



# Bock Consulting

## Job Analysis

Job Title	<u>Sign Maker (MM)</u>	Worker	_____
	<u>970.381-026 and</u>		
DOT Number	<u>869.684-054</u>	Claim Number	_____
Employer	<u>Port of Seattle</u>	Employer Phone #	<u>(206) 787-3000</u>
Employer Contact	<u>CJ Clements</u>	Date of Analysis	<u>6/8/11; 9/14/17; 6/12/18</u>

- Job of Injury   
 Transferable Skills Job   
 New Job   
 8 Hours Per Day   
 5 Days Per Week

### 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.

The Sign Shop creates and installs all of the signage and graphics used throughout the various Maritime properties and Marine Maintenance shop. Sign Shop personnel (typically only two individuals) create a wide variety of signs, from placards/signs posted outside of an individuals' offices, to graphics on a vehicle, to large banners that hang over roadways.

This job analysis is for an individual working as a Sign Maker for Marine Maintenance.

### Essential Functions:

A Sign Maker is responsible for fabricating and installing small to large format signs, graphics, and





***Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle  
DOT # 970.381-026 and 869.684-054***

lettering for walls, doors, floors, windows, and vehicles, and performing sign repairs and modifications as necessary. A Sign Maker may also perform sign design and layout tasks.

Examples of Tasks Assigned to the Sign Makers:

- Work with Crew Chief on a daily basis to identify work priorities. Receive and/or review instructions about assigned work tasks.
- Visit project locations as needed to obtain measurements and other details regarding requested projects.
- Provide input on potential designs and layouts. May assist with design development on computer. Design work is performed on Windows-based computers.
- Identify and request supplies and/or materials needed for projects. Order items as needed.
- Select the correct media to create the sign/graphic, and load into the appropriate machine.
- Print signs/graphics on large format printer, or operate vinyl cutter to obtain sign elements.
- Choose the correct substrate for the sign being created. Substrates may be metal (aluminum), wood, foam, plastic, acrylic, or digitally printable media.
- Apply graphics and/or lettering to create signs.
- Deliver and install signs as requested.
- Repair or modify signs as necessary.
- Remove signs, stickers, and decals as necessary.
- Remove graffiti as necessary.
- Clean work areas, and maintain all equipment.
- Ensure that materials and supplies are stored and disposed of properly.
- Enter time by work order on a daily basis into job tracking system (Maximo).
- Send and respond to electronic mails.
- Assist other crafts as requested.
- Complete all required forms and documents as required.





***Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle  
DOT # 970.381-026 and 869.684-054***

Necessary skills and abilities include:

- Knowledge of current methods, materials and equipment used in the sign and graphics trade, and of commercial sign industry production standards. Excellent layout, vinyl application, and print media skills.
- Ability to perform work with attention to quality and detail.
- Ability to interact and collaborate with other Sign Shop staff, and with a variety of internal and external customers.
- Ability to provide excellent customer service, and maintain a positive and professional attitude.
- Knowledge of Windows-based computers and related accessories. Ability to keyboard and input data, use time tracking and electronic mail software.
- Proficiency in a variety of sign-making software programs, including Roland VersaWorks, CorelDraw, PhotoShop CC, Illustrator CC, and Gerber OMEGA Composer.
- Ability to perform tasks in a safe manner.



Machinery, Tools, Equipment, Personal Protective Equipment:

- Windows-based computers, related accessories, and software. Printers, plotters, and vinyl cutters.
- Large back-lit work table.
- Rulers. Pens and pencils. Scissors. Various types of tape. Squeegees. Tracing paper. Utility knives. Hand rollers. Hole punches.
- Tape measure. Pliers. Wrenches. Scraper with razor blade. Cordless drill. Rotohammer. Power saws (panel, table, and chop saws). Dremel rotary tool. Decal removal tool (with rubber wheel). Extension cords.
- Sheets of metal (aluminum), wood, foam, plastic, and acrylic, or rolls of digitally printable media or transfer paper.
- Bolts. Nuts. Backing plates. French cleats. Screws. Zip ties. Cables. Adhesives.
- Ladders. Scissor lifts. Articulating aerial lift.
- Laminators (large format cold laminator, and smaller heated laminator).
- Work truck/vehicle. Forklifts.
- Camera.

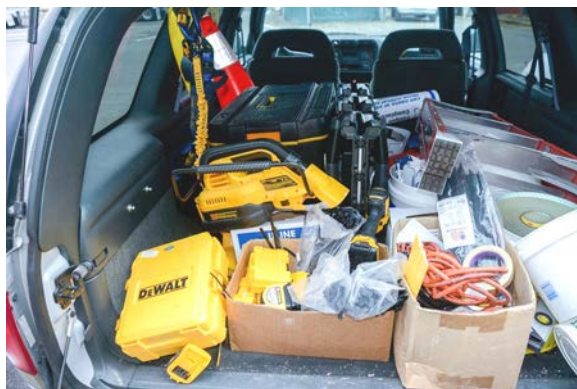




***Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle  
DOT # 970.381-026 and 869.684-054***

- Broom and dust pan. Vacuum.
- Traffic cones.
- Office equipment, such as desks, chairs, file cabinets, shelving units, storage cabinets, telephone, printer/copy machine, facsimile machine, and other items.
- General office supplies, including reams of paper, file folders, pens and pencils, ruler, stapler, notepads, document organizers, and laser/copy machine toners.
- Project management software (Maximo).

Personal protective equipment (“PPE”) may include: safety glasses, goggles, hearing protection, gloves, dust masks, and face shields. Workers are required to wear safety vests when working outside the shop. When working in a construction zone, workers are required to wear a hardhat and eye protection. While working at heights, fall protection is required. When working within 6 feet of an edge of the water (for example when working on a boat or dock), Sign Makers must wear a personal flotation device (“PFD”).





***Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle  
DOT # 970.381-026 and 869.684-054***

**Education / Training:**

Minimum requirements:

- High school diploma or equivalent.
- Three (3) to five (5) years of related work experience.
- Proficiency with Windows-based computers. Knowledge of keyboarding and data entry, and experience with sign-making software, time tracking software, and electronic mail software.
- Valid Washington State Driver's License.

Preferred qualifications:

- Knowledge of Roland large format digital printers, Summa plotters, rip software, laminators, laser printers.
- Ability to read and understand signage standards and recognize differences in layout, colors, and typefaces.
- Experience designing and engineering structures for signs.
- Knowledge of installation techniques and adhesives.

Sign Makers are represented by the Paint Makers, Sign, Display, Truck Painters & Allied Trades (Local 1094).

A Boater's Education Card is required for all employees who perform work while in a boat or standing on a work float.

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

970.381-026 Painter, Sign – Specific Vocational Preparation (SVP): 7 (From two to four years)  
869.684-054 Sign Erector II – SVP: 3 (30 days to three months)



*Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle*  
*DOT # 970.381-026 and 869.684-054*

**COGNITIVE AND BEHAVIORAL ELEMENTS/DEMANDS**

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.	Frequently
Understanding and solving problems involving math and using the results.	Occasionally
Using technology/instruments/tools & information systems.	Occasionally
Working with two and three dimensional formats.	Continuously
<b>Remembering</b>	
Remembering spoken instructions.	Continuously
Remembering written instructions.	Frequently
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.	Rarely
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.	Occasionally
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.	Rarely
<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.	Occasionally
Directing, controlling, or planning for others as necessary for complex tasks.	Rarely
Multi-tasking.	Continuously
Planning, prioritizing, and structuring daily activities.	Continuously



Bock Consulting

Claimant:  
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 6/8/11; 9/14/17; 6/12/18  
 Page 7 of 11

***Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle  
 DOT # 970.381-026 and 869.684-054***

<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.	Frequently
Adapting to frequent interruptions, changes in priorities, or changes in work location.	Frequently
Responding effectively to emergency situations.	Rarely

Frequency Designations: <b>Required Beneficial 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.	Not Necessary
Adjusting to a flexible schedule of work days and/or shifts.	Beneficial



**Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle**  
**DOT # 970.381-026 and 869.684-054**

**NOTE:** Due to the wide variety of tasks assigned to the Sign Makers, and limited staff, Sign Makers encounter a broad range of physical demands on the job, depending on the type of work they are doing.

**PHYSICAL DEMANDS**

**N/A:** Not Applicable  
**S:** Seldom (1-10% of the time)  
**O:** Occasional (10-30% of the time)  
**F:** Frequent (30%-70% of the time)  
**C:** Constant (Over 70% of the time)  
**WNL:** Within Normal Limits (talking, hearing, etc.)  
**STRENGTH:**  Sedentary  Light  Medium  Heavy  Very Heavy

	Frequency	Comments
Sitting	O	Driving to work locations. Working at computer or sitting on a stool at a work/drawing table. Participating in meetings.
Standing	F	Interchange with Walking. Monitoring printers, plotters, and vinyl cutters. Gathering materials, supplies, and tools. Cleaning substrate, applying backing paper, applying graphics. Installing signs in the field or graphics on vehicles. May stand on cement, asphalt, tile, or ladder, and potentially on dirt/mud and rocks on construction sites.
Walking	F	Interchange with Standing. Moving between work areas in the shop. Gathering materials and supplies (some materials are stored up a flight of stairs). Walking outside to vehicle or work location. May walk over cement, asphalt, or tile, and potentially over dirt/mud, rocks, and/or uneven ground.
Lifting (up to 10 pounds)	F	Drawings, plans, designs, notes, other documents, printed/cut graphics, substrate used to make most signs, most completed signs, squeegees and hand rollers, screws/bolts/cables, and other hardware, hand and smaller power tools, smaller rolls of print media or vinyl, traffic cone (7 lbs.), and office supplies.
Lifting (10 to 25 pounds)	O	Larger pieces of substrate or completed signs, medium rolls of print media or vinyl, dock sign brackets (20 lbs.), 10 foot sign posts (22 lbs.), larger power tools, tool bag/bucket, and stack of 3 traffic cones (21 lbs.).
Lifting (25 to 60 pounds)	S	Complete rolls of print media or vinyl (30 lbs.), A-board signs (est. 40 lbs.), box containing strapping tool, metal strapping, and clips (est. 45 lbs.), 1/4" sheet of acrylic (45 lbs.), sheets of plywood (45-60 lbs.), 1/2" sheet of acrylic (90 lbs. lifted by 2 people=45 lbs.), and larger vinyl banners (large 8'x40' banner for side of building approx. 60 lbs.).
Carrying (up to 10 pounds)	F	Drawings, plans, designs, notes, other documents, printed/cut graphics, substrate used to make most signs, most completed signs, squeegees and hand rollers, screws/bolts/cables, and other hardware, hand and smaller power tools, smaller rolls of print media or vinyl, traffic cone (7 lbs.), and office supplies.
Carrying (10 to 25 pounds)	O	Larger pieces of substrate or completed signs, medium rolls of print media or vinyl, dock sign brackets (20 lbs.), 10 foot sign posts (22 lbs.), larger power tools, tool bag/bucket, and stack of 3 traffic cones (21 lbs.).





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 DOT # 970.381-026 and 869.684-054***

Carrying (25 to 60 pounds)	<b>S</b>	Complete rolls of print media or vinyl (30 lbs.), A-board signs (est. 40 lbs.), box containing strapping tool, metal strapping, and clips (est. 45 lbs.), ¼” sheet of acrylic (45 lbs.), sheets of plywood (45-60 lbs.), ½” sheet of acrylic (90 lbs. carried by 2 people=45 lbs.), and larger vinyl banners (large 8’x40’ banner for side of building approx. 60 lbs.).
Pushing/Pulling (up to 10 pounds of force)	<b>F</b>	Using cleaners, squeegees, hand tools, small power tools, decal remover (with rubber wheel), and scrapers (typical force of 1-5 lbs. for up to 20 minutes at a time). Using vacuum. Opening drawers, opening printers and vinyl cutter, separating signs, pulling off backing paper from graphics, tightening zip ties, gathering supplies from storage areas/shelves, and pulling rolls of vinyl from storage racks.
Pushing/Pulling (10 to 30 pounds)	<b>S</b>	Using hand roller, hand tools, power tools, and scrapers.
Climbing Stairs/Ladders	<b>S</b>	Some materials and supplies are stored up a flight of stairs on the second floor of the Sign Shop. Stairs may also be encountered when walking to a work location. A worker may use a ladder up to a height of 6 feet to perform installation or removal tasks. A lift is used for heights over 6 feet.
Working at Heights/Balancing	<b>S</b>	While working on a ladder or in a lift. Periodically, may work from a boat or barge.
Bending at Waist	<b>F</b>	Working on signs on work table, applying designs, reaching for supplies and materials, driving a vehicle, installing signs, removing signs, applying and removing graphics from vehicles, and potentially while accessing items in office while working on computer.
Bending Neck	<b>WNL</b>	All assigned tasks include neck movements.
Crouching/Kneeling/Squatting	<b>S</b>	Performing tasks or gathering supplies and materials, at or below waist level. Potentially if working on a large sign/banner on the ground. On most occasions the worker can alternate kneeling with bending or squatting based on preference.
Crawling	<b>N/A-S</b>	Potentially if getting up on the work table to perform task, reaching items in vehicle, or working on a large sign/banner on the ground.
Reaching (up to shoulder height)	<b>F</b>	Reaching is required in many of the assigned layout, fabrication, application, installation, and removal tasks. The primary work surface in the shop is approx. 40” from the ground, which allows tasks to be completed at approx. waist level. Reaching also needed while retrieving printouts, gathering supplies and materials, and potentially if accessing items while seated at computer/desk in office.
Reaching (above shoulder height)	<b>S</b>	Installing signs from ground, ladder, or lift, and gathering supplies and materials stored above shoulder height. Potentially if accessing items while seated at computer/desk in office.
Driving	<b>N/A-O</b>	Driving vehicle to work location, moving vehicle that needs to have decals applied or removed, and operating forklift.
Foot Controls	<b>N/A-O</b>	While driving vehicles, operating forklift, or potentially on a lift.
Repetitive Motion	<b>S</b>	The variety of tasks assigned to Sign Makers generally mitigates repetitive motion, although some tasks may require repetitive actions for short periods of time (i.e., squeegeeing designs).



**Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle**  
**DOT # 970.381-026 and 869.684-054**

Handling/Grasping	C	50	% Pinch Grasp	50	% Whole Hand Grasp
Fine Finger Manipulation	F	Operating printers, plotters, and vinyl cutters, picking up supplies/ tools/materials, separating designs from backing paper, applying, cutting/trimming, masking, and manipulating designs, squeegeeing designs, applying and removing designs from vehicles, installing signs, using triggers on power tools, using computer mouse, drawing designs, and writing.			
Keyboarding	S-O	Checking on tasks and entering time in job tracking system. Creating and responding to emails. Potentially while sending graphics to printer, plotter, or vinyl cutter, designing/creating sign layouts, or placing orders for materials.			
Talking	F	Interacting with shop personnel, other co-workers, tenants, and potentially the public when out of the shop.			
Hearing	C	Interacting with shop personnel, other co-workers, tenants, and potentially the public when out of the shop. Listening for potential hazards when in shop area, at work locations, or driving vehicle.			
Seeing	C	Within normal limits, with or without correction.			
Writing	S	Taking notes or creating designs.			
Normal Job Site Hazards	F	Sharp knives, power tools, fumes, dust, working from ladder or lift, working near water, driving, and moving vehicles.			
Expected Environmental Conditions	C	Producing the signs occurs primarily in a shop environment. Working on a computer occurs in shop office environment. Worker will be exposed to external weather conditions when working outside the shop building, or working at a project location. Periodically, may work from a boat or barge.			

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: CJ Clements

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

Date June 12, 2018 Signature of Vocational Provider \_\_\_\_\_



***Job Analysis: Sign Maker (Marine Maintenance) – Port of Seattle  
DOT # 970.381-026 and 869.684-054***

**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**