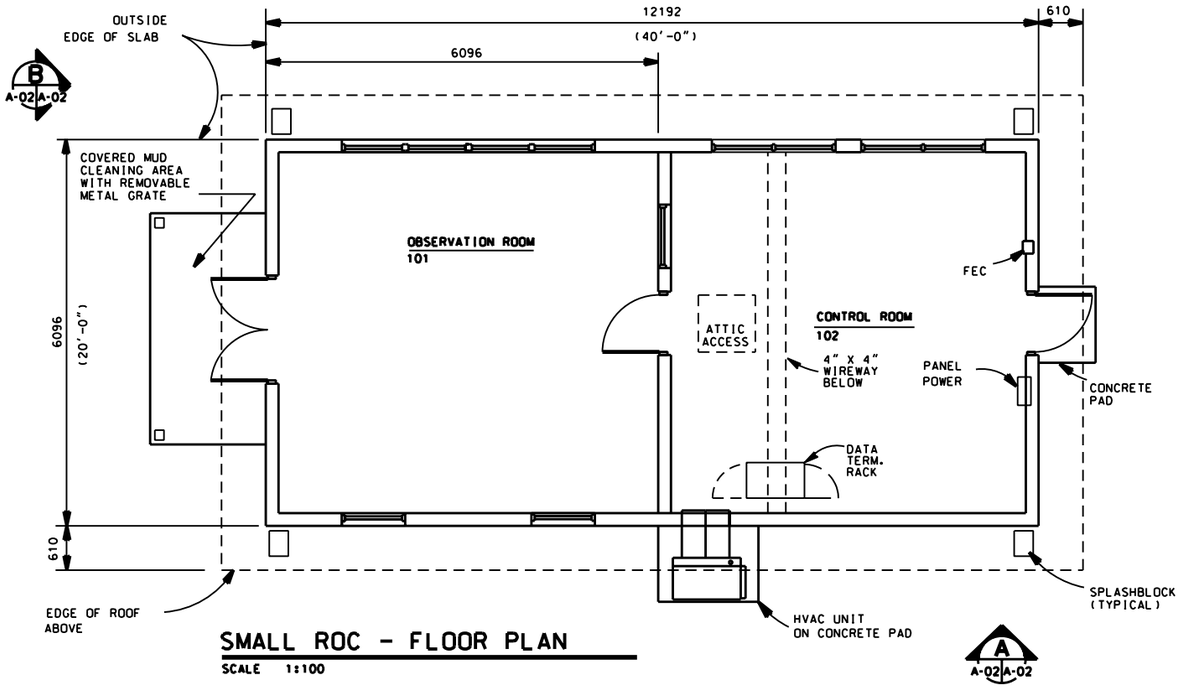
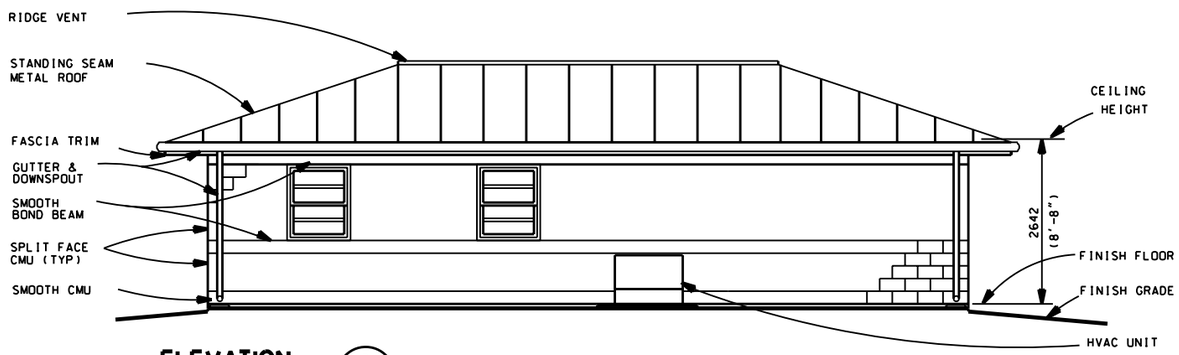


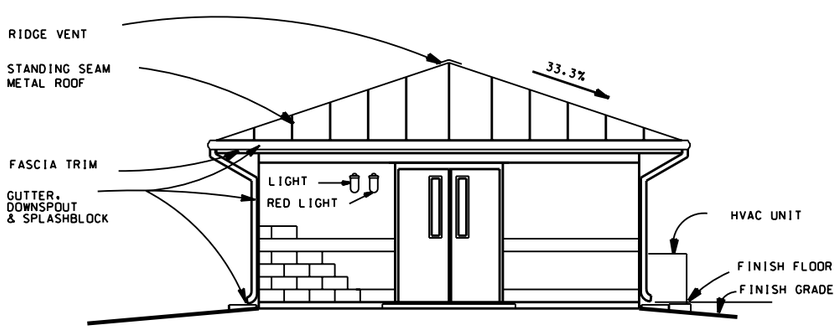
SMALL ROC - FLOOR PLAN

SCALE 1:100



ELEVATION A

SCALE : 1:100 A-02 A-02



ELEVATION B

SCALE : 1:100 A-02 A-02

GENERAL

The Range Operations Center (ROC) provides office space for personnel conduct training exercises and space for the installation of required electronics and communications equipment. The occupant load factor is 9.3 net sq. meters (100 sq. feet) (per person) based on a business use. See NFPA 101 table 7.3.1.2. All dimensions not labeled are in millimeters.

SITE ADAPTATION

This standard definitive design should be adapted to local conditions such as climate, available construction materials and techniques, topography, seismic zone and the existing character of surrounding buildings. These factors may affect plans, elevations and building systems. The building foundation must be designed based on the results of a geotechnical investigation.

REFERENCE CRITERIA

The design and construction must comply with applicable codes and standards including: technical instruction TI 800-01, "Design Criteria"; Department of the Army regulations, technical manuals, handbooks, standards, and specifications.

FUNCTIONAL REQUIREMENTS

Where topography allows viewing down range from the control room, windows can be placed above the counter.Windows are double hung to meet functional requirements providing viewing, natural light and ventilation. Windows have forced entry resistant metal frames and are provided with insect screens. Provide polycarbonate security glazing in windows and doors. Floors should be sealed concrete or vinyl tile for ease of cleaning, with gyp. board ceilings. Some range typse require a work surface for monitors, computers, printers and associated equipment, coordinate with target provider. Gutters, downspouts and splash blocks should be provided where required by climatic conditions. Covered entries and ice guards may be necessary in northern climates. The ROC is accessed only by able-bodied personnel and does not require ADA compliance unless dictated by local criteria.

MECHANICAL

The Mechanical Equipment shall be selected and sized based on site requirements, local weather design criteria, available energy sources, and building construction materials. The mechanical system must maintain an equipment operating temperature of 74 F +/- 4 F in rooms containing range communication equipment. Obtain communication equipment heat release from targetry supplier for HVAC load calculations and equipment sizing. HVAC design for personnel comfort shall be in accordance with UFC 3-410-01FA. U-Factor requirements are based on the local climatic conditions in accordance with TI 800-1.

ELECTRICAL

The ROC shall be served by 120/240V, 1 phase, 3-wire secondary power. Rigid Steel conduit shall extend a minimum of 1524mm (5') outside of the building foundation for power and communication circuits entering and leaving the building. Voltage drop shall comply with standards in NEC and Army technical manuals. Grounding will be installed in accordance with NFPA 70, the NEC, and other applicable standards.
The panelboards shall be recess mounted in finished areas. Receptacles shall be general purpose, 120V, 20A Duplex mounted 450mm (18") above the finished floor. All outlets, receptacles, and conduit shall be recess mounted in finished areas. Provide 120V, 20A quadplex receptacle mounted on the wall near the required data termination rack. Provide 120/240V power for the HVAC unit. Illumination levels will be designed in accordance with IES. Interior lighting shall consist of fluorescent lamps at a level of 50 foot-candles. Incandescent fixtures with red lamps on separate switching shall be placed near each fluorescent lamp in the Control Room and on exterior walls of entrance. Exterior lighting shall be provided with separate switching located near points of egress.
The emergency electrical system shall comply with NFPA 70 and NFPA 101. Emergency lighting shall be provided to ensure adequate illumination to egress building in the event of a power outage. Lightning protection in accordance with NFPA 780 and UFC 3-570-01 is required for this building in the form of pole mast protection or air terminals on the building.

TELEPHONE

Telephone service is not a requirement for range operations. However, service should be provided to the ROC if it is available in the area.

TARGETRY SYSTEM INTERFACE

In addition to the targetry fiber, the targetry system requires a fiber optic connection between the ROC and the AAR if one is included. A fiber optic connection may also be required between the ROC and the Operations Storage Building for target maintenance. The number of the Data Termination Rack depends on the number of fiber terminations from other ROCA buildings, targetry, and cameras. Coordinate with the Targetry Supplier. Only type of cable media is allowed to be run into the DTR for range trainin gsystems. A fiber optic connection to an AAR may dictate that fiber optic cables are used from the ROC to the first target.

FIRE PROTECTION

Fire protection is not required per fire codes for this building. Consult local Fire Marshall for compliance with local requirements.

GRAPHIC SCALES

1:100 1000 500 0 1000 2000

US Army Corps of Engineers

Rev.	Description	Date	Approved

Designed by: Date: Rev.
Dwn by: Ckd by: Design file no.
Reviewed by: Drawing code:
Submitted by: File name: Plot date: Plot scale:

U.S. ARMY ENGINEERING AND SUPPORT CENTER, HUNTSVILLE
HUNTSVILLE, ALABAMA

15 MAY 2007

RANGE AND TRAINING LAND PROGRAM
STANDARD DESIGN MANUAL

RANGE OPERATIONS CENTER (ROC)
SMALL

Sheet reference number:
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