

159 OTHER WATERFRONT OPERATIONAL FACILITIES

This basic category group provides for facilities which cannot be coded in basic groups 151 through 156.

159 10 AIRCRAFT DOCKING FACILITY (EA)

No criteria are available for this code. It is primarily intended for inventory purposes at locations with existing seaplane facilities.

159 20 DEGAUSSING BUILDING (SF)

Degaussing is the science dealing with the methods and techniques of reducing a ship's magnetic field so that the possibility of detection by magnetic mines and other magnetic influence detection devices is minimized. It consists of two functionally interdependent installations: An underwater Degaussing Range installation (Category Code 159 21) and this facility, which serves as an instrument station. The degaussing facility records a ship's magnetic field as it passes over the Degaussing Range and notifies the ship as to what adjustments must be made to the degaussing coils on board the ship (with the exception of submarines which have none) in order to reduce the ship's magnetic field to a safe operational level. If the vessel's magnetic field cannot be sufficiently reduced because of excessive permanent magnetization, the ship is scheduled to report for deperming (the process of reduction of permanent magnetism). See Category Code 159 30 for criteria relating to a deperming facility.

159 21 DEGAUSSING RANGE (EA)

A degaussing range is an area set aside in a channel or harbor that contains submerged instruments, connected to the computer in the degaussing building (Category Code 159-20), which registers a ship's magnetic signature as it passes thru the range. The computer in the degaussing building indicates whether the internal degaussing system on board the ship is calibrated properly or, if not, what the new calibration settings should be in order to neutralize the field to within an acceptable tolerance, and the equipment is operating properly, then the ship may be scheduled for deperming.

Range Location. The range site for the degaussing facility should be carefully selected because the type of range to be installed and the method of installation depend mainly on the depth of water. The water depth will vary in accordance with the size of vessel to be ranged. The shallow range is located in 15 to 30 feet mean water depth and is used to range minesweepers and other vessels of comparable size. The medium range, which is generally 45 to 60 feet below the surface, is used for DD-s and LST's. The deep range, used for heavy carriers and the like, is located in 75 to 100 feet of water. The variation in water depth should not be greater than 10 feet for a particular range (shallow, medium, and deep). The range location should be based on the following considerations:

- (1) Depth of water.
- (2) Types of sea bottom.
- (3) Tides and currents.
- (4) Position of range relative to range house.
- (5) Navigational hazards.
- (6) Heading of range (generally on a north-south magnetic heading).

The selection of a range site must be approved by local naval port authorities. Continental sites and installations must be approved by the U.S. Army Corps of Engineers. See Category Codes 159-20 Degaussing Building and 159 30 Deperming Building for additional information.

159 30 DEPERMING BUILDING (SF)

A Deperming Building is a facility that contains electrical instruments used to regulate and monitor the deperming operation.

Deperming, the second phase of degaussing, is the process by which a ship's permanent longitudinal and athwartship magnetism is removed and its permanent vertical magnetism stabilized at a low level. The deperming facility consists of a Deperming Building, which serves as an instrumentation building, a Deperming Pier, Category Code 151 80, and, if required, a generator house. The Deperming Building floor area should not exceed 2,000 gross square feet. Pier size must accommodate any size ship that requires deperming. Plans must include electrical facilities capable of providing direct current up to 500 volts and 14,000 amperes.

159 35 SOUND SURVEY FACILITY (EA)

No criteria are currently available for this code.

159 50 FERRY SLIP (EA)

A ferry slip provides the anchorage for ferries while loading or unloading. It consists of water areas directly in front of transfer bridges and is usually bordered by fender racks. The offshore waters must provide maneuvering area for the largest ferry to be accommodated. Depth of water depends on the ferries accommodated. For design criteria, see Waterfront Operational Facilities, NAVFAC DM-25.

159 64 WATERFRONT OPERATIONS SUPPORT BUILDING (SF)

A waterfront operations support building, provides support to the Ship Movement Office, Category Code 137-40, by performing such functions as maintenance and repair of small craft, including related electronics systems, and providing such facilities as a duty crew bunk room, crew's lounge, bosun's locker, berthing for small boats if an integral part of the building, space for storage of boat gear and paint, oil spill equipment and a battery charging room.

Criteria for this facility is currently not available. Actual gross square footage requirements are based upon the requirements of the facility, which depends upon the size of the port serviced, the size of the ships utilizing the port-and the frequency of movement of ships within the port and entrance channel(s).

159 66 LANDING CRAFT RAMP (EA)

The functional purpose of this facility is to provide a suitable method of loading and unloading landing craft through the bow door onto beaches without being affected by changing tides. Of particular concern in this type of operation is the possibility of the landing craft becoming grounded due to the outgoing tide. Landing craft presently in the inventory were designed for use on beaches with underwater gradients greater than 3 percent. These craft draw 3 to 4 feet of water at the bow with normal beaching loads. For instance, the LST in landing condition (10 percent fuel and 500 tons of cargo) draws 4 feet forward and from 10 to 13 feet aft, depending on the class. All LSTs are designed to ground evenly on a beach with a slope of 1 foot in every 50. In order for a landing craft not to ground with the outgoing tide, it is necessary that the ramp extend from the shoreline to within 20 feet of where the 3-foot depth of water would exist at low tide, assuming that the beach gradient is sufficient to preclude grounding at the stern of the craft. The gradient of the face of the ramp should be approximately 3:20, or about 15 percent, if the point of grounding at the bow is 20 feet from the end of the lowered bow ramp.

The most practical materials for the construction of this facility are crushed rock, gravel, or small cobbles. These materials are heavy enough to resist scour, do not lose their shear strength when saturated, and, if properly placed, are flexible enough to prevent highly concentrated loading by the hull of the craft.

The construction of a permeable timber pile groin adjacent to this facility may be necessary if the littoral or tidal currents parallel to shore cause a continuous depletion of the ramp material. If this timber pile groin is constructed, the piles should be sized so as to extend well above the high-water level, so that they do not become a navigation hazard. The groin itself, should extend slightly beyond the end of the ramp. To install an impermeable groin would cause accretion to occur behind it and a steep dropoff at the end, which is usually undesirable.

Pilings at the landing craft ramp can also be driven onshore, to the side of each ramp, to act as mooring bits. Mooring lines can be connected from the stern of the landing craft to these piles so that the engines can be shut off while loading and unloading the craft.

In locations where rock is not readily available, or after initial expeditionary landing, it may be necessary or desirable to construct a permanent rigid landing ramp out of either concrete or timber. Under such circumstances, it is usually desirable to plan the facility in much the same manner as those required for servicing ships with stern roll-on/roll-off or for ferry-type boats. Mooring facilities should be provided along the side of the craft so that the bow does not have to bear against the rigid

structure. An approach channel may require dredging. Multiple ramps shall be spaced three to four times the beam of the landing craft.

In the event that mooring dolphins are employed to secure the landing craft, it is highly desirable that they be connected by catwalks so that lines can be handled easily. The spacing of the dolphins should be compatible with the different sizes of craft using the ramp. The dolphins should be as permeable as possible so that the slips do not silt up.

It may be considered beneficial to extend a pier between two landing craft ramps in order to provide both mooring and a platform from which a crane can deck-load LST's. This type of layout is also ideal for loading and unloading barges. The pier can be constructed from small self-elevating barges, such as the Ammi barge.

159 70 DREDGE CONTROL/PUMPING FACILITY (GM)

No criteria are currently available for this code.