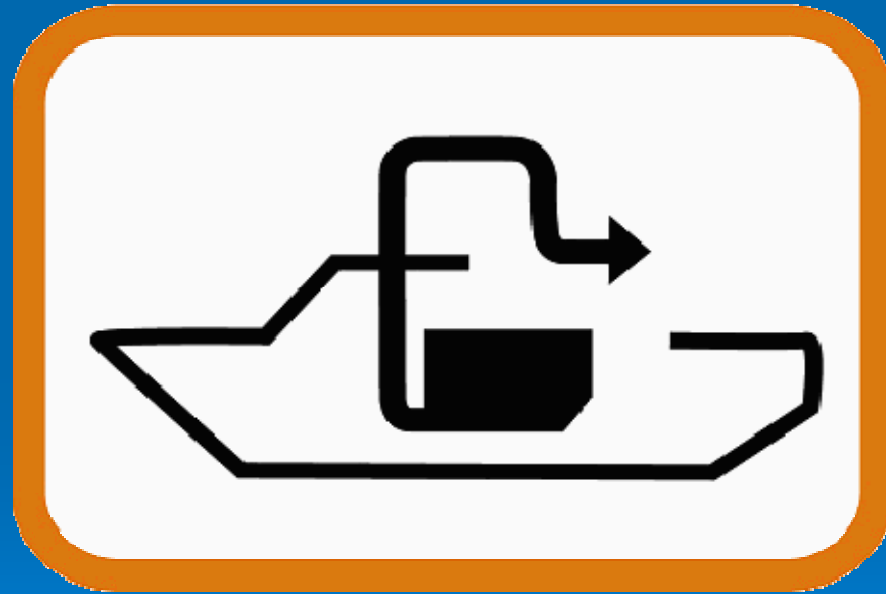


# Sewage Pump-Out Systems



# Types of Pump-Out Systems

- Portable Units



Dolly



Cart



Boat

- Stationary Units



Diaphragm

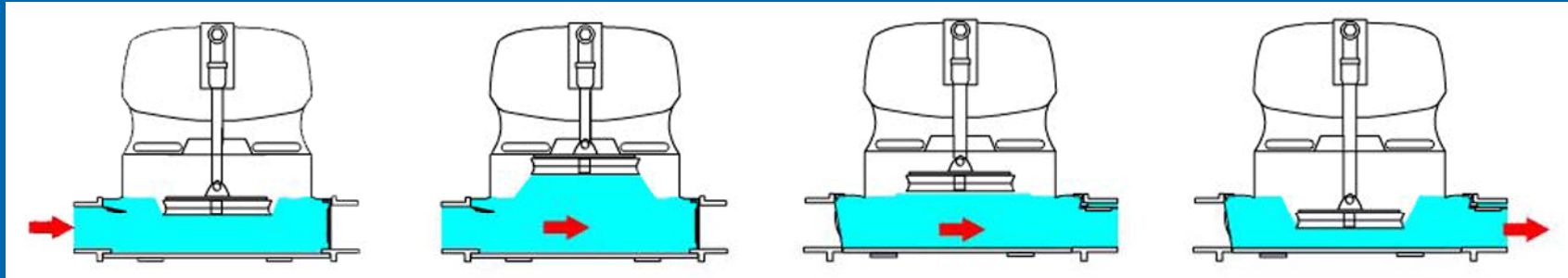


Peristaltic

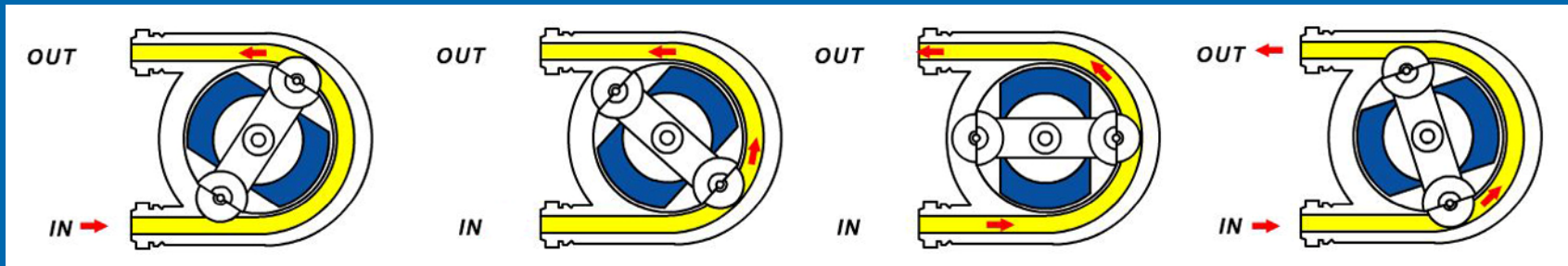


Vacuum

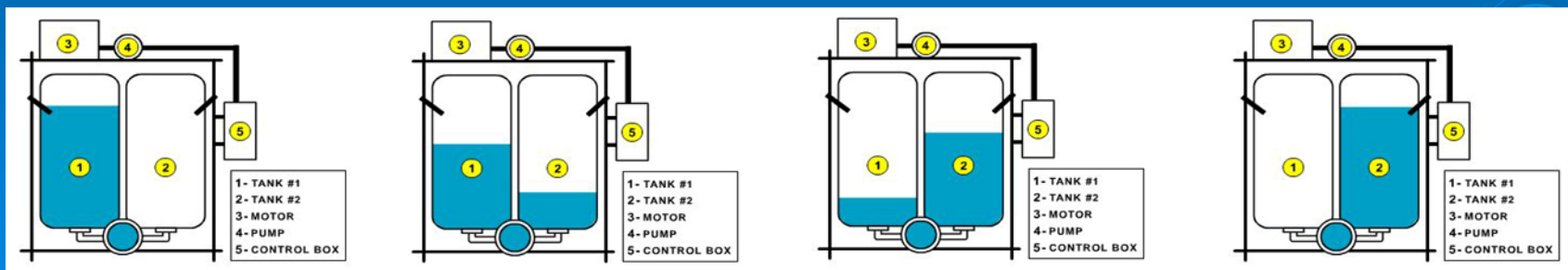
- Diaphragm Pumps



- Peristaltic Pumps



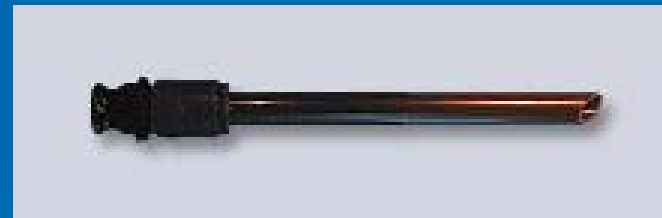
- Vacuum Systems



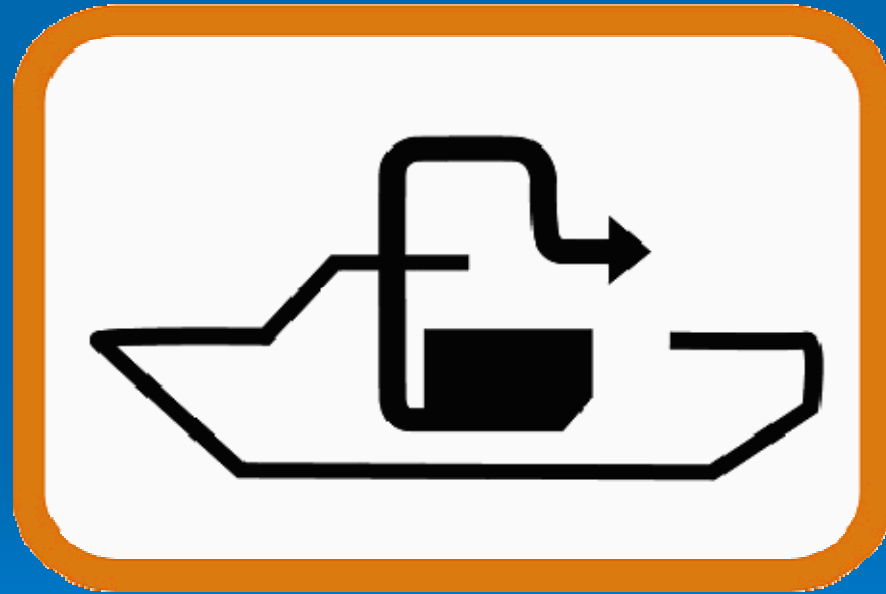
# Types of Pump-Out Systems



# Pump-Out Accessories



# Sewage Pump-Out Design and Installation



# Basic Steps to Pump-Out Design

- Determine Best Location for Boats
- Locate the Sewer Connection
- Locate the Best Electrical Supply
- Locate the Pump-Out Unit and Stanchions



# Best Location for Boats

- Fuel Dock
- Transient Dock
- Dedicated Slip
- At Individual Slips





# Types of Sewer Connections

- Gravity Line
- Lift Station
- Holding Tank
- Septic Tank

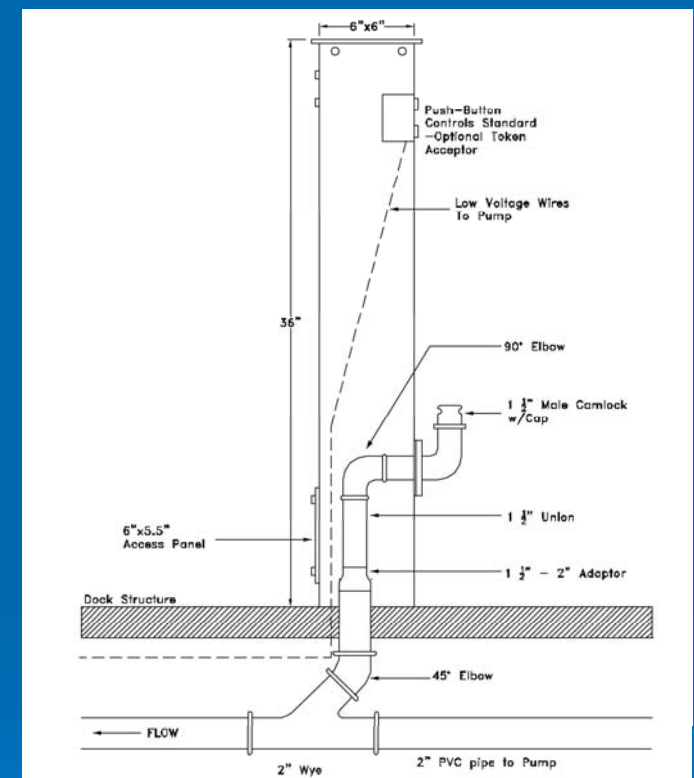
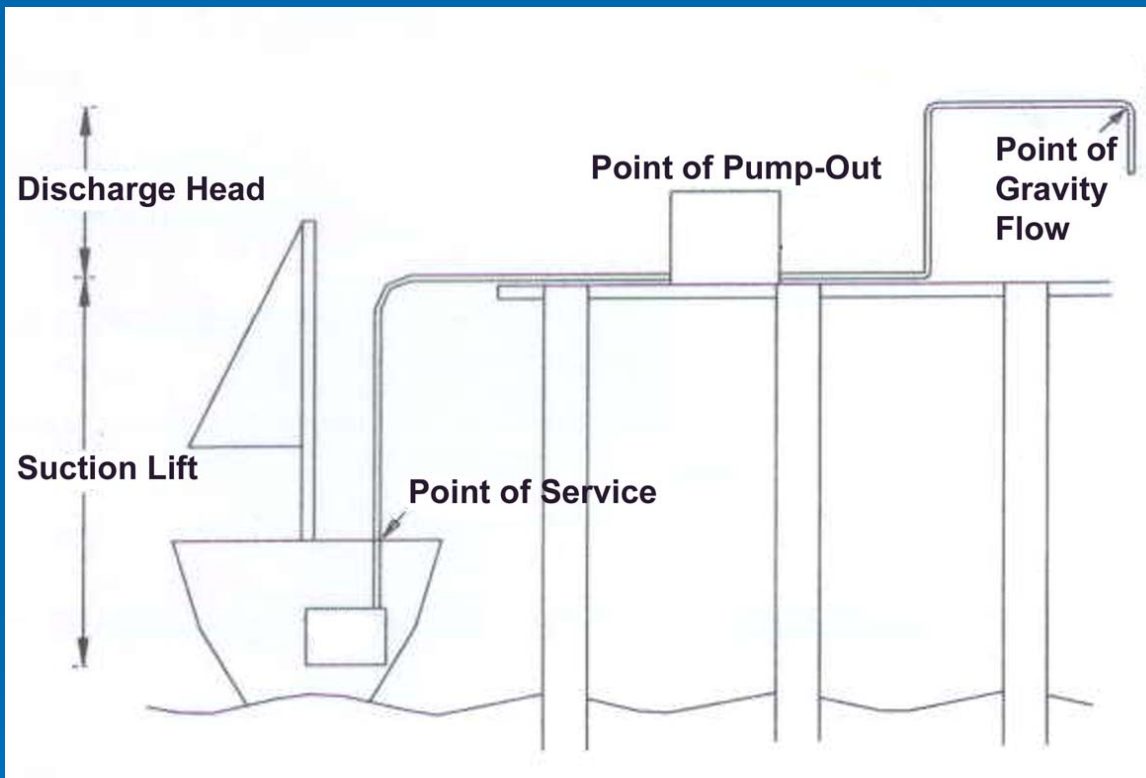


# Electrical Supply

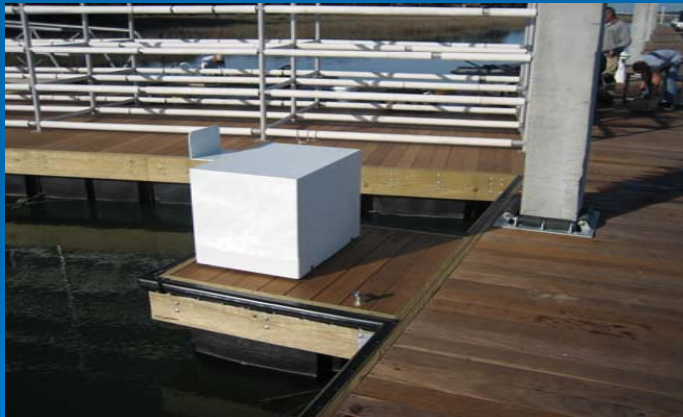
- Main Service Panel
- Sub-Panel
- Power Pedestal
- GFCI Receptacle



# Locate Pump-Out Unit



# Locate Pump-Out Unit



On Floating Dock



On Fixed Pier



On Land

# Materials

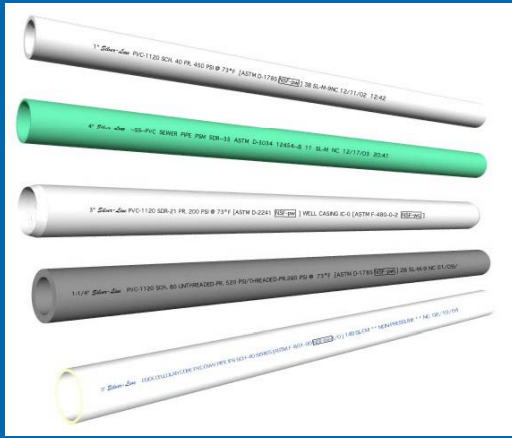
## ➤ Piping

- Schedule 40 PVC - Good
- Schedule 80 PVC - Better
- High-density Polyethylene Piping (HDPE) –Best
- Reinforced Flexible PVC – for Gangways

## ➤ Fittings

- Pressure (not DWV) Glue Fittings for PVC
- Welded / Fused Joints for HDPE

# PVC



# HDPE



# Sample Installations

## Southport Marina





# Southport Marina



# St. James Marina



# South Harbour Village



# Deep Point Marina



# Long Cove Marina



# Joyner Marina



# Misc.



# Misc.





# Misc.

