



# Bock Consulting

## Job Analysis

Job Title	Sprinkler Fitter Crew Chief (MM)	Worker	
DOT Number	862.684-030, 862.281-022, and 862.131-010	Claim Number	
Employer	Port of Seattle	Employer Phone #	(206) 787-3000
Employer Contact	George Washington	Date of Analysis	5/3/11; 11/22/16

Job of Injury   
 Transferable   
 New Job   
 10 Hours Per Day   
 4 Days Per Week  
Skills Job

### Job Description, Essential Functions, Tasks and Skills:



The Port of Seattle is a municipal corporation created on September 5, 1911 by the voters of King County. The Port of Seattle is divided into operating divisions, plus other departments that support the divisions and the broad mission of the Port: 1) Aviation Division, 2) Maritime Division, and 3) Economic Development Division.

The Maritime Division owns and operates approximately 1,200 acres of moorage, cargo-related, and cruise ship facilities. The Maritime Division employs a maintenance staff, which is responsible for general facility upkeep, pier and moorage system repairs, and utility maintenance.

This job analysis is for an individual working as a Sprinkler Fitter Crew Chief for Marine Maintenance.

### Essential Functions:

The Sprinkler Fitter Crew Chief is responsible for supervising and directing the daily work activities of the Sprinkler Fitters, and periodically performing work tasks in the field on fire suppression systems located on Seaport and Real Estate Division properties.

Sprinkler Fitters working for Marine Maintenance are responsible for installation, maintenance and repair of all fire suppression systems and inspection/maintenance/testing of backflow assemblies on applicable Seaport and Real Estate Division property. This includes any and all applicable systems routing water from the water mains at the edge of Port of Seattle properties, to





***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010***

installing and maintaining fire hydrants, to ensuring proper water flow to warehouses, office buildings and under dock areas. It includes installing and maintaining systems above and below ground plus in buildings. It includes testing, inspecting and certification of applicable systems. Sprinkler Fitters must document and maintain pertinent reports and records based upon State, City, and Port of Seattle guidelines.



Sprinkler Fitters are also responsible for monthly fire extinguisher inspections, testing and maintenance. The Marine Maintenance Sprinkler Fitters over see the inspections, certifications and maintenance of 1,000-1,200 fire extinguishers.

Work is generally performed on the day shift, Monday through Friday. One Sprinkler Fitter is on on-call, 24 hours per day, 7 days per week. The “on-call” responsibility rotates between Sprinkler Fitters (including the Crew Chief) every two weeks.

The work performed by the Sprinkler Fitter Crew Chief can be categorized as follows:

Work Category	Estimated Time
Office/desk/administrative work (including meetings)	70-80%
Supervising work and personnel and providing assistance in and around shop	5-10%
Supervising work and personnel and providing assistance in the field	10-15%
Performing trade-specific work	0-10%
Total	100%

Tasks Assigned to a Sprinkler Fitter Crew Chief

- Receive notifications of new work orders/requests (via telephone, email, or job tracking system). Develop plans for completing requested projects. Plan for material, equipment, PPE, and staffing needs.
- Order parts, supplies, and or materials needed for projects. Work with Purchasing to ensure correct products and items are ordered and available when needed. Periodically work with vendors related to parts, supplies, and or materials needed.
- Prepare and or review site specific safety plan for each project/work task. Prepare job plans and supporting documentation as needed.
- Prepare personnel schedules and assign work tasks.
- Meet/connect with crew daily to manage workflow, address issues, and reassign personnel based on



***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010***

work demands.

- Lead periodic meetings to provide training and discuss important safety issues.
- Coordinate scheduling with other trades to ensure materials, equipment, and workers from other trades are available as needed to complete assigned work orders/projects. Coordinate with outside vendors/contractors/entities. Coordinate scheduling with Port Facility Maintenance Managers and tenants.
- Attend periodic meetings with supervisors and other entities.
- Coordinate work priorities with supervisors.
- Assist crew members with technical input, answer questions from crew, and provide troubleshooting advice as needed.
- Potentially review drawings or blueprints for reference.
- Prepare and or review job hazard analysis for each project.



Review job plan. Ensure work is performed in a safe manner.

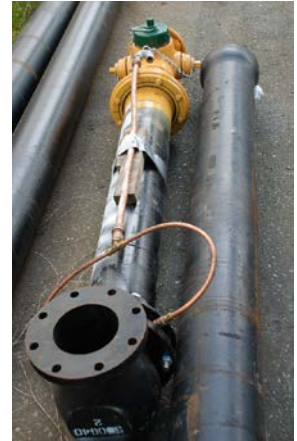
- Assist crew in choosing tools, equipment and materials.
- Drive vehicle to various sites to complete tasks.
- Perform installation, maintenance, and or repair to fire suppression systems, including wet and dry systems. These tasks include installing, repairing, and or replacing valves, pipes, fittings, sprinkler heads, hydrants, and other system components. This may include measuring items and operating a variety of power tools and cutting equipment in order to prepare thread, bend and solder pipes, fixtures, and other items for installation or replacement.
- Troubleshoot and diagnose issues related to fire suppression systems. Develop plans of action to address specific issues, and implement applicable solutions.
- Perform cyclical inspections and operational checks on sprinklers and fire protection systems as required. Document completed inspections. Sprinkler Fitters test sprinklers and fire protection systems with air and liquid pressure.
- Perform cyclical inspections and operational checks on fire extinguishers. Document completed inspections on extinguisher-specific tag. Gather fire extinguishers to empty, refill, and recharge (generally performed in the shop).





***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010***

- Enter time by work order on a daily basis into job tracking system (Maximo). Review daily time entered by crew and approve.
- Ensure description of work completed is available and or correct in work log.
- Send and respond to electronic mails.
- Provide training to one or more crew members to cover duties of Crew Chief when Crew Chief is not working/available.
- Visit project sites and oversee/inspect completed work. Ensure work is being performed in a safe manner.
- Respond to requests for bids. Review work scope, materials, equipment, and staffing needs, and prepare an estimate related to the requested work.
- Ensure crew has current certifications and or training as required by policy, law, or ordinance.
- Potentially supervise apprentices or mentor students.
- Reviewing drawings, plans, and schematics for potential projects.
- Complete all required forms and documents.
- Oversee implementation of programs required by law or ordinance.
- Some tasks and work may be performed while in a boat or standing on a work float.
- Coordinate responses to emergencies/after hours call outs.



Worker's Skills and Traits

- Must have knowledge of sprinkler systems, and the technical expertise to inspect, maintain, repair, and replace components of various fire suppression systems.
- Must possess mechanical aptitudes.
- Must have good attention to detail to ensure systems are installed or repaired properly to eliminate/mitigate future issues.
- Must be able to communicate effectively in English with co-workers, supervisors, vendors, and the public.
- Must be able to work closely with other trades while working to accomplish assigned tasks.
- Must be able to prepare requisitions and reports related to materials and equipment needed to implement assigned installations and repairs.
- Working knowledge of Windows-based computers and related accessories. Working knowledge of time tracking software, keyboarding and data input skills, and knowledge of electronic mail software.



***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010***

Machinery, Tools, Equipment, Personal Protective Equipment

- Computer, computer accessories, and project management software (Maximo).
- General office equipment, such as desk, chair, fax machine, telephones, and calculator.
- General office supplies, such as pens/pencils, notepads, binders, file folders, and copy paper.
- Hand tools including but not limited to pipe wrenches, strap wrench, sprinkler head wrench, pliers (Channel Locks), tape measure, adjustable wrench, plumb bob, levels, chalk line, socket set, hacksaw, wire cutters, screwdrivers, hammers, squares, utility knife, and others.
- Power tools, including hydraulic pipe cutter, pipe threading machine, pneumatic and gas powered cut-off saw, and reciprocating saw.
- Tool box/bucket. Air compressor. Hoses. Generator.
- Work truck or other vehicle. Davit lift. Chains, slings, and ropes.
- Ladders. Manlifts. Comealongs. Forklift.
- Flashlights and work lights.
- Backflow test kit/apparatus.
- Pipe pigs (inflatable – keep dirt and debris out of pipes).
- Work skiffs/boats (14 and 16 foot boats) with outboard engines. Floating platforms (approx. 4’x8’ on Styrofoam billets/floats).
- Scaffolding.
- Confined space testing equipment.
- 2-way radio. Cellular phone.
- Personal protective equipment includes: safety vest, steel-toed boots, safety glasses, and ear protection. Hard hat. Face shield. When working on or within 6 feet of an edge of the water, must wear personal floatation device (“PFD”) or a harness when in confined spaces or on lift.



***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010***

Education / Training

The Sprinkler Fitters, including the Crew Chief, are represented by the Sprinkler Fitter Local 699. The Sprinkler Fitter Crew Chief would be a Journeyman level Sprinkler Fitter with significant experience in the trade.

This position requires workers have or obtain Seattle Fire Department licenses (AS-1 and FEX-1; STP, FACT are required) a Backflow Prevention Certification, a Haz-Mat Handling Permit, Forklift Certification, Boater's Education card, and TWIC card.

Must have a valid Washington State driver's license.

Crew Chiefs must also complete the Front Line Supervisor Training as a Port of Seattle Requirement. This training is offered once a year and must be completed during the first year as a Crew Chief.

Training and or enough hands-on experience with computers to have a working knowledge of Windows-based computers and related accessories, time tracking software, keyboarding, data entry, electronic mail software.

**Per the Dictionary of Occupational Titles (DOT):**

**862.684-030 Water Regulator and Valve Repairer** Specific Vocational Preparation (SVP): 5 (Six months to one year)

**862.281-022 Pipe Fitter, Fire Sprinkler Systems** SVP: 7 (From two to four years)

**862.131-010 Pipe Fitter Supervisor, Maintenance** SVP: 8 (From four to ten years)



***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010***

**COGNITIVE AND BEHAVIORAL ELEMENTS/DEMANDS**

The psychological and cognitive demands of this position vary depending on assignments and duties.

Frequency Definitions:		
<b>Continuously</b> = Occurs 66-100% of the time.	<b>Occasionally</b> = Occurs 1-33% of the time	
<b>Frequently</b> = Occurs 33-66% of the time.	<b>Rarely</b> = May occur less than 1% of the time.	
<b>Never</b> = Does not ever occur.		
<b>Comprehension</b>		
Articulating and comprehending information in conversations.		Continuously
Reading, comprehending, and using written materials.		Occasionally
Understanding and solving problems involving math and using the results.		Occasionally
Using technology/instruments/tools & information systems.		Continuously
Working with two and three dimensional formats.		Occasionally
<b>Remembering</b>		
Remembering spoken instructions.		Continuously
Remembering written instructions.		Continuously
Remembering visual information.		Continuously
Recalling information incidental to task at hand.		Continuously
Memorizing facts or sequences.		Frequently
Remembering simple instructions.		Continuously
Remembering detailed instructions.		Continuously
<b>Learning &amp; Processing</b>		
Effectively learning and mastering information from classroom training.		Occasionally
Effectively learning and mastering information from on-the-job training.		Continuously
Learning from past directions, observations, and/or mistakes.		Continuously
Using common sense in routine decision making.		Continuously
Recognizing and anticipating potential hazards and taking precautions.		Continuously
Thinking critically and making sound decisions.		Continuously
Integrating ideas and data for complex decisions.		Occasionally
Determining and following precise sequences.		Frequently
Coordinating and compiling data and information.		Occasionally
Analyzing, synthesizing data and information.		Occasionally
<b>Tasking and Planning</b>		
Performing repetitive or short-cycle work.		Continuously
Working under specific instructions.		Continuously
Completing complex tasks.		Occasionally
Directing, controlling, or planning for others as necessary for basic tasks.		Rarely
Directing, controlling, or planning for others as necessary for complex tasks.		Rarely
Multi-tasking.		Continuously
Planning, prioritizing, and structuring daily activities.		Continuously



*Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010*

<b>Use Appropriate Behavior for Professional Work Environment</b>	
Receiving criticism and accepting limits appropriately.	Frequently
Maintaining emotional control and organization under increased stress.	Continuously
Maintaining socially appropriate affect, temperament, and behavior.	Continuously
Monitoring own quality of performance and altering behaviors to correct mistakes or improve outcome.	Continuously
Working independently and/or unsupervised.	Continuously
Adapting to frequent interruptions, changes in priorities, or changes in work location.	Frequently
Responding effectively to emergency situations.	Rarely

Frequency Designations: <b>Required</b> <b>Beneficial</b> <b>Not Necessary</b>	
<b>Maintaining Attendance and An Assigned Work Schedule</b>	
Maintaining predictable and reliable attendance each work shift.	Beneficial
Being punctual.	Beneficial
Taking rest periods at set times or only at times determined by breaks in job responsibilities.	Beneficial
Adjusting to a flexible schedule of work days and or shifts.	Not Necessary





**Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
 DOT # 862.684-030, 862.281-022, and 862.131-010**

**PHYSICAL DEMANDS**

**N/A:** Not Applicable

**S:** Seldom (1-10% of the time)

**O:** Occasional (10-30% of the time)

**STRENGTH:**  Sedentary  Light

**F:** Frequent (30%-70% of the time)

**C:** Constant (Over 70% of the time)

**WNL:** Within Normal Limits (talking, hearing, etc.)

Medium  Heavy  Very Heavy

Frequency

Comments

Sitting	<b>C</b>	While performing administrative duties. While driving to job sites, attending meetings, or for short periods of time while working in the field.
Standing	<b>O</b>	Interchange with walking. Frequency depends on assigned tasks. May include standing on a ladder or in a boat.
Walking	<b>O</b>	Interchange with standing. Frequency depends on assigned tasks. Walking may be over wooden docks, concrete, asphalt, carpet, tile, or over uneven or slippery surfaces (including mud and wet wooden docks). May walk for a significant amount of time if inspecting entire building systems or gathering extinguishers.
Lifting (up to 10 pounds)	<b>F</b>	While lifting phone, radios, and office supplies. Tools, fittings, short lengths of pipe, smaller valves, sprinkler heads, paperwork, supplies, 1 or 2 traffic cones, smaller 5 lb fire extinguishers (6 lbs), clipboard, 2-way radio, and cellular phone.
Lifting (10 to 60 pounds)	<b>S</b>	Larger tools (portable cut-off saw), tool boxes/buckets, lengths of pipe, medium size fire extinguishers (10 lb extinguishers weigh 13 lbs; 20 lb extinguishers weigh est. 25 lbs), stack of traffic cones, valves, and other system components and materials. Lengths of pipe, valves, large 50 lb fire extinguishers, manhole covers, portable compressors and generators. Note: Heavier items are lifted by two workers, and machinery/equipment is used as much as possible to lift heavier items.
Carrying (up to 10 pounds)	<b>F</b>	While carrying phone, radios, and office supplies. Tools, fittings, short lengths of pipe, smaller valves, sprinkler heads, paperwork, supplies, 1 or 2 traffic cones, smaller 5 lb fire extinguishers (6 lbs), clipboard, 2-way radio, and cellular phone.
Carrying (10 to 60 pounds)	<b>S</b>	Larger tools (portable cut-off saw), tool boxes/buckets, lengths of pipe, medium size fire extinguishers (10 lb extinguishers weigh 13 lbs; 20 lb extinguishers weigh est. 25 lbs), stack of traffic cones, valves, and other system components and materials. Lengths of pipe, valves, large 50 lb fire extinguishers, manhole covers, portable compressors and generators. Note: Heavier items are carried by two workers, and machinery/equipment is used as much as possible to carry heavier items.
Bending Neck	<b>C</b>	All assigned tasks include neck movement.
Pushing/Pulling (up to 10 pounds of force)	<b>O</b>	Opening file cabinet drawers, and drawers on copy and fax machine. Opening doors on buildings and vehicles. Using wrenches and other tools.
Pushing/Pulling (10 to 50 pounds of force)	<b>S</b>	Using wrenches and other tools, fitting pipe and other system components into place, inserting pigs in pipes. Opening vault doors, levering and moving manhole covers, and moving pipe and other system components into place.
Climbing Stairs/Ladders	<b>S</b>	Installing and repairing components overhead, performing inspections. May encounter stairs in the field and in the shop building.



***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
 DOT # 862.684-030, 862.281-022, and 862.131-010***

Working at Heights/Balancing	S	Frequency depends on assigned tasks. Working on a ladder or manlift, working near a trench, open manhole, or near the edge of a dock.
Bending at Waist	O	Frequency depends on assigned tasks. Reaching items on desk while seated, gathering items at or below waist level.
Crouching/Kneeling	S	Depending on assigned tasks.
Twisting	S	Depending on assigned tasks and situation in which worker is performing tasks. Reaching items on desk while seated.
Reaching (Up to Shoulder)	O	Gathering books and other resources from shelves. Gathering supplies and materials for project, installing and repairing components, removing components, using Davit lift, levering manhole covers, and performing inspections.
Reaching (Over the Shoulder)	S	Gathering books and other resources from shelves. Installing and repairing components overhead, reaching items on edge of a trench, performing inspections, and while working under a dock.
Repetitive Motion	S	The broad scope of work generally eliminates repetitive motion.
Keyboarding	F	Entering time and work performed on a daily basis. Creating and responding to emails. Researching parts. Placing orders for parts and materials. Researching and referencing codes.
Handling/Grasping	F	50 % Pinch Grasp 50 % Whole Hand Grasp
Fine Finger Manipulation	O	Processing paperwork and using books and other reference materials. Using tools, pulling triggers on power tools, placing fittings on pipes, writing, using 2-way radio and cellular phone, using keys.
Driving	O	Driving work vehicles to project sites.
Operating Foot Controls	O	While driving, using pipe threading machine, and potentially operating manlifts.
Talking	F	Communicating with supervisors, co-workers, and public.
Hearing	C	Communicating with supervisors, co-workers, and public. Listening for sounds of alarms and potential hazards.
Seeing	C	Visual abilities would be considered important in this position.
Writing	O	Taking notes and or documenting completion of inspection tasks.
Normal Job Site Hazards	O	Carrying heavy objects, falling objects, working in trenches, working at heights (ladders and manlifts), driving vehicle, working near moving vehicles, exposure to electricity, slippery walking surfaces, sharp tools, fumes, dust, noise, vibrations, and capsizing while working in a boat.
Expected Environmental Conditions	C	Work primarily performed inside temperature-controlled shop office. Worker may be exposed to external weather conditions when visiting the field, and may be exposed to noisy environments, dust, and fumes.



Bock Consulting

Claimant:  
Claim #:  
5/5/11; 11/22/16  
Page 11 of 12

***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010***



The above job analysis represents the requirements of a specific job based on personal observations, discussions with employer representatives, and/or workers. On occasion, practicality and feasibility prevent the direct observation and/or gathering of objective quantifiable data. For this reason, a "best estimate" may have been used when reporting physical demand frequencies.

Analysis was done on the job site?  Yes  No

Job Analysis Reviewed By: Tom Berg and George Washington

Completed by Vocational Provider Brice York, B.A., CDMS

Date November 22, 2016 Signature of Vocational Provider



Bock Consulting

Claimant:  
Claim #:  
5/5/11; 11/22/16  
Page 12 of 12

***Job Analysis: Sprinkler Fitter Crew Chief (Marine Maintenance) – Port of Seattle  
DOT # 862.684-030, 862.281-022, and 862.131-010***

**FOR PHYSICIAN'S/EVALUATOR'S USE ONLY**

- The injured worker can perform the physical activities described in the job analysis and can return to work on \_\_\_\_\_
- The injured worker can perform the physical activities described in the job analysis on a part-time basis for \_\_\_\_\_ hours per day. The worker can be expected to progress to regular duties in \_\_\_\_\_ weeks/months.
- The injured worker can perform the described job, but only with the modifications/ restrictions in the attached report and/or listed below. These modifications/restrictions are (check one):
  - Temporary for \_\_\_\_\_ weeks \_\_\_\_\_ months
  - Permanent
- The injured worker cannot perform the physical activities described in the job analysis based on the physical limitations in the attached report and/or listed below. These limitations are (check one):
  - Temporary for \_\_\_\_\_ weeks \_\_\_\_\_ months
  - Permanent

COMMENTS:

Date \_\_\_\_\_ Physician's/Evaluator's Signature \_\_\_\_\_

Physician's/Evaluator's Name Printed \_\_\_\_\_

**PLEASE RETURN COMPLETED FORM VIA FACSIMILE TO:**

**Port of Seattle Employee Health & Safety Department at (206) 787-3406**