

**SEATTLE HUMAN RESOURCES
2022 EXAMINATION BIBLIOGRAPHY FOR FIREBOAT PILOT**

Final: April 14, 2022

The written examination for Fireboat Pilot will be held on Wednesday, July 13, 2022 at location to be determined.

Candidates who pass the written and charting examination will be scheduled for the practical examination, tentatively scheduled for September 12 -16, 2022 (times and locations to be announced). Candidates will need to attend more than one day during this period. The practical examination exercises will be based on the 1) skills and abilities identified by the job analysis as critical for successful job performance as a Fireboat Pilot, 2) information from the Promotion Development Committee who serve as subject matter experts, and 3) reading materials in the bibliography.

Dates are tentative as exam administration may be changed due to COVID-19 public health guidelines.

Please contact the Seattle Department of Human Resources Fire and Police Exams Unit at Yoshiko.gracematsui@seattle.gov or (206) 615-0581 if you have any questions on the exam process.

Please view the Classification Specification for the Fireboat Pilot for the general scope of job duties and required knowledge, skills, and abilities.

GENERAL SCOPE: Boat handling, piloting, seamanship, standard and electronic navigation, bridge resource management, local knowledge, fireboat equipment, electronics, marine radios and their usage, emergency operations including search and rescue operations, marine firefighting, and salvage. Verbal and written communication, supervision of fireboat crew, interaction with personnel and members of the public, and compliance with Citywide policies. Maritime rules and regulations. Vessel characteristics of the SFD fireboats.

A bibliography of study materials on which the written examination, charting exercise will be based includes the following:

Source Title	Contents
Bridge Resource Management for Small Ships, Daniel S. Parrot, 2011	All
Chapman Piloting and Seamanship, 68 th Edition	All (Excluding chapters 2,3,4,5,19,21,24,25)
Detroit Diesel Marine Electronic Controls Operating Instructions	All
Dutton's Nautical Navigation, Naval Institute Press, 15th Edition	Chapters 1 – 14, 17, 23, 36, and Appendices A, B, and D
Furuno Operator's Guide #FA-150	All
Furuno Operator's Manual #FA-150	Pages iii - xiii and Chapter 1-Operation
Furuno Operator's Manual, FAR2127, 2107-BB	All
Furuno Operator's Manual, NavNet3D MFDBB	All
Furuno User's Manual, NavNet3D MFDBB	All
Hamilton Jet HJ364 MECS Control Manual R1A5	Chapter 3, System Operation

L3 Protec - M AIS Installation and Operation Manual	Section 1- Introduction, Section 3- Operation and Appendix A - STEDS Functionality
Marine Firefighting for Land-Based Firefighters, IFSTA, 3 rd Edition 2019	All
NOAA Charts: Corrected through LNM Week 9/22	#18447, 30th Ed., Sept 2012 #18449, 21st Ed., Nov 2019 #18450, 20th Ed., Jan 2017 #18473, 10th Ed., Apr 2020 #18474, 11th Ed., Dec 2015
Northwest Marine Weather, by Jeff Renner, 1993	All
Policies and Operating Guidelines, SFD (11/21/2021)	Includes both policies and guidelines of the sections below (if applicable).
	P 1007 -Code of Conduct (Policy only) 3003 - EEO 3004 – Ethics 3017 – Race and Social Justice Initiative P 5013 – Marine Operations (Policy only)
Puget Sound Harbor Safety Plan, Marine Exchange – June 2017	All
Radar Observer Manual, 6th Edition, MET	All
Radar Transfer Plotting Sheets 5089	All
Seattle Municipal Code	Harbor Code Title 16 - All
Sexual Harassment Prevention Training Manual for Managers and Supervisors, 3 rd Edition, by Paul Gibson, and Marjorie A. Johnson	All
The Ship Handler’s Guide, Capt. R. W. Rowe, 1998	All (Excluding chapter 12)
U.S. Chart #1, 13th Edition, April 15, 2019	All
U.S. Coast Guard Light List, Volume VI, 2022– Corrected through LNM Week 9/22	Cover to xli, pages 143-146, 159-162
U.S. Coast Guard Navigation Rules Handbook - International, Corrected through LNM Week 09/22	All
U.S. Coast Guard VTS Puget Sound, 2019 User’s Manual	All
U.S. Coast Pilot 10: 2nd Edition, 2021 through LNM Week 09/22	Chapters 1 – All 2 – highlighted sections, 3 - highlighted sections, 8 - highlighted sections
Vessel Characteristics, Seattle Fireboats --This is the list of characteristics that test questions are drawn from, not other documents.	All, listed below
ZF 3000 Marine Gear Operating Instructions	Sec. 5.2 Shift Procedure, Sec. 5.3 Trailing Operation, Sec. 6.1 Trolling
ZF BW 460 Series Marine Gear Operating Instructions	Sec. 7.1 Normal Operation, Sec. 7.2 Trailing Operation, Sec. 9 - 9.12 Trolling
Zip Wake, Series E, Operator's Manual	All

Vessel Characteristics of the Seattle Fireboats:

Fireboat Chief Seattle: Length – 96’ 6” ; Beam – 23’ ; Draft – 7’ ; Speed – 22 Knots; Fuel 1508 gallons; Water 2 – 50 gallon tanks; Foam Concentrate 950 gallons Novacool; Semi-displacement hull with a gross tonnage of 108, Propulsion - Conventional Twin Screw; Main Engines: 2 - MTU 10V2000, M93 1500 hp at 2450 RPM, ZF 3000 gears with 42 inch 5 blade propellers; Thrusters: Key Power Hydraulic (2 - 50 hp Bow only); Electrical: 2 - 65 KW Northern Lights Generators 480VAC 3-phase; Firefighting: 4 - 2500 GPM Fire Pumps driven by 2 C18 Caterpillar 715 hp at 2100 RPM, Pump Capacity 10,000 GPM supplying 6 monitors (5 foam capable), 10 - 4 inch discharges, and stern jets. (LIST UPDATED 2/12/2021)

Fireboat Leschi: Length – 108’ ; Beam - 27’ ; Draft – 10’ ; Speed - 14 Knots; Capacities: Fuel 20,940 gallons, Water 1200 gallons, Foam Concentrate 6,000 gallons Novacool; Propulsion - Conventional Twin Screw; Main Engines: 2 - MTU 8V4000, M71 1556 hp at 2,000 RPM, ZF W4610 gears with 72 inch 4 blade propellers; Thrusters: Key Power Hydraulic (200 hp Bow , 100 hp Stern); Electrical: 2 - 99 KW Northern Lights Generators 480VAC 3-phase; Firefighting: 4 - 5,000 GPM Fire Pumps driven by 2 MTU 8V 4000 M71 1,556hp at 2000 RPM, Pump Capacity 20,000 GPM supplying 8 - foam capable monitors, 12- 4 inch and 4- 2 1/2 inch discharges; Crane Ladder: 55 feet with pre-plumbed waterway; CBRN crew protection and decon. (LIST UPDATED 2/12/2021)

Fireboat 1: Length - 50’ ; Beam – 16’ 6” ; Draft – 30” ; Speed - 30 Knots; Capacities: Fuel - 486 gallons, Water - 42 gallons, Foam Concentrate - 204 gallons Novacool; Propulsion - Twin 364 Hamilton jets; Main Engines - 2 - C-18 Caterpillar 715 hp at 2300 RPM; Electrical: 2 - 270 amp engine driven alternators and 1 - 10 KW northern Lights Generator; Firefighting: 2 - 3,000 GPM Hale BG8 centrifugal pumps driven off front of main engines, 6,000 GPM total pumping capacity, 2 - 2,000 GPM Elkhart remote operated monitors, 4 - 4" discharge ports, 4 - 2 1/2" discharge ports, Bow Monitor and forward discharge ports are foam capable, CBRN crew protection and decon.

Fireboat 2: Length - 50’ ; Beam – 16’ 9” ; Draft – 30” ; Speed - 42 Knots; Capacities: Fuel - 600 gallons, Water - 45 gallons, Foam Concentrate - 200 gallons Novacool; Propulsion - Twin 364 Hamilton jets; Main Engines - 2 - C-18 Caterpillar 1001 hp ; Electrical: 2 – 105 amp engine driven alternators and 1 - 9 KW northern Lights Generator; Firefighting: 2 - 3,000 GPM Hale centrifugal pumps driven off front of main engines, 6,000 GPM total capacity, 2 - 2,000 GPM Elkhart remote operated monitors, 4 - 4" discharge ports, 4 - 2 1/2" discharge ports, Bow Monitor and forward discharge ports are foam capable, CBRN crew protection and decon.

Types of vessels and physical comparisons to the Seattle fireboats:

Gross tonnage 24 to 300

Horsepower 1430 to 3100

Engines, single and double

Propulsion, twin propeller and twin jet

Speeds up to 42 knots

Operating in depths up to 800’ of water with experience in congested waters; including harbors, rivers, and inland waters

Comparable vessels would be harbor tugs, patrol boats similar to Coast Guard 82 and 95’ foot boats, both propeller and jet driven pilot boats, crew boats, patrol and military vessels

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