Medical Equipment Room Guide Plates

Section 1.0 -Introduction

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1.01 Category of Logistical Responsibility

Following each tri-service guide plate is an equipment list, showing a JSN number, quantity and category codes. In some instances, the category code varies between services. For this reason, all three services are listed separately. The category codes list the logistical responsibility as follows:

A – Contractor furnished and installed from construction funds (Construction Appropriations/Medical Construction Appropriations).

B – Government furnished from using service operating funds other than construction and installed by Contractor from construction funds (Construction Appropriations/Medical Construction Appropriations).

C - Government furnished and installed from existing assets or from funds other than construction.

E – Government furnished and contractor installed from Construction Appropriation/Medical Construction Appropriations funds. (Procurement may be delayed until the latest date feasible that will not interfere with project completion. This will provide the latest model of equipment at the time it is needed.)

F - Government Furnished and installed from Construction Appropriation/Medical Construction Appropriations funds. (Procurement may be delayed until the latest date feasible that will not interfere with project completion. This will provide the latest model of equipment at the time it is needed.)

G – Special Funding.

R – Service Owned Re-Usable Item.

1.02 Joint Schedule Number (JSN):

The JSN numbers shall consist of an alpha character followed by four additional characters. The first alpha character shall denote the equipment groups as follows:

A	Architectural
C	Casework
D	Dental Equipment
E	Movable Modular Casework
F	Furniture and Furnishing
G	Physical Therapy Equipment
K	Food Service Equipment
L	Laboratory Equipment
M	Miscellaneous
P	Plumbing Fixtures
R	Refrigeration
S	Sterilizers and Associated Equipment
T	Shop Tools
U	Service Specific
V	Veterinary
W	War Reserve Stock.
X	X-Ray Equipment and Accessories

1.0 Introduction

1.03 Legend of Utilities:

Following each guide plate is an equipment list. One of the columns is for various required utility connections. The following is a legend of utilities:

Utilities	Code	Explanation
Water and Drain Column 1	A	Hot and cold water
	B	Cold water and drain
	C	Hot water and drain
	D	Cold and hot water and drain
	E	Treated water and drain
	F	Cold, hot and treated water and drain
	G	Cold and treated water and drain
	H	Hot and treated water and drain
	I	Drain only
	J	Cold water only
Electricity Column 2	A	120 Volt, conventional outlet
	B	120 Volt, special outlet
	C	208/220 volt
	D	120 and 208/220 Volt
	E	440 3 phase
	F	Special electrical requirements
	G	208/220 volt 3 phase
Medical Gases Column 3	A	Oxygen
	B	Vacuum
	C	Air, low pressure max. (30 PSIG)
	D	Air, high pressure min. (85 PSIG)
	E	Oxygen and vacuum
	F	Oxygen and medical air (50 PSIG)
	G	Oxygen, vacuum and medical air (50 PSIG)
	H	Vacuum and H.P. air min. (85 PSIG)
	J	Vacuum and L.P. air max. (30 PSIG)
	K	Air (50 PSIG)
Miscellaneous Gases Column 4	A	Steam
	B	Nitrogen gas
	C	Nitrous oxide gas
	D	Nitrogen and nitrous oxide gas
	E	Carbon dioxide gas
	F	Liquid carbon dioxide
	G	Liquid nitrogen

1.0 Introduction

Utilities	Code	Explanation
Non-Medical Gases Column 5	A	Natural gas
	B	Liquid petroleum gas
	C	Methane
	D	Butane
	E	Propane
	F	Hydrogen gas
	G	Reserved
	H	Acetylene gas
Miscellaneous Column 6	A	Earth ground
	B	Lead lined walls
	C	Remote alarm ground
	D	Empty conduit with pull cord
	E	Vent to atmosphere
	F	Special gas requirements
	G	Liquid gas requirements
	H	RF/Magnetic Shielding
	J	Wall/Ceiling Support Required
	K	Empty Conduit/Pullcord and Wall/Ceiling Support Required
	L	Not Used
	M	Earth Ground and Wall/Ceiling Support
	P	Lead Lined Walls and Wall/Ceiling Support

1.04 MIL-HDBK-1191:

Refer to the latest edition of the MIL-HDBK-1191. Pertinent information not listed on the Guide Plates is shown in MIL-HDBK-1191. The following information is listed in the MIL-HDBK-1191 and should be used when designing room layouts:

1.04.01 Architectural:
Criteria for ceiling heights, door sizes, acoustic noise levels, finish materials are listed.

1.04.02 Structural:
Criteria for floor loading is listed.

1.04.03 Electrical/Communications
Criteria for light levels (lux and footcandles), types of light fixtures, dimming requirements, switching requirements, telephone equipment requirements, and emergency power requirements are listed.

1.04.04 Mechanical
Criteria for air balance, air changes, interior design temperatures, relative humidity requirements, filtration levels, exhaust requirements, plumbing and medical gases are listed.

1.04.05 Universal X-Ray Room
The universal X-ray room is defined as capable of accepting all routine radiographic, fluoroscopic and tomographic equipment. Criteria for power, electrical raceways, floor ducts, wall ducts, ceiling cable trays, partitions, shielding, ceiling support, and casework are listed.

1.04.05 UFAS/ADA Interpretations:
UFAS/ADA Interpretations and waivers are listed.

1.05 General Information:

1.0 Introduction

1.05.01 Floor/Equipment Plans
"Key Notes" apply where specifically referenced by number in the drawing. "Notes" refer to the drawing in general.

1.05.02 Stud Partitions
All partitions that have wall mounted equipment or casework must be designed to ensure that the metal studs have adequate size, gauge and spacing to properly support these loads. Provide mounting or backing plates where needed.

1.05.03 Sinks and Base Cabinets
When designing sinks, sink base cabinets and counters, based on JSN items, carefully coordinate actual sink depths with the actual clear sink cabinet openings, noting that JSN descriptions may list nominal dimensions and that these dimensions will also vary from one manufacturer to another. The AE has the option to specify sinks with 18" outside depths to fit in the standard JSN sink cabinet that is 22" in total out to out dimensions. A 22" deep cabinet is often only 21 5/8" deep. This depth often includes a ¾" cabinet face and a ¾" back face, making the actual clear depth about 20 1/8". When the back portion of the sink basin that holds the plumbing fixture is excluded (approximately 4 ½"), there is usually a 15 5/8" depth remaining for the actual sink.

The quantity of countertop (CT030, CT050, etc.) shown on the equipment plans is the linear feet of that countertop.

1.05.04 Hands Free Lavatories
When designing lavatories, the designer should verify with the user between a P3100 and a P3200 sink. The P3100, which has a manual faucet, is typically shown on the guide plates; however, a P3200, which is an electronic hands free faucet, can be substituted when requested.

1.05.05 Handicap Accessible Lavatories
In addition to the information indicated on 7.01.02, lavatories should typically be designed for handicap access and comply with the most recent codes and federal regulations, which include clearances, mounting heights and insulating exposed hot water piping.

1.05.06 Lighting, Lighting Controls and Lighting Levels
Lighting fixtures shown on the reflected ceiling plans for each guide plate are for reference only, and serve as only one possible design solution. Since conditions vary for each specific building design, the locations, size, lamp types and quantities need to be verified by the lighting designer. Lighting calculations are required and must be based on lighting level criteria listed in the latest edition of the MIL-HDBK-1191. Lighting criteria , types of lighting fixtures, dimming requirements, switching requirements, and emergency power requirements are listed in the MIL-HDBK-1191.

1.05.07 Electrical and Communications Outlets
Electrical and communications outlets are shown on the floor plans for each guide plate. They serve only as one possible design solution. Since conditions vary for each specific building design, the locations, and mounting heights for all outlets and devices must be verified by the designer. Communication outlets are indicated; the designer should refer to MIL-HDBK-1191 and MIL-HDBK-1691 and specific user requirements for the type of telephone set that will be used.

1.05.08 Emergency Power and Battery Back-Up Systems
Typically, emergency power and battery back-up systems are not shown on these guide plates. Requirements should be based on criteria listed in the latest edition of the MIL-HDBK-1191.

1.05.09 HVAC Diffusers and Radiators
Supply and return air diffusers (and thermostats and radiators on the floor plans) are shown on the reflected ceiling plans for each guide plate. The location of all these items serve as only one possible design solution. Since conditions vary for each specific building design, the locations, number, size and diffuser type need to be verified by the HVAC designer for each actual design. HVAC calculations are required and should be based on criteria listed in the latest edition of the MIL-HDBK-1191. Criteria for air balance, air changes, interior design temperatures, relative humidity requirements, filtration levels, and exhaust requirements are listed. If multiple ceiling diffusers or registers are indicated, the designer may vary the quantity based on the actual load conditions.

1.05.10 Medical Gas Outlets
Refer to the Medical Gas Outlet Schedule on 1.07.07. Medical gas outlets indicated on the schedule are the maximum required as per MIL-HDBK-1191. Verify medical gas outlet arrangement and count with the user. The Guide Plates also indicate the maximum medical gas outlets per MIL-HDBK-1191.
At all MV (Medical Vacuum) outlets provide a clearance of 150 (6") above and on each side and 300 (1'-0") below for a medical vacuum slide bottle.

1.05.11 Eyewash/Emergency Showers
Water discharged from eyewashes/emergency showers shall be limited to a temperature between 60 – 95 degrees F. If a facility's water service annual temperature profile can be shown to be in the specified range, then no tempering of the water is required. If tempering of water is required, provide a P2450, thermostatic mixing valve to eyewash and emergency shower units. Mixing valves shall be located above the ceiling near appliance served.

1.05.12 Lockable Cabinets
Locking capability is required on all cabinets. The use of locks should be verified at each MTF. Locks are extremely important at all treatment spaces (i.e. ER, Outpatient, Orthopedics, etc.) that have medicine cabinets outside the curtained area.

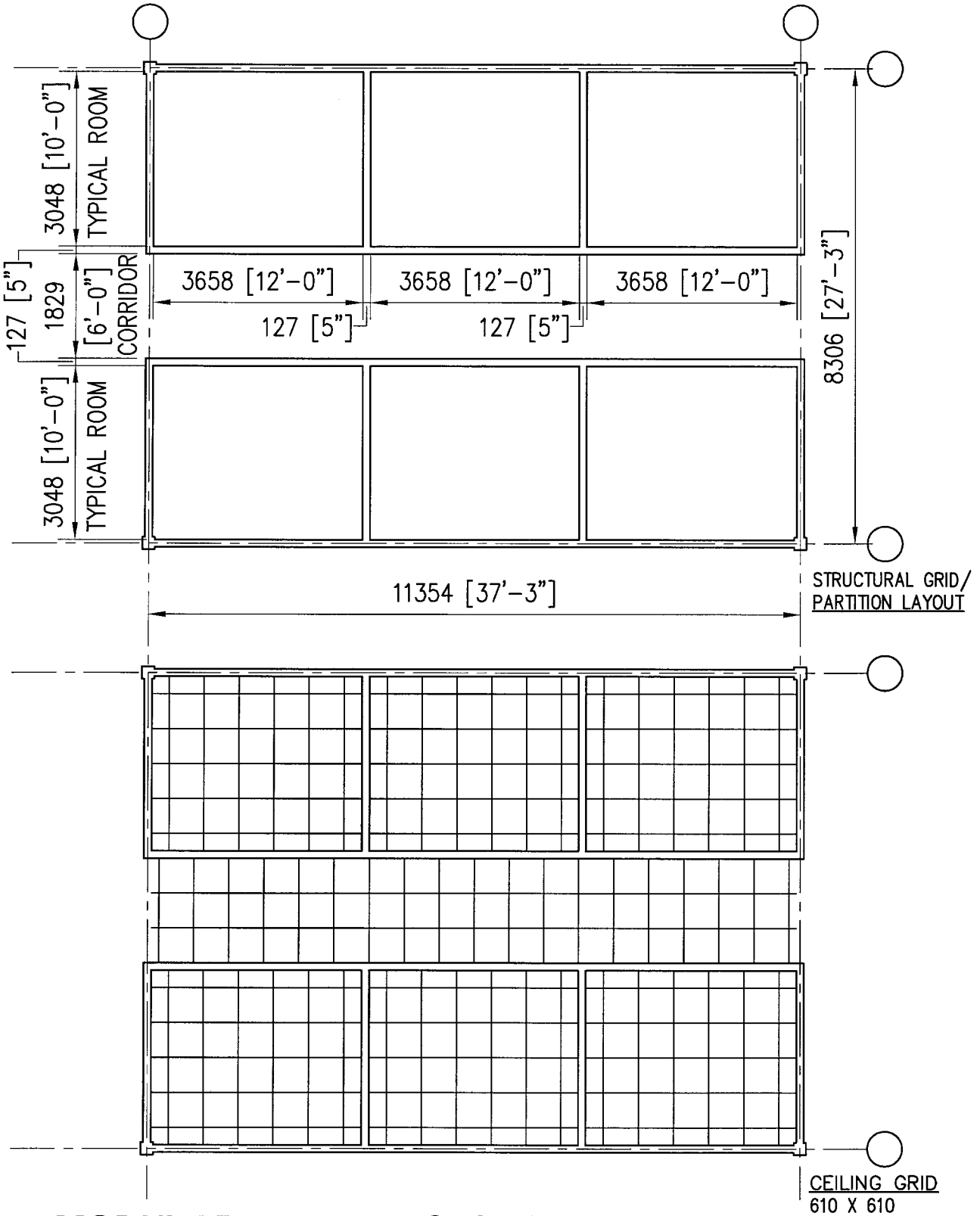
1.05.13 OCONUS Projects
Projects outside the continental United States may have different life safety, building code, daylighting and utility requirements and may need to be re-evaluated.

1.06 Modular Planning System:

Refer to Sheets 1.06.01 and 1.06.02 for a typical application the modular planning system in Clinical, Administrative, and Support Areas. Sheet 1.06.01 is used for Army/Air Force facilities and sheet 1.06.02 is used for Navy facilities.

The preferred structural module for Army/Air Force projects is 8,306 (27'-3") X 11,354 (37'-3"). The ceiling grid is typically interrupted by the partition.

The preferred structural module for Navy 9,144 (30'-0") X 9,144 (30'-0"). Partitions are typically located to coincide with the centerlines of columns and ceiling grid. The ceiling is typically continuous with partitions attached to the underside of the grid, except where the ceiling changes in height or material, or where partitions are fire rated. Some of the rooms shown here (i.e. Screening, Clean Utility, Soil Utility, etc.) will be oriented differently for the Navy, with different layouts based on the Navy flexibility room.



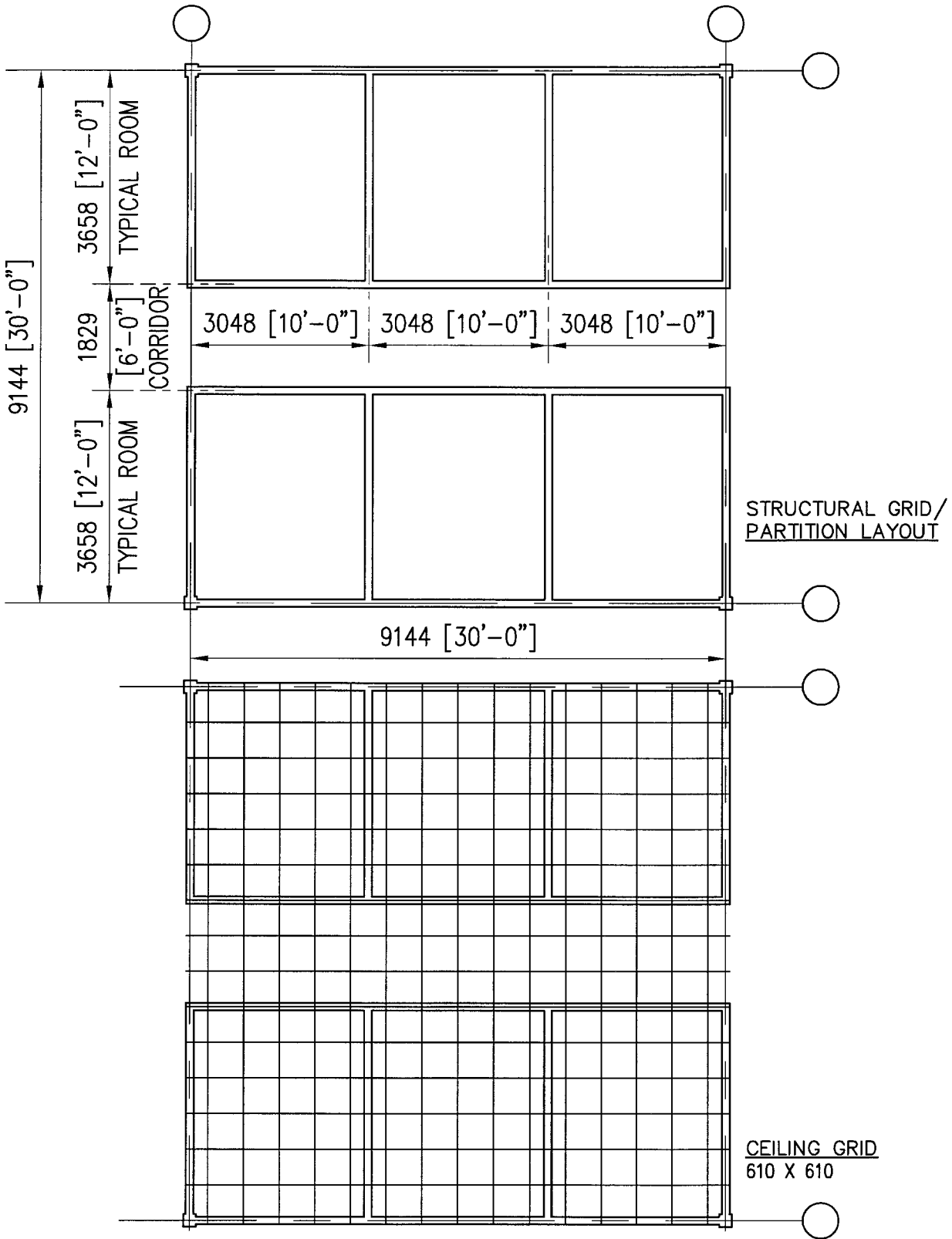
MODULAR PLANNING SYSTEM
PARTITION LAYOUT - ARMY/AIR FORCE 1.06.01

0 2000 4000

CLINIC AREAS

DATE: 01/28/2002

1:100 SCALE (MILLIMETERS)



MODULAR PLANNING SYSTEM
PARTITION LAYOUT - NAVY

1.06.02

0 2000 4000

CLINIC AREAS

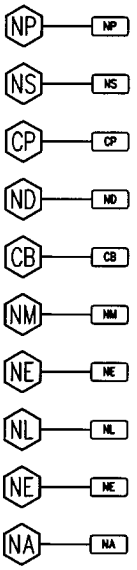
DATE: 01/28/2002

1:100 SCALE (MILLIMETERS)

1.0 Introduction

1.07 Symbols Legends

NURSE CALL SYSTEM



NURSE CALL PATIENT BED STATION

NURSE CALL STAFF STATION

NURSE CALL CODE PINK STATION

NURSE CALL DUTY STATION

NURSE CALL CODE BLUE STATION

NURSE CALL MASTER STATION

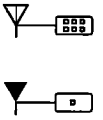
NURSE CALL EMERGENCY STATION WITH PULL CORD

NURSE CALL CORRIDOR DOME LIGHT

W NURSE CALL EMERGENCY SHOWER STATION WITH PULL CORD

SH NURSE CALL ANNUNCIATOR

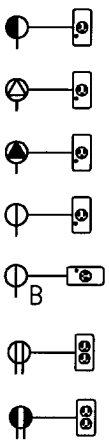
TELECOMMUNICATIONS SYSTEM



VOICE/DATA OUTLET WITH (1) VOICE AND (1) DATA JACK MINIMUM AND (4) SPARE PORTS

OUTLET FOR WALL MOUNTED TELEPHONE

RECEPTACLES



SINGLE RECEPTACLE, EMERGENCY POWER

SPECIAL RECEPTACLE, NORMAL POWER

SPECIAL RECEPTACLE, EMERGENCY POWER

SINGLE RECEPTACLE, NORMAL POWER

B SINGLE RECEPTACLE, NORMAL POWER (EMERGENCY POWER WHERE INDICATED), BED ONLY.

DUPLEX RECEPTACLE, NORMAL POWER

DUPLEX RECEPTACLE, EMERGENCY POWER

NOTES: PATIENT MONITORING OUTLET LOCATIONS ARE FOR REFERENCE ONLY. NURSE CALL SYSTEM DEVICES AND TELECOMMUNICATIONS OUTLET LOCATIONS REPRESENT GENERAL REQUIREMENTS. EXACT CONFIGURATION AND OPERATIONAL REQUIREMENTS OF THE SYSTEMS SHALL BE IDENTIFIED BY THE USING MILITARY DEPARTMENT.

ALL RECEPTACLES THAT ARE NOT HOSPITAL GRADE SHALL BE SPECIFICATION GRADE HEAVY DUTY.

SYMBOLS LEGEND - ELEVATIONS 1.07.01

DATE: 01/28/2002

PATIENT MONITORING SYSTEM

PM — PM PATIENT MONITORING OUTLET

FM — FM FETAL MONITORING OUTLET

TV SYSTEM

TV — TV CABLE TELEVISION OUTLET.

SWITCHES

S SINGLE POLE SWITCH

S_D SLIDE DIMMER

S_3 3-WAY SWITCH

S_{LV} LOW VOLTAGE SWITCH

S_{VC} EXAM LIGHT VARIABLE INTENSITY CONTROLLER

R LOW VOLTAGE CONTROLLER FOR CONTROL OF UP AND DOWN LIGHT SECTIONS OF HEADWALL MOUNTED OVERBED LIGHT FIXTURE

PAGING SYSTEM & MUSIC ONLY

VOLUME CONTROL SWITCH

HVAC SYMBOLS

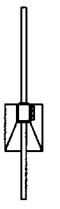
TH ROOM THERMOSTAT OR SENSOR

MISCELLANEOUS

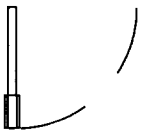
NL NIGHT LIGHT

VACUUM SLIDE

IV HOOKS



VACUUM PUMP HOLDER



PIVOTING BOTTLE SLIDE

SYMBOLS LEGEND - ELEVATIONS 1.07.02

DATE: 01/28/2002

NURSE CALL SYSTEM

NURSE CALL MASTER STATION

WALL MOUNTED STAFF STATION

WALL MOUNTED DUTY STATION

WALL MOUNTED PATIENT BED STATION

WALL MOUNTED EMERGENCY STATION WITH PULL CORD

SH 

WALL MOUNTED EMERGENCY SHOWER STATION WITH PULL CORD

W 

WALL MOUNTED CORRIDOR DOME LIGHT

WALL MOUNTED CODE BLUE STATION

WALL MOUNTED CODE PINK STATION

WALL MOUNTED NURSE CALL ANNUNCIATOR

CEILING MOUNTED CORRIDOR DOME LIGHT

NOTE:

1. PROVIDE TONE VISUAL OR AUDIO VISUAL NURSE CALL SYSTEM AS REQUESTED BY THE USING MILITARY DEPARTMENT
2. NURSE CALL SYSTEM DEVICE LOCATIONS REPRESENT GENERAL REQUIREMENTS OF THE SYSTEM EXACT CONFIGURATION AND OPERATIONAL REQUIREMENTS OF THE SYSTEMS SHALL BE IDENTIFIED BY THE USING MILITARY DEPARTMENT.

TELECOMMUNICATION SYMBOLS


COMBINATION VOICE/DATA OUTLET WITH SIX PORT COVER PLATE AND (1) VOICE JACK AND (1) DATA JACK MINIMUM.


WALL MOUNTED TELEPHONE OUTLET. WHEN SHOWN, SUBSCRIPT INDICATES THE TYPE OF TELEPHONE INSTRUMENT TO BE PROVIDED. SEE THE TELEPHONE INSTRUMENT TYPE SCHEDULE BELOW.


FLUSH FLOOR MOUNTED COMBINATION VOICE/DATA OUTLET. (1) VOICE JACK AND (1) DATA JACK MINIMUM. WHEN SHOWN, SUBSCRIPT INDICATES THE TYPE OF TELEPHONE INSTUMENT TO BE PROVIDED. SEE THE TELEPHONE INSTRUMENT SCHEDULE BELOW.

NOTE: TELECOMMUNICATION OUTLET LOCATIONS REPRESENT GENERAL REQUIREMENTS. PROVIDE TELEPHONE INSTUMENTS AS RECOMMENDED BY MILITARY HANDBOOK 1191 AND USING MILITARY DEPARTMENT. EXACT CONFIGURATION AND OPERATIONAL REQUIREMENTS OF THE SYSTEMS SHALL BE IDENTIFIED BY THE USING MILITARY DEPARTMENT.

SYMBOLS LEGEND - PLANS 1.07.03

DATE: 01/28/2002

WIRING DEVICES

20A, 125V DUPLEX RECEPTACLE
SUBSCRIPTS INDICATE THE FOLLOWING:
- G – DUPLEX RECEPTACLE WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER (GFCI)
- TR – TAMPER RESISTANT RECEPTACLE.
- WP – DUPLEX RECEPTACLE WITH WEATHER PROOF COVER
- H – HOSPITAL GRADE
- OC – MOUNTED OVER COUNTER TOP
- TV – FOR ENTERTAINMENT TELEVISION

SPECIAL RECEPTACLE
SUBSCRIPTS INDICATE THE FOLLOWING:
- H – HOSPITAL GRADE

SPECIAL RECEPTACLE, EMERGENCY POWER.

20A, 125V DUPLEX FLUSH FLOOR MOUNTED RECEPTACLE.

20A, 125V DUPLEX FLUSH FLOOR MOUNTED RECEPTACLE CONNECTED TO THE EMERGENCY BRANCH.
SUBSCRIPTS INDICATE THE FOLLOWING:
- H – HOSPITAL GRADE

20A, 125V DUPLEX RECEPTACLE FLUSH MOUNTED IN CEILING.

20A, 125V DUPLEX RECEPTACLE CONNECTED TO THE EMERGENCY BRANCH.
SUBSCRIPTS INDICATE THE FOLLOWING:
- G – DUPLEX RECEPTACLE WITH INTEGRAL GROUND FAULT CIRCUIT INTERRUPTER (GFCI)
- TR – TAMPER RESISTANT RECEPTACLE
- H – HOSPITAL GRADE
- OC – MOUNTED OVER COUNTER TOP

20A, 125V SIMPLEX RECEPTACLE

20A, 125V SIMPLEX RECEPTACLE CONNECTED TO THE EMERGENCY BRANCH.

NOTE: ALL RECEPTACLES THAT ARE NOTE HOSPITAL GRADE SHALL BE SPECIFICATION GRADE HEAVY DUTY.

PATIENT MONITORING SYSTEM

PM PATIENT MONITORING OUTLET

NOTE:
PATIENT MONITORING OUTLET LOCATIONS ARE FOR REFERENCE ONLY.

SYMBOLS LEGEND - PLANS 1.07.04

DATE: 01/28/2002

CABLE TELEVISION SYSTEM

TV — CABLE TELEVISION OUTLET

SWITCHES

S — 20A, 120/277V SINGLE POLE SWITCH
SUBSCRIPTS INDICATE THE FOLLOWING:

- 3 – THREE WAY
- a,b,c... – INDICATES SWITCH LEGS
- D – DIMMER SWITCH
- OS – OCCUPANCY SENSOR SWITCH
- DT – DOUBLE THROW

PAGING SYSTEM & MUSIC SYSTEM

(S)MO — PUBLIC ADDRESS SPEAKER, MUSIC ONLY. CEILING MOUNTED.

(V) — PUBLIC ADDRESS SYSTEM VOLUME CONTROL SWITCH.
WALL MOUNTED +1.2 [48"] AFF.

(M) — MICROPHONE OUTLET. WALL MOUNTED.

POWER DISTRIBUTION SYMBOLS

PANELBOARD MOUNTED FLUSH IN WALL

ENCLOSED CIRCUIT BREAKER.

HVAC SYMBOLS

(TH) — ROOM THERMOSTAT OR SENSOR

(H) — HUMIDITY SENSOR

SYMBOLS LEGEND - PLANS 1.07.05

DATE: 01/28/2002

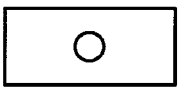
HVAC SYMBOLS

SUPPLY AIR DIFFUSER

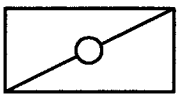
RETURN AIR GRILLE

EXHAUST AIR REGISTER

LIGHTING FIXTURE SYMBOLS

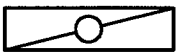


2' X 4' FLUORESCENT, NORMAL BRANCH



2' X 4' FLUORESCENT, CRITICAL BRANCH

1' X 4' FLUORESCENT, NORMAL BRANCH



1' X 4' FLUORESCENT, CRITICAL BRANCH

WALL MOUNTED FLUORESCENT FIXTURE, NORMAL BRANCH

WALL MOUNTED FLUORESCENT FIXTURE, CRITICAL BRANCH

RECESSED DOWN LIGHT, NORMAL BRANCH

RECESSED DOWN LIGHT, CRITICAL BRANCH

INDIRECT FLOURESCENT FIXTURE.

X-RAY IN USE LIGHT

OPERATING ROOM IN USE LIGHT

SYMBOLS LEGEND - CEILING PLANS 1.07.06

DATE: 01/28/2002

MEDICAL GAS OUTLET SCHEDULE

MARK	OX	MCA	MV	VS	NO	NI	WAG	LV	DCA	LA	LDE	PA	DHV	DLV	G	REMARKS
MG-001	1	1	1	1	–	–	–	–	–	–	–	–	–	–	–	–
MG-002	–	1	1	1	–	–	–	–	–	–	–	–	–	–	–	–
MG-003	1	1	3	3	–	–	–	–	–	–	–	–	–	–	–	–
MG-004	1	1	1	1	–	–	–	–	–	–	–	–	–	–	–	–
MG-005	2	2	2	2	–	–	–	–	–	–	–	–	–	–	–	–
MG-006	1	–	1	1	–	–	–	–	–	–	–	–	–	–	–	–
MG-007	1	1	3	3	–	–	–	–	–	–	–	–	–	–	–	–
MG-008	1	1	2	2	–	1	–	–	–	–	–	–	–	–	–	–
MG-009	1	1	2	2	–	–	–	–	–	–	–	–	–	–	–	–
MG-010	–	–	2	2	–	–	–	–	–	–	–	–	–	–	–	–
MG-011	2	1	2	2	1	–	1	–	–	–	–	–	–	–	–	–
MG-012	3	3	3	3	–	–	–	–	–	–	–	–	–	–	–	–
MG-013	1	1	1	1	–	–	–	–	–	–	–	1	–	–	–	–
MG-014	1	1	3	3	1	–	1	–	–	–	–	–	–	–	–	–
MG-015	1	1	2	2	1	–	1	–	–	–	–	–	–	–	–	–
MG-016	–	–	–	–	–	–	–	1	–	1	1	–	–	–	–	–
MG-017	1	2	1	1	–	–	–	–	–	–	–	–	–	–	–	–
MG-018	1	1	–	–	–	–	–	–	–	–	–	–	–	–	–	–
MG-019	1	1	2	–	–	1	–	–	–	–	–	–	–	–	–	–

NOTE: COORDINATE MEDICAL GAS OUTLET ARRANGEMENT WITH THE USER(S).

MEDICAL GAS SYMBOLS

OX	=	OXYGEN	LDE	=	LABORATORY DUST EVACUATION
MCA	=	MEDICAL COMPRESSED AIR	DCA	=	DENTAL COMPRESSED AIR
MV	=	MEDICAL VACUUM	LA	=	LABORATORY AIR
VS	=	VACUUM SLIDE	PA	=	PROCESS AIR
NO	=	NITROUS OXIDE	DHV	=	DENTAL HIGH VACUUM
NI	=	NITROGEN	DLV	=	DENTAL LOW VACUUM
WAG	=	WASTE ANESTHETIC GAS DISPOSAL	G	=	GAS (NATURAL OR PROPANE)
LV	=	LABORATORY VACUUM	⊣+	=	MEDICAL GAS OUTLET

SYMBOLS LEGEND - MEDICAL GAS 1.07.07

DATE: 01/28/2002