

Deep Water Recovery Environmental Management Plan

March 5, 2021

1.0 INTRODUCTION

Castor Consultants Ltd. has been retained by Deep Water Recovery Ltd. (DWRL) to generate a site-specific Environmental Management Plan for their location at 5804 Island Highway South, Union Bay, B.C. to protect the local marine environment and in recognition of the importance and economic value of the aquaculture business in Baynes Sound.

DWRL is very much aware of the shellfish recreational values and the importance of the aquaculture businesses operating in Baynes Sound as indicated on the BC Shellfish Growers Association and Aboriginal Aquaculture Association web sites (www.bcsqa.ca and www.aboriginal.aquaculture.com). Although greater focus is concentrated on oysters utilizing long line, raft culture (trays), and beach harvesting methods, scallops, mussels, and clams are also a significant revenue stream employing similar farming methods to oysters. It is also recognized that geo-duck is harvested in Baynes Sound from the ocean floor in both intertidal and subtidal areas.

DWRL is engaged in the protection and regeneration of native plant life along its shoreline which is almost a kilometer in length on the southern side of the industrial zone.

DWRL has taken measures to ensure that the management practices of its operation focus strongly on Responsible Environmental Custodianship. DWRL has initiated procedures for non-emergency vessels and barges, requiring the removal of all hydrocarbons from these vessels prior to their arrival at the site. Although DWRL's operations are primarily on the upland side, precautionary measures have been set in place such as Oil Boom Containment Curtains (see photographs attached), and 24-hour onsite personnel.

As a precautionary measure, DWRL requires all incoming vessels and barges to be surveyed for both safe passage from their departure point and also to ensure that there is no environmental risk upon their arrival in Union Bay. The survey is required to identify hydrocarbons or other deleterious substances and in the case of barges or vessels that are involved in the finfish aquaculture industry, the survey is needed to ensure that there are no biological contaminants that may be harmful to the aquaculture in Baynes Sound.

In addition to aquaculture, the current and future tourism development and infrastructure is also an ongoing concern that DWRL is following closely as the company has been approached by both local government and local marine tourism operators for the haul-out and maintenance of Whale Watching & Wildlife Adventure Tours watercraft. Given its close proximity to Denman & Hornby Islands and the 780-acre development site adjacent to DWRL, environmental stewardship will be critical to the future development of Baynes Sound.

It is the intent of DWRL, its affiliates, consultants, suppliers, and subcontractors to take all reasonable and practicable steps in order to prevent the discharge of deleterious material into the environment or to cause any harm to fish or fish habitat.

For background, DWRL's facility provides a vessel decommissioning service for the marine industry on the coast. The service decommissions derelict vessels or those at the end of their serviceable life. It is an essential service in that it enables the safe disposal and recycling of vessels that might otherwise release deleterious substances into the marine environment, or become hazards to other vessels in navigable waters. DWRL, through its contract arrangements with clients (e.g. Seaspan), conforms to the international quality management standards ISO9001 and ISO9002, which basically encourage risk-based thinking in their on-site practices.

Deep Water Recovery Environmental Management Plan

2.0 RESPONSIBILITIES

2.1 [REDACTED] Phone: [REDACTED] (cell)

- a) Responsible for the implementation of a site Environmental Management Plan.
- b) Responsible for the delegation of authority necessary to carry out the elements of that plan.

2.2 [REDACTED], Castor Consultants Ltd. Phone: [REDACTED] (cell)

The Site Manager is responsible for assignment of an environmental monitor. Regular and arbitrary monitoring is to be conducted at the discretion of the monitor. The frequency of the discretionary visits will be reasonable and appropriate. On-site visits will be made during procedural changes, during new activities, prior to cleanout from any sumps, during periods of heavy rainfall, and on any other occasions deemed appropriate. Call-out procedures will be established during work activities; however, the monitor will be 'on-call' as required.

Environmental monitoring reports will be issued to DWRL following each site visit, and to any other agency DWRL identifies as having requested such reports. Additional reports will be issued in the event of unusual situations and/or emergencies.

2.3 [REDACTED] Phone: [REDACTED] (cell)

- a) Responsible to identify all Federal, Provincial, Municipal and Owner requirements relating to spill prevention, control and remediation.
- b) Responsible to produce and periodically update a potentially hazardous materials inventory upon which site specific procedures will be based.
- c) Responsible for documentation and co-ordination of notifications and reports pertaining to spills.
- d) Responsible to initiate, oversee and direct activities relating to the prevention and recovery of any accidental release of hazardous materials into the environment
- e) Responsible to co-ordinate training of spill response teams.
- f) Responsible to liaise and co-ordinate communications and activities with other general and subcontractors, regulators and owner representatives during containment and remedial operations.

2.4 Site Supervisors

- a) Responsible to conduct their work in a manner which will reduce the likelihood of environmental spills.
- b) Responsible to assist the Spill Response Coordinator in the control and remediation of any accidental spills.
- c) Responsible to communicate environmental requirements as well as the elements of spill prevention, control and remediation to their crews through weekly Tool Box meetings or special meetings.

2.5 Employees

- a) Responsible to conduct their work in a manner that achieves the required environmental protection and which will reduce the likelihood of accidental spills.
- b) Responsible to assist in spill containment and remediation as directed.

Deep Water Recovery Environmental Management Plan

3.0 PROCEDURES

3.1 Materials and Information Inventories

- a) DWRL Spill Response Coordinator will cause an inventory to be taken of all materials which if inadvertently released could be hazardous to the environment.
- b) This inventory will identify the types of products, their quantities as well as storage and use conditions as outlined in the Material Safety Data Sheet (MSDS).
- c) The inventory will be current, will be updated monthly (or more frequently if necessary), and will be posted and made available to the Owner or any agency upon request.
- d) The Spills Response Coordinator will retain a personal file of MSDS sheets for material on site.
- e) The MSDS sheets will be retained at a known location on site and be accessible for review in accordance with the Workplace Hazardous Materials Information System (WHMIS) legislation.
- f) Emergency Spill Kits - The Spill Kits will be deployed as appropriate to the site work areas and be well marked and kept in close proximity to working machinery. A 45-gallon drum or equivalent container capable of storing wasted (i.e. oiled or concrete) materials will be included with each kit. In addition, smaller Spill Kits and sorbent pads will be kept on each major piece of equipment for emergency first response use. Devices capable of blocking flows to culverts or storm drains will be kept adjacent to culverts or storm drains that have potential to receive contaminated water during construction activities.

3.2 Site Plan

- a) At this time, fueling and servicing requirements for the site will be done via small fuel totes and / or at the refueling station supplied with spill control materials.
- b) Equipment Repairs - Hydraulic oil spills will be locally contained using Spill Kits. In the event of larger oil spills, the Spill Response Coordinator will be notified in accordance with Section 2.4 and 8.0. Primarily equipment repairs will be made on site, with the provision to move equipment off site if necessary. Oil and fuel spills will be contained with sorbent pads and this material will be disposed of in accordance with regulatory requirements.

Deep Water Recovery Environmental Management Plan

4.0 STORM WATER DRAINAGE CONTROL PLAN

The purpose of the Storm Water Drainage Plan is to control runoff from the site and to prevent materials including metal cuttings, welding residue and any other substances from being released into the marine environment or any fish-bearing watercourse.

All storm water and runoff water from the work area will flow to and be collected in the existing sumps located down slope from the work areas; one sump is in the NE corner of the site and a second is located near the site centre just south of the existing groyne. The paved work area has been built to handle heavy equipment and graded to facilitate runoff control to the sumps, all of which were purpose built for the dryland log sort and as such work for the current purpose as well.

Routine monitoring and pumping out of the sumps is planned on a regular basis based on sediment buildup. A record of pump outs will be maintained. Water quality testing for parameters associated with the operation may be conducted at the direction of the Environmental Monitor. If results exceed the specified criteria, consideration will be given to the source and appropriate steps will be taken to rectify the situation. During these situations testing will be conducted until the problem is resolved.

5.0 METHODOLOGY

Barges/vessels will be positioned and hauled out of the water up the ramp on inflatable rollers by means of large winches set upland. The barges, once out of the water, will be relocated off the ramp onto the paved area for decommissioning.

The vessel owner prior to delivery will have pumped all vessels arriving at the site of bilge water and related hydrocarbon residues. As a precautionary measure barges/vessels will be checked for residues before and after haul-out to ensure suitability before decommissioning to avoid spills. Any residues will be removed and contained in barrels for offsite disposal at an approved waste facility.

Decommissioning the barges/vessels entails cutting the metal, mainly steel and aluminum, structure by means of cutting torches and related specialized metal cutting equipment. Large and smaller pieces of the metal residues will be placed in barrels for shipment. Sweeping the work deck around the barges will collect finer materials generated by these methods. The sumps will contain any fines missed by this housekeeping process.

As noted spill containment kits and associated equipment will be located adjacent each work area and moved as required to be close to the workers for rapid deployment.

On-going Site Maintenance

Site clean up (i.e., shoveling and sweeping, shop-vacuuming) will be an on-going maintenance activity during and after processing of each barge/vessel. The paved deck surface will be kept free of cuttings and associated materials to prevent their entry to storm drains or the adjacent marine environment. Site inspection and clean up will be conducted at the end of the day.

Deep Water Recovery Environmental Management Plan

Solid Waste Management Plan

Trash on the site, including related decommissioning waste (filters, rags, etc) will be collected and disposed of in barrels/dumpsters for off site disposal. The site will be cleaned on a regular basis to prevent the accumulation of excessive solid waste not associated with the metal recycling.

Oily rags, oils and other fluids generated during equipment repairs and maintenance will be collected and disposed of in accordance with applicable standards and regulations. Routine equipment repairs and maintenance will be done within the site area, away from tidewater where possible.

Dust Control

In the event that dust becomes a problem on the site, a water spray may be used as a suppressant. Care will be taken to ensure that the amount of water used is insufficient to cause a run-off quality problem. In no event will chemical dust suppressants be used.

6.0 ORIENTATION AND TRAINING

- a) The Site Manager will ensure that each new employee or contractor is properly introduced to and instructed on the policies and procedures established by the site's Environmental Management Plan.
- b) DWRL's hire-on orientation will include a section on safety and environmental awareness and responsibilities. Each employee will be required to complete the environmental orientation before being permitted to go to work.
- c) Environmental issues will be discussed at all safety Tool Box meetings and general safety meetings. In addition, at the start up of all operations that could affect the environment, all affected employees or contractors will be instructed upon specific procedures to protect the surrounding environment.
- d) In the unlikely event of an environmental problem or incident, all employees or contractors will be re-instructed and re-trained as deemed necessary by the site's Environmental Monitor and the Site Manager.
- e) The Site Superintendent will ensure each employee is made aware of the proper use, handling and storage of materials on site which could present a hazard to the environment, as well as the location, use and limitations of spill containment and recovery equipment.

7.0 SPILLS – NOTIFICATION AND RESPONSE

7.1 Internal Notification

- a) All employees on site will be instructed during their initial orientation and subsequently within Tool Box meetings or special meetings to immediately report any and all releases of deleterious materials to the Spill Response Coordinator.
- b) The Spill Response Coordinator will be advised of all reports of spilled materials without delay and will attend the scene in order to assess the situation.

Deep Water Recovery Environmental Management Plan

- c) The Spill Response Coordinator will inform the Environmental Monitor of all reports and activities resulting from an accidental release of deleterious material. Where appropriate, the Spill Response Coordinator will liaise with the Environmental Monitor in the development and implementation of spill response.
- d) The Spill Response Coordinator will post an internal and external notification flow chart to be published and posted at the site office.

7.2 External Notification

- a) DWRL's Site Manager will be responsible to either initiate or be aware of all external notifications as outlined in the notification flow chart.
- b) Owner's Representative and Environmental Monitor will be notified immediately.
- c) DWRL's Site Manager will be responsible to notify the Provincial Environment Program and the Department of Fisheries and Oceans (DFO) Radio Room at 604-666-3500 for spills that affect or have potential to affect aquatic resources and if the volume spilled requires mandatory reporting.
- d) The Spill Response Coordinator is advised to contact CANUTEC (0-613-996-6666) as soon as possible after an accident so as to utilize their expertise and ability to link response personnel at the scene with individuals and organizations in a position to offer technical advice and/or on site assistance.
- e) DWRL's Spill Response Coordinator will maintain a log of all external contacts made which will include the date, time, organization contacted, essence of the notice or information transmitted/received, and whenever possible the name and title of individuals receiving or issuing notification or instructions.
- f) DWRL's Spill Response Coordinator will himself or will designate some other competent person to maintain a standby position at the site office in order to monitor spill related communications.

8.0 SPILLS – DISCOVERY AND RESPONSE

8.1 Discovery

- a) Any employee noticing an environmentally hazardous spill of materials is required to immediately notify their supervisor and/or the Spill Response Coordinator.
- b) The person reporting a spill is to attempt to stem the flow if possible by closing valves or by using other available means of containment readily available.

8.2 Response

- a) The Spill Response Coordinator shall immediately proceed to the scene where he will make an initial assessment of:
 - 1. The type of material spilled.
 - 2. The estimated quantity spilled.
 - 3. The total quantity which could potentially be involved.
 - 4. The surface area involved or affected.
 - 5. Specific hazards of an imminent nature which may require emergency response groups or other specialized handling.
 - 6. Criteria for containing the spilled material.
 - 7. Determination of personnel and equipment necessary to initiate remedial action and recovery.
- b) The Spill Response Coordinator will assess the required manpower and equipment requirements in addition to those available on the site.

Deep Water Recovery Environmental Management Plan

- c) The Spill Response Coordinator will then directly control all activities relating to the stemming of additional flow or escape, containment and extraction of spilled material and the restoration of the site.
- d) The Spill Response Coordinator will ensure that containment and recovery equipment is available on site in such quantities and character as to sufficiently respond to the most serious potential spill condition identified through the materials inventory.
- e) The Site Manager will functionally liaise with regulatory agencies and Owner representatives on the scene and keep them informed as to the status of the on-going operations.

9.0 SPILLS – DISPOSAL

- a) The disposal of spilled material and/or contaminated soil is governed under provincial legislation. The Site Manager shall maintain a copy of those requirements on site for reference.
- b) The Spill Response Coordinator and Site Manager shall determine if the local disposal areas are available and registered for those materials which could be spilled during the course of operations.
- c) The Spill Response Coordinator shall establish a listing of available outside contractors with sufficient capability, capacity and disposal permits to accommodate any anticipated need.

10.0 SPILLS – DOCUMENTATION

- a) The Spill Response Coordinator or his designate will be responsible to attend the scene in order to collect samples of any spilled materials or contaminated soils as well as to photograph and measure the affected area.
- b) The Site Manager will cause a full report to be written within seven (7) days of the completion of remedial activities. All spills and remedial measures will be reported and documented. Reporting will include but not be limited to:
 - The reporting person's name and telephone number.
 - The name and telephone number of the person who caused the spill.
 - The location and time of the spill.
 - The type and quantity of the substance spilled.
 - The cause and effect of the spill.
 - Details of action taken or proposed.
 - A description of the spill location and of the area surrounding the spill.
 - The details of further action contemplated or required.
 - The names of agencies on the scene.
 - The names of other persons or agencies advised concerning the spill.
 - The chronological sequence of events including internal and external notifications.
 - An analysis of the events leading up to the spill and a critique of the internal response and handling of the incident.
- c) The Site Manager will provide the Owner with a copy of the report within ten (10) days of completion of remedial activities.

Deep Water Recovery Environmental Management Plan

CONTACTS

CANUTEC (CALL COLLECT; SPILL ADVISE) 0-613-996-6666

SPILL CLEAN UP SERVICES:
BURREARD CLEAN EMERGENCY 604-294-9116
NON-EMERGENCY 604-294-6001

ENVIRONMENT CANADA – ENVIRONMENTAL PROTECTION
EMERGENCY 24 HOURS 1-604-666-6100

PROVINCIAL EMERGENCY PROGRAM (VICTORIA 24 HOURS) 1-800-663-3456

COAST GUARD 1-800-567-5111
PARKSVILLE 250-480-2600

MINISTRY OF ENVIRONMENT
MINISTRY OF ENVIRONMENT (General) 250-952-5848
WILDLIFE (Emergency) 1-800-663-9453

FISHERIES (DFO) 1-800-465-4336
DFO RADIO ROOM CONTACT 604-666-3500

DWRL:
[Redacted] [Redacted] [Redacted] (cell)

s.19(1)

[Redacted] [Redacted] Office: 250-245-0225
[Redacted] Cell: [Redacted]

LOCAL PORT AUTHORITY:
Comox Harbour Authority 250-339-6041

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