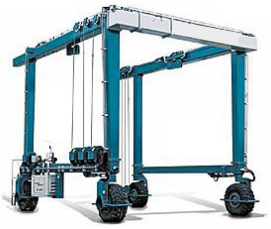
Department of Toxic Substances Control



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Boat Lifts

Pollution Prevention for Marine Vessel and Service Repair Facility

Boat Lifts (Lifts) are used at MVSR facilities to remove large powerboats and sailboats from the water for repairs or storage. Lifts are also used to examine the bottoms of boats while keeping the vessels in close proximity to the water.

Types of Lifts

Travel Lift also known as straddle lifts, are used to transport large powerboats and sailboats for repairs or storage. The travel lift straddles an inlet that has been deeply dredged to accommodate deep-hulled and long-keeled water craft. When the boat to be hauled enters the channel, straps are placed under the boat's hull and attached securely to each side of the rig. The operator then lifts the boat from the water and drives the travel lift to a location where the boat will be set securely on stanchions while in dry dock at the MVSR facility.

Hydro Lift is powered by a closed-loop hydraulic system that typically uses petroleum-based liquids, and can have a 30-to-600 ton capacity. The lift sits on a platform, and uses steel-reinforced nylon slings to lift boats from the water. These slings may also be covered with a high-mil visqueen or thick plastic that protects the boat's paint, and its slings from wear and tear.

Marine Railway requires a rolling carriage running from the water to a repair facility ashore. The vessel to be hauled is floated to a position over the carriage, and secured before the carriage is hauled up the tracks using a cable winch. Marine railway is not commonly used.

Synchro Lift is made up of a platform with two sets of rail tracks and a cradle. Blocks are attached to the top of the rail tracks, customized to fit the particular ship, and then placed on the lift. Once the lift is lowered into the water, the ship is positioned over the rail tracks and blocks. The lift, with the ship over it, is raised until the lift is flush with the yard rails. Synchro lift is not commonly used.

*vessel refers to a small craft

Environmental Concerns:

A facility's dry storage locations, that may include cleaning supplies, surplus paint, fuel, trash, and debris, are potential sources of environmental concern. Possible dumping of bilge water and bottom marine growth when boats are lifted from the water is an additional concern. Bilge water and bilge cleaning wastewater may contain oil leaked from engines or machinery, antifreeze, transmission fluid, human waste, and any material from the bottom of the ship.

TARGETED POLLUTANTS:

- **Fuel**
- **Oily water (bilge water)**
- **Paint**
- **Solvents (Cleaning Products)**
- **Sewage**
- **Trash and Debris**

Regulatory Requirements

1. California Air Resources Board ([1]ARB)

   - Off-Road Large Spark-Ignition (LSI) Engine Powered Equipment Regulation ([viii]LSI Regulation)
   - In-Use and New Off-Road Diesel Vehicle Regulation ([ix] Off-Road Regulation)

2. State Water Quality Control Board ([ix] www.swrcb.ca.gov):
   - National Pollutant Discharge Elimination System ([ii] NPDES Permit)
   - Vessel General Permit ([iii] VGP)

3. California Division of Occupational Safety and Health ([iv] CAL OSHA)

   - Personal Protective Equipment ([v] PPE)

Recommended Practices (RPs) for Boat Lifts

1. **Routine Maintenance:** Lifts are frequently used at a MVSR facility. Routine maintenance is required since all lifts are susceptible to a few common problems. The following RPs help minimize the impacts of pollutants that may enter the surface water from routine boat lifting operations:

   A. **Rust** can be devastating for a boat lift that has been allowed to lose its protective coating of paint. Aluminum lifts resist rust; however, steel lifts rust over time.

      - Rinse the lift with fresh water to reduce deterioration from salt corrosion and electrolysis.
      - Grind off the rust, and then reapply a protective sealant and paint to prevent rusting from reoccurring.
      - If rust has compromised the structural integrity of the metal, fix it.

   B. **Hydraulics:** Some hydraulic problems are related to loose connections while others may cause leaking of hydraulic fluid.

      - Conduct routine inspection and maintenance of the hydraulic portion of the lift
      - Use non-petroleum based liquids such as biodegradable hydraulic fluids

   C. **Slings** need to be cleaned to remove oil and grease, as that can be dangerous when used with boats that are painted with some of the non-biocide silicone based paints. Wet silicone based paints makes a boat slippery when wet.

      - Schedule routine cleaning of slings to remove oil and grease
      - Use wax paper to protect the finish. Change the wax paper after two to three boats have been lifted.
      - Routinely wash off the foam used between boats and slings that protect finishes

D. **Greasing:** Refer to the equipment manufacturer's recommendations regarding lubrication points, and using biodegradable grease on your lift.

E. **Structural Repairs:** Damage interfering with the lift's proper use should be repaired to prevent additional damage to either the lift or the boat.

- Remove any debris from the surrounding waters that might cause structural damage to the lift.
- Structural damage is a safety hazard and must be repaired.

2. **Management Practices:** These management practices ensure safe handling of boats, and extension of the lifetime of lifts; which are both crucial to a successful business.

A. Assign a project manager for every boat that comes in to the facility.

B. Require boat owners to come in "light" – remove trash, debris, and bilge water before docking.

- Do not dispose of trash, debris, bilge water, or hazardous wastes associated with boatyard activities into a sanitary sewer. These wastes can severely impact the processes at the waste water treatment plant.
- Dispose of any hazardous wastes associated with boatyard activities at approved facilities (e.g., your local hazardous waste facility) or contract with a CA-registered hazardous waste hauler.

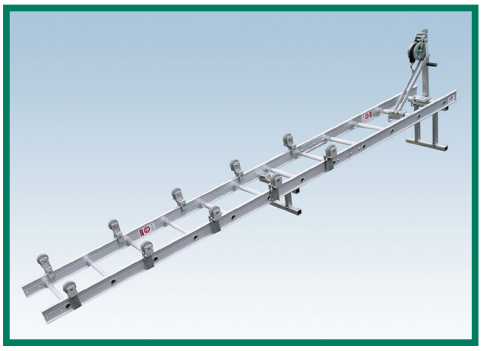
C. Provide customers with options for proper bilge water discharge.

- Provide services for pumping out bilge water
- Make oil absorbents available to soak up oil hydrocarbons before pumping bilges.
- Educate your customers about proper disposal of used oil absorbents.

D. For heavily-fouled boats, place them on hard stands for several days, and allow fouling to die before removal.

E. OTHER:

- Educate and train staff in safe handling of equipment and boats.
- Provide and encourage staff to use personal protective equipment (PPE).
- Develop and implement a spill control plan.
- Provide educational materials and signs in both English and Spanish, and/or other foreign languages commonly used in your area.



References and Other Resources:

i. http://www.swrcb.ca.gov/

ii. http://www.swrcb.ca.gov/water_issues/programs/npdes/

iii. http://cfpub.epa.gov/npdes/home.cfm?program_id=350

iv. http://www.dir.ca.gov/dosh/puborder.asp

v. http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9777

vi. City of Kodiak, Alaska

vii. Boatyard Lift and Hauling Safety

viii. http://ucanr.org/sites/coast/Aquatic_Invasive_Species/

For additional information on auto body and paint shop pollution prevention practices and a list of available publications contact:

Department of Toxic Substances Control (DTSC)
Office of Pollution Prevention and Green Technology
P.O. Box 806
Sacramento, CA 95812-0806
http://www.dtsc.ca.gov/PollutionPrevention/index.cfm
(916) 322-3670
(800) 700-5854

Environmental Boating Program Coordinator
California Department of Boating & Waterways
California Coastal Commission
45 Fremont Street, Suite 1900
San Francisco, CA 94105
www.BoatingCleanandGreen.com
(415) 904-6905