

ATTACHMENT 4

Waterborne Vessel Safety Plan

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WATERBORNE VESSEL SAFETY PLAN

Prepared for

Washington State Department of Ecology

April 2008

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WATERBORNE VESSEL SAFETY PLAN

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A. Introduction

This plan applies to, but is not limited to, field work requiring use of waterborne watercraft, including rafts, canoes, skiffs, or commercial vessels either owned by or subcontracted by Herrera Environmental Consultants Inc. (Herrera). Herrera expects that all employees, for company-approved fieldwork or personal use, will follow safety procedures and regulations set forth in this safety plan.

B. Safety Policy

Herrera's Safety Policy is that health and safety of the staff is of paramount importance. Activities performed under potentially hazardous conditions shall be acknowledged and planned to mitigate personal injury. Herrera's Safety Policy shall apply during approved fieldwork, as well as during pre-approved periods of personal activities when using Herrera-owned watercraft.

C. Person-In-Charge

Fieldwork will be organized and supervised by a Project Manager (PM) or designate. It is the responsibility of the person-in-charge to take all reasonable steps to ensure that:

- a. Each participant be informed of the known risks and physical requirements
- b. Each participant be shown where the personal floatation devices (PFDs) are stowed
- c. Each participant has read this Plan
- d. The academic portion of the work is conducted safely
- e. It has been determined what safety equipment and clothing is appropriate
- f. All company and personal equipment taken into the field is thoroughly checked for safety by a qualified person before it is used
- g. Each field trip participant is instructed in safety, the wearing of safety clothing, (e.g., hard hats, safety boots, goggles, etc.), and the safe use of equipment.

D. Checklist

In a generic document such as this, it is impractical to anticipate all situations. The following lists some major items; other items will be dictated by the knowledge or experience of the person-in-charge. Refer to Appendix A for checklist templates.

i. Equipment

All equipment taken for fieldwork must be checked by a qualified person before removal from the office, to ensure that it is in good condition, complete, and safe.

One PFD of proper size that is United States Coast Guard (U.S.C.G.) approved must be kept in an accessible location on board for each person that is present. If the vessel is longer than 16 feet, one additional throwable PFD must be immediately available for use. In a small boat such as a raft, canoe, or kayak, PFDs must be worn at all times.

An electric visual distress signal (VDS), such as a flashlight, must be present if the vessel is 16 feet or longer. A daytime VDS, such as an orange flag 3' by 3' with a black square above a black dot, must be present if the vessel is 16 feet or longer.

A U.S. Coast Guard-certified fire extinguisher must be present if there is a fire hazard due to the motor or fuel system of the vessel. It must be portable and have a specific marine-type mounting bracket. Look for "Marine Type USCG" on the label.

If equipment fails during fieldwork, its use must be discontinued and the failure reported to the person-in-charge immediately. This equipment must not be used until satisfactory repairs have been completed.

The responsibility for ensuring equipment is safe is vested in the person-in-charge.

The Boater's Pre-Departure Checklist (Appendix A) must be completed prior to vessel departure (copy to be incorporated into project file). Additional equipment requirements are provided in Appendix B.

ii. Remote or Hazardous Areas

In the case of fieldwork to be performed in remote or hazardous areas, the person-in-charge should consider:

- a. Having at least one participant trained in first aid

- b. Having at least one participant trained in CPR
- c. Providing a communication link to a central station (at a minimum, whistles provided for each participant)
- d. Providing large scale maps of the area providing routes of egress
- e. Conducting area-familiarization trips before work has started
- f. Having a procedure for contacting local police who will organize a search for missing people
- g. Leaving a float plan at the base camp, plus an overall plan with the departmental office lead at Herrera
- h. For underwater research, evidence that diver(s) hold current and valid license (refer to Herrera's Manual for Safe Diving)
- i. For those who must be equipped with firearms, ensure that they are trained and hold a proficiency certificate
- j. Safety and survival tips are provided in Appendix B.

iii. Float Plan

Before leaving for work in the field, a member of the field crew must fill out a Float Plan (Appendix A) describing when and where the event will take place, what vessels will be taken, and who will be present on the field event. A Float Plan should be filled out for work performed on company-owned and rented boats, as well as when services are subcontracted. The Float Plan should be left with their respective department lead in case of an emergency.

E. Performance Impairing Substances

The use of substances that can impair performance or judgment and the consumption of alcohol during the working periods of field trips is not approved by the company, under any circumstances.

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APPENDIX A

Templates for Float Plan, Pre-Departure, and Standard Checklists

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Oakland Bay Sediment Characterization

06-03386-007

Float Plan

*Do not file this plan with the Coast Guard.
Contact the Herrera office in case of
delayed return.*

1. Person In Charge

Name _____ Phone _____

2. Description of Boat

Name _____
Registration/ Documentation No. _____ Length _____
Make _____ Type _____
Hull Color _____ Trim Color _____
Fuel Capacity _____ Engine Type _____ No. of Engines _____
Distinguishing Features _____

3. Operator of Boat

Name _____ Phone _____

4. Survival Equipment (check as appropriate)

- # _____ PFDs Flares Mirror
- Smoke Signals Flashlight Food
- Paddles Water Anchor
- Raft or Dinghy EPIRB
- Others

5. Marine Radio:

Yes No
Type _____ Freqs. _____
Digital Selective Calling (DSC) Yes No

6. Trip Expectations

Depart From _____
Departure Date _____ Time _____
Going To _____
Arrival Date _____ Time _____

If operator has not arrived/returned by:
Date _____ Time _____

Call the Coast Guard or local authority at the following number: _____

7. Vehicle Description

License No. _____ Make _____
Model _____ Color _____
Where is Vehicle Parked? _____

8. Persons on Board

Name:

9. Additional Information

General Vessel Safety Checklist

Each Trip:

- Make sure all exhaust clamps are in place and secure.
- Look for exhaust leaking from the exhaust system components evidenced by rust and/or black streaking, water leaks, or corroded or cracked fittings.
- Inspect rubber exhaust hoses for burned or cracked sections. All rubber hoses should be pliable and free of kinks.
- Confirm that cooling water flows from the exhaust outlet when the engines and generator are started.
- Test the operation of each carbon monoxide detector by pressing the test button.

Do not operate the vessel if any of these problems exist!

At Least Annually:

- Replace exhaust hoses if any evidence of cracking, charring, or deterioration is found.
- Inspect each water pump impeller and inspect the condition of the water pump housing. Replace if worn or cracked (refer to the engine and generator manuals for further information).
- Inspect each of the metallic exhaust components for cracking, rusting, leaking, or looseness. Pay particular attention to the cylinder head, exhaust manifold, and water injection elbow.
- Clean, inspect, and confirm the proper operation of the generator cooling water anti-siphon valve (if equipped).

Regular maintenance and proper operation of the boat are the best defenses against injury from carbon monoxide. To find out more information about how you can prevent carbon monoxide poisoning on recreational boats, contact:

U.S. Coast Guard Infoline
1-800-368-5647
<www.uscgboating.org>

National Marine Manufacturer's Association
312-946-6200
<www.nmma-medialink.com>

Boater's Pre-Departure Checklist

Know your vessel. Before departure, always be sure your vessel is in good working condition and properly equipped for emergencies. Avoid inconvenience and potential danger by taking a few minutes to check the following:

Minimum Federal Required Equipment	Yes	No
State Registration Documentation		
State Numbering Displayed		
Certificate of Documentation		
Lifejackets (PFDs) – one for each person		
Throwable PFD		
Visual Distress Signals		
Fire Extinguishers (fully charged)		
Proper Ventilation		
Backfire Flame Arrestor		
Sound Producing Device(s)		
Navigation Lights		
Oil Pollution Placard		
Garbage Placard		
Marine Sanitation Device		
Navigation Rules		
Any Additional State Requirements		

Besides meeting the federal requirements, prudent boaters carry additional safety equipment. The following additional items are suggested depending on the size, location, and use of your boat:

Recommended Equipment	Yes	No	N/A
VHF Marine Radio			
Anchor and Tackle			
Chart(s) of Area and Navigation Tools			
Magnetic Compass			
Fenders and Boat Hook			
Mooring Lines and Heaving Line			
Manual Bilge Pump or Bailing Device			
Tool Kit			
Spare Parts (fuses, spark plugs, belts, etc.)			
Spare Battery (fully charged)			

Recommended Equipment (continued)	Yes	No	N/A
Spare Propeller			
Extra Fuel and Oil			
Alternate Propulsion (paddles/oar)			
Flashlight and Batteries			
Search Light			
First Aid Kit			
Sunscreen (SPF 30+)			
Mirror			
Food and Water			
Extra Clothing			
AM/FM Radio			
Cellular Phone			
Binoculars			

Safety Checks and Tests	Yes	No	N/A
Test Marine Radio (voice call)			
Test Navigation and Anchor Lights			
Test Steering (free movement)			
Test Tilt/Trim			
Test Bilge Pump			
Check for Any Excessive Water in Bilges			
Check Fuel System for Any Leaks			
Check Engine Fluids			
Ensure Boat Plug is Properly Installed			
Check Electrical System			
Check Galley/Heating Systems			
Check Gauges (i.e., batteries)			
Check Fuel Amount			
Ensure Anchor is Ready for Use			
Check Load of Vessel and Secure Gear from Shifting			
Ensure Passengers Know Emergency Procedures and Equipment Location			
Everyone Put on a Lifejacket to Check for Proper Fitting			
Check the Weather Forecast			
File a Float Plan at Herrera Office			