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 Duwamish

other names/site number Fireboat Duwamish

2. Location

street & number Lake Washington Ship Canal, Chittenden Locks ☐ not for publication

city, town Seattle ☐ vicinity

state Washington code 53 county King code 033 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		structures
☐ public-Federal	☒ structure	1	objects
	☐ object		Total

Name of related multiple property listing:

Number of contributing resources previously listed in the National Register

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)

Government

Current Functions (enter categories from instructions)

Laid Up

7. Description

Architectural Classification (enter categories from instructions)

N/A

Materials (enter categories from instructions)

foundation N/A
walls N/A
roof N/A
other N/A

Describe present and historic physical appearance.

The 1909 fireboat Duwamish, a Seattle City Historic Landmark, is moored at Hiram Chittenden Locks, a U.S. Army Corps of Engineers facility in the Washington Ship Canal, which links Puget Sound with Lakes Union and Washington. Owned by the City of Seattle, Duwamish is laid-up, awaiting new moorings and display.

Duwamish as Built, Modified, and Laid-up

As built in 1909, Duwamish was a riveted steel-hulled vessel 120 feet in length, with a 28-foot beam, and a 9.6-foot depth of hold. The vessel's construction is "inner and outer" strake construction with heavily reinforced angled frames and intercostal keelsons. Duwamish is registered at 322 gross tonnage. [1] The vessel has a single, flush deck, which is riveted steel, and a riveted steel and wood pilothouse.

The vessel was built to conform to Seattle's waterfront; the shallow waters and mudflats resulted in Duwamish's construction without an external keel and as a shallow-draft vessel. The original bow was a projecting "ram" bow designed to sink burning wooden vessels in shallow water for later salvage if conventional methods failed to extinguish the fire. In 1949, the bow was reconfigured to conventional plumb lines since the majority of vessels were built of steel by that time and the ramming and sinking of burning vessels was no longer possible in most cases. The modification of the bow changed the length of the fireboat to 122.8 feet. [2]

Duwamish's twin screws were originally driven by double vertical (compound) marine steam engines, with 4 Mosher watertube boilers which propelled the vessel to a maximum speed of 10-1/2 knots. These engines were replaced in 1949 due to operational cost and the fireboat's delayed response time because of her slow speed.

[X] See continuation sheet

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 CRITERIA 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	1909-1985	1909, 1914
Architecture (Naval)	1909-1949	1909
Technology	1909-1949	
NHL XII-L		
Business: Shipping & Transportation		

Cultural Affiliation

Significant Person

Architect/Builder
Richmond Beach Shipbuilding Co.

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

The 1909 fireboat Duwamish, owned and maintained by the City of Seattle Fire Department in a laid-up status and a City of Seattle Historic Landmark, is an excellent example of a typical, specifically-designed fireboat as could be found in any major American port city through much of the 20th century. Duwamish is also the second oldest known American fireboat following the substantially rebuilt Edward Cotter of 1900. While built and operated only on the Seattle waterfront, this well-preserved vessel is representative of most early 20th century fireboats which could be found throughout the United States. While earlier tugboats modified for fireboat use and employed as auxiliary fireboats may exist, Duwamish is the second oldest surviving fireboat built specifically as a fire-fighting vessel in the United States. Fireboats known to exist in other major American cities date to the 1940s, 1950s, and 1960s. As such, Duwamish, possessing a high degree of integrity, is of national significance as the best preserved, largely unchanged example of the historic American fireboat type of the early 20th century.

The preceding statement of significance is based on the more detailed statements which follow.

☒ See continuation sheet

9. Major Bibliographical References

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: _____

10. Geographical Data

Acreage of property Less than one acre

UTM References

	Zone	Easting	Northing
A	10	545490	5279110
B			
C			
D			

☐ See continuation sheet

Verbal Boundary Description

All that area encompassed within the extreme length and beam of the vessel.

☐ See continuation sheet

Boundary Justification

The boundary encompasses the entire area of the vessel as she floats in her berth.

☐ See continuation sheet

11. Form Prepared By

name/title James P. Delgado, Maritime Historian
organization National Park Service (418) date July 9, 1988
street & number P.O. Box 37127 telephone (202) 343-4104
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The new engines employ diesel electric power and are two General Electric 500-volt direct current, air-start 725-h.p. engines powered by three 8-cylinder 800-h.p. Cooper-Bessemer diesel generators. The new engines increased Duwamish's speed to 14 knots. [3]

The vessel was originally fitted with three American-LaFrance steam piston pumps with a rated capacity of 3,000-g.p.m. for a total delivery of 9,000-g.p.m. The pumps were replaced in 1949 with the main engines. Duwamish now has two electrically-driven DeLaval centrifugal pumps with a rated capacity of 11,400-g.p.m. at 150 p.s.i. for a total delivery of 22,800-g.p.m. at 150 p.s.i. It is claimed that Duwamish is the most powerful fireboat in terms of the amount and force of water she is capable of deploying, which while difficult to substantiate seems likely given the trend for smaller delivery on more modern fireboats, including the most recently built in the 1980s. [4]

The manifolds run aft from the pilothouse for much of the length of the vessel and mount 12 hydrants at each side with outlets for 3 1/2- and 4-inch hose. The manifolds are separated by large valves which can isolate the port or starboard sides, insuring continued use of one side or the other without pressure loss should the manifold be ruptured. The manifolds directly support six "trunk deck" monitors, three on each side of the hull. These manifolds, manufactured by A.J. Morse & Son of Boston, rotate and elevate. The fireboat additionally mounts two large monitors, each with a rated capacity of 7,000 g.p.m., on riveted steel platforms or towers, one aft and atop the trunk, the other atop the pilothouse. The pilothouse tower also supports searchlights. These monitors, while original, have been modified with the addition of mechanical and electrical controls and motors for manipulation.

The riveted steel superstructure consists of a single trunk which carries the manifolds, monitors, and after platform or tower with its monitor. A craneboom for the fireboat's two lifeboats is slung aft of the trunk off the platform. The pilothouse is located atop the forward end of the trunk, and is riveted steel and wood. It contains all original equipment, including the engine room telegraph and a marine-style telegraph for the pumps which is inscribed "Seattle Fire Dept." The sister of this telegraph is located in the engineroom next to the pumps. A small trunk foreward leads into the firecastle, which contains

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house racks and two ports and manifolds to mount nozzles to fight fires below docks where the deck monitors cannot reach. The original windlass and Danforth-style anchors are in place on the forecastle deck. Other original fittings in place on the vessel include her bell, intake hoses with filters, and crew lockers. While laid-up, Duwamish is kept in excellent condition; the integrity of the vessel is exceptional and all changes evidence the evolution of the vessel and fireboats in general through time.

NOTES

1
National Park Service, Evaluative Inventory of Preserved Historic Vessels in the United States (Washington, D.C.: National Park Service, 1987) n.p.

2
Jim Stevenson, "City of Seattle Landmark Nomination Form, Fireboat Duwamish," 1986, Seattle Landmarks Preservation Board."

3
Ibid. and interview, Deputy Chief Richard A. Columbi, Seattle Fire Department, April 28, 1988.

4
Ibid.

THE ORIGIN AND DEVELOPMENT OF THE FIREBOAT

The concept of using vessels to fight fires on other vessels and along a port's waterfront dates to the mid-19th century and the development of large-volume marine steam pumps to generate sufficient pressure for effective fire-fighting. Harbor tugs and towboats, the most common steam-powered vessel type in any given harbor, became the optimum fire-fighting vessels. Very few vessels were actually designed and built as fireboats; rather many tugs were fitted with pumps and monitors for auxiliary fireboat use. The need for full-time fireboats, and for maximum capability for combating serious blazes on wooden ships and the wooden waterfronts of the late 19th and early 20th century compelled some fire departments in port cities to design and construct their own fireboats.

The origins of fireboats were reflected in the general form and design that distinguishes American fireboats through the present day. In 1927, typical fireboats in the United States were described as having the same general dimensions and hull lines of those of a harbor towboat. "The fireboat is a self-propelling hull of towboat form containing powerful pumps drawing from surrounding water and discharging streams of water through strategically mounted monitors." It was also noted that diesel engines had practically replaced steam by 1927 for both propulsion and pumping, with "diesel electric drive being particularly suitable for the work." [1]

As early as 1927 the shift from older types of engines to diesel electric engines, as was done in Duwamish, was being noted:

> As with the towboat, the Diesel engine has now practically replaced steam both for propulsive and pump operating purposes. Diesel electric drive being particularly suitable for the work....Some vessels have diesels for main propulsion and diesels or diesel generators to supply power or current for operating the main fire pumps. Other vessels have one or two main sets of diesel generators supplying current to propelling motors and to pump motors. [2]

While various communities designed their fireboats individually and without any known nationally accepted plan, the dictates of

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function determined the form so closely that a national type, as represented by Duwamish, was developed. The basic form remains unchanged with few exceptions save more modern pumping and delivery systems.

CONSTRUCTION AND CAREER OF DUWAMISH

Seattle was devastated by a disastrous fire on June 6, 1889, which destroyed more than 30 city blocks covering some 60 acres. [3] In the aftermath of the disaster, Seattle established a paid professional fire department. In 1890 firehouses were constructed and a fireboat was ordered. in 1891 the city's first fireboat, the wooden-hulled vessel Snoqualmie was delivered.

The active maritime trade of Seattle, in large part associated with the Pacific Northwest lumber trade, and the presence of large wooden warehouses and sawmills on the shores of Puget Sound was a tremendous responsibility for the fire department because a large fire conceivably could overwhelm the capability of the fireboat. In response to this problem, a new more powerful fireboat was ordered. Seattle naval architect Eugene L. McAllaster designed the vessel, and Duwamish was laid down at Richmond Beach, Washington, by the Richmond Beach Shipbuilding Co. in 1909. When completed, the new vessel, it was claimed, was the world's most powerful fireboat (in terms of discharge). Duwamish went into service in 1909, replacing the unseaworthy and worn-out Snoqualmie.

Duwamish proved her worth on July 30, 1914, when she battled a major blaze on the waterfront. The Grand Trunk Pacific Dock, the largest wooden structure of its kind on the Pacific Coast, was a 500- by 105-foot wooden structure resting atop 5,000 creosoted pilings; its three-story high warehouse held 2,700,000 board feet of lumber. The fire was so intense that the building could not be saved, but Duwamish was credited with saving the remainder of the waterfront as her powerful streams of water kept the flames from spreading. [4]

Joined by a smaller new gasoline-powered fireboat, Alki, in 1927, Duwamish remained in service through the Second World War, when she was taken over by the U.S. Coast Guard. Returned to the Seattle Fire Department in 1946, the fireboat was overhauled and modernized in 1949 with diesel electric engines manufactured for the U.S. Navy in 1945 but never used and sold as surplus.

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Following her modernization, Duwamish remained in service on the Seattle waterfront until 1985, when she was replaced with a new aluminum and fiberglass-hulled fireboat, Chief Seattle. Laid-up and maintained in excellent condition by the fire department, Duwamish was designated a Seattle city landmark on October 8, 1986. She now awaits a permanent berth and display as a museum vessel.

NOTES

1
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) p. 166.

2
Ibid.

3
Roger Sale, Seattle: Past to Present (Seattle: University of Washington Press, 1976) p. 50.

4
Jim Stevenson, Seattle City Landmark Nomination Form, "Fireboat Duwamish," July 1986. Seattle Landmarks Preservation Board files.