VEHICLE INSTRUMENTATION DOCK
Purpose

The Vehicle Instrumentation Dock provides a covered area for Range personnel to store, install, and test vehicle player units.

Design Requirements

See the standard drawing for additional details and notes.

General

The standard design must be site adapted to local conditions such as climate, typical construction materials and methods, and the installation design guide. Design the facility in accordance with the design codes and criteria of the specific location, geotechnical information, structural loads, mechanical design criteria, etc.

The facility typically requires access by able-bodied personnel only and does not require ADA compliance.

Mechanical

Provide louvered door with dust filter and exhaust fan for enclosure.

Electrical

Power

Provide 120/240V, 1 phase, 3-wire secondary power to the Vehicle Instrumentation Dock. Extend Rigid Steel conduit a minimum of 5’ (1524mm) outside the building for power and communication circuits entering and leaving the building. Ensure voltage drop complies with NEC standards and Army technical manuals. Install grounding in accordance with NFPA 70, the NEC, and other applicable standards. Receptacles are general purpose; GFCI weatherproof, 120V, 20A duplex mounted a minimum of 24” (450 mm) above the finished floor on each column and one inside the storage room. Design illumination levels in accordance with IES. Include both white and red lighting for lower level night light if required. Provide separate switching for white lamps and red lamps. Ensure that the emergency electrical system complies with NFPA 70 and NFPA 101. Provide lightning protection in accordance with NFPA 780. Include two, single pole, 20amp circuits each with a single quad outlet inside enclosure for player unit batteries.

Data

Provide Data connection to the Vehicle Instrumentation Loading Dock via a 6-strand, single mode, fiber optic cable from the AAR Communications Room. Terminate the fiber optic cable on a 6-port, “SC” type connector patch panel installed inside a 24”x 12”NEMA 4 enclosure. Ensure the enclosure contains a metallic back plate, the fiber optic patch panel, and a duplex receptacle (not GFI). Ground the enclosure via a minimum #6 AWG ground conductor back to power grounding electrode. Install the enclosure inside the storage room. The enclosure should be of the same type as a Master Target Data Panel (MTDP).
**General**

The Melba Instrumentation Dock provides an area where the observer can be located to observe the data. The facility is normally programmed with the aid of time measurement to ensure that the data is collected at the correct time. The site is designed to accommodate up to 12 people, with a maximum capacity of 1600 people at any time.

**Site Description**

The site area is designed to accommodate the following activities: weather observation, soil sampling, ground water monitoring, and other environmental monitoring activities. The site is equipped with a weather station, soil moisture sensors, and groundwater monitoring equipment.

**Additional Criteria**

The design of the site area is subject to the requirements of the U.S. Army Corps of Engineers, including the requirements for safety, accessibility, and environmental protection.

**Note:** The design was reviewed by the U.S. Army Corps of Engineers, and the final design was approved on May 15, 2020.

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**Floor Plan**

- Scale: 1/4" = 1'-0"

**Section**

- Scale: 1/2" = 1'-0"

**Elevation**

- Scale: 1/4" = 1'-0"