



**SURVIVAL FACTORS GROUP**

**CHAIRMAN FACTUAL REPORT**

**ATTACHMENT 11  
PACIFIC PILE AND MARINE SITE SPECIFIC SAFETY PLAN  
(Sections 1 and 2)**

**Redacted**

**Bridge Collapse  
Mount Vernon, WA; 05/23/2013**

**HWY-13-MH-012  
(32 Pages)**

# **HEALTH & SAFETY PLAN**

## **I-5 BRIDGE COLLAPSE SKAGIT RIVER**

### **MOUNT VERNON, WASHINGTON (Emergency Repair)**



**MAY 2013**

**PREPARED FOR:** Atkinson Construction  
707 South Grady Way, Suite 500  
Renton, WA 98057

**PREPARED BY:** Pacific Pile & Marine, LP  
700 S. Riverside Drive  
Seattle, WA 98108

**SPCC**



**Pacific**  
**Pile & Marine**

## Site Specific Accident Plan

<b>Project Name:</b>	I-5 Bridge Collapse
<b>Project Number:</b>	Contract #
<b>Project Location:</b>	Mount Vernon, WA
<b>Project Manager:</b>	██████████
<b>Project Superintendent:</b>	██████████

# SITE SPECIFIC SAFETY PLAN ACKNOWLEDGEMENT SIGN-UP SHEET

<b>PROJECT</b>	I-5 Bridge Collapse
<b>LOCATION</b>	Mount Vernon, WA
<b>OWNER</b>	WA Dept. of Transportation
<b>GENERAL CONTRACTOR</b>	Atkinson Construction
<b>Pacific Pile &amp; Marine JOB NUMBER</b>	

As an employee of Pacific Pile & Marine, assigned to the above project, I acknowledge that I have read the attached site-specific safety plan. Further, I have been briefed on the potential project hazards, the project's fall protection plan, and the requirements for personal protective equipment. Additionally, I understand that, at any time, I have the authority to stop work activities that appear unsafe and discuss my concerns with my supervisor before work is allowed to continue. *I do not have to wait to voice my concerns during the weekly site meeting.*

Pacific Pile & Marine, LP crew to sign this sheet when they arrive at the jobsite.

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## ACTIVITY HAZARD ANALYSIS

Contract Number: #	Contractor Name: Atkinson Construction	Date Prepared: 05/24/13
Project Name: I-5 Bridge Collapse	Location: Skagit Bridge Mount Vernon, WA	Subcontractor: Pacific Pile & Marine, LP
Activity: General Operations		
<b>PRINCIPLE STEPS</b>	<b>POTENTIAL SAFETY/HEALTH HAZARDS:</b>	<b>RECOMMENDED CONTROLS:</b>
PPE	Head and Eye Injuries, Loss of Hearing if in Noisy Environments	<ul style="list-style-type: none"> <li>- All employees, vendors and subcontractors must wear hard hats on site, safety glasses are required when grinding, chipping sawing or other similar operations. Hearing protection must be worn when normal conversation can't be heard at arms length</li> </ul>
	Being Run Over by Traffic, Equipment, or Similar Equipment	<ul style="list-style-type: none"> <li>- All employees working adjacent to or near vehicular or equipment traffic [flaggers] must wear an orange/green vest. Reflective at nights</li> </ul>
	Loose Fitting Clothing, Dangling Ear Rings, Long Hair Gets Caught in the Work	<ul style="list-style-type: none"> <li>- All employees must be properly attired: no tennis shoes; long pants, minimum, 't' shirt w/sleeves, no halter-top or muscle shirts</li> </ul>
First Aid	Treat and/or Get Help for Anyone Injured	<ul style="list-style-type: none"> <li>- Make sure the crew knows what to do in case of an emergency</li> <li>- Everyone shall know where to find the first aid kits &amp; fire equipment</li> <li>- Location of nearest telephone or means to call for help. Know what the problem is before calling for help so proper procedures are done</li> </ul>
House keeping	Trip and falls, Strains, Sprains, Bad Attitude About the Job, Poor Performance	<ul style="list-style-type: none"> <li>- Keep tools and equipment organized. Don't allow waste to stack up</li> <li>- Carpenters-when stripping forms have the material picked up then Clean up the mess that you created. All storage areas will be well organized. Keep walkways and work areas clean of debris</li> </ul>
Vehicles		
Pickup Trucks - "Backing up"	Run over People, Damage Equipment.	<ul style="list-style-type: none"> <li>- Before getting into your pickup look around it for possible problems. Look before backing-do not rely entirely on your mirrors</li> <li>- Back up alarms are required for all units with an obstructed view to the rear-this includes pickups with high side boards or material that is in the bed that does obstruct, for temporary PU obstructions use a flagger to back up. Don't put the PU behind a piece of equipment that has the potential of backing up</li> <li>- Do not park near (within 100') of production equipment-use the designated parking area</li> </ul>
Company Vehicles on the Public Streets	Serious Injury or Death to Employee or Other Driver/Pedestrian.	<ul style="list-style-type: none"> <li>- Drive defensively! 1. Condition of your vehicle? 2. All lights working? 3. Glass &amp; mirrors clean? 4. Seat belt used? 5. Weather? 6. Tailgater? You? 7. 3-second Rule! 8. Common Courtesy. 9. No Drinking and Driving! 10. PPM Vehicle Policies. 11. Always assume the other vehicle is going to run the light, turn the wrong way, etc.-be defensive</li> <li>- Our vehicles, if driven improperly, are our greatest exposure to injury and to lawsuits. <u>Drive with your headlights on</u>, this will enable other vehicles to readily see you and possibly avoid an error on their part that could damage you</li> </ul>
Walk Around Inspection of Vehicle	Defective Vehicle Causing a Wreck	<ul style="list-style-type: none"> <li>- Before using your vehicle for the shift check all fluid levels, belts, tires, lights, steering, wiper blades, etc</li> </ul>

### ACTIVITY HAZARD ANALYSIS

PRINCIPLE STEPS	POTENTIAL SAFETY/HEALTHY HAZARDS:	RECOMMENDED CONTROLS:
Pickup & Trailer	Runaway Pickup or Trailer - Crushing Injury	<ul style="list-style-type: none"> <li>- Be sure that the pickup is big enough to handle the items placed on the trailer if not= burn up brakes, transmission, converter. If the trailer is equipped with brakes then they must work! Two chains affixed to the tongue are to be hooked to the pickup hitch, cross the chains to create a basket</li> </ul>
	Items Falling Off of Trailer/ Out of the Pickup	<ul style="list-style-type: none"> <li>- Be sure that the equipment is balanced on the trailer with approximate equal tongue and tail weight</li> <li>- Inspect the unit to insure that material being hauled does not bounce out if light weight, and is adequately strapped down if of some heft</li> </ul>
	Loss of Steering	<ul style="list-style-type: none"> <li>- If there is too much tongue weight or too much weight in the back of the PU the steering will not work properly. Reposition the load or make another trip</li> </ul>
	Passengers	<ul style="list-style-type: none"> <li>- Employees are not to ride in the bed of the PU. Employees are not to ride on the trailer or any place that does not have a seat belt and rollover protection provided</li> </ul>
	Loading and Unloading	<ul style="list-style-type: none"> <li>- If loading equipment keep people clear, be sure your ramps are solid and aligned for the load, chock trailer wheels, have the tongue/5<sup>th</sup> wheel attached, seat belt w/driving equipment onto trailer. Boom down all loads, take care w/boomers – your front teeth!</li> </ul>
Medium and Light Equipment	Injuries Due to Poorly Trained Operators	<ul style="list-style-type: none"> <li>- All employees operating <u>any</u> equipment from a skid steer to a track hoe must have been checked out or trained on the equipment. Training shall be documented on PPM operator-training sheet</li> </ul>
	Falling off Equipment	<ul style="list-style-type: none"> <li>- Use three point rule when climbing on and off equipment. <b>Never Jump off Equipment.</b> Keep steps clear of mud</li> </ul>
	Malfunctioning Equipment	<ul style="list-style-type: none"> <li>- Do not operate unsafe equipment. Do a walk around inspection of the equipment prior to operating it and document on the Daily Equipment Report. Be alert to people on the ground. If you lose sight of them, stop until you see they are clear. If problems with your equipment occurs while under operation, shut it down and immediately notify your supervisor</li> </ul>
	Operations-std	<ul style="list-style-type: none"> <li>- Operate equipment with the lights on at all times, check the gauges, trans. shift pattern, maintain eye contact w/ground people, be alert</li> </ul>
Manholes / Confined Space	Suffocation	<ul style="list-style-type: none"> <li>- Anytime that you enter a manhole or similar confined space, you must check the atmosphere for low oxygen, high Co, or H2S. If you encounter any of these you must evacuate the atmosphere, have available a rescuer with emergency air and a method to evacuate the worker in the confined space should it become necessary</li> </ul>
Preparer (Sign and Date):	<div style="background-color: black; width: 100px; height: 20px; display: inline-block;"></div> 05/24/13	
Competent Person (Sign and Date):		

## ACTIVITY HAZARD ANALYSIS

Contract Number: #	Contractor Name: Atkinson Construction	Date Prepared: 05/24/13
Project Name: I-5 Bridge Collapse	Location: Skagit Bridge Mount Vernon, WA	Subcontractor: Pacific Pile & Marine, LP
Activity: Crane Operations		
<b>PRINCIPLE STEPS</b>	<b>POTENTIAL SAFETY/HEALTH HAZARDS:</b>	<b>RECOMMENDED CONTROLS:</b>
Vehicle Inspection (Before Operation)	Vehicle and heavy equipment traffic in work area	<ul style="list-style-type: none"> <li>- Operation of vehicles in accordance with the SSHP and applicable SOPs. Be alert when working around heavy equipment. Ground guide for the backing of vehicles and heavy equipment</li> <li>- Operators need to be aware of potential pinch and cut hazards when performing inspections inside the engine compartment; around doors; latches and lift gates</li> </ul>
	Pinch and Cut Hazard	<ul style="list-style-type: none"> <li>- Operators need to be aware of potential exposure to corrosive and/or flammable liquids when conducting vehicle inspections</li> <li>- Operators will not eat, drink or smoke when performing these tasks</li> <li>- Any visible leaking will be immediately reported to their supervisor</li> <li>- Any spills of vehicle additives (anti-freeze, oil, hydraulic fluids, etc.) will be cleaned up immediately</li> </ul>
	Exposure to Potential Corrosive or Flammable Liquids	<ul style="list-style-type: none"> <li>- During the inspection of the vehicle, the operator notices that any of the vehicle's integral safety equipment (lights, brakes, and turn-signals) is inoperable; that vehicle is no longer operational and cannot be used until repaired</li> <li>- Any additional issued safety equipment issued (first aid kit, fire extinguisher, etc) will be replaced before the vehicle is operated</li> </ul>
	Failure of Safety Equipment (Vehicle Integral or Site Issued)	<ul style="list-style-type: none"> <li>- Operators will be properly trained on the particular equipment to be used. Crane operator will be licensed and certified</li> <li>- Operator will maintain awareness of surroundings at all times as conditions around the equipment will change continuously</li> <li>- Load charts will be reviewed and followed prior to a lift. Critical lifts or lifts over critical equipment will be conducted following completion and approval of a Lift Plan</li> <li>- All personnel will stand clear of the suspended load until the entire weight of the load has been released by the crane</li> <li>- Operators and field crews will utilize hand signals and verbal commands to communicate potential hazards and/or work stoppages. Proper lifting procedures will be followed at all times as described in the health and safety plan</li> <li>- At no time will person be permitted to pass beneath suspended load. Crane operator will ensure that all persons are clear of the intended path of the load prior to beginning lifting procedures. Only personnel necessary for the safe and efficient lifting and loading of material shall be in the area of the crane during operation.</li> <li>- Proper PPE will be worn at all times including the use of leather gloves when securing and removing loads from the lifting frames</li> </ul>
Crane Operation	Lifting and Loading Material	

### ACTIVITY HAZARD ANALYSIS

PRINCIPLE STEPS	POTENTIAL SAFETY/HEALTHY HAZARDS:	RECOMMENDED CONTROLS:
		<ul style="list-style-type: none"> <li>- Employees will use stairs or ladders to gain access to the bed of the trailer. No climbing up or jumping down from the trailer will be allowed</li> </ul>
	Noise	<ul style="list-style-type: none"> <li>- Hearing protection will be worn in hazardous noise areas (85dBA or greater). Hearing conservation program in place. Noise Level surveys conducted by IH. Post warning signs. Hearing Protection – Ear Plugs, either in custom molded, formable and pre-molded or ear muffs</li> </ul>
	Eye/Foot/Head and Hand Hazards	<ul style="list-style-type: none"> <li>- Eye/Face Protection – Safety glasses with side shields (ANZI Z87.1); Appropriate footwear as required, but safety toed footwear may be required depending on task; Sturdy leather work gloves as required and a Hard Hat, if needed</li> </ul>
	Ergonomic Hazards	<ul style="list-style-type: none"> <li>- Reduce bending, twisting, and kneeling, by using alternating work, rotating workers and periodic stretching break to reduce static or awkward postures. Use team lifting and lifting aids to minimize lifting weights over 25-lbs above the shoulders, below the knees or at arm length</li> </ul>
	Thermal Stress	<ul style="list-style-type: none"> <li>- Train workers/supervisors in heat stress, cold stress/hypothermia recognition, prevention and control. Provide water/fluids. Provide adjacent thermal recovery (cool down/warm up) area</li> </ul>
	Equipment Tip Over	<ul style="list-style-type: none"> <li>- Maintain 3 points of contact. Limit personnel in area. Block off access. Ensure adequate set up room for outriggers. Stop all activities if the wind exceeds tolerances. Inspect location to ensure ground will support weight of the equipment and the operation</li> </ul>
	Electric Power Lines	<ul style="list-style-type: none"> <li>- Prior to erecting the crane, operator and supervisor needs to survey area, to ensure that any overhead power lines are either rerouted or disconnected</li> </ul>
EQUIPMENT TO BE USED:	INSPECTION REQUIREMENTS:	TRAINING REQUIREMENTS:
Preparer (Sign and Date): <span style="background-color: black; color: black;">[REDACTED]</span> 05/24/13		
Competent Person (Sign and Date):		



### ACTIVITY HAZARD ANALYSIS

Contract Number: #	Contractor Name: Atkinson Construction	Date Prepared: 05/24/13
Project Name: I-5 Bridge Collapse	Location: Skagit Bridge Mount Vernon, WA	Subcontractor: Pacific Pile & Marine, LP
Activity: Waterborne Serv. Vehicle		
<b>PRINCIPLE STEPS</b>	<b>POTENTIAL SAFETY/HEALTH HAZARDS:</b>	<b>RECOMMENDED CONTROLS:</b>
Working over the Water	Drowning	<ul style="list-style-type: none"> <li>- While over the water, personnel shall wear OSHA approved life vests at all times (zipped &amp; Clipped) when on floating equipment and within 4 feet of the edge of the vessel or dock or pier.</li> <li>- OSHA approved life rings shall be stationed on all vessels, piers, docks, abutments that are near the water. Ring Buoys with at least 90' of line within 200' of workers</li> <li>- Lifesaving skiff immediately available.</li> <li>- A basket stretcher should be available for rescue/evacuation of unconscious/injured employee</li> <li>- Fall protection will be used where required by OSHA.</li> </ul>
Working on Waterborne Vessels such as Skiffs, Tugs, Derrick Cranes, Floats, etc.	Being crushed between vessels  Sinking of Vessels/Structures	<ul style="list-style-type: none"> <li>- Will employ only experienced workmen and operators who have worked around the waterfront before.</li> <li>- Small craft will not be permitted to work in rough weather.</li> <li>- All vessels and structures will be subjected to inspection before being moved or handled. This will be done by the Tug Boat Operator, the Crane Operator, or the Site Superintendent</li> </ul>
	Being hit by lines that break while towing or while in rough weather	<ul style="list-style-type: none"> <li>- All mooring lines and towing lines shall be inspected prior to moorage or towing.</li> <li>- During towing or rough weather, no personnel will be allowed to stand or work in the "bite" of the line where a line could break and backlash in that direction.</li> </ul>
	Evacuation of Injured Personnel	<ul style="list-style-type: none"> <li>- A basket stretcher shall be carried on all waterborne vessels such as tugboats and derrick cranes on the site.</li> </ul>
<b>EQUIPMENT TO BE USED:</b>	<b>INSPECTION REQUIREMENTS:</b>	<b>TRAINING REQUIREMENTS:</b>
OSHA Approved Life Jackets OSHA Approved Life Rings OSHA Approved Man Basket OSHA & Coast Guard Approved Waterborne Vessels		Discuss at Tool Box Safety Meetings Employ Qualified People Prohibit Certain Activities in Rough Weather
Preparer (Sign and Date):	05/24/13	
Competent Person (Sign and Date):		

## ACTIVITY HAZARD ANALYSIS

Contract Number: #	Contractor Name: Atkinson Construction	Date Prepared: 05/24/13
Project Name: I-5 Bridge Collapse	Location: Skagit Bridge Mount Vernon, WA	Subcontractor: Pacific Pile & Marine, LP
Activity: Welding		
<b>PRINCIPLE STEPS</b>	<b>POTENTIAL SAFETY/HEALTH HAZARDS:</b>	<b>RECOMMENDED CONTROLS:</b>
Welding/Hot Work	Eye	<ul style="list-style-type: none"> <li>- Appropriate eye protection</li> </ul>
	Burn	<ul style="list-style-type: none"> <li>- Appropriate PPE: gloves, and clothing (welder's cap; safety glasses, oxygen fed respirator, if required; Welder's face shield; welder's gloves; welder's apron)</li> </ul>
	Fire	<ul style="list-style-type: none"> <li>- If work cannot be moved, ensure combustible /flammable material is at a safe distance or removed before work begins (behind walls, structures)</li> <li>- Ensure Fire Dept is notified and hot work permit is issued before work begins</li> <li>- Keep particles/dust from accumulating</li> <li>- Have suitable fire extinguishing equipment</li> <li>- Assign firewatch</li> </ul>
	Smoke (Fumes, & gases)	<ul style="list-style-type: none"> <li>- Have flux and welding rods appropriate for type weld and material being welded</li> <li>- Ensure proper ventilation, atmospheric monitoring, if necessary, fit test for proper respirator type and use</li> <li>- Use forced ventilation or local exhaust (forced suction) at the arc to remove fumes from breathing area</li> </ul>
	Trip/Fall from Hoses & Water	<ul style="list-style-type: none"> <li>- Keep hoses uncoiled and straight</li> <li>- Ensure uncoiled hoses are not a trip hazard</li> <li>- If water is used, keep from puddling or forming slip hazard</li> </ul>
	Fall from Elevated Surfaces, Platforms	<ul style="list-style-type: none"> <li>- Use railings, safety belts, life lines, or other equally effective safeguards</li> </ul>
	Cut/Laceration from Sharp Edges and Metal	<ul style="list-style-type: none"> <li>- Wear appropriate glove</li> <li>- Smooth sharp edges when practical</li> </ul>
	Cutting or Welding Used Tanks, Containers, Drums, etc	<ul style="list-style-type: none"> <li>- Ensure each are cleaned thoroughly and make absolutely certain that no flammable materials are present or any substances such as greases, tars, acids, or other materials which when subjected to heat, might produce flammable or toxic vapors</li> <li>- Any pipe lines or connections to the drum or vessel shall be disconnected or blanked</li> </ul>
	Electrical Shock	<ul style="list-style-type: none"> <li>- Ensure proper grounding</li> <li>- Ensure arc welding equipment is serviceable and in good repair</li> </ul>
	Accidental Contact	<ul style="list-style-type: none"> <li>- Remove electrodes from holders and locate so that accidental contact cannot occur and disconnect machine from power source</li> </ul>
	Gas leak from damaged hoses	<ul style="list-style-type: none"> <li>- Ensure there are no kinks, cracks or damage to hoses</li> <li>- Ensure all torch valves are closed and inspect for possible leaks</li> </ul>
	Backfire	<ul style="list-style-type: none"> <li>- In instances of backfire, turn off gas, check connections before relighting</li> </ul>


### ACTIVITY HAZARD ANALYSIS

PRINCIPLE STEPS	POTENTIAL SAFETY/HEALTHY HAZARDS:	RECOMMENDED CONTROLS:
Compressed Gas	Explosion	<ul style="list-style-type: none"> <li>- Ensure proper ventilation, atmospheric monitoring, if necessary, fit test for proper respirator type and use</li> <li>- Ensure cylinders are in good repair and serviceable before work begins</li> </ul>
	Fire	<ul style="list-style-type: none"> <li>- Handle according 29 CFR 1910.101/NFPA 55 and MCO10330.2D</li> <li>- Have suitable fire extinguishing and equipment</li> <li>- Ensure Fire Dept is notified before work begins</li> </ul>
	Gas Accumulation	<ul style="list-style-type: none"> <li>- Ensure combustible or flammable material is at a safe distance or removed before work begins</li> <li>- Keep adequate pressure</li> </ul>
	Improper Storage/Handling	<ul style="list-style-type: none"> <li>- Ensure valves and hoses do not leak after work is complete</li> </ul>
Confined Space Entry	Atmospheric/Asphyxiation	<ul style="list-style-type: none"> <li>- Ensure proper ventilation, atmospheric monitoring, if necessary, fit test for proper respirator type and use</li> </ul>
	Gas Accumulation	<ul style="list-style-type: none"> <li>- If permit required confined space, complete confined space entry checklist and turn in to Project Manager</li> </ul>
Ergonomic Hazards	Noise	<ul style="list-style-type: none"> <li>- Use single hearing protection for noise levels of 84-104 dB</li> <li>- Use double hearing protection above 104 dB</li> </ul>
	Lifting Heavy Equipment or Materials	<ul style="list-style-type: none"> <li>- Use Manipulators, lighter weight welding equipment, lighter weight cables with low stiffness, cable supporting balancers, overhead hoists, lifting and turning tables, wheeled tables</li> <li>- Team lifting whenever possible</li> </ul>
	Static Postures for Prolonged Periods	<ul style="list-style-type: none"> <li>- Position work between waist and shoulder when possible,</li> </ul>
	Awkward Body Postures	<ul style="list-style-type: none"> <li>- Provide lifting tables</li> <li>- Use motorized positioning devices</li> <li>- Use work stools</li> </ul>
	Awkward Postures of the Wrist	<ul style="list-style-type: none"> <li>- Use welding guns with swivels and designed for use in both hands</li> </ul>
<b>EQUIPMENT TO BE USED:</b>	<b>INSPECTION REQUIREMENTS:</b>	<b>TRAINING REQUIREMENTS:</b>
Welding equipment Welding Carts Oxygen & Acetylene Bottles		WABO Certification AWS D1.1
Preparer (Sign and Date): <span style="background-color: black; color: black;">[REDACTED]</span> 05/24/13		
Competent Person (Sign and Date):		

## ACTIVITY HAZARD ANALYSIS

Contract Number: #	Contractor Name: Atkinson Construction	Date Prepared: 05/24/13
Project Name: I-5 Bridge Collapse	Location: Skagit Bridge Mount Vernon, WA	Subcontractor: Pacific Pile & Marine, LP
Activity: Pile Driving Diesel Hammer/Vibrator		
<b>PRINCIPLE STEPS</b>	<b>POTENTIAL SAFETY/HEALTH HAZARDS:</b>	<b>RECOMMENDED CONTROLS:</b>
Training		<ul style="list-style-type: none"> <li>- Each employee will be provided with initial safety training to enable them to perform their work in a safe manner</li> </ul>
Crane	Crushing, falls, material falling	<ul style="list-style-type: none"> <li>- Noted safety deficiencies shall be immediately corrected. Crane Operator will take signals from one person only</li> <li>- Anyone can stop an operation in the event of an emergency</li> <li>- Crane swing radius shall be guarded</li> <li>- All rigging will be inspected for defects prior to use</li> <li>- Crane operator will use 3-point contact for access and egress</li> </ul>
	Slips, Trips, Falls	<ul style="list-style-type: none"> <li>- Maintain good housekeeping as work proceeds</li> <li>- Clean up area as soon as possible</li> <li>- Maintain good safe access ways (Keep cords and weld leads out of work area)</li> <li>- Potential falls 6' or more will be guarded or fall arrest system provided and used</li> <li>- Potential falls 6' or more will be guarded or fall arrest system provided and used</li> </ul>
Personnel Protection Equipment:	General	<ul style="list-style-type: none"> <li>- All employees will wear hard hats, gloves (when applicable), high visibility vests, boots, eye protection and hearing protection</li> <li>- When Operator leaves crane, he/she shall wear ALL required PPE</li> </ul>
	Hearing	<ul style="list-style-type: none"> <li>- When personnel are subjected to sound levels exceeding specified limits, steady state, personal ear protection shall be required</li> <li>- All employees shall be required to wear either ear plugs or ear muffs during pile driving operations</li> </ul>
	Eye Injury	<ul style="list-style-type: none"> <li>- Personnel shall be provided with eye and face protection equipment</li> </ul>
	Concussion	<ul style="list-style-type: none"> <li>- Protective headgear shall be provided and worn by all persons</li> </ul>
	Falls	<ul style="list-style-type: none"> <li>- Potential falls 6' or more will be guarded or fall arrest system provided and used</li> </ul>

### ACTIVITY HAZARD ANALYSIS

PRINCIPLE STEPS	POTENTIAL SAFETY/HEALTHY HAZARDS:	RECOMMENDED CONTROLS:
Rigging, lofting and swinging sheets	Crushing, fall on, pinch points	<ul style="list-style-type: none"> <li>- Moving sheets with shake out hooks-- the sheet will be kept as low to the ground as possible. Employees will stay from beneath the load</li> <li>- The ground release clamps will be rechecked to ensure a positive clamp prior to picking the sheet</li> <li>- Non-essential personnel will stay clear of a picked sheet</li> <li>- Placing the sheet into the vertical support (forklift) -the forklift is to stay manned by the Operator; once the vertical sheet is chained to the fork backstop, check the chain attachment before raising the forklift forks &amp; backstop</li> <li>- The forks on the extend-a-boom should be as high up as possible on the sheet to maintain a balanced sheet for the vibrator to attach</li> <li>- Do not release the ground release clamps before checking with the forklift Operator</li> <li>- Once the vibro hammer is attached release the clamps but be sure the vibrator clamp is closed</li> <li>- When swinging the sheet into position the crane operator must ensure all personnel are clear of the swing path</li> </ul>
Threading/driving sheets	Pinch points-fingers/hands, falls, sheet	<ul style="list-style-type: none"> <li>- The sheet is to be threaded from a manlift</li> <li>- The Operator is to be qualified</li> <li>- The manlift operator is to be tied off at all times</li> <li>- While threading the sheet all personnel are to stay clear except for level and direction adjustment</li> <li>- The employee operating the vibrator control is to take direction from one person only</li> </ul>
EQUIPMENT TO BE USED:	INSPECTION REQUIREMENTS:	TRAINING REQUIREMENTS:
Preparer (Sign and Date):  05/24/13		
Competent Person (Sign and Date):		

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# ACCIDENT PREVENTION PLAN

## *Policy Statement*

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The Management at Pacific Pile & Marine recognizes that accident prevention is an essential ingredient in our business. We are dedicated to providing the active leadership and support necessary to develop and maintain a successful accident prevention program with these objectives:

- Provide a safe and healthful work environment for all employees.
- Minimize the risk of human and economic losses resulting from personal injury and property damage.
- Ensure the security, protection and wellbeing of the personnel, equipment and vehicles of our Company.
- Comply with all safety and health laws that apply to the workplace and job-sites.

Accident and loss prevention must be considered a vital part of every job in our Company. The success of the Accident Prevention Plan requires the full and earnest cooperation of each Pacific Pile & Marine employee. All of us should work with safety as our first priority and production as our next priority. Employees should report unsafe conditions or practices to their foreman or supervisor, to the Company safety director or to us directly.

[Redacted signature]

[Redacted signature]

[Redacted signature]





## Using this Information

This booklet serves many purposes. Like any other tool of the trade, it requires thorough familiarization, ready accessibility and frequent use to assure compliance and to allow you to complete a job in a safe, professional manner. The material contained in this manual absolutely could mean the difference between life and death.

Adhering to the rules and requirements contained in these pages could save Company personnel from:

- Injury
- Mental anguish resulting from causing death or injury to a friend or colleague
- Penalties (ranging from placement of permanent reprimands into employee personnel files to termination of employment).

This booklet is intended to accomplish the following purposes:

- Establish mandatory conduct and safety guidelines for all employees at the Seattle yard and office, as well as at all job-sites.
- Provide all employees with training for compliance with federal, state and local safety requirements.
- Provide safety program management guidelines to crew foremen.
- With the inclusion of a site-specific addendum, to provide project Owners and general contractors with a job-specific copy of the Pacific Pile & Marine safety program.

### **Important Legal Information**

This safety booklet contains information regarding disciplinary and termination policies. This information is non-exclusionary and does not affect the at-will relationship that exists between Pacific Pile & Marine and its employees. This means that other disciplinary remedies, including termination without prior notice, may be imposed by management for acts or omissions, whether or not they are listed in these pages. The “at-will relationship” under which all Company employees are hired simply means that employees are free to quit and management is free to terminate at any time.



## Certificate of Receipt and Compliance

I certify that I have received a copy of the Pacific Pile & Marine Employee Rules and Accident Prevention Plan. I understand that this book contains work rules and other mandatory procedures and programs related to health and safety. By signing this certificate, I accept full responsibility for reading and understanding the contents, and I furthermore agree to comply with all aspects of the contents.

If I do not understand any part of these materials, I agree to ask my supervisor for an explanation.

I further understand that if I fail to comply with the requirements contained in these materials, I will be subject to enforcement measures including suspension or termination of my employment with Pacific Pile & Marine.

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Signature

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Printed Name

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Date



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## Section 1

### Rules and Safe Work Practices Requirements

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#### ***Work Rules***

These Rules apply on all job-sites, aboard marine equipment, at the Company yards and all adjacent parking areas.

***The following acts by Company Employees are prohibited  
and can be Grounds for Immediate Dismissal***

- Abusing, destroying or removing without permission any property belonging to Pacific Pile & Marine, its employees, other contractors or project Owners.
- Reporting to work under the influence of illegal drugs or alcohol or possession or use of them during working hours.
- Possession, on Company property or at job-sites, of firearms or other deadly weapons.
- Fighting, horseplay or creating a disturbance.
- Sexual or racial harassment of any person.
- Oral or written falsification of records or reports relating to injury, illness, absence, hours worked or work accomplished.
- Violation of safety, health and environmental protection rules referenced in materials presented by Pacific Pile & Marine management.
- Failure to report to work on time. All employees must call the office each day when unable to come to work.

**Depending on the nature of the violation, employees may receive verbal reprimands, written warnings (copies placed in personnel files), suspensions of various lengths or immediate termination.**

#### ***Safe Work Practices Requirements and Personal Protection***

Employees are expected to report for work on time and in a work-ready condition, wearing clothing, footgear and personal protective equipment suitable to the type of work and the weather conditions expected. The following precautions are to be taken to minimize the possibility of personal injury on the job. These precautions must be adhered to and are enforced as work rules.

##### **Personal Protection**

###### **Chaps**

Operating a chain saw without wearing chaps is prohibited. Chaps are available in various sizes from the Company. Ear and eye protection must be used when operating chain saws and/or demolition saws.

### **Clothing**

While working, clothing shall, at a minimum, include long pants and a short-sleeved shirt. Torn or excessively loose clothing shall not be worn, due to the possibility of catching in machinery.

### **Eye Protection**

Suitable safety glasses, goggles, face shields or hoods are available from the Company safety locker and must be worn when:

- Chipping concrete.
- Using: grinders, table saws, chain saws, jack hammers, chipping guns, powder actuated tools, nail guns, cut-off saws, impact tools (including hammers), scalers, any air powered tools and when cutting and welding or using other tools or equipment that might produce flying debris, liquids or bright flashes.
- Wind conditions are such that dust and other material are airborne.
- Handling any materials in powder form, such as cement.
- Working with concrete or grout.
- Handling any type of sprayed materials whatsoever.
- Filing, abrading or buffing anything.
- Working in the presence of anyone whose work requires them to wear eye protection.

Always turn away from any welding activity. Severe eye injury can occur even when not looking directly at a welding arc.

Never allow non-medical personnel to attempt to remove foreign material from your eyes. Always immediately report an incident involving material in your eye to your supervisor for transportation to trained help. Prescription safety glasses may be available from the Company or from your union. Please contact your supervisor or the office for details.

### **Gloves**

Gloves are your constant companions. Employees are expected to provide their own work gloves. In some special circumstances the Company provides them. Work gloves must be worn when handling any type of treated wood, metal with unfinished edges, wire rope and any other sharp or jagged materials. Specialized gloves (rubber, neoprene, etc.) shall be used when handling toxic materials. If you don't know the toxicity of a materials, look it up in the MSDS files maintained by your foreman or available at the office.

### **Hard Hats**

All personnel at all job-sites and in the yard must wear hard hats, of a type issued by the Company. Metal hard hats and "bump hats" will not be approved for use. Only personnel **working as Operators when inside the cabs of their machines** and personnel in the shop or yard **NOT working or passing, at any time, within the ultimate radius of an operating, or running, crane or other lifting machine or any other type of operating machinery** are exempted from this requirement.

### **Hearing Protection**

Earplugs or other protection must be used when working in the vicinity of any noise above the level of a medium to loud conversation. This includes common air and electric tools,

chain saws, motorized small and large equipment and heavy machinery. *See the section titled Hearing Conservation Program. (see page 27)*

### **Life Jackets**

**Before working over or on the water, all employees shall be wearing an approved Life Jacket.** Employees working on bridges, floating equipment, dredges, barges, boats, skiffs, pontoons, floats and on or outside dock or pier bull rails shall wear approved life jackets.

**Do NOT rip Life Jacket inner lining** for storage of files, paint-stick or other items. If life jackets become accidentally torn or damaged in any way, return them to your foreman for replacement.

Life jackets are expensive. Use only damaged ones for padding or cushions. Hang life jackets up. Do not leave them in skiffs or loose on deck.

### **Respirators and Dust Masks** (see pages 24 and 33)

Know the product you're working with, especially when welding, cutting, or using paints, solvents, adhesives or powdered substances. **READ THE MSDS for the material!**

When working with cement, lime or other dust hazard, a respirator appropriate to the hazard must be worn. Likewise, when painting or working in any area where airborne particulate matter or fumes are present, an appropriate respirator must be worn. This includes working with an abrasive wheel on a cut-off saw or a grinder. The blade itself gives off hazardous fumes when heated. Respirators must also be worn when welding or cutting any coated metals. Dust masks may be utilized only when exposed to very limited amounts of non-hazardous airborne particulate matter.

Read the Pacific Pile & Marine Respirator Program material in this manual and consult your foreman or the office for appropriate personal protection devices for use in areas containing poisonous, noxious or hazardous fumes or materials.

### **Shoes, Boots and Other Foot Gear**

Sturdy, heavy-duty work boots or work shoes are required. OSHA-approved safety footwear is preferred. No canvas shoes, loafers or cowboy-style boots will be permitted.

## **Safe Work Practices**

### **Confined Spaces** (see page 28)

The law relating to entry into confined spaces, including trenches, holes, barges and other confined areas is complex and rigorous. Do not enter a confined space unless you have received documented training in the requirements and follow the procedures exactly.

### **Driving** (see page 53)

Read and comply with the Company Policy.

- Before driving Company vehicles or other equipment, check oil level, brakes, head & taillights and turn signals.
- Wear seat belts at all times.
- Do not exceed 15 miles per hour at job-sites.
- Do not exceed posted speed limits.



- Do not drive trucks or other vehicles requiring a Commercial Drivers License (CDL) unless you hold a valid CDL.
- Do not allow passengers on running boards, in or on truck beds or on equipment designed for one operator.

### **Fellow Employees**

If you see a fellow employee engaging in an unsafe practice, tell him or her about it. An ensuing accident may injure either of you or someone else.

### **Hoses w/Grout Pumps and Compressors**

All hoses shall be connected with safety ties (whip-checks) in place. Workers must stay alert to overhead and descending grout hoses.

### **Hand Tools**

Every day check the tools you use, especially if other people use them as well. Look for mushroomed heads on hammers, pole axes and impact tools (a common source of high velocity shrapnel causing serious eye injury), loose ax and hammerheads, split handles, sprung wrenches and the like. Damaged tools must be rehabilitated or retired.

Lay down your tools in a considerate and safe manner – not on surfaces above eye level, never on movable surfaces (like ladder steps) and not in places where others are likely to trip over them.

Do not carry your tools up or down ladders. Use a hand line.

### **Housekeeping**

Tools, hoses, chokers, parts, materials and debris frequently cause tripping injuries when left haphazardly lying about. Take the time to put away the tools and materials you use.

### **Ladders**

- Face the ladder while ascending or descending.
- Oily or debris-laden shoes cause falls from ladders. Clean your shoes before ascending or descending a ladder.
- Both hands must be free when ascending or descending a ladder. Always use hand lines for transporting materials up and down ladders.
- Do not use the top of a stepladder as a step.
- Ladders over 10 feet in length must be tied off at the top.
- Ladders extending to a roof or another level must extend 36 inches above the level and must be tied off.
- If working while standing on a ladder and you are more than 10 feet off the ground, you must be tied off wearing a full safety harness.
- Base of ladder must be positioned away from a perpendicular line down from the top of the ladder a distance equal to  $\frac{1}{4}$  the length of the ladder.
- Always inspect a ladder for broken or cracked parts before each use. Destroy all non-repairable ladders.
- Check to see that pads are on the bottom of the ladder.
- Never leave objects on ladder steps or rungs.

### Lifting

Avoid back strain when lifting or shoveling by following these procedures:

- Look carefully at what you're going to lift. If it is too heavy, get help. You're only a wimp if you foolishly injure yourself and can't take home a paycheck.
- Make sure your footing is firm and place your feet about shoulder distance apart.
- Squat down, keep whatever you're lifting close to you, keep your back straight and lift with your leg muscles.
- While carrying the object you lifted, keep your body as stiff as possible (waist and arms rigid) in order to evenly distribute the load among your muscles.
- When setting the object down, reverse the lifting procedure. That is, keep your back straight and lower with your leg muscles as you squat.

### Machinery and Equipment (see page 54)

- Do not start or operate any equipment unless you have been trained in its operation and authorized to do so.
- Always operate, maintain and repair machinery strictly according to manufacturer's instructions.
- Always double-check to be sure no person is in harms way: in, on, under or near the equipment. Loudly advise everyone in the vicinity that you are about to start up the machinery and wait at least five seconds for responses before ignition. Never fuel, oil or lubricate machinery while it is running.
- Exercise greatest care when working in the proximity of operating machinery. *Most fatal and serious injuries occur through human error related to machinery operations.*
- Stay alert at all times to the movement of others around you.
- Never, ever, allow a load to be swung over you. Never, ever, walk under a load.
- When operating lifting machinery, make a practice of observing the position of electrical lines and other overhead obstructions. Be aware that, by law, no boom shall come within less than 10 feet of an energized power line. *Calculated distance from lines >50kV is 10 feet plus 0.4 inch for each 1kV over 50kV. or twice the length of the line insulator, but never less than 10 feet.*
- A 30-inch space must be maintained between the swing radius of cranes and other objects, including parts of the crane itself. The radius must be barricaded to prevent people from entering this area if the 30-inch distance cannot be maintained.
- When working in the vicinity of pile driving or auger operations, always be alert to holes in the ground. Cover open holes using stout materials. Before inserting anything into a hole, check to be sure that nothing has fallen in.
- Exercise great care in fueling or oiling machinery. Keep clean-up materials at hand (oil soak pads, floor-dry, etc.).
- Use load binders on trucks when possible. When using load binders, do not use cheaters, as severe injury may result from catastrophic failure of components caused by forces exceeding design factors.

**Nails**

Take the time to strip nails out of forms and lumber. If bending nails is the only practical way of dealing with this hazard, use a hammer to bend the points flush with the surface.

**Oxygen, Compressed Air, Flammable Gases**

Compressed gases and their containers are killers when used improperly. Do not use compressed air (and never, under any circumstances, compressed oxygen) for blowing dust or dirt off clothing or body parts. Not only can debris fly into your eyes or the eyes of others, it is also possible to force foreign objects into your flesh below skin level.

When compressed gases are used, all lines must be shut off at the tank after each use. All lines must be coiled and returned to a secure position immediately after use. Tanks not in use must have safety caps screwed on. All tanks must be stored in an upright position and secured with chain and rope.

Never, ever, use oxygen, MAPP, propane or acetylene cylinders when they are lying down. Cylinders shall not be used or stored in confined spaces, such as tanks, caissons, holes or other enclosures

No area is to be entered or any hot work done, without ventilating the area thoroughly if any painting, oiling or fueling has been done in the vicinity. Ventilation and testing shall be done by a competent (experienced) person.

Oxygen becomes explosive when in contact with oil or grease. Never oil or grease cylinder valves, even if sticking.

Store full and empty oxygen cylinders 20 feet away from gas cylinders. If a 20 feet separation is not maintained, gas and oxygen cylinders must be separated by a 30-minute firewall, at least 5 feet high.

**Protecting the Public**

Barricade the work area! Always be alert for children or adults straying too close to a work area. Politely, but firmly, ask people who may be in harm's way to leave.

Use temporary fencing, barricades and similar methods to prevent public access to work areas.

Keep in mind that during non-working periods, there is normally no one present to keep incautious and inebriated folks from wandering into a work area – often at night. Before leaving a job-site, take the time to be absolutely sure that all trenches and holes are covered or fenced off. If signs are necessary, obtain them from the office.

**Power Tools**

Keep cutting tools sharp and all tools in good condition. Return them to the yard for repair when necessary and when parts become loose or lost. Treat the tools as if they were your own. They do pay your wages.

## ***Rule Enforcement***

Pacific Pile & Marine will work in a constructive manner with employees to ensure compliance with the rules and requirements contained in the safety manual. Because work rule infractions can vary, based on a variety of factors, the Company will utilize the following enforcement program while retaining the right to exercise a certain amount of flexibility.

In addition to the enforcement program set out below, the Company will develop and institute a reward-based incentive program for performance in the area of safety and health rule compliance.

### **Level 1: Recorded Verbal Notification of Infraction**

*When Applied:*

- First offense for inadvertent infractions of work rules not resulting in personal injury or property damage

### **Level 2: Written Notice of Infraction**

*When Applied:*

- Repeat inadvertent infraction of work rule for which verbal notice has been delivered
- Contributory involvement in incidents resulting in creation of significant imminent hazard to persons or property
- Contributory involvement in an incident leading to property damage or personal injury
- Accumulation of three or more Level 1 incidents within any 12 month period

### **Level 3: Suspension**

*When Applied:*

- Repeat infraction of work rule for which Level 2 sanction has been applied
- Flagrant violation of work rule resulting in hazard to persons or property
- Violations in accordance with Substance Abuse Policy

### **Level 4: Immediate Termination**

*When Applied:*

- Theft
- Oral or written falsification of records; lying
- Insubordination or refusal to accept work assignments
- Violation of work rule for which Level 3 sanctions have been applied
- Flagrant violation of work rule causing, or resulting in, exposure of personnel or equipment to imminent serious hazard; or resulting in injury to personnel or damage to equipment
- Violations in accordance with Substance Abuse Policy

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## Section 2

### Emergency Procedures

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#### ***Instructions for Reporting Emergencies***

1. **Call 911**; if no 911 service at job-site, refer to the emergency number listed in the Job Specific Accident Prevention Program Addendum in Foreman's possession or use nearest phone to call the nearest hospital.
2. **State your name and the Company name**
3. **Give a brief description of the accident or situation**
4. **Give exact location of the accident/victim**
5. **WAIT** – ask if you have given sufficient information; **LET THE PERSON YOU CALLED HANG UP FIRST**
6. **Contact Pacific Pile & Marine:**  
Pacific Pile & Marine 24-hour Telephone: 1-206-763-1230
7. Discuss only the nature of the injury itself with medical personnel

#### ***Instructions for Reporting Injuries***

1. Report all injuries, no matter how slight, to your foreman immediately for proper first aid or medical attention. Even the slightest scratch should be treated to avoid infection or tetanus.
2. Contact the office immediately in the event of serious injury. Refer all questions to the office.
3. For all injuries, job-site foreman must record details of incident, listing witnesses, environmental factors, time of day and sequence of events. A sample form can be found in Appendix B at the back of this book. Copy this form or use the form as a guide with any paper.

#### ***First Aid Kit Locations***

##### **Office Trailer**

First aid cabinet mounted on wall.

##### **Crane Equipped Barges**

On bulkhead in lunch room

## Job-sites

Each Pacific Pile & Marine dry shack or office trailer is equipped with a first aid kit adequate for the crew size at any given job. Kit sizes are as follows:

<b>Crew Size</b>	<b>Kit Size</b>
1-5	10 package
6-15	16 package
16-30	24 package
31-50	36 package

In the event the crew size reaches the threshold number (51 in 1994), a first aid station will be set up and will include the following items:

- Two first aid kits, one 36-package kit and one additional, depending on crew size. One kit must be portable
- 2 wool blankets
- A stretcher
- Phone numbers of medical assistance personnel

One person, holding a valid first aid card, will be responsible for the first aid station at the job-site.

If there is no trailer or crane barge at the job-site, the job foreman must ensure that a first aid kit be on the site, either in the on-site tool storage box or in his/her personal vehicle, located within easy walking distance of the crew's working location.

### **INSPECT FIRST AID KITS!**

As part of the pre-job safety walk-through and meeting, every first aid kit should be inspected.

***ANY NEEDED COMPONENT SHOULD BE REQUESTED FOR  
PRIORITY DELIVERY FROM THE YARD***

## ***Emergency Preparedness***

### **General Concepts**

Prepared responses for unexpected emergency situations are among those things in life that we are often more comfortable avoiding thinking about (“Yeah, but that’s not likely to happen to *me*”) than actually planning for. Nonetheless, we can make some general plans, which will improve our chances of coming out of a situation retaining the capacity of being of help to others nearby or, in the case of a generalized emergency, getting to and helping those at home.

When planning for possible emergencies, consider weather events, including lightning strikes and wind associated with thunder storms and winter storms (both rare in the Pacific Northwest), fires involving hazardous substances, grass or forest fires, dock fires involving creosote-treated timbers and of course earthquakes and earthquake-induced tidal waves.

### **Job-site Emergency Planning**

As part of the pre-start safety walk-around and meeting at each new site, discuss measures to be taken in the event of an emergency affecting the whole job-site and surrounding environs. As part of the written record of the pre-start meeting, note emergency evacuation routes for different wind patterns and establish a meeting point for a head-count at a safe location. Note also the best access to high ground in case of an operation likely to be affected by a tidal wave following a seismic event. Establish a chain of command to deal with coordination of rescue efforts for crewmembers missing at the head-count location.

In the event of an incident, as a second priority at the head-count location, discuss the need for personnel to remain on-site to coordinate the securing of equipment to minimize additional environmental damage from spills or leakage and to prevent loss through theft if the site is temporarily abandoned.

### **Office and Yard Emergency Planning**

Coordination following an emergency is the responsibility of the Company President, senior superintendent, Safety Director or senior foreman, in that order, dependant on who is available.

### **Minor fires – not involving flammable substances**

Attempt to extinguish using available fire-fighting equipment, including extinguishers and water. If not extinguished immediately, call 911. **DO NOT WAIT UNTIL ALL AVAILABLE EXTINGUISHERS HAVE BEEN EXPENDED!** They may be needed to contain the area of conflagration pending the arrival of assistance.

### **Major Fires or fires involving flammable substances**

Call 911 immediately. Evacuate non-essential personnel to an *up-wind* location removed from danger of injury due to explosion of tanks or gas cylinders and well away from hydrant locations or any other area where firefighters would be operating. Perform a head count. Responsible individual must identify him or herself to the fire fighting commander and remain in a position to provide information regarding locations of hazardous substances,



including waste oil tanks, lubrication oil and hydraulic oil tanks and containers, fuel tanks, gas cylinders, paints & solvents and creosote containers, if any.

### **Thunderstorms**

Cease crane operations if thunderstorms are in the area. Stay clear of cranes or other objects that might conduct lightning. Secure items that might be blown about by high wind gusts. Be particularly aware of objects that may blow off shed roofs.

### **Earthquake**

Evacuate buildings any possible way during an earthquake. Stay clear of power lines in the street. Be aware that natural gas service underlies the street in front of the office and yard. Assemble all personnel in street as near to front of office as is safe for a head-count.