

MECHANICAL DESIGN OBJECTIVES

The mechanical systems for the Central Issue Facility shall include the systems that will be required to satisfy the environmental conditions as further defined in the Architectural and Engineering Instructions. The building is comprised of two (2) environmentally separated areas. These are the primary service area (at the front of the building), which is comprised essentially of the Queuing/Orientation, Administration, and the Issue/Turn-In Areas; and the Warehouse Area or balance of the building.

The heating and ventilation approach recommended for both environmental areas is a system of gas-fired, space heating units. Units can be mounted interior in the roof framing areas above the required clear height. The front service area unit(s) may be mounted on the mezzanine provided above the restrooms of the Administrative Area. The mezzanine area is also available for the location of air conditioning units for those service areas of the CIF where air conditioning is authorized by the Architectural and Engineering Instructions as may be determined by the specific locale of the proposed facility.

The recommended direct fired space heating units are based upon the building pressurization principle. This system, which operates on a very low (less than 90 degrees F.) discharge temperature eliminates cold spots and stratification due to high discharge air temperature. Since the system uses pressurization, no ductwork is required; only a discharge plate is needed to vector the air to a horizontal direction after leaving the unit. For this type of facility it will provide the environment and comfort level required. The units are entirely self-contained and with the pressurization concept can be mounted most anywhere in the overhead structure. Having low maintenance makes the structural overhead and/or mezzanine an ideal location for this installation. Other types of HVAC systems may be utilized based upon site specific, final design criteria, and performance requirements.

Interior and exterior design temperatures shall be based upon the requirements stipulated in the Architectural and Engineering Instructions. The Warehouse Area shall be designed for a winter heating design temperature of 55 degrees F. Natural gas should be assumed as the primary fuel where it is available; however, a life-cycle-cost analysis should be performed to determine its economic viability; especially at those installations where central heating systems are available. Dual fuel capability is not a requirement for this facility.

Plumbing fixtures of barrier-free design shall be provided in all toilet facilities. Adequate water coolers shall be provided at strategic locations in the building. TM 5-810-5 "Plumbing, General Purpose" shall be used to provide specific design guidance.

Where a base has an Energy Monitoring and Control (EMCS) system, the design shall provide necessary coordination and interconnection.

Passive solar design is best implemented when it appears appropriate conditions exist. A life-cycle-cost analysis may be prudent to determine the cost/benefit ratio of active solar design.

The removal and replacement of HVAC and other equipment installed on the HVAC Equipment Mezzanine will be accomplished by access through a removable wall along side of Mezzanine adjacent to grid line 10 for Large and Medium CIF and Grid line 7 for Small CIF.

No mechanical equipment is to be roof mounted. Roof penetrations are to be kept to an absolute minimum.

Site Specific Design Requirements may consider exterior pad mounting equipment in physically and visually secured area.

REVISIONS			
SYMBOL	ZONE	DESCRIPTION	DATE BY

U.S. ARMY
ENGINEER DISTRICT, SEATTLE
CORPS OF ENGINEERS
SEATTLE, WASHINGTON

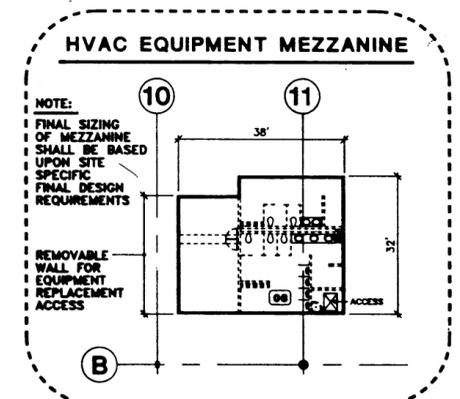
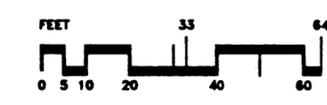
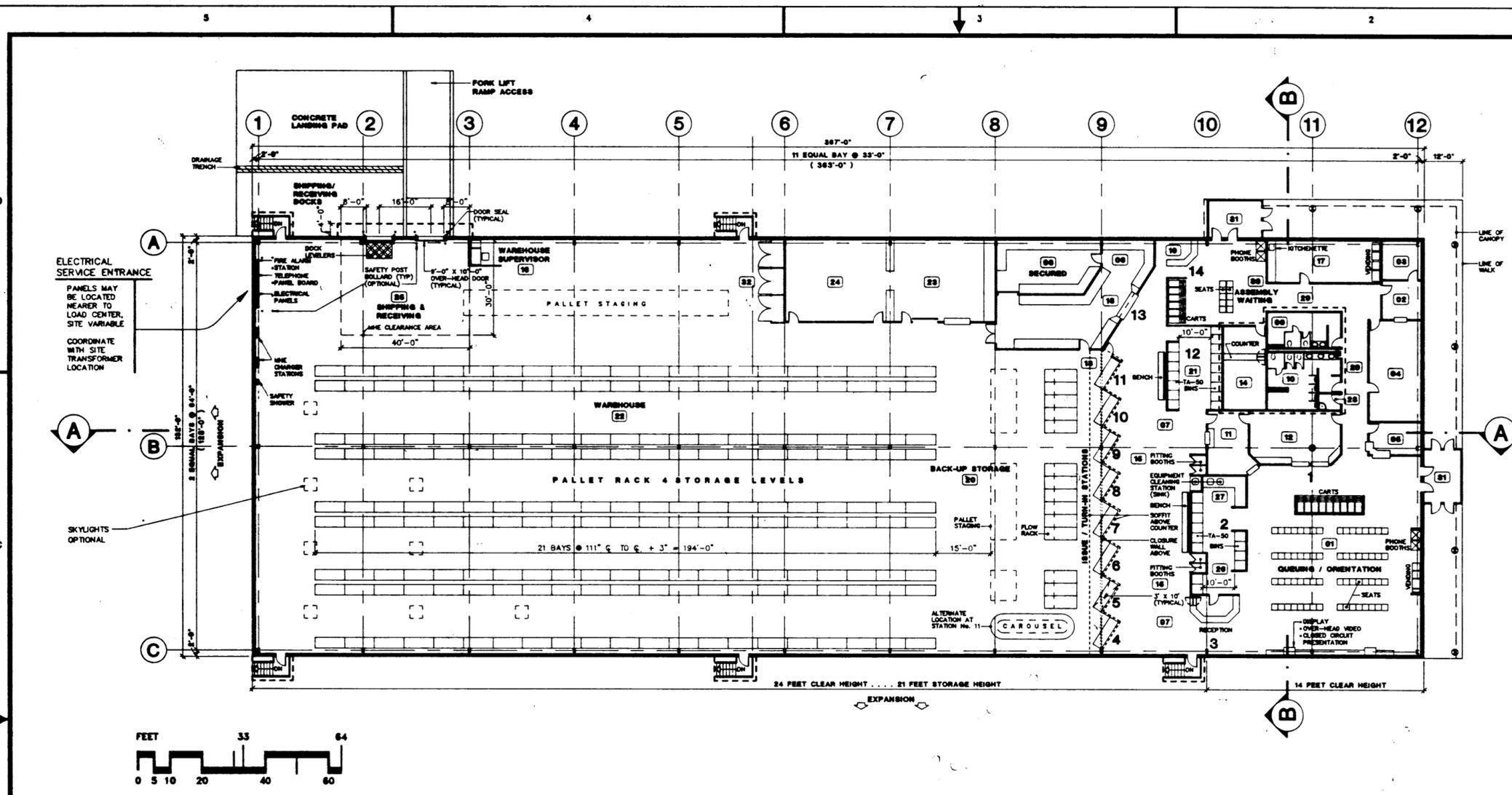
Department of the Army
Facility Standardization Program

**CENTRAL ISSUE FACILITY
DEFINITIVE DESIGN**

US Army Troop Support Agency

DATE: 11-11-81	FILE NO: 44-11-81	DATE: OCT 30, 1981	PLATE: 10
NO: DACAS7-89	NO: 44-11-81	NO: 44-11-81	NO: 44-11-81
NO: -C-0884	NO: -C-0884	NO: -C-0884	NO: -C-0884

TSA



ROOM & AREA TABULATION

ROOM NUMBER	DESCRIPTION	SMALL AREA
01	QUEUING / ORIENTATION	3,743
02	PROPERTY BOOK OFFICER	170
03	CIF MANAGER	170
04	PROPERTY SECTION	585
05	CUSTOMER ASSISTANCE	200
06	SPECIAL ISSUE	920
07	ISSUE/TURN-IN AISLE	2,734
08	HVAC MEZZANINE	573
09	FEMALE TOILETS	290
10	MALE TOILETS	400
11	CASHER	340
12	RECORDS HOLDING AREA	570
13	DX AREA	(INCL IN 22)
14	QUICK-FIX AREA	380
15	FITTING BOOTHS	60
16	WAREHOUSE SUPERVISOR	80
17	EMPLOYEE BREAK ROOM	500
18	SPECIAL MOS TURN-IN	640
19	FINAL OUT PROCESSING	180
20	BACK-UP STORAGE	(INCL IN 22)
21	EQUIPMENT VERIFICATION	468
22	WAREHOUSE AREA (INCL. ISSUE/TURN-IN STATIONS AND DX)	29,948
23	CLASSIFICATION AREA	890
24	REPAIR AREA	890
25	MHE AREA/SHIPPING & RECEIVING	2,040
26	PRE-RECEPTION INSPECTION	435
27	EQUIPMENT CLEANING AREA	132
28	UTILITY	50
29	CORRIDOR CIRCULATION	710
30	FINAL OUT ASSEMBLY/WAITING AREA	785
31	ENTRY / EXIT VESTIBULES	430
32	SECURED RECORD STORAGE	120
33	COVERED WALKS/CANOPY	1,204 (2,408 S.F. X .50)
GROSS BUILDING AREA = 50,649 S.F.		

NOTE:
* FINAL SIZING BASED UPON SITE SPECIFIC FINAL DESIGN REQUIREMENTS

**FLOOR PLAN - - MEDIUM
CENTRAL ISSUE FACILITY - (CIF)
DEFINITIVE DESIGN**

WIDE AISLE APPROACH - 1498 PALLET POSITIONS PROVIDED

- FUNCTIONAL / OPERATIONAL LAYOUT
- 7,501 - 15,000 TROOPS
- STAFFING LEVEL - - 15 TO 20