Vessel Wash Wastewater in New Jersey

Presented by:

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New Jersey’s Vessel Wash Wastewater Regulation

• October 2006 - NJ Department of Environmental Protection (NJDEP) establishes a technical committee to develop the regulations

• September 2008 - Regulations and Permit by Rule Introduced at Clean Marina Workshop

• March 2010 - NJDEP implements no-discharge policy for all vessel wash wastewater
Permit by Rule

• Authorizes up to 3 wash pads at any one marina, boatyard or boat sales facility; each wash pad shall be associated with a wastewater capturing system.

• Can install a shed for treatment system.

• Not required to notify the NJDEP if you stay within the conditions of the permit.

• Other NJDEP and local permits must still be obtained as required.
No-discharge Options

• Cease power washing operations

• Capture wastewater
  • Separate out solids and evaporate
  • Store the water and haul away
  • Settle out solids, filter, recycle and haul away
  • Settle out solids, treat, and convey to sanitary sewer system
Wastewater Composition

- Large solids - paint chips, barnacles and other large particles; easy to remove by increasing holding times
- Metals - solid and dissolved; can be difficult to remove
- Bacteria
- pH - use of hull cleaners can affect pH levels
- Wastewater is generally considered industrial wastewater, not hazardous waste
  - High levels of lead and pollutants could change the classification
Wastewater Management Goals

- Number of boats washed annually
- Average length of the vessels washed
- Estimated volume of freshwater used
Wastewater Management Goals cont.

- Expected volume of collected wastewater
  - Average time spent washing boat bottoms is 15-20 minutes
  - Average volume recovered is 40 gallons per boat
- Water/sewage charges that may apply
- Contact local sewer authority to discuss options
Step One – Collection System

• Consists of a wash pad, sump and storage tank; approximately $15,000 to install.

• Wash pad size should be directly proportional to size of vessels handled at your facility.
  
  • The cost of the pad can vary widely based on size and type of equipment used to haul boats.

• Temporary pads are a viable option for smaller facilities.
Step One – Collection System cont.

- Recommend a dual-chambered sump capable of holding 300-400 gallons.
- Temporary storage is recommended; size will vary depending on treatment and/or disposal method.
- Stormwater diversion
  - Check State regulations to determine legal disposal methods
  - Cover for sump
  - Divert stormwater to surface or ground water using additional valves and piping
Step Two – Choosing Disposal and/or Treatment Methods

• **Option A** – Store the wastewater and have it hauled away for proper disposal; approximately $15,000
  • 2,000-gallon storage tank is recommended
  • Can be used to assess the amount of water collected to determine if on-site treatment will be cost-effective
  • Advantages - low initial investment, minimal maintenance
  • Disadvantages - potential for high disposal costs, water use remains the same
Step Two – Choosing Disposal and/or Treatment Methods cont.

- **Option B** – Marina operators must evaluate the acceptable level of treatment for recycling or discharge to a sanitary sewer
Step Two – Choosing Disposal and/or Treatment Methods cont.

- **Option B - Primary Treatment**
  - Mechanical filtration, cyclonic action or other similar means to remove solids
    - Total cost is approximately $27,000 ($15,000 for collection system; $12,000 for treatment system)
  - Cost of the system increases when treatment options like sanitization and pH adjustment are added
  - Advantages- moderate costs and option to recycle treated wastewater
  - Disadvantages – potential for high maintenance costs; need to monitor contaminant levels and periodically purge system
Step Two – Choosing Disposal and/or Treatment Methods cont.

• **Option B** - Advanced Treatment

  • Electrocoagulation or similar methods to remove solid and dissolved metals
    • Total cost is approximately $32,000 ($15,000 for the collection system; $17,000 for the treatment system)

  • Advantages- moderate costs, wastewater can be recycled without the need to purge, will most likely meet requirements for discharge to a sanitary sewer, maintenance costs are moderate

  • Disadvantages – higher initial investment
Vessel Wash Wastewater Treatment System Profile

Facility Information
Hobby Lobby Marine
1423 Bay Avenue
Toms River, NJ 08753
Contact: Tom/Bob Tweed
Telephone: 732-929-1711
Fax: 732-506-9055

Hobby Lobby Marine is a medium, full-service marina that prepares approximately 100 boats annually for winter storage. Boats stored for the winter range from 16’-35’ in length with an average length of 25’. The vessel wash wastewater system is used predominantly during September through November with some minor use in the spring. Approximately 90% of the hulls washed are painted with a soft ablative paint and the remaining 10% are typically painted with a hard paint.

Treatment System Information
Hobby Lobby Marine uses a vessel wash wastewater collection system designed by Le-Ed Concrete. A 40’x25’ concrete pad captures the wash wastewater; pretreatment to capture large solids begins with a small 3’x3’x2’ sump structure in the center of the pad. Large solid debris can be easily removed with ease at the end of day or when necessary. A macerator pump is used to pump the water into a 1,700 gallon above ground holding tank. The tank is stored in a heated shed. Storm water is diverted from the sump with a rubber mat that covers the storm grate. The water is then properly disposed as needed by a waste hauler.

Pros and Cons of System
Low cost for installation, materials and maintenance. Also, the simple design eliminated the need to deal with freezing.

Estimated Cost
Approximately $18,000 to install a concrete travel lift pad, sump, water pump, electric, plumbing and shed.

Maintenance (Labor, filters, etc.)
The tank will have to be emptied approximately 3-4 times per year at an estimated disposal cost of $3000.00.
BMPs

- Purge systems that use filters, cyclonic action or other similar means as the primary method of removing metals to prevent the build-up of dissolved metals
- Contract with a laboratory for weekly bacterial and pH analysis initially to determine levels
- Remove or cover all sacrificial anodes when pressure washing
- Products used to remove growth on the hull and water line can adversely affect the pH in the wastewater
• Visit njseagrant.org
• Go to Extension > Recreational Fishing & Boating > Marina Industry Enhancement

Contact Information

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