

MINIMUM DESIGN STANDARD SPECIFICATIONS
FLOATING FACILITIES
U.S. ARMY CORPS OF ENGINEERS
TULSA DISTRICT

1. Design Criteria.

a. Metal Material: Metal will be used and designed in accordance with the American Institute of Steel Construction Specifications or applicable specifications of the American Society of Civil Engineers Proceedings for Aluminum Structures depending on the type of metal used. Welded or bolted connections are optional. The use of new metal in the construction of the structure is mandatory.

b. Wood Material: The use of wood on new docks shall be limited to the decking of slip fingers, headers, and walkways. The use of wood will not be permitted below the waterline.

2. Design Loads (Minimum).

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| a. Deck Loads (substructure) | 50#/sq. ft. |
| b. Approach bridges of walkways | 50#/sq. ft. |
| c. Wind loads
(substructure and superstructure) | 20#/sq. ft. |
| d. Roof loads (superstructure) | To provide for a
2" ice load or an
equivalent snow load. |

e. Flotation must be provided under all areas of the substructure covering 25 square feet or greater of water surface and must be sufficient to support the minimum design load of the deck, bridges, walkways, and roof, plus the weight of the structure.

3. Roofs (Superstructure).

a. Roofs may be gabled or mono-sloped.

b. Metal roof joists or rafters must be of 1 1/4" or greater ID standard pipe, structural steel or structural aluminum tubing and spaced not more than 2' 0" center-to-center. Consideration will be given to approving 4' 0" or greater spacing where sufficient vertical supports and bracing are provided. Purlins shall be not less than 1" ID pipe, structural steel or structural aluminum tubing and spaced not more than 2' 0" center-to-center.

- c. Metal roofs must be steel, minimum gauge of 28 or aluminum, minimum thickness of 0.032".
- d. Roofs must be securely fastened to the superstructure to resist wind uplift.

4. Decking and Framing.

- a. Floor joists and flotation frames shall be constructed of not less than 2" ID standard pipe. Other standard structural steel sections may be approved as well as structural aluminum tubing.
- b. Framing materials shall be not less than 1 1/4" ID standard pipe, structural steel, or structural aluminum tubing. Studs shall not exceed 48" center-to-center. Other standard steel or structural aluminum sections may be approved.
- c. Flooring or decking shall be constructed of not less than 1" nominal rough or 2" by 6" S4S material, or 3/4" marina plywood, and spaced in such a manner to allow for expansion. Metal, concrete, or similar types of flooring and decking may be approved. All wood material in the deck must be treated with a preservative.

5. Metal Finish. All metal used in the construction of the docks must be galvanized or have a patented enamel and/or anodized aluminum finish. If painted, all metal surfaces will be painted a color that is visually compatible with the natural background. White, yellow, orange and other highly visible colors will not be allowed.

6. Security Locker. An enclosed storage area not to exceed 3' 0" by 6' 0" floor dimension may be constructed for the storage of gear essential to vessel or watercraft operation.

7. Structure Enclosure. Visual enclosure of the superstructure will not be allowed; however, the structure may be encompassed with galvanized or aluminum chain link fence, clear plexiglas or other approved clear materials.

8. Boat Mooring Buoys and Flotation Units. Flotation shall be of materials which will not become waterlogged, are resistant to damage by animals, and will not sink or contaminate the water if punctured. Approved flotation materials include extruded polystyrene, polyethylene, and expanded polystyrene which has been encased with a protective covering that is warranted by the manufacturer for eight (8) years or more against cracking, peeling, sloughing, and deterioration from ultra violet rays while retaining its resiliency against ice and bumps by watercraft.

9. Anchorage and Mooring Facilities. Design of these facilities will be submitted for each separate structure and will be developed in accordance with the site where the facility will be moored, taking into consideration the water depth, exposure to fetch, and wind loads. New docks, or relocated docks, are to be located no closer than 50' from the nearest point to an adjacent dock.

10. Walkways.

- a. Walkways shall not be less than 3 feet wide and not more than 4 feet wide.
- b. Flotation required will be determined on the length of the walkway in the water and/or connections on the dock and the shore.
- c. The proposed method of anchoring the walkway to the floating structure and the shore must be shown on the plans submitted for approval to the Resident/Project Office.
- d. All walkways on new docks must have one handrail as a minimum. Plans must show the proposed handrail construction details.

11. Stabilizer or Underwater Brace.

- a. A stabilizer or underwater brace is recommended between the fingers on the front (lake side) of the boat dock.
- b. The size of the metal brace will be determined by the width between the dock fingers.
- c. The depth of the metal brace below the waterline will be determined by the draft of the floating craft to be stored in the boat dock.