

Bay Ridge Eco Dock: General Design Information

- The Eco Dock is a 20' by 40' concrete floating dock with a 22' by 22' low-freeboard launch for the hand-powered boating community.
- The Eco Dock will extend off the south side of the waterward end of the existing 69th Street pier by way of a gangway.
- American Disability Act Compliant
- Currents: The Eco Dock will withstand the loads generated by 2.5 knot current on a continual basis, and currents up to 5 knots, on an extreme basis.
- Top of railings will be 42" above the walking surface with a handrail 34" above.
- The gangway handrails will be 42" from the finished deck surface and will contain a mid rail half way between the top rail and the deck surface with an edge protection plate along the finished deck surface.
- The clearance between the floor of the concrete dock and the bottom horizontal railing is 14.4". The width between the vertical railings is five feet so that a kayak can slide through the railing opening, down the bottom gangway, and onto the kayak launch

Design Specifications

LOW-FREEBOARD FLOATING DOCK FOR THE HAND-POWERED BOATING COMMUNITY

- 22' by 22' low-freeboard floating dock with bumpers and cleats.
- Freeboard under dead load (self-weight of the dock) conditions shall equal 8" +/- 1". Freeboard under combined dead load and 15 lbs per square foot uniformly distributed live load (load superimposed on the dock surface) shall not be less than 2".
- A concentrated live load of 400 lbs. at any one point on the deck shall not tilt the dock more than six degrees from horizontal.
- Decking will be made out of recycled plastic lumber with a slip resistant surface.
- There will be approximately 11' clear distance between the end of the bottom gangway and the edge low-freeboard floating dock to facilitate turning of vessels.
- The slope of the gangway from the concrete dock to the low-freeboard floating dock is approximately 1 Vertical: 7.8 Horizontal. This will vary depending on loading of the docks.

CONCRETE FLOATING DOCK FOR THE TALL SHIP COMMUNITY

- Freeboard of concrete dock under dead load conditions shall equal 4' 6". Freeboard loss will be less than or equal to 1" per 5 PSF of uniformly distributed live load.
- Design is for a 400 lbs. point moving in any direction without causing the float systems to tilt excessively or losing more than 3" of freeboard.
- Live Load: 50 PSF
- *Vessel Load:*
 - *Vessel displacement tonnage: 326 tons*
 - *Vessel berthing velocity: 0.6 knots*
 - *Vessel berthing energy: 14.5 kip-ft*
- The slope of the gangway from the 69th St Pier to the concrete dock is approximately 1 Vertical: 12 Horizontal at mean low water and almost no slope at mean high water. This slope will vary with tide and loading of the main concrete dock.