

## 20. Waste Facilities

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Maintaining a clean harbor is essential to its overall prosperity and well being, especially to the patrons who use the harbor. Allowance and location of waste facilities are usually determined with the upland development. Note that requirements for the Americans with Disabilities Act (ADA) and best management practices for prevention of non-point source pollution should be included in the development of all waste facilities.

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- **Solid Waste Receptacles** **20.10**
- **Liquid (Oil) Containment** **20.20**
- **Boat Pump-out Facility** **20.30**

## 20.10 Solid Waste Receptacles

Consider convenience and accessibility when locating solid waste receptacles. As a minimum, you should place a trash receptacle at the end of each pier and where people gather. Allocate sufficient upland space during the design of the harbor for placement of receptacles.

### SOLID WASTE RECEPTACLES should be part of every design EXCEPT if:

- 1) There is no way to maintain a waste receptacle.
- 2) Remoteness of the facility would make collection difficult, or it is located where it might attract bears and other nuisance animals.

**Note 1.** A general rule of thumb is *three pounds* of waste generated per slip per day during high seasonal use.

**Note 2.** Consider ADA and non-point source pollution when locating and designing waste receptacles.

### REFERENCES:

1. Tobiasson, B.O. & Kollmeyer, R.C. 1991. *Marinas and Small Craft Harbors*. New York: Van Nostrand Reinhold. Pg.363.
2. ASCE Manual No.50. Task Committee on Marinas 2000. 1982. *Planning and Design Guidelines for Small Craft Harbors*. Pg.29-30, 31,34.

## 20.20 Liquid (Oil) Containment

Consider disposal and handling of waste oil products in virtually every harbor facility. Position a waste oil receptacle so it is convenient for the patrons and the transporter, and clearly marked it as "WASTE OIL." The volume of waste generated by the fleet will depend on the frequency and type of boats using the harbor facility.

### Consider LIQUID OIL CONTAINMENT receptacles when:

- 1) No other type of waste oil containment is within a reasonable distance of the harbor.
- 2) The harbor fleet is moderately large, requiring liquid oil containment.
- 3) Regulating agencies require it.

**Note 1.** One 275-gallon tank is adequate for up to 150 boats.

**Note 2.** If contents of liquid waste receptacles have other products such as solvents, paint thinners, antifreeze, or engine degreasers, the container needs to be labeled and reports maintained as a hazardous waste. Hazardous waste requires special handling and is more costly. Avoid this through effective management control of the waste stream.

**Note 3.** Waste oil is regulated by MARPOL. Design should include consideration of best management practices for prevention of non-point source pollution.

### REFERENCES:

1. Tobiasson, B.O. & Kollmeyer, R.C. 1991. *Marinas and Small Craft Harbors*. New York: Van Nostrand Reinhold. Pg.363-364, 501.
2. ASCE Manual No.50. Task Committee on Marinas 2000. 1982. *Planning and Design Guidelines for Small Craft Harbors*. Pg.30, 34, 59-60.
3. Neil Ross Consultants and Concepts Unlimited, *BMP Examples for Alaska, Compilation and Assessment for Harbor, Marina, Boat Operations, Repair and Maintenance, Best Management Practices*, prepared for State of Alaska, Office of the Governor, Juneau, AK, June 1995.

## 20.30 Boat Pump-out Facilities

Include provisions for pump-out and portable toilet washout stations to enhance water quality in and around the harbor. Design guidelines may be determined by the vertical height between the pump-out station and the upland discharge location. Include at least one pump-out for every 300 boats.

### Consider BOAT PUMP-OUT in:

- 1) Alaska harbors that support at least ten recreational vessels

### Harbors that are exempt from the Alaska Coastal Clean Water Plan:

- 1) Facilities that have less than 10 mooring slips
- 2) Transient or refuge facility with no permanent moorage

**Note 1.** A suitable pump-out facility requires a site-specific task design.

**Note 2.** The most important design criterion is convenience to the patrons of the harbor, not ease of construction or cost.

**Note 3.** In new facilities, consider installing sewage piping for future use in addition to provision of pump-out stations.

**Note 4.** Consider ADA and non-point source pollution when locating and designing pump-out facilities.

### REFERENCES:

1. Alaska Coastal Management and Dept. Of Environmental Conservation. *Alaska Clean Water Plan*. 1995. Chapter 7.
2. Tobiasson, B.O. & Kollmeyer, R.C. 1991. *Marinas and Small Craft Harbor*. New York: Van Nostrand Reinhold. Pg.285-289.