Oahu's World War Two 5-Inch Naval Antiaircraft Shore Batteries

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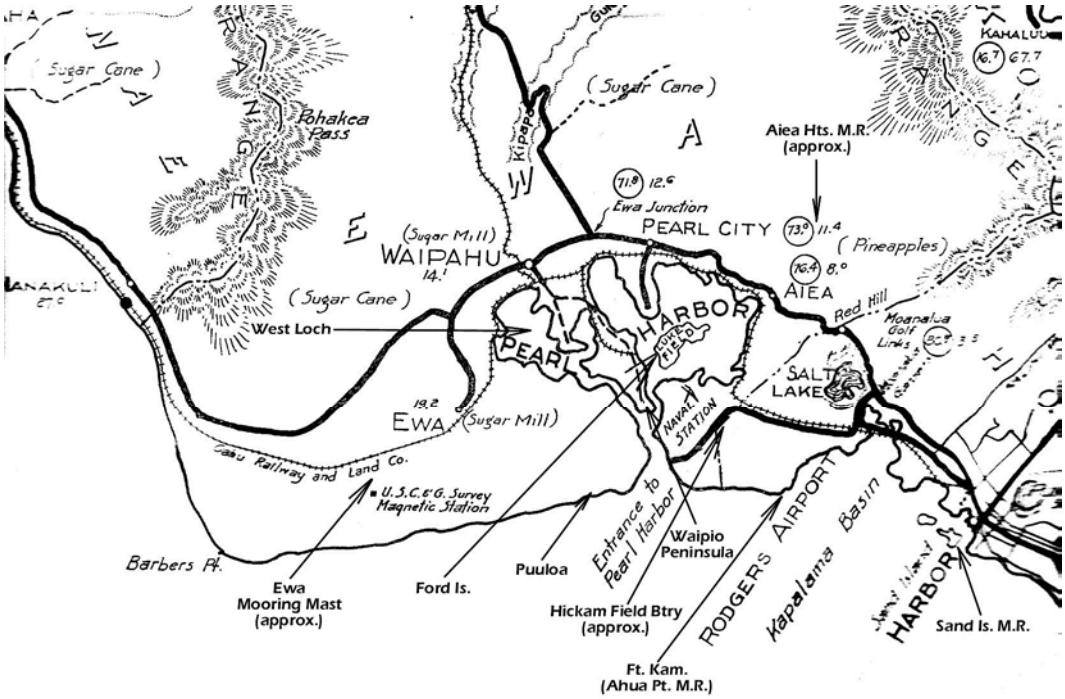
Much attention has been devoted to the fixed seacoast weapons the navy provided the Hawaiian Department of the army for emergency seacoast batteries on Oahu shortly after the December 7, 1941, Japanese attack. Less well known are the 5-inch naval antiaircraft guns removed from sunken or badly damaged warships and provided to bolster Pearl Harbor's antiaircraft defenses in the early months of the war. The author thanks CDSG member Roger W. Davis for providing vintage photographs of the 5-inch AA batteries, which ultimately led to writing this essay.



Pearl Harbor and vicinity showing general locations of navy 5-inch AA shore batteries.

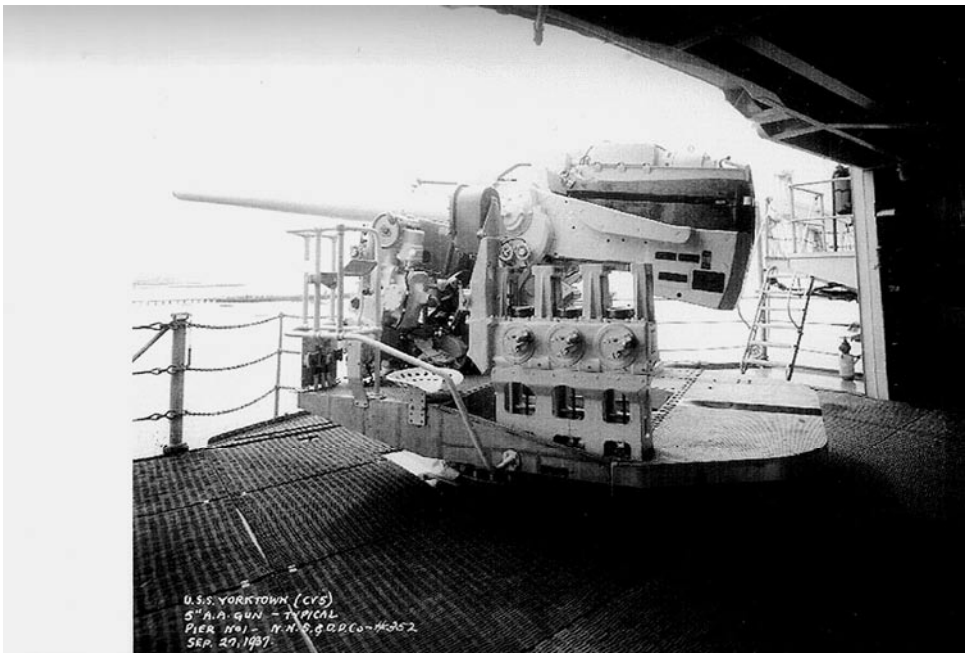
Naval 5-inch/25 and /38 guns equipped nine emergency AA shore batteries that ringed the perimeter of Pearl Harbor on the island of Oahu, T.H. The navy built and manned the first two 5-inch/25 batteries, which were completed on February 9, 1942. Sailors, temporarily displaced from damaged warships, manned the antiaircraft batteries. Eight batteries were armed with four 5-inch/25 naval AA guns each, and one was equipped with four 5-inch/38 dual-purpose naval guns.

The initial 5-inch/25 batteries were armed with guns removed from the badly damaged battleships *California* (BB-44) and *West Virginia* (BB-48), each ship having been equipped with eight.(1)

Battleship gunnery officers considered the 5-inch/25 gun a dual-purpose weapon. The guns, origi-

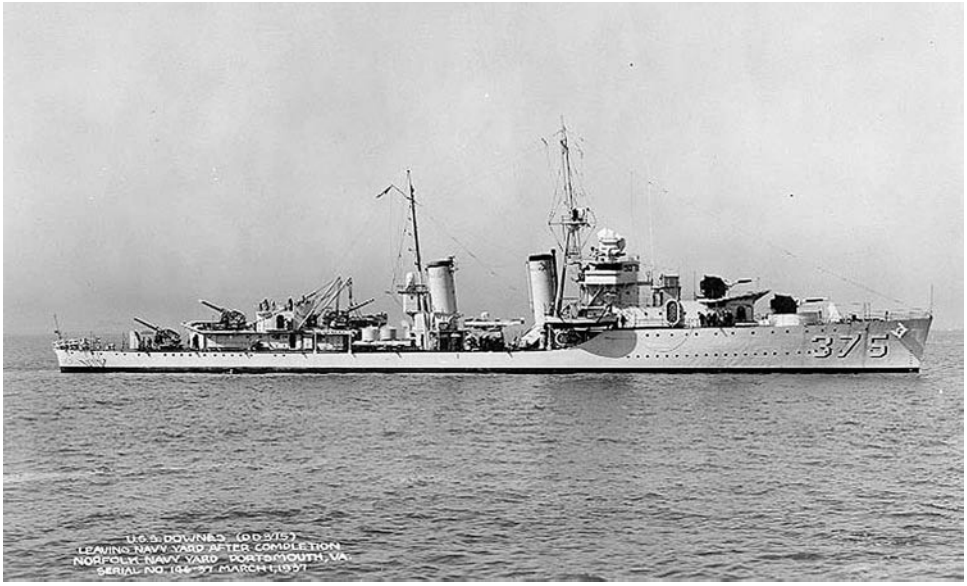
high on front and sides, which provided minimal protection.

5-inch/25 battery onboard U.S.S. *New Mexico*. *USN*

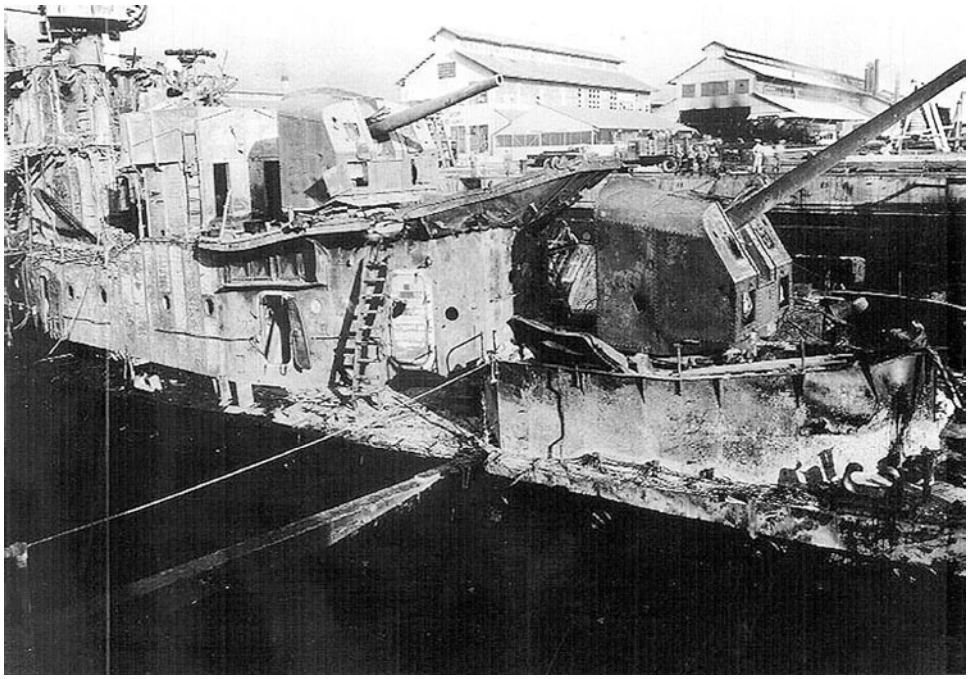


5-inch/38 gun onboard U.S.S. *Yorktown,* c.1937. *USN, NHC*

Additional 5-inch/25 guns were removed from the sunken battleship U.S.S. *Arizona* (BB-39), which had also mounted eight of them. Additional equipment removed from the *Arizona* included 12-foot rangefinders and 36-inch searchlights. The items were placed aboard the Hawaiian Dredging Company's crane barge *Gaylord* and taken to the navy yard for refurbishing.(2) It is not clear if *Arizona's* 5-inch/25s armed any emergency naval AA batteries on Oahu, however, during that time any guns removed from damaged warships in firing condition, and all others able to be refurbished, were most likely pressed into use on shore.



U.S.S. *Downes* after completion on March 1, 1937. *USN, NHC*



U.S.S. *Downes*

USN, NHC

Damaged destroyers in dry-dock after December 7, 1941 attack; Left, *Downes*, Right, *Cassin*, battleship *Pennsylvania* at rear. *USN, NHC*

Three *Mahan*-class destroyers seriously damaged during the Pearl Harbor attack, *Cassin* (DD-372), *Downes* (DD-375) and *Shaw* (DD-373), provided the armament to equip one antiaircraft battery with four 5-inch/38 guns, along with a gun director. The *Mahans* were initially armed with five 5-inch/38s; later in the war the No. 53 5-inch mount was replaced with a twin 40 mm automatic weapon. Both forward mounts (Nos. 51 and 52) were equipped with steel open-ended shields, whereas the three after main batteries starting forward and working aft; the first digit referred to the gun caliber, the second digit to its position.

Sailors, both officers and enlisted men, "beached" because their vessels were sunk or badly damaged during the attack on Pearl Harbor, provided the workforce for constructing and manning the early naval antiaircraft shore batteries. When army coast artillery units eventually took over manning the handling of the guns. The sailors, critically needed in the fleet, were eventually returned to their original vessels after they had been repaired, or to other ships.

The Honolulu District engineer (Lt. Col. Theodore Wyman, Jr.) assumed responsibility for constructing the 5-inch AA shore batteries sometime in February 1942. This included building splinter-generators. All structures were built of 12-inch reinforced concrete. Design and construction of all gun emplacements and fire control stations in the Hawaiian Department was carried out in cooperation with representatives from the Signal Corps, Ordnance Department, and the AA and Seacoast Artillery Commands.(3)

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On March 15, 1942, all functions of the Honolulu District Engineer's Office, except for civil works, were transferred to the commanding general of the Hawaiian Department, who also appointed the department engineer, Col. Albert K.B. Lyman, as district engineer. Colonel Lyman kept the two offices separate.(4)

L to R: RADM Furlong, ADM Nimitz, and CAPT Wallin, OIC salvage operations at Pearl Harbor. *USN, NHC*

On February 8, 1942, RADM William R. Furlong, commandant of the Pearl Harbor Navy Yard, wrote the commanding general of the 53rd CA (AA) Brigade at Fort Shafter in Honolulu regarding the engineering work to be considered in conjunction with mounting the naval AA batteries. Admiral Furlong brought up 12 points to be considered, and offered the expertise of naval officers and civilian engineers who had been involved in obtaining materials in conjunction with "the four 5" batteries now mounted." The points were:(5)

1. The manufacture of mounting plates and bolts: The army was to provide the top plate to the navy yard, which would match it to a particular gun.
2. Installation of guns on foundations: Insuring that they were level, and that foundation bolts were tightened securely to insure satisfactory training of guns.
3. Providing 150 lbs of air pressure to gun rammers, to include manufacturing air manifolds.
4.

   of copper tubing.
5. AC to DC motor-generators were needed to supply DC power to the gun directors.
6. Electrical power: Either high-line supply to battery locations, auxiliary engines, or preferably both.
7. Connecting guns to director, installing inter- and intra-battery telephones, connecting motor-generators to high line power supply.

8. Installing fire control switchboards.
9. Providing and installing ready-service ammunition boxes.
10. Providing ammunition racks in magazines.
11. Providing suitable gun covers.
12. Providing messing and berthing facilities, constructing roads to batteries, providing camouflage, water supply, exterior field communications, and sand bags.

Manning Detachments

The 53rd CA (AA) Brigade assumed from the navy the task of manning the 5-inch AA batteries. Six provisional batteries, the 710th through 715th Coast Artillery Batteries (Separate), were organized on Oahu by Hawaiian Department G.O. No. 84 on May 18, 1942, from reinforcements that had arrived on the island since the beginning of 1942. Three of the batteries were assigned to mobile 3-inch AA guns shipped to Oahu early in the war, in the vicinity of Pearl Harbor at Pearl City, the Puuloa Dumps, and at Aiea. The three remaining batteries manned three 5-inch naval AA gun batteries close to the naval station.(6)

The 711th CA (AA) Battery (Separate) was activated at Camp Malakole, Oahu, on May 15, 1942, under 1st Lieutenant C.C. Mast with 1st Lieutenant M. McNeil as executive officer and a cadre of 22 enlisted men from the casual detachment at Schofield Barracks. The battery was assigned to the 713th CA (AA) Battery for rations. On May 26, 1942, the battery moved to Pearl City Peninsula. With additional personnel received on the battery's arrival at its new tactical position, the battery strength was two officers and 107 enlisted men.(7)

Service practices were carried out at Camp Malakole due to the close proximity of populated areas and Pearl Harbor. Live firing with 3-inch AA guns was held two or more times a week during the early stages of the war. The 711th CA (AA) Battery (Separate) prepared a new firing position at the Waipio Peninsula by mid-July 1942. On July 26, 1942, the battery left Pearl City for Waipio in several trips, since there was not enough transport to move the battery and equipment in one transfer. During the remainder of July, the battery improved the new firing positions for the four M3 3-inch AA guns.(8) The 711th CA Battery manned a 5-inch naval AA battery as reported below, presumably the completed Waipio Peninsula battery.

The 714th CA (AA) Battery (Separate) was activated at Camp Malakole on May 15, 1942, under 1st Lt. William M. Thiz, with 1st Lt. Richard E. Marsell as executive officer and an initial cadre of 22 enlisted men. The 714th was attached to the 713th CA (AA) Battery (Separate) for rations until assigned to the 710th on May 17. The arrival of an additional 106 men on May 24, 1942, brought the battery's strength to two officers and 128 men. The battery trained at Camp Malakole until July 11, 1942, when it was ordered to the Pearl City Peninsula to man the position previously manned by the 711th CA (AA) Battery. The 714th continued to man the Pearl City position until July 26, when it was moved to a new position in the same vicinity. The battery remained in the Pearl City area until November 24, 1942, when it was reassigned to man a 5-inch/25 naval AA battery on Aiea Heights.(9)

Prior to the reorganization of the AA units on Oahu on December 12, 1943, the Puuloa battery was manned by Battery G, 97th CA; the 710th CA (AA) Battery (Separate) manned Battery No. 5 at Fort Kamehameha; and the 714th CA Battery was assigned to the Aiea Heights gun position.(10)

A November 18, 1943, memorandum listed seven of the nine units manning the guns: Batteries H and F, 95th CA; C and G, 97th CA, and the 711th, 712th, and 714th provisional CA batteries, but the

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The author knows nothing further regarding the locations or identities of other units that manned the 5-inch naval AA batteries.

Emplacements

The earliest 5-inch navy antiaircraft gun emplacements were basic field fortifications that included reinforced concrete gun blocks 15 feet square and four and one-half feet deep, weighing some 76 tons. Period photographs showed the emplacements revetted with several courses of sand bags to provide some measure of protection during an attack.

A photograph illustrating field fortification techniques employed at the early batteries depicts a gun emplacement at the Ewa Mooring Mast Battery. The sand bags were lower in the front to permit the gun to fire against surface targets. Also incorporated into the design were two offset splinterproof entrances in the right and left perimeter walls, with vertical steel or iron panels some six feet high, which provided side and overhead protection at the entryways. Similar, but shorter, panels protected the ready-ammunition boxes at the left and right rear portions of the emplacement. Horizontal panels may have been placed above the ammunition boxes, as sand bags were shown atop the right hand box.

battleships damaged at Pearl Harbor.

The gun emplacements were improved after army engineers took over construction of the 5-inch AA batteries. The emplacements included heptagonal reinforced-concrete structures with parapets some four feet high and about one foot thick, three ready-ammunition storage lockers with steel doors, one open storage space, an offset double-walled entryway, and a larger opening at one corner. Sturdier than the early field fortifications, the concrete emplacements were not susceptible to cave-ins.

Ewa Mooring Mast Battery, showing typical gun emplacement. (Annotations not the author's). *Courtesy of*