NPS Form 10-900
(Rev. 8-86)

OMB No. 1024-0018

United States Department of the Interior
National Park Service

National Register of Historic Places Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Lightship WAL-605, "Overfalls," "Blunts," "Relief"
other names/site number Relief, WLV-605

2. Location

street & number Oakland Estuary ☐ not for publication
city, town Oakland ☐ vicinity
state California code 06 county Alameda code 001 zip code

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
		Contributing	Noncontributing
☒ private	☐ building(s)	_____	_____ buildings
☐ public-local	☐ district	_____	_____ sites
☐ public-State	☐ site	1	_____ structures
☐ public-Federal	☒ structure	_____	_____ objects
	☐ object	_____	_____ Total

Name of related multiple property listing: N/A

Number of contributing resources previously listed in the National Register 0

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this ☐ nomination ☐ request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of certifying official — Date

State or Federal agency and bureau

In my opinion, the property ☐ meets ☐ does not meet the National Register criteria. ☐ See continuation sheet.

Signature of commenting or other official — Date

State or Federal agency and bureau

5. National Park Service Certification

I, hereby, certify that this property is:

☐ entered in the National Register.
☐ See continuation sheet.
☐ determined eligible for the National Register. ☐ See continuation sheet.
☐ determined not eligible for the National Register.
☐ removed from the National Register.
☐ other, (explain:) _____

Signature of the Keeper — Date of Action

6. Function or Use

Historic Functions (enter categories from instructions)	Current Functions (enter categories from instructions)
Government-Aid to Navigation	Museum

7. Description

Architectural Classification (enter categories from instructions)	Materials (enter categories from instructions)
N/A	foundation N/A walls N/A roof N/A other N/A

Describe present and historic physical appearance.

The 1950 lightship WAL-605, known by her last U.S. Coast Guard designation of "Relief," is a floating historic vessel moored in the Oakland Estuary on the waterfront of Oakland, California. Owned and operated by the United States Lighthouse Society since 1986, "Relief" has been restored to excellent operational condition. The lightship's restoration is now being completed, interpretive exhibits are being installed, and she will be maintained as an operating museum exhibit vessel open to the public.

WAL-605 AS BUILT AND MODIFIED

As built in 1950, the lightship designated WAL-605 is a welded steel-hulled vessel 128 feet in length overall, 112 feet at the waterline, with a 30.0-foot beam, a 21.4-foot depth of hold, and an 11.0-foot draft. Registered at 400 gross tons, the vessel displaces 546 loaded tons. [1] Built to the characteristic lines of a 20th century American lightship, WAL-605's welded hull was constructed to be strong and seaworthy, with transverse bulkheads carried to the weather deck level. The lightship has a breakwater on the foredeck, another advantageous feature in heavy seas. As a typical lightship hull, WAL-605 shared many external characteristics with her contemporary and earlier steel sisters:

> The American vessel generally...has...a bar keel, big rise of floor, and large tumble home, the outline of midship section being somewhat reminiscent of that of an icebreaker. The sheer is severe, rising rapidly both to the bow and to the stern. The bow is a strong forging and sharply raked, containing the hawse pipe for the mushroom mooring anchor. There is also the hawse pipe for the standby anchor. The

[x] See continuation sheet

stern is of stereotypical single knuckle type and contains the rudder, sternpost of usual construction, and the propelling wheel....The ships generally have two complete decks and a third part deck forward and aft of the machinery space. [2]

WAL-605 is painted in the colors used on American lightships after 1945. Her hull is bright red, with buff or spar-colored masts and superstructure, and the name of her station is in the process of being painted in bold white block letters on the hull. Originally "Overfalls," later "Blunts," WAL-605 last carried the name "Relief," which is being painted on the side of the hull.

The design of WAL-605 reflected improvements made in lightship design by the U.S. Coast Guard. Among those improvements, as embodied in WAL-605, were an all-welded hull, transverse bulkheads, modern interior accommodations, and an alternating current electrical system. WAL-605 was a dry, roomy vessel with the ability to stay on station in the roughest seas.

The principal feature of the vessel above decks was the steel deckhouse, a breakwater on the foredeck, and the two steel masts that mounted the lights. The foremast, 74.10 feet tall as measured from the keel, mounted the Duplex 375mm lens lantern of the ship 55 feet above the waterline; each light was rated at 15,000-candlepower. The mainmast, also 74.10 feet high, additionally mounted the radar; the radio beacon antenna was strung on a triatic stay between the masts. A Coast Guard high intensity light (known as a "black box") was added to the mainmast around 1964. This light used 24 locomotive headlights in groups of six mounted on each face of a four-sided revolving lamp housing. This optic was rated at 600,000-candlepower. The signal was a white flash every 10 seconds, visible for 13 miles. This light has been removed, restoring the vessel to her original 1951 configuration. WAL-605 additionally carried twin F2T diaphone fog signals and a hand-operated bell. The signal for the foghorn was a 3-second blast of compressed air (15 cubic feet per second) every 30 seconds, audible up to five miles. The lightship's other navigation aid was a radio beacon synchronized with the fog signal. [3]

SEE CONTINUATION SHEET

WAL-605 was built with twin 550-shp Atlas-Imperial eight cylinder direct reversing diesel engines that drove the lightship's single 7-foot diameter screw to develop a maximum speed of 12 knots. The General Electric/Cummins diesel electric generators provided power at 60 KW for the lightship's alternating current power system. An electric-driven vertical motor operated WAL-605's Hyde windlass, which raised the 7,000-lb. mushroom anchor. The anchor cable, a heavy forging weighing 200-lbs. per fathom, is made with 1-5/8-inch steel links and is 120 fathoms in length, eight shots of 15 fathoms each. [4]

Below the weather deck, quarters for WAL-605's crew reflect the utilitarian accommodations of a Coast Guard vessel of the 1950s, 60s, and 70s. The accommodations include quarters for 16 enlisted men forward, and staterooms for 3 officers aft. Described as a "state of the art" lightship, WAL-605 reflects the seeming comfort of life aboard as contrasted with the wooden, composite, and iron-hulled lightships of the late 19th and early 20th century. Moving aft on the berth deck is the bosun's stores at the bow, followed by the windlass room, with the original windlass in operating condition. Next is the crew's head, complete with original showers and heads, stores, and a hobby room. Next are the crew's berths; the original bunks and lockers remain in place. Midships is the radio signal room, with all original radio beacon equipment. Above the radio room is the pilothouse. Aft of the radio room is the machinery casing; above this casing are the blower rooms and the ship's single stack. Aft of the machinery casing and running along the port and starboard sides of the casing are the crew's library to port and the wardroom to starboard. Aft of the wardroom and library are the officers' quarters, small arms locker, head, and the quadrant room which houses the steering gear. A hatch leads below from the officers' staterooms to the lazarette. Below the berth deck are machinery spaces, with paint locker, general stores, reefer, and provision storage space; the forward and after machinery spaces; and tanks for diesel fuel and fresh water. WAL-605 carried about 147 tons of fuel, 43.7 tons of fresh water, 1.5 tons of lubricating oil, and 12 tons of stores. [5]

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WAL-605'S PRESENT APPEARANCE

Since her retirement in 1975, WAL-605 has undergone little alteration and retains an excellent level of integrity. The lightship is essentially the same as when launched, operated, and decommissioned. The only changes involve the addition of a hydraulic steering system to augment the original steering system, which has been left in place, and the removal of the 1964 high-intensity optic. The vessel is in good condition; restoration work has repaired wasted metal, and all work has been done in-kind. The lightship has cathodic protection but requires a drydocking. The engines are in operational condition and the vessel navigates under her own power. The interior arrangements of all cabins, offices, galley, and pilothouse remain unaltered. The vessel is open on occasion to the public and has the appearance of being an active duty lightship temporarily moored to the dock.

NOTES

1
"Ship's Characteristics Card," August 11, 1964. Manuscript, United States Coast Guard Headquarters, Washington, D.C.; also see Willard Flint, Lightships of the United States Government (Washington, D.C.: U.SD. Coast Guard, 1989), unpaginated, entry for WAL-605.

2
A.C. Hardy, American Ship Types: A Review of the Work, Characteristics, and Construction of Ship Types Peculiar to the Waters of the North American Continent (New York: D. Van Nostrand Co., Inc., 1927) pp. 254-256.

3
Ship's Characteristic Card, WAL-605, August 11, 1964.

4
Ibid. Also see fact sheet for "Relief," WAL-605, United States Lighthouse Society, San Francisco, California.

SEE CONTINUATION SHEET

5
Ship's plans, WAL-605, 173 sheets, Rice Brothers Corporation, Boothbay Harbor, Maine. Copies on file at the United States Lighthouse Society, San Francisco, California.

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:
☐ nationally ☐ statewide ☐ locally

Applicable National Register Criteria ☐A ☐B ☐C ☐D NHL 1,4

Criteria Considerations (Exceptions) ☐A ☐B ☐C ☐D ☐E ☐F ☐G

Areas of Significance (enter categories from instructions)	Period of Significance	Significant Dates
Government	1950-1975	1950
Humanitarian	1950-1975	1950
Architecture (Naval)	1950	1950

NHL XIV-B: Transportation: Ships, Boats, Lighthouses and Other Structures

Cultural Affiliation: N/A

Significant Person: N/A

Architect/Builder: Rice Brothers, East Boothbay, Maine

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

The 1950 lightship WAL-605, "Relief," is one of a small number of only 22 surviving American lightships in the United States; she is one of six surviving U.S. Coast Guard-built lightships. Of these, only two possess a high degree of integrity and are in excellent condition -- WLV-604 (the subject of a separate nomination) and WLV-605. Built in 1950, these are the best representatives of the last American lightships, and were a distinct departure in their construction from earlier lightships.

Associated with the "Overfalls" lightship station off the Delaware coast, WAL-605 was subsequently sent to the Pacific to serve at the significant "Blunts Reef' station on the northern California coast. WAL-605 ended her career as the "Relief" lightship serving as a replacement vessel at all Pacific Coast lightship stations until her retirement in 1975. WAL-605's service was nationally important as a representative of the end of more than a century and a half of American lightship operation and as a lightship which served both coasts in her career.

The preceding statement of significance is based on the more detailed discussion which follows.

☒ See continuation sheet

THE DEVELOPMENT OF THE AMERICAN LIGHTSHIP

While the first American lighthouse dates to the colonial era, the use of lightships is a more recent and 19th century phenomenon in the United States, though employed earlier in Europe. Moored on treacherous reefs, or marking the narrow approaches to a channel or harbor entrance too far offshore for a shoreside lighthouse's lens to reach, lightships were fewer in number than the hundreds of lighthouses -- in all, 179 lightships were built between 1820 and the 1950s, and in 1909, the heyday of the United States Lighthouse Establishment, there were 51 lightships (46 on the eastern seaboard and 5 on the Pacific Coast) on station in the United States.

Among the more famous and significant lightship stations were "Ambrose," marking the southern entrance into New York harbor along the New Jersey coast; "Nantucket," marking not only the entrance to Boston harbor but also the American end of the transatlantic route; "Diamond Shoals" off the Outer Banks of North Carolina, which marked a dangerous spot along the coastal ocean highway by way of the Gulf Stream; and "San Francisco" on the bar three miles out from the Golden Gate. Yet the lightships on other stations served a nationally significant role in protecting ships on the coasts and Great Lakes with floating aids to navigation where no lighthouse could be built.

The first lightship was a small wooden schooner moored on Chesapeake Bay. From this pioneer, the lightship type developed through the 19th century from unpowered craft to sail, then steam, from wood to iron to steel hulls, and to more powerful optics. As a general rule sequentially numbered as they entered service under the United States Lighthouse Board, later the United States Lighthouse Establishment, lightships, like lighthouses remained more or le+ss constant in their location, with new vessels replacing the old. Thus there were more than one "Nantucket," "Ambrose," "Columbia," "Diamond Shoals," and "San Francisco," as well as others, on the various stations through the years. [1]

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By the end of the 19th century, hard-learned lessons had resulted in a standardization of lightship form and design. Heavily constructed steel hulls moored with massive mushroom anchors and strongly forged huge cables, built to ride out storms and rough seas, with decks designed to let the water run off and a dual mast system enabling a light to always be kept lit defined the basic "modern" characteristics for lightships in the United States. Technological advances--the introduction of electrical lighting, welded hulls, and the switch from steam to diesel to diesel electric engines--brought modifications to the lightship without necessarily changing the basic form. While older lightships were modified to accept the technological changes, new classes of ships were also built to embody the technology. Thus the first class of lightships built in the 20th century with riveted steel hulls and massive steam engines -- numbering in the high 70s through the low 80s -- were replaced at some stations by welded steel lightships such as the Pacific Coast's No. 100 with diesel electric propulsion, diaphone air horns, 1,000-watt electric lights in 375-mm lenses, and a reduced tonnage (with the installation of a less heavy diesel electric system) meaning less resistance to the sea and hence less battering. [2]

Between 1946 and 1952, a new (and the last) class of six lightships, built under the auspices of the United States Coast Guard, which had absorbed the U.S. Lighthouse Establishment in 1939, were introduced and built. The first lightships built with all-welded hulls, they were also the first and only lightships to employ an alternating current electrical system. Reflecting the improvement of diesel technology, they were high-speed direct diesel propelled. Their internal arrangements were roomy and modern, offering more amenities of life for their crews. While these vessels closely resembled in external appearance the lightships of the early 20th century and the 1930s, a number of which were still in commission, they were different vessels.

Technology finally brought an end to manned lightships about the same time manned lighthouses were being considered for automation. Large navigational buoys 40 feet in diameter and 42 feet high, painted lightship red and with automatic lights, fog signals, and radio beacons began to replace lightships in 1967, and by the beginning of the 1980s the last lightship had been

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retired, ending a 150-year lighthouse tradition in the United States.

CONSTRUCTION AND CAREER OF WAL-605

The Overfalls lightship station, established on December 2, 1898, was located off the south side of the entrance to Delaware Bay, approximately 3-1/2 miles east of Cape Henlopen. Moored at the southern end of a large shoal known as Overfalls and also as South Shoal, the lightship marked the junction of the maritime traffic lanes leading north and south from the Delaware Bay entrance. The first lightship stationed at Overfalls was Lightship No. 46. In 1901, Lightship No. 69 replaced No. 46. Lightship No. 69 was replaced in 1926 by Lightship No. 101, which served until 1951. The importance of the station was reflected by the assignment of a modern Coast Guard-built lightship in 1951. [3] Contracted for $651,000 on January 14, 1949, WAL-605 (redesignated WLV-605 in 1965) was laid down in 1949 at the Rice Brothers' yard at East Boothbay Harbor, Maine. Rice Brothers, which operated between 1892 and 1956, built four lightships; the last two built by Rice Brothers were WAL-604 and WAL-605, sister ships constructed in 1950-1951. WAL-605, Rice Brothers hull number 3250, was laid down on March 1, 1949. The work kept 150 men (out of a town of 600) busy for nearly two years; the lightship was launched on May 4, 1950, just 16 days after her sister, WAL-604. [4] The construction and launching of WAL-605 proved trying for her builders. Robert B. Rice reminisced:

> She was involved in a small fire when she was about 65% completed, which could have been serious if not for the fact she was steel. Going overboard on launch day she busted the ways on the port side and almost refused to be hauled into dockside. On her way back in from sea trials she grounded herself out on a sand bar 200 feet from her berth, [so] when she departed from the yard we all gave her a real good-by wave. [5]

Fitting out the ship took from May 1950 until February 1951. On February 7, 1951, WAL-605 went on her sea trials. Four days

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later, on February 11, she was delivered to the Coast Guard. The lightship, painted red and designated "Overfalls," then departed for her station.

WAL-605 served at Overfalls for the first nine years of her career. As "Overfalls," she was the last lightship to be moored at that station. Overfalls station was discontinued on November 15, 1960, after 62 years of service. [6] WAL-605 carried 18 crew and one Coast Guard warrant officer who worked on rotating watches which left two-thirds of the crew aboard at any one time. Remaining constantly on station, WAL-605, like other lightships, was visited each week by a Coast Guard District Buoy Tender which brought crew, food, mail, water, and fuel back from shore.

Following the discontinuation of Overfalls station, WAL-605 was sent into the Pacific to take up the important Blunts Reef station off Cape Mendocino on the Northern California coast. The first lightship station established on the Pacific Coast, Blunts Reef was served by WAL-605 as "Blunts" from 1960 to 1969; it was during this period she, like all other Coast Guard lightships, was redesignated, becoming WLV-605. In 1969, WLV-605 was taken off the Blunts Reef station and assigned as "Relief" for all West Coast lightship stations. Whenever a lightship was pulled off station to be overhauled, WLV-605 was placed in its stead. Thus, in the last years of service, WLV-605 was stationed again at Blunts Reef as well as the significant stations on the San Francisco and Columbia River bars. As "Relief," she was retired from lightship duty in 1975 and was decommissioned on January 1, 1976. [7]

WLV-605 was sold by the government to the State Capital Museum Association of Olympia, Washington, in 1976 for use as floating museum ship. The museum plans proved unsuccessful, and in 1979 Olympia sold the ligthship at auction. Alan Hoskins of Woodside, California, was the successful bidder, and he brought WLV-605 to Half Moon Bay, where he infrequently used the vessel for fishing trips. Hoskins donated the lightship to the non-profit United States Lighthouse Society in December, 1986. The USLHS has since largely completed the restoration of the vessel, once again referred to as WAL-605, while offering occasional public tours, most recently on the San Francisco waterfront. [8]

SEE CONTINUATION SHEET

NOTES

1
See George R. Putnam, Lighthouses and Lightships of the United States (New York: The Houghton-Mifflin Co., 1917)

2
A.C. Hardy, American Ship Types: A Review of the Work, Characteristics, and Construction of Ship Types Peculiar to the Waters of the North American Continent (New York: D. Van Nostrand Co., Inc., 1927) pp. 254-257, passim.

3
Willard Flint, Lightships of the United States Government (Washington, D.C.: U.S. Coast Guard, 1989), unpaginated, entry for Overfalls station.

4
Builder's Record Sheet, "Overfalls," WAL-605, Rice Brothers Corporation, East Boothbay, Maine. Copy courtesy of the United States Lighthouse Society, San Francisco, California.

5
Letter, Robert B. Rice to Ted Miles, USLHS, Boothbay Harbor, Maine, July 19, 1986.

6
Flint, Lightships, entry for Overfalls station.

7
Ibid., entry for WAL-605.

8
San Francisco Chronicle, July 31, 1987; also see "CG Lightship Relief Returns to Bay Area," US Coast Guard, 12th District, Islander, Vol. III, Issue 61, April 15, 1987.

9. Major Bibliographical References

PLEASE SEE FOOTNOTES IN TEXT.

☐ See continuation sheet

Previous documentation on file (NPS):

- ☐ preliminary determination of individual listing (36 CFR 67) has been requested
- ☐ previously listed in the National Register
- ☐ previously determined eligible by the National Register
- ☐ designated a National Historic Landmark
- ☐ recorded by Historic American Buildings Survey # _____
- ☐ recorded by Historic American Engineering Record # _____

Primary location of additional data:

- ☐ State historic preservation office
- ☐ Other State agency
- ☐ Federal agency
- ☐ Local government
- ☐ University
- ☒ Other

Specify repository:
US Lighthouse Society, San Francisco

10. Geographical Data

Acreage of property .1

UTM References

	Zone	Easting	Northing
A	10	566650	4181765
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

All that area encompassed by the extreme length, beam, and depth of the vessel.

☐ See continuation sheet

Boundary Justification

The boundary encompasses the entire area of the vessel as she floats at her berth or operates on San Francisco Bay.

☐ See continuation sheet

11. Form Prepared By

name/title James P. Delgado, Maritime Historian
organization National Park Service (418) date June 30, 1989
street & number P.O. Box 37127 telephone (202) 343-9528
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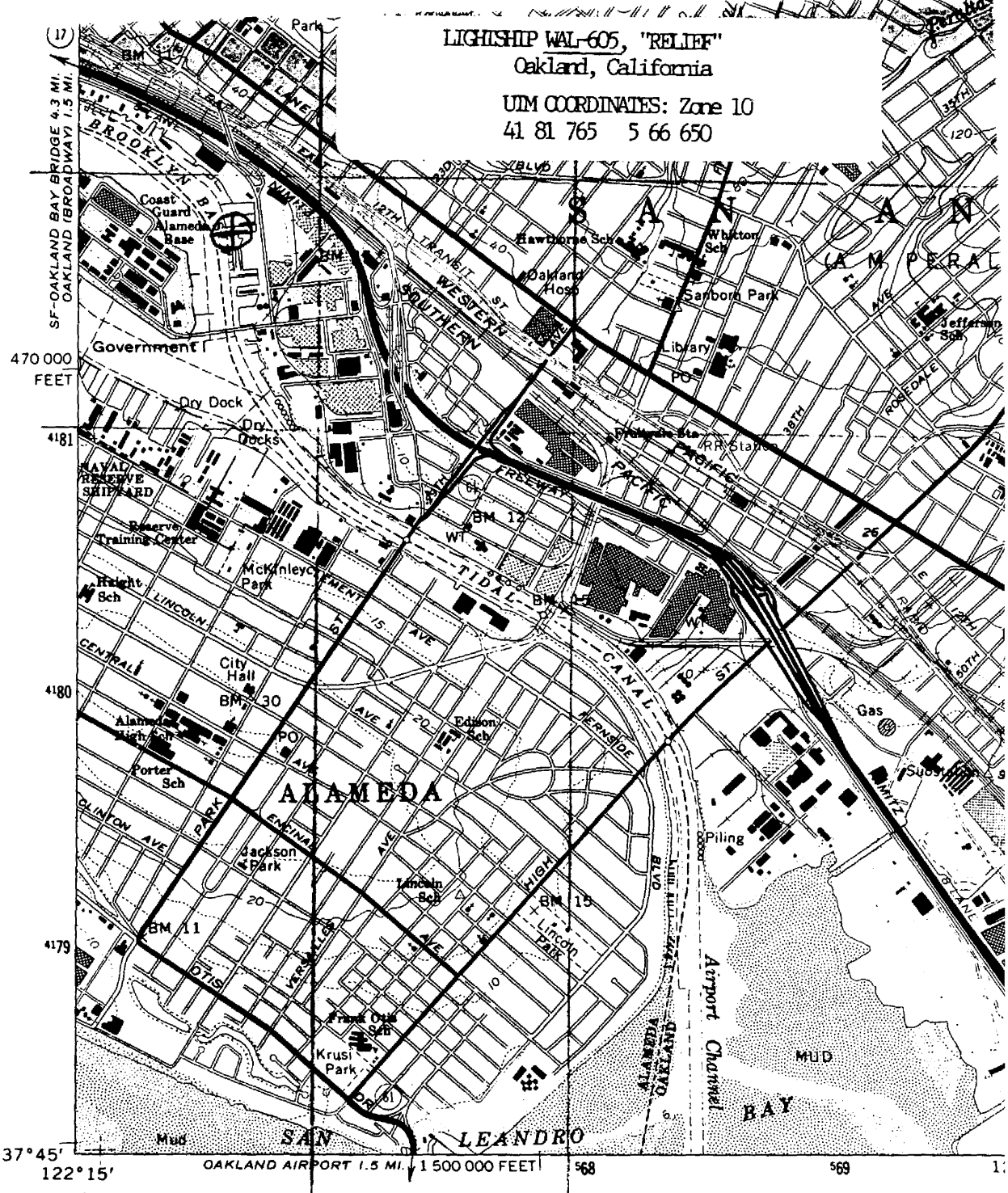


(HUNTERS POINT) 1559 III NE

Mapped, edited, and published by the Geological Survey

Control by USGS and NOS/NOAA, and Alameda County

Topography from aerial photographs by photogrammetric methods and by planetable surveys 1947. Revised from aerial photographs taken 1958. Field checked 1959

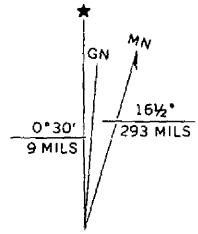
Hydrography compiled from NOS Chart 5535 (1958)

Polyconic projection
10,000-foot grid based on California coordinate system, zone 3
1000-meter Universal Transverse Mercator grid ticks, zone 10, shown in blue. 1927 North American Datum
To place on the predicted North American Datum 1983 move the projection lines 14 meters north and 95 meters east as shown by dashed corner ticks

Red tint indicates areas in which only landmark buildings are shown

Dotted land lines were established by private survey

There may be private inholdings within the boundaries of the National or State reservations shown on this map



UTM GRID AND 1980 MAGNETIC NORTH DECLINATION AT CENTER OF SHEET