defend Puget Sound.)[6] A mine field was included as part of the defenses of Fort Ward, located some sixty miles south of Admiralty Inlet on Bainbridge

[2] Kenneth Earl Hamburger, "The Technology, Doctrine, and Politics of U. S. Coast Defenses, 1880–1945: A Study in U. S. Defense Planning," (PhD diss., Duke University, 1986), 99, 109-111.

[3] Ibid., 81.

[4] Ibid., 94.

[5] "History of the Pacific Coast Defenses," 83, Item 286, Record Group 392, Records of U.S. Army Coast Artillery Districts and Defenses, 1901–1942 – North Pacific District, Seattle Federal Records Center, National Archives and Records Administration (NARA) [hereafter cited as RG 392, NARA].

[6] David M. Hansen, *Battle Ready: The National Coast Defense System and the Fortification of Puget Sound, 1894-1925* (Pullman, WA: Washington State University Press, 2014), 10.

Island. The mines protected the much shallower waters of Rich's Passage, the entry to the naval station established in 1891.[7]

The outbreak of the Spanish-American War in April 1898 caused great concern in the cities along the Atlantic and Gulf coasts. The unknown location of the Spanish fleet was a threat magnified by fear, and temporary defenses were hastily improvised at many locations. There was a more subdued response on the Pacific coast where Navy monitors were sometimes activated for service. The brief war itself did not alter the existing plan for any of the defenses, nor could it since the manufacture of guns and carriages as well as the emplacements in which they were to be mounted was an effort that required years to accomplish. Congress did provide emergency funds for some limited new permanent construction, but the result of the appropriation was realized only long after the war was over. In the Puget Sound defenses, the conflict meant little more than longer hours required of the laborers hard at work clearing building sites and putting up forms for concrete.[8]

The military reservation at Point Wilson on the southwest side of Admiralty Inlet was designated Fort Worden in 1900. By that time, the initial round of concrete fortifications, begun in 1898, was nearly complete. This included a battery of sixteen 12-inch seacoast mortars (designated later as Batteries John Brannan and James Powell) and a seven-gun main battery of 10- and 12-inch guns (Batteries Joseph Ash, August Quarles, and Alanson Randol) located on top of the high ground behind the sandspit of Point Wilson. Battery Thomas Vicars, which mounted two 5-inch guns, was located on the sandspit itself.

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Admiralty Inlet was not well understood militarily at the time the defenses were planned. The difficulties posed by the exceptionally wide entrance of the inlet were underappreciated. Attacking vessels could approach from several different points. Additionally, the persistence of dense local fogs that obscured the waters of the inlet were not adequately appreciated. These natural disadvantages were compounded by the orientation of guns in the fortifications that were aimed to engage vessels in mid-channel at very close range rather than at the long distances of which they were capable. Further, artillery officers believed that there were too few guns of the largest size to effectively protect the waterway, since there were only four 12-inch guns in the defenses. More powerful weaponry at different locations would help resolve these issues but it would be an exceptional administrative and technical challenge to add more armament when the coast defense project for Puget Sound was considered complete. The subsequent addition of several new batteries indicated a growing understanding of the complexity inherent in defending the waterway.

The western approach to Fort Worden from the Strait of San Juan de Fuca was the weakest element, and due to growing concern for the need to do something to strengthen that side, Battery Henry Benson with its two 10-inch guns on disappearing carriages was added in 1904. However, Battery Benson did not resolve the need for more powerful ordnance nor was it an effective response to the occurrence of fog banks. A better solution was offered, two years later, in the recommendations of the Taft Board.

The Taft Board was named for Secretary of War William H. Taft, who was directed by President Theodore Roosevelt to examine the condition of the nation's coastal defenses in the years since the implementation of the scheme outlined by the Endicott Board. The Taft Board's report of 1906 was the result of a broad investigation of the defenses. It considered improvements not only in gun and mortar batteries but also in electrical power plants, fire control (defined below), and searchlights. The report emphasized the importance of the Puget Sound defenses in its proposal for many new gun batteries and associated improvements at a cost that was exceeded only by the plan for a wholly new set of fortifications at the entrance to Chesapeake Bay. The Board described

[7] A second mine field was added a few years later in Saratoga Passage, east of Whidbey Island.
[8] Hansen, *Battle Ready*, 37.

Puget Sound as having great strategic and commercial importance, citing the construction in the Northwest of railway systems and the development of a diverse economy in the commercial, agricultural, and manufacturing sectors. Especially important was the new dry dock constructed at the navy yard in Bremerton in 1892, which at the time of the Board's report was the only one on the Pacific coast large enough to accommodate a battleship.[9]

Congress could not find enough funds to support all the recommendations, but it recognized the critical need to improve defenses at Admiralty Inlet with an appropriation to construct Battery David Kinzie in 1908. The site selected was on the Point Wilson sandspit where the two 12-inch guns of the battery would have a clear view below the fog banks that hovered above the water. Battery Kinzie itself is significant as the last two-story battery for disappearing guns built in the United States. Its design heralded the form of batteries of 14-inch guns that would be built in Hawaii, the Canal Zone, and the Philippines after 1910.[10]

Most of the armament was aimed using a program of fire control, and the effectiveness of the defenses depended in large part on the integrity and capacity of the fire control network. The network was based on a system of triangulation where observers would use telescopes to accurately locate targets miles distant from the guns. The basic location information would be adjusted to account for the speed of the target and ballistic variables. The result was conveyed by telephone line to the gun crews in the form of degrees of azimuth for direction and distance to the target in yards.

Fort Worden became the site of experiments to improve the effectiveness of the fire control system. The distance from which any observation of potential targets could be made depended on how high the observer was above sea level, and as early as 1908, there was interest in the development of airships to carry coast artillery observers aloft.[11] In May 1920, the U.S. Army's 14th and 24th Balloon Companies arrived at Fort Worden to make experiments using observation instruments carried by captive balloons, the idea being that the height of the balloons aloft would allow the location of vessels that the land-based instruments were too low to see. For several weeks, balloons rose up from the parade ground and from Fort Casey on the other side of Admiralty Inlet (two balloons working together were required for the exercise), culminating in a parachute drop by one of the aviators. After a month, both units relocated to Camp (later Fort) Lewis and spent four months working with the 31st Coast Artillery Brigade. In October, they returned to their permanent posting in San Francisco. Although the stay at Fort Worden was brief, the results of the experiments were encouraging enough to result in the 1921 construction of a balloon hanger and several support buildings in the garrison area. Ultimately the concept was abandoned, and no balloons were ever stored in the hangar.[12]

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Large electric searchlights, five feet in diameter, provided illumination for targets at night. There were two searchlights at Fort Worden proper; others associated with the fort were located at separate outlying properties referred to as West Secondaries and South Secondaries. These parcels are not included in the National Historic Landmark designation for Fort Worden.

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[9] Senate Document 248, 59th Congress, 1st Session, "Coast Defenses of the United States and Insular Possessions," 11.

[10] Eben E. Winslow, *Notes on Seacoast Fortification Construction,* No. 61, Occasional Papers, Engineer School, U.S. Army (Washington: Government Printing Office, 1920), Plate XXII; "Report of Completed Works – Seacoast Fortifications. Harbor Defenses of Puget Sound. Fort Worden," Battery Kinzie, Coast Defense Study Group (CDSG).

[11] "Hearings Before the Subcommittee of the Committee on Appropriations, House of Representatives, Fortification Appropriation Bill," 1908, 175.

[12] "Activities of the Fourteenth Balloon Company," *Air Service News Letter,* January 24, 1921, 9; Fort Worden Fort Record Book, typescript, in RG 392, NARA. The trials at San Francisco were more successful, and the balloon companies were actively involved in locating targets at sea for the coastal batteries there; see "The First Mortar Problem to be Fired by Balloons," *Air Service News Letter,* January 12, 1921, 3.

Fort Worden as a Garrison Post, 1902–1919

The announcement that the federal government would establish fortifications and a new military post at Point Wilson brought enormous relief to the citizens of Port Townsend, the small community adjacent to the reservation. The city had never recovered from the financial depression of 1893. Its economy was based on the shipment of lumber in sailing ships to destinations on the Pacific coast of North America as well as to Australia and the Far East. That economy had already entered decline in the 1890s, and the advent of the national depression only made things worse. The city's prospects were dimmed further by the arrival of transcontinental railroads that connected the eastern shore of Puget Sound with the rest of the country but never reached Port Townsend. The new program of building fortifications meant jobs for local men and increased commerce for local businesses. Although work on the concrete gun and mortar batteries began in 1898, the construction of the associated garrison post—the barracks, quarters, storehouses and other buildings that would house and support the troops—would have to wait. A reservation of 640 acres had been set aside by Executive Order in 1866, but most of the property was already covered by private claims. The government owned lands sufficient only for the fortifications themselves; a good portion of the property needed to complete the reservation was held by owners who were reluctant to sell. It was not until 1902 that most of those lands were aggregated and the boundary of the reservation took on much of its permanent form.

As presented in the pages of the *Port Townsend Leader,* there was immediate recognition that a new government installation would be a benefit to the city.[13] There was certainly the advantage of a substantial payroll—for the tradesmen putting up the buildings as well as for the soldiers who would later occupy them—but there was also a good measure of civic pride in having as a neighbor what the paper promised to be one of the finest posts in the West.

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The newsmen paid special attention to what was being built and steadily reported events ranging from the award of construction contracts to the final occupation of the buildings. What they saw impressed them both in terms of style and quality, making Fort Worden, according to some, "perhaps the prettiest post in the country with an ideal location and everything favorable."[14] They could not have been surprised when an army official completing an inspection in 1904 reportedly "was lost in admiration when he saw the magnificent and complete buildings [that] included not only every convenience for the soldier but also a most liberal provision for his health and comfort."[15]

Not long after, the headquarters for the coast defenses of Puget Sound shifted from Fort Flagler, established in 1897 on the northern tip of Marrowstone Island, to Fort Worden. Fort Flagler seems to have been initially selected as the headquarters by military planners because of its central position in Admiralty Inlet and thus its favorable location for directing the course of a future defense of the waterway. That advantage aside, Fort Flagler was difficult to access, and the Port Townsend Chamber of Commerce began a concerted uphill effort to persuade the army to change its mind. In addition to noting the many advantages offered by shifting the headquarters to Fort Worden, the Chamber suggested that it had all been a mistake in the first place: the army officers in charge of laying out the defenses had used the wrong map. In the nation's capital, the state of Washington's senators and members of Congress met with the Secretary of War and high-ranking officers. They were ultimately successful and by September 1904, the headquarters were moved to Fort Worden.

Establishing the coast defense headquarters for Puget Sound at Fort Worden meant more officers, more men, more animals, and musicians; the headquarters came with a band. Work began on a band barracks, the

[13] Hansen, *Battle Ready*, 14.
[14] "Fort Worden Nears Completion," *Port Townsend Leader,* February 26, 1904, 1.
[15] "Army Officials Finish Inspection," *Port Townsend Leader,* July 23, 1904, 1.

quartermaster stable was remodeled to hold twenty horses or mules instead of twelve, and seventy-five feet were added to the end of the quartermaster storehouse, completed only a scant three months earlier.

During World War I, a twelve-week program for the instruction of noncommissioned officers was established at Fort Worden.[16] More than 6,000 men trained in the coast defenses of Puget Sound over the course of the war. With the armistice, however, the future of the country's coast artillery posts seemed dim.[17] Nationwide, many guns from the fortifications had been removed for service overseas, including eighteen from Fort Worden. Not only were there fewer guns left in the fortifications, but the military lessons of the conflict seemed to provide little support for the need of big, permanently emplaced guns to protect important harbors and seacoast cities. That same role could be performed by mobile artillery that could be shuttled from place to place as needed. To test this idea, a group of army officers in 1920 drove from Fort Lewis, located south of Tacoma, Washington, over the recently constructed Olympic Highway to determine the feasibility of heavy trucks or tractors towing artillery pieces to Fort Worden where they would be employed in the same manner as the ordnance installed some two decades before.[18] There were other signs of change. When the guns were removed during the war, the carriages were left in their emplacements, the implication being that the guns would return. A few years after the war, 2,000 tons of carriages were taken out of the Puget Sound forts, sent away to be melted down for other uses.[19] Years later, a shipment of 783 tons of projectiles and powder was sent from Fort Worden to the Benicia Arsenal in California.[20]

There were changes in manpower as well. With demobilization, the population of the Puget Sound forts shrank dramatically from 1,725 officers and men in June 1919, to 862 three months later. Puget Sound was still considered an important place to protect against attack. Even at the reduced levels, the manning of the Puget Sound defenses was exceeded only by the number of troops assigned to the forts of San Francisco Bay.[21] Many installations were stripped of their troop assignments as the army shrank during the peacetime years of the 1920s and 1930s.

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Peacetime Garrison Post, 1920–1940

Fort Worden prospered despite the downturn. It became an important regional training center for the National Guard, the Civilian Military Training Corps (CMTC), and the Reserve Officers Training Corps (ROTC), not only on the big coast defense guns but also mobile anti-aircraft weapons and the automotive equipment that was associated with them. In the summer months, as many as 600 men from the National Guard of Washington and Oregon would travel to the post for several weeks of training, as would students participating in the ROTC programs at universities in Washington, Oregon, Idaho, California, and Utah. The CMTC differed from other army organizations in that it trained civilian men in military subjects but without an obligation to enter active service.

There were three levels of CMTC training: red, white, and blue. The more advanced white and blue courses were taught at Fort Worden. The white courses could qualify students to become noncommissioned officers in

[16] "History of the Northwest Sector," Chapter XXIII, 165.
[17] *Liaison,* Vol. I, no. 26 (February 8, 1919), 63.
[18] Fort Worden Fort Record Book, Entry 290, in RG 392, NARA; untitled and unpaginated typescript included in the fort record book that appears to be a summary of newspaper articles from 1920. The emphasis placed on mobile weapons was also economic since there was little money between the wars for much else. The preference for permanently mounted large-caliber cannon remained, and a few were emplaced in the 1920s. The advent of World War II led to the widespread construction of new concrete batteries for 16-inch and 6-inch guns.
[19] Fort Worden Fort Record Book, typescript, in RG 392, NARA.
[20] "Ammunition Is Being Shipped From 3 Forts," *Port Townsend Leader,* June 4, 1931, 1.
[21] *Liaison,* Vol. I, No. 26 (June 14, 1919) and Vol. II, No. 12 (September 20, 1919).

the reserves; the blue courses were also appropriate for noncommissioned officers currently serving in the regular army, the National Guard, and reserves.[22] While the number of coast artillery posts supporting the CMTC program varied over the 1920s and 1930s, as did the number of annual CMTC camps, Fort Worden was a key component and at times was one of only four locations nationally for the training.[23]

Later, as part of a wider program instituted by the army's Western Department, soldiers at the post could receive a common school education as well as specific vocational training. There were classes in arithmetic, algebra, English, and other basic subjects. Men could go on to take courses in surveying, mechanical drafting, and automotive mechanics. There was even a three-year course given on board the mine planter *Samuel Ringgold*, stationed at Fort Worden, which could lead to a career in navigation or marine engineering.[24]

Perhaps because of the steady seasonal number of soldiers posted to Fort Worden for their training, some of the wartime cantonment buildings were kept despite their light construction and temporary nature. The line of officers' quarters that had been built in a single row to the north of Alexander's Castle was repurposed as quarters for noncommissioned officers. That was an exception; most of the housing was removed between 1921 and 1928.[25] A few barracks were retained and others were salvaged and the materials used for new construction. For example, a group of them was combined and converted to the automotive school in the summer of 1920, during the course of which a large moonshine still was discovered, presumably built and used during the war years.[26] Cantonment buildings also found new uses as a bowling alley, paint shop, oil house, and a variety of storehouses. The two hospital buildings completed in 1919 in response to the influenza epidemic of 1918 were adapted as a barracks, officers' club, and a dance hall that could also double as a chapel.[27] The service club, privately built in 1917 and transferred to the military after the war, was one of the largest buildings at Fort Worden and heavily used by soldiers as well as townspeople. It was destroyed by fire in 1931.[28]

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Construction and other improvements continued in the interwar period. In the spring of 1932, a new brick theater building replaced the service club that had been lost the year before. It opened to great acclaim, and the local press noted that it had been especially designed for sound pictures.[29] Underscoring the important role of Fort Worden in training, four mess halls were built to the rear of the main battery in 1933 to serve the National Guard troops who were housed nearby in tents during their summer encampments. A separate lavatory and shower building was constructed at the same time, and a year later, the concrete utility building to the rear of Battery Quarles was also dedicated to the use of the National Guard.[30] Depression-era programs also had an

[22] "History of the Northwest Sector"; unpaginated typescript included with the "History" and dated 1922 that appears to duplicate newspaper articles from an unidentified source. For ROTC service, see "The Roll Call," published at Fort Worden, 1932, http://freepages.genealogy.rootsweb.ancestry.com/~npmelton/rotc32.pdf

[23] "C.M.T.C.s," *The Military Engineer,"* Vol. XIV, No. 76 (July-August, 1922), n.p.

[24] "Education, Vocational Training and Recreation in the Western Department of the United States Army" (San Francisco: Headquarters, Western Department, United States Army, June 1920), 4.

[25] See Fort Worden site plans for those dates in "Report of Completed Works," CDSG.

[26] Fort Worden Fort Record Book, typescript, in RG 392, NARA.

[27] Fort Worden Historical Property Record, 1924 – 1941, Record Group 77, Records of the Office of the Chief of Engineers, Seattle Federal Records Center, NARA [hereafter cited as RG 77, NARA].

[28] "Fire Causes $10,000 Loss at Fort Club," *Port Townsend Leader,* April 2, 1931, 1. The origin of the building appears to be with either the Red Cross or the YMCA. The Knights of Columbus also proposed a large recreation building for Fort Worden, to be built directly opposite the guard house (Building 300). Although it appears on a 1920 partial site plan, there is no record of its construction and it may never have been built. See *Liaison,* Vol. I, No. 3, (January 4, 1919), 23.

[29] "Special Program at First Show in New Fort Theatre," *Port Townsend Leader,* May 26, 1932, 6. The same design was erected at Fort Devens, Massachusetts; Fort Monmouth, New Jersey; Fort DuPont, Delaware; Mitchel Field, New York; and perhaps other locations as well. No additional information has been located that explains the origin of the War Department's theater construction program.

[30] Fort Worden Historical Property Record, RG 77, NARA.

impact. Some $20,000 in Public Works Administration money was allocated to Fort Worden in June 1935 to fund new quarters and an officers' mess hall, and the next month the War Department applied for additional funds to support improvements to the defenses.[31] That request for funds was soon increased to over a quarter million dollars for work at Fort Worden to include proposed construction and repair of walkways and roadways, landscaping, training camp facilities, repairs to two harbor boats and even a swimming pool.[32] The actual result was much more modest. Late in the summer of 1935, the Works Progress Administration (WPA) approved $2,690 for the post to be expended on the construction of an officers' mess building and a target range.[33] Additional WPA funding improved buildings, utilities and roads in all three of the Admiralty Inlet forts, and at Fort Worden included the construction of an indoor small-bore range (Building 103, which is no longer extant).[34]

Another important event of the 1930s was the addition of a camp for the Civilian Conservation Corps (CCC). The 937th CCC Company came to Fort Worden in 1933, however a permanent camp was not built until 1935. Camp A-4 was a cluster of nineteen single-story buildings—barracks, mess hall, infirmary, officers' quarters, and others—east of the noncommissioned officers' quarters and north of the support buildings for the balloon hangar. The first occupant of the buildings appears to have been the 1240th CCC Company, organized in New York. The area of the camp had been the location of a group of World War I mobilization buildings; the CCC constructed a wholly new complex and did not adapt the older facilities. The duration of camp A-4 and its activities is not known.[35]

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World War II and Joint Defense with Canada, 1941–1945

Two developments during World War II increased the significance of Fort Worden as the headquarters of the harbor defenses of Puget Sound. The first was the addition of more defenses. Joining Fort Flagler and Fort Casey as garrisoned sub-posts of Fort Worden were two wholly new coastal fortifications. Fort Ebey was established on Whidbey Island north of Fort Casey in 1942; its armament consisted of a single battery of two 6-inch guns on shielded barbette carriages. Fort Hayden, established in 1941 and armed with a battery of two 16-inch guns and a battery of two 6-inch guns on shielded barbette carriages, was located far west of Fort Worden at Striped Peak, some 30 miles west of Port Angeles. The second was the international cooperative defense of the Strait of Juan de Fuca with Canada.

The original 1890s orientation of the Puget Sound defenses contemplated a future battle area that extended from Admiralty Inlet southward into Puget Sound itself. By the 1940s, the focus had shifted to the north to embrace the eastern end of the Strait of Juan de Fuca. Any naval force of size had to enter the Strait, and its adequate defense was a concern of both Canada and the United States since the international boundary divided the waterway along its length. From the Canadian point of view, the Victoria–Esquimalt area of the province of

[31] "$200,000 Is Allocated To Fort Worden," *Port Townsend Leader,* June 27, 1935,1; "Projects At Local Forts Given Funds," *Leader,* July 18, 1935, 1. While $200,000 was authorized, only $20,000 of that was actually allotted to the projects.

[32] "$354,350 Sum Is Asked For Local Forts," *Port Townsend Leader,* July 25, 1935, 1.

[33] "$2690 Approved WPA Funding For Worden," *Port Townsend Leader,* August 15, 1935, 1. According to the Fort Worden Historical Property Record, a mess hall for the officers of the National Guard was completed in February 1936, for the approved amount. It was identified as building T-416 and located on the opposite side of the field from the four mess halls for enlisted men. Curiously, the building appears on a site plan dated the year before; see drawing W700-35-1, Washington State Parks and Recreation Commission. A target range was also built in 1936, but the Historical Property Record does not indicate a source of funding.

[34] Susan Goodfellow, et al., "Nationwide Context, Inventory, and Heritage Assessment of Works Progress Administration and Civilian Conservation Corps Resources on Department of Defense Installations," Table C-1 List of WPA Projects on DOD Installations, Department of Defense Legacy Resources Management Program, Project no. 07-357, July 2009.

[35] 1937 CCC Yearbook, Interpretive Services Collection, Washington State Parks and Recreation Commission; Fort Worden Historical Property Record.

British Columbia was particularly important. It constituted Canada's principal west coast naval base, a city of 40,000 inhabitants, the seat of the provincial legislature, and the headquarters of a military district and the western air command.[36] Fort Rodd Hill formed its chief protection but the fort's 6-inch guns on disappearing carriages had been declared functionally obsolete in 1913.[37] In the 1930s, Canada sought to strengthen its defenses by placing more modern weapons further westward on the northern shores of the Strait, just as the United States planned to do on the southern margin. A cooperative defense was advantageous to both the United States and Canada, however forming that defense was hampered by mutual doubt if not outright suspicion as well as the inability of contemporary ordnance to cover the breadth of the wide channel.

In the 1920s and 1930s, the War Plans Division of the U.S. Army's General Staff developed a series of color-coded plans that outlined military action in possible conflicts with a wide range of potential adversaries. The plans did not necessarily depict an actual expectation of hostilities, and some were highly improbable.[38] An example was War Plan Red-Orange. It hypothesized an alliance between Great Britain and Japan and included the possibility of Japanese landings in British Columbia.[39] While such an alliance was unlikely, the fact that military planners could conceive of it leading to an attack on lands adjacent to the United States demonstrated the sensitivity of an undefended Strait of Juan de Fuca. The situation was equally uncomfortable when interpreted from the Canadian side of the border because of the peculiar duality posed by the United States as the Dominion of Canada's greatest threat as well as an important protector.[40] The expansion of Japanese power and influence after its victory in the Russo-Japanese War in 1905 was central to that dilemma. If there was an open conflict between the United States and Japan, and Canada was neutral, the much smaller Canadian military would be hard pressed to put up an effective defense of its neutrality, a possibility emphasized by the withdrawal from the Pacific in the 1920s of any significant element of the British fleet, which might otherwise have provided support.[41] Canada needed to avoid the worst effects of American power while at the same time securing the benefits of American protection. One of the expressions of that difficult balance was Canada's development of a Pacific coast defense policy that secured "the Anglo-American harmony that was Canada's most vital international interest."[42] That coast defense policy would be made manifest at the Strait of Juan de Fuca.

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The Canadian government understood the political and military need for armament of sufficient range to reach the international border: in case of war with Japan, the United States would then be assured that Japanese warships would not be able to move unopposed through Canadian waters. A 1928 plan called for more powerful coast artillery cannon to be emplaced at Albert Head, which lay to the southwest of Esquimalt and would cover the water area to the border with the United States. There were other important Canadian harbors to be protected, notably Halifax, but need for weapons along the Strait was given priority for funding specifically to reinforce relations with the United States.[43] Lack of funds delayed actual improvements until the late 1930s, and by that time the emphasis had shifted to Canada's Atlantic coast due to the looming and then actual war in

[36] "Fixed Coast Artillery Defences on the Pacific Coast," Report No. 1, Historical Section (G.S.), Army Headquarters, Canadian Army, 1986.

[37] Roger Sarty, *The Maritime Defence of Canada* (Toronto: Canadian Institute of Strategic Studies, 1996), 32.

[38] Maurice Matloff and Edwin M. Snell, *Strategic Planning for Coalition Warfare, 1941-1942* (Washington, DC: Center of Military History, United States Army, 1990), 35.

[39] Keith T. Ressa, "U.S. vs. the World: America's Color Coded War Plans and the Evolution of Rainbow Five" (master's thesis, Liberty University, 2010), 71-72.

[40] Sarty, *Maritime Defence*, 81.

[41] Ibid., 141.

[42] Ibid., 104.

[43] Ibid., 147.

Europe. Priority changed again to defending the Strait after the Japanese attack on the U.S. naval base at Pearl Harbor on December 7, 1941.[44]

That there should be a practical plan for the common defense of the coasts adjacent to the two nations was discussed initially in 1938. Several years later, the Permanent Joint Board on Defense, created to coordinate bilateral concerns as a result of tensions in Europe, described broad areas of responsibility for the boundary waters of the United States and Canada. Its Basic Defense Plan outlined a collaborative mission to protect shipping and communications on the high seas, embracing both coasts and including Newfoundland. Cooperative efforts founded on the plan led to the development of bases and port facilities in the Maritime Provinces. The agreement allowed Canadian access to American military stores, and much materiel flowed northward. High on the Canadian list of desired weaponry was coast artillery. Congress had agreed to the transfer of weaponry and equipment only if not needed for the defense of the United States, and under that guidance the 10-inch gun and carriages of Battery Quarles at Fort Worden and Battery Revere at Fort Flagler were dismounted in 1941 and sent to Newfoundland.[45] They were functionally obsolete, and their relocation completed the removal of barbette-mounted 10-inch guns that had been initiated in World War I. Two other coast artillery weapons were sent to Canada a few years later; the 12-inch guns on disappearing carriages at Battery Arnold were removed from Fort Mott, New Jersey, which had been declared obsolete in 1920.[46]

Administrative sleight-of-hand was necessary in another transfer. Canada had asked for several 8-inch guns on railway carriages to be placed at Albert Head as part of the defenses for the Strait of Juan de Fuca. These weapons were still part of the American catalog of coast defense artillery and transferring them to Canada would violate the direction of Congress. The guns were sent, but only as a loan, and the cannon were accompanied by United States troops for instruction and were also subject to periodic inspection by their rightful owners.[47]

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The details of the cooperative defense were laid out in a document following a meeting between Canadian and American military officers in the fall of 1940. The “International Joint Defense Plan for Strait of Juan de Fuca and Puget Sound Area” made a series of recommendations that were put into effect in the months ahead. It called for the temporary installation of cannon in the vicinity of Port Angeles to the west of Fort Worden with sufficient range to reach the international border and thus effecting the long-desired goal of closing the Strait to hostile vessels. The temporary weapons would be displaced with the completion of modern long-range batteries of 6- and 16-inch guns at Fort Hayden. By 1944, the Strait of Juan de Fuca was protected by a coordinated complex of gun batteries, radar on both sides of the international border, and a unified searchlight plan to guard against night attacks. There was also a U.S.-Canada exchange of liaison officers, each taking a duty station in the respective headquarters of the other.

Fort Worden’s renewed importance and new mission in coastal defense during World War II required an expansion of the garrison to support an influx of military personnel. Beginning in 1941 and as part of the massive military construction program taking place across the nation, a new category of building soon appeared. Intended to be temporary, these were the 700- and 800-series standardized buildings that came to typify the army posts of World War II. They were similar in design and materials to the World War I mobilization buildings but were larger, with the result that they took up much more land. Architectural upgrades

[44] Stanley W. Dzuiban, *Military Relations Between the United States and Canda, 1939 – 1945*, United States Army in World War II: Special Studies (Washington, DC: Office of the Chief of Military History, Department of the Army, 1959), 101.

[45] Ibid., 91.

[46] Gun and Carriage Card Record, Entry 712, Record Group 156, Records of the Office of the Chief of Ordnance, NARA.

[47] T. Hunter Murray, “Coast Defense in British Columbia, 1939-1941: Attitudes and Realities,” *BC Studies* (Winter 1975-76): 19.

from earlier buildings included stud framing (as opposed to plank framing), concrete piers and footings, installation of plumbing and electrical conduit, and improved heating systems.[48] The 700-series, two-story, sixty-three-man barracks was the most common version, and twenty-four of the sixty-five wood-frame buildings erected at Fort Worden in the early months of 1941 were of that type.[49] Filling in among the barracks were mess halls, storehouses, officers' quarters, and recreation buildings. These new structures were put up on some of the same sites that were used during World War I, most of the earlier cantonment buildings having been removed by that time. The World War II buildings also occupied the ball field behind the permanent barracks, the hillside around Alexander's Castle and the area on the beach north of the ordnance machine shop.

In addition to the new garrison buildings, Fort Worden received in 1943 a supplement to its existing armament. Battery AMTB consisted of two 90mm guns, each mounted in a simple open concrete emplacement surrounded by a low wall of concrete-filled sandbags on the shoreline of Point Wilson. Battery AMTB constituted half of Battery 8, the other half being similar armament but on mobile wheeled carriages. The chief purpose of Battery 8 was to function in an anti-motor torpedo boat role, although the weapons could also be used as anti-aircraft artillery.[50]

The most significant fortification added during the war was a new command facility built in 1943 on the highest point of the Fort Worden uplands. The concrete structure housed the army's Harbor Defense Command Post (HDCP), which governed the actions of the gun and mortar batteries that protected Admiralty Inlet, and the navy's Harbor Entrance Control Post (HECP), which was responsible for the identification of all vessels entering or leaving the area as well as underwater detection devices. Associated with the HECP was a separate signal station above the combined HDCP/HECP. From the deck of the signal station, the HECP could communicate with vessels via a signal lamp or flag hoists on a tall mast. The HDCP/HECP and its associated groupment station (Buildings 430 and 431), both still extant, were key installations in the protection of the Strait of Juan de Fuca with Canada.

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The joint defense plan also called for the creation of secure communications in the form of a teletype between Fort Worden and the headquarters of the Victoria-Esquimalt Fortress on the Canadian side of the border. Subsequently, Canadian forces laid a cable to Port Angeles on the sea floor of the Strait, which was then extended by the United States from Port Angeles to Fort Worden. The teletype equipment was located at the HDCP/HECP, and although it was later supplemented by radio and telephone links, it remained the most critical means of communications for the combined defense.[51]

The joint defense connection was explicit in the written mission statement of the Harbor Defenses of Puget Sound. United States forces were responsible for the defense of the Strait beginning at a point about thirty miles west of Striped Peak (that being the effective range of the 16-inch guns at Fort Hayden) and were obligated by the joint defense mission statement:

4. To assist by artillery fire the Canadian Harbor Defenses of Esquimalt in:
    a. Denying enemy ships entrance to Esquimalt and Victoria Harbors.

[48] John S. Garner, *World War II Temporary Military Buildings: A Brief History of the Architecture and Planning of Cantonments and Training Stations in the United States*, U.S. Army Corps of Engineers Construction and Research Laboratories (USACERL), March 1993, 35.

[49] "Fort Worden Construction Data Index," drawings W700-108-1 through 24, 1942, Washington State Parks and Recreation Commission.

[50] "Supplement to the Harbor Defense Project, Harbor Defenses of Puget Sound, 1944," Harbor Defense Projects, Annexes, Supplements 1932–1945, CDSG, 47.

[51] "International Joint Defense Plan for Strait of Juan de Fuca and Puget Sound Area," October 31, 1940.

b. Furnishing protection for friendly ships entering or leaving Esquimalt and Victoria Harbors.
c. Defending the harbor facilities and shipping in Esquimalt and Victoria Harbors against bombardment by naval gunfire.

5. To support by artillery fire, the beach defense of Canadian territory within range of United States harbor defense artillery.[52]

The mission was put into place not only through plans and communications, but also through joint command exercises every two months during World War II and joint target practices as well.[53] The combined defense has been called by one historian as indicative of "an early independent defence initiative by Canada to confront a hostile world without the assurance of British protection and in the face of rising American hegemony."[54] Seen in that light, the Fort Worden HDCP/HECP (Building 430) and the associated GOMTCP1/GCP3 (Building 431) are unique structural representatives of the cooperation between the United States and Canada during World War II.

Criterion 4. Fort Worden as an outstanding example of U.S. Army coastal fortification design (1898-1945) and of a coast artillery post of the Endicott/Taft Era, 1898–1917

Fort Worden preserves the distinguishing characteristics of an early twentieth-century U.S. Army coast artillery post and is exceptionally valuable for a study of the style and method of construction of seacoast fortifications for the period 1898–1945.

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Fort Worden Batteries, 1898–1917

Construction of Puget Sound defenses began at the entrance to Admiralty Inlet in 1897. Arranged as a triangle of fire that would prevent any attack by sea, the three primary installations were located at Point Wilson (later Fort Worden) on the northeastern tip of the Olympic Peninsula, Admiralty Head (named Fort Casey in 1899) located almost directly across the strait from Point Wilson, and the northeastern tip of Marrowstone Island (named Fort Flagler in 1899) to the south.[55] The fortifications themselves composed the first task; the development of the supporting buildings followed some years later. The effort was guided by officers from the U.S. Army Corps of Engineers based in the newly opened Seattle District office and put into practice by a cadre of civilian engineers. Contract solicitations received responses from firms as far away as Chicago, and the initial construction of the batteries at Marrowstone Point and Admiralty Head was carried out by private builders. The initial results were not satisfactory. The supervising engineers found the contractors to be ill-prepared and not equal to the tasks given them, and the contractors believed the engineers to be unnecessarily harsh. Later work (including all that at Fort Worden) was carried out directly by the Corps of Engineers, hiring and supervising the workers directly.

Most of the large-caliber cannon placed in the nation's defenses around the turn of the twentieth century were to be mounted on what was called a disappearing carriage, a machine that allowed the gun to move up and down

[52] Mission of Harbor Defense, Armament – Section 1, in "Supplement to the Harbor Defense Project, Harbor Defenses of Puget Sound, 1944," Harbor Defenses of the Puget Sound, CDSG.

[53] Remarks of J. H. Cunningham, Record Group 165, Records of the War Department General and Special Staffs, NARA, E257, "Report of Sector and Harbor Defense Commander's Conference Held at the Coast Artillery School, 26 June to July 1, 1944," 43.

[54] Sarty, 163.

[55] Though not part of what has become known locally as the "Triangle of Fire," three additional installations activated between 1903 and 1909 were also part of the Harbor Defenses of Puget Sound. These were Fort Whitman on the northwest end of Goat Island in Skagit Bay, Fort Ward at Beans Point on Bainbridge Island, and Middle Point Military Reservation near Manchester on the opposite side of Rich Passage from Fort Ward.

behind a protective parapet. The device would allow the gun to be loaded below the parapet in relative safety. It would then raise the cannon above the parapet for firing, after which it would drop back down, disappearing from the view of any ships. The disappearing carriage was considered especially appropriate for use on low sites where gunfire from attacking naval vessels would be more dangerous than for fortifications located at higher elevations. For sites 100 feet or so above sea level, there was another kind of carriage. It was called a barbette or non-disappearing carriage, and as the name suggests, it did not provide for the up-and-down motion of the disappearing mount. Since naval ordnance at the close of the nineteenth century could not easily fire at targets much above sea level, the barbette carriage was considered adequate for higher locations. It was also cheaper to manufacture, which made it additionally attractive. At an elevation of 250 feet above Admiralty Inlet, all the guns of the Fort Worden main battery were placed on barbette carriages.

The Office of the Chief of Engineers provided guidance to local engineers for the design of the fortifications and issued standard plans of typical gun batteries that could be used or slightly modified to suit local conditions. There were no standard plans for large-caliber cannon mounted on a non-disappearing carriage—too few of the type were to be emplaced to warrant the preparation of a specific design—and engineer officers in the field were instructed to adapt the design of a battery for disappearing mounts or to come up with something new.

The idea of something new appealed to two influential officers in the Seattle District office: District Engineer Harry Taylor (1863-1930) and his assistant M. L. Walker (1869-1947). Both were graduates of the United States Military Academy at West Point and would go on to have distinguished careers, Taylor ultimately serving as the Chief of Engineers and Walker as governor of the Panama Canal Zone.

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In considering the design of the main battery at Fort Worden, Walker had come up with a solution to one of the most vexing problems of contemporary fortification design. The ammunition for big seacoast cannon was heavy—a projectile could weigh up to a half-ton—and it was stored in a protected location below the level of the guns. Because of that weight, there had to be some mechanical means of moving it from where it was stored to where it could be loaded. Block and tackle performed the task in the earliest designs but was rapidly replaced by elevators or continuous chain hoists. Both were subject to mechanical problems and the fear was that in any real conflict, they might break down and leave the guns without the ammunition they needed to defeat attacking vessels. Taking advantage of the flexibility allowed in the design of batteries for barbette carriages, Walker's idea did away with hoists or elevators by placing the gun and its carriage on a raised circular concrete pillar. Ammunition would be moved horizontally from the interior magazine and placed on a small rail car that circled the base of the pillar. The crane on the carriage could then be used to lift the ammunition up from the rail car to the breech of the gun. Taylor agreed with Walker's proposal, and as Walker's superior, he became responsible for it as he sought and gained approval for its construction.

The first artillery troops arrived at Fort Worden in 1902 and their reaction to the oddly styled main battery was immediate. Not only did it look peculiar, it functioned differently as well. One of the important qualities of a fortification was how quickly its guns could be loaded and fired, and artillery officers complained that the design of the main battery with its reliance on the carriage cranes for moving ammunition actually slowed the rate of fire. They also pointed out that it was dangerous for troops to be on the concrete pillar that supported each gun since there was no handrail. The battery could be dangerous in another way. Its crest could be shattered by a bombardment, sending shards of concrete flying into the emplacements. Despite those comments, engineer officers considered it one of the most well-constructed fortifications on the Pacific Coast. Taylor was called before the Board of Engineers to explain the origin of the battery and to justify the decision made to construct it. Satisfied that the reasoning of the design was sound at the time but ultimately unsatisfactory to the artillerists who had to man the emplacements, the Board directed that the battery be rebuilt. The alterations—which included raising the entire floor of the emplacement to the height of the pillar that the gun sits upon and

constructing a new ammunition service under the roofed area supported by three battered columns—were completed in 1906. With its low profile and distinctly tapered supporting columns, the modified structure differed dramatically in appearance from any other in the nation.[56]

While the main battery was being rebuilt, other fortifications were added to Fort Worden. Work was completed in 1906 on Battery Cornelius Tolles and Battery Amos Stoddard, each for four 6-inch guns mounted on disappearing carriages, and Batteries Haldimand Putnam and Samuel Walker, each of two 3-inch guns on simple non-disappearing mounts.[57] These additions were the result of a broad effort to supplement the heavy gun and mortar batteries constructed to target big heavily armored warships with smaller caliber weapons that could more readily engage lighter and faster moving vessels. During this time, artillery and engineer officers were beginning to understand that the entrance to Puget Sound was a more difficult place to defend than originally thought and they pressed for more construction.

The gun and mortar batteries did not stand alone. Fire control and searchlight systems were essential to their operation and are well represented at Fort Worden. Fire control as a term used in coast defense embraced two related ideas: first, the practice of accurately locating target vessels so that they could be engaged by the armament of the fortifications; and second, the management of the various batteries as a collection. Army engineers designed and built a series of structures to accommodate the men and equipment necessary to carry out these functions. In 1902 they erected several towers behind the main battery. Each was a simple steel lattice tower that supported a small rectangular building on top that housed a specialized telescope and the crew of observers who operated the instrument. From these towers there was a wide and unobstructed view of the western approach through the Strait of Juan de Fuca and around Point Wilson to Admiralty Inlet.

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During this time, the operation of the coast defenses was not well understood and there were many competing ideas about the duties of individual officers, the kind of equipment that should be used in the fire control stations, and the location of the stations themselves. After much testing and experimentation, the Army adopted what it called the Barrancas system, named for one of the forts in Pensacola harbor where the concept was developed.[58] The hallmarks of the system were uniformity, flexibility and ease of control. In 1905, Congress appropriated a sum to begin the installation of the new network in all the coastal fortifications.

One aspect of the Barrancas system called for bringing together the battery observation stations of a fire command (a group of several batteries under the control of one officer) in the same building. Each observation station would have its own position within the building and as a result, the design called for a distinctive stepped roof profile. The towers at Fort Worden were removed, and in 1908 two of the new Barrancas buildings were erected in their place. A third building housed the battle command, from where the entire network of Admiralty Inlet and Puget Sound fortifications would be directed. Because of the number of men working in this group of buildings, which were located at a significant distance from the quarters of the garrison area, a separate dormitory was built nearby to house them at the times when the defenses were active.

Military planners believed that no warship would attempt to pass the fortifications during the day but would press their attack at night. Following experiments with portable lights to determine the best location for permanent installations, positions for fourteen searchlights were built in 1910 on the approaches to and on the shorelines of Admiralty Inlet. Almost all the lights were located near the crest of the headlands. Most of them

[56] Hansen, *Battle Ready*, 47.

[57] Batteries Tolles, Stoddard, and Benson all mounted their armament on disappearing carriages despite the higher elevations of their sites. Originally, barbette carriages were preferred for use at such locations. As it happened, the disappearing carriage was so satisfactory that it was used almost to the exclusion of the barbette carriage.

[58] Berhow, *American Seacoast Defenses*, 273.

were stored in concrete shelters, either above or below ground, and were moved to their operating positions on tram cars.

All the components of the defenses—the gun and mortar batteries, the fire control and position finding stations, and the searchlights—were linked by telephone, and all the telephone lines were connected through a central switchboard located near the fire control buildings. The switchboard was originally housed in a wood-frame building replaced in 1919 by a heavily built underground structure of concrete. Many miles of underground cables also led to the other forts in the system. All of the cables required constant maintenance, so much so that in 1909 a special cable storehouse (Building 501) was constructed to house a reserve cable supply, which would help ensure that repairs could be made more quickly.[59]

The core of Fort Worden's fortification system was complete by 1910, and as noted above there were periodic improvements after that date. The armament was substantially reduced by the removal of eighteen cannon during World War I, including two of the four guns from Battery Tolles. The armament had been removed from all the other 6-inch batteries in Puget Sound, and the decision to leave two guns in place at Battery Tolles emphasized the value of the battery in defending the western approach to Admiralty Inlet. The continuing importance of Battery Tolles was underscored in 1936 when two 6-inch guns were re-emplaced in the empty positions. They were mounted on barbette carriages and required the modification of the emplacements that had been built originally for disappearing mounts. The modified portion of the battery became known as Tolles B.[60]

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Other changes reflected the altered nature of the threat: heavily armored warships had become a less likely adversary as aircraft were a rising threat that had begun to rival the guns of naval vessels. Two anti-aircraft guns were emplaced in 1920 at the area south of Building 409, later supplemented by a third gun in 1937. Firing platforms for four mobile anti-aircraft guns were constructed in 1931 behind Battery Benson. During World War II, the existing armament was reinforced by positions for two 90mm anti-motor torpedo boat guns in simple concrete emplacements near the Point Wilson lighthouse.[61] The positions south of Building 409 were removed as part of changes made to the site soon after World War II. The firing platforms for the mobile guns are extant, however the two emplacements for 90mm guns have been broken up by shore erosion and are now partially covered by riprap.

Fort Worden Garrison, 1902–1917

By 1902, many of the fortifications were complete, and the men who were to put them into service were already on their way. The question was where they would live when they arrived, and for the first time, the army officers in charge of Fort Worden faced what would become a recurring problem: the post was chronically under-built, and there was a greater demand for building stock than had been planned for.

The only place for the new arrivals was the collection of lightly built wood-frame boarding houses and outbuildings that had been put up by the Corps of Engineers and its contractors. These had served the men working on the fortifications and were vacant by 1902. They were never intended to be more than temporary. The buildings were little more than shanties that were unpainted and with unfinished interior walls; however, the army added to their number until all the features of a military post appeared on top of the hill. Barracks, mess hall, bakery, administration building, guardhouse, and even a library clustered around the ordnance storehouse (Building 409), the first permanent building of the garrison and the only building from the original garrison still extant today. Even at that time, there were not enough accommodations for all of the soldiers, and

[59] "Annual Reports of the War Department, Report of the Chief Signal Officer, 1909," 247.
[60] "Report of Completed Works," Battery Tolles, August 23, 1937, CDSG.
[61] "Report of Completed Works," Battery AMTB, March 25, 1944, CDSG.

some had to stay in tents until permanent barracks were completed.

Local press reports at the time gave the impression that the garrison buildings of Fort Worden were something out of the ordinary and representative of a special commitment. That was an overstatement; the buildings going up at Fort Worden were fashioned from the standard plans of the army's Quartermaster Department that were developed and used on posts throughout the nation beginning in the late nineteenth century. These installations were generally characterized by a central parade ground surrounded with buildings of a uniform architectural design.[62] However, at Fort Worden and elsewhere, the buildings also represented a new commitment by the federal government to permanence and durability that had not characterized the facilities of earlier military reservations.[63] That perspective was summed up in the army's regulations of 1901. The direction of those regulations was that most military posts had been selected "for occupation as long as the Government shall exist" and that they were not only to be "made useful and healthful to the garrisons, but be made attractive homes for the Army by every means possible for the purpose."[64] Fort Worden was an expression of that vision. The effect locally was transfiguring, and by 1910, the post was characterized by in the *Port Townsend Leader* as "on its way to having more the appearance of a metropolitan city than a coast defense fortification."[65]

By the spring of 1904, nineteen buildings had been completed, the product of a work force of some 150 carpenters, stone cutters, and masons.[66] But nineteen buildings would not be enough; other changes were on the way, and the next few years were a period of intense development.

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Shifting views of the value of fortifications at Point Wilson as well as a separate investment in making the defenses more effective prompted changes at Fort Worden. Army planners had decided early on that the fort would be a two-company post—not more than 250 officers and men. However, a greater capacity was required when more troops were assigned to the post. Fort Worden was growing in a way not foreseen. The growth was the result of increased investment in the national coast defense system, and the impact was especially profound at Fort Worden. New batteries were under construction as well as a new and elaborate system of aiming the guns. There were new searchlights and the power plants that came with them, and newly formed coast artillery units of the state militia coming for training. By 1908, Fort Worden was a six-company post that several years later had a complement of 900 officers and men, working and living in about forty stoutly constructed one- and two-story wood-frame buildings that rested on foundations of stone, brick, or concrete and featured roofs of black slate.[67] Even this was not enough to adequately house and support the population of servicemen.

By the end of the first decade of the twentieth century, investment in the garrison posts of the national coast defense system was slowing, and local commanders would have to look beyond the appropriations of the Quartermaster Department to meet many of their building requirements. Some types of buildings were specialized and came from other parts of the army. The hospital, constructed in 1904, was an example, which was designed and funded through the Office of the Surgeon General. Other army departments also supported the construction of dedicated buildings at Fort Worden. Improvisation was the rule for anything else.

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[62] Suzanne Keith Loechl, Susan I. Enscore, Megan Weaver Tooker, and Samuel L. Batzli, *Guidelines for Identifying and Evaluating Historic Military Landscapes*, ERDC/CERL TR-09-6, U.S. Army Corps of Engineers, Engineer Research and Development Center, February 2009, l48.

[63] Bethanie C. Grashof, *A Study of United States Army Family Housing Plans,* Volume 1 (Atlanta: Georgia Institute of Technology, 1986), 11.

[64] *Regulations for the Army of the United States* (Government Printing Office, 1902), article XXIX, paragraph 229.

[65] "Improvements at Fort Worden," *Port Townsend Leader,* February 1, 1910. 1.

[66] Letter of April 15, 1904, Fort Worden correspondence, Entry 89, File 204235, Record Group 92, Records of the Office of the Quartermaster General, Seattle Federal Records Center, National Archives and Records Center [hereafter cited as RG 92, NARA].

[67] C. J. Bailey to the Adjutant General, September 15, 1913, Entry 89, File 479274, in RG 92, NARA.

One way to meet pressing needs was to modify what was already in use. A stables building and wagon shed were converted to storehouses, and a coal shed was modified to serve as an ordnance machine shop. Another solution was to adapt vacant buildings or use their lumber for new construction. The temporary buildings of 1902-03 sat unused on top of the hill, and by 1910 they had been converted for use as storehouses, shops, sheds, as well as an amusement hall. They would have been pressed into service earlier save for Col. George Grimes, Fort Worden's commander in 1905, who denied the proposed relocation of one of the temporary buildings because it would have been out of harmony with the more handsome permanent structures.[68]

The same army regulation that emphasized the attractiveness of army posts also gave direction about the appearance of the grounds. Shrubbery and trees were to be kept pruned, brush removed and vines, fruit and ornamental trees planted, and the grounds drained and ditched. Larger reservations were to be "stocked with game, and all native singing birds protected."[69] There does not seem to have been a formal landscape plan for Fort Worden although there were hints that the intent of the regulation had been heard: a fenced deer park was built near the southwest corner of the reservation in the vicinity of a future balloon hangar. Trees and shrubs were planted around newly seeded building sites. There was no need for any specific drainage improvements other than the cobblestone ditches that bordered one side of the roads. In retrospect, the cobblestone ditches seem an attractive feature, but they were very unpopular with the troops at the time. In 1909, the post commander complained that they were kept constantly at work digging out grass from between the stones with a knife blade, a task that he stated was "looked upon by the men as unnecessary, and produces discontent."[70]

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New Construction during World War I, 1917–1919

During World War I, there was little reason to fear a naval attack on Puget Sound, and in common with American coastal fortifications elsewhere, Fort Worden was expanded as a training facility for heavy mobile artillery. The European battlefields were different from previous fields of conflict, particularly in the use of artillery. As it happened, the practices of coast artillery were well-suited to those new demands, and drilling with the big seacoast mortars was especially useful in providing a foundation for handling the large mobile guns employed on the Western Front.[71] Wartime enlistments swelled the population of the Puget Sound forts. New companies were quickly organized and by July of 1918, the number had increased from the pre-war level of fourteen to thirty, and increased again in September to a total of forty-one companies, which meant that some 4,500 officers and men were in uniform.[72] To house Fort Worden's share of this number, on November 7, 1917, the Construction Division of the army ordered the erection of new cantonment units at the post, and work was underway two days later. Ninety-one buildings (chiefly barracks, latrines, mess halls, and quarters for officers) were completed by the time cantonment construction was suspended on December 12, 1918, one month after the Armistice brought the war to an end. Two single-ward hospitals were in progress when work was halted. They were carried through to completion because of the influenza epidemic of the time.[73]

World War II Fortifications: Design and Construction of the HDCP/HECP

The likelihood of involvement by the United States in World War II brought about another response for the modernization of the command structure of the nation's coast defenses. In 1940, Chief of Naval Operations H.

[68] Letter of February 12, 1905, Entry 89, File 1159, in RG 92, NARA.
[69] *Regulations for the Army of the United States,* op. cit.
[70] Garland Whistler to the Adjutant General, February 10, 1909, Entry 89, File 187466, in RG 92, NARA.
[71] *Liaison,* Vol. I, No. 10, (December 6, 1918), photo caption at 11.
[72] General Orders for the Artillery District of Puget Sound, G.O. 30, July 10, 1918, and G. O. 54, September 27, 1918, Entry 283, in RG 392, NARA.
[73] Harbor Defenses of Puget Sound, "History of the Northwest Sector," 154-161, in RG 392, NARA.

R. Stark called for joint action by the army and navy in organizing for defense against attacks by the land, air, and sea forces of an adversary. The changing nature of warfare demanded new types of coastal defense installations. An important component would be what Stark termed a Harbor Entrance Control Post (HECP) where army and navy officers would initiate and direct an appropriate and immediate response to any threat. An HECP would be situated where it gave a clear view of the water area to be defended and would be equipped with a signal station and communications that linked all the elements that were part of the defense of the harbor. Included were underwater listening devices, mine fields, shore batteries, aircraft, and vessels that were part of the navy's inshore patrol. Stark sent a copy of his proposal to George C. Marshall, the army's Chief of Staff. The two men signed a joint memo in the spring of 1941 that established the requirement for an HECP in each of the defended harbors, including Puget Sound.[74]

As a first step towards establishing an HECP at Fort Worden, a signal station was created in a disused portion of one of the old fire control buildings (Building 429, no longer extant), and in November 1941, the facility was expanded to include the HECP. These actions, however, were no more than adaptations of a fundamentally unsuitable structure.[75]

Understanding the need to modernize critical elements of the defenses as the threat of war grew in the spring of 1941, the army's Chief of Coast Artillery circulated his recommendations for a Harbor Defense Command Post (HDCP) that would function in coordination with the navy's HECP. It would have to be protected from cannon fire and poison gas and be able to resist the impact of a 600-pound bomb bursting no closer than 30 feet from the structure. Gas proofing required additional measures to seal the building and to supply purified air to the interior. The interior space was pressurized to ensure an outflow of air from the enclosed space so that no gas could enter, and air brought into the interior was treated by special filtering equipment to neutralize the gas. The capacity of the system was scaled to the size of the space to be occupied and the number of persons occupying that space. Ten cubic feet of air per man per minute would allow the personnel in the HDCP to maintain their mental and physical efficiency unimpaired.[76]

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Because the size and extent of the harbor defenses differed, army engineers created designs for five different type plans, A through D, so that complex harbor defenses would be furnished with a larger HDCP than those harbors with more limited defenses. The Type A plan was 126 feet long with an overall width of 58 feet, and could accommodate the harbor defense command, a command for the Navy's inshore patrol, and command posts for antiaircraft artillery and seacoast weapons. An entry at each end of the structure opened onto a single corridor five feet wide with rooms on either side of the hallway; movable partitions between the rooms allowed the size of each space to be adjusted to fit the particular needs of the installation. Type plans B through D were intended to accommodate fewer functions and as a result were smaller in length although the same basic arrangement held for all four types. A fifth and final type that differed in layout was added later for the smallest harbor defenses.[77]

Building the HDCPs in all the harbors would be expensive—the construction of the Type A station was estimated at about $80,000—and there was concern about the cost. Accordingly, functions were combined where possible and room sizes were reduced as an economy measure. Despite those efforts, costs still increased

[74] Edwin C. Bearss, "Special History Study, Fort Moultrie HECP-HDCP, Fort Sumter National Monument," Denver Service Center Historic Preservation Team, National Park Service, 1974, 4-7.

[75] Letter of Donald P. Booth to A. Haddad, November 6, 1941, file 665.2, RG 77, NARA.

[76] Bearss, 16-17.

[77] "Type Plans of Harbor Defense Command Posts," October 24, 1941, E23101 G-455, Records of U.S. Army Operational, Tactical and Support Commands, Record Group 338, Records of U.S. Army Operational, Tactical, and Support Organizations (World War II and Thereafter), NARA.

with the decision to co-locate the HECP with the HDCP where possible. With the declaration of hostilities following the attack on Pearl Harbor, the War Department committed to funding HDCPs and HECPs where existing facilities were inadequate and poorly protected. Eleven locations were identified in the fiscal year 1943 appropriation for seacoast defenses, Puget Sound among them. An amount of $90,000 was set aside for the new Type D HDCP/HECP and signal station at Fort Worden.[78]

To make way for the project, the antiquated battle commander's station was torn down and a temporary HDCP established in the former mortar battery headquarters. The new HDCP/HECP (Building 430) and its integrated signal station was completed and transferred from the builders to the military on December 23, 1943, at a cost of $93,508, not including data transmission equipment. It was occupied by an army contingent of four officers and fourteen enlisted men, and a navy staff of one officer and six enlisted; the navy complement at the signal station was one officer and three enlisted. While some facilities elsewhere included quarters for the housing of the men stationed in the HDCP/HECP, at Fort Worden the adjacent fire control dormitory (Building 426, no longer extant) provided off-duty accommodations. The army's HDCP contained four components of command: the mobile gun batteries at Deception Pass, the gun batteries facing Admiralty Inlet, Fort Hayden, and all anti-aircraft armament. The navy's HECP had charge of underwater listening devices, surface radar, and a ready-duty guard vessel; an army examination battery supported the navy responsibilities. The army's coast defense use of the structure ended in 1946, but it acquired a new role in about 1957 when it served as a component of the Nike missile defense system for Seattle until 1961. The navy and naval reserves had units posted to Fort Worden after World War II and occupied the HDCP/HECP through the 1960s.[79]

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In the case of Fort Worden, a gun groupment command post (Building 431) that might ordinarily be part of the HDCP was a separate structure constructed some distance away and integrated with the parados between Batteries Ash and Benson. It was transferred to the army in July of 1943, several months before the transfer of the HDCP/HECP. It too was constructed of reinforced concrete and covered with a layer of earth; from a north-facing observation slit, its detachment of three officers and eight enlisted men had a broad view of the approach to Admiralty Inlet. The gun groupment command post contained spaces labeled as GPMTCP1 and GCP3. The GCP3 was the command post assigned to Battery 248 (located at Fort Ebey on Whidbey Island, north of Fort Casey) and Tolles B; the assignment initially included Batteries Kinzie and Benson until they were removed from the defenses.[80] The assignment for the GPMTCP1 has not been identified in archival materials, however it is possible to make some conjectural identification of functions based on the organizational diagrams contained in the 1944 supplement to the Puget Sound Harbor Defense Plan. At this time, the defenses were organized into four battalions with one battalion for each of the three fortifications at Admiralty Inlet and a fourth battalion designated for Fort Hayden, some forty miles to the west. Fort Hayden was so distant from the harbor defense headquarters at Fort Worden that it had its own auxiliary HECP, a miniaturized version of the same installation at Fort Worden. The designation of GPMTCP1 likely indicated the command post for the gun batteries at Fort Worden.[81]

Together, the HDCP/HECP and gun groupment command post (Buildings 430 and 431) were conceived as modern replacements for earlier coast defense command structures and thus constitute significant representatives of the architecture of defense as practiced during the second world war. Further, the separation

[78] Bearss, 20-27, passim.

[79] "Report of Completed Works," HDCP (temporary), November 5, 1943, and HDCP-HECP-SS, January 10, 1944, CDSG; "Supplement to the Harbor Defense Project, Harbor Defenses of Puget Sound, 1944," CDSG, 229; "History of the Northwestern Sector, 8; "Fort Worden Guide II", Puget Sound Coast Artillery Museum, 2010, 35.

[80] Fort Worden Fort Record Book, Entry 290 in RG 392, NARA.

[81] "Report of Completed Works," Harbor Defenses of Puget Sound, CP1 – GCP3, December 16, 1943, CDSG; "Supplement to the Harbor Defense Project, Harbor Defenses of Puget Sound, 1944," CDSG, 93.

of the gun groupment command post from the HDCP/HECP and its placement in the landscape reflect the desire of coast artillery officers for the selection of sites that would provide the optimum location for observation over critical portions of the harbor entrance for the gun groupment commander.[82]

In summary, Fort Worden is an outstanding example of an Endicott/Taft coastal fortification and one whose active role in national defense extended from its beginning in the 1890s through World War II. It also has a unique place in the cooperative protection of the Strait of Juan de Fuca with Canada during that conflict. Unlike many other fortifications of the type, its collection of defensive structures is largely intact and represents important themes in the development of coastal defense. The garrison buildings of Fort Worden are also an intact collection and persuasively portray the appearance of a coast artillery post of the 1898–1917 period.

New Uses for a Different Time, 1946–1971

As World War II progressed, the need for coast defense declined. In 1944, most of the soldiers at Fort Worden were given new assignments and were transferred elsewhere, and in 1946, the few remaining guns were sold for scrap. The era of big artillery pieces in heavy concrete fortifications had come to an end.

The military occupation of Fort Worden continued after the war. There was still a place for coast defense, but it was now an activity of the navy and with a different approach. A ninety-man U.S. Navy harbor defense unit operated radar and sonar at Fort Worden to track surface vessels and submarines as they moved through Admiralty Inlet. The practice continued with regular and reserve navy units until 1969, although by the mid-1960s, the staffing had been reduced to no more than twenty weekend reservists.[83] The army and air force also had a presence during the late 1950s and into the 1960s as part of the regional Nike air defense system.[84] Following World War II and that conflict's memorable use of amphibious assaults, the army maintained some units to help retain the expertise, and Fort Worden became one of the training centers for amphibious forces. In 1947, the 2nd Engineer Special Brigade was relocated from southern California to Fort Worden, and other units were attached to the brigade through the end of the decade. With the outbreak of the Korean War in 1950, additional reserve amphibious units were mobilized and sent to Fort Worden; in 1951, some components of the 2nd Engineer Special Brigade were sent to Korea while others remained. The amphibious units left in 1953 and were the last large organizations to occupy the post.[85]

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With the departure of the engineer brigade, the army did not need the large inventory of buildings to support the few men in uniform left to occupy Fort Worden. In 1953, it declared the building core and portions of the sandspit to be surplus property while retaining the uplands for the remaining military activities. The surplus property was acquired by the state of Washington, and in 1958, the Department of Institutions opened the Fort Worden Diagnostic and Treatment Center. The center housed children aged eight to eighteen who had been committed by juvenile courts for various emotional and behavioral problems. The purpose was to prepare the troubled youth to successfully re-enter society.[86]

About 200 frame buildings remained at Fort Worden when the property was transferred to the state, far in

[82] Letter of W. S. Bowen, President of the Coast Artillery Board, to the Chief of Coast Artillery, May 5, 1941, NARA, RG 165, E257, File 665.2.

[83] "Reserve units hold open house," *Port Angeles Evening News,* July 12, 1966, 8.

[84] Patrick J. Sullivan and Alfred Chiswell, "Fort Worden Guide II," Puget Sound Coast Artillery Museum (2010), 35.

[85] Donald Boose, *Over the Beach: U.S. Army Amphibious Operations in the Korean War* (U.S. Army Combined Arms Center, Combat Studies Institute Press, 2008), 66 et.seq.

[86] Pat Simpson, "Fort Worden Centennial: Army post sold to state as institution," *Port Townsend and Jefferson County Leader,* March 13, 2002.

excess of what would be needed to house the 260 boys and girls and up to 200 staff members.[87] The Department of Institutions began to remove buildings that were no longer needed. Most were those constructed during World War II, and of the more than sixty 700-series buildings built during that time, forty were sold for salvage.[88] Some of the buildings were locally recycled into garages, outbuildings, and houses, while others were moved intact to new locations. The county fairgrounds acquired four buildings, and another building was moved to a neighboring community where it became a club house. The Port of Port Townsend moved two buildings to the airport and converted them to a shop and a caretaker's residence. Six of the barracks were barged across Admiralty Inlet to Whidbey Island where they were converted to apartments. There is no record of the subsequent use or reuse of the removals, and it is not known how many might survive to the present.[89] Due to the removal of most of the World War II garrison buildings, Fort Worden more clearly retains the design and architectural character of an early twentieth-century army post as opposed to a World War II cantonment. However, the remaining 700-series buildings still contribute to the NHL under Criterion 1 due to their role in housing personnel involved in the mission of coastal defense.

Other buildings were removed at about the same time. The 1917 officers' quarters (later noncommissioned officers' quarters) were taken down as were several of the permanent buildings that dated from the initial establishment of the post. The original barracks of the coast artillery companies were remodeled to house the young people, and the hospital was reworked as a school and library; the former officers' quarters as well as some of the retained 700-series buildings became residences for the staff. In 1951, the permanent buildings that had been built before 1917 had comprised less than twenty-five percent of the building inventory; the net effect of the Department of Institution removals was to return the original permanent buildings to a majority of the inventory and to recapture much of the appearance of the post to what it had been prior to World War I. It was not a uniformly successful process in terms of the historic building stock: there were losses of important structures like the fire house (Building 301), bakery (Building 302), and stable (Building 370), and many of the modifications were unsympathetic. That said, what the local paper had once called "the prettiest post in the country" was now free of the clutter of later building programs and was once more there to be seen.[90]

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The treatment center closed in 1971, and the property was acquired by the Washington State Parks and Recreation Commission. The Commission had acquired the uplands and the sandspit some years earlier, so it was now the sole owner of Fort Worden. The original development concept for Fort Worden Park was heavily influenced by traditional approaches to recreation, and campgrounds were planned for the uplands and the sandspit. Two large bungalows (Buildings 400 and 401) built in 1898, were in the area of the upland campground. They were torn down in anticipation of the campground construction, which never occurred, thus removing the oldest continuously occupied buildings on the post.

Comparative Analysis

Endicott-Period Fortifications and Coastal Defense Installations

The implementation of the recommendations of the Endicott Board, and as supplemented by the recommendations of the Taft Board, extended from 1890 to about 1917. Those decades of construction yielded new fortifications on the Atlantic, Gulf, and Pacific coasts of the continental United States. Many of those

[87] Simpson, "Fort Worden Centennial: Army post sold to state as institution."

[88] List dated July 29, 1959. Washington State Archives, records of the Department of Institutions, Fort Worden Diagnostic and Treatment Center, file "Buildings, sale of." The list of 40 buildings was revised to 37 the following month.

[89] "'Temporary' Fort Worden Buildings . . ." *Port Townsend and Jefferson County Leader,* March 13, 2002, A9.

[90] "Fort Worden Guidelines for Rehabilitation – Introduction," Washington State Parks and Recreation Commission, 2008, 9.

properties, in all or in part, have been included in state historic property inventories or listed in the National Register of Historic Places, and some have become National Historic Landmarks.

In preparing the present document, the National Register database was searched for listings of Endicott fortifications extending from the Kennebec River, Maine; down to Key West, Florida; and on to Puget Sound, Washington. Included are twenty-eight formerly defended harbors containing eighty-seven named installations ranging from the largest—Fort Hancock, New Jersey (NHL, 1982); Fort Monroe, Virginia (NHL, 1960); Fort Winfield Scott, California (Presidio of San Francisco, NHL, 1962)—to the smallest, Fort Pio Pico, California (not NRHP listed). Of that number, thirty-four are listed in the National Register. At least eight are designated National Historic Landmarks by virtue of their being part of earlier fortifications whose significance relates to historic events or architectural themes that pre-date the Endicott program but whose boundaries embrace later Endicott construction. Usually, no specific claim of NHL eligibility was made for the Endicott resources other than to note their existence and extent. Examples include Fort Adams, Rhode Island (NHL, 1976); Fort Morgan, Alabama (NHL, 1960); and Fort Zachary Taylor, Florida (NHL, 1973). For those Endicott resources listed in the National Register only, the documentation typically referred to them as part of a national system but without any discussion of where the nominated property fit within the larger context. Only the National Register nomination for the mortar battery at Fort Banks, Massachusetts, considered the significance of that structure as compared to like installations at other coastal fortifications of the period.

In the absence of a national context for Endicott fortifications, we are left with the task of outlining possible aspects of significance, particularly with regard to how such fortifications may be designated as National Historic Landmarks. To do so, we must look at what the 1885 Endicott board proposed in its report issued the following year and what developed from those proposals as the unique combination of technology and architecture matured through years of construction. This examination only considers resources in the continental United States and does not include the related fortifications in Hawaii, the Philippines, and Panama. The defenses at those locations are sufficiently different to make comparison difficult.

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President Cleveland charged the nine members of the board, led by Secretary of War Endicott, to identify where new fortifications were “most urgently required” and what the nature of the armament might be. The board offered an initial list of twenty-seven ports that it felt met a definition of urgency and trimmed the list to eleven whose defense it considered “most urgent.” It noted at the same time that it did not want to suggest that there were “no other places along the coast which are of the importance necessary to justify measures of defense,” meaning that its proposals were subject to amendment.[91] An example was the elimination of several locations from the scheme that had been included in the board’s initial list. In 1906, the recommendations of the Taft Board modified the program begun by the Endicott board by enhancing the system of fortifications with searchlights and fire control installations. It also extended the defenses to the Panama Canal and U.S. possessions in the Pacific that were acquired after the sitting of the Endicott board and thus had not been included in its plans. The coastal fortifications that may be considered nationally significant for the purpose of comparison with Fort Worden are those established between the initial implementation of the Endicott board recommendations and the ultimate realization of those plans by the actions of the Taft Board. They all share a common origin and a common character.

Fort Worden demonstrates methods of concealment and dispersion over the landscape that mark it as an excellent example of an Endicott fortification. The earlier practice of building fortifications with brick and stone was displaced by concrete, which promised both economy as well as the strength necessary to support heavy

[91] House Executive Document 49, 49th Congress, 1st Session. Commonly referred to as the Endicott Board Report and dated January 23, 1886, 8.

and powerful cannon. Displaced also was the idea of a coastal fortification as a prominent bulwark rising up from the middle of a harbor or headland. The new defenses were dispersed and worked into the landscape; they were difficult to locate, difficult to hit by shipboard gunnery, and at the same time provided better protection for the soldiers manning the defenses. It was a dramatic change. As remarked upon in 1888 by Henry L. Abbot, a prominent and influential military engineer of the time, "the attention of engineers has been strongly drawn to the importance of concealing sea-coast batteries by every practicable expedient."[92] Despite that perspective, a significant number of new batteries were constructed within the confines of existing masonry fortifications, those older defenses whose existence was well-known, visible, and clearly marked on navigation charts. Examples include Fort Warren, Massachusetts (NHL, 1970); Fort Sumter, South Carolina (NRHP, 1966); and Fort Zachary Taylor, Florida (NHL, 1973). The most likely reason was that the heavy walls of older fortifications provided additional protection for the new concrete batteries, although at the expense of concealment and dispersion. In other instances, dispersal was not practical because the military reservation was too small. An example is Fort Stark, New Hampshire (not NRHP-listed), with its four Endicott batteries placed shoulder to shoulder across a narrow point. Since Point Wilson, the site of Fort Worden, had never been fortified prior to the Endicott program, engineers were able to site the new defenses there without having to fit them within the enceinte of an existing work. The size of the military reservation was large—a little more than 500 acres—and provided ample space for the placement of a large number of gun and mortar batteries without compromising any requirement of concealment.

Fort Worden contains excellent examples of the practice of modifying gun emplacements to keep them up to date. The construction of new gun batteries took place in different harbors under the guidance of the Army Corps of Engineers, and the shared experience of engineer officers led to continued changes in design. Moreover, batteries once constructed were often subject to improvements large and small to maintain effectiveness in response to changes in military technology and experiences of use. The most common modifications were the extension of loading platforms and the addition of ammunition hoists at batteries for large-caliber cannon. The changes were not always carried out in a way that was sensitive to the form and appearance of the existing structure. In the installation of ammunition hoists, concrete was sometimes crudely gadded out and the repair material rendered in a manner that was not compatible with the fit and finish of the original. Loading platforms were enlarged to give gun crews more room for their work. They were extended outward and supported by pillars of concrete or by iron posts or brackets angled into the face of the emplacements. In those instances where iron was used, it has often corroded to the extent that it is no longer able to support the weight of the extended loading platform, resulting in deformation or collapse. Examples of this type of modification include Battery Cullum-Sevier, Fort Pickens, Florida (NRHP, 1972); and Battery Lewis, Fort Stevens, Oregon (NRHP, 1971). The main battery at Fort Worden (collectively Batteries Randol, Quarles, and Ash) is an exceptional example of the practice of modification. The result of that redesign produced one of the most architecturally distinguished fortifications of the era, carried out with the exemplary workmanship that is characteristic of all of Fort Worden's defenses.

The development of Fort Worden over time is a notable example of the challenges of seacoast engineering. The coastal forts built during this period were constructed in multiples, or systems of complementary installations, whose strength was dictated by the commercial and naval importance of the harbor they were to protect and whose location was a function of the geography that formed the harbor itself. More valuable and geographically complex harbors were protected by heavier cannon mounted in greater numbers in more locations. Boston, for example, was defended by seven separate coastal fortifications located on headlands and islands, and collectively comprised thirty-one batteries ranging in caliber from 12 inches to 3 inches. New Orleans was

[92] H. L Abbot, *Course of Lectures Upon the Defense of the Sea-Coast of the United States* (New York: D. Van Nostrand, 1888), 158.

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easily defended by Fort St. Philip and Fort Jackson, each on either side of the Mississippi River and equipped with a much smaller armament. Each city was adequately protected, the difference being that the approach to Boston was open to the sea while the approach to New Orleans was limited to a single route up the river. As the keystone of the defense of Admiralty Inlet, Fort Worden exhibits a successful response to a complex of difficult problems: the initial failure to provide an adequate number of 12-inch cannon sufficient to defend against attack, the lack of armament to protect the western approach to Admiralty Inlet, the persistence of low-lying fog that could hide the vessels of an advancing enemy, and the nature of the Strait of Juan de Fuca, a waterway whose defense had to be shared with another nation.

Fort Worden was in active service as a coastal fortification through the end of World War II, and as a result, retains a comparatively high degree of integrity. Endicott fortifications throughout the United States were impacted by changes in the need for the defenses. Most obvious was the removal of cannon from many of the fortifications during World War I in anticipation of a requirement for them on the Western Front of that conflict. Less obvious was the realization that some of the defenses were not necessary or at least not functional where they were located. Fort Tyler, part of the defenses of Long Island Sound, was constructed on an exposed shoal so subject to erosion that it was never armed. Fort Mansfield, also part of the defenses of Long Island Sound, was abandoned after war games in 1907 demonstrated that it was vulnerable to bombardment. Elsewhere, guns were never mounted in batteries (Battery Hambright, Fort Pulaski, Georgia) or were mounted in batteries so isolated that they were seldom used (Battery Meed, Fort Pio Pico, California). After World War I, the increased range of shipboard cannon rendered some defenses obsolete (forts Hunt and Washington, located on the Potomac River for the protection of the capital city) and others were so damaged by violent storms that their continued use came to an end (Fort DeSoto, Florida). With the passage of time, some low-lying batteries have succumbed to advancing shorelines (Battery Arrowsmith, Fort Hancock; Battery Connell, Fort Mansfield, Rhode Island), severe weathering (Battery Hobart, Fort Williams, Portland, Maine), or have been altered by fill or later construction (Battery Hackleman, Fort Constitution, New Hampshire; Batteries Cranston and Lancaster, Fort Winfield Scott; and most of Fort Crockett, Texas). The losses are extensive: the inventory of Endicott-era defenses maintained by the Coast Defense Study Group indicates that more than half of Endicott coastal forts have lost one or more batteries to burial, destruction or incompatible new development.[93] The loss of important adjuncts such as fire control stations and searchlight positions is even more extensive. Fort Worden's lengthy period of service combined with the exceptional integrity of its fortifications mark it as an exceptional example of an Endicott defensive work.

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A hallmark of Endicott fortifications was its catalog of armament: large-caliber cannon mounted on disappearing or barbette (non-disappearing) mounts intended to take on an attack by heavily armored warships, seacoast mortars; smaller caliber guns to guard against lighter naval vessels; and submarine minefields, which were themselves also protected by gun batteries. The complement of weapons was distributed on sites selected to provide the optimum protection for the harbor in question, and each harbor represented its own unique solution to the problem of defense. As a result, armament was placed where it would be the most useful, with some locations receiving more armament and others less. Medium- to large-caliber cannon—meaning from 8 inches to 12 inches and above—were usually mounted on disappearing carriages, and most coastal forts of the period contain numerous examples of the practice. At Fort Hancock, New Jersey, all the medium- to large-caliber cannon were on disappearing carriages, and at Fort Monroe, Virginia, all the 10- and 12-inch cannon were so mounted. The disappearing carriage had particular advantages at sites with a low elevation, however barbette carriages were sometimes used in those instances as well, such as Battery Towson, Fort Carroll, Maryland; Battery Osceola, Fort Taylor, Florida; and Battery Huger, Fort Sumter, South Carolina. Smaller caliber weapons were mounted on a different type of carriages, referred to as pedestal mounts or masking

[93] Berhow, *American Seacoast Defenses*, 204-219.

parapet mounts. Not all coastal fortifications had all types of armament; Forts Hancock and Monroe, among the largest of the Endicott defenses, had no large-caliber guns mounted on barbette carriages. Diversity of armament is an indicator of complexity in the overall design of the defense of a location, and an adequate solution to a problem of defense is one measure of engineering achievement. Engineering achievement in coast defense is best appreciated in the collective construction of all fortifications in a harbor, although it is also possible that a single fortification can reflect that quality. Fort Worden reflects the diversity of designs for the emplacements that housed the armament employed in a typical coastal fortification of the period, a collection whose type and arrangement are distinctly connected with a growing understanding of how best to defend the entrance to Puget Sound.

A criticism offered by the National Park Service when Fort Worden was proposed as a National Historic Landmark in 1976 was that it did not have any of the features associated with mine defense.[94] The use of submarine mines was only possible in locations with relatively shallow and calm water. The Strait of Juan de Fuca is about 300 feet deep at its eastern end near Admiralty Inlet, and Puget Sound south of Admiralty Inlet has an average depth of 450 feet. Admiralty Inlet itself shoals to a depth of 200 feet and is subject to strong tidal flows, all of which made it beyond the capacity of mining technology of the time. As stated in the paragraphs above, Endicott fortifications were constructed as the solution to the problem of the defense of a harbor, and some locations posed difficulties that the typical instruments of defense could not resolve. Mine fields were located in other areas of Puget Sound, and the significance of Fort Worden is not diminished by their existence elsewhere.

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Most military reservations that contained coastal fortifications included a garrison post that provided for the day-to-day needs of the hundreds of men required to defend and care for even a medium-sized Endicott fortification. Barracks, quarters for officers and noncommissioned officers, shops, and warehouses, typically of brick or wood-frame construction, were a necessary complement to the concrete defensive structures. Both can be classed as military architecture although they derive from distinctly different traditions and historically different origins: the Corps of Engineers built fortifications and the Department of the Army's Quartermaster General provided the buildings, utilities, and roadways of the garrison. Both resource classes combine to constitute a typical coastal fortification of the period. Some smaller coastal forts such as Fort Foster, New Hampshire, and Fort Armistead, Maryland, were never provided with permanent post buildings, the idea being that soldiers from larger posts nearby would be assigned to those positions when the need arose. Fort Worden successfully portrays the two architectural traditions of a coastal fort of the Endicott/Taft period: the fortifications themselves and the post buildings that served and supported the men stationed there.

Just as there has been no comprehensive inventory of Endicott/Taft coastal fortifications, so too has there been no complete inventory of their associated garrison buildings. It is possible to create a generalized impression of those resources using the research of the Coast Defense Study Group. As a whole, many former coast artillery posts have been modified through the loss of original buildings, the addition of incompatible new construction, or both. A few examples include Fort Preble, Maine; Fort Moultrie, South Carolina, and Forts Banks, Morgan, and Crockett, mentioned previously. Some of the original military reservations have been subdivided into smaller parcels, reducing the integrity of their original appearance and increasing the probability of incompatible new construction or other modifications. Nonetheless, some notable locations—Fort Monroe (NHL, 1960), Fort Hancock (NHL, 1982), and Fort Winfield Scott (Presidio of San Francisco, NHL, 1962)—retain impressive numbers of contributing buildings. However, because of their lengthy history, the building stock of those installations is an aggregate of periods, and it cannot be said that they represent any single era.

[94] Adams memo of telephone conversation with Ben Levy, July 28, 1976, NAID 75611910, Fort Worden NHL file, Record Group 79, Records of the National Park Service, NARA.

None of the above circumstances apply to Fort Worden. Almost all its buildings from the pre-World War I years are there to be seen today. The most recent additions to the property—the Commons (Building 210) and the maintenance building (Building 398)—were designed to be compatible with the existing historic resources. The original area of the Fort Worden military reservation is intact, and there has been no reduction in its extent.

The Fort Worden garrison complex compares favorably with those of Fort McKinley (NRHP, 1985), the much smaller Fort Columbia (Chinook Point, NHL, 1961), Fort Baker (NRHP, 1973), and Fort Winfield Scott (Presidio of San Francisco, NHL, 1962). It is distinct from the first three of those four by virtue of its being the headquarters post of an important coast defense, a similarity that it shares with Fort Winfield Scott. Fort Worden is also open to the public, which makes it distinct from former coastal fortifications whose access is restricted because they are in whole or in part privately owned or in a use that restricts public access.

Locally, Fort Worden is distinguished from its two Admiralty Inlet sub-posts in several ways. Unlike Fort Worden, Forts Casey and Flagler lost many of their original post buildings as a result of removals in the 1930s, the sites of which were then overbuilt in World War II. Fort Worden was also the most westward of the Admiralty Inlet defenses, meaning that it would have a lead role in defending against a naval attack coming from the sea. Forts Casey and Flagler were more geographically withdrawn, Fort Flagler especially so; the batteries at the two posts would be most useful only after vessels entered the immediate water area of Admiralty Inlet. The westward position of Fort Worden gave prominence to the amendment of the defenses there, as evidenced by the rearrangement of 12-inch guns in the main battery, the construction of Batteries Benson and Kinzie, and the retention of armament in Battery Tolles after World War I when identical batteries at Casey and Flagler were disarmed. While there was discussion about the way in which the defense at Forts Casey and Flagler could be improved, none of those discussions led to any change. Today, the three forts are state parks and open to the public. Fort Casey is particularly well-suited for interpretation of coast defense, although interpretive potential and public access are not necessarily applicable to considerations of historic significance.

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Fort Worden is very different from Fort Whitman and Fort Ward, the other posts of the Puget Sound defenses that were located beyond Admiralty Inlet. Fort Whitman with its mine field and single gun battery was never developed to accommodate a permanent garrison. Fort Ward (NRHP, 1978 with boundary increase 1996) was a small post designed to support a single company of coast artillery troops. While the fortifications remain as do some buildings of the garrison, much of the former open space (including the parade ground) has been in-filled with new residential construction; it has lost important aspects of its historic appearance.

World War II-era Coastal Defense and Joint U.S.-Canada Defense

As with other coastal fortification resources, there is no national context for HDCP/HECP structures nor is there an inventory compiled to common standards of historic preservation practice. As a result, there are challenges in considering the significance of the HDCP/HECP at Fort Worden relative to other World War II coastal defenses. Compiled from National Archives source material made available through the Coast Defense Study Group, the FortWiki website probably offers the most complete and readily accessible list of such structures built during World War II.[95] The list includes twenty-four examples in the continental United States. Of that number, thirteen are illustrated with floor plans taken from the army's Report of Completed Works series, which makes possible some gauge of the wartime effort to bring the command structures of the nation's coast defenses up to date as well as allowing comparison with the example at Fort Worden. The site notes that several of the properties have been destroyed but does not contain any information regarding the condition or integrity

[95] "Harbor Entrance Control Posts," Fort Wiki, http://www.fortwiki.com/Harbor_Entrance_Control_Posts (accessed April 15, 2024).

of those that remain. Some extant installations are included as contributing resources in existing NHLs and NRHP-listed properties, although historical and descriptive information in the nominations is also limited.

Considering the limitations of the documentation, it is still possible to reach several conclusions. First, it is notable that most of the extant HDCP/HECP facilities were incorporated into existing fortifications, a preference encouraged by the U.S. Army's Adjutant General as a cost-savings measure. Standard plans for the preferred design of new construction were issued to coast defense commanders, but that did not mean that new construction was undertaken if some existing fortification could be adapted to the new use. In such instances, the functions of the HDCP/HECP would have to be worked into the floor plan of the fortification, which had its origin in other purposes. Installations at Fort Miles, Delaware (NRHP, 2004), Fort Hancock, New Jersey (NRHP, 1984), Fort Pickens, Florida (NRHP, 1972), Fort Macarthur, California (NRHP, 1986), and Fort Stevens, Oregon (NRHP, 1971) exemplified the practice. Other HDCP/HECP facilities were built above-ground. Notable examples include the facility at Fort Moultrie (Fort Sumter National Monument, NRHP, 1976) and the HECP at Fort Stark State Historic Site in New Hampshire, which was designed to appear as the bridge of a large battleship. Wholly new underground reinforced concrete construction built in accordance with plans tailored to the specific purpose, such as that at Fort Worden, seems to have been less common. Known surviving examples include the HECP at Fort Tilden, New York (NRHP, 1984); combined HDCP/HECPs at Sitka Naval Operating Base and U.S. Army Coastal Defenses, Alaska (NHL, 1986) and Dutch Harbor Naval Operating Base and Fort Mears, Alaska (NHL, 1985); and the combined HDCP/HECP at Fort Winfield Scott at the Presidio in San Francisco where army and navy staff coordinated in defending San Francisco Bay against sea or air attack (the army's role) while also monitoring shipping traffic in and out of the Golden Gate (the navy's responsibility). The Fort Worden HDCP/HECP differs from these examples as the only extant facility of the Type D design intended to house the army's harbor defense command and the navy's inshore patrol command as well as the functions of the navy control post.[96] The Fort Worden HDCP/HECP is also distinguished as the only such facility designed to coordinate harbor defense with another nation.

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World War II-era 700-series cantonment buildings such as those that survive at Fort Worden are an increasingly rare property type in the United States. Intended as temporary at the time of construction, many were dismantled or moved after the war. The loss of these buildings accelerated following passage of the Military Construction Authorization Bill of 1983, which required the demolition of World War II temporary buildings at Department of Defense (DOD) installations. A study to document and evaluate the significance of these buildings prior to their demolition identified approximately 26,000 surviving examples as of 1993. The study noted that many had been refurbished to serve new purposes and advised that DOD consider preserving "usable clusters" of cantonment buildings as "living monument[s]" to the World War II mobilization effort.[97] The report identified several installations where significant concentrations of temporary buildings existed, including at Fort Lewis, Washington; Camp Pendleton, California; Camp Edwards, Massachusetts; and Camp McCoy, Wisconsin, among others. However, the Programmatic Memorandum of Agreement that stipulated the study of World War II temporary buildings also held that demolition of those buildings—even those determined eligible for NRHP listing—was in the public interest and could proceed without additional review under Section 106 of the National Historic Preservation Act.[98] Since that time, evaluations of 700- and 800-series buildings have also often determined these buildings to be ineligible for NRHP listing due to their routine nature or loss of integrity

[96] "Harbor Entrance Control Posts," Fort Wiki, http://www.fortwiki.com/Harbor_Entrance_Control_Posts (accessed April 15, 2024).

[97] Garner, *World War II Temporary Military Buildings*, 85.

[98] Stephen D. Mikesell, *California Historic Military Buildings and Structures Inventory, Volume III: Historic Context: Themes, Property Types, and Registration Requirements*, Prepared for the U.S. Army Corps of Engineers, Sacramento District, Contract DACA05-97-D-0013, Task 0001, March 2000, 7-50.

resulting from alterations to maintain usability beyond their expected lifetimes.[99] While an accurate count of surviving World War II temporary buildings is not available at the time of this writing, many of the resources identified in the 1993 study are no longer extant, and few examples of these types of buildings have been listed in or determined eligible for the NRHP. Notable surviving examples that are comparable to those at Fort Worden include the cantonment at Fort Cronkhite in the Forts Baker, Barry, and Cronkhite Historic District in California (NRHP, 1973, updated 1996); and World War II facilities at Forts Flagler (NRHP, 1976) and Casey (NRHP 1973, updated 1998), which along with Fort Worden form part of the harbor defenses of Puget Sound. The remaining buildings at Fort Worden retain a good level of integrity individually. These resources represent the character and function of the World War II mobilization effort at Fort Worden and are important contributors to the historic district under NHL Criterion 1.

Conclusion

Fort Worden is an outstanding example of the seacoast defense systems of the United States from the late nineteenth century through World War II. It represents the flexibility inherent in the plan advanced by the Endicott Board in that although Puget Sound was not included in the Board's original formulation, it was quickly added once the United States navy had established an important yard and drydock. The importance of Fort Worden grew as American interests in the Pacific expanded during the early years of the twentieth century. That importance increased when in the 1940s wholly new fortifications were added to Fort Worden as the headquarters for the harbor defenses of Puget Sound. It also acquired additional significance as the site of the cooperative defense of the Strait of Jaun de Fuca with Canada. It was in continuous and active use as a coast artillery post throughout its years of service, concluding with the demise of fixed coast defense after the conclusion of World War II.

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Fort Worden is also an outstanding example of a United States Army coast artillery post from the Endicott/Taft era. It demonstrates the qualities of concealment and dispersion across a varied landscape in order to present a more difficult target for naval attack and was not compromised by any inclusion in an existing fortification. The modification of the main battery (collectively Batteries Ash, Quarles, and Randol) is unequaled as a representation of adaptation to changing military requirements during the period of significance as well as the skill of the workers executing those changes in concrete. It retains intact all the gun and mortar batteries essential to its function and examples of fire control, searchlight, and communications facilities. It also retains intact most of the garrison buildings from the pre-World War I period. Finally, Fort Worden is an exceptional example of engineering, first in the design, construction, and subsequent modification of the main battery to solve the difficult problem of moving heavy ammunition from storage to gun, and second in the addition of Batteries Benson and Kinzie that emerged from a growing understanding of the challenges of protecting Admiralty Inlet that were not fully recognized at the time the defenses were first planned.

Beyond consideration of the criteria for listing as a National Historic Landmark, it is worth noting that Fort Worden has exceptional interpretive value because of the quality and integrity of its resources, all of which are available to the visiting public. It has a valued place among the fortifications erected following the recommendations of the Endicott Board in that it presents a select opportunity to explain and illustrate the nineteenth-century vision for coast defense as it played out in Puget Sound, and ultimately whose adequate protection during World War II could only be met by a mutual effort with Canada.

[99] Mikesell, *California Historic Military Buildings and Structures Inventory*, 7-51.

6. PROPERTY DESCRIPTION AND STATEMENT OF INTEGRITY

Ownership of Property	Category of Property
Private:	Building(s):
Public-Local:	District: X
Public-State: X	Site:
Public-Federal: X	Structure:
	Object:

Number of Resources within Boundary of Property:

Contributing	Noncontributing
Buildings: 92	Buildings: 8
Sites: 15	Sites: 3
Structures: 25	Structures: 1
Objects: 1	Objects:
Total: 133	Total: 12

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PROVIDE PRESENT AND PAST PHYSICAL DESCRIPTIONS OF PROPERTY

Summary Statement

Fort Worden occupies Point Wilson, which marks the entrance to Admiralty Inlet from the Strait of Juan de Fuca. For the purposes of this designation, the geography of Fort Worden is organized into three divisions: the low-lying sandspit of Point Wilson itself, the uplands to the west of the sandspit that rise to an elevation of 250 feet, and the saddle between the uplands and the high ground of the northern boundary of the City of Port Townsend.

The development of Fort Worden and its expansion over the following decades occupied each of these areas in a different way. The sandspit was the natural location for marine access with the erection of a wharf and warehouses associated with initial construction; even after grading a useful road connection with Port Townsend, marine access remained important through World War II. The uplands with their unobstructed view of the entry to Admiralty Inlet provided the preferred location for most of the fortifications and their adjuncts. The open acreage and gentle slopes of the saddle became the site of the buildings of the garrison.

The post was largely complete by 1915. The mobilization programs of World War I and World War II brought about significant changes in appearance as a result of the addition of many frame barracks, mess halls and support structures during the national emergencies. Most of the mobilization buildings have been removed, and Fort Worden today looks much like it did a century ago. The few surviving mobilization buildings recall the important role played by Fort Worden during the global conflicts of the twentieth century.

Note on Resource Names

The historic names of individual resources listed in this inventory are those used in the Fort Worden property record, established by the army's Quartermaster General's Office early in the twentieth century. In some instances, the names are different than those used in the original National Historic Landmark nomination for Fort Worden. The property record was not available at the time the initial nomination was prepared.

Note on Building Numbers

Several numbering systems have been used at Fort Worden, with the result that the same building might have been known by different designations. The initial system assigned numbers in sequential order of construction, which meant that the numbers themselves did not provide any indication of the location of the building. The result was that for some time, Alexander's Castle (Building 229) was identified as Building 1 because it was the oldest structure on the post, predating the military use of the property. Inexplicably, the Building 1 designation was later assigned to what is now known as Building 16, the brick four-unit officers' quarters that had been built in 1915. Ultimately the commanding officer's quarters became Building 1. It had been known previously as Building 3, and the change perhaps indicated pride of place.

Some buildings were prefaced by a letter that indicated their origin or reflected the length of their anticipated utility. The mobilization barracks, mess halls and officers' quarters put up during World War I were designated by the letter "C," for cantonment, and were numbered independently of the system used for other buildings. Mobilization buildings associated with World War II were prefaced initially by the letter "E;" they were then prefaced by the letter "T" and given new numbers. At various times, other buildings were prefaced with "T," for temporary. The designation was not consistent and the numbers that followed the letter were sequential within the larger post system. "T" usually but not always indicated lighter construction; the CCC buildings, for example, had cedar log foundations that may have contributed to the designation. The mess halls associated with the National Guard had concrete foundations but they were also designated as "T." At times the numbers for these same buildings were followed with the letters "TCB," the meaning of which is not understood.

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For many years, the buildings associated with the Corps of Engineers were lettered rather than numbered, and the fortifications and their adjuncts were given no numbers. They were known simply by their use, such as Searchlight No. 4, or by name, such as Battery Benson.

Numbering became more organized during World War II when the pace of construction brought about a complex building environment. A new system folded in new numbers with some of the existing numbers and devised a special sequence for Corps of Engineers properties as well as fortification-related structures. By 1951, the system changed again to a consistent format that referred to buildings and structures in a way that indicated their general location within the Fort Worden reservation. The reference numbers used in this document are those reflected in a 1951 plan set. The system of that date is considered to be comprehensive for the most part and identifies the building numbers in a manner that is familiar today.

Historic and Present Physical Appearance

Fort Worden as a Military Landscape

Fort Worden exhibits defining characteristics of a military landscape, defined as "a geographic sub-area within an installation's boundary with resources unified by historical association, collectively representing the most

notable mission-related characteristics and themes of American military installation evolution and use."[100] Fort Worden's mission of seacoast defense is illustrated in the design and arrangement of fortifications, as well as in the garrison buildings constructed to house and support military personnel. The fort's siting and layout developed in response to the physical geography of Point Wilson, including the immediate natural environment comprised of forested bluffs overlooking a level sand spit, as well as the point's location at the intersection of major waterways providing access to Puget Sound to the south. Military cultural values and traditions are demonstrated in the design of the garrison, including housing and support facilities of uniform architectural styles arranged in distinct patterns reflecting military values of hierarchy, function, and expediency. Circulation features including primary and secondary roads, sidewalks and paths, and the wharf are designed to facilitate efficient movement of troops and supplies to serve the installation's mission. These features combine to create an outstanding example of a U.S. Army seacoast defensive installation that also demonstrates unique qualities related to its physical geography and changing mission from 1898 to 1945.

Point Wilson is located within the ancestral territory of the Chemakum people. Only ten Chemakum individuals reportedly remained in the area by 1887, their population reduced by warfare, smallpox, and assimilation into other tribes.[101] A single prehistoric site has been located at Fort Worden, and the sandspit was used by Native peoples as a portage to avoid the difficult currents off Point Wilson itself.[102]

Prior to the construction of the military post, the sandspit was marked by dunes, scattered trees, and a pond at the base of the bluff. In 1889, local developer Charles Eisenbeis established a brickyard on the spit. The lands above the spit were heavily timbered, and much of it was cut for spars in the 1850s.[103] The plat of the City of Port Townsend had extended into the area of the saddle—the site of the future buildings of the garrison—before the federal government set aside 640 acres for the military reservation, and several parcel owners fenced their properties, presumably for grazing livestock. The most notable improvement in the area was Alexander's Castle, a brick tower with two small flanking single-story wings, which was built by the Rev. John B. Alexander about 1886.[104]

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The original contours of the landforms at Fort Worden were modified in the developed areas, and particularly so on the uplands where the construction of the fortifications required extensive excavation and filling operations. The garrison area was graded to provide a parade ground as well as areas for building sites. With the exception of the fill that was necessary for Battery Kinzie and Battery Vicars, the topography of the sandspit remained largely unchanged and was characterized by low dunes through the period of significance. The dunes were leveled after World War II when Fort Worden became a major locus for the Army's amphibious component; the sandspit was the holding area for landing craft. After Fort Worden was acquired by Washington State Parks, the dunes were largely restored and replanted, and the sandspit today looks much as it did during the historic period.

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[100] Suzanne Keith Loechl, Susan I. Enscore, Megan Weaver Tooker, and Samuel L. Batzli, *Guidelines for Identifying and Evaluating Historic Military Landscapes*, ERDC/CERL TR-09-6, U.S. Army Corps of Engineers, Engineer Research and Development Center, February 2009, 26, 29.

[101] Jennifer Wilson, "Cultural Resource Investigations for the Fort Worden State Park Host Site Development Project, Jefferson County, Washington," Short Report 1040, Archaeological and Historical Services, Eastern Washington University, July 2009, 3. The population count is from Samuel C. Willis, "Cultural Resource Investigations for the Washington State Parks and Recreation Commission, Fort Worden State Park Lift Station No. 1 Project," 2007, which in turn cited Myron Eels, *The Twana, Chemakum, and Klallam Indians of Washington Territory* (Ye Galleon Press, 1996).

[102] Interview with Dan Meatte, Washington State Parks archaeologist, August 1, 2016.

[103] Fred Lockley, "Impressions and Observations of The Journal Man," *Oregon Journal,* November 21, 1936.

[104] Grulich Architecture + Planning Services, "Historic Structure Report: Alexander's Castle, Fort Worden State Park Conference Center," 2000, 4.

A network of primitive unpaved roads was established by 1896. The longest of these ran from the Point Wilson lighthouse reservation at the eastern tip of Point Wilson, along the beach and then followed the crest of the bluff toward Port Townsend. An east-west track followed a section line somewhat to the south of the original military reservation, and another extended north from Cherry Street, which ran south to north and culminated at the southern boundary of the reservation. Shorter tracks connected these main roads. Despite the informal nature of the road network, it was largely retained and served as the framework for permanent roads at Fort Worden, and as such the road network is considered a contributing resource.[105] The permanent roads were of crowned and compacted earth, and later paved with asphalt. Soon after the construction of permanent buildings in 1904, walkways of scored concrete were provided at several locations to aid in crossing what could be a muddy roadway; these crosswalks still survive as part of the circulation system. The improved roads were bordered by a cobblestone gutter; the gutters have been paved over in most locations. However, a section remains exposed in the uplands area south of Battery Randol in the vicinity of the site of the original engineers' quarters and offices, currently the location of the Memory's Vault sculpture.

The major roads were numbered one through ten. For example, the east-west road that predated the establishment of the military reservation became a major thoroughfare for the post and was designated Road No. 5; the Cherry Street extension became Road No. 6. The nomenclature remained in place until 1975 by which time Fort Worden had become part of the Washington state parks system. In that year, the Washington State Parks and Recreation Commission authorized the redesignation of the roads, and in that way Road No. 5 became Eisenhower Avenue, Road No. 6 was christened Fort Worden Way, and so on. Only Road No. 2, immediately east of the parade ground and extending from the east gate to Eisenhower Avenue, escaped the general reclassification.[106]

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The original electric streetlights for the main roads were carried by a slender cast-iron shaft that curved downward at the top and ended with a radial reflector that held a single lamp. Later within the historic period, the fixtures were supplemented by vertical hexagonal concrete columns with a glass lantern enclosing the lamp; it is these lights that remain today.[107]

As permanent buildings were added beginning in 1904, concrete sidewalks replaced earlier boardwalks that flanked important roads; these early concrete walkways are distinguished today by their distinctive scored surface pattern. Before the introduction of motorized transport, walking was the chief means of getting from one point of Fort Worden to another, and the trek up the road from the barracks to the fortifications was a long haul for the artillery soldiers. A more direct route from the barracks led north from Alexander's Castle, negotiating the steep hillside with flights of stairs and a trestle; it was removed with the construction of mobilization buildings in the area during World War II.[108]

A dominant aspect of the circulation system was the wharf; no construction of the post could begin without it and a wharf (and sometimes two) became a defining feature of Fort Worden throughout its history. The first wharf was built by the army Corps of Engineers in 1898. It was located near the former Eisenbeis brickyard and

[105] Eugene Ricksecker, "Topographical Map of Point Wilson, Puget Sound, Washington," August, 1896, drawing 103-10; and John Millis, "Fort Worden, Washington," March, 1902, drawing 103-12-7; both RG 77, NARA.

[106] "Minutes of the Meeting of the Washington State Park and Recreation Commission," January 20, 1975, 7. The minutes of the Commission meetings are held by the Commission and are available through its central office in Olympia. In 1970, the State Department of Institutions also had a plan to rename the roads; see "Road System," drawing CAM-FWO-065 in the holdings of the Puget Sound Coast Artillery Museum.

[107] "Fort Worden National Historic Landmark – Cultural Landscape: Analysis, Evaluation, and Recommendations," Washington State Parks Historic Preservation Program, August 31, 2004, not paginated.

[108] Ibid.

extended 375 feet from the shore to deep water.[109] The L-shaped pier head was about 150 feet on each side and supported large sand and gravel bunkers at its seaward end that stored the materials necessary in the making of concrete. The wharf also was the landing for the barrels of cement that were shuttled by a rail tramway to warehouses nearby. The tramway extended from the wharf up a steep grade to the top of the bluff where the fortifications would be built. All the construction materials for the defenses as well as the buildings of the garrison were landed at the pier.

The single wharf had to serve the sometimes conflicting needs of the garrison for delivery of troops and supplies as well as the greater material demands of the Corps of Engineers and the Quartermaster Department. It was too small to fill all these requirements satisfactorily, and it was also encumbered by storage buildings and the tracks of the tramway. To resolve those shortcomings, a second wharf was added in 1910. The new wharf was reserved for the post proper and became the primary access to Fort Worden for most purposes. It was as long as the 1898 wharf and its pier head was somewhat smaller. The old wharf then was reserved for the use of the engineers. It was also designated as the mine wharf and supported the army mine planters that were assigned to Fort Worden.[110] The second wharf was removed in 1941 and it was replaced in 1943 by a new wharf at a location slightly south of the 1910 wharf.[111] The initial or 1898 wharf was removed sometime after 1951.[112] It is the third wharf that is in place today. It is slightly longer and with a larger pier head than its predecessors and is a key reminder of the importance of marine access throughout all of Fort Worden's history. Its appearance is largely unchanged since its construction, although pilings have been replaced periodically as they have deteriorated in the marine environment. The 1943 pier is considered a contributing resource.

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No formal landscape plan has been identified for Fort Worden, and it is likely that it did not have one. At the construction sites, grass was planted on all the disturbed areas of earth, however there appeared to be no specific effort directed at adding any plant material other than naturally occurring native species. Historic photographs show that over time there were scattered individual landscape improvements but nothing that constituted an integrated and post-wide program. In 1927, a heated greenhouse was built behind Officers Row. Aerial photographs show that by 1938, the greenhouse was surrounded by a large garden, and other gardens occupied portions of the narrow strip of land that separated the southern boundary of Fort Worden from the City of Port Townsend. It is not possible to tell if the gardens were used for vegetables or flowers, or how long the area was devoted to their use during the historic period. The greenhouse was removed sometime after 1951.[113]

Three constructed landscape elements at Fort Worden are considered contributing resources: the cemetery, the tennis court, and a cobblestone retaining wall. The cemetery (contributing site), located at the southwest corner of the reservation, was set aside early in the planning for Fort Worden, although its purpose was to serve the needs of all the Puget Sound coastal fortifications. The cemetery remains in federal ownership. The first burial took place in 1902 and there have been 431 interments. An iron fence separates the cemetery from the rest of the reservation. In 1908, a concrete monument was placed on the cemetery grounds. It mounted a pivot gun from the revenue cutter *Jefferson Davis;* that gun was taken for scrap during World War II and was replaced

[109] The exact location of the brickyard is not known other than generally in the vicinity of the west end of the sandspit where it joins the base of the uplands.

[110] Mine Wharf Property Record, Entry 89, File 499155, in RG 92, NARA.

[111] "Annual Report of Construction and Repair, Fiscal Year ending June 30, 1941," Fort Worden Fort Record Book, in RG 392, NARA; "Fort Worden Construction Data Index," drawing W700-108-15, Washington State Parks and Recreation Commission.

[112] The 1898 wharf is shown in site plans dated to 1951. The next available drawings are dated 1971 and do not include the wharf.

[113] "General Site Plan Building Schedule," November 1951, drawing W700-6-5, Washington State Parks and Recreation Commission.

with a 1918 German howitzer, which remains in place.[114] The tennis court (contributing structure) is also an early planned structure. Located in the southwest corner of the parade ground and adjacent to the western extremity of Officer's Row, it is paved in asphalt and surrounded by a tall fence. The field cobble retaining wall (contributing structure) behind the west end of Officers Row is not shown on any early drawings. No date has been identified for its construction, however, it may have been built at the same time as other major work was occurring in the garrison area. The constructing quartermaster noted the presence of many small boulders that made grading difficult, and it may be that those stones were collected and used to build the retaining wall.

That military planners gave at least some thought to the larger idea of a landscape is evident in the designation of a deer park in several early plans for the post. It was to be a fenced area between the cemetery and the future site of the balloon hangar. The idea may have been to provide a more suitable setting for the cemetery, the deer park serving to isolate the burial ground from the hectic activities of a busy military complex. There was also a plan for a portion of the reservation to be improved as park lands for the benefit of the troops. A 1908 proposal recommended funding to remove dead trees and underbrush from the sloping ground north of the hospital. The result would be a grove "where enlisted men may desire to spend their time instead of frequenting the vile saloons of Port Townsend."[115] There was no money for the purpose and the suggestion was that the soldiers could do the clearing themselves. There is no record to show that the project was undertaken.

The following resource descriptions are organized by the three primary geographic areas that constitute Fort Worden. The first is the sandspit on the northeastern side of Point Wilson which contains the wharf and boathouse, resources related to equipment and communications storage, batteries, and searchlights. The second is the upland bluff containing the main concentration of batteries and associated searchlight positions, power plants, fire control stations, and other supporting structures. The third is the garrison area or "saddle" where housing, support buildings, and the parade ground are located. These three areas contain all of the resources that constitute the Fort Worden historic district.

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Point Wilson Sandspit

This section provides inventory and description of resources located on the low-lying sandspit that comprises Point Wilson.

Cable Storehouse (Building 501), 1910, Quartermaster General's Office (QMGO) Plan 251-A; contributing building, high integrity.[116]

The cable storehouse was built for the storage of communication cables. The telephone-based communication system used in the fortifications required miles of cable and repairs were frequent. To avoid delays in obtaining replacements for defective cables, large drums of cables were kept in the storehouse for easy access and ready use.

The storehouse is a single-story concrete building, 30 feet by 60 feet and capped by a hipped roof of slate shingle. There are two ventilators on the ridgeline; these are replacements of an unknown date and are similar to the original ventilators at the same location. There are five window openings on each of the long sides; each is fitted with double-hung wood sash with three over three lights. Central entries on the short sides were closed

[114] "Fort Worden Cemetery," draft brochure prepared by Cultural Resources Group, Public Works Directive, Joint Base Lewis-McChord, April 2017.

[115] Letter of Forrest E. Williford to the Chief Quartermaster, Department of the Columbia, May 6, 1908, Entry 89, File 187466, in RG 92, NARA.

[116] Many of the plans for the buildings at Fort Worden and other military posts of the same period are held in the cartographic records of RG 92, NARA.

with large double-leaf doors. These remain on the south façade but have been removed on the north in conjunction with the development of a portion of the building as a restroom.

As constructed, the storehouse was a single room. Sometime prior to 1985, the space was divided so that the southern two-thirds could be adapted for use as a snack bar and convenience store. The original double entry doors were retained and a modern glazed entry installed in the opening in such a way that the original doors could be closed. In 1986, the remaining third of the building was converted to a restroom. The double entry doors were removed and stored elsewhere as part of the conversion. The entry opening serves as a foyer for access to the men's and women's restrooms.

The changes associated with the reuse of the building are wholly incorporated within the existing walls and the exterior form and fenestration are as they were originally.

Ordnance Machine Shop (Building 502), 1921, local plan PE-2-1-8-35; contributing building, good integrity.[117]

The ordnance machine shop housed the tools and equipment that were used to repair or modify the weapons that were used at Fort Worden and the other fortifications in the defenses of Puget Sound.

It is a single-story concrete building, 26 feet by 75 feet and covered by a gable roof that is marked by three ventilators on the ridgeline and two skylights. The roofing material is slate. There are six large windows on the long (east and west) sides of the building fitted with four over four lights in wood sash. There are three similar but more narrow windows on the south elevation as well as a fourth window that is smaller. The north elevation features a large double-leaf entry door flanked by two windows that are identical to the windows on the south elevation.

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Before the construction of the building in 1921, the ordnance repair function had several locations. The first was across from the central power plant, and a small frame building (no longer extant) was erected there in 1904. It was in constant service and within a few years, it was regarded as inadequate: it was crowded with equipment and there was not enough space to handle large objects. The building was enlarged but growing demand soon caught up with the improvement. In 1909, the machine shop was relocated to the former coal shed located south of the cable storehouse. The shed was remodeled to include large windows for lighting, and its long narrow plan was well-suited for the arrangement of machines. Its location near the wharf was also considered an advantage since items from other forts needing repair would be landed there. The converted coal shed was abandoned when the present building was constructed; the coal shed is no longer extant.[118]

In 1997, the roof of the ordnance machine shop was replaced, repairs were made to the windows and skylights, and cracks in the concrete walls were sealed.[119] The building was rehabilitated in 2001 for use as exhibit space and classrooms for the Port Townsend Marine Science Center. At that time the interior walls were furred out for insulation, plywood ceiling panels were removed to expose the original line shaft and pulleys used to drive the machine tools, and a new HVAC system installed.[120] An open, free-standing entry structure was placed at the north end of the building. The character-defining features of the building remain intact, and the new use provides access to an historic asset that was previously unavailable.

[117] The reference to a local plan is from the Fort Worden Property Record. The location of the specific plan for the Ordnance Machine Shop is not known.
[118] Miscellaneous correspondence, June 11, 1904–June 11, 1909, Entry 89, Files 203201, 237496 and 246253, in RG 92, NARA.
[119] Washington State Parks and Recreation Commission, drawing W700-98-1 through 3.
[120] Washington State Parks and Recreation Commission, drawing W700-152-1 through 27.

Boat Storage (Building 526), construction date unknown, no plan number; contributing building, good integrity.

The boat storage building is a wood-frame structure, 31 feet, 3 inches by 38 feet, 2 inches, with a salt-box roof form clad in composition shingles. Entry is via a sliding door on the north end and a single-leaf door on the east side. Windows are recent replacements, consisting of sliding and double hung sash on all elevations. The rustic siding appears to have been replaced on the south side. The interior is an open single space that has been fitted with limited services to fulfill its current use as a kitchen shelter. Interior framing suggests that the building has been enlarged over time.

This building may have been moved to this location late in the period of significance or perhaps constructed from other utilitarian buildings in the vicinity. It is a surviving element that recalls the many service structures that were once located on the sandspit.

Warehouse (Building 532), 1943, local plan PE-2-1-8-16, contributing building, good integrity.

The warehouse is located on the pier head of the wharf. It is a wood-frame building measuring 30 feet by 90 feet and clad in wood drop siding with a composition shingle gable roof. It has a large double sliding door on each end as well as a similar door on the shore side (west) elevation. A large rectangular wood louvered ventilator appears above the doors in the gable ends. Pairs of rectangular nine-light wood sash windows are placed high on the east and west walls, immediately under the eaves.

In the early 1980s, the interior was modified to serve as a marine interpretive center. Partitions were added to create offices and display areas, and a new recessed entry was created behind the double sliding doors in the south gable end. The changes are not perceptible from the exterior, and the building retains its historic character although the use has changed.

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Wharf (Building 533), 1943, local plan F-40F-5-25; contributing structure, good integrity.

The wooden wharf is the third such structure built in the same area since the construction of Fort Worden. It is a pile-supported structure in saltwater, exposed to storms and deterioration, and as a result the piling and deck have been replaced as needed since the time of its initial construction. It has retained its basic appearance, dimensions, and character.

Cable Terminal, no building number; ca. 1903, contributing structure, high integrity.

The cable terminal is a concrete building 8 feet square with a single entry that is protected by an L-shaped retaining wall. Originally it was almost completely hidden by a sand dune, however it now stands above the surrounding ground level as a result of grading in the area that was carried out after World War II. It served as the connection point between submarine cables and their land-based extensions.

The construction date is not known. It is likely that it was built in 1903 or shortly thereafter because it was in that year that the submarine cables were first put down. It is vacant.

The four properties below are part of the fortifications and related structures discussed in in the description of the uplands, which follows; they are included here because of their geographic location.

Searchlight No. 5 Powerhouse (Building 594), 1911; contributing building, high integrity.

A small, flat-roofed concrete building, 17 feet, 10 inches by 15 feet, 10 inches, placed in the dunes close to the site of Searchlight No. 5. There is a large doorway opening on the entry elevation and window openings on three sides; doors and sash are missing. A single interior concrete partition separates the fan room from the

engine room. All the equipment has been removed.

Searchlight No. 5 Site (Building 596), 1911; contributing site, good integrity.

Searchlight No. 5 was unique. It was originally a position-finding station mounted on a steel tower and sited behind the main battery. In 1910, it was moved to the sandspit near Battery Vicars and converted for use as a searchlight shelter by placing a searchlight in the cab or house portion of the position-finding station and equipping the light with a winch so that the projector could be raised through the roof for operation. The tower remained unused following World War II, and by 2003 it had deteriorated significantly. It was dismantled and the cab moved to the garage (Building 365) for storage and preservation. The cab has been removed from the sandspit and is awaiting treatment. Because the cab has been moved and is currently encapsulated within another building, it is noncontributing at this time; however, if the cab were to be placed in an appropriate outdoor location, it could contribute to the NHL. The site itself consists of the pad for the tower, a concrete slab about 17 feet square, and several sections of riveted iron pipe 6 feet in diameter that supported the observation instrument.

Battery Kinzie (Building 598), 1910; contributing structure, high integrity.

Battery Kinzie is the largest single structure at Fort Worden and the largest of all the fortifications in Puget Sound. Begun in 1908, it was the last battery built in the Puget Sound defenses prior to World War I and one of the last on the West Coast. It is about 350 feet long and 25 feet high and similar in appearance to Battery Benson with its pillared, two-story rear elevation. However, Battery Kinzie is singular in that it represents one of the final evolutionary forms of emplacement designs for disappearing cannon. The loading platform is exceptionally broad and all interior rooms are large. Many have windows for natural light, a feature unheard of in earlier designs. An air space surrounds all the interior spaces and provides for a drier facility. In its final design and arrangement, Battery Kinzie more resembles the batteries for 14-inch disappearing mounts in the Hawaiian and Philippine Islands than it does previous batteries for 12-inch guns.

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The battery has several notable features. The battery commander's station is located centrally in the traverse, and a ladder leads from the station to the plotting room below; components of a gear-driven data transmission system remain in the plotting room. Battery Kinzie incorporated its own power plant (the generating equipment has been removed), and the heat generated by the internal combustion engine could be diverted into the air spaces.

The original threaded pipe railings are missing; they were scrapped probably at the same time the guns and carriages were removed in 1944. The railings have been replaced with new stanchions welded to the remains of the original uprights and fitted with speed rail. There is some deflection of the floor in interior spaces, which may reflect settlement associated with the continuing erosion of the Point Wilson sandspit.

Battery Vicars (Building 599), 1900; contributing structure, high integrity.

Battery Vicars is about 100 feet long and 50 feet wide. It joins the main battery and mortar battery as being among the first defenses built at Fort Worden. It comprised two 5-inch guns on balanced pillar mounts. When not in use, the gun was in a lowered position behind the parapet. When needed for service, it would rise on a steel tube or pillar that was operated by a ratchet; some of the work of operating the ratchet was offset by an internal counterweight, and hence the name of balanced pillar. The heavy steel ring that surrounded the pillar remains in each of the emplacements.

The floor or working platform is level with the ground to the rear, and stairways descend to a lower open corridor; two magazines are located off the corridor. A storeroom is located beneath the floor of each

emplacement and is accessed by a separate stair. A latrine is incorporated into the structure, and a walkway on the left flank connects Battery Vicars with the adjacent Battery Kinzie.

Beach Campground and Restroom Buildings, noncontributing site, noncontributing buildings (3)

An eighty-site campground constructed after acquisition of the area by Washington State Parks in the 1950s is located on the sandspit between the pier and the batteries. Three restroom buildings, also noncontributing, are located at the campground.

Uplands – Fortifications and Related Structures

The fortifications are the core element of Fort Worden's significance as a coastal fortification. Addressed in this section are the expected gun and mortar batteries as well as the adjuncts to the armament such as searchlight positions, power plants, fire control stations, and several supporting structures. Most of these features are located on the uplands, however there are components of the fortification and armament system on the sandspit and in the garrison area. Those elements are discussed in those subsections of this document.

The construction of the fortifications and their related elements was carried out by the Corps of Engineers. Its first task was to build a wharf, warehouses, and rail transportation system. The rail lines were taken up when the fortifications were completed; no evidence of them remains today. One of the small locomotives used on the system does survive, found at its buried location in 1973 and set aside for preservation. At the time of this writing, it is stored in the garage (Building 365) and is recognized as a unique artifact of early construction at Fort Worden.

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The Corps maintained a separate compound of its own within the Fort Worden reservation. It was a fenced complex of several warehouses and smaller buildings near the approach to the original wharf; they were removed sometime after World War II and perhaps after acquisition of the property by Washington State Parks. In addition, the Corps in 1898 built two large bungalows (Buildings 400 and 401) near the upper end of the tramway at the southeastern corner of the uplands area. Serving originally as the quarters and offices for the engineering party living at Point Wilson, they were removed in the 1970s in anticipation of campground construction in the area. The site of the engineer quarters (Building 401) is indicated by concrete walkways and foundation elements; it is a contributing resource. In the 1980s, a sculpture titled Memory's Vault was built on and around the site of Building 400 and incorporated several of its surviving elements. The sculpture is a noncontributing resource. The engineers also used Alexander's Castle for a time, and that use is outlined in the discussion of garrison buildings that follows this section.

Constructed primarily (but not exclusively) of concrete, iron and steel, the fortification structures are in good condition. Some features of ferrous metal, chiefly doors and shutters, have suffered from corrosion, and some are missing. The concrete is in good condition, an exception being the loss of some granolithic paving on the surface of the main battery.

Batteries Randol (Building 494), Quarles (Building 495) and Ash (Building 496), 1900; contributing structures (3), high integrity. Referred to collectively as the main battery.

No major changes have occurred to the three batteries that make up main battery since the 1976 NHL nomination, which described these batteries as follows: "These three batteries, on which construction began in 1898, are actually a single continuous, 1/4-mile-long unit 10 to 12 feet high. Designed for seven guns, it [the main battery] is divided into three tactical batteries. As with all of Fort Worden's defensive works, the lines of this unit are clean and utilitarian but well proportioned and thoughtfully executed. The rear face is broken by

iron doors, ventilator openings, and . . . vertical supporting pillars or columns. The structures appear mottled, due to the application of various materials over the years to reduce the visibility of the concrete and improve water shedding abilities. These materials have included lampblack dissolved in kerosene; tar; [and] locally manufactured paints of a green drab color and linseed oil base. . . . Along this gigantic work, positions for 10- and 12- inch guns are marked by the depressed sections of working platforms, and the circles of bolts which formerly held the carriages in place. Maneuvering rings are located on traverse walls and a stairway adjacent to one traverse wall in each emplacement leads to interior rooms. An angular concrete traverse separates each gun position, although there is an earthen traverse between Batteries Randol and Quarles and between Quarles emplacements Number Two and Three. A Taylor-Raymond projectile hoist was located beneath a splinter shield on the flank of each gun position. The actual hoists have been removed but the delivery tables remain. The rear of the three-section battery has several openings to the interior, which is arranged in a series of corridors and rooms designed for ammunition storage and service. . . . [A]ll interiors are in good condition. Some of the iron beams supporting the ceilings are badly rusted and . . . [s]ome trolly rails remain fixed to the ceilings." Batteries Randol (two emplacements) and Quarles (three emplacements) are aligned facing east, while Battery Ash is angled so that its two emplacements face northeast and north respectively.

Batteries Randol, Quarles, and Ash Auxiliary Structures, 1900; contributing buildings (3), high integrity

A north-south roadway borders the main battery at the rear, and three separate concrete buildings associated with each named battery are located on the margin of the road; they are included as contributing structures. The buildings contained spaces for plotting rooms, latrines, and storage. In 1915, small rectangular concrete structures were built on top of these separate buildings to serve as the battery commander's stations for the three batteries. Single- and double-leaf steel doors mark openings to the interior of the structures, and steel ladders provide access to the top.

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Parados between Batteries Ash and Benson, circa 1906; contributing structure, high integrity.

The road behind the main battery turns to the west at Battery Ash and continues through the concrete tunnel of the earthen parados that separates Battery Ash from Battery Benson. The parados itself is a character-defining feature of seacoast fortifications of the period; its function was to protect the rear of gun batteries. The tunnel is 15 feet wide and 55 feet long with a low ceiling and pitches downward to meet the elevation of the ground behind Battery Benson. The parados was built as part of construction of the main battery (Batteries Randol, Quarles and Ash). The tunnel is associated with the construction of Battery Benson since it would not have been necessary before that time.

Battery Benson (Building 497), 1906; contributing structure, high integrity.

Battery Benson is a standard design for two 10-inch disappearing guns. It is a two-story concrete structure about 300 feet long and 20 feet high with a distinctive arched stairway at the rear of each of the emplacements that leads up to the level of the guns. It is larger than earlier batteries for the same type of armament, and its design reflects a series of improvements including wider and deeper loading platforms as well as larger ammunition storage spaces that are also roofed to protect against water seepage—in effect, a room within a room. Air spaces separate some of the rooms from the concrete mass to help limit condensation. Notable features include columns that create an arcade at both the upper and lower floors and stairways that rise outboard of the rear of the battery to access observation positions at the side of each loading platform. Single- and double-leaf steel doors close openings.

The most notable change since the period of significance is the loss of the pipe railing at the arched stairways and the loading platform. The railing has been replaced by welding stanchions to the attachment points of the

original railing and using rope and welded pipe rail to span between the uprights.

Battery Commander's Station, Battery Benson, 1932; contributing building, high integrity.

On the slope immediately behind the Battery Benson is the battery commander's station. It is a small rectangular concrete structure with a single door and an observation slit. It was built in 1932 to replace an earlier wooden station on the same site.

Pedestrian Tunnel, construction date not identified, but probably between 1906 and 1908; contributing structure, high integrity.

Immediately behind Battery Benson is the opening to a narrow concrete tunnel, about 3 feet wide and 6 feet high at its arched ceiling. It leads steeply upward and emerges adjacent to the site of one of the fire control structures, Building 429.

Anti-aircraft Firing Platforms, 1931; contributing structures (4), high integrity.

Located behind the battery commander's station for Battery Benson are four firing platforms for mobile anti-aircraft artillery. Each concrete pad is 10 feet, 6 inches square; they are located on a common axis 45 feet apart. The concrete pads were used to secure truck-mounted anti-aircraft guns to provide a rigid anchor for practice. They are in good condition although the wood and steel elements are deteriorated. Each platform is included as a single contributing structure.

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Batteries Brannan and Powell (Building 493 A, B, C, D), 1901; contributing structures (2), contributing buildings (4 data booths and 1 underground complex linking the batteries), and contributing sites (2 plotting rooms), high integrity.

Following the road behind Battery Benson to the west leads to the mortar battery. The mortar battery was built at about the same time as the main battery and comprises two named units: Battery Brannan and Battery Powell. Each battery has two U-shaped emplacements or "pits" as they were called, about 60 feet wide and 100 feet deep, for a total of four. Each pit held four 12-inch seacoast mortars.

The pits are on the rearward or western slope of the uplands and are arranged in echelon on an axis that runs from the southeast to the northwest. Each rectangular concrete pit is deeply placed into the hillside with concrete walls set into the hillside on three sides and is open at the rear. The former locations of the four mortars are indicated by circular outlines in the concrete paving. Two of the mortars were removed from each pit in 1918 and 1920, and those remaining were removed during World War II.[121] The ammunition spaces are located in the hillside and follow the U-shaped outline of the pit. They are accessed by large double-leaf steel doors placed into the exterior walls. To the rear of each pit is a small rectangular concrete building called a data booth; information regarding range and direction was provided the gun crews on sliding blackboards on one side of the data booth. The four data booths are free standing and are identified as individual contributing resources.

At the traverse between the two batteries is an underground complex, counted as a separate contributing building, that comprises a tunnel that leads to four small rooms deep within the earth. The complex was designed as the headquarters for the mortar battery and for a time the space was designated as the plotting rooms for the batteries. That function was replaced in 1915 when two small stucco and frame buildings were constructed to the rear of the batteries and the plotting functions were carried out there. At the time of the

[121] "Report of Completed Works," Batteries Brannan and Powell, September 1, 1943, CDSG.

original designation of Fort Worden as a National Historic Landmark, one of the plotting rooms (Building 493E) remained, albeit in poor condition. Now both buildings are no longer extant, however their locations are indicated by the surviving concrete floors; they are considered contributing sites. In 1943, the underground rooms of the mortar battery headquarters were put into use as the temporary Harbor Defense Command Post and served in that capacity until the permanent HDCP was completed in December of that year.[122]

Battery Tolles (Building 498), 1906; contributing structure, high integrity

Slightly northwest of Battery Benson and adjacent to the top of the bluff is Battery Tolles, constructed in 1903. Battery Tolles and the identical Battery Stoddard, which is located in the garrison area adjacent to the regimental recreation building (Building 246), each mounted four 6-inch guns on disappearing carriages. While other designs for disappearing mounts featured a distinct two-story elevation, Batteries Tolles and Stoddard represent an improvement as a result of doing away with the mechanical ammunition hoist, a change which yielded a simpler and more economical single-story structure. Spaces for the storage of ammunition are located between the gun emplacements and are accessed through double-leaf steel doors in the emplacement walls. Other storage spaces open to the rear of each battery, where a stairway rises between adjoining gun positions to reach an observation platform.

Battery Tolles was modified in 1937 to allow the installation of two 6-inch guns on non-disappearing carriages to replace the two disappearing cannon that had been removed in 1917 from the two westernmost emplacements. These two emplacements then became known as Tolles B. The modification involved adding an elevated base for the gun. In the 1940s, a storage room was converted to a plotting room, and a covered position for the battery commander was elaborated on the observation platform.[123]

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Battery Tolles Primary Station (no building number) 1908; contributing site, good integrity.

As constructed initially, the primary station—principal observing station used for locating targets—for Battery Tolles was a single-story wood-frame building clad in cement plaster and located in an excavated site east of Battery Benson and behind Battery Tolles itself. Over time, the building deteriorated and collapsed, and today only the concrete elements remain: a retaining wall, the base for the position-finding instrument, and the rectangular well for electrical and communication cables.

The existence of a primary station indicates that Battery Tolles was equipped with a more accurate method of locating targets than was typical of batteries of 6-inch guns. It is an indication of the importance of Battery Tolles in protecting the western approach to the Puget Sound defenses and in covering the water area near the international boundary with Canada.

Battery Walker (Building 499), 1906; contributing structure, high integrity.

Near the 6-inch batteries (Batteries Tolles and Stoddard) are Battery Walker and Battery Putnam, both completed in 1906. They are about 75 feet long and 12 feet high, and each battery mounted two 3-inch guns on non-disappearing carriages. Battery Walker lies west of Battery Tolles but is not visible from it; Battery Putnam is immediately adjacent to Battery Stoddard in the garrison area. The concrete structures are distinguished by a series of steps leading to the gun positions, which lie on either side of the magazine and storage rooms. These rooms are closed by double-leaf steel doors.

[122] Fort Worden Fort Record Book, in RG 392, NARA.
[123] "Report of Completed Works," Battery Tolles, August 23, 1937, CDSG.

Harbor Defense Command Post/Harbor Entrance Control Post (Building 430) and Groupment Command Post (Building 431), 1943, contributing buildings (2), high integrity.

The 1943 Harbor Defense Command Post (HDCP) (Building 430), which also contained the navy's Harbor Entrance Control Post (HECP), remains today, as does the Groupment Command Post (GPMTCP) (Building 431), which is located atop the parados between Battery Ash and Battery Benson and built in the same year. The HDCP/HECP is located between the mortar battery and Battery Benson and aligned on a similar axis as the mortar battery. The structure is constructed of reinforced concrete and is wholly covered by earth. There are entry points at either end of the south side or rear of the structure. The interior is partitioned into a series of rooms accessed from a central corridor. The signal station is immediately above the HDCP/HECP and is connected to the lower floor by a stairway. The signal station has an observation window that looks out onto the Strait of San Juan de Fuca. The GPMTCP is accessed by a stair located in the parados tunnel between Batteries Ash and Benson. It too is of reinforced concrete and comprises two observation rooms, and spaces for heating and gas-proofing equipment as well as an air lock. Both properties are in good condition, but only interior partitions of concrete remain. The HDCP/HECP has been available for public viewing in the past although it is now locked and closed to the general public; the GPMTCP is open without restriction.

Main Battery Powerhouse and Mortar Battery Powerhouse (Buildings 488 and 435), 1920; contributing buildings (2), high integrity.

All fortification components were connected to the central power plant as well as commercial power, and in 1920 those sources were supplemented by the construction of two power plants. Building 488, located to the rear of Battery Ash, and Building 435, located to the rear of the mortar battery, are flat-roofed single-story concrete buildings. Each is 28 feet long and 14 feet, 6 inches wide, and interior access is provided by steel doors. The buildings originally held 25-kilowatt generators and related switching equipment; they are now vacant.

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Searchlight No. 4 Shelter and Searchlight No. 4 Powerhouse (Buildings 492 and 498E), 1911; contributing buildings (2), high integrity.

The searchlights typically were housed in small concrete buildings and were wheeled out on rails to their operating position at the edge of the bluff. The shelter for Searchlight No. 4 (Building 492), located midway between Battery Tolles and Battery Walker, is an example. It is a flat-roofed structure fitted with a pair of large steel doors. Rails lead out to the concrete platform of the operating position. The generator that powered the light was contained in an extant concrete building (Building 498E) at Battery Tolles.

Fire Control Stations (Buildings 427, 429, and unnumbered), 1908, contributing sites (3), good integrity.

The first fire control stations at Fort Worden were steel towers, positioned between the mortar battery and the main battery. They were replaced in 1908 with the construction of the buildings of the Barrancas system on the highest elevation of the uplands. There were three of the distinctive combined primary stations at Fort Worden; all have been removed, the last in 1982.[124] The sites of two of those stations (Buildings 427 and 429) still retain the foundations as well as the tall concrete pillars that once supported the observation instruments. The pillars of the third installation are covered by the fill that is part of the later Harbor Defense Command Post; the pedestal of the old Battle Command Station remains visible.[125] The dormitory associated with the combined primary stations has been removed and its depressed location partially filled. The other landforms (berms and

[124] Historical and Descriptive Data, Building 427, Combined Primary Station, HABS No. WA-153, Historic American Buildings Survey.

[125] Fort Worden Fort Record Book, in RG 392, NARA, and confirmed in the field, August 23, 2016.

depressions) associated with the buildings at this location are largely intact.

Battery Kinzie Primary Stations (Building 489 and unnumbered), 1931 and 1911, contributing buildings (2), good integrity.

There are two primary stations associated with Battery Kinzie. The original primary station was built in 1911; it is a small concrete structure large enough only for the observation instrument and crew. It is very close to the edge of the bluff, and the bluff itself has fallen away from a portion of the structure. It is in good condition although its doors and windows are missing. No building number has been identified for the 1911 primary station. The replacement station (Building 489) was built in 1931, and its construction may have been inspired by the erosion at the original station. It is located in front of Battery Ash and is very similar in appearance to the battery commander's station for Battery Benson. The concrete is in good condition and metal elements are corroded.

Central Switchboard (Building 433), 1918, contributing structure, good integrity.

All elements of the defense—gun and mortar batteries, fire control and position finding stations, and the searchlights—were connected by telephone. The many telephone lines were run through a central switchboard (Building 433) located in an underground concrete room southeast of the HDCP/HECP and west of the site of Building 427 (fire control station). The central switchboard was built in 1918 and replaced an above-ground building on the same site. Indicative of its important role in the defenses, it was heavily constructed, featuring walls of concrete 3 feet thick and a roof 5 feet thick, protected by 9 feet of earth. Access is via an angled tunnel. The entry is heavily overgrown and there is no ready public access. A fire some years ago destroyed much of the wood portion of the interior, and its present interior condition is unknown.[126]

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Ordnance Storehouse (Building 409), 1903, QMGO Plan 137A; contributing building, good integrity

The ordnance storehouse is the oldest permanent building constructed by the military at Fort Worden and the only surviving component of the interim garrison that predated the development of the formal post. It is a common feature of coastal fortifications of the period and housed equipment and materials that were used for the maintenance of the defenses. While the individual batteries typically held storage rooms for some types of supplies (usually lubricants), the ordnance storehouse provided a drier and more temperate location that could also be occupied by members of the garrison on a regular basis, providing security and care for items that might otherwise go missing or would deteriorate.

The building is rectangular in plan, 75 feet by 30 feet, and covered by a gable roof in slate. The two original roof-top ventilators and the red brick chimney remain in place. It is sided with clapboard and rests upon brick piers; there is no skirt below the line of the water table. The windows are double-hung wood sash with six over six lights. Originally a wooden loading platform ran the length of the long north-facing elevation, however only remnants of the platform survive. Leading from the loading platform are two large openings fitted with double doors and a third opening for a single-leaf door. The original doors remain under plywood panels.

As built, the interior was a single large space with two smaller rooms at one end. The large space held a series of pegs and shelves along the walls, a separate rack for pulley blocks, and a long central rack for cordage. Additional storage was in the separate room adjacent to the office. The interior was modified to serve as a theatre during the navy's occupation of the uplands area in the years following World War II.

The building is not in use at present. Window sash remains but the openings are closed with plywood; the

[126] Fort Worden Fort Record Book, in RG 392, NARA, and confirmed in the field, August 23, 2016.

exterior cladding is damaged in several locations.

District Signal Station (Building 414), 1909, unknown Signal Corps plan; contributing building, high integrity.

The signal station provided a location for several means of communication external to Fort Worden. It housed the post radio station and also served as a beacon and radio-compass station to aid navigation. The early pole antenna for the radio was also used for halyards to raise signaling flags and lights. A roof-top platform could be used for semaphore.[127]

The single-story brick building is 25 feet, 6 inches by 17 feet, resting on a poured concrete foundation. The gable roof was originally in slate, but it is now covered with composition shingles. Windows are double-hung wood sash with three over three lights, and a single-leaf door provides entry. The interior has three rooms: a generator room, a work room, and a large operating room that contained radio equipment, signal flags, Ardois lamps, and other material relating to signaling operations.[128]

The building is generally in good condition. At one time, an iron ladder led to a signal platform on the roof. The signal platform is no longer present, and the iron ladder has been removed and remains obscured in the brush adjacent to the building. At the time of this writing, the window sash have been removed for repair, and the openings are closed with plywood panels.

Militia Storehouse (Building 413), 1915, Office of the Chief of the Quartermaster Corps (OCQMC) Plan 262-A; contributing building, good integrity.

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The building served as storage space for the equipment of the state militia, who were an important component of the coast defenses prior to World War I. It is likely that the chief use of the building was to store the tents that housed the troops during summer exercises. The building may have been used by the National Guard coast artillery companies in the 1920s and 1930s.

The militia storehouse is a single-story concrete building, 30 feet, 3 inches long and 20 feet wide, with a single entry and a barred window opening on each elevation. The floor is concrete and covered with remnants of tile. The original slate-covered hipped roof was destroyed by fire sometime after Fort Worden was transferred to Washington State Parks, and the window sash is also missing. The surviving concrete walls and floor are in good condition.

Reservoir (Building 418), 1912, no plan number; contributing structure, high integrity.

The upland area also contains an underground concrete water reservoir located between the HDCP/HECP and the main battery. It is no longer in service; its existence is marked on the surface by an entry hatch. It is a large structure, about 175 feet in diameter and 14 feet high with a designed capacity of two million gallons.

It was difficult to find a source of water in the area of Point Wilson. A cistern for collecting rainwater was a component of Alexander's Castle, and rainwater was diverted from the roofs of the temporary buildings associated with the construction of the fortifications and stored in above-ground wooden tanks. Later, water was purchased from the same company that supplied the city of Port Townsend, however it was not good and had to be boiled before drinking. Better quality water as well as greater quantity became available to the community and to Fort Worden after the construction of a long supply line from Snow Creek, eighteen miles to the south.

[127] G. P. Scriven, "Military Intelligence," *Journal of the Military Service Institution of the United States,* volume 42 (1908), 470; *Radio Service Bulletin,* U.S. Department of Commerce, no. 160 (July 31, 1930), 9.

[128] The contents of the operating room is based on U.S. Signal Corps Plan No. 684, July 21, 1905, in the collection of the Puget Sound Coast Artillery Museum; the plan is almost identical to that for Building 414.

However, the officers of the Corps of Engineers and the Quartermaster Department were concerned that the length of the pipeline made it vulnerable to interruption, and as a result proposed the construction of a reservoir of sufficient capacity to meet the service and fire protection requirements of the growing post of Fort Worden.[129]

In 1907, a board of officers looked at three possible locations for the reservoir on top of the hill with the final site selected because of the stability of the soils. There was some concern about the effect of the firing of heavy guns on the structure, but ultimately the effects were considered negligible; construction began in the summer of 1911 and was completed in the spring of 1912.[130] No information has been located to indicate when the reservoir went out of use.

Saddle – Garrison Buildings

Three distinct construction episodes occurred in the garrison area during the historic period. The first was the initial development of the post, which included the formally designed barracks, quarters, and administrative buildings as well as temporary buildings converted from other structures or assembled from their materials. World War I cantonment construction and the inter-war years produced a distinctive set of buildings that was interleaved with the buildings of the first period. Many of these second period buildings were removed by the end of the 1930s, and the onset of World War II brought about a third period of construction that introduced another set of buildings that was placed in and around the buildings of the first period.

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Another period of activity followed the close of World War II. This was characterized by demolition rather than construction. The result of removing most of the World War II cantonment buildings was to return the Fort Worden garrison area to much of the appearance that it had prior to World War I. The few remaining World War II buildings retain good integrity individually, represent the types of buildings constructed during that period, and are significant for their association with Fort Worden's evolving role in coastal defense.

In the early years of Fort Worden's history, responsibility for construction was divided between the Corps of Engineers and the Quartermaster Corps. The engineers built fortifications and the Quartermaster Corps constructed roadways, utility systems, and anything that was not generally related to fortifications including the permanent buildings of the garrison as well as the temporary building of the cantonment and mobilization periods associated with the two world wars. By World War II, the Corps of Engineers was given all responsibility for construction of any type.

1886-1916

The period begins with the presumed construction date of Alexander's Castle, a building that was pressed into early service after it was acquired by the government. Thirty-nine buildings were erected during these years, eight of them adapted from other structures, often the temporary buildings associated with the construction of the fortifications. Thirty of the thirty-nine remain, four of them among those adapted from other structures.

1917-1940

The cantonment construction of World War I dramatically changed the appearance of Fort Worden. The ninety-

[129] Letter of George Ruhlen to the Adjutant General, Department of California, August 5, 1901, Entry 89, File 166591, in RG 92, NARA.

[130] Letter of H. M. Chittenden to the Chief of Engineers, October 7, 1907, File 289055, and Inspection Report, April 10, 1912, File 36052, NARA, RG92, Entry 89.

one one- and two-story frame buildings were located in three zones: south of the service club (Building 326) in an area now occupied by a parking lot; west of Noncommissioned Officers Row in the area now partially occupied by a campground; and in a broad arc on the slope behind the hospital, extending generally from the power plant to the rear of Battery Stoddard. The only structure confirmed as remaining from the cantonment is a noncommissioned officer's quarters (Building 235), relocated from its original site north of Alexander's Castle to its present location west of the Castle where it is known as Bliss Vista. Since the building was moved after the period of significance, NHL Criterion Exception 2 applies. The loss of integrity resulting from the movement of the building and other alterations is offset by the setting and general environment which is comparable to the historic location nearby. The essential form and appearance of the building is retained and the effect on the overall integrity of the NHL is minimal. The quartermaster's storehouse (Building 364) may have originated in the cantonment program but its conversion to a vehicle paint shop has greatly modified it.

Cantonment construction aside, twenty-four buildings were added during the period. Only a few of them remain, including the post theater (Building 25), the balloon hangar and its associated structures (Buildings 26, 357, and 358) and the gas station (Building 309).

1941-1945

Emergency construction during World War II crowded Fort Worden with sixty-five frame buildings. With the exception of three buildings in the 800 series, all were designs from the 700 series, the series number reflecting the Army's progressively revised plans for emergency construction. There were several other buildings added during this period that were constructed from local plans and were not part of the broader series construction.

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Sixteen resources remain from the World War II period. All but one are 700-series designs; the wharf warehouse, now the Marine Science Center (Building 532), was built in 1943 from local plans.

1945 to present

The years following World War II saw the return of Fort Worden's garrison to much of its appearance prior to World War I. The use of Fort Worden by the army's amphibious forces beginning in 1947 resulted in limited new construction—chiefly the addition of three large warehouses on the sandspit to shelter equipment—and the modification of some of the 700-series buildings to accommodate new uses. Many of the World War II buildings were taken down after the reservation was declared surplus and transferred to the state of Washington to be used by the Department of Institutions. Some original buildings such as barracks and the hospital were modified during this period to accommodate the new use. The transfer of the building core to the Washington State Parks and Recreation Commission in 1972 and the subsequent effort to find a new and compatible purpose for the historic property brought about an extensive program of rehabilitation and some limited new construction.

Overview Description

The garrison area of Fort Worden is distinguished by a large parade ground bordered on the south by the buildings of Officers Row and on the north by a line of four large barracks; a third residential area—Noncommissioned Officers Row—is to the northwest of the parade ground and separated from it by a group of service buildings. The parade ground was both a ceremonial and a functional space, providing an area large enough for the assembly of all the units at the post as well as an open training field. Further, the customary arrangement of officers' quarters and barracks facing each other across the expanse emphasized the distinction between the enlisted men of the coast artillery and the officer class. The tennis court at the western extremity of

the parade ground is an original structure and present in the earliest plans for the area. Its location suggests that it was intended for use by the officers and their families.

The ten buildings that make up Officers Row rest on a site elevated 6 feet above the street that fronts them and each is reached by a concrete walkway and stairs; they are at grade with the street or alleyway to the rear. With the exception of Building 16, each is a two-and-a-half-story wood-frame building resting on a sandstone foundation with a cross-gable roof clad in slate. They feature Classical Revival details such as Tuscan porch columns and detailed cornices. They are best seen as the army's interpretation of architectural trends that were popular at the time. A service wing provided space for a kitchen and servants' quarters. The original designs were amended prior to construction to include a bathroom in the basement to accommodate the servants who were often Chinese.[131]

There are three designs common to nine of the ten buildings: field officer's quarters, captains' quarters, and lieutenants' quarters. Neglecting for the moment the position of the officers' quarters (Building 16) at the far western end, the two field officer's quarters are sited at opposite ends of the row; one would be occupied by the officer in charge of the coast defenses of Puget Sound as a whole and the other the commanding officer of Fort Worden proper. Immediately adjacent to each is a duplex quarters for officers holding the rank of captain and intended to be occupied by the staff officers associated with the post commander or the coast defense commander. Duplex quarters for lieutenants filled the space between the captains' quarters. The gap between Building 11 (captains' quarters) and Building 15 (field officer's quarters) was to be the site for another set of captains' quarters intended for housing additional staff officers, however it was never constructed.[132]

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The identification of quarters on Officers Row by rank reflects their original designation by the Office of the Quartermaster General. It does not mean that the quarters were available only to officers holding that rank.

Resource Descriptions

Commanding Officer's Quarters (Building 1), 1904 and (Building 15), 1905, both QMGO Plan 145A; contributing buildings (2), high integrity.

Distinctively grand buildings, each is a two-and-a-half-story wood-frame structure with clapboard siding that rests on a sandstone foundation with a cross-gable roof clad in slate. In plan, each comprises two blocks, the residential core measuring 37 feet by 32 feet, and an attached service wing at the rear of the building measuring 26 feet by 17 feet, 9 inches. A large veranda faces the residential block on the north (front) and east sides; it features Tuscan columns that support the low-pitch roof and a railing of turned wooden spindles. The cornice of the house proper and the porch are denticulated, and the gable ends are fashioned as broken pediments with returns; however, the cornice and dentils are continuous at the broken pediment but are recessed slightly behind the returns.

Most of the first- and second-story windows are double-hung wood sash with two over two lights. Gable ends on the east, south, and west elevations are each fitted with a pair of single-hung round-arched windows fitted with a prominent hood mold. The gable end above the north-facing entry elevation features a large Palladian window. The primary entry is via double doors that open onto the veranda; secondary access/egress to the veranda is via a single-leaf door on the east side. There is additional access at the rear porch (enclosed during the historic period) that opens into the kitchen.

[131] Endorsement of George Penrose, May 26, 1903, Entry 89, file 185710, in RG 92, NARA.
[132] Letter of George Penrose to the Quartermaster General, June 1, 1904, Entry 89, file 203201, in RG 92, NARA.

Building 1 is in use as a house museum, and the previously painted interior finishes have been returned to their original appearance. The kitchen and bathrooms of Building 1 have been restored to their period appearance; those same spaces in Building 15 have been modified over time and contain modern appliances, fixtures, and cabinetry.

The entry vestibule opens into a stair hall with a parlor to the right and stairs to the second floor to the left. A dining room adjoins the parlor, and an office is immediately across the hall from the parlor. The office has its own exterior door to the east veranda. A pantry, storeroom, kitchen, and service stairs are at the end of the hall. The first-floor rooms have pressed metal ceilings. Upstairs are three large bedrooms off a central hall; at the end of the hall are two bathrooms, a small bedroom, and the service stair, which continues to the attic. Both buildings retain period radiators (with warming ovens in the dining rooms) and fireplaces.

There have been few changes to the floor plan. A bathroom has been added to the basement in both buildings. A wood floor has been installed above the concrete slab floor in one of the basement rooms of Building 1; it appears to be a modification made during the historic period. The boiler room in the basement has been walled off in Building 15 and a partition removed from the same space in Building 1. The first-floor pantry of Building 15 has been converted to a half bath, and the connecting passageway between the second-floor bedrooms has been closed in the same building. The attic floor plan in Building 1 is intact except for the addition of a small partitioned space that appears to date from the historic period; the attic of Building 15 was inaccessible.

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Garage (Building 3), 1920, no plan; contributing building, high integrity.

This wood-frame two-car garage is clad with drop siding and covered by a gable roof with asphalt shingles. It is likely that the building was constructed from materials salvaged from World War I cantonment buildings.

Captains' Quarters (Building 4), 1904 and (Building 11), 1905, both QMGO Plan 142 rev.; contributing buildings (2), high integrity.

These are large two-and-a-half-story wood-frame duplexes with clapboard siding resting on a sandstone foundation with a cross-gabled roof clad in slate. Each duplex measures 64 feet by 32 feet for the central residential block; a common wall in the center of the building on both floors divides it into two units. A separate service wing (23 feet by 21 feet) extends to the rear of each unit. Verandas wrap around the corners of the front elevation, on each side of a slightly projecting front gable; square pillars support the low-pitch roof, and the railing features square spindles. The roof of the veranda is hipped at each front entry, which is itself recessed slightly behind the main wall plane. The main roof eaves carry a simple cornice, and the gable ends are finished with modest returns.

Most of the first- and second-story windows are double-hung wood sash with two over two lights; first- and second-story windows at the rear of the building between the two service wings are three over three lights. There is a Palladian window in the front gable. Only the two openings on either side of the center element of the Palladian window are glazed; the center element itself is detailed with a wooden fan motif in the arched section with two wooden panels below. The gable ends on the east and west feature a large elliptical window with tracery. Front entry is from each veranda via a single-leaf five-panel door; additional access/egress to the veranda is on the side through a door to the library. Rear access is through the back porch (enclosed during the historic period) and into the kitchen.

The floor plan of both buildings is largely intact. Entry to each unit is through a small vestibule to a reception hall that also contains the open stair to the second floor. The stair is fitted with a square newel and turned spindles. The reception hall opens onto a parlor and dining room with a library opposite the dining room. A

hallway leads to the service wing containing a kitchen and rear stair that connects all levels of the building. The storeroom adjacent to the kitchen has been converted to a bathroom in both buildings. A half-bath has been installed in the former pantry of Building 4. The same pantry in both sides of Building 11 has been adapted as a passageway with an exterior door that leads to a deck positioned between the rear wings. Accessibility to the deck is by a lift. Rooms are heated with radiators, and fireplaces are located in the dining room and parlor as well as the bedrooms immediately above those spaces.

The upstairs of each side has four bedrooms in the building core with another bedroom, two bathrooms, and stairway in the service wing. Access to the small servant's bathroom has been changed by closing the original doorway from the hall and providing a new doorway from the adjoining bedroom.

Lieutenants' Quarters (Buildings 5, 6 and 7), 1904, QMGO Plan 120A; contributing buildings (3), high integrity.

Sharing design features similarities with the captains' quarters, these duplex dwellings are dimensionally smaller and lack the room designated as a library. The main roof form is a gable that runs east-west and is intersected by a large gable at the front elevation. Two smaller gables covering the service wings intersect the main roof at the rear. The buildings have a central core that is 55 feet, 4 inches long and 24 feet, 6 inches wide with a service wing behind each half of the duplex that is 13 feet, 6 inches long and 13 feet wide. A common wall in the center of the building on both floors divides it into two units. A veranda extends across the front façade; it features Tuscan columns that support the low-pitch roof and a railing of turned wooden balusters. The main roof eaves carry a simple cornice, and the gable ends are finished with modest returns. Of note, however, are the pedimented gables on the veranda roof that mark the entry to each side of the building.

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A single-leaf door provides access to a small reception hall that includes the stair to the second floor, doors to the parlor and dining room, and a third interior door that leads to a short hall and the rear service wing. There is no rear stair in the service wing; a separate stair is in the hallway from the reception hall. The pantry has been converted to a half-bath.

The second floor of each duplex unit includes two bedrooms, a bathroom, and a large closet in the core; there is another bedroom in the service wing. The original floor plan included a connecting passage between the two adjoining bedrooms; the passage has been closed.

Most windows on the first floor are two-over-two double-hung wood sash; windows on the second floor are six over two. The front gable end carries a Palladian window similar to that on the captains' quarters, and the side gables have an elliptical window with tracery. The gable ends of the service wings include a small three-light sash.

The floor plans are largely intact with changes associated with the modernization of the bathrooms and kitchen. The buildings retain period radiators and fireplaces in the dining room and parlor. The sideboards in the dining rooms also remain in place.

Garage (Building 8), 1922–1924, QMGO Plan 6184-1002X; contributing building, high integrity.

This wood-frame garage is clad in drop siding and covered by a gable roof with asphalt shingles. It originally accommodated seven cars, but three additional bays were added to the west end in 1924. Three more bays were added to the west end at a later but unknown date. Salvaged materials were purchased by the officers of Fort Worden for the construction. The bays are now open; originally each bay was fitted with a pair of wooden doors.

Lieutenants' Quarters (Building 9 and 10), 1905, QMGO Plan 120E; contributing buildings (2), high integrity.

These two buildings were constructed following a design dated in 1903, five years after the 1898 design used for the construction of the other lieutenants' quarters on Officers Row (Buildings 5, 6 and 7). As might be expected, they are similar but with some notable differences.

The main roof form is a gable that runs east-west and is intersected by a large gable at the front elevation. Two smaller gables covering the service wings intersect the main roof at the rear. The buildings have a central core 60 feet long and 36 feet, 6 inches wide, with a service wing behind each half of the duplex that is 21 feet, 8 inches long and 21 feet, 2 inches wide. A common wall in the center of the building rises from the basement to the attic, dividing it into two units. A veranda extends across the front façade; it features Tuscan columns that support the low-pitch roof and a railing of turned balusters. The main roof eaves carry a simple cornice, and the gable ends are finished with modest returns.

The overall larger size of the building compared to the earlier lieutenants' quarters is reflected in the greater dimensions of the individual interior spaces, which are arranged in a manner that almost duplicates the floor plan of the 1898 plan. As an example, entry to each unit is still by way of a single-leaf door leading from the veranda to a reception hall. In the 1898 plan, that hall is slightly less than 10 feet wide; in the 1905 buildings, the hall is 14 feet wide. The rooms are laid out in a way that recalls the 1898 design, with a hall from the entry to the kitchen, and access to the dining room and parlor from the reception hall. Stairs lead from the reception hall to the second floor and its three bedrooms (two in the central core and one in the service wing immediately above the first-floor kitchen space), a single bathroom, and a linen closet. The connecting passage between the bedrooms in the central core has been closed.

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A readily apparent difference is in the articulation of the service wing. In plan, each service wing is almost a cube and is offset to each side of the central core; it contains the kitchen and immediately behind the kitchen a bathroom and a small servant's bedroom not much larger than a cell. A shed roof extending from the side of the service wing covers the servant's bath and bedroom as well as a porch that provides access to the kitchen. The effect of the change is to create larger bedroom capacity on the second floor; in the 1898 plan, the second-floor bedroom over the kitchen appeared to be for the use of domestic help. Expanding the back porch as shown in the 1903 plan provided another location for the servant bedroom, although at a much-reduced size.

There have been few changes to the floor plans. The dining room fireplace has been removed from the east unit of Building 10, and the passage connecting the adjoining bedrooms on the second floor has been closed in both buildings. The kitchens and bathrooms all reflect periodic upgrades to appliances and fixtures. The pantry cabinets are intact in Building 9; they have been removed in Building 10. The shelves and drawers in the second-floor linen closets appear to be unchanged since the time of their original construction.

Almost all windows are double-hung wood sash with two over two lights. There is a large Palladian window in the central gable end, detailed in a manner that is similar to the other lieutenants' quarters; the east and west gables ends are fitted with a simple rectangular window rather than an elliptical sash.

Garage (Building 13), 1932, no plan; contributing building, high integrity.

This wood-frame garage is clad in drop siding and covered by a gable roof with asphalt shingles. Each of the six bays was once fitted with double doors, however the bays are now open.

Officers' Family Quarters (Building 16), 1915, QMGO Plan 237B; contributing building, high integrity.

Even after the construction of the additional lieutenants' quarters on Officers Row in 1905, there was still a

shortage of housing for junior officers, and especially bachelors. Unmarried officers were assigned three and four at a time to the quarters that were meant for families, and there was a distinct need for a new and separate building for the population of bachelor officers. An initial proposal in 1913 to construct another frame building on Officers Row that would accommodate eight bachelors migrated ultimately to a brick apartment building for four families. The reasoning ran that there was greater flexibility in building apartments for families since each apartment could be occupied by three bachelors if not needed for a married officer. Brick was preferred over frame construction since otherwise the fire risk was considered too great for four families living in a single dwelling.[133]

The use of brick is notable. Brick was rejected in 1909 as a building material for the cable storehouse (Building 501) since satisfactory brick that combined clearness of ring with uniformity of color was difficult to find locally.[134] Matters must have improved by 1915 since brick was selected as the construction material not only for the apartment building (Building 16) but also for the radio station (Building 414) and much later, in 1932, for the theater (Building 25).[135]

The quarters are T-shaped in plan with a gable-roofed front section extending 83 feet, 6 inches oriented east-west connected to a hipped-roof rear wing measuring 33 feet wide and 54 feet, 6 inches long. The roofing material is synthetic slate. There is a central shed-roofed dormer on the front elevation that marks the location of the servants' bath in the attic. Two chimneys rise from each end of the gable roof, however only the chimney to the rear of the roof crest is functional; the other is decorative.

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At the front elevation, a centrally placed set of concrete steps rises up to a broad porch that is flanked by a three-sided, two-story bay at each end. The porch is divided into five bays with brick piers that extend to the second story where paired square wooden columns rise to support the roof. The second floor of the porch is enclosed by a railing of wooden stick-work panels placed between the piers. Almost all of the windows are double-hung wood sash with six over two lights; they are set into segmental-arched openings, with the exception of the openings on the second story of the front elevation, which are flat arched. The stairway at each side of the intersection of the rear wing and main body was enclosed during the historic period by wooden walls fitted with sets of double-hung sash at the second-story level.

Entry is through double doors leading from the porch into a vestibule. Access to the two ground floor apartments is off the vestibule and to either side of an enclosed, centrally placed stairway that connects all levels of the building. The four apartments have an identical floor plan with few differences. An L-shaped hallway provides access to den, library, dining room, pantry, kitchen, servant's room, two bedrooms, a bath, and a storeroom. A secondary access is through the kitchen to the exterior stair mentioned above. On the second floor, the spaces designated as a den are somewhat larger than the same area on the first floor; the first-floor spaces are smaller because the same area accommodates the entry vestibule. The attic includes two bathrooms for servants as well as unfinished storage space.

Building 16 is largely intact. In each of the four units, the kitchen has been enlarged by removing the partition that formed the pantry. The doorway from the kitchen to the adjoining servant's room has been closed, and a new doorway made to provide access to the hallway. The bathroom on the east side of the first-floor unit retains its original floor hex tile and wall subway tile; these materials have been wholly or partially covered in the other bathrooms. Work is in progress at the time of this writing to convert the hallway storeroom in each unit to an

[133] Letter of Charles J. Bailey to the Quartermaster General, August 11, 1913; letter to the Quartermaster General to the Chief of Staff, September 24, 1913, NARA, RG92, Entry 89, File 477055.
[134] Clearness of ring refers to the tonal quality of properly fired brick when struck by a mason's trowel.
[135] Letter of E. L. Long to the Quartermaster General, NARA, RG92, Entry 89, File 258327.

additional bath.

Chapel (Building 24), 1941, Office of the Quartermaster General (OQMG) Plan 700-1800; contributing building, high integrity.[136]

A July 1941 contract funded sixteen chapels at Fort Lewis and one at Fort Worden. They were standard wood-frame 700-series chapels (CH-1), plan 700-1800. The Fort Worden chapel was completed in November 1941. It is 81 feet, 3 inches in length and 37 feet wide on a foundation of concrete piers. A 23-foot-tall spire rises above the east-facing building entry. Large colored-glass windows, eighteen over eighteen lights, are on the long sides of the building. The sanctuary could seat 300 on bench pews with knee rests for those requiring them. To accommodate different faiths, the chapel had moveable altars, each representing a different faith. A balcony provided choir seating for fifty-seven persons and space for an electric organ.

Building 24 is in current use as a multi-purpose event center. It was dedicated as the Easterbrook Memorial Chapel in 1978, and a plaque in the main hall honors Edmund P. Easterbrook (1865-1933) who had served as chaplain for the Puget Sound defenses from 1905 to 1918.

Few World War II chapels survive in their original location and in a largely unaltered state. Most have been demolished or moved. In Washington State, at least six have been removed from their military bases to become civilian churches. Of the sixteen Fort Lewis chapels, ten have been demolished, one is abandoned and awaiting demolition, one survives as a youth club, one has been converted to offices, and three have been moved off post to become local churches. The Fort Worden chapel had a somewhat similar history, but with a twist. The First Evangelical Methodist Church of Port Townsend acquired the chapel as surplus with about one acre of the Fort Worden reservation. When the Department of Institutions received most of the Fort Worden garrison area, it was also eager to acquire the chapel as a site for religious services for the boys and girls. Accordingly, the church sold the building and land to the state of Washington for $10,000 in 1961.[137]

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The Fort Worden chapel has a high degree of integrity. It has its original siding, windows, and spire. Exterior doors have been replaced with doors similar in design. The bench pews have been replaced with tables and chairs, however, the exposed beam ceiling, original lights, and hardwood floor survive to convey much of the original interior appearance. It is a rare, well-preserved example of its type.

War Department Theater (Building 25), 1932, U.S. Army Motion Picture Service Plan No. 608-227; contributing building, high integrity.

The red brick theater is unusual in that it is placed at an angle to the street grid rather than parallel to it as is the case with other buildings at Fort Worden. It occupies a sloping site across from the guard house and across from the northwest corner of the parade ground, a key location easily accessible by officers, noncommissioned officers and enlisted men alike.

The theater is 100 feet, 8 inches long overall and is organized in two elements: the auditorium and a smaller projecting ticketing and administration block. The auditorium is 49 feet, 4 inches wide; the ticketing and administration block is 40 feet, 3 inches wide and extends 19 feet, 9 inches from the northeast-facing wall plane of the auditorium. Both elements are covered with a gable roof in slate. The roof retains its original two ventilators. There is a small wooden addition at the rear, and based on the materials, it was constructed after the

[136] Except where indicated otherwise, the information for all 700 series buildings is from Duane Denfeld, "Fort Worden World War II Mobilization/Temporary Buildings," unpublished ms. 2016.

[137] Washington State Archives, Records of the Department of Institutions, Fort Worden Treatment Center, Building Files, "Chapel."

period of significance.

Entry is at the gable end of the northeast elevation. The roof cornice of the ticketing and administration block features prominent returns that are visually supported by a pair of brick pilasters on either side of the centrally placed ticket booth with its flanking sets of double entry doors, glazed with lights in a two-by-five pattern. A chain-supported flat canopy extends over the ticket booth, the entry, and the sidewalk that is adjacent to the narrow, curved driveway in front of the theater. Above the canopy are three double-hung wood sash windows with six over six lights; the windows have a flat-arch detail set with a cast stone keystone. Above the windows is a single fanlight, the opening similarly detailed with cast stone lug sill and keystone. There are two additional double-hung windows on either side of the gable end that repeat the same brick and cast stone features.

There is a round-arched door opening at each side of the entry between a pair of pilasters and beneath the cornice returns. There is a single-leaf door in each opening, set with three over three lights and a fixed fanlight above the door. The arch is defined by brick stretchers and cast stone details. These doors open into an office space on each side, and each office has a door that provides access to the interior entry foyer. The side elevations of the ticketing and administration block each have two double-hung wood sash windows in a six-over-six configuration.

The entry foyer is paneled in black and white artificial marble. It leads directly to a narrow auditorium foyer that extends across the full width of the building at the rear. The auditorium foyer and the auditorium itself feature a wainscot of the same black and white artificial marble; the walls and ceiling are textured plaster. Banks of seats are placed in rows on the sloping floor in front of the stage and proscenium.

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The theater has exceptional integrity and appears little changed from the time of its construction both inside and out.

Balloon Hangar (Building 26), 1921, OQMG Plan 102; contributing building, good integrity.

As described in the significance statement, the construction of the balloon hangar was related to the anticipated use of observers in captive balloons to enhance the observation of the defended waterway. The balloons were tethered by a cable that ran to a truck-mounted winch. Operating the winch controlled the ascent of the balloon as well as its recovery.

It is a large steel frame building with inward-sloping walls, 76 feet wide by 120 feet long and 57 feet high at the ridge of the gable roof. The three large ventilators on the ridge are original to the building. As constructed, it was clad with asbestos-covered corrugated steel panels; these panels were replaced with corrugated panels of like dimensions during the 1990 rehabilitation. The east side of the building is open and can be closed by two rolling doors that fit into an exterior metal frame that extends beyond the walls of the building. In 1990, the hangar was converted to an entertainment space. A large addition was placed on the north side of the building, and the north wall was opened to accommodate a seating area for performances in the hangar itself. Interior changes included the addition of a green room and supporting services. Despite the changes, the hangar retains its essential character.

Three additional buildings were constructed to support the balloon operations, two of which survive. Building 356, the gas generator house, and Building 357, garage, are described later in this section.

Administration Building (Building 200), 1908, QMGO Plan 169-B; contributing building, high integrity.

The administration building housed both the headquarters of the coast defenses of Puget Sound and the

headquarters of Fort Worden as a separate element of the defenses.

It is a two-story wood-frame building, clad in clapboard and resting on a stone foundation. It is 87 feet long and 43 feet wide with an H-shaped plan. At the front and rear, the center core of the building is recessed slightly behind the wall plane of the end wings. A gable roof in slate covers the center core and is higher than and intersects with the hipped roof that is over each wing. The roof is penetrated by two centrally placed ventilators and the chimney of the heating plant. A cornice with dentils continues around the perimeter of the building.

Windows are six-over-six double-hung wood sash placed singly and in pairs. Six-light sash appear in the foundation wall that rises about 3 feet above the ground surface. The front entry faces south, toward the parade ground. A flight of wooden steps leads up to the porch and the double entry doors; modern doors have replaced the originals. The porch is distinguished by triple Tuscan columns at the corners, a full cornice, and a decorative rooftop railing for a second-floor porch. A wheelchair lift has been installed on the east side of the porch. Directly opposite the front entry and across the central hall is a single-leaf rear door. There is a separate basement entrance at the northwest corner as well as an entry from the building interior.

The interior retains most of the original floor plan. The window sash and mailboxes have been removed from the entry vestibule so that it merges with the former telegraph and post office, which is now a gift shop. Other spaces on the first floor are as constructed, with some compatible replacement of the original five-panel doors. Transoms above the doorways are intact, although some are covered. Acoustical tile covers the ceiling. A centrally placed flight of stairs with turned wooden balusters leads to the second floor. The wall separating the former reading room and the school room in the eastern wing has been removed; the pressed metal ceiling remains in place. A partition wall has been added to the former court martial and lecture room in the west wing, dividing it into two large offices; the hall has been extended into the space to provide an entry to the two rooms. Acoustical tile also covers the ceiling.

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Changes in the administration building have been few and it retains its essential character both inside and out.

Barracks (Building 201 and 202), 1904 and (Building 203 and 204), 1905, QMGO Plan 147; contributing buildings (4), good integrity.

The row of two-story wood-frame barracks that flank the northern edge of the parade ground is a dominant feature of the Fort Worden landscape. Their staggered construction sequence, with two being built in 1904, followed by an additional two in 1905, and completed with the double barracks (Building 225, discussed separately) in 1908, underscores the growth of the coastal fortifications with their many components. Buildings 201, 202, and 203 face south to the parade ground while Building 204 is situated ninety degrees north behind Building 203 and faces west to Fort Worden Way.

Each has a standard U-shaped plan with a center section that is a little more than 144 feet long and 25 feet wide. The two wings that extend from the rear are 75 feet, 10 inches long and 25 feet, 10 inches wide. The gable roof is in slate and is penetrated by distinctive masonry chimneys and metal ventilators. The front elevation is distinguished by galleries that run the full length of the building; three-bar pipe railing appears between the Tuscan columns. Originally, a similarly detailed single-story porch extended between the wings at the rear; it is no longer extant at Buildings 202 and 203. Large double-hung wood sash windows with two over two lights are placed regularly on all elevations.

The full basement housed a large lavatory, boiler room, and various storerooms. The mess room and kitchen were contained within the building on the first floor, reflecting an 1894 change in design that included those

facilities as part of the barracks itself.[138] Also on the first floor were a barber shop, day room, company office and a small dormitory. The second floor was entirely a dormitory, with designated spaces for a tailor shop and noncommissioned officers.

The barracks were converted to dormitories under the administration of the Department of Institutions after 1958. The windows were replaced by steel security sash with multiple small lights, the interiors were divided into small rooms with common showers, entries were altered, and the central stairway was removed in some buildings. The degree of change to the interior was extensive in Buildings 202 and 203; there were fewer changes in Buildings 201 and 204.

The first floor of Building 201 houses the Puget Sound Coast Artillery Museum, a use that began in 1976. The museum exhibits and offices occupy the first-floor spaces as modified by the Department of Institutions. The second floor is unused. A large restroom, constructed during the time of institutional use, occupies a portion of the original second floor dormitory; other changes include acoustic ceiling tile and pendant concentric ring lighting fixtures. The original double-door central entry remains intact as does the interior stairway to the second floor.

In 1998, work began to rehabilitate Building 204 as a conference facility. A goal of the project was to return some of the original character-defining features. The steel security sash was removed and replaced with wood sash windows that duplicated the originals, and interior partitions were removed to better represent the original floor plan. An elevator was placed in the spaces set aside originally for a barber shop and tailor shop, and restrooms were added to the second floor. Of the four barracks, it most easily recalls the unaltered interiors, including the restoration of the pressed metal ceiling on the first floor.

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Building 202 was rehabilitated in 2016 as a facility for college classes. The interior had been completely modified by its earlier institutional use and no character-defining features remained; a modern interior was constructed within the existing walls of the historic building. As part of the work, the steel security sash windows were removed and replaced by duplicates of the original double-hung wood-sash windows.

Building 203 retains the features that date from its institutional remodeling. Steel security sash replaced the original double hung wood windows, the central stair was removed, the interiors subdivided, fire escapes added to the wings, and the back porch enclosed.

Despite the many interior changes that have taken place, the exteriors of the buildings are essentially intact. As a collection, they are a dramatic anchor to the north side of the parade ground, functioning in the same manner as Officer's Row on the south side.

Band Barracks (Building 205), 1904, QMGO Plan 61-D; contributing building, high integrity.

As the headquarters of the Puget Sound defenses, a band was a component part of the Fort Worden garrison, and the band members were quartered in their own barracks located on the east side of Fort Worden Way between Battery Way and Building 204 (barracks). It is a wood-frame, two-story building clad with clapboards and covered by a cross-gabled roof that features cornice returns and is covered in slate shingles. Double-hung wood-sash windows with two over two lights mark the first and second stories; a Palladian window occupies the west-facing front gable at the entry elevation. A metal hipped-roofed porch supported by Tuscan columns

[138] Peter D. Skirbunt, *The Illustrated History of American Military Commissaries* (Fort Lee, VA: Defense Commissary Agency, 2008), 91.

with pipe railing also appears at the entry elevation; a set of centrally placed wooden steps lead up to the porch.

The building is arranged as a central block measuring 27 feet by 35 feet, flanked by projecting wings on the north and south measuring 20 feet by 27 feet. The basement contained the lavatory, showers, boiler room with coal store and a storeroom. The first floor was given over to a large practice room as well as a kitchen and mess; the dormitory for the musicians and two rooms for noncommissioned officers were on the second floor. Today the floor plan remains essentially as constructed. On the first floor, the former cook's room has been converted to a rest room. The partition between the two noncommissioned officer (NCO) rooms has been removed on the second floor and a bathroom added at the end of the stair hall. An exterior fire escape has been added to the south side of the building; a window opening on the first and second floor was changed to an exit doorway to provide access to the fire escape.

With limited interior and exterior changes, the building exhibits excellent integrity.

Commons (Building 210), 2003, noncontributing building.

The Commons is a modern, architecturally compatible building providing meeting space and food service. It is located behind the barracks and is visible primarily from locations within the northwest quarter of the garrison area. The asymmetrical, one-and-a-half-story building has a footprint of 178 feet by 122 feet with its main axis oriented east-west. The building includes a front-gabled section with full-width, full-height bay window and a larger three-bay side-gabled section. Roofs are clad in simulated slate shingles. Horizontal lap siding covers the exterior walls.

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Administration Building (Building 223), 1904, QMGO Plan 122A; contributing building, high integrity.

Constructed originally as the post headquarters building, the administration building was of an insufficient size to serve the greater demands of the headquarters of the Puget Sound defenses when that function was transferred to Fort Worden from Fort Flagler in 1904. The building was moved from the site now occupied by the administration building (Building 200) to its present location behind Building 200 in 1908, when the new administration building was constructed. The 1904 administration building was then used as the storehouse, shop, and office for the artillery engineer, ordnance, and signal departments.[139]

It is a two-story wood-frame building, 32 feet by 40 feet, clad with clapboards and resting on a coursed ashlar foundation; it is covered by a gable roof in slate. An enclosed brick chimney marks each gable end, as does a Palladian window, the central sash of which serves as a ventilator for the attic. A flight of steps leads up to a porch with pipe railings that runs the length of the front elevation. A standing-seam metal roof supported by six square posts covers the porch.

Windows on the first and second stories are wood sash, double-hung units with six over six lights. A small three-light sash illuminates the landing on the stair leading to the basement. A four-light top-hung sash was placed in the rear wall when a bathroom was added in one of the former offices; the toilet room was originally located on the basement stair landing. Entry to the building is via a centrally placed wooden double door opening off the porch. There is a separate basement entry at the rear of the building, accessible by a flight of stairs down to an open vestibule. The opening is protected by pipe railing.

The interior retains its central hall plan with four offices on each floor opening off the hall; a small room between two offices is located at the end of the hall on the second floor. With the exception of the added

[139] Note by A. B. Aleshire, August 19, 1907, Entry 89, File 234689, in RG 92, NARA.

bathroom on the first floor, the interior is intact with few changes. Some doors have been removed and acoustical tile has been added to the ceiling. The stair banister has both turned and square spindles.

Battery Stoddard (Building 224), 1906; contributing structure, high integrity.

Battery Stoddard and the identical Battery Tolles (located in the uplands area) mounted four 6-inch guns on disappearing carriages. The battery is about 400 feet long and 12 feet high. While other designs for disappearing mounts featured a distinct two-story elevation, Batteries Tolles and Stoddard represent an improvement as a result of doing away with the mechanical ammunition hoist, a change which yielded a simpler and more economical single-story structure. Spaces for the storage of ammunition are located between the gun emplacements and are accessed through double-leaf steel doors in the emplacement walls. Other storage spaces open to the rear of each battery, where a stairway rises between adjoining gun positions to reach an observation platform. The guns of Battery Stoddard were removed in 1917 for in Europe during World War I, and the emplacements have remained empty since that time.

Two-Company (Double) Barracks (Building 225), 1908, OQMG Plan 181-B; contributing building, good integrity.

Constructed at the east end of the row of barracks along the north side of the parade ground, the two-company wood-frame barracks was the last of the permanent barracks built at Fort Worden. As the name suggests, its capacity was double that of the standard coast artillery barracks for 109 men. The H-shaped building was divided in the center by a solid partition that ran from the basement to the attic, with separate facilities on each side of the partition for one company. It is large, running 144 feet across the front elevation with wings extending 120 feet to the rear with a width of 36 feet. It rests on a concrete foundation. The gable roofs are covered with slate shingle and are penetrated by brick masonry chimneys and large metal ventilators. Two dormers appear on the roof slopes at the south and north. The south or front elevation is distinguished by a two-level gallery supported by Tuscan columns that runs between the two wings that project beyond the wall plane; the same two-level gallery is repeated on the wings as they extend rearward to form a courtyard.

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Despite the size of the barracks, troops felt cramped and complained that the building gave them less space than the other barracks. Some believed that there had been an error, and that the plans used were those for infantry companies with their much smaller size of sixty-five men. There was interest in converting the mess halls and kitchens, and maybe the day rooms, into dormitory space to reduce crowding. In the end, the issue was resolved by altering the arrangement of the bunks.[140]

The basement of each side of the building contained a boiler room, a toilet room with showers, various storerooms, and a barber shop and tailor shop. A day room, mess hall and kitchen, and several rooms for NCOs were on the first floor, with large open dormitories on the top floor.

The building interior was changed substantially when it was converted to a dormitory during the use of Fort Worden by the Department of Institutions. The open bays were filled with small rooms, stairways were removed, entries were modified, and many of the original two-over-two, double-hung windows were replaced with steel security sash of several different types and sizes. Exterior fire escapes were constructed on the rear of the two wings and in the courtyard. In recent years, some of the security sash has been removed and replaced with windows that replicate the appearance of the original sash so that the exterior has recovered more of its original appearance. Although the building no longer retains integrity on the interior, the exterior of the building

[140] Quartermaster Department inspection reports of June 6 and July 10, 1909, Entry 89, Files 256043 and 256402, in RG 92, NARA.

is largely intact.

Alexander's Castle (Building 229), 1886, no plan; contributing building, high integrity.

Alexander's Castle is a brick building with a heavy wood-frame structural system that was originally tied to the walls by wires laced into the masonry. A three-story crenelated tower that is 15 feet square rises above a central basement and is flanked by small single-story, five-sided, hipped-roofed wings on the east and west sides. Decorative battlements are at the top of the central brick tower. The tower and the two main wings have round-topped windows with lug sills. The foundation is of mortared field stone. The building stands north of the two-company barracks and is presumed to have been built in 1886 by the Rev. John B. Alexander. However, the early years are not well understood and have been the subject of much storytelling. Its history subsequent to its acquisition by the federal government is more clear.

Civilian employees of the Corps of Engineers occupied the building as office and quarters early in the construction period of Fort Worden. With the completion of the two buildings dedicated to the support of the engineer staff (Buildings 400 and 401, no longer extant), the civilians moved there, and the Castle fell under the administration of the artillery corps, which was then occupying the post. However, there was no adequate accommodation for the commanding officer, and the engineers vacated one of their two buildings so that it could be the temporary residence of the commanding officer until such time as a purpose-built quarters was completed. In return, the engineers reoccupied the Castle in 1902. As more troops came to Fort Worden, there was increasing pressure for the engineers to return the building to the control of the post commander so that it could be used for quarters. The engineers retained the building until sometime after 1904, when it was adapted as noncommissioned officers' quarters. It was not a success for that use. By 1909, it was considered "neither safe nor suitable" as a residence, and a good deal of work considered necessary to put it into a temporarily usable condition that would still leave it short of what was wanted. It was the opinion of the post quartermaster that the building might better serve as a store room, but nothing more.[141] It then saw a variety of uses, including the first post exchange, a tailor shop, and a hostess house during World War II.[142] It again became an NCO quarters when Fort Worden was occupied by units of the amphibious engineers in the late 1940s and early 50s.[143] When the Department of Institutions acquired the property, the Castle was used for staff housing, and the housing use continued after Fort Worden was transferred to Washington State Parks.

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The building has undergone a number of changes over time. Photographs taken early in the period of federal ownership show a derelict greenhouse attached to the south side of the building. The greenhouse was demolished, and a shed-roofed porch added at the same location sometime later, probably after 1904 when it was in use as quarters for a noncommissioned officer. A water closet and sewer connection had been made by this time as well. The porch was enclosed at an unknown date, probably after World War II, at which time it became a bedroom associated with its designation anew as NCO quarters.

More extensive alterations came with modifications associated with the acquisition of Fort Worden by the Department of Institutions. A kitchen and bath were added in the west wing and the ceiling lowered. The ceiling was also lowered in the second-floor bedroom, and cabinets, closet, and a small toilet room were added. Drywall was installed in all the rooms over the original interior finish of painted rustic siding. The stair to the

[141] Letter of John Millis to Geo. L. Gillespie, April 25, 1902, and indorsements thereto, NARA, RG92, Entry 89, File 145914.
[142] Grulich, "Historic Structure Report: Alexander's Castle," 7.
[143] "Fort Worden, General Site Plan, Building Schedule," 1951, drawing W700-6-5, Washington State Parks and Recreation Commission.

second floor appears to have been rebuilt at this time as well.[144]

In 2001, the Washington State Parks and Recreation Commission rehabilitated the building. The intent was to return the building to its appearance around the time of World War I while adapting it for vacation housing. The enclosed porch was removed and replaced by a reconstruction of the original open porch, the drywall was removed to reveal the original interior cladding of rustic siding, which was repaired as necessary and repainted. A new kitchen and bathroom were installed in the west wing, and a new stair was built to provide access to the second-floor bedroom; previously the second floor had remained all but inaccessible because of the steep and narrow stairway. The building gained seismic stability by anchoring the brickwork to interior plywood panels and by the construction of a grade beam to resist overturning.

Battery Putnam (Building 234), 1906; contributing structure, high integrity.

Battery Putnam mounted two 3-inch guns on simple pedestal mounts. It is about 80 feet long and 30 feet wide. The gun positions are accessed by a series of short stairways leading up from the battery parade. The traverse is covered with earth and the rear wall of the battery has three sets of double steel doors that open into interior storage rooms. Long retaining walls extend from either side. Its weapons were removed in 1946.

Temporary Noncommissioned Officer's Quarters (Building 235, Bliss Vista), 1917, unidentified plan; contributing building, low integrity.

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This small building is the last intact remnant of the extensive cantonment construction that took place during World War I as described in Part 5 of this document. Although altered and moved from its historic location, it retains its essential form, easily recalls its original appearance as constructed in 1917, and is located in a comparable environmental setting, thus qualifying it as a contributing resource under Exception 2. It was one of fourteen officer's quarters arranged along the walkway that led from Alexander's Castle to the batteries and fire control stations at the top of the hill. The buildings were later designated as NCO quarters.

Originally it was a post-supported single-story building clad in drop siding with a gable roof that extended to cover a porch that ran the length of one side. The floor plan included two small bedrooms, a bathroom, kitchen, and living room on an L-shaped footprint measuring about 24 feet by 26 feet. The open porch ran across the entry elevation and a single-leaf door was placed in the center of the façade; a smaller porch was at the gable end and provided access to the kitchen via two single-leaf doors placed side by side. Windows were wood sash with divided lights. In the late 1930s, the front porch was enclosed.[145]

When Fort Worden was acquired by the Department of Institutions in the late 1950s, the remaining cantonment buildings were removed with the exception of Building 235. It was moved from its original location just north of Alexander's Castle to a site east of the Castle on the bluff overlooking Admiralty Inlet. There it underwent several changes. The siding was covered by machine-raked cedar wall shingles and the divided-light windows replaced with single light sash; ten vertical windows were ganged across the east-facing façade of the porch to provide a panoramic view of the waterway. A fireplace was added to the north wall of the living room with an exterior chimney stack. After Fort Worden was acquired by Washington State Parks, a second bedroom was developed by partitioning an area of the enclosed porch. In recent years, the bedroom was removed and replaced by an open porch and stairs.

The building is commonly known as Bliss Vista, a name acquired as early as 1960 when the building on its

[144] Grulich, "Historic Structure Report: Alexander's Castle," 32.
[145] Fort Worden Property Record for Building T-44 (later 235).

present site was first occupied by Barbara Bliss, a public health nurse employed by the Department of Institutions.[146]

Quarters (Building 245), 1898, 1903, no plan; contributing building, high integrity.

Initially constructed on elevated falsework to shelter a steam engine associated with the construction of Battery Stoddard, Building 245 was relocated to its present site during the period of significance and remodeled as a residence for engineer employees. Fort Worden property records give the year of 1898 for original construction and 1903 as the year of its new use but these dates are suspect since construction of Battery Stoddard did not begin until 1903. It seems probable that the conversion to a residence began several years later.

The conversion was substantial. As a shelter for equipment, the building was little more than a shed. Moved down from the falsework and placed on a post foundation at its new site, it was fitted out with two-over-two double-hung wood sash, doors, interior walls, and a plan than included two finished floors. The building measured 24 feet by 26 feet with a ground floor that contained an open porch on the front façade, a dining room, parlor, kitchen, and bath; two small wings at the rear accommodated a pantry and storeroom. A narrow stairway gave access to the second floor and two small bedrooms tucked under the gable roof.

The building was transferred to the care of the Quartermaster Corps in 1933 and was designated as an NCO quarters at about the same time.

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Today the building retains much of its original appearance, the most notable change being the enclosure of the front porch which seems to have been done some time after 1941. Six two-over-two double-hung window units are ganged across the south wall of the enclosed porch. Originally the entry was via a centrally placed door on the south elevation, and when the porch was enclosed, the entry was relocated to the west side. At that time, it appears that the wall containing the original entry was removed so that there was a view from the parlor through the ganged windows.

Regimental Recreation (Building 246), 1941, OQMG Plan 700-310; contributing building, high integrity.

Two of this building type were constructed at Fort Worden during World War II and both survive; the second example is Building 326. The building was functionally a large multi-purpose auditorium that could be used as a movie theater and performance space as well as a venue for troop briefings and instruction. The following description applies generally to both buildings, however each differs in some ways from the type plan. Building 326 is discussed separately because of the distinct changes to that building.

Each is a single-story wood-frame building, 99 feet, 7 inches, by 37 feet, 6 inches, clad with drop siding and placed on a post and pier foundation. It is capped by a gable roof covered with asphalt shingles. Ventilation was provided by five large roof-top ventilators with a single smaller ventilator over the heater room. Windows are double-hung wood sash with six over six lights, placed singly and in pairs on the long sides of the building; single double-hung units are at the stage and entrance ends of the building. Entry is via double doors at the south elevation; exiting is provided by double doors on the west and east elevations, immediately adjacent to the stage. A single door at the north elevation provides an exit from the stage. A wooden entry span at grade on the west side of the building provides universal access. An exterior free-standing chimney stack of brick and concrete masonry is adjacent to the heater room; nearby is an iron riveted oil tank that provides fuel for the heating plant.

[146] Memo of November 11, 1960, E. G. Lindquist to M. A. Harmon, Washington State Archives, records of the Department of Institutions, Institutions, Subject Files, Fort Worden, Surplus Property – Federal.

The entry lobby, flanked by a room for the heating plant on one side and on the other an office containing a stair to the projection room above, leads to an open room that contains an elevated stage at the far end. The walls are paneled by a wainscot with fiberboard above. Fiberboard panels form the ceiling and rest upon the upper surface of the bottom chord of the roof trusses. The stage area spans the width of the building and is about 25 feet deep. Originally the stage was partitioned to form dressing rooms and other smaller spaces, creating a much-reduced performance area, however these partitions were removed at some point in the past. The well for footlights has also been floored over.

Building 246 presents remarkable integrity. The roof ventilators are in place, and a pair of original double doors remains, as does the original exit door from the stage. The most notable change is the addition of men's and women's restrooms adjacent to the office and heater room at the entry. These are the locations identified in an alternative plan for the building, Plan 700-310L, and the change has little impact on the sense of the auditorium as a volume.

Very few of this building type remain extant, and fewer still with such notable integrity; it has been called a rare and exceptional example.[147]

Storehouse and Administration (Buildings 221, 255, 259, 262), 1941, OQMG Plan 700-376 SA-1; contributing buildings (3) and noncontributing building (1).

These four buildings share a similar plan, origin, use, and modifications. Nine examples were built at Fort Worden in conjunction with the cantonment development of World War II; they were part of a complex formed by several barracks, a mess hall, and a day room. The storehouse and administration buildings held the supplies necessary for a company of soldiers who would have been housed in three nearby 700-series barracks. There was a small office and lavatory for the supply sergeant, while the majority of the building was a single open bay with shelves to hold the items for distribution.

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Each is a wood-frame, single-story building clad with drop siding, measuring 39 feet, 2 inches long and 25 feet, 4 inches wide, and covered by a gable roof with asphalt shingles. Originally there was a large sliding freight door on one of the long sides with a single-leaf access door on a gable end. Windows were double-hung units with six over six lights. Heat was provided by a coal stove with an external chimney stack.

In 1950 or 1951, Buildings 255, 259, and 262 were converted to NCO residences by revising the original floor plan to accommodate a living area, several small bedrooms, a full bath, a kitchen, and a dining area. The coal stove and external chimney stack may also have been removed at this time. Exterior changes include the removal of the freight door and its subsequent replacement with a double-hung window and entry door; the exception is Building 255 where the freight door was replaced with a glass slider. One of the two double-hung windows on the gable end was removed and replaced with a single-light sash during the expansion of the bathroom. Entry doors and hardware are recent replacements. Other changes include the loss of the roof-top ventilators and the placement of Buildings 262 and 255 on a concrete slab foundation; Building 259 retains its original concrete pier foundation. Continuous K-type metal gutters have been added to Building 262. Although there have been significant changes to the interior plan, the exterior massing and materials of Buildings 255, 259, and 262 are intact, and entries and fenestration exhibit limited and mostly compatible alterations. The most notable exterior change is the loss of the roof top ventilators at some point in the past.

Building 221 exhibits more extensive alterations. Building 221 has been converted to a laundry and has been altered by changes in the door placement, fenestration, and the addition of roof vents for the laundry equipment.

[147] Denfeld, "Fort Worden World War II," 8.

Whereas Buildings 255, 259, and 262 stand within a small cluster of extant World War II-era buildings, the other buildings of the cluster of which Building 221 was a part are no longer extant, leaving Building 221 without its foundational context. Because of the lack of integrity, Building 221 is considered noncontributing.

Company Recreation (Buildings 256, 260, 261), 1941, OQMG 700-378 A-5; contributing buildings (3), good integrity.

These three buildings share a similar plan, origin, use and modification. Nine examples were built at Fort Worden in conjunction with the mobilization development of World War II; they were part of a complex formed by several barracks, a mess hall, and a company administration and supply building. Each building functioned as a day room that provided a place for off-duty soldiers to relax. Each building had a large recreation room, two small offices, and a heater room. They were equipped with comfortable chairs, reading materials, radios, phonographs, records, and some game equipment. The Order of the Eastern Star furnished the Fort Worden day rooms. The same building design could also be used as a company headquarters building.

Each is a wood-frame, single-story building clad with drop siding, measuring 45 feet, 2 inches long and 25 feet, 4 inches wide, and covered by a gable roof with asphalt shingles. Originally, single-leaf entry doors were placed at each gable end; the heater room was accessed by a double-leaf door on one of the long sides of the building. Windows are single double-hung wood sash with six over six lights with two paired units on each of the long sides. Heat was provided by a coal furnace with an external chimney stack. The buildings were placed on concrete piers.

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In 1950 or 1951, each of the buildings was converted to an NCO residence by revising the original floor plan to accommodate a living area, several small bedrooms, a full bath, a kitchen, and a dining area. The coal furnace and external stack may also have been removed at this time. The gable-end entry door adjacent to the furnace room was closed, and a new entry was made by placing a doorway next to one of the single unit windows. The modifications, either originally or over time, were not carried out in a consistent manner and as a result, there are small differences between the buildings. Entry to Building 261 is by a set of concrete steps, to Building 260 by way of a concrete ramp, and to Building 256 via wooden steps that lead to a small enclosed porch. Building 261 retains the original double doors to the furnace room, a pair of nine-light wood sash has replaced the furnace room doors at Building 260, and a smaller window unit has replaced the doors at Building 256. Modern doors with either three- or six-light windows have replaced earlier doors on all three buildings, although at different locations, and an earlier replacement door with a single-pane window remains in the second doorway. As part of the creation of a full bath, one of the double-hung units was removed in each building and replaced with a single-light sash. Other changes include the loss of the roof-top ventilators. The buildings remain on their original concrete piers.

Although there have been significant changes to the interior plan, the exterior massing and materials are intact, and entries and fenestration exhibit limited and mostly compatible alterations. The most notable exterior change is the loss of the roof top ventilators. As a group, their essential character-defining features are intact, and they represent an important building type of the World War II mobilization period.

Garage (Building 269), 1932, no plan number; contributing building, high integrity.

This wood-frame garage is associated and faces the adjacent hospital steward’s quarters and measures 12 feet by 20 feet. It is clad in drop siding and covered by a gable roof with asphalt shingles. The building has six-light wood sash on all sides, including the west-facing double doors, which are modern plywood replacements.

Hospital Steward's Quarters (Building 270), 1904, QMGO Plan 87E; contributing building, high integrity.

The hospital steward's quarters is on the north side of Battery Way adjacent to the hospital, and as the name suggests, provided housing for the hospital steward. The white picket fence that now surrounds the quarters is an addition that post-dates the historic period.

It is a one-and-a-half-story wood-frame building, measuring 20 feet by 28 feet, resting on a cut stone foundation and covered by a front-gable roof in slate. A brick masonry chimney rises from the center of the ridge, and a second and similarly detailed chimney is at the rear gable end. Siding is clapboards except for drop siding on the small addition that extends from the kitchen. First-floor windows are double-hung wood sash with three over four lights; the same window appears on the gable ends of the upper floor. The windows below the eaves in the second-floor knee wall are three-by-two casements.

This building is among the most intact of the residential facilities at Fort Worden. The building retains the original fir floors and interior doors as well as baseboards, picture molding, and pressed metal ceiling in the first-floor rooms and wainscot in the dining room. It has a simple side-hall floor plan with first-floor entry access from a standing-seam metal shed-roofed porch with pipe railings; the entry door retains its manual rotary doorbell and opens into a stair hall. The hall contains the stairs to the second floor, a doorway to the right that opens into the parlor, and a second doorway into the original kitchen, which functions now as a dining room. As constructed, the kitchen occupied the back half of the building and was divided into two spaces: the kitchen proper and an alcove that contained the sink and shelving. In 1908, a room and chimney were added at the rear, and the food preparation and cooking facilities of the kitchen relocated to the new space. At some later time and within the historic period, a small extension was appended to the kitchen addition to accommodate the kitchen dresser, which is still in place. There are two bedrooms and a bathroom upstairs; the bedroom doors are fitted with glazed transoms. The basement is illuminated by two three-light wood sash windows on the west side. At the exterior basement entry on the east side, a modern door has replaced the original door, which was distinguished by its pattern of herringbone laid tongue and groove boards and has been removed for repair.

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Heat was originally provided by stoves in the parlor and kitchen with ceiling registers above the stoves to provide heat for the upstairs bedrooms. The stoves were replaced by a basement furnace with ducting to the rooms. A fireplace, now bricked over, has been added in the dining room at the location of the stove, a modification possibly completed during the occupancy by the State Department of Institutions.

Changes to the floor plan are minimal. The openings connecting the bedrooms on the second floor and the kitchen and parlor on the first floor have been blocked; the surrounds have been retained in place. Similarly, the opening into the kitchen alcove has been blocked, and the alcove converted to a bath with a new entry from the stair hall.

Barracks (Buildings 272, 275, 277), 1941, OQMG 700-1165; contributing buildings (3), good integrity.

These three buildings share a similar plan, origin, use and modifications and were built in conjunction with the mobilization development of World War II. They were part of a World War II-era complex at the northeast corner of the garrison area and behind Battery Stoddard that included a company storehouse and administration building, a mess hall, and a company recreation building. Twenty-four examples of this barracks type were constructed at Fort Worden by the McDonald Building Company of Tacoma; each was designed to house sixty-three enlisted men in open undivided bays on two floors.

The barracks are wood-frame, two-story structures clad with drop siding, measuring 80 feet long and 29 feet, 6 inches wide, and covered by a gable roof with asphalt shingles. Each rested on concrete pier foundations with

concrete slab foundations for the latrine, shower, and heater room. Windows were double-hung wood sash with eight over eight lights. Originally, there were four single-leaf doors. The main entry was via two doors side by side on the front or south-facing façade; the doors to the right when facing the building opened to stairs leading to the second floor while the door to the left opened onto the first floor. On the opposite or west gable end from the front entry was a single-leaf door that gave access to the first floor. Immediately upon entering were two rooms, one on either side, that were designated for NCOs. Above this door and on the second floor was another door and a small landing; a wood ladder ran from the landing to the ground to serve as a fire escape. The second floor also contained two additional rooms for NCOs above the latrine and heater room. The latrine contained a trough urinal, toilet fixtures, basins, and a shower. The heater room was accessed from the exterior only by double doors.

In 1950 or 1951, each of the buildings was converted from a barracks to a four-unit quarters for NCOs. The conversion required the construction of partitions in the open bays and the removal of the latrine to accommodate four apartments of about five rooms each, including a kitchen and bath. These alterations required exterior changes as well. A bedroom was placed in the space originally occupied by the latrine and an eight-over-eight window unit placed in the otherwise windowless wall. The two off-set entry doors on the first floor were replaced by a single, centrally placed entry door that opened onto a foyer for the two ground floor apartments and the stair to the second floor. The change of entry required the displacement of the central window units on both floors so that two of the single window units were ganged as a pair. Separate exits from each apartment unit were provided on the rear. The original warm air trunks remain in Buildings 275 and 277.

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Secondary doors were also altered at this time and have been periodically revised. Exterior doors and stairs to the second floor were provided at the gable ends, with the exception of the east-facing elevation of Building 272 where there is no second-story entrance. Similar landings and stairways were provided at the new rear exits. In some cases, exterior stairs have been elaborated into large landings or decks. The site for Building 277 was excavated into a hillside, which rises steeply at the rear. As a result, the second floor of the rear elevation is at grade with the hillside, and no stairs were necessary.

The interior partitions of Buildings 275 and 277 appear to be original to the time of their conversion in the early 1950s. In 1975, Building 272 was designated as a youth hostel with housing for eighteen, and the floor plan was revised to establish a series of bedrooms opening onto a central hall. The latrine was removed and bathrooms were added on the first and second floors. Capacity was eventually expanded to thirty. The hostel closed in 2011 and at the time of this writing, the interior is being remodeled to a contemporary standard.

Although there have been significant changes made to the interior plan after the period of significance, the exterior massing and materials are intact, and entries and fenestration exhibit limited and mostly compatible alterations. As a group, their essential character-defining features are intact, and they represent an important building type of the World War II mobilization period.

Storehouse (Building 296), 1941, OQMG 700-322; contributing building, good integrity.

This single-story wood-frame building includes shop space and several vehicle bays equipped with modern garage doors. It is 144 feet long and 24 feet, 4 inches wide and covered with a gable roof fitted with sheet metal ventilators; asphalt shingles cover the roof. The walls are clapboard with corner trim. The western section of the building is an office area with a single-leaf entry door on the south elevation. There is another single-leaf entry door at the eastern extremity. The two vehicle bays are offset from the center of the building, and the roof line of the western bay extends upward several feet above the adjacent roofline. Access to the western office section is via three concrete steps; access to the eastern entry is at grade. A concrete ramp extending across the vehicle

bays connects them to a driveway that leads to Battery Way West.

Seminar (Building 297), unknown construction date, noncontributing building.

Although it carries the same number as the building erected at this location in 1919, the present building shares none of the characteristics of that structure, which was several hundred feet long. It is believed that the present Building 297 was built sometime in the 1960s when Fort Worden served as a diagnostic and treatment center for youth. The building stands on the north side of Battery Way between Battery Way West and the hospital (Building 298). The frame, front-gabled building is approximately 25 feet by 30 feet in plan. It has exposed rafter ends and stands on a raised foundation. On the front are three two-light windows and a centered entrance sheltered by a shed-roofed porch. Siding is wood clapboards with corner trim, and the shallow-pitch gable roof is covered by corrugated metal. Single-leaf entry doors are present on the north and south elevations.

Hospital (Building 298), 1904, Surgeon General's Office Plan A2; contributing building, high integrity.

The hospital building replaced a temporary medical facility that was included among the provisional buildings that housed the initial garrison of Fort Worden. The present site was not the one preferred by the planners of Fort Worden; the hospital was to be placed further to the east where it would have a good view of Admiralty Inlet. However, that was the same location scheduled for gun batteries, and thus the hospital was built to the west, along the north side of Battery Way.[148] Unlike most other buildings on the post, it was designed by the Surgeon General's Office rather than the Office of the Quartermaster General. It is an example of the distinct and significant contribution made to hospital design by John Shaw Billings.

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Billings was a notable force in late nineteenth-century medicine. As an officer in the military, he was assigned to the Surgeons General's Office where his great concern was the well-being of those who served in the army and in particular the improvement of hospitals to which the sick and wounded would be sent for treatment and recovery. He held that increased air movement would promote health as well as reduce the spread of disease, and recommended construction details to implement that movement. He was also an advocate of the pavilion plan for hospital design.[149] The Fort Worden hospital is an example of both features. The building has a rectangular pavilion core from which extends on its east side a two-story treatment wing or ward. The pavilion contained the offices and hospital support functions. The ward housed the patients, and windows on all sides of the ward provided ample light and fresh air. Less visible are the flues, trunks and dampers that allowed outside air to be heated and drawn upward through ductwork in the walls to be exhausted by ventilators on the roof. The hospital displays other architectural features that were common in standardized plans for late nineteenth- and early twentieth-century military hospitals. These include dormers, an entrance porch, and a two-story veranda (enclosed in 1908).[150]

The pavilion and ward arrangement was capable of expansion, and the basic plan was a single-story wing with a capacity for twelve patients. More capacity could come with the addition of a second story to the wing or the addition of a new wing on the opposite side of the pavilion, all in multiples of twelve patients. Thus the Fort Worden hospital was built with an initial capacity of twenty-four patients but could be expanded with new construction to accommodate forty-eight. The site selection recognized the potential need for a future wing on the west side of the pavilion.

[148] Letter of George Penrose to the Quartermaster General, January 12, 1903, Entry 89, File 185710, in RG 92, NARA.

[149] Alison K. Hoagland, "'The Invariable Model': Standardization and Military Architecture in Wyoming, 1860-1900," *Journal of the Society of Architectural Historians* 57, no. 3 (September 1998): 307-308.

[150] Adam D. Smith and Sunny Stone, *Military Hospitals Historic Context*, Legacy Project # 06-296, U.S. Army Corps of Engineers, Engineer Research and Development Center, 2008, 137.

The hospital pavilion is a wood-frame building, clad in clapboard, and rises two-and-a-half stories above a stone foundation that is 56 feet wide and 46 feet deep. The hipped roof has dormers, is covered in slate shingles, and is penetrated by a series of brick chimneys and large sheet-metal ventilators. The ward wing to the east is 53 feet long and 41 feet, 6 inches wide, and is flanked on three sides by an originally open veranda; the roof line of the half-hipped roof is slightly lower than the roof line of the pavilion. To the rear (north) is a large two-and-a-half-story addition that is attached to the pavilion by a passageway and was constructed in 1910. Windows on the hospital and the addition or annex are double-hung wood sash with two over two lights.

The entry at the south elevation of the pavilion is via double doors from a porch that extends across the first floor. The hipped-roof porch is supported by Tuscan columns that are fitted with pipe railings. On the interior, individual rooms opened off a T-shaped hall plan, and a stair led from the hall to the upper floors. The first floor provided for a surgeon's office, waiting room, dispensary, kitchen and mess facilities, a toilet, and quarters for the ward master. On the second floor were an operating room, instrument room, laboratory, officer's ward, isolation ward, linen supply, toilet, and quarters for the second-floor ward master. The attic included a dormitory for the medical detachment, a clothes room, and a room for the acting hospital steward. The first- and second-story wards were identical: a single large room that provided space for twelve beds on each floor with a pair of double doors at each end. The distinctive open porch that wrapped around the ward wing was enclosed on two sides with glazed sash in 1908.[151]

As with other buildings at Fort Worden, the hospital was soon inadequate to meet the needs of the growing post, and as early as 1907 there were proposals to expand the facility to better accommodate the medical detachment (numbering about twenty men) that lived in the building and cared for the patients there. The new annex would include a kitchen and mess hall for the hospital as a whole, a dormitory, rooms for noncommissioned officers as well as cooks and night nurses, a separate instruction room, and a day room. However, the construction bids for the building, to be placed at the rear of the existing hospital, were greater than the funds allowed for such work. Several bid items were eliminated from the estimate, and thus the project fell within the $20,000 maximum allowed for permanent buildings at the time. The annex was completed and ready for service in the fall of 1910.[152]

Architecturally similar to the main building, it has a footprint that measures 53 feet, 2 inches by 40 feet with a full basement and three finished floors, including the attic. It sits on a concrete foundation, scored and textured to resemble the stone foundation of the main building. Stone was the original choice for the foundation of the annex, but the switch to concrete was made when the quarries shut down for the winter. Rather than delay construction, concrete became the substitute of choice.[153] As built, the annex housed a kitchen, pantry, mess room, and reading room on the first floor with dormitory rooms on the second floor and attic. By 1940, the reading room had been converted to a dental office and the dormitory rooms designated as wards.[154]

When the Washington State Department of Institutions acquired the property, it adapted the hospital for use as a

[151] No original plans for the hospital have been located. The description of the interior rooms is based on the available plan set for the Fort Flagler hospital, which is almost identical. The date for the porch enclosure is from the Fort Worden Property Record. That document also indicates that by the late 1930s, the bed capacity of the hospital was listed as fifty, although there is no indication of how that number was achieved.

[152] Miscellaneous correspondence, February 8, 1909 to January 15, 1910, Entry 89, File 253916, in RG 92, NARA; Fort Worden Property Record. Construction of the annex required a large excavation. Soil from the excavation appears to have been used for fill in the depression south of the guard house. Other construction items were chargeable to the Quartermaster Department and raised the final cost of the annex to well above the dollar limit.

[153] Ibid, 2nd endorsement to telegram of January 14, 1910.

[154] Fort Worden Property Record.

secondary school. The conversion changed the interior significantly. The first-floor ward, its single volume converted to small rooms probably in the 1950s, was further altered by removing the later partitions to allow for the construction of a large classroom and library. New restrooms were added, the stairway was enclosed, and all interior finishes and lighting were replaced with institutional equivalents. Only the attic in the pavilion escaped the changes. Few of these interior modifications are perceptible from the exterior, which retains a high degree of integrity. The most visible impacts are at the front porch, where the east half of the porch floor was replaced by a ramp during its conversion to a school. The ramp was not compliant with later accessibility standards and as a result, Washington State Parks added a wheelchair lift to the west end of the porch. That lift has been removed and replaced by a ramp that meets current accessibility standards.

Guard House (Building 300), 1904, QMGO Plan 30E; contributing building, good integrity.

As the name suggests, the guard house was occupied by the post guard, a group of officers and men detailed from the artillery companies to watch over the buildings and fortifications for a 24-hour period. It was also a jail, serving as a place of confinement for prisoners.

The guard house occupies a key location across from the northwest corner of the parade ground at the intersection of the two primary streets of Fort Worden: Fort Worden Way and Eisenhower Avenue. It is a one-and-a-half-story wood-frame building, almost square in its footprint of 47 feet, 4 inches by 49 feet, 4 inches, clad in clapboards, and capped by a pyramidal roof in slate. The foundation is stone. The south-facing entry elevation is distinguished by a gable that rises above a porch that runs nearly across the width of the building with a metal roof supported by square chamfered posts. Three-bar pipe railings extend between the posts. Windows are double-hung wood sash with six over six lights; the windows in the prison room were originally fitted with bars. A Palladian window is set in the face of the gable. Access to the basement is through double doors on the west elevation, and a fixed transom of fifteen lights is placed above the entry doors. Principal access is from the porch through a centrally placed five-panel wooden door.

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The interior was divided into two areas, one for the guard and one for the prisoners. The center entry door opened into the guard room, a dormitory space for the beds of those serving on guard duty. Adjoining the guard room was a small separate room for the sergeant of the guard. That room connected with a larger room for the officer of the day, who was in charge of the guard; the room had its own exterior door. The arrangement of spaces effectively summarized the system of rank and housing that characterized military life and was not duplicated in other buildings at Fort Worden.

A sliding iron gate gave access from the guard room to the prison room, which was located at the rear of the building. The prison room ran the full width of the building and was fitted with two large, barred cages and three smaller cells. Adjoining the prison room was a lavatory.

The building has gone through a number of changes, culminating in its recent adaptive use as a restaurant and tavern. At an unknown point but probably in the 1950s during the final occupancy of Fort Worden by the army, the cells and cages were removed, entry doors were added to the north and east elevations from the former prison room, and half of the porch was enclosed. In 1979 or 1980, the building received limited restoration by removing the porch enclosure and the door on the east and reinstalling windows that had been removed for doorways. The building was then used for a variety of purposes including a gift shop. In 1999, a public restroom was installed by removing the prison lavatory and creating a new space in a portion of the former prison room; access was via the double-door basement entry on the west elevation. An entry lobby allowed the addition of a new opening to the guard room with a stairway and lift. The cages and cells were partially reconstructed and returned to their locations in the prison room. In 2016, the interior was altered further by removing the wall

between the guard room and prison room, repurposing the small room that was a guard lavatory, and removing the wall between the lavatory and the sergeant's room. The back bar for the tavern was constructed over one of the windows in the guard room however the window remains in place.

The series of interior modifications has significantly compromised the original floor plan, however the exterior retains its appearance as built in 1904.

Commissary Warehouse (Building 304), 1941, OQMG 700-324; contributing building, good integrity.

Located northwest of the guard house, the commissary warehouse is a rectangular wood-frame building on a concrete foundation, 153 feet, 2 inches long by 60 feet, 6 inches wide, with a gable roof in composition shingle. A loading dock is placed centrally on the north elevation, and four large sliding doors provide access to the interior. Originally the loading dock served all four doors, but its length has been reduced so that now only the two easternmost doors open on to it.

The building was constructed in part as a storehouse for fresh meat, and the interior retains its large refrigerated room and ceiling trolley that connects to the loading platform. Much of the interior was open, and over the years it has been divided into smaller spaces.

Building 304 and its neighbor immediately to the west, the service club (Building 326), are the only mobilization buildings of the 700 series constructed in the western area of the garrison during World War II; almost all of Fort Worden's wartime building boom took place on the eastern half of the garrison area.

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Quartermaster Storehouse (Building 305), 1904, QMGO Plan 91F; contributing building, good integrity.

The quartermaster storehouse, which stands on the west side of Fort Worden Way north of the parade ground and Eisenhower Avenue, functioned as a warehouse for the uniforms and equipment that were a necessary part of the soldier's life. It is a one-and-a-half-story wood-frame building sided in clapboards and covered by a side-gable roof in slate. It rests on a stone foundation that measures 32 feet by 195 feet, 7 inches. Windows are double-hung wood sash with six over six lights. Entry to the building is via five single-leaf and three double-leaf doors on the east side; there are two double-leaf doors and one single-leaf door on the west elevation. Originally a loading dock ran the length of the building on the east side. The loading dock was removed sometime in the past and has been replaced by three porches, one of which is enclosed, that help recall the effect of the full-length loading dock.

The interior originally was divided into several large storerooms in the basement, first floor, and attic, and three office spaces on the first floor as well as a separate sales room. A manually operated rope hoist connected the floors; a second hoist ran from the basement to the first floor. The walls and ceilings were sheathed in bead board.

The building was completed April of 1904, and within months there were complaints that it was too small, another indication of the effect of the rapid and unplanned growth of Fort Worden. The greatest difficulty was that the clothing room—used for the storage of uniforms, overcoats, blankets, and similar articles—was insufficient to meet the needs of the troops coming to the post. There was some initial consideration of constructing a separate building to respond to the need for more space, but ultimately it was decided that it would be more economical to extend the existing storehouse by 75 feet on the south end. The addition was completed and turned over to the Post Quartermaster for use in April 1905. Although the Post Quartermaster had asked that a lavatory be added to the building as part of the modifications, the request was turned down

because of the availability of lavatories in the barracks (Building 204) immediately across the street.[155]

There have been a number of changes over time on the exterior and interior, most recently in 2022 with an extensive rehabilitation. The east-facing loading dock that ran the length of the building had been removed at an unknown date, and it was returned in a revised configuration as part of the rehabilitation project. A covered parking area that had been added to the west elevation was removed and replaced with a similar structure that covers newly added steps and ramps for improved access. The interior spaces have been modified for classroom and exhibit use, and original wall and floor cladding remains intact in many places. One of the two hoists remains in place. The building still exhibits significant integrity and occupies an important place in Fort Worden's history and streetscape.

Commissary (Building 306), 1904, QMGO Plan 37B; contributing building, high integrity.

For background on the historical reuse of this building, please refer to the wagon shed and teamsters' quarters, Building 372.

Constructed originally in May 1904, as a stable for twelve animals (horses or mules), this building was considered too small for the purpose only a few months later. The initial response was a plan to expand the building by 15 feet, which would allow the stables to accommodate six more animals. A better idea was proposed by George Penrose, who represented the Quartermaster General's Office for the construction at Fort Worden. Penrose noted that the building also contained at its eastern end a wagon room. There were more wagons on hand already than could be stored in the wagon room; it would be less expensive to erect a wholly new wagon shed and to convert the wagon room so that it could double the capacity to twenty-four animals. His idea was persuasive, and the conversion was underway by the end of the year.[156]

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By 1909, the building was again considered too small. In 1910, the building was modified for use as the commissary storehouse, which made more space available in the existing quartermaster and commissary storehouse (Building 305); new replacement stables could be built at another location (Building 370, no longer extant. That plan also was put into effect and completed in 1910. The building so modified served as a storehouse for the balance of the historic period.

Building 306 is a two-story frame building, 33 feet by 60 feet, clad with clapboards and covered by a gable roof in slate; it rests on a brick foundation. Windows on the east end of the building (the former wagon room) are double-hung wood sash with three over three lights. The remaining windows are top-hung casements with two over two lights on the ground floor and sliding sash in the loft. There is a double-leaf wooden door with a six-light transom on the north and south sides at the west end of the building. Similar wooden doors were in place at the wagon room; these doors were removed during the 1910 conversion and replaced with windows and a single-leaf wooden door on the south side. One of the two original roof ventilators is in place. The other ventilator may have been removed during the conversion to a commissary storehouse, when it appears that a chimney and stoves were added to serve the storeroom use. An exterior chimney that served the basement boiler was added later at the west end of the building.

The interior retains its original division between stables and wagon room. Wall and ceiling cladding is bead board. The dividing wall is penetrated by two doors and two windows; the windows and one of the doors have

[155] Letters of George Penrose to the Quartermaster General, August 25, 1904, and April 7, 1905, Entry 89, File 20320, in RG 92, NARA.

[156] Miscellaneous correspondence, July 10 – September 12, 1904, Entry 89, File 203201, in RG 92, NARA.

been covered. An enclosed stair in the northwest corner provides access to the loft, which is intact.

Commissary Storehouse (Building 308), 1905, QMGO Plan 60H; contributing building, good integrity.

For background on the reuse of this building, please refer to the wagon shed and teamsters' quarters (Building 372).

Constructed as a wagon shed in response to the need to place the growing number of mule- and horse-drawn wagons under cover, the building was converted in 1910 to a storehouse for the commissary and quartermaster.

It is a single story, wood-frame building with drop siding, 30 feet by 85 feet, 10 inches, resting on concrete piers and covered by a gable roof clad in slate. Most of the windows are small three-light wood awning sash; there are two double-hung wood sash windows at the southeast corner. As originally constructed, the building was composed of seven bays. The three center bays on the south side were open and the two bays to either side were closed by double sliding doors. The floor was gravel. The conversion to a storehouse removed the sliding doors (the cast iron door guides remain in place), sided over the entire south elevation, and added two sets of double doors and loading dock, which was removed at some later date and replaced by wooden steps at each doorway. An interior floor was constructed above the original gravel.

The building was rehabilitated in 2022. The double wooden entry doors were removed and replaced by glazed double doors, and the wooden steps were removed and replaced by a ramp and walkway that extends between the two doorways. The walkway recalls to a degree the loading dock of the 1910 storehouse conversion; the effect is diminished by a tall steel and cable railing that runs the length of the walkway as well as the ramp. A free-standing enclosure for restrooms and mechanical space occupies the center of the interior. Insulation has been added to the walls and underside of the roof, and suspended lighting fixtures with caged lamps have also been added. The utilitarian appearance of a storeroom remains readily apparent.

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Service Station (Building 309), ca. 1930, no plan identified; contributing building, high integrity.

The service station is a single-story glass and steel commercial building measuring just under 15 feet square; its appearance is typical of service stations that were widely built in the 1920s and 30s. The building stands on the west side of Fort Worden Way between the quartermaster storehouse (Building 305) and the post exchange and gymnasium (Building 310) It is capped by a low-pitch, side-gable, standing-seam metal roof that extends to a canopy that covers two gas pumps. The construction date of 1920 is given in a 1946 building inventory, however the building is not indicated on a site plan corrected to 1926. At one time, a separate glass and steel service bay was immediately adjacent to the west; it is no longer extant, and the dates of its construction and removal are not known.

Access to the building is via a single-leaf door in the east façade. The door is flanked by large steel sash windows with nine lights. Windows on the west, north and south facades are paired steel sash twelve lights (four by three). The interior is a single room that contains the controls for the gasoline pumps.

The building is unaltered and is a rare survivor of a type that was once common throughout the United States but seldom seen on military posts.

Post Exchange and Gymnasium (Building 310), 1906, QMGO Plan 157A; contributing building, high integrity.

The first artillery troops arrived at Fort Worden in May 1902, and in January of the next year, Capt. Manus McCloskey, their commanding officer, summarized their circumstances: ". . . quartered in temporary wooden buildings on the top of a hill difficult of access [without] the conveniences and luxuries afforded enlisted men in

modern barracks" and "not a spot of ground nearby adapted for athletics." He observed that the "climate during the greater part of the year is characterized by high winds and rains and men are discontented." To help resolve some of that discontent, McCloskey hoped that the army would build a gymnasium and post exchange at Fort Worden. Such facilities provided a place for socialization and recreation away from the regimentation of military life.[157]

The Quartermaster General was not moved by McCloskey's suggestion. The need became more profound as the population of the post expanded over the next few years, and in 1905, a new commanding officer, Col. G. S. Grimes, urged reconsideration. Fort Worden was the headquarters of the defenses, he noted, and with the largest garrison, yet it had no exchange and no gymnasium. He suggested that a building "suitable to the dignity of the post and the size of the garrison . . . be provided as soon as possible." This time the request was successful, and the building was constructed on the west side of Fort Worden Way, just south of the intersection with Battery Way.[158]

The post exchange and gymnasium building is a large classically inspired building that accommodates its functions in two distinctive blocks arranged in plan as a T. Entry is through the post exchange portion of the building, which faces east; the gymnasium extends from the west side of the post exchange and access to it is through the exchange.

The building is a monumentally scaled single story, the result of the 18-foot height of the gymnasium ceiling and the desire to maintain the same roof line between the two building elements. It is of frame construction, clad with clapboards, and resting on a tall brick foundation. Hipped roofs in slate cover the post exchange, running north-south, and the gymnasium, running east-west; a gable roof covers a vestibule that connects the two buildings. Two brick masonry chimneys rise from the gable roof, as does a large metal ventilator. Additional ventilators of the same type appear on the ridge of the hipped roofs, with two over the gymnasium and a single one above the post exchange. The large double-hung wood sash windows are arranged with six over two lights. Smaller double-hung windows with three over three lights are placed in the foundation wall of the post exchange and illuminate the basement rooms.

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The dominant feature of the building is the entry portico. The pediment is supported by pairs of Tuscan columns that rest on tall plinths that continue the line of the foundation. An oculus marked with keystones at the quarters appears centrally in the tympanum. The entry itself is distinguished by a large semicircular fan light with tracery above double doors that are set with side lights.

From the interior entry landing, short flights of stairs lead down to the basement and up to the main floor. The rooms of both floors open off a central hall and the floor plan is essentially intact. The post exchange and reading room occupied the largest spaces on the first floor, and the basement provided a billiard room, lunchroom and boiler room. Restrooms and offices were in the connecting vestibule. Both floors connected to the gymnasium, which is a single large volume notable in part for its high metal ceiling.

Other than changes in use, the building retains exceptional integrity. The double doors on the first-floor landing that led to the reading room and the post exchange have been removed and the openings filled; single doors off the hallway now provide entry to those spaces. The observation gallery has been removed from the gymnasium, and the former lunchroom and its associated kitchen in the basement have been converted to a tiled shower and changing room. As originally constructed, the building had only a single shower, located in the connecting

[157] Letter of Manus McCloskey to the Adjutant General, January 20, 1903, Entry 89, File 190095, in RG 92, NARA.
[158] Op. cit., letter of G. S. Grimes to the Military Secretary, March 19, 1905.

vestibule; the added shower facilities could have been constructed within the historic period or later when many modifications at Fort Worden were carried out by the army in the 1950s or by the Department of Institutions after the cessation of military use. On the exterior, the loading platform on the south side of the connecting vestibule was enclosed during the historic period; the wheel guards associated with the original use are still in place.

By 1909, the new facility was considered inadequate to meet the growing number of enlisted men serving at Fort Worden. To provide an additional reading room and "amusement room" that could also function as a classroom, one of the old temporary barracks from the top of the hill was moved next to the post exchange and gymnasium on the north side. It was removed prior to the acquisition of Fort Worden by Washington State Parks.[159]

Quartermaster Workshop (Building 313), 1905, QMGO Plan 59P, contributing building, high integrity.

Standing on a small patch of earth in the intersection of Battery Way, Battery Way West, and Fort Worden Way, the quartermaster workshop is a single-story wood-frame building with clapboard siding and a gable roof in slate. A ventilator and single brick chimney appear on the ridge. The building is illuminated by wood sash, double-hung windows with three over four lights. The windows were fitted originally with exterior grilles, now absent. Access is provided by double doors on the north elevation and east gable-end elevation; there is also a single-leaf door on the north elevation. The two double doors on the north originally opened onto a loading dock that is no longer extant. A modern double-door entry with porch has been constructed on the south elevation, where it replaced a window at the same location.

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The interior provided shop space for carpenters, plumbers, and blacksmiths, with each discipline operating within a partitioned space. The wall and chimney between the carpenter's shop and plumber's shop have been removed and the larger space divided by light partitions associated with the current occupancy of the building by the Copper Canyon Press. The blacksmith shop at the east end of the building retains its partition as it does the lower floor (originally brick but now covered with concrete) and roof-top ventilator. The room was originally open to the roof, however it now has a bead board ceiling.

Power Plant (Building 315), 1907, no plan number; contributing building, high integrity.

The imposing power plant on Battery Way West at the northern edge of the garrison area is the only structure at Fort Worden that was jointly financed by the Corps of Engineers and the Quartermaster Department. Typically, the Corps of Engineers kept narrowly to the construction of fortifications and the Quartermaster Department to garrison buildings. Both found a common need for electrical power.

It was up to the Corps of Engineers to build the power plant since it was an essential component of the fortifications. By the end of 1903, the Chief of Engineers had cobbled together enough money to do the job, but not enough money for the additional equipment necessary to provide lighting for everything else. If the Quartermaster Department could come up with the necessary funds, then all of Fort Worden could be electrified at one time. The Engineers got the go-ahead to begin construction in 1904, with the Quartermaster agreeing to reimburse their accounts for that portion of the work associated with bringing electricity to the roads, warehouses, and quarters throughout the post.[160]

As completed in 1907, it housed an impressive collection of apparatus. A pair of Babcock & Wilcox boilers, 15

[159] Letter of unknown author but most probably Garland Whistler to the Adjutant General, January 14, 1909, Entry 89, File 246253, in RG 92, NARA.

[160] "Fort Worden Lighting System," n.d., Entry 89, File 364283, in RG 92, NARA.

feet tall and about 25 feet long, occupied the boiler room at the west end of the building. The boilers provided steam to three engines in the center section, and the engines in turn were connected to a trio of generators, each capable of producing 75 kilowatts. As initially planned, the generators would charge banks of batteries in the storage battery room, providing a constant source of power when the generators themselves were not in operation. The storage batteries were never provided, however, and instead an oil engine and generator were installed in the storage battery room to provide light for streets and buildings when the main plant was not available. The radiator for the oil engine had to be vented to the exterior, and to accommodate that need, an opening was cut into the northeast corner of the storage battery room. The opening could be closed by a sliding steel panel; the panel and its counterweight are still in place. Also included in the storage battery room was a separate generating set for Battery Kinzie, which also had its own integral power plant. The reason for the duplication of power generation for Battery Kinzie is not understood at this time.[161]

The power plant was connected to commercial power when it became available in 1914, and when smaller independent power plants were built at the fort in later years, they too were connected to the main facility. By 1931, the plant was listed as inactive although the equipment remained in place. It is not known when the boilers and generating apparatus were removed. The chimney, some 70 feet tall, no longer stands, and was perhaps removed at about the same time. The concrete base of the chimney remains, including its incorporated latrine.[162]

The power plant is a reinforced concrete building, 100 feet by 45 feet, that is scaled as a single story about 20 feet high; the western section of the building is somewhat taller at about 24 feet due to the lower grade. The length of the building is divided into seven bays by pilasters that rise from a water table to a molded cornice that delineates the flat concrete roof. The end walls are divided into three bays each and similarly detailed. The sills of most of the window openings rest on the water table, and all the door and window openings are finished with a decorative lintel. A protective earthen berm or parados was once located on the western side of the building, but it has been removed.

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The windows are fitted with double-hung steel sash arranged with six over six lights. Smaller single light sashes appear centrally in each bay just below the line of the cornice. Originally the windows were glazed with wire glass although it has been replaced with sheet glass. Double-leaf doors of different dimensions penetrate the west and south elevations; there is one single-leaf door at the rear immediately adjacent to the base of the chimney. The outer doors are riveted steel and follow the same design as in the fortifications. A single-pane window has been added to each leaf of the easternmost double door on the front elevation. A recessed entry with a wood double door has been set within the opening to the former engine room; the original steel doors are intact at this location and placed in an open position.

The interior division of three major spaces remains intact. A small work room within the storage battery room was accessible by doors at each end, providing the only access between the storage battery room and the engine room. The work room has been converted as a restroom and is accessible only from the engine room. A doorway has been cut through the concrete wall between the engine room and storage battery room to allow movement between the two spaces.

Quartermaster Storehouse (Building 324), 1902 (relocated 1909), no plan number; contributing building, good integrity.

[161] "Electric Plants, Fort Worden, Central Power Plant," February 15, 1917, file 341.1/706, in RG 77, NARA.

[162] "Forts Are Connected," *Port Townsend Daily Leader,* January 8, 1914, 4; Fort Worden Property Record, "Electric Lighting & Power," Q.M.C. Form 90, May 8, 1931.

This is one of the oldest frame buildings at Fort Worden, having served as a temporary barracks on top of the hill and relocated to its present site in the interior of the block behind the NCO quarters in 1909. While a construction date of 1898 is possible, it is more likely that it was built in 1902 to house the coast artillery troops who were arriving to take charge of the newly completed fortifications. More precise identification is difficult since no site plan has been identified that indicates the numbering system for the temporary buildings that were located in the vicinity of the ordnance storehouse (Building 409), the first permanent building of the Fort Worden garrison.

The gable-roofed wood-frame quartermaster storehouse is 24 feet by 124 feet resting on wooden piers. It is clad in drop siding, distinctive because of its unusual six-inch width; the siding on the south elevation is more narrow and likely the result of placing a large freight door at that location. There is a large entry doorway on the south elevation that has been closed. The original door at the location has been retained in place although that is not apparent from the exterior. Other access is via two openings in the east elevation. Windows are double-hung wood sash with six over six lights.

Functioning as a storehouse, the interior was a single unfinished space with exposed walls and a lightly constructed provisional office in the northeast corner. The building was rehabilitated in 2022. At that time, a ramp and walkway were built along the east elevation and fitted with the same steel and cable railing as at the commissary storehouse (Building 308) and with the same effect. The entries on the east elevation were historically equipped with sliding doors; they were replaced by a glazed panel and single-leaf glazed door at each location. The sliding doors themselves have been retained on the interior and appear to be functional. Also on the interior, insulation has been added to the walls and the underside of the roof, and utilitarian reflectors with caged lamps have been suspended to the level of the bottom chord of the roof truss. An enclosure for restrooms and mechanical space now occupies an area near the north entry. Several partitions that do not extend the full width of the building section off portions of the interior, and as a result the building retains a sense of its original volume. The office in the northeast corner has been retained. The roof was reshingled in cedar, and gutters and downspouts were added.

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Building 324 shares with the locomotive that was uncovered in 1973 and now stored in the garage (Building 365) the unusual distinction of being a rare surviving element of the initial construction phase at Fort Worden.

Civilian Employee Quarters (Building 325), 1905, no plan number; contributing building, high integrity.

The building is a unique design prepared by or under the direction of George Penrose, the Quartermaster Corps officer in charge of much of the early development of the garrison buildings. As first built, it was intended as little more than a dormitory for teamsters who were employed on the post. There were three rooms in the rectangular plan that measured 22 feet by 32 feet: a day room, a lavatory, and a sleeping room with provision for six beds. Exterior doors provided access to the lavatory and the day room.[163]

The teamsters relocated to new quarters above the wagon shed (Building 372) when that building was constructed in 1910. Their former quarters was then designated as the residence of the post plumber, who otherwise lived in town and had to make the one-and-a-half-mile trip to the fort at odd hours to take care of emergency repairs.[164] It was later consigned for use as an NCO quarters and remained so during the years of Fort Worden as a military post. A porch (later enclosed) and two small additions were made during this time so

[163] Undated plan set, E89, File 203201, in RG 92, NARA.
[164] Garland Whistler to the Adjutant General, May 6, 1909, E89, in RG 92, NARA.

that the building acquired its present appearance by 1941.

Located adjacent to the storehouse complex behind the NCO quarters, Building 325 is a single-story wood-frame structure sided with clapboards and covered by a gable roof in slate. A standing-seam metal shed roof extends over the porch, which runs the length of the east or entry façade; the two additions are provided with a similar roof. Most of the windows are double-hung, six-over-six sash, of several different proportions. A concrete ramp and stairs with pipe railings provide access to the front entry. Wooden steps with pipe railings extend from the enclosed rear porch addition. The foundation of the main building is brick and the additions are supported by a concrete foundation in one instance and posts in the other.

The enclosed front porch functions as a sitting area and is connected to the building proper through the original entry. The wall between the dayroom and the sleeping room has been removed, and that larger space has been divided into two bedrooms, a bath, and a living room. The former lavatory is now the kitchen. One of the small additions extends from the south wall of the main structure and adjoins the kitchen through what was the entry to the lavatory; the addition is now used as a bedroom. The other addition forms an enclosed porch that extends from the west side of the kitchen. Interior finishes are contemporary, with carpet and vinyl flooring in most rooms; what appears to be original fir flooring is exposed in one of the bedrooms. Lever hardware is present on all the doors.

The changes to the floor plan have not affected the exterior appearance of the building which, aside from the concrete entry ramp, retains much of the appearance that it acquired during the period of significance.

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Service Club (Building 326), 1941, OQMG 700-310; contributing building, good integrity.

Building 326 was originally identical in form and purpose to the regimental recreation building (Building 246); see the description for Building 246 for the original appearance of Building 326. The orientation of each differs by 90 degrees; the entry elevation of Building 326 faces east and the entry elevation of Building 246 faces south. Building 326 is located north of a parking lot at the northeast corner of Eisenhower Avenue and Noncommissioned Officers (NCO) Row.

Building 326 was altered to function as a service club in 1952. At that time, a large shed-roofed addition was constructed on the south side of the building. The windows were removed from the south side of the original building and placed on the addition, and access to the addition was provided by two double-door entry ways cut into the original building wall. The addition included a snack bar and separate television room; its large central space could be divided by a movable partition. At some later time, the original south wall of the building was removed so that the addition and the original building were combined as a single large space. Several wooden columns were added at the former wall line to carry the weight of the roof.

All the original exterior double doors have been replaced, and the single door at the stage end has been removed. Shed or gable roofs have been placed over the entries, and a concrete ramp with hand railings has been placed at the front entry. The two windows flanking the front entry have been removed; other windows are intact. The letters “USO” appear above the entries on the east and south; these appear to be additions associated with the making of a movie at Fort Worden in 1981 and not related to the historic use of the building. Only two of the original five ventilators remain on the roof.

The interior wainscot has been removed, and the fiberboard ceiling panels replaced with an unidentified material. The stage partitions have been removed although square piers suggesting a doorway and perhaps a proscenium have been added to either end of the stage. They are paneled with decorative molding, as are the columns supporting the south wall, and similarly detailed pilasters and cornice have been added to the lobby

end of the auditorium. These decorative additions are also associated with the 1981 film production.

The plans for the 1952 addition show restrooms in place at that time are configured according to Standard Plan 700-310L, suggesting that the original plan identification for Building 326 may have been in error. In any case, the present restrooms have been altered in size as well as in entry orientation. As with the regimental recreation building (Building 246), the stairs to the projection room have been removed and the port for the film projector walled over.

NCO Quarters (Building 332), 1905 and (Buildings 333 and 334), 1904, all QMGO Plan 82E; contributing buildings (3), high integrity.

NCO Quarters (Buildings 331 and 335), 1909 and (Buildings 352 and 353), 1915, all QMGO Plan 82L; contributing buildings (4), Buildings 331 and 335, high integrity; Buildings 352 and 353, good integrity.

These seven buildings are treated together because the primary difference between them is that Plan 82E omits the back porch that is included on Plan 82L. However, all of them now have an enclosed back porch, a change that was made at an early but unknown date.

The NCO quarters are wood-frame, two-story duplexes, clad with clapboards and covered by a cross-gabled roof in slate. The 1909 quarters (Buildings 331-335) stand on the east side of NCO Row, while the 1915 quarters (Buildings 352 and 353) are on the west side of the street. The central ridge of each building is marked by two chimneys in red or grey brick; a single chimney remains on Buildings 352 and 353 because of modifications in the interior plan. Foundations are variously poured concrete or cut stone, and the foundations of Buildings 352 and 353 are brick. Most windows are six-over-six double-hung wood sash; hall and bathroom windows are double-hung of two-over-two or three-over-three configuration. Paired rectangular louvered vents appear on the front and rear of the central gables.

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A full-length porch with a standing-seam metal roof runs the width of the front and rear of each building. The roof is supported by five square chamfered posts with simple wooden capitals. Pipe railings are placed between the posts on the front elevation, and clapboard walls fitted with double-hung, six-over-six wood sash appear between the posts on the rear elevation. Two sets of wooden steps lead to the front porch that is floored with narrow tongue-and-groove boards. The front porch serves both sides of the duplex. The enclosed back porch is divided by a wall so that each side of the duplex has its own portion of the porch. Access to either of the exterior porch doors is via several wooden steps to a landing that is flanked by square balusters.

Each side of the duplex has a common floor plan with a first floor containing a sitting room, kitchen, and stair hall and a second floor with two bedrooms and a bathroom. With the exception of Buildings 352 and 353 as well as expected changes to the fixtures and cabinetry in the bathrooms and kitchens, there have been few changes to the building interiors as constructed. The most notable alteration has been the removal of the wall that formed the stair hall. Originally the front door opened to the hall, which in addition to containing the stairway also had a doorway to the sitting room and at its far end a door to the kitchen. Now the front door opens directly to the sitting room, which with the removal of the stair hall wall, contains the stair to the second floor. Some duplexes retain a fragment of the stair hall as a mid-height pony wall next to the front door; this shortened wall serves to contain the heat register associated with the forced-air heating system in some of the buildings. The original line of the stair hall remains visible at the ceiling. The ceilings of the first-floor rooms in some of the buildings are pressed metal; elsewhere ceilings and walls are plaster over lath.

The kitchen contains a door to the basement, which also has an exterior entry, and a door to the enclosed back porch. A half-bath composed of a basin and a small room with a shower and toilet has been added to the porch

at most of the duplex units.

A single flight of stairs leads to the second floor. The wooden banister is supported variously by turned and square spindles (and sometimes both) and a wooden newel post that is more decorative in the first constructed quarters and greatly simplified in later buildings. The stair opens to a narrow landing that leads to a closet, the bath and bedrooms. The bathroom contains a tub (typically an iron claw-foot version), pedestal sink, toilet, and small cabinet. The front bedroom is slightly larger than the rear bedroom and contains a closet, which the rear bedroom does not.

With the exception of the pressed metal ceilings, interior finishes are simple. There are plain wooden door and window surrounds as well as baseboards, and some kitchens contain a drawer and cabinet dresser unit that appears to be early if not original. Doors are five-panel and hardware is pressed steel. Some of the duplexes have had doors added to the common wall.

The interiors of Buildings 352 and 353 were significantly modified under the administration of Washington State Parks to provide housing for an employee and family in Building 352 and universally accessible rental vacation housing in Building 353. In both cases, the plaster and lath was stripped to the studs and the floor plan altered. These changes impact the interior, and there is little indication of the alterations on the exterior.

Building 352 was altered to a single-family residence by closing the exterior front entry on the north half of the duplex, covering over the interior side of the entry with dry wall, and removing the common wall that separated the two sitting rooms. The rearmost chimney stack was removed and the two kitchens united by a doorway so that one of them became a dining room. One half of the back porch was converted to a bathroom and the other half became a utility room. There were fewer changes on the second floor: a door was placed in the wall where the chimney stack had been removed and bathrooms were upgraded with new fixtures.

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A wheelchair lift was added to the north end of the front porch of Building 353 and a landing built equal to the height of the threshold on the north entry door. On the interior, the stairway in the north half of the building was removed as was the wall separating the two halves of the duplex on the first floor. The wall separating the kitchens was also removed, creating a single large space; a portion of the original kitchen area in the former north half was converted to a bedroom that opened onto the enclosed back porch which was adapted as a bathroom with a roll-in shower enclosure. Upstairs, showers were added to the two bathrooms and one of the bedrooms was enlarged to take in the space originally occupied by the north stairwell. The large bedroom was provided access via a new hallway leading from the south stair landing, the hallway being constructed by introducing a wall that reduced the size of one of the adjoining bedrooms. The two bedrooms at the rear of the building were combined by removing the common wall and chimney stack.

Pétanque Courts, noncontributing structure

North of Building 352 are a series of pétanque courts, each about 12 feet by 45 feet, constructed in 2015. They are considered together as a noncontributing structure. The courts are flat and surfaced with coarse sand.

Upper Forest Campground and Restroom/Showers Building, noncontributing site, noncontributing building.

A campground with thirty-one sites and a modern restroom and showers building (counted separately as a noncontributing building) is located on the western edge of the garrison area, just west of Buildings 352 and 353. The campground dates to after acquisition of the area by Washington State Parks in the 1950s.

Firemen's Quarters (Building 336), 1909, QMGO Plan 230C; contributing building, high integrity.

Although designed to provide quarters for firemen, Building 336 seems to have functioned as a duplex NCO quarters during most of the historic period. Its distinctly residential character gives it an appearance that is different from other quarters on the post. The construction of the building was probably brought about by the construction of the power plant (Building 315). Its boilers and steam plant required a level of care that was beyond the skills of soldiers who were ordinarily detailed to stoke and maintain the boilers associated with the many individual heating plants in the buildings of the post.

Located at the northern end of NCO Row and facing west, the single-story building is clad in clapboards and is covered by a hipped roof in slate with bell-cast eaves; each of the two projecting entry porches on the west-facing elevation is covered by a hipped gable form also in slate. The rafters have scroll-cut ends. The entry porches are supported by bracketed square posts and pilasters, and closely spaced square balusters border the porch deck and flank the wooden steps. As originally constructed, a small open back porch was attached to the east or rear of the building, however these were enlarged and enclosed at an early date. Access to each back porch is via short flight of wooden steps to a small stoop that is flanked by square balusters. Windows are double-hung, six-over-one wood sash, and the front entry doors are glazed in a two-by-four pattern. The foundation is poured concrete, scored to resemble stone masonry.

The original floor plan provided for a large living room, bedroom, kitchen, and bath on each side of a common wall in the center of the building. The building was converted to a single-family home by removing the wall between the living room and bedroom in the north half to create a single large living room. The common wall was opened in part, and the bedroom in the southern half reduced in width to accommodate a hall that then linked the two units. The living room in the southern half became a bedroom as did the kitchen; the bathroom and closets in the southern half were retained. The kitchen in the north half has contemporary cabinets and appliances; the bathroom adjoining the kitchen has a claw-foot tub. Interior transom windows are in place, some of which are operable. The modifications of the floor plan are associated with the administration of Fort Worden by the State Department of Institutions in the late 1950s.

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Building 336 displays exceptional exterior integrity; the changes to the floor plan are easily understood.

Balloon Gas Generator Building (Building 356), 1921, OQMG Plan 9528; contributing building, high integrity.

Building 356 is one of two surviving support buildings associated with the balloon hangar (Building 26). The other is Building 357, immediately adjacent to Building 356. Both are located on the west side of a driveway that leads north from Eisenhower Avenue. There was also a storehouse built as part of the balloon hangar complex, but it is no longer extant. Building 356 housed the generating equipment for the hydrogen gas used to inflate the observation balloons; the gas was piped underground to the balloon hangar, located about 300 feet away to the southeast.[165]

Building 356 is a single-story riveted steel frame structure clad with corrugated iron panels, measuring 60 feet by 65 feet. It was constructed as a single undivided space, and its structural rigidity was established by a steel grid of riveted intersecting members at the ceiling line; steel trusses for the gable roof rise above the grid work. The roof is clad with corrugated iron panels; four distinctive ventilators rise from the ridge line. Windows are fixed steel sash with nine lights arranged in two groups of five on the north and south elevations. Within each window sash, the center row of three lights is a separate operable awning sash that swings inward. The floor is

[165] "Fort Barry Balloon Hangar and Motor Vehicle Sheds, Abbreviated Historic Structure Report," Golden Gate National Recreation Area, National Park Service, ca. 2004, 16.

concrete.

Access is via a large equipment entry in each gable end; each entry opening is closed by double sliding doors. Both sets of sliding doors are intact, however the west entry is not used because of ground configuration at that end of the building; a modern roll-up door has been installed in the east entry because the sliding doors are difficult to operate. The sliding doors at the east entry remain in an open position allowing for the use of the roll-up door. The sliding doors are mounted internally and are not visible when in the open position. The roll-up door is not visible from the exterior when the sliding doors are closed and has been installed in a manner that does not impact the historic fabric.

The building is currently used for storage of stage equipment and a small wood-partitioned work space has been constructed in the northwest corner.

Garage (Building 357), 1921, OQMG 118; contributing building, high integrity.

Building 357 was one of three buildings built to support the balloon hangar and was intended to provide storage for the vehicles associated with balloon operations. It is located immediately north of and adjacent to Building 356. The third building is no longer extant.

It is a single-story wood-frame building, 29 feet, 6 inches wide and 70 feet long. Its east-facing entry elevation is marked by seven pairs of hinged double entry doors. The doors are original and are constructed from vertically set narrow boards overlaid by over-and-under cross braces. There is an original single-leaf paneled pedestrian door centrally placed in the west elevation; a second pedestrian door at the south gable end is a modern addition. Illumination is provided by sliding wood sash windows with six lights in a two-by-three configuration. There are two windows on the gable ends and three pairs of windows along the rear wall; all the windows are protected on the outside with grillwork. The grillwork is a later addition of unknown date and appears to have originated at another building since it does not fit the window openings of Building 357.

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The gable roof is clad with asphalt shingles that have replaced the original rolled roofing material. Three ventilators are placed on the ridge line.

The interior is a single undivided space with no ceiling or wall cladding. The exposed roof sheathing consists of planks running from the ridge board to the eaves, supported by purlins that rest directly on the trusses. The floor is concrete.

Garage (Building 358), construction date unknown, no plan; contributing building, good integrity.

Located northwest of Building 352 (NCO quarters), this wood-frame garage is clad in drop siding with a gable roof and double doors. The recorded construction date of 1932 is likely incorrect since Building 358 is identified on building inventories as being a storehouse, 25 feet by 50 feet in plan, however the present building is less than a quarter of that size, measuring 12 feet, 3 inches by 22 feet, 4 inches. It may be that the present garage was reconstructed from the materials salvaged from the original building, which itself may have been salvaged from buildings associated with the World War I cantonment.

Quartermaster Storehouse (Building 364), 1917, no plan number; contributing building, good integrity.

Given its date of construction, it is likely that this building originated with the World War I cantonment buildings and was later moved during the period of significance and likely during World War II to its present location next to the garage (Building 365) northwest of NCO Row. It is a single-story wood-frame structure with drop siding; it rests on a concrete foundation with a gable roof clad in composition shingles. Wood sash

windows with three over three lights are ganged on the north and south elevations, and there is a modern roll-up garage door on the west end. The windows and garage door are modifications associated with its later use as a vehicle paint shop and may reflect an activity associated with the State Department of Institutions.

Garage (Building 365), 1920, no plan number; contributing building, good integrity.

The garage is a single-story wood-frame building with drop siding and covered by a gable roof clad with asphalt shingles that replaced the original rolled roofing. Its construction date of 1920 and the absence of a plan number suggest that it was constructed from a local design using material salvaged from World War I cantonment buildings. It is a simple utilitarian structure whose existence underscores the changing nature of transportation requirements at Fort Worden as cars and trucks replaced mule- and horse-drawn wagons.

Standing northwest of NCO Row and facing north, it is a large building measuring 50 feet by 100 feet. Its most distinctive feature is the nine pairs of hinged double garage doors arranged along the north façade. The doors are constructed from vertically set narrow boards overlaid by over-and-under cross braces. A single pedestrian door appears between the first and second garage door pairs at the eastern section of the building; closed openings for a pedestrian door are on the west and south elevations. Originally there was a glazed transom above each garage door opening. Four of these remain but others have been removed to allow for an increase in door height. Five sets of similarly detailed garage door pairs are on the south elevation, and more may be in place but not observable because of the plywood panels that cover a portion of the wall area.

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There are six double-hung wood sash windows on the east and west elevations with six over six lights. The windows on the east are intact and have been repaired recently; those on the west are missing some glazing, and the bottom sashes have been closed with plywood panels.

The interior is filled by storage, and its original configuration is difficult to determine. Today it consists of spaces that run the full width as well as partitions that create smaller rooms. Some of these smaller areas are faced with double garage doors on the interior side. These doors are plywood, suggesting that they are a later addition made at an unknown date. The building is also the location of two other contributing resources that have been relocated here for safe-keeping pending an appropriate preservation treatment: the cab for Searchlight No. 5 and Porter locomotive #1117.

Cab, Searchlight No.5

The searchlight cab on its original site sat on a tower of iron structural shapes about 20 feet above the ground surface. It is a small building, 16 feet square and 11 feet high. The walls are galvanized iron, stamped to resemble narrow clapboard siding; the roof is mansard in form and originally glazed with wire glass panels although those panels are now broken out. There is a single-entry doorway, and a narrow observation window runs below the eave line, indicative of the original use of the building as a fire control station. There have been no modifications of the building other than those made in 1910 as required by its conversion to a searchlight shelter and its removal from its historic location; the searchlight and attendant operating equipment are no longer present.

The cab is included in the National Historic Landmark designation without identifying it as contributing or noncontributing because it is not counted separately from the contributing building where it is currently stored. However, the lack of classification could be interpreted to suggest that the cab is not significant, which is not the case as it is a rare survivor of a once common property type in Endicott fortifications. The management goal is to rehabilitate the cab and return it to its original location on the sandspit. At such time, it would be considered a contributing resource.

Porter Locomotive #1117, 1889, contributing object, low integrity.

Currently stored in the garage (Building 365), Porter Locomotive #1117 was built in 1889 for the Port Townsend Construction and Street Railway Company and was acquired by the Corps of Engineers after the bankruptcy of the original owners in 1894.[166] By 1910, it was considered not economically repairable and was buried as a means of disposal. It was exhumed and relocated in the 1970s and has been stored in several protected locations since that time. It has an 0-4-2 wheel configuration and is without its wooden engineer's cab. All useful components were removed prior to its disposal and it exists now as little more than a boiler resting on its wheeled frame. It is typical of the small construction locomotives of the day and owes its particular significance to its association with the construction of the fortifications.

Wagon Shed and Teamsters' Quarters (Building 372), 1910, no plan number; contributing building, high integrity.

The large and impressive wagon shed owes its origin to the proposals of Garland Whistler, Fort Worden's commanding officer in 1909, who suggested an ambitious program of new construction and remodeling to accommodate the growing number of soldiers being stationed at the post. The wagon shed faced to the north a similarly sized and detailed stable across a large open area in the northwest corner of the garrison. The stables, built at the same time as the wagon shed and a companion structure to it, is believed to have been removed in the 1960s, leaving the wagon shed as the only wholly new building that remains from Whistler's 1909 program.

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Whistler identified eight buildings that were too small to adequately meet the needs of the growing post. He wanted the existing quartermaster stables and wagon shed (Buildings 306 and 308) replaced with new buildings, and the stables remodeled to serve as the commissary sales and storeroom, taking that function out of the quartermaster and commissary storehouse (Building 305). The existing wagon shed would be remodeled as a storehouse to be shared between the quartermaster department and the commissary. The teamsters would move from their dormitory (Building 325) to a new dormitory in the new wagon shed, freeing their former quarters to be occupied by the post plumber. Additional changes involved the conversion of the coal shed (no longer extant) adjacent to the wharf to the district ordnance repair shop (no longer extant), constructing a new coal shed closer to the power plant (Building 315), and reassigning the use of spaces in the ordnance repair shop and the quartermaster workshop (Building 313)

The wagon shed is a wood-frame building, 162 feet long and 24 feet wide, sided with clapboards and resting on a concrete foundation. Its one-and-a-half-story center section is flanked by a single-story bay at each end. A gable roof clad with slate extends over the center portion, and each end bay is covered by a standing-seam metal hipped roof. Three ventilators are placed on the ridge of the center section, and a brick chimney rises from each gable end; there are no penetrations in the roofs of the wings.

The front of the building faces north and is characterized by a ground floor that is divided into thirteen open bays; originally there were fourteen open bays but one has been enclosed to create a storage space. There are no divisions between the bays other than the posts that support the upper floor. The outermost posts are fitted at the base with cast-iron wheel guards. Each of the wings contains two bays that were closed by heavy wooden doors. The doors are intact on the western end and missing on the eastern end. The distinctive doors are built up from a herring bone pattern of tongue and groove material that is overlaid by boards with chamfered edges that divide the surface into small and large squares. The interior back wall of the bays is unfinished and the heavy framing

[166] Port Townsend Construction and Street Railway Co., photograph, Transportation Collection, Jefferson County Historical Society (Washington State), Digital Public Library of America, https://dp.la/item/51f270fe528dd3d5a43071b74025a3b3, accessed April 30, 2024.

is exposed.

The second floor on the north and south elevations features double-hung wood sash windows with two over two lights. The windows rise above the wall plane and through the eave line where each is capped by a gambrel roof wall dormer. There are seven dormer and window units on the north; on the south elevation, there are five window dormers and two dormers that contain exit doors. There are two additional double-hung windows on the second floor at the gable ends immediately above the wings. There are two small window openings on the end wall of each wing; the openings have been closed with plywood panels and the sash type and configuration is not known.

The teamsters' quarters were located on the second floor of the wagon shed. Access to the second floor is via an enclosed interior stairway placed centrally in the north elevation. The narrow wooden stairway rises through several short flights within the stair shaft that is paneled with horizontally laid bead board. Balusters and newel posts are square with a decorative bull's eye at the base of each newel post. The stair opens to a hall landing that leads to a large open dormitory room to the west and several small rooms to the east; a small bathroom is directly opposite the landing. The walls and ceiling of all the rooms are clad with the same bead board.

The wagon shed and teamsters' quarters building displays few alterations overall, and its second floor is notably intact, making this utilitarian structure one of particularly high integrity.

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Maintenance Building (Building 398), 2018, noncontributing building.

A modern, architecturally compatible maintenance facility is located north of Building 372. It is a one-and-a-half story building with a gable roof, oriented east-west. The roof is marked by three prominent gables, each above an equipment bay faced with double doors. A shed-roofed extension runs the length of the building on its south elevation. It has polymeric roof tiles and is clad in fiber cement lap siding. The building is not visible from most locations within the boundaries of the nominated property.

Guard Shack (Building T-22), date of construction unknown, contributing building, good integrity.

Building T-22 is located at the northwest corner of the parade ground at the intersection of Eisenhower Avenue and Fort Worden Way (Road No. 5 and Road No. 6 during the period of significance). It is believed to be the same building that was originally placed just inside the main gate at Cherry Street. It is of wood-frame construction, clad in clapboard, hexagonal in plan, and with two sides of unequal length: the entry wall and its opposite are longer than the end walls, resulting in a distinctive roof shape that is basically hipped in form but with two intersecting slopes at each end. It is about 7 feet tall and about 5 feet wide. There is a single-leaf entry door, and window openings appear on five of the sides. It had been previously placed in a storage yard adjacent to the wagon shed (Building 370). It was in deteriorated condition at that location, but it has been rehabilitated and is in current use as an information booth.

A guard shack was a typical feature of military reservations and usually placed at entry points to the property. They were simple shelters, often portable, and not always cataloged in building inventories. Historical references mention a guard at the gate of Fort Worden from the earliest days of occupation, although photographs of a guard shack at that location do not appear until World War I or somewhat later. At that time the shack was located on the west side of the main gate; it was six-sided and featured windows smaller than those of Building T-22. Building T-22 was located on the east side of the entry, and its placement there may have been associated with changes to the appearance of the main gate late in the period of significance. It is a rare survivor, and although it lacks integrity of location and setting due to its relocation away from an entry point, the building retains a high degree of architectural integrity. The guard shack was also designed to be

movable and could be relocated again to a more historically compatible location to better illustrate its original function. It qualifies for inclusion as a contributing resource under Exception 2. Current signage on the building identifies it as number 23; that designation appears to be incorrect as Building T-23 was a larger, rectangular plan building identified in the Fort Worden Report of Excess Property as the Hill Guard House. The same document refers to T-22 as the Cherry Street Gate Guardhouse and notes that it is a six-sided building.[167]

Integrity

Location

All the contributing resources described in the nomination remain where they were constructed or relocated to during the period of significance, with the exception of the Porter locomotive, currently stored in the garage (Building 365), as well as the temporary noncommissioned officer's quarters (Building 235), and the guard shack (Building T-22). Relocation of these resources only minimally affects the district's overall integrity of location. Searchlight No. 5 (currently located in the garage and not counted separately) and the guard shack could also be restored to their original locations at a future date.

Design

The contributing resources of Fort Worden are expressions of three differing examples of military architecture: the design of the Endicott period fortifications, the design of late nineteenth- and early twentieth-century garrison buildings, and the design of World War II-era coastal fortifications and cantonment buildings.

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The fortifications and their adjuncts are exceptional demonstrations of the goals of the Endicott Board to create defenses that were designed to blend into the landscape and to incorporate the most modern technology available. As military architecture. Fort Worden contains a diverse collection of batteries that reflect the refinement of design over time, and in the massive structure that comprises Batteries Ash, Randol, and Quarles, a singular example of the independence of designers in creating fortification forms that departed from conventional approaches.

The garrison buildings of Fort Worden are an intact collection of largely frame buildings that reflect the army's intent to erect posts that have a military character and whose design should be based on "local and natural traditions."[168] Together, they represent the desire of the Secretary of War in 1893 for posts that give "the promise of permanency" and be constructed of "brick, stone or other enduring material and of solid workmanship."[169] The design of Fort Worden as a garrison post admirably fulfilled those expectations and is retained in the current building stock. Modifications to garrison buildings since the period of significance have been compatible with the historic design intent, and a high level of integrity is retained. Integrity of landscape design is also retained in the road system, the cluster arrangement of buildings, and the spatial arrangement of the central garrison around the historic parade ground.

Fort Worden also contains structures that were designed in response to attack from the air and that were essential in the joint defense with Canada of the Strait of Juan de Fuca during World War II. The combined

[167] "Schedule A – Supplement to Report of Excess Property," undated but probably 1956, 2.
[168] Paul Chattey, *Context Study of the United States Quartermaster General Standardized Plans 1866 – 1942,* U.S. Army Corps of Engineers, Seattle District, Technical Center of Expertise for Preservation of Buildings and Structures (November 1997), 7.
[169] Ibid., 6.

HDCP/HECP (Building 430) and associated Groupment Command Post (Building 431) are unchanged from the period of their construction and retain their essential design features.

Setting

Occupying the headland that marks the union of Admiralty Inlet with the Strait of Juan de Fuca, Fort Worden looks out on a broad waterway that was established in the last ice age. Small-scale residential buildings occupy the street that forms the southern boundary of the post and include homes built during the period of significance as well as later. The western boundary is largely undeveloped and retains much of the appearance that it had when Fort Worden was established. Views across Admiralty Inlet to Marrowstone Point (the location of Fort Flagler) and Whidbey Island (the location of Fort Casey) further contribute to integrity of setting by demonstrating Fort Worden's relationship to other installations that constituted the Puget Sound defense system. These aspects taken together place Fort Worden in a setting that has substantial integrity.

Materials

The construction materials used in the post buildings and in the fortifications are mostly intact and unaltered. The garrison buildings remain in use and all recent work has been carried out according to the Secretary of the Interior's *Standards for the Rehabilitation of Historic Buildings*; repair or replacement of historic materials was carried out in kind. The concrete fortifications retain most of their steel and iron elements, with some deterioration as a result of exposure to the marine environment. The materials accurately reflect the period in which Fort Worden was established and developed.

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Workmanship

The carpentry and masonry in the post buildings is of a high order and is evidence of the well-developed building tradition prevalent at the time. The concrete work of the fortifications was carried out in an exceptional manner and the characteristic fine finish of that material is especially notable. The contributing garrison buildings and fortifications generally retain these examples of workmanship.

Feeling

Fort Worden remains unmistakably an Endicott period military post that expanded during World War II. The design of the garrison buildings, the arrangement of barracks and officer's quarters around the central parade ground, and the fortifications themselves are key features that easily recall the period in which they were constructed and visibly reinforce the impression that the fort had a valuable role in national defense. Integrity of feeling is somewhat diminished by the loss of much of the original 1898 garrison (which, with the exception of the Ordnance Storehouse [Building 409], was never intended to be permanent), alterations to some buildings by the Washington State Department of Institutions beginning in 1958, and the addition of some noncontributing buildings associated with the development of the state park. Many changes, however, are generally consistent with the changing function and refinement of design of army coastal defense installations during the period of significance. Changes after the period of significance are also minimal in comparison with other similar properties and a high level of integrity of feeling is still retained.

Association

Fort Worden has a clear and distinct connection with the fortification program established at the end of the nineteenth century and the historic role of fortifications as the preferred means of protecting key harbors prior to

the advent of military aircraft. Moreover, that association continued through the years of World War II and incorporated a unique role with Canada in the defense of a water area that was much more extensive than initially contemplated. The historic character of the fort's intact contributing resources provides a strong link with those important events.

Identification of Contributing and Noncontributing Resources

Evaluations of individual resources made for the 1974 National Register of Historic Places listing and the 1976 National Landmark designation reflect the documentation and evaluation standards of that time and that have since been more fully developed by the National Park Service. The evaluations also did not include consideration of properties that were then less than fifty years old, did not include a list of noncontributing resources, and did not include a complete identification and evaluation of contributing resources. The identification of contributing and noncontributing resources included in this current nomination is based on changes that have occurred within the district since the time of the initial designation, the completion of an updated survey, additional research using materials that have become available over the last forty years, and the use of current National Historic Landmark evaluation standards.

The boundaries of the Fort Worden NHL include fifteen garrison buildings constructed as part of the mobilization for World War II. The basic organizational element of buildings erected under the mobilization program was the six-building cluster that provided for the needs of a single company: three 63-man barracks, a mess hall, a day room, and a storehouse and administration building.[170] That cluster was repeated as often as necessary to house and support the troops assigned to any location. Building removals at Fort Worden after the departure of the military resulted in the loss of the cluster arrangement present during the period of significance.[171] Despite this, individual examples of barracks, day rooms, and storehouse and administration buildings still stand and contribute to the historic district as representative examples of World War II cantonment buildings constructed to support Fort Worden's role in coastal defense. The fifteen buildings that remain were instrumental to Fort Worden's wartime mission.

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Four additional properties constructed during World War II are also included as contributing resources. The HDCP/HECP (Building 430) and the associated Groupment Command Post (Building 431) are intimately associated with the development of a combined defense with Canada during the war and with the history of coastal defense. The wharf (Building 533) and its associated warehouse (Building 532), both constructed in 1943, owe their importance to the existence of a water link with Fort Worden since the time of its initial construction. Wharves are vulnerable structures, subject to damage by storms and degradation by teredo, and their wood pilings and decks are frequently replaced in whole or in part. The present wharf and its warehouse are in the same area as the previous two wharves on the site and have the same general appearance as those earlier structures.

A number of potentially significant buildings were erected and removed within the period of significance, and for the most part there is little to mark their former existence. Some were built with concrete foundations and these foundations remain in scattered locations; examples include those for the searchlight shelters that were built adjacent to the balloon hangar. Foundations are not considered to be contributing with the exception of four locations that contain the surviving evidence of important aspects of Fort Worden's past.

Three of the four locations are in the upland area. Included as contributing properties are the four foundations

[170] Garner, *World War II Temporary Buildings*, 66.
[171] Ibid., 85.

for the mess halls (Buildings T-420, T-421, T-422 and T-423) and latrine (Building T-424) built behind the main battery; these buildings served the tent encampments of National Guard troops during their seasonal training. The foundation for the National Guard officers' mess hall (Building T-416) is excluded from consideration because of later additions. The National Guard training camps were an important activity during the 1920s and 1930s, and no other resource distinctly and solely associated with the National Guard exists. The second location is the foundation for Building 401, the 1898 engineer's quarters adjacent to Memory's Vault. The Memory's Vault sculpture itself is contained within and incorporates the foundation of Building 400, the engineer's office, and has resulted in a loss of integrity for that resource. The foundation for the engineer's quarters is intact, as is the associated concrete walkway. Civilian employees of the Corps of Engineers had a continuing presence at Fort Worden and occupied both buildings throughout the period of significance. The third location includes the foundations and instrument pillars associated with Buildings 427 and 429. These resources are the best remaining evidence of the Barrancas system of fire control that was in place for most of Fort Worden's active years and represent a key building form that is no longer extant.

The fourth location is on the sandspit. When the cab or house section of Searchlight No. 5 was removed and placed in storage, the intent was to repair and rehabilitate the structure so that it could be returned to its original site. Identifying the foundation of Searchlight No. 5 as contributing supports the intent and recognizes the unique place of the structure within the history of Fort Worden as well as its formerly iconic place in the landscape.

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Several noncontributing foundations are worth mentioning. The three large concrete pads (the sites of Buildings T-540, T-541, and T-542) on the sandspit are associated with the use of Fort Worden by the army's amphibious units after World War II. The warehouses that sat on the pads were built about 1950 and removed in the early 1970s as part of the development of the state park. Their construction is outside the period of significance. The foundation to the south of Battery Randol (no building number) is probably that of a building associated with the planned transfer of the tramway from the Corps of Engineers to the post quartermaster in 1908. By that time, the heavy construction at the top of the hill was finished and there was little need for the tramway. However, the Corps of Engineers did have use for the steam hoisting engine at the head of the tramway since it could be relocated to support the work at Battery Kinzie, then about to get underway. The tramway also had been used by the artillery troops to move supplies from the wharf to the fortifications, thus avoiding a trip of about two miles with a mule team and wagon. The post quartermaster proposed that the tramway be transferred from the engineers so that the use could continue and planned as well to replace the steam hoisting engine with a cable drum powered by an electric motor. There is no record of the transfer being completed, although all parties agreed to it, and there are surviving plans that show a shelter designed to house the drum and motor that rested on a foundation of dimensions that are almost identical to the dimensions of the foundation that survives next to Battery Randol. It may be that the foundation was prepared but the installation never completed since there is no archival correspondence that relates to the tramway operating after 1908. The foundation is considered a noncontributing feature because of its conditional identification as well as an incomplete understanding of its individual history of use.[172]

a. Summary List of Contributing Resources

As outlined at the beginning of this section, the present updated nomination divides the Fort Worden property into three geographic sections: the Point Wilson sandspit, the uplands, and the geographic saddle that is the location of the garrison building core. The tables below follow that organization.

[172] See correspondence in NARA, RG92, Entry 89, File 197419.

Point Wilson Sandspit

Historic Name	Number	Construction Date	Current Use	Classification
Cable Storehouse	501	1910	Restrooms and deli	Building
Ordnance Machine Shop	502	1921	Marine Science Center	Building
Boat Storage	526	unknown	Kitchen shelter	Building
Warehouse	532	1943	Marine Science Center	Building
Wharf	533	1943	Wharf	Structure
Searchlight No. 5 Powerhouse	594	1911	Vacant	Building
*Searchlight No. 5 Site	596	1911	Vacant	Site
Battery Kinzie	598	1910	Vacant	Structure
Battery Vicars	599	1900	Vacant	Structure
Cable Terminal	None	1903 estimate	Vacant	Structure

*The cab of Searchlight No. 5 has been removed and is currently stored in Building 365. It will be included as a contributing property once it has been rehabilitated and returned to its original location.

Uplands

Historic Name	Number	Construction Date	Current Use	Classification
Engineer Quarters	401	1898	Vacant	Site
Ordnance Storehouse	409	1903	Vacant	Building
Militia Storehouse	413	1915	Vacant	Building
District Signal Station	414	1909	Vacant	Building
Reservoir	418	1912	Vacant	Structure
Combined Primary Station	427	1908	Vacant	Site
Combined Primary Station	429	1908	Vacant	Site
Battle Command Station	None		Vacant	Site
HDCP/HECP	430	1943	Vacant	Building
Groupment Command Post	431	1943	Vacant	Building
Switchboard	433	1918	Vacant	Structure
Mortar Battery Powerhouse	435	1920	Vacant	Building
Main Battery Powerhouse	488	1920	Vacant	Building
Batteries Brannan and Powell	493 A, B, C, D	1901	Vacant	Structures (2)
Batteries Brannan and Powell Mortar Battery Headquarters	None	1901	Vacant	Building
Batteries Brannan and Powell Data Booths	None	1901	Vacant	Buildings (4)
Battery Brannan Plotting Room	None	1915	Vacant	Site
Battery Powell Plotting Room	None	1915	Vacant	Site
Battery Randol	494 A, B	1900	Vacant	Structure
Battery Randol Aux. Building	None	1900	Vacant	Building
Battery Quarles	495 A, B, C	1900	Vacant	Structure

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Historic Name	Number	Construction Date	Current Use	Classification
Battery Quarles Aux. Building	None	1900	Vacant	Building
Battery Ash	496 A, B	1900	Vacant	Structure
Battery Ash Aux. Building	None	1900	Vacant	Building
Battery Benson	497 A, B	1906	Vacant	Structure
Benson Battery Commander's Station	None	1932	Vacant	Building
Battery Tolles	498 A, B, C, D	1906	Vacant	Structure
Battery Tolles Primary Station	None	1908	Vacant	Site
Battery Walker	499 A, B	1906	Vacant	Structure
Parados between Batteries Ash and Benson	None	Unknown	Vacant	Structure
Pedestrian Tunnel behind Battery Benson	None	Unknown	Vacant	Structure
Battery Kinzie Primary Station (original)	None	1912	Vacant	Building
Battery Kinzie Primary Station (replacement)	489	1931	Vacant	Building
Searchlight No. 4 Shelter	492	1911	Vacant	Building
Searchlight No. 4 Powerhouse	498E	1911	Vacant	Building
National Guard Mess Hall	T420	1933	Vacant	Site
National Guard Mess Hall	T421	1933	Vacant	Site
National Guard Mess Hall	T422	1933	Vacant	Site
National Guard Mess Hall	T423	1933	Vacant	Site
National Guard Latrine	T424	1933	Vacant	Site
Anti-aircraft Firing Platforms	None	1931	Vacant	Structure (4)

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Saddle – Garrison Buildings

Historic Name	Number	Construction Date	Current Use	Classification
Commanding Officer's Quarters	1	1904	Museum	Building
Garage	3	1920	Garage	Building
Captains' Quarters	4	1904	Housing	Building
Lieutenants' Quarters	5	1904	Housing	Building
Lieutenants' Quarters	6	1904	Housing	Building
Lieutenants' Quarters	7	1904	Housing	Building
Garage	8	1922	Garage	Building
Lieutenants' Quarters	9	1905	Housing	Building
Lieutenants' Quarters	10	1905	Housing	Building
Captains' Quarters	11	1905	Housing	Building
Garage	13	1932	Garage	Building
Commanding Officer's Quarters	15	1905	Housing	Building
Officers' Family Quarters	16	1915	Housing	Building
Chapel	24	1941	Meeting space	Building

Historic Name	Number	Construction Date	Current Use	Classification
War Department Theater	25	1932	Performance space	Building
Balloon Hangar	26	1921	Performance space	Structure
Administration Building	200	1908	Administration	Building
Barracks	201	1904	Museum	Building
Barracks	202	1904	Peninsula College	Building
Barracks	203	1905	Housing	Building
Barracks	204	1905	Meeting space	Building
Band Barracks	205	1904	Corvidae Press	Building
Administration Building	223	1904	Centrum	Building
Battery Stoddard	224 A, B, C, D	1906	Storage	Structure
Two-Company (Double) Barracks	225	1908	Housing	Building
Alexander's Castle	229	1886	Housing	Building
Battery Putnam	234	1906	Vacant	Structure
Officers'/Noncommissioned Officers' Quarters	235	1917	Housing	Building
Quarters	245	1903	Park staff housing	Building
Regimental Recreation	246	1941	Meeting space	Building
Storehouse and Administration	255	1941	Housing	Building
Company Recreation	256	1941	Housing	Building
Storehouse and Administration	259	1941	Housing	Building
Company Recreation	260	1941	Housing	Building
Company Recreation	261	1941	Housing	Building
Storehouse and Administration	262	1941	Housing	Building
Garage	269	1932	Garage	Building
Hospital Steward's Quarters	270	1904	Housing	Building
Barracks	272	1941	Housing	Building
Barracks	275	1941	Housing	Building
Storehouse	296	1941	Park shop	Building
Barracks	277	1941	Housing	Building
Hospital	298	1904	Goddard College	Building
Guard House	300	1904	Pub	Building
Commissary Storehouse	304	1941	Artist space	Building
Quartermaster Storehouse	305	1904	Centrum, radio station	Building
Commissary	306	1904	ArtX	Building
Storehouse	308	1905	Northwind	Building
Service Station	309	1920	Service Station	Building
Post Exchange and Gymnasium	310	1906	Madrona MindBody Inst.	Building
Quartermaster Workshop	313	1905	Copper Canyon Press	Building
Power Plant	315	1907	Woodworking school	Building
Quartermaster Storehouse	324	1909	Northwind	Building
Civilian Employee Quarters	325	1905	Housing	Building
Service Club	326	1941	Meeting space	Building
Noncommissioned Officers' Quarters	331	1909	Housing	Building
Noncommissioned Officers' Quarters	332	1905	Housing	Building

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Historic Name	Number	Construction Date	Current Use	Classification
Noncommissioned Officers' Quarters	333	1904	Housing	Building
Noncommissioned Officers' Quarters	334	1904	Housing	Building
Noncommissioned Officers' Quarters	335	1909	Housing	Building
Firemen's Quarters	336	1909	Housing	Building
Noncommissioned Officers' Quarters	352	1915	Housing	Building
Noncommissioned Officers' Quarters	353	1915	Housing	Building
Balloon Gas Generator	356	1921	Storage	Building
Garage	357	1921	Garage	Building
Garage	358	1921	Storage	Building
Quartermaster Storehouse	364	1917	Storage	Building
*Garage	365	1920	Storage	Building
Porter Locomotive #1117	None	1889	n/a	Object
Wagon Shed	372	1910	Storage	Building
Guard Shack	T22	Unknown	Information Booth	Building
Parade Ground	None	1904	Recreation	Site
Tennis Court	None	1904	Recreation	Structure
Retaining Wall	None	Unknown	n/a	Structure
Cemetery	None	1902	Cemetery (inactive)	Site

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*The cab of searchlight No. 5 has been removed and is currently stored in Building 365. The cab will be included as a contributing resource once it has been rehabilitated and returned to its original location.

b. Summary List of Changes to Contributing Resources since the 1976 Landmark Designation, Date of Change Indicated

Removal of Building 427 – combined primary station (1982)
Removal of Building 426 – dormitory (unknown date)
Salvage of Building 596 – searchlight No. 5 (2003)
Adaptive reuse of Building 26 – balloon hangar (1990)
Adaptive reuse of Building 300 – guard house (1979, 1999, 2016)
Adaptive reuse of Building 202 – barracks (2016)
Adaptive reuse of Building 204 – barracks (1998)
Adaptive reuse of Building 229 – Alexander's Castle (2001)
Adaptive reuse of Building 305 – quartermaster storehouse (2022)
Adaptive reuse of Building 308 – storehouse (2022)
Adaptive reuse of Building 324 – storehouse (2022)
Adaptive reuse of Building 502 – ordnance machine shop (2001)
Adaptive reuse of Building 501 – cable storehouse (1980s)
Adaptive reuse of Building 353 – NCO quarters (2006)
Adaptive reuse of Building 532 – dock warehouse (1988)

c. Summary List of Noncontributing Resources

The Commons, Building 210
Storehouse and Administration, Building 221
Seminar, Building 297
Maintenance, Building 398
Memory's Vault, Building 400 (site)
Beach Campground (site)
Beach Campground Restrooms (3)
Upper Forest Campground (site)
Upper Forest Campground Restroom
Pétanque Courts (structure)

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The Coast Defense Study Group is an enthusiast organization whose membership is concerned with the research, documentation, and protection of historic coastal fortifications, primarily in the United States. In support of its interest, it has accumulated an extensive collection of source material, most of which was copied from holdings in the National Archives. The collection is useful, however almost all of it is without provenance; as a result, it is included here without indication of the location of the original documents. These documents are generally available online at Coast Defense Study Group, "Harbor Defenses of the Puget Sound, 1899–1947," https://cdsg.org/harbor-defenses-of-the-puget-sound/, and "Historical Documents: The CDSG Digital Library,"

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Previous documentation on file (NPS):
_X_ Previously listed in the National Register (fill in 1 through 6 below)

__ Not previously listed in the National Register (fill in **only** 4, 5, and 6 below)

1. NR #: 74001954
2. Date of listing: March 15, 1974
3. Level of significance: National
4. Applicable National Register Criteria: A_X_ B__ C_X_ D__
5. Criteria Considerations (Exceptions): A__ B__ C__ D__ E__ F__ G__
6. Areas of Significance: Military, Engineering

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__ Previously Determined Eligible for the National Register: Date of determination:
_X_ Designated a National Historic Landmark: Date of designation: December 8, 1976
_X_ Recorded by Historic American Buildings Survey: HABS No. WA-153
_X_ Recorded by Historic American Engineering Record: HAER No. WA-23
__ Recorded by Historic American Landscapes Survey: HALS No.

Location of additional data:

State Historic Preservation Office:

Other State Agency: Washington State Parks and Recreation Commission, 1111 Israel Rd. SW, P.O. Box 42650, Olympia, WA 98504-2650

Federal Agency:

Local Government:

University:

Other (Specify Repository):

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Maps and Figures Log

Maps

Map 1: Fort Worden, location and boundary.

Map 2: Fort Worden site plan, overview. Noncontributing resources are marked "(NC)." Washington State Parks and Recreation Commission.

Map 3: Fort Worden site plan, Point Wilson sand spit. Noncontributing resources are marked "(NC)." Washington State Parks and Recreation Commission.

Map 4: Fort Worden site plan, uplands. Noncontributing resources are marked "(NC)." Washington State Parks and Recreation Commission

Map 5: Fort Worden site plan, saddle (garrison). Noncontributing resources are marked "(NC)." Washington State Parks and Recreation Commission.

Figures

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Figure 2: Looking northwest across the parade ground where a baseball game is in progress. Alexander's Castle (Building 229) is to the extreme right. At the extreme left and just visible are the bakery and fire station, both no longer extant. Next to them is the guard house (Building 300), then the barracks (Buildings 203, 202, and 201), and the post headquarters (Building 223) prior to its relocation in 1908. A portion of the hospital (Building 298) is visible behind the post headquarters and the hospital steward's quarters (Building 270) is to the right. Puget Sound Coast Artillery Museum, CAM2002.17.2.

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Figure 4: Looking northwest about 1950 showing the extensive infill of mobilization buildings constructed during World War II. Alexander's Castle (Building 229) is visible in the lower right behind the large two-story barracks (Building 225). Washington State Parks and Recreation Commission, 44-2020-2-3.

Figure 5: View looking northwest at the Point Wilson sand spit with the landing craft of Army amphibious units crowding the beach, early 1950s. The large buildings with arched roofs are warehouses (Buildings T-540, 541, and 542), no longer extant; their foundations remain and are considered non-contributing resources. Searchlight No. 5 (Building 596) is located in the trees at the top center of the image, and Battery Vicars (Building 599) is just visible to the left. Washington State Parks and Recreation Commission, 20200218-134317.

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Figure 15: Barracks (Building 201) looking northeast in August 1940. Note the cobblestone gutter on the margin of the roadway; this feature remains intact below later paving materials and is exposed at several locations. The light standard appears to date from the mid-1930s; these standards remain in place today. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.009.

Figure 16: Hospital (Building 298) looking northeast, not long after the completion of the rear addition in 1910. Puget Sound Coast Artillery Museum, CAM2002.14.12.

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Figure 17: Guard house (Building 300) in March 1941, looking northwest. The building to the left is the fire

station, no longer extant. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070_011.

Figure 18: Quartermaster storehouse (Building 305) in March 1941, looking northwest. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.013.

Figure 19: The double barracks (Building 225) could accommodate twice the number of men as the other barracks at Fort Worden. Looking northeast in August 1940. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.037.

Figure 20: Balloon hangar (Building 26) in 1921, looking northwest. Puget Sound Coast Artillery Museum, CAM2002.14.48a.

Figure 21: War Department theater (Building 25) at its completion in 1932, looking southwest. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.067.

Figure 22: Noncommissioned Officers' Row looking northeast in 1913. Referring to the numbers used throughout the Fort Worden nomination are buildings from left to right 336, 335, 334, 333, 332, and 331. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, Cam070.111.

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Maps



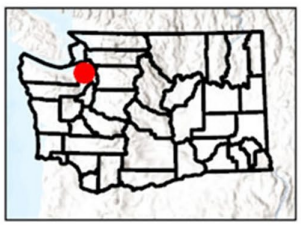
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Port Townsend, Washington

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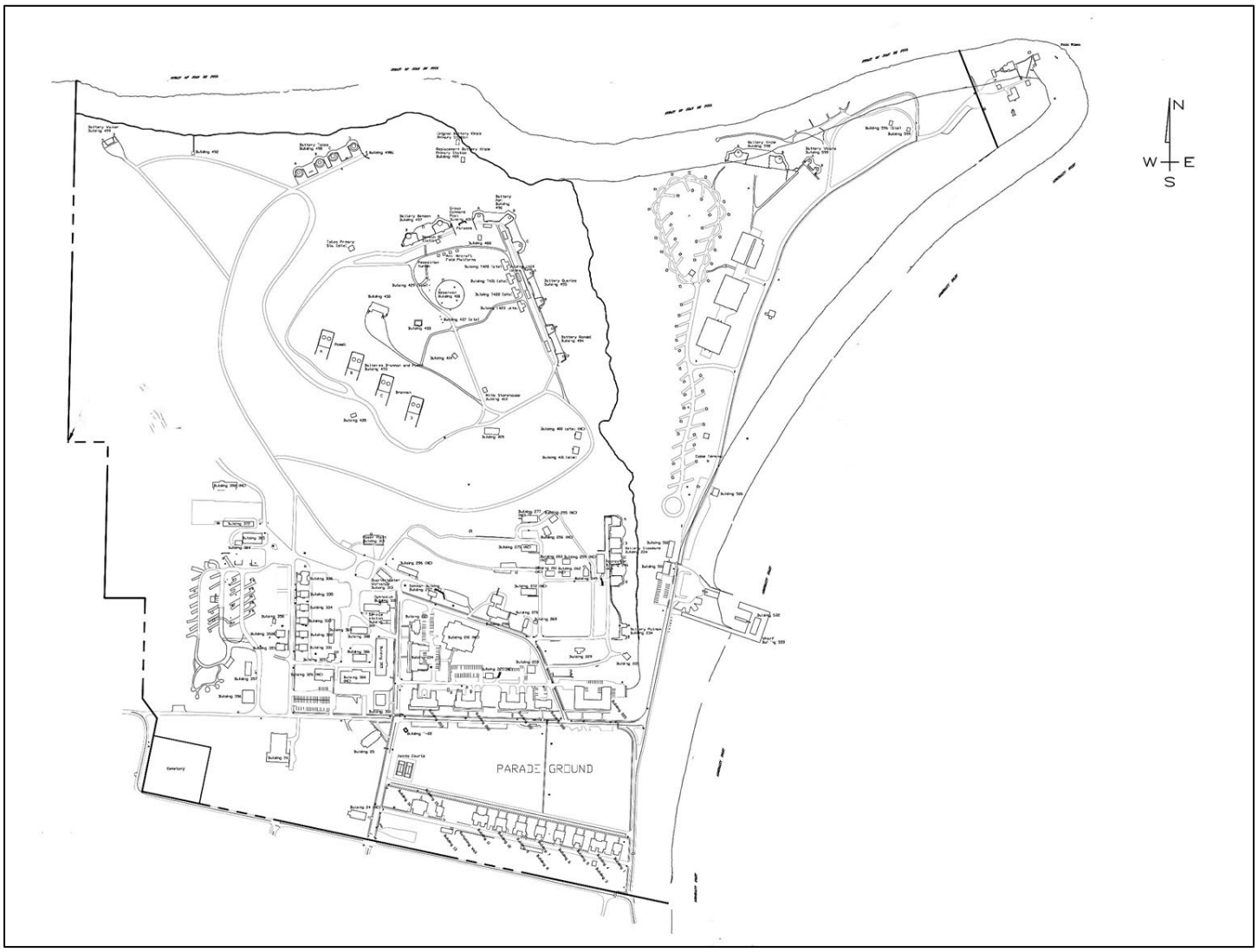
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Fort Worden NHL Boundary



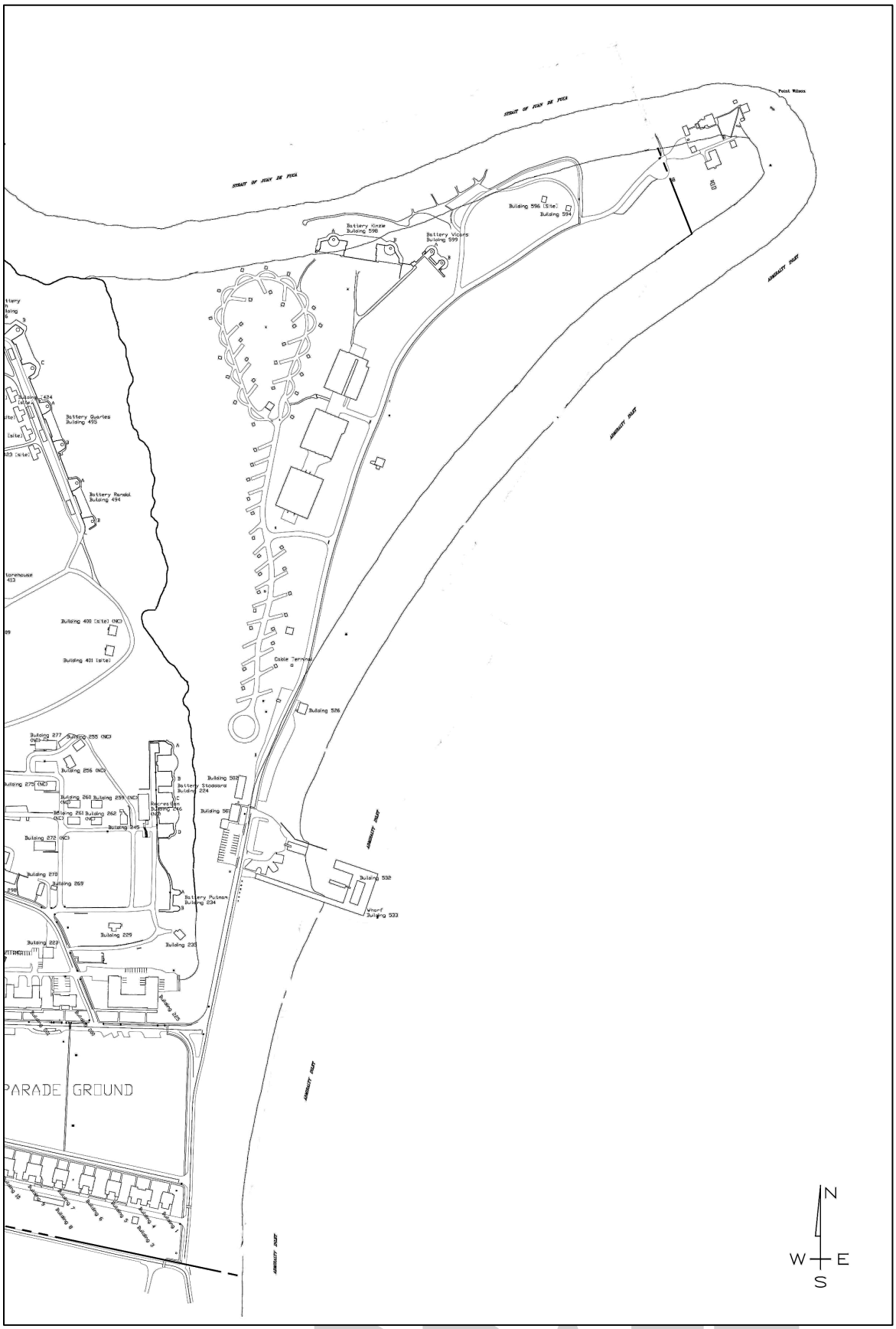
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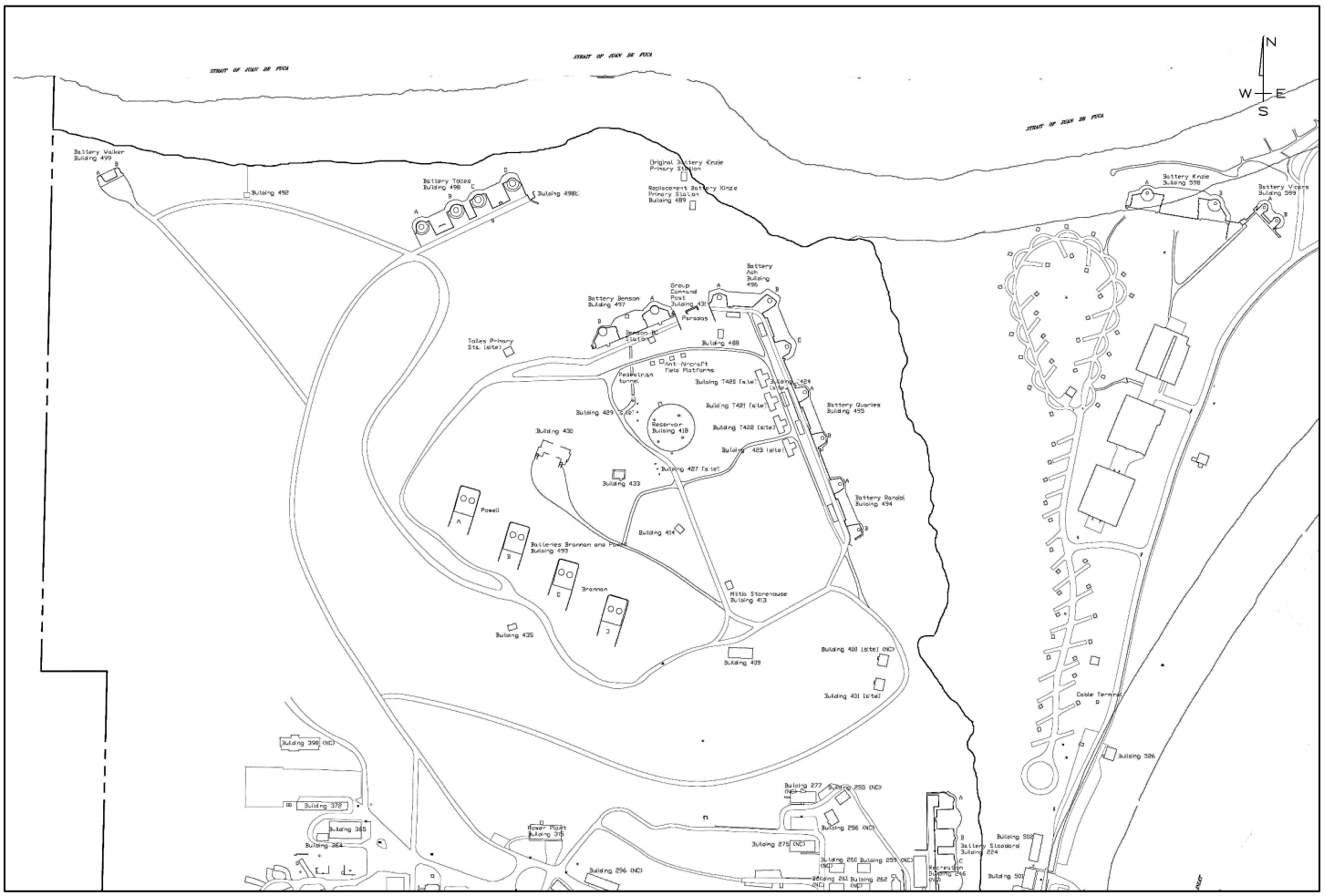
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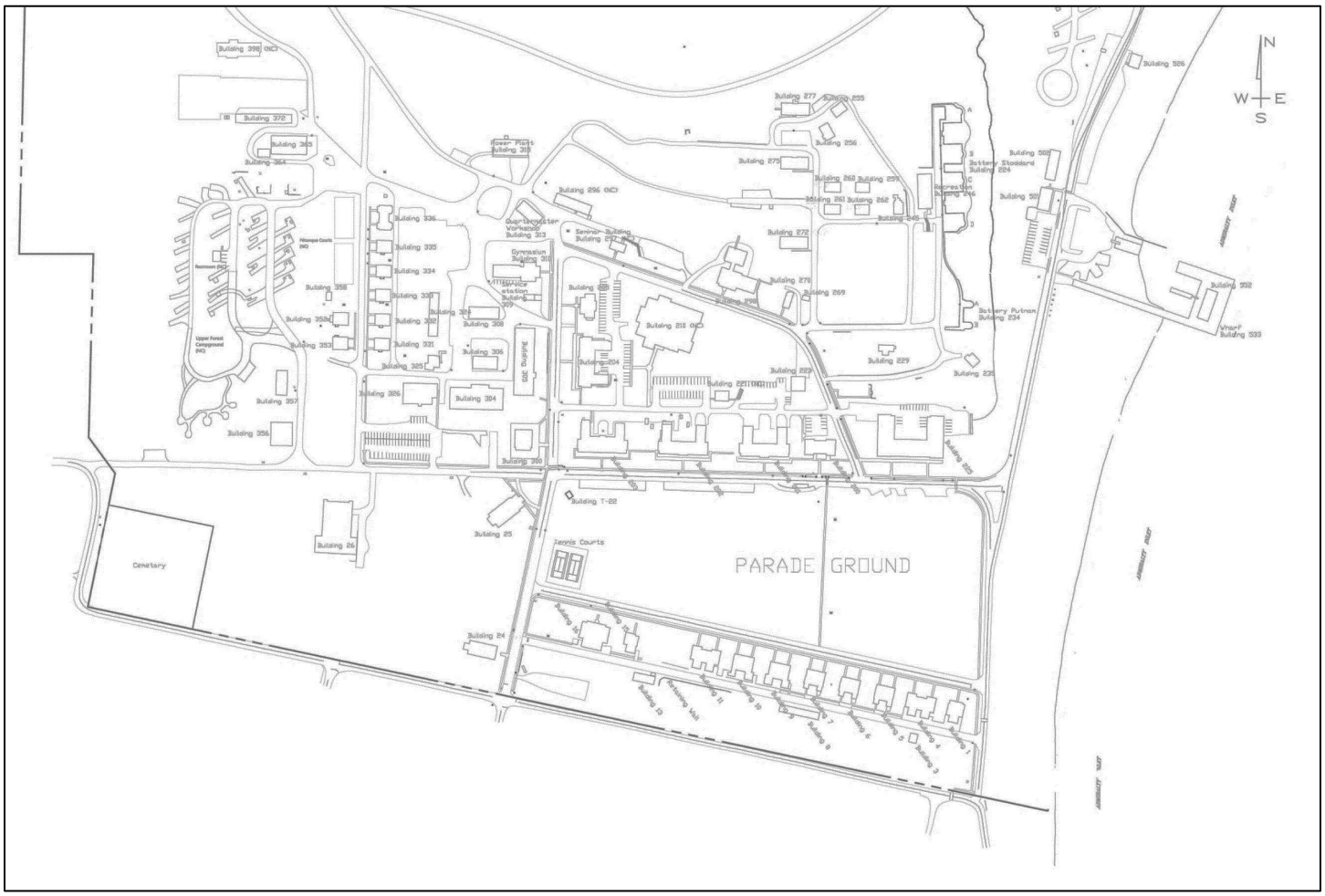
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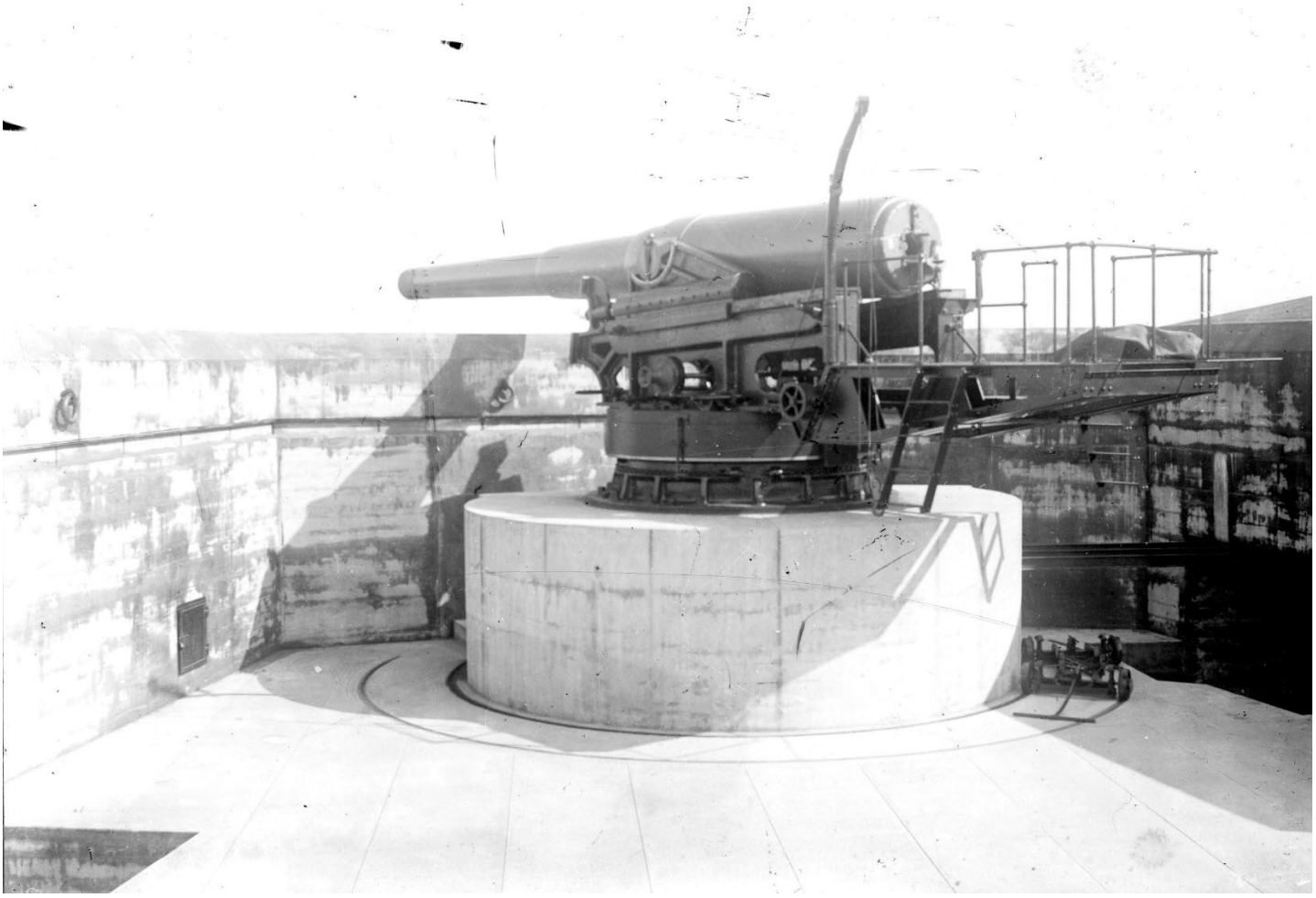


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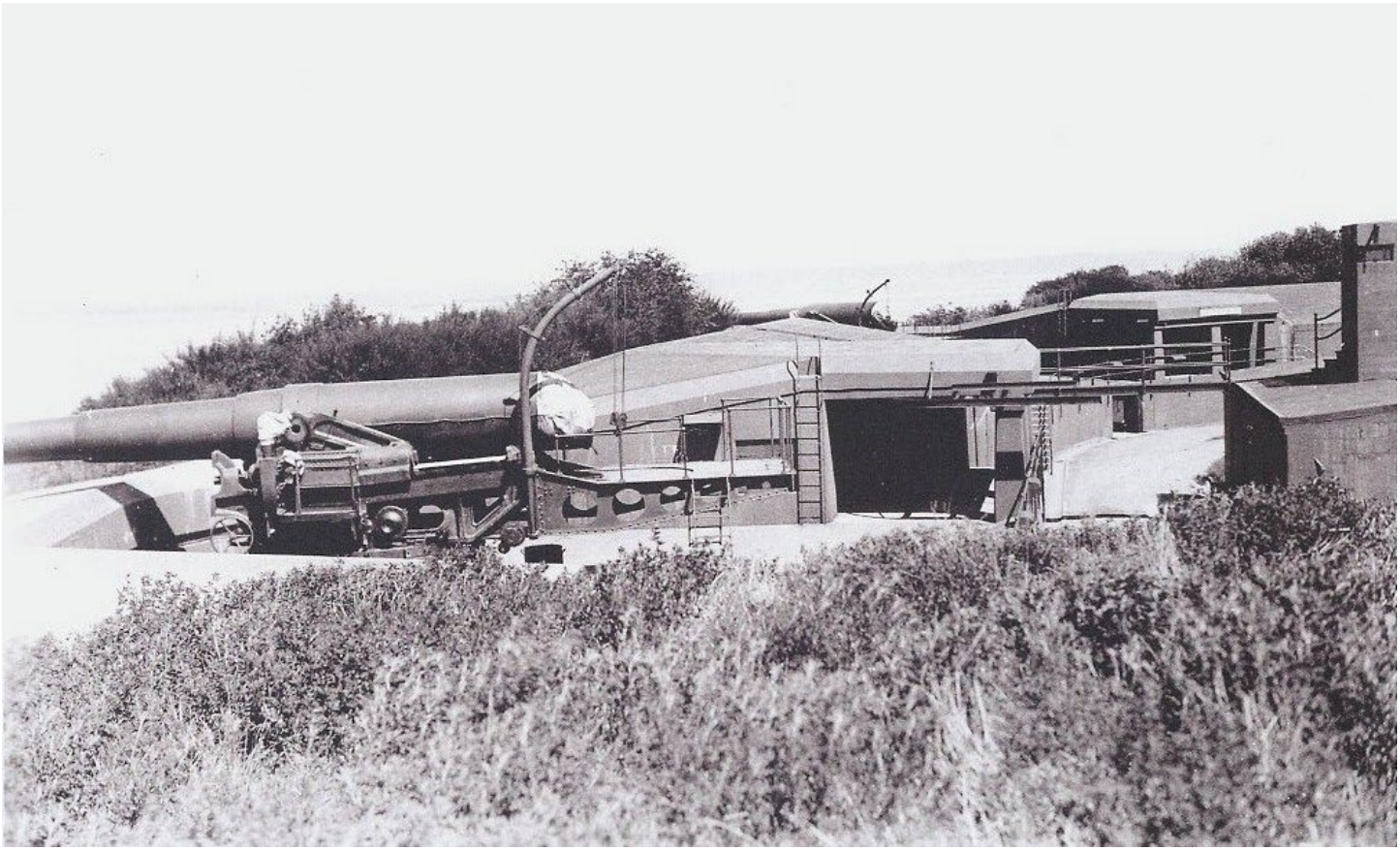


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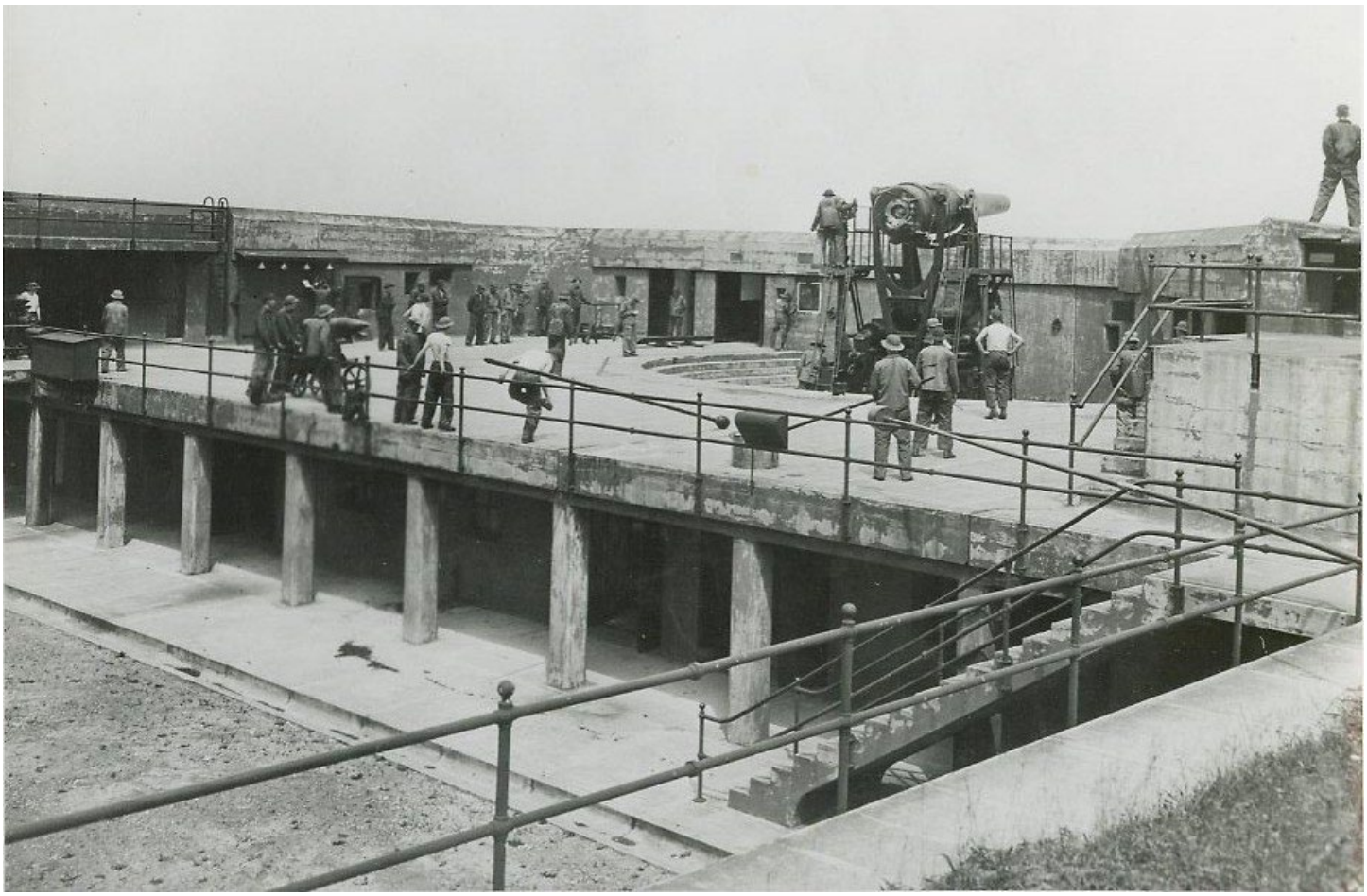


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Figure 14: The former post headquarters (Building 223) at its new location after it was moved in 1908 to allow for the construction of a larger building that could accommodate the needs of Puget Sound defenses. View looking northwest in March 1941. It served as the offices for the artillery engineer as well as the ordnance and signal departments. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.008.

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Figure 15: Barracks (Building 201) looking northeast in August 1940. Note the cobblestone gutter on the margin of the roadway; this feature remains intact below later paving materials and is exposed at several locations. The light standard appears to date from the mid-1930s; these standards remain in place today. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.009.

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Figure 16: Hospital (Building 298) looking northeast, not long after the completion of the rear addition in 1910. Puget Sound Coast Artillery Museum, CAN2002.14.12.

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Figure 17: Guard house (Building 300) in March 1941, looking northwest. The building to the left is the fire station, no longer extant. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070_011.

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Figure 18: Quartermaster storehouse (Building 305) in March 1941, looking northwest. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.013.

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Figure 19: The double barracks (Building 225) could accommodate twice the number of men as the other barracks at Fort Worden. Looking northeast in August 1940. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.037.

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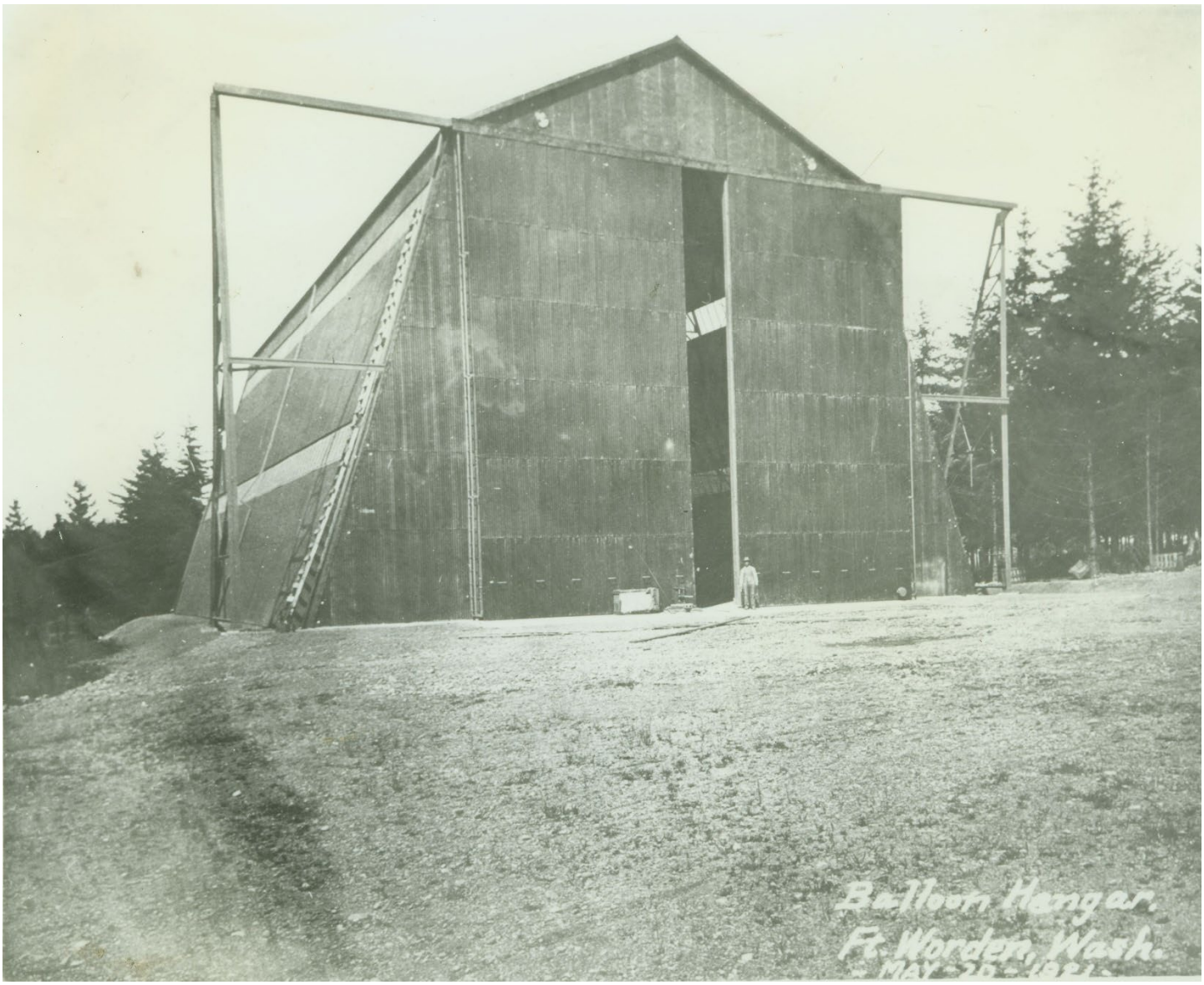


Figure 20: Balloon hangar (Building 26) in 1921, looking northwest. Puget Sound Coast Artillery Museum, CAM2002.14.48a.

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Figure 21: War Department theater (Building 25) at its completion in 1932, looking southwest. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, CAM070.067.

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Figure 22: Noncommissioned Officers' Row looking northeast in 1913. Referring to the numbers used throughout the Fort Worden nomination are buildings from left to right 336, 335, 334, 333, 332, and 331. NARA, RG 92, entry 89, Fort Worden Property Record, copy from the Puget Sound Coast Artillery Museum, Cam070.111.

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Photo Log

Name of Property:	Fort Worden
City or Vicinity:	Port Townsend
State:	WA
Name of Photographer:	As indicated
Date of Photographs:	As indicated
Location of Digital Files:	Washington State Parks and Recreation Commission, 1111 Israel Rd. SW, Olympia, WA 08504-2650
Number of Photographs:	33

Photo 1: Looking west at the garrison or saddle area with the forested uplands to the right and the Strait of Juan de Fuca beyond. Notable from left to right are the houses of Officers Row, parade ground, barracks, and post wharf. Puget Sound Coast Artillery Museum, CAM068_219, 2010.

Photo 2: Looking east from the uplands to the Point Wilson sandspit and Admiralty Inlet. From the far right and moving clockwise, the gable-roofed ordnance storehouse (Building 409), the four pits of Batteries Brannan and Powell (Building 493), at far left Battery Tolles (Building 498), Battery Benson (Building 497), Batteries Ash (Building 496) and Quarles (Building 495) of the main battery, and in the distance, Batteries Kinzie (Building 598) and Vicars (Building 599) on the sandspit. The circular area in the center of the photo marks the location of the reservoir (Building 418); the signal station (Building 414) and one of the entrances to the HDCP/HECP (Building 430) are visible slightly below and to the left. Puget Sound Coast Artillery Museum, CAM068_056, 2010.

Photo 3: Looking east at a portion of the uplands. Immediately above the circular area that marks the location of the reservoir is the signal station that is part of the earth-covered HDCP/HECP (Building 430). Moving to the right and clockwise are Battery Benson (Building 497); the Groupment Command Post (Building 431) that sits above the parados (not visible) between Battery Benson and Battery Ash; Battery Ash (Building 496); and the three emplacements of Battery Quarles (Building 495). The small structure behind Battery Ash is the main battery powerhouse (Building 488). The foundations visible behind Battery Quarles are the sites of the National Guard mess halls and latrine (Buildings T420–T424). Puget Sound Coast Artillery Museum, CAM068_234, 2010.

Photo 4: Looking east at Battery Kinzie (above) and Battery Vicars (below), Point Wilson sandspit. Puget Sound Coast Artillery Museum, CAM068_024, 2010.

Photo 5: The Point Wilson sandspit with the Fort Worden uplands out of sight to the left, the Strait of Juan de Fuca above, and Admiralty Inlet to the right. Shown in the lower left are the barracks (Building 225), Alexander's Castle (Building 229), officers' and noncommissioned officers' housing (Building 235), and Batteries Stoddard (Building 224) and Putnam (Building 234). The cable storehouse (Building 501) and ordnance machine shop (Building 502) are slightly visible in the tree line across the road from the wharf (Building 533) and its associated warehouse (Building 532). In the distance at center left are Batteries Kinzie and Vicars (Building 598 and 599). The large rectangular areas below Battery Kinzie are the noncontributing foundations of Buildings T-540, T-541, and T-542. Puget Sound Coast Artillery Museum, CAM068_225, 2010.

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Photo 11: Interior central hall of the HDCP/HECP (Building 430) looking southwest. David M. Hansen, August 8, 2023.

Photo 12: The observation opening of the Groupment Command Post (Building 431), looking west. David M. Hansen, August 8, 2023.

Photo 13: The three pillars mark the location of a combined primary station (Building 427), a contributing site, looking north. The staggered heights of the pillars allowed the observation instruments mounted upon them to have an unobstructed field of view over a wide area. David M. Hansen, August 23, 2016.

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