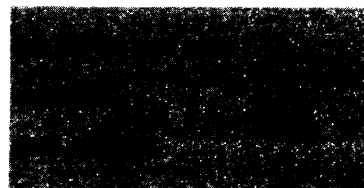


**United States Department of the Interior
Heritage Conservation and Recreation Service**

**National Register of Historic Places
Inventory—Nomination Form**

See instructions in *How to Complete National Register Forms*
Type all entries—complete applicable sections



1. Name

historic Union Iron Works Turbine Machine Shop

and/or common Bethlehem - Alameda Shipyard Machine Shop

2. Location

street & number 2200 Webster Street ___ not for publication

city, town Alameda ___ vicinity of congressional district 9

state California code 06 county Alameda code 001

3. Classification

Category	Ownership	Status	Present Use	
<input type="checkbox"/> district	<input type="checkbox"/> public	<input type="checkbox"/> occupied	<input type="checkbox"/> agriculture	<input type="checkbox"/> museum
<input checked="" type="checkbox"/> building(s)	<input checked="" type="checkbox"/> private	<input checked="" type="checkbox"/> unoccupied	<input type="checkbox"/> commercial	<input type="checkbox"/> park
<input type="checkbox"/> structure	<input type="checkbox"/> both	<input type="checkbox"/> work in progress	<input type="checkbox"/> educational	<input type="checkbox"/> private residence
<input type="checkbox"/> site	Public Acquisition	Accessible	<input type="checkbox"/> entertainment	<input type="checkbox"/> religious
<input type="checkbox"/> object	<input type="checkbox"/> in process	<input checked="" type="checkbox"/> yes: restricted	<input type="checkbox"/> government	<input type="checkbox"/> scientific
	<input type="checkbox"/> being considered	<input type="checkbox"/> yes: unrestricted	<input type="checkbox"/> industrial	<input type="checkbox"/> transportation
		<input type="checkbox"/> no	<input type="checkbox"/> military	<input checked="" type="checkbox"/> other: vacant

4. Owner of Property

name Alameda Marina Village Associates

street & number 3000 Sand Hill Road, Building 3, Suite 255

city, town Menlo Park ___ vicinity of state California

5. Location of Legal Description

courthouse, registry of deeds, etc. Alameda County Courthouse

street & number 1225 Fallon Street

city, town Oakland state California 94612

6. Representation in Existing Surveys

None (City Planning Dept. survey, in progress,
title has not reached this area) has this property been determined eligible? ___ yes ___ no

date ___ federal ___ state ___ county ___ local

depository for survey records

city, town state

7. Description

Condition excellent good fair deteriorated ruins unexposed**Check one** unaltered altered**Check one** original site moved date _____

Describe the present and original (if known) physical appearance

See Continuation Sheet - page 1-7-1

8. Significance

Period	Areas of Significance—Check and justify below			
<input type="checkbox"/> prehistoric	<input type="checkbox"/> archeology-prehistoric	<input type="checkbox"/> community planning	<input type="checkbox"/> landscape architecture	<input type="checkbox"/> religion
<input type="checkbox"/> 1400-1499	<input type="checkbox"/> archeology-historic	<input type="checkbox"/> conservation	<input type="checkbox"/> law	<input type="checkbox"/> science
<input type="checkbox"/> 1500-1599	<input type="checkbox"/> agriculture	<input type="checkbox"/> economics	<input type="checkbox"/> literature	<input type="checkbox"/> sculpture
<input type="checkbox"/> 1600-1699	<input checked="" type="checkbox"/> architecture	<input type="checkbox"/> education	<input type="checkbox"/> military	<input type="checkbox"/> social/ humanitarian
<input type="checkbox"/> 1700-1799	<input type="checkbox"/> art	<input type="checkbox"/> engineering	<input type="checkbox"/> music	<input type="checkbox"/> theater
<input type="checkbox"/> 1800-1899	<input type="checkbox"/> commerce	<input type="checkbox"/> exploration/settlement	<input type="checkbox"/> philosophy	<input type="checkbox"/> transportation
<input checked="" type="checkbox"/> 1900-	<input type="checkbox"/> communications	<input checked="" type="checkbox"/> industry	<input type="checkbox"/> politics/government	<input type="checkbox"/> other (specify)
		<input type="checkbox"/> invention		

Specific dates 1918 **Builder/Architect** John Reid, Jr., architect
Hall and Snyder, engineers

Statement of Significance (in one paragraph)

See Continuation Sheet - page 3, 8, 1.

9. Major Bibliographical References

See Continuation Sheet - page 7

10. Geographical Data

Acreeage of nominated property 2.14 acres

Quadrangle name Oakland West, California

Quadrangle scale 7.5 minute

UMT References

**UTM NOT VERIFIED
ACREAGE NOT VERIFIED**

A	<u>10</u>	<u>564100</u>	<u>4181950</u>			
	Zone	Easting	Northing	Zone	Easting	Northing
C				D		
E				F		
G				H		

Verbal boundary description and justification

See Continuation Sheet - page 10
and correction on phone slip 4/2/80 J.F.T.

List all states and counties for properties overlapping state or county boundaries

state	code	county	code

11. Form Prepared By

name/title Michael Corbett and Margaret Welden for Alameda Marina Village Associates (Owner)

organization Charles Hall Page & Associates, Inc. date 24 September 1979

street & number 364 Bush Street telephone 415-362-5154

city or town San Francisco state California

12. State Historic Preservation Officer Certification

The evaluated significance of this property within the state is:

national state local

As the designated State Historic Preservation Officer for the National Historic Preservation Act of 1966 (Public Law 89-665), I hereby nominate this property for inclusion in the National Register and certify that it has been evaluated according to the criteria and procedures set forth by the Heritage Conservation and Recreation Service.

State Historic Preservation Officer signature K. No. Mellon

title _____ date 12/7/79

For HCRS use only
I hereby certify that this property is eligible for listing in the National Register of Historic Places.

Sally G. Allen
Keeper of the National Register

Attest: _____
Chief of _____

UNITED STATES DEPARTMENT OF THE INTERIOR
NATIONAL PARK SERVICE

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DESCRIPTION

The Union Iron Works Turbine Machine Shop is a large rectangular industrial building, of steel frame construction with curtain walls of red brick and industrial sash. It sits just north of and parallel to a privately owned extension of Bethlehem Avenue, virtually isolated among overgrown lots. Although the building itself has been altered very little, its visual and functional relationships to the industrial complex, of which it was formerly the most prominent member, have been almost completely changed with the demolition of most of those other buildings.

Measuring 552 feet by 164 feet and standing 85 feet high, the building is 23 bays long by 7 bays wide. It sits on concrete pile caps. Its roof is flat except for a large monitor skylight crossed by 12 auxiliary skylights which run the length of the building. The main building is flanked by two buttress-like utility towers on both the north and south elevations. The dominant visual features of the buildings are the red color of its brick piers and spandrels and the vast windows that occupy 90% of its wall area.

Both the narrow end walls and the long, buttressed, side walls of the building are articulated and organized by a series of major and minor piers. The seven bays of the end walls are grouped by major piers in pairs of bays. A central pavilion composed of the three center bays projects above the rest of the building to hide the monitor roof. Major piers set off the end bays of the longer side walls. The piers of all elevations are crossed by two spandrel divisions that suggest a three-story interior space. In fact, the lower and more prominent spandrel corresponds to an interior mezzanine level along the aisles, but the narrow, higher spandrel merely reflects a major beam and does not correspond to a second upper level. The central pavilion reflects the major, central, unbroken space.

Ornamental brickwork on all main elevations is relegated to the lower spandrel panels, to the piers, and to the cornice. Spandrel panels are criss-crossed with raised brickwork, forming a diamond pattern; piers are treated with abstracted capitals; and the cornice is little more than a patterned frieze. The utility towers, which are the only part of the building with a predominance of brick over glass, have all of these elements plus herringbone patterned brick panels.

Inside, unclad steel columns divide the area into three sections, a vast central area open from floor to roof, flanked by two aisles divided vertically by mezzanine floors. The heavy but uncomplicated steel

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Description continued

framing of the walls, aisles, and mezzanine floors give way to a simple truss system that carries the flat roofs and to a more complicated system of light steel trusses that carry the monitor roof, with all its bays, over the unbroken central space. The combination of exposed steel framing, light trusses, vast areas of glass, and the bays of the monitor produce an animated and exciting interior space.

The ground floor is covered with creosoted redwood blocks. The mezzanine floor and roof areas are planed and surfaced. The utility towers house elevators, stairs, and small rooms which originally functioned as offices, locker rooms, and quiet places somewhat apart from the noise of the shop itself.

Although designed for the production of machine turbines, the layout of the building was sufficiently flexible to accommodate changing methods in their manufacture as well as in the manufacture of other heavy industrial products. The only permanent determinants of any manufacturing process in the building, apart from the building itself, were a giant crane spanning the central space above the mezzanine level that was designed to run the length of the building on tracks, railroad tracks that entered the east, west, and north sides of the building, and cantilevered loading balconies at each bay of the mezzanine. The crane is still in place. The railroad tracks that were linked to the Southern Pacific lines at the western edge of the property and that were also used for transporting heavy materials around the plant, have been taken up.

The building itself is unaltered except for the replacement of old steel doors for new ones at the ground level, and for the destruction by vandalism of large numbers of panes of glass. The grounds at the southern and western ends of the building are currently being used as a plant nursery and for the storage of large shipping containers.

There are no outbuildings remaining that are included in the boundaries of this nomination, although the Power House (being separately nominated), ✓ four unused reinforced-concrete ship ways from the 1940s, and a five-story reinforced-concrete warehouse (designed in 1942 by William G. Corgett and Arthur W. Anderson) remain on the old Union Iron Works - Bethlehem Steel property. All of this land is in the process of being assembled for master planning as a mixed residential, commercial, and office project, and will later be redivided into new parcels.

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SIGNIFICANCE

The Union Iron Works Turbine Machine Shop is architecturally one of the most impressive examples in the San Francisco Bay Area of an early 20th century industrial building, at the time of its construction, the largest of its kind on the Pacific Coast. It is the most prominent example of industrial architecture by the important San Francisco architect, John Reid, Jr., a man who is best known for his contributions to the San Francisco Civic Center and as a designer of San Francisco school buildings. The building is also important as the nucleus of a shipyard that played nationally recognized roles in shipbuilding in both World Wars, and that was important in the industrial development of the Alameda estuary and the City of Alameda. It was the largest and most prominent building in the shipyard and is one of the last buildings remaining there.

The Turbine Machine Shop is an excellent example of a type of industrial building found in major industrial centers throughout the United States in the early 20th century, including buildings for Bethlehem Steel at Sparrow's Point, Maryland and Elizabeth, New Jersey. The type is characterized by vast interior spaces made possible by the use of steel trusses and steel frame construction, and by curtain walls of industrial sash that light and ventilate the huge spaces. These buildings are open in plan and thus sufficiently flexible to accommodate changing industrial processes. Such big American industrial structures were major influences on early modern architects in the United States and Europe. Due to its size and its prominent location near the Alameda estuary, the Turbine Machine Shop is widely known today and still admired for the same qualities that appealed to early modernists, its simplicity of structure, massing, and detail; its straightforward response to its function; and its vast curtain walls of industrial sash. Although there are other buildings of a similar type and age in the Bay Area, few are as handsome or as suitable for adaptive re-use projects as this.

The architect, John Reid, Jr., was one of the leading architects in San Francisco in the 1910s and 1920s. He studied at the Ecole des Beaux Arts in Paris from 1906 to 1909, and received his diploma in 1909. He was one of three architectural advisors in the planning and building of the San Francisco Civic Center. Later he became San Francisco City Architect and built a great many schools in that capacity. Most of his work was in San Francisco. Although it is the only known industrial structure by him, the Turbine Machine building reflects the orderly design of all his work, suitable in its plan and appearance to its

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Significance continued

function.

The history of the Turbine Machine Shop is inseparable from that of the shipyard around it. The shipyard is located on land which had long been known as the Alameda marsh. By about 1900, Alaska sailing vessels moored there during the winter, and before 1902 Dickie Brothers of San Francisco built a slip for the construction of small wooden ships. In 1903, the United Engineering Company of San Francisco bought the property, improved it, and by 1916, built up an extensive business in repairing and drydocking steam schooners and other ships. This was the first important industry on the Alameda side of the estuary, and one of the first at the western end of Alameda, areas that during the First World War would become central to the industrial economy of the whole East Bay.

In 1916 the yard was bought by Union Iron Works, a manufacturer of mining machinery, locomotives, and ships, which already operated the Potrero Works, Risdon Works, and Hunters Point Works in San Francisco. The Alameda Yard was known as the Alameda Works of Union Iron Works. In 1906, Union Iron Works had been bought by the Bethlehem Steel Corporation. In 1917, in response to the World War, Bethlehem Steel set up the Bethlehem Shipbuilding Corporation, Ltd., a consolidation of several shipyards throughout the United States. The three works of Union Iron Works became known as the Union Plant of the Bethlehem Shipbuilding Corporation. A major expansion of the shipbuilding facilities of the Alameda Works took place at that time, including construction of six ways for the assembling of ships up to 550 feet long, the 500 foot long Plate Shop, the Marine Building for warehousing and the construction of small parts, the Power House, an employee cafeteria, several office buildings, an employee hospital, and the Turbine Machine Shop for the production of reciprocating engines, diesel engines, and marine turbines. The complex was entered through a formal entrance gate at Tynan Avenue. Altogether the Alameda Works "spread over seventy acres and was considered one of the largest and best equipped yards in the country."⁽¹⁾ The Turbine Machine Shop itself was referred to as "the finest machine shop on the Pacific Coast."⁽²⁾

During the First World War, several accomplishments of the yard attracted widespread public acclaim and official acknowledgement. The company newsletter wrote in 1919, "Figured on a basis of tons per slip per man, the Alameda plant leads all other plants in the United States for the

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Significance continued

Year 1918."(3) This record included construction of the two largest ships ever built on the Pacific Coast up to that time, the launching of the 12,000 ton freighter "Invincible" after only 24 working days, and the launching of four 12,000 ton freighters on July 4, 1918. The latter event was one of the important rallying points of the war years for Alameda citizens: "The Bethlehem yards were gay with flags and streamers for the quadruple launching, and thousands of spectators crowded every available vantage point to witness the spectacle."(4) These speed records were due in large part to the assembly and riveting on the ground of major sections of ships, which were then hoisted into place. All in all, between 1916 and 1923, a total of 58 ships were built.

After 1923, the Alameda Works ceased making ships but continued its dry-docking and ship repairing operations. In 1933, the Turbine Machine Shop was renamed the Alameda Fabricating Works and was revamped "for the sole function of fabricating structural steel."(5) It maintained this function through the World War II years, producing steel for the Alameda County Court House, the San Francisco Mint, and many Army and Navy buildings on the Pacific Coast, among others. It also continued to produce parts for the revitalized shipyard at the Alameda Works during World War II.

At the beginning of World War II, the Alameda Works was re-established as the Bethlehem Alameda Shipyard, Inc., which was sold to the United States Maritime Commission and leased back to Bethlehem. The yard was modernized and expanded. Among the most prominent of the new structures was a five-story reinforced-concrete warehouse, new ways, and new housing that was built south of the yard. During the war, the yard repaired over 1,000 vessels, and it produced P-2 troop transport ships, "the largest non-combatant vessel to be built by any American shipyard since Pearl Harbor."(6) A contract for 10 of these 23,000 ton ships called for them to be convertible to luxury liners after the war.

After World War II, ownership of the Alameda Works reverted back to the Bethlehem Steel Corporation although there remained some confusion in the title for many years. Shipbuilding came to an end and by the early 1950s, the old Alameda yard was used principally to maintain and repair equipment used by other Bay Area facilities of Bethlehem Steel.

Following its closure by 1956, and the demolition of many of its buildings, the old Alameda Works was owned by a series of different companies, none

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Significance continued

of whom used the Works to its capacity. Most buildings on the property were torn down, but the Turbine Machine Shop was not significantly altered. During these years it was used to sell heavy machinery and for a marine salvage business. Since 1972 the building has been vacant. It is currently owned by Alameda Marina Village Associates which plans to develop the shipyard together with adjacent parcels in a mixed-use project including commercial, office, and residential uses. The Turbine Machine building would be central to the project and would itself include the whole range of proposed uses. The owners plan to utilize the incentives of the Tax Reform Act of 1976 in this project.

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- 1 *Merritt, Frank Clinton, History of Alameda County, California. Chicago and S J Clarke Publishing Company, 1928, vol. I, page 408.*
- 2 *Bethlehem Shipbuilding Corporation, Ltd., 1919 (?), p. 104.*
- 3 *"Records Within Records" Make for Speed at Alameda Plant, Bethlehem Star Vol. 1 and 5, April 1919.*
- 4 *Merritt, p. 411.*
- 5 *Bethlehem Pacific Coast Steel Corporation, Bethlehem Pacific Steel Facilities, 1948, n.p.*
- 6 *Western Shipbuilders in World War II: A Detailed Review of Wartime Activities of Leading Maritime and Navy Contractors Oakland Shipbuilding Review Publishing Association, 1945, n.p.*

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- 1 Alameda County Building Permits.
- 2 Bethlehem Pacific Coast Steel Corporation. Bethlehem Pacific Steel Facilities. 1948.
- 3 Bethlehem Shipbuilding Corporation Ltd., (Union Plant), "Union Plant History Shows Marvelous Development," II:1 (June 1918) 3.
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- 5 Christy, Robert E. The United Engineering Works and the United Engineering Company: A Brief History of Two Alameda Shipyards. 1959.
- 6 Hansen, P. R. The History of Bethlehem Steel Alameda Shipyards, 1953.

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- 8 Morrow, Irving F., "Work by John Reid, Jr., A.I.A.," The Architect and Engineer, LX:2 (February 1920) 43-47.
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- 10 Rudd Gast & Associates, Inc. Bethlehem Steel Shop Building. 1977.
- 11 Schwab, Charles M. "Pacific Coast Shipbuilders Lead the Nation," Architect & Engineer LIV:1 (July 1918) 39-43.
- 12 Western Shipbuilders in World War II: A Detailed Review of War-time Activities of Leading Maritime & Navy Contractors. Oakland Shipbuilding Review Publishing Association. 1945.
- 13 "With the Architects", The Architect & Engineer. XLVI:1 (July 1916) 134 and LI:1 (October 1917) 108.

Maps

- 1 Haviland, P. A., Map of the City of Alameda. Thomas Bros., Map Publishers, 1915.
- 2 Jackin, Bruce A., Urban Rail Systems - Oakland & Alameda 1860-1891.
- 3 Oakland Title Insurance Company Street Index Map. Oakland Blue Print Company, 1925.
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- 1 Bethlehem Star, "Records Within Records" Make for Speed at Alameda Plant", Vol. 1:5 (April 1919).
- 2 Brand, Bill. "The Place That Time Forgot: Alameda's Bethlehem Shipyard," Alameda - Times Star, Alameda, CA (June 8, 1974) 12.
- 3 Oakland Tribune Annual Number, January 1919, 44-45.
- 4 The Evening Times Star, "Union Iron Works Expands Plant by Purchase," Vol. 18, No. 48 (March 31, 1917).

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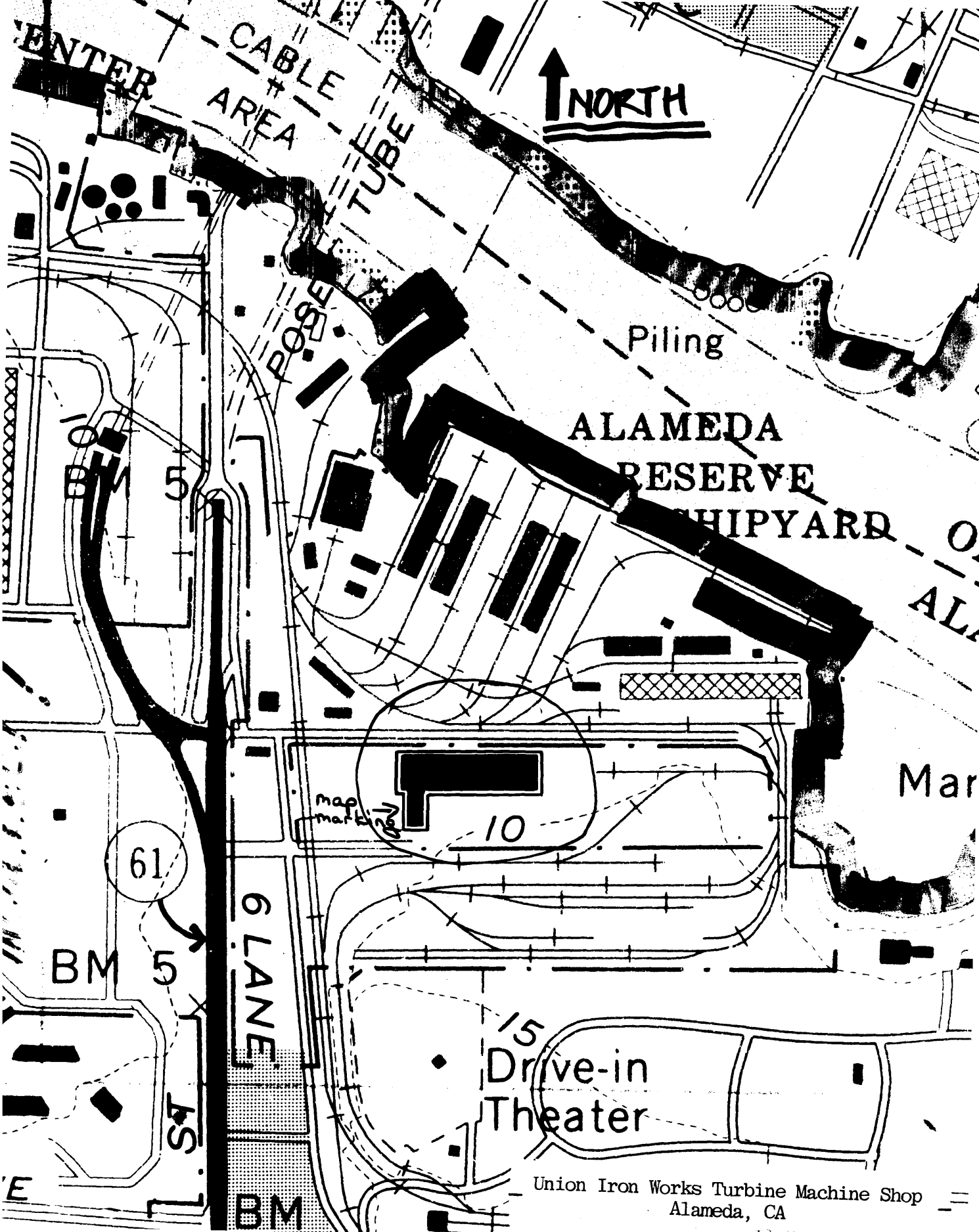
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Verbal boundary description and justification

The nominated property is on assessor's lot #74-906-12, and measures 164 feet by 552 feet. Approximate boundaries are as follows: 500 feet east of Webster Street, 200 feet south of Tynan Avenue, 1000 feet west of the Alameda Marina, and 400 feet north of a private extension of Bethlehem Avenue. The boundary is illustrated on the accompanying map entitled "Boundaries of Union Iron Works Turbine Machine Shop."

corrected on phone slip 4/2/80

J.F.T.



NORTH

CABLE AREA

POSEL TUBE

Piling

ALAMEDA RESERVE SHIPYARD

Map marking

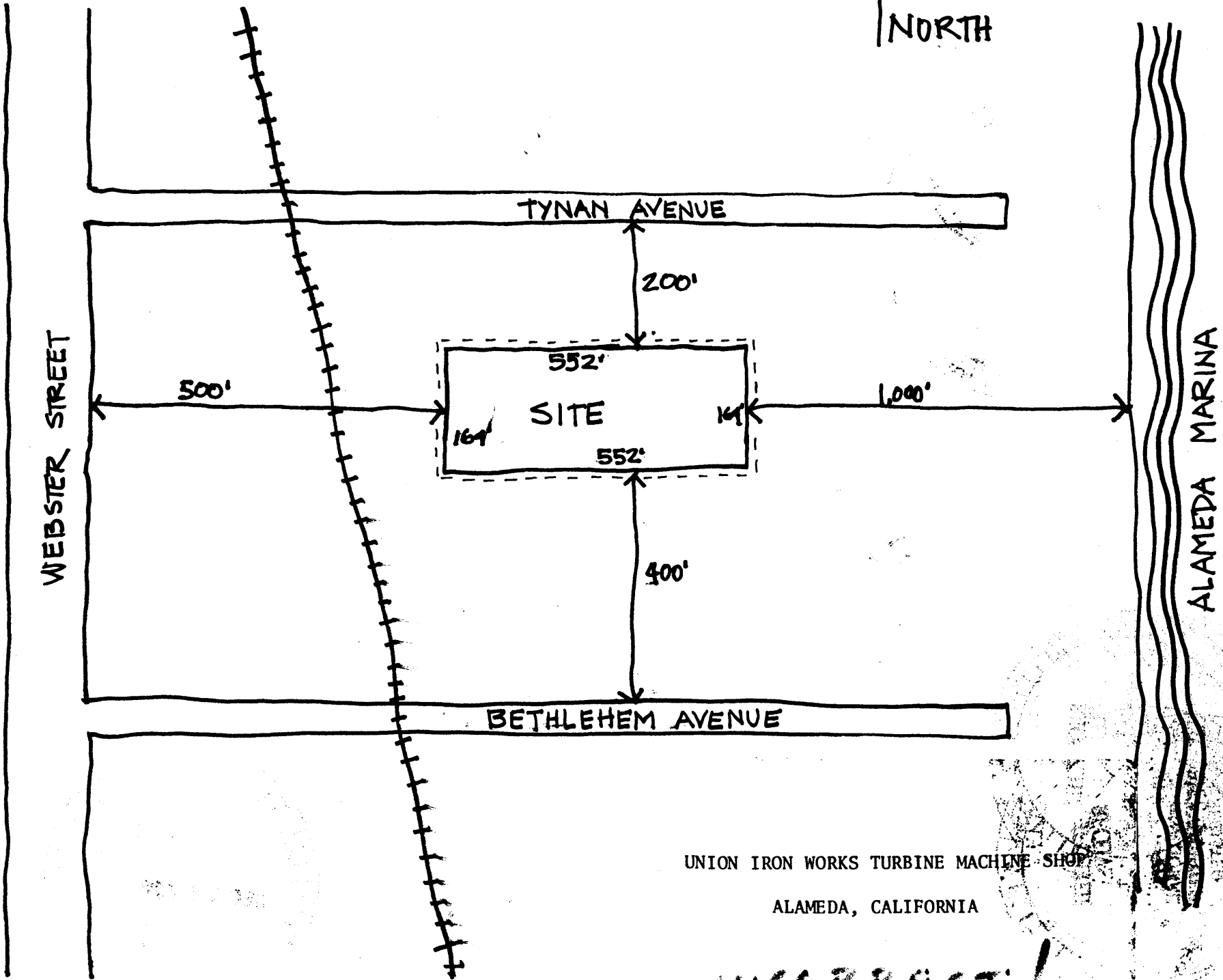
10

61

6 LANE

15
Drive-in Theater

Union Iron Works Turbine Machine Shop
Alameda, CA



UNION IRON WORKS TURBINE MACHINE SHOP
ALAMEDA, CALIFORNIA

INCORRECT!