

U.S. NAVAL BASE, PEARL HARBOR, LUBRICATION BUILDING
(U.S. Naval Base, Pearl Harbor, Naval Shipyard, Facility No. 244)
Between Avenues D & E, adjacent to Facility Nos. 158 & 159
Pearl Harbor
Honolulu County
Hawaii

HABS HI-471

HI-471

HABS

HI-471

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN BUILDINGS SURVEY
PACIFIC GREAT BASIN SUPPORT OFFICE

National Park Service
U.S. Department of the Interior
1111 Jackson Street
Oakland, CA 94607

HISTORIC AMERICAN BUILDINGS SURVEY

U.S. NAVAL BASE, PEARL HARBOR, LUBRICATION BUILDING (U.S. Naval Base, Pearl Harbor, Naval Shipyard) (Facility No. 244)

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Location: Between Avenues D & E, Adjacent to Facilities 158 & 159
Pearl Harbor Naval Base
City and County of Honolulu, Hawaii

This building falls within the UTM coordinates of the Pearl Harbor, Naval Shipyard as defined in the location section of the overview report HABS No. HI-483. This building's UTM coordinates are: 04.608410.2361460.

Significance: Facility 244 is located within the Pearl Harbor, National Historic Landmark and was used as a location to conduct vehicle maintenance during World War II. It was constructed in association with the great expansion of facilities throughout the Navy Yard before and during the war. Facility 244 is located within a large group of World War II storehouses used as support facilities for the Navy Yard. Today, it is the only extant building of this type at the Pearl Harbor Naval Base.

Description: Facility 244 is a one-story, partially open-sided, utilitarian structure. Rectangular in plan, this building measures 64'-0" x 25'-0" and has a floor area of 1,654 square feet. It is four bays long and two bays wide and rises 16'-6" to the eaves and approximately 20'-9" to the top of the roof ridge. The foundation consists of a slab-on-grade concrete foundation that was poured in alternate sections approximately 16' x 33' with continuous reinforcement. Two-foot square concrete footings help support the basic wood frame structure. Six-inch by six-inch wood columns are spaced 16'-0" on-center from east to west, denoting the four structural bays, and two full bays wide from north to south at 25'-0" on-center. The columns are encased on three sides with 3" x 6" wood boards that extend to a height of 4'-0" from ground level. These boards provide extra stability and reinforcement to the columns if struck by a vehicle during maintenance operations.

The majority of Building 244 is open-sided except at the east end of the facility, which encloses a bathroom, small storage room, and what was originally an equipment room. An interior dividing wall between the two transverse bays at the west end of the facility connects with the south end of the second transverse bay (from the west end of the building) that is enclosed on the north, south, and east sides of this rectangular portion of the building. These exterior and interior walls are framed with 2" x 4" wood studs and sheathed with corrugated metal panels. The corrugation rises to a height of 13'-6", and 1-1/2"

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#24 gauge expanded wire mesh is then run to the roof. The only variation to this method of wall construction is at the west elevation of the east end bay. In this configuration the corrugation runs to a height of 4'-0" and 6'-0" respectively and the expanded wire mesh is then run to the roof.

Covering the open and enclosed areas of the building is a gable roof with a slope ratio of 4:12. The gable is constructed of 2" x 6" trussed rafters spaced 4'-0" on-center and 2" x 6" purlins spaced at various intervals. Supporting the roof and adding stability to the structure is a 3" x 8" diagonal wood brace secured to each column with two ½" diameter bolts, and 2" x 4" diagonal sway bracing affixed to the wood framing directly under the roof ridge. Enclosing the wood roof frame is 8'-0" and 10'-0" sheets of #22 gauge galvanized corrugated metal roofing with a non-corrosive metal ridge roll. The eaves overhang 4'-0" and a thin wood fascia board conceals the rafters.

This vehicle maintenance facility did not utilize hydraulic lift systems, instead the plan incorporated the use of "pits" or "trenches" that were dug in the foundation of the building so one could access the underside of the vehicle to service and repair it. Facility 244 has two rectangular pits that were constructed in the sub-floor foundation of the two inner bays of the facility. Both were 3'-0" wide and 4'-0" high from the sub-floor to ground level with reinforced concrete walls and reinforced concrete floors that sloped to a central pit drain. The pit closest to the bathroom and equipment room spanned nearly the entire width of the facility with the adjacent pit just over half that in length. Accessibility to the sub-floor pit was by a 2'-0" wide metal ladder with a 1" galvanized metal pipe handrail. When not in use these pits were covered with 3" x 10" wood planking to prevent people from accidentally falling into them.

Original floor plans indicate that the entire east end bay was subdivided into two equal spaces; a bathroom at the southeast corner and an equipment room at the northeast corner of the building. The bathroom had three wall-mounted lavatories, a slop sink and waste paper box, two water closets, and two trough urinals in a 4" high concrete platform. Partitions at the water closets and the entry were of ¾" plywood in a 2" x 4" wood frame. The floor was of 4"-thick reinforced concrete with a central floor drain and the ceiling in this room and throughout the facility remained open, exposing the roof structure on the interior. Each room had a 3'-0" x 7'-0" x 1-¾" thick, five-panel Douglas fir entry door, one at the northeast corner of the bathroom the other at the northwest corner of the equipment room. In more recent years a wood partition was installed to divide the bathroom into two separate spaces. The west half of the bathroom including one water closet, two lavatories, the slop sink and waste paper box were removed and the space was renovated into a small storage room. The two original entry doors were removed and flush wood doors were installed at the equipment room and the west wall of

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the new storage area. A two panel wood door was also hung in replacement of the original door at the bathroom. The steam boiler room has a double door entry with a metal frame and expanded metal mesh leafs; one is of standard 3'-0" x 7'-0" dimensions, the adjacent leaf approximately half that in width.

There are no windows in Building 244 and therefore no fenestration pattern is present. Hence, visibility at the enclosed areas is limited to seeing through the expanded metal wire mesh along the west wall of these spaces, beginning at either ground level or from four- and six-foot heights above the corrugated sheathing. These areas of expanded metal wire mesh along the west walls and under the eaves, in conjunction with the openness of the facility, create a great expanse of ventilation as well.

Historical Context:

This building was constructed as a "Lubrication Building" to serve as a vehicle maintenance facility for the Naval Station at Pearl Harbor. Original drawings were prepared by the U. S. Navy's Fourteenth Naval District, Public Works Department and are in direct correlation with the Navy Data Base indicating that the construction of Facility 244 was completed in 1943. As discussed above, the building has had minimal alterations to its original floor plan.

Facility 244 is located among a group of similar storehouses, namely Facilities 158, 159, 164, 165, and 166, all of which were built in the early 1940s in association with the expansion of facilities at Pearl Harbor to support the Navy Yard. The relationship, if any, between the lubrication building and the storehouses is unknown. The expanse of the base at this time saw a synonymous rise in the amount of vehicles utilized base-wide for personnel, troops, construction crews, etc. The vehicle maintenance facility henceforth became an important component of the Pearl Harbor floor plan. It is unknown how many other facilities of this type were constructed throughout the Naval Base; however, Facility 244 is the only building of this type and period extant at Pearl Harbor.

It is uncertain when the demise of vehicle maintenance facilities of this type began but in more recent years Facility 244 has changed from a Lubrication Building to a General Warehouse Supply facility. A most notable and unique element of the building's character remains the design of the sub-floor repair "pits". Its floor plan, having undergone the most minor of alterations, has remained intact and the simple, utilitarian design of Facility 244 is still extant.

For an overview of the Naval Shipyard see HABS No. HI-483.

Sources:

The original drawings for this building are on digitally scanned images or microfilm at Pacific Division, Naval Facilities Engineering Command (NAVFAC EFD Pacific) Plan Files, under the Bureau of Yards & Docks drawing numbers I-N24-117 through I-N24-119. Some later

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drawings for Facility 244 are also listed in the NAVFAC EFD Pacific microfilm index, under drawing numbers 746099 and 7460799. A copy of a 1940s Property Record Card for Facility 244 was also obtained from the Naval Shipyard Facilities files.

Bureau of Yards and Docks

1946 "Building the Navy's Bases in World War II, Vol. I and II,"
U.S. Government Printing Office.

Commander, Navy Region Hawaii

2000 Pearl Harbor Naval Complex, Cultural Resources
Management Plan, Pearl Harbor, HI.

Commander, Navy Region Hawaii

2002 Integrated Cultural Resources Management Plan, Pearl
Harbor Naval Complex, Pearl Harbor, HI.

HABS/HAER Documents

var. dates For those resources on the Navy database at the time the
CRMP (Contract No. NB62742-93-D-0502) was prepared,
the HABS/HAER numbers assigned have been included in
the electronic database as an additional field, as noted in
Appendices: Pearl Harbor Naval Complex Cultural
Resources Management Plan, 1998, p. A-6.

Pearl Harbor Naval Shipyard

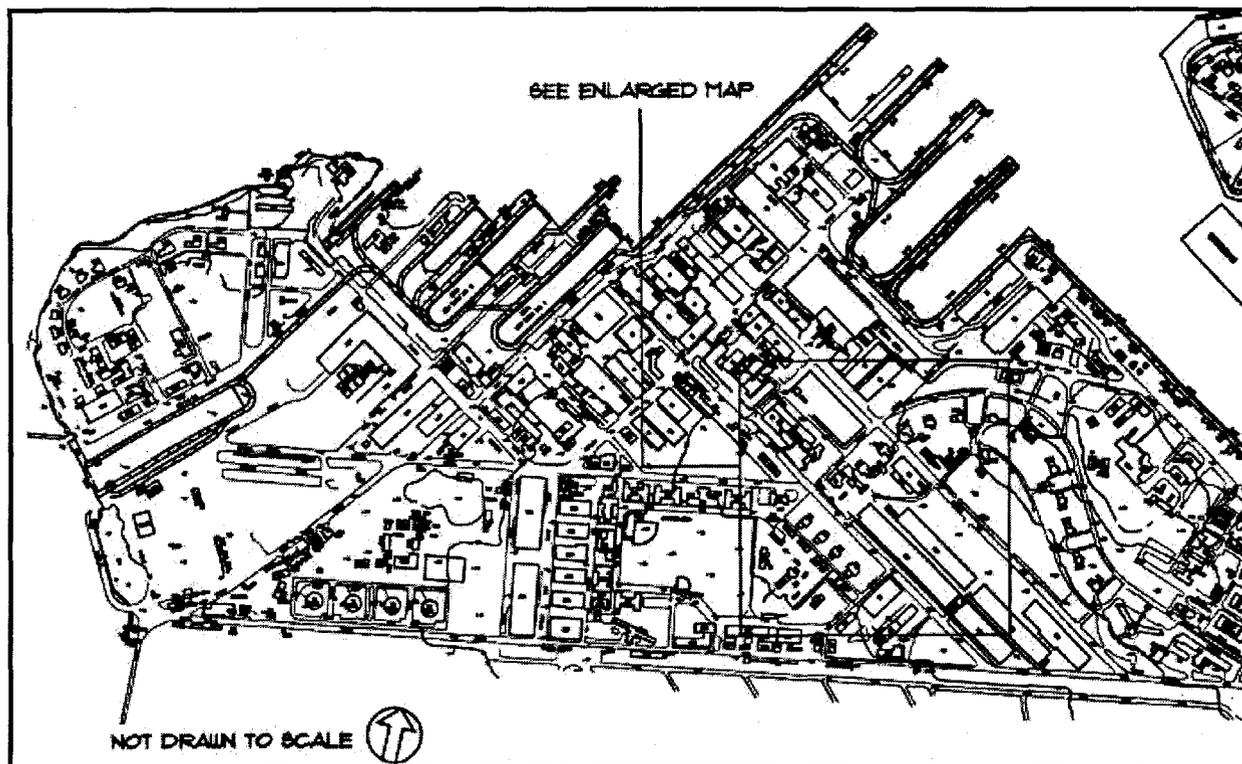
1992 Historic Preservation Documentation Program,
photocopied document dated 15DEC92 including
Appendix B Historic Inventory.

Project Information:

Photo documentation and recordation of this facility by the Navy has been done in anticipation of future alterations or potential demolition of the structure. Photo documentation of historic facilities by the Navy assists in expediting planned undertakings by having the documentation prepared prior to taking actions. Also, photo documentation assists the Navy in gaining more information about its historic facilities to assist in making proactive management decisions. This project is being supervised by Jeffrey Dodge A.I.A., Historic Preservation Specialist at the Pacific Division, Naval Facilities Engineering Command (NAVFAC EFD Pacific). The photographic documentation was undertaken by David Franzen, photographer. Joanmarie N. Orłowski, Architectural Historian, of Mason Architects, Inc. prepared the written documentation. The field work and research for this report was conducted between the dates of July 2001 and December 2001.

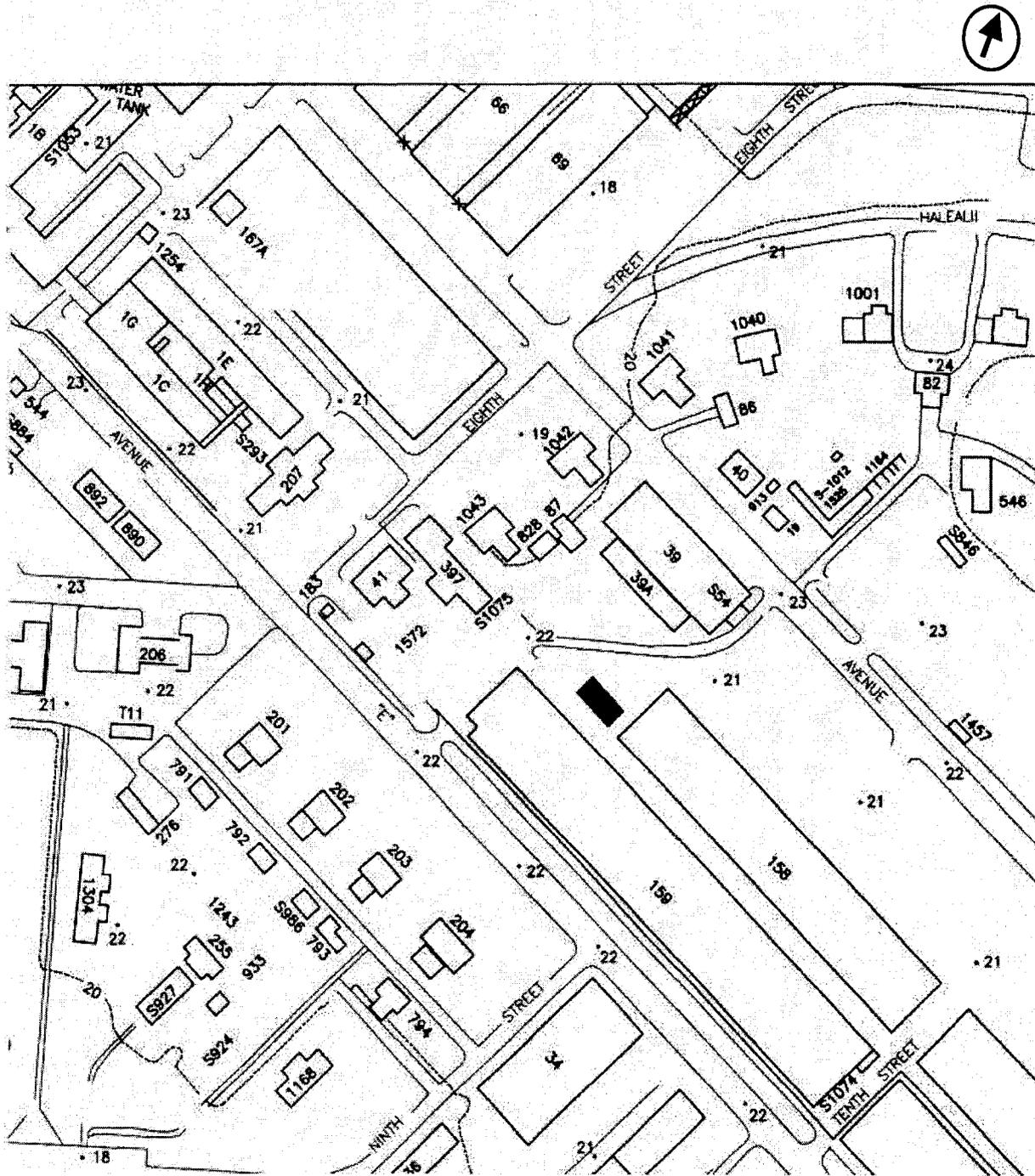
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Shipyard Map



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Enlarged Area Map (reduced, not to scale)



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Cleaning and Lubricating Shed, Plans and Elevations (Drawing No. I-N24-117,
 dated 7/24/1942) (reduced, not to scale)

