## Drawing Index

These sheets are a document set and should not be separated. Electrical information and references are contained on all sheets.

SITE READINESS

C 1

EQUIPMENT LAYOUT

(Equipment locations, heat loads, component weights, environmental specs)

STRUCTURAL LAYOUT

51

(Structural support/mounting locations for floor/wall/ceiling, wall support elevations)

STRUCTURAL DETAILS

52

(Floor and Ceiling loading information)
ELECTRICAL LAYOUT

(Contractor supplied wiring, interconnect methods, junction point locations and descriptions)

ELECTRICAL SPECIFICATIONS

E2

(Maximum wiring run lengths, interconnect diagram, system power specifications)

ELECTRICAL DETAILS

E3

EQUIPMENT DETAILS

D 1

These equipment installation drawings indicate the placement and interconnection of the listed equipment components. These drawings are not construction or site preparation drawings. Customer remains ultimately responsible for preparing the site to accommodate the installation and operation of such equipment in compliance with GE Healthcare's written specifications and all applicable federal, state, and/or local requirements.

### \* REQUIRED REFERENCE \*

## Millennium MPR

## **Preinstallation Manual**

2286307-100

A mandatory component of this drawing set is the GE Healthcare Preinstallation manual. Failure to reference the preinstallation manual will result in incomplete documentation required for site design and preparation.

Preinstallation documents for GE Healthcare products can be accessed on the web at:

http://www.gehealthcare.com/company/docs/siteplanning.html

# GE Healthcare



## Nuclear Medicine Site Planning



## Customer Site Readiness Requirements

- Any deviation from these drawings must be communicated in writing to and reviewed by your local GE Healthcare Installation Project Manager prior to making changes.
- Make arrangements for any rigging, special handling, or facility modifications that must be made to deliver the equipment to the installation site. If desired, your local GE Healthcare Installation Project Manager can supply a reference list of rigging contractors.
- New construction requires the following; 1. Secure area for equipment,
  2. Power for drills and other test equipment, 3. Capability for image analysis, 4. Restrooms.
- Provide for refuse removal and disposal (e.g. crates, cartons, packing)
- Contact a radiation physicist or consultant to specify radiation containment requirements.

# GE Equipment Delivery Requirements

Items 1 through 8 on the GE Healthcare Site Readiness Checklist are REQUIRED to facilitate equipment delivery to the installation site. Equipment will not be delivered if these requirements are not satisfied.

	GE Healthca						
	GEHC Global Order #:			•			
	GEHC On-site Representative :			•			
	Name of customer reviewed with :				Lead	Installer:	
	GEHC PMI :						
	Target Site Prep Completion Date:					Helper:	
	The customer is responsible for proper site prep	aration ar	nd site	readine	ss regardle	ess of any	GEHC inspections/assessments.
	Inspection Date						
Item #	GEHC Minimum Requirements	<b>Storage:</b> Is item ready?		Will item be dig spirate with the dig spirate with	Verify (Delivery): Is item ready?	Validate (Mech Install): Is item ready?	Comments  If "N", please enter in comments or act plan
1	Equipment installation drawings must match actual room size and must meet clearance requirements. Deviations that meet installation requirements may be red-lined, if red-lining is allowed by local code. Seismic requirements are identified on construction drawings.						
2	Delivery route to installation or storage area meets requirements and has been discussed and scheduled with the customer. Ensure floor protection is discussed, requirements identified, and will be available at time of delivery and installation.						
3	Rooms that will contain equipment, including storage areas, are dust free. Room security to prevent unauthorized access and theft has been discussed with customer. The customer is aware of these security issues, implications and responsibility.						
4	In room HVAC ductwork and units (in room) must be mechanically installed and dust free. Installation rooms appear to meet environmental conditions (see Further Definitions) and observed issues have been communicated to the customer. If being stored, storage area must meet PIM storage criteria.						
5	Ceiling grid is installed, Unistrut is located per the installation drawings, and permanent lighting is installed and operational.						
6	Floor is clean and prepared for final floor covering. Customer has verified floor leveling meets the equipment installation drawings and PIM specs and no visible defects are observed. Gantry and table baseplate are installed prior to delivery (if applicable)						
7	Access to a working phone at the facility for emergency use, including MR magnet delivery.						
8	All walls primed (final coat not needed on Day 1), and counter tops that will support equipment must be installed. No dust-producing cabinetry work in installation areas.						
9	Mechanical supplier has been provided with a set of equipment installation drawings for reference. For California, permitted construction drawings or PMI-specified installation drawings are required.						
0	Conduit/electrical cable ducting/dividers/ access flooring installed, with the exception of surface-mounted floor ducting. Wiring to the main disconnect panel is installed and compliant with equipment installation drawings or pre-installation manual.						

GE Healthcare Technologies

Services Design Center



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SCIATED APPARATUS, ELECTRICAL WIRING DETAILS AND ROOM ARRANGEMENT HIS PLAN, EVERY EFFORT HAS BEEN MADE TO CONFORM DETAILS AND TO BE INSTEAD FOR THE PLAN.

TYPICAL FINAL NSTALLATION DRAWING

PROJECT	REVISION
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SCALE: 1	/4" =	1'-0"	EQUIPMENT	LAYOUT

RECOMMENDED CEILING HEIGHT = 8'-0"This equipment layout indicates the placement and interconnection of the indicated equipment components. There may be federal, state, and/or local requirements that could impact the placement of these components. It remains the Customer's responsibility for ensuring the site and final equipment placement complies with all applicable federal, state, and/or local requirements.

∕----- 5¹-9" <del>------</del>

### IMPORTANT CUSTOMER READINESS ALERT:

THIS EQUIPMENT INVOLVES THE USE OF RADIOACTIVE ISOTOPES, INCLUDING THOSE SOURCES NECESSARY FOR EQUIPMENT CALIBRATION. APPROPRIATE REGULATORY COMPLIANCE AND LICENSING MUST BE ARRANGED BY THE CUSTOMER EARLY IN THE PLANNING PROCESS AND THEN DEMONSTRATED/AVAILABLE FOR EQUIPMENT INSTALLATION.

> THE GENIE ACQUISITION I.D. ADDRESS MUST BE RECEIVED BY THE GEMS NUCLEAR OCP COORDINATOR PRIOR TO SHIPMENT, REFER TO THE MILLENNIUM PRE-INSTALLATION MANUAL, CHAPTER 4 FOR REFERENCE.

### ANCILLARY ITEMS

CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED

ITEM DESCRIPTION (\* INDICATES EXISTING)

MINIMUM DOOR OPENING FOR EQUIPMENT DELIVERY IS 45 IN. W × 80 IN. H [1143mm × 2083mm], CONTINGENT ON A 84 IN. [2134mm] CORRIDOR WIDTH

OPTIONAL WALL PROTECTION FROM COLLIMATOR CART. ALSO, FINISHED FLOORING COULD BE SUBJECT TO DAMAGE DURING MOVEMENT AND BEING PARKED FOR A LONG PERIOD. SUFFICIENT FLOORING MUST BE USED TO PREVENT DAMAGE. MAIN DISCONNECT, REFERENCE JUNCTION POINT 'A' ON Sheet e1 for detailed description.

THE FOLLOWING ITEMS ARE AVAILABLE FROM GE HEALTHCARE TECHNOLOGIES, CONTACT YOUR LOCAL GE HEALTHCARE SERVICE REPRESENTATIVE FOR PRICING AND AVAILABILITY.

OPERATORS CHAIR

### GENERAL SPECIFICATIONS

- o THE REQUIRED CEILING HEIGHT INDICATED ON THESE PLANS IS TO ENSURE EQUIPMENT FUNCTION IS NOT INHIBITED. CONSULT WITH YOUR LOCAL GEHC INSTALLATION SPECIALIST REGARDING ACCEPTABILITY OF OTHER CEILING HEIGHTS.
- CHECK ALL DOOR OPENINGS AND HALLWAYS FROM DELIVERY LOCATION TO WHERE EQUIPMENT IS TO BE INSTALLED TO ENSURE THE ROUTE PHYSICALLY AND STRUCTURALLY WILL ACCOMODATE THE EQUIPMENT AS SHIPPED.
- RADIATION PROTECTION REQUIREMENTS ARE NOT INDICATED ON THIS PLAN. WHERE NEEDED PER NATIONAL OR LOCAL CODE THEY SHALL BE SPECIFIED BY A QUALIFIED RADIOLOGICAL PHYSICIST.
- THE DEVELOPMENT OF THE EQUIPMENT LAYOUT, ROOM DIMENSIONS, MECHANICAL AND ELECTRICAL SUGGESTIONS IS PREDICATED UPON THE BEST INFORMATION OBTAINABLE FROM THE SITE, COUPLED WITH THE CUSTOMER'S KNOWN DESIRES. ARCHITECTURAL OR ELECTRICAL CHANGES INCLUDING RELOCATION OF EQUIPMENT ILLUSTRATED ON THIS DRAWING IS ALLOWED ONLY WITH NOTIFICATION, IN WRITING, AND REVIEW BY GEHC SERVICE DEPARTMENT. EQUIPMENT OPERATION, SERVICEABILITY, AND RESTRICTING CABLE LENGTHS, ETC., MAKE THIS ESSENTIAL FOR A PROPER INSTALLATION. GEHC RESERVES THE RIGHT TO MAKE ON THE JOB CHANGES BECAUSE OF CUSTOMER REQUIREMENTS AND/OR OBSTACLES IN CONSTRUCTION, ETC..
- o all work to be in compliance with national and local building safety codes.
- o DIMENSIONS ARE TO FINISHED SURFACES OF ROOM

UNDERGOING TREATMENT).

### SITE ENVIRONMENT SPECIFICATIONS

- AMBIENT OPERATING TEMPERATURE: 55° TO 75° F [15° to 28° C], MAXIMUM ALLOWABLE TEMPERATURE CHANGE OF 5° F [3' C] /HOUR.
- DO NOT PLACE CAMERA NEAR REGISTERS, WINDOWS OR OTHER COMPONENTS THAT
- COULD AFFECT TEMPERATURE LEVEL CHANGES IN CAMERA VICINITY. HUMIDITY: 20 TO 80 PERCENT NON-CONDENSING, MAXIMUM ALLOWABLE CHANGE OF 10 PERCENT/HOUR.
- ELECTROSTATIC DISCHARGE IS KNOWN TO CAUSE SEVERE DAMAGE TO SOPHISTICATED ELECTRONICS. STATIC CHARGES ASSOCIATED WITH LOWER HUMIDITY LEVELS (BELOW 40%) MAY INTERFERE WITH SYSTEM OPERATION.
- ALTITUDE: NOT TO EXCEED 8000 FT. [2438 m] ABOVE SEA LEVEL.
- o THE ENVIRONMENT FOR THE ELECTRONICS CABINET/CPU MUST BE CONTROLLED SO THE ABOVE RESTRICTIONS ARE NOT EXCEEDED.
- BACKGROUND RADIATION SHOULD BE KEPT TO A MINIMUM. RADIOACTIVE SOURCES MUST BE KEPT IN SHIELDED CONTAINERS AND THE EXAMINATION ROOM SHIELDED FROM EXTERNAL SOURCES (FOR EXAMPLE X-RAY AND CT SYSTEMS, AND PATIENTS

MAGNETIC INTERFERENCE SPECIFICATIONS NUCLEAR CAMERA DETECTORS MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN 0.5 GAUSS TO GUARANTEE SPECIFIED IMAGING PERFORMANCE.

GENIE ACQUISITION SYSTEM MUST BE LOCATED IN AMBIENT STATIC MAGNETIC

FIELDS OF LESS THAN 3 GAUSS TO GUARANTEE DATA INTEGRITY.

MULTIFORMAT CAMERA MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN 3 GAUSS TO OBTAIN SPECIFIED GEOMETRIC LINEARITY.

GE HEALTH MALS AND MADE TO IT IS NOT HE COMPAN

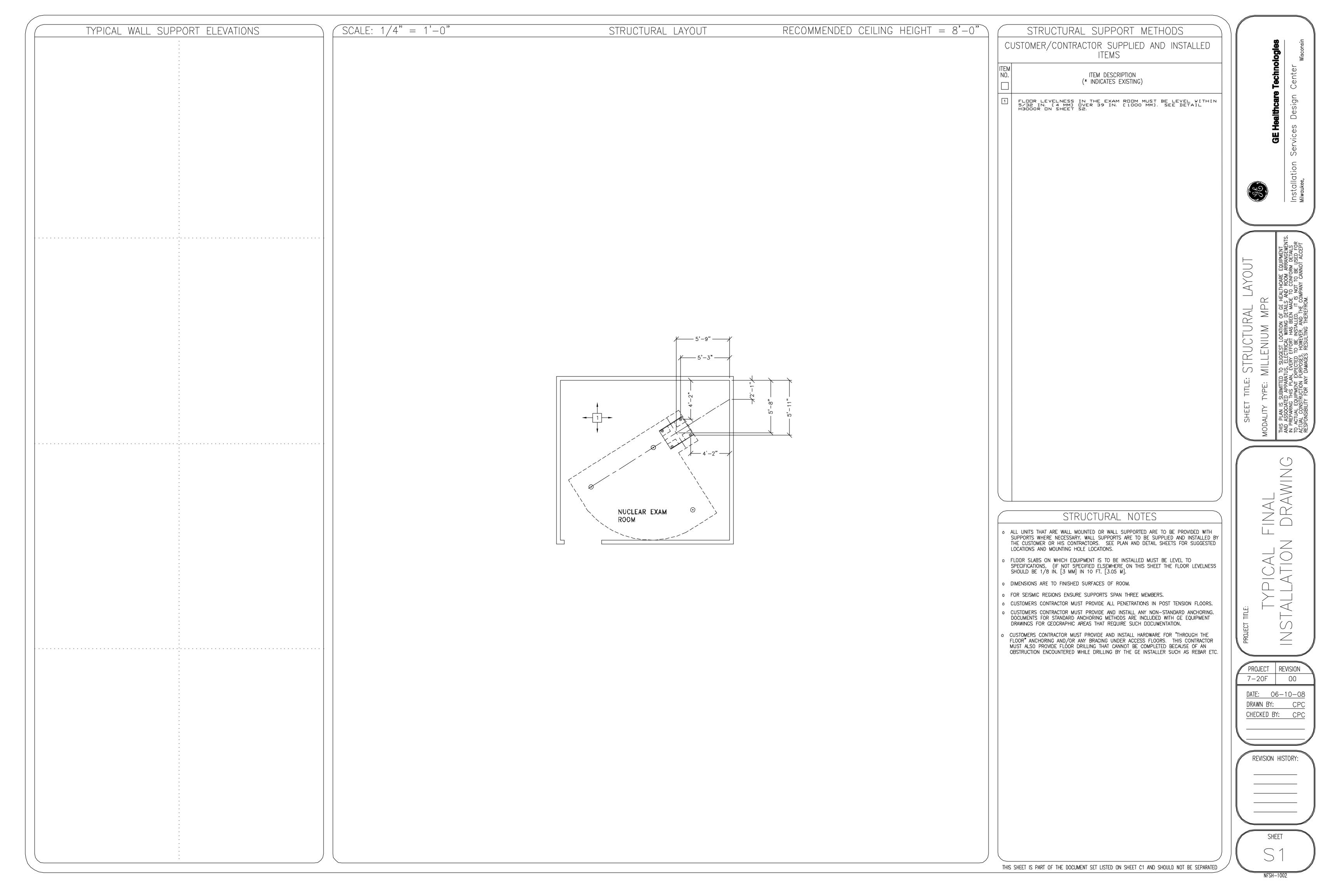
QUIPMENT

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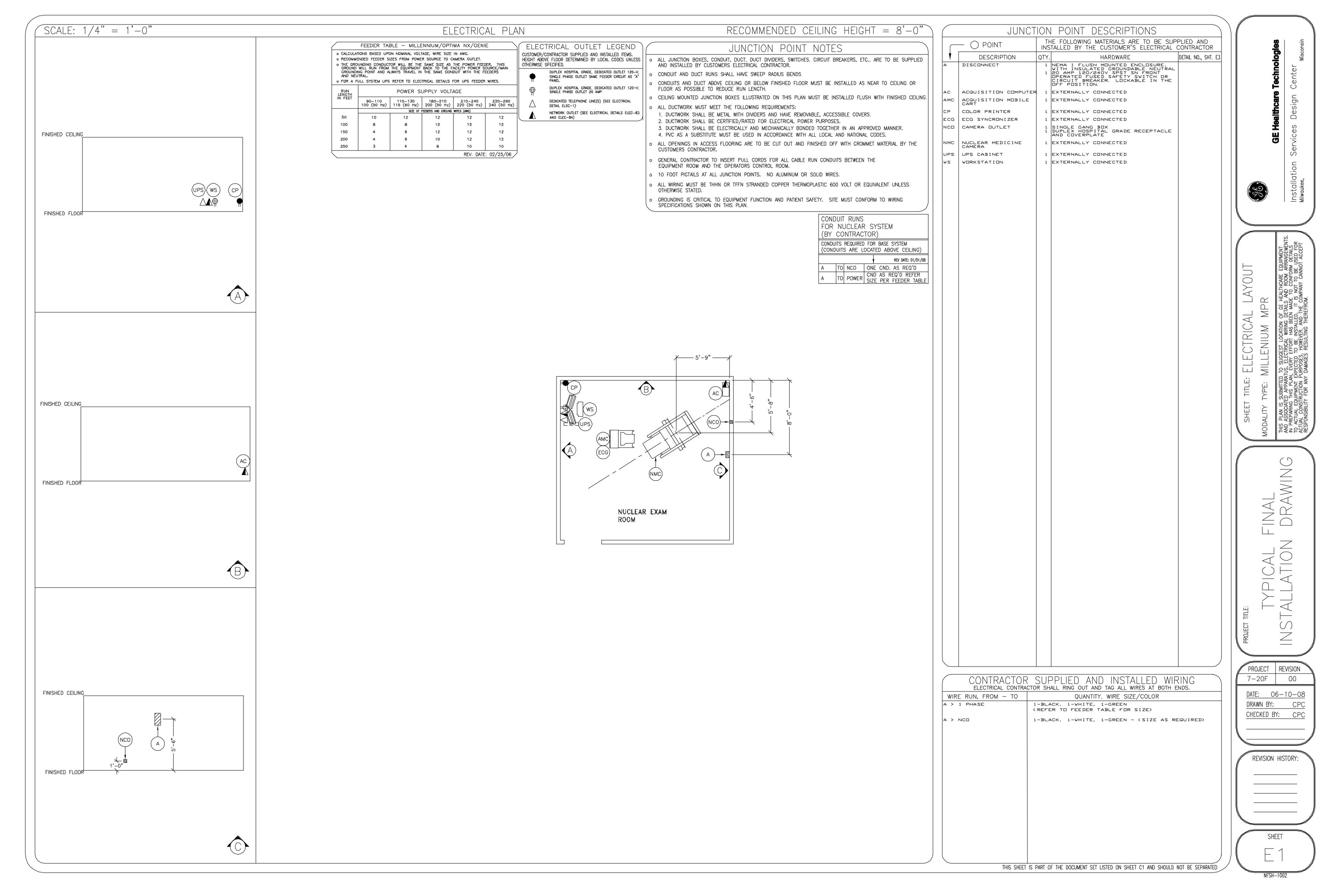


FLOOR MOUNTING DETAIL: MILLENNIMUM GANTRY (RECTANGULAR HEAD) H3000R REV. DATE: 10/27/97 ——46.5**"**—— [1181mm] —28.0"— [711mm] 1.0" [25mm] 29.33" [745mm] 29.33" [745mm] 34.5" 28.0" [876mm] [711mm] 23.25" [591mm] 89.97" [2285mm] FLOOR LEVELNESS AREA
FOR ALTERNATE TABLE SWING 89.97" [2285mm] 110.0" [2794mm] FLOOR LEVELNESS DETAIL NOT TO SCALE

E: STRUCTURAL DETAILS : MILLENIUM MPR

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POWER SPECIFICATIONS

MILLENNIUM/GENIE SYSTEMS (REV. DATE 10/08/98)

VOLTAGE

PRIMARY DEDICATED SINGLE PHASE SOURCE IS REQUIRED FOR ALL INSTALLATIONS. RANGE OF LINE VOLTAGES: NOMINAL LINE VOLTAGE OF 115-V 60 Hz OR 100-V, 200-V, 220-V, 240-V 50 Hz.

MAXIMUM DAILY VOLTAGE VARIATION MUST FALL WITHIN ONE OF THE RANGES IN TABLE A.

TABLE A ALLOWABLE INPUT VOLTAGES/

NOMINAL VOLTAGE	ABSOLUTE RANGE	MAXIMUM CURRENT (AMPS)	* MINIMUM STANDA OVERCURRENT PROTECTION
100	90-110	13	20-A
115	110-130	11	15-A
200	180-210	7	15-A
220	210-240	6	15-A
240	220-260	5.5	10-A
		OULD HAVE A TIME WITHSTAND SWITCH	

TRANSIENT

VOLTAGES MUST BE WITHIN 3 PERCENT OF THE LOWEST VOLTAGE. MAXIMUM ALLOWABLE TRANSIENT VOLTAGE EXCURSIONS ARE 5 PERCENT OF RATED LINE VOLTAGE AT A MAXIMUM DURATION OF 5 CYCLES AND FREQUENCY OF 10 TIMES PER HOUR.

VOLTAGE TRANSIENT OR IMPULSE ON THE INCOMING POWER MUST BE HELD TO A MINIMUM. TRANSIENTS CAUSED BY LIGHTNING, SURGES, LOAD SWITCHING, STATIC ELECTRICITY ETC. CAN CAUSE SCAN ABORTS OR, IN EXTREME INSTANCES, COMPONENT FAILURE IN THE COMPUTER SUBSYSTEM.

THE MAXIMUM ALLOWABLE TRANSIENT AMPLITUDE IS 2.5 TIMES THE RMS LINE VOLTAGE. (FILTERS MAY BE REQUIRED IF TRANSIENT LEVEL EXCEEDS THIS VALUE.)

POWER SUPPLY REGULATION MUST BE 4 PERCENT OR BETTER.

REGULATION SUPPLY TEST

**EMERGENCY** POWER

EMERGENCY POWER IS NOT RECOMMENDED FOR THE SYSTEM, SERIOUS DISRUPTION OF EQUIPMENT OPERATION CAN RESULT FROM POWERLINE DISTURBANCES BY SWITCHING TO EMERGENCY POWER. IF CONTINUOUS OPERATION IS REQUIRED AN ON-LINE TYPE UPS IS RECOMMENDED. EMERGENCY POWER RECOMMENDED IS THE LIGHTING IN THE ROOM TO ALLOW SAFE EVACUATION OF THE PATIENT AND PERSONNEL.

#### ELECTRICAL NOTES

- NOTE 1: ALL WIRES SPECIFIED SHALL BE STRANDED, FLEXIBLE, THERMO-PLASTIC, COLOR CODED, COPPER ONLY, CUT 10 FOOT LONG AT OUTLET BOXES, DUCT TERMINATION POINTS OR STUBBED CONDUIT ENDS, UNLESS OTHERWISE SPECIFIED. ALL CONDUCTORS, POWER, SIGNAL AND GROUND, MUST BE RUN IN CONDUIT OR DUCT SYSTEM. ELECTRICAL CONTRACTOR SHALL RING OUT AND TAG ALL WIRES AT BOTH ENDS. WIRE RUNS MUST BE CONTINUOUS COPPER AND FREE FROM SPLICES.
- NOTE 2: WIRE SIZES GIVEN ARE FOR USE OF EQUIPMENT. LARGER SIZES MAY BE REQUIRED BY LOCAL CODES.
- NOTE 3: IT IS RECOMMENDED THAT ALL WIRES BE COLOR CODED, AS REQUIRED IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.
- NOTE 4: CONDUIT SIZES SHALL BE VERIFIED BY THE ARCHITECT, ELECTRICAL ENGINEER OR CONTRACTOR, IN ACCORDANCE WITH LOCAL OR NATIONAL CODES,
- NOTE 5: CONVENIENCE OUTLETS ARE NOT ILLUSTRATED, THEIR NUMBER AND LOCATION ARE TO BE SPECIFIED BY OTHERS, LOCATE AT LEAST ONE CONVENIENCE OUTLET CLOSE TO THE SYSTEM CONTROL, THE POWER DISTRITBUTION UNIT AND ONE ON EACH WALL OF THE PROCEDURE ROOM. USE HOSPITAL APPROVED DUTLET OR EQUIVALENT.
- NOTE 6: GENERAL ROOM ILLUMINATION IS NOT ILLUSTRATED. CAUTION SHOULD BE TAKEN TO AVOID EXCESSIVE HEAT FROM OVERHEAD SPOTLIGHTS. DAMAGE CAN OCCUR TO CEILING MOUNTING COMPONENTS AND WIRING IF HIGH WATTAGE BULBS ARE USED. RECOMMEND LOW WATTAGE BULBS NO HIGHER THAN 75 WATTS AND USE DIMMER CONTROLS (EXCEPT MR). DO NOT MOUNT LIGHTS DIRECTLY ABOVE AREAS WHERE CEILING MOUNTED ACCESSORIES WILL BE PARKED.
- NOTE 7: ROUTING OF CABLE DUCTWORK, CONDUITS ETC., OTHER THAN SHOWN ON THIS DRAWING MAY RESULT IN THE NEED FOR GREATER THAN STANDARD CABLE LENGTHS (REFER TO THE INTERCONNECTION DIAGRAM FOR MAXIMUM USABLE LENGTHS POINT TO POINT).
- NOTE 8: CONDUIT TURNS TO HAVE LARGE, SWEEPING BENDS WITH MINIMUM RADIUS IN ACCORDANCE WITH NATIONAL AND LOCAL ELECTRICAL CODES.
- NOTE 9: A SPECIAL GROUNDING SYSTEM IS REQUIRED IN ALL PROCEDURE ROOMS BY SOME NATIONAL AND LOCAL CODES. IT IS RECOMMENDED IN AREAS WHERE PATIENTS MIGHT BE EXAMINED OR TREATED UNDER PRESENT, FUTURE, OR EMERGENCY CONDITIONS. CONSULT THE GOVERNING ELECTRICAL CODE AND CONFER WITH APPROPRIATE CUSTOMER ADMINISTRATIVE PERSONNEL TO DETERMINE THE AREAS REQUIRING THIS TYPE OF GROUNDING SYSTEM.
- NOTE 10: THE MAXIMUM POINT TO POINT DISTANCES ILLUSTRATED ON THIS DRAWING MUST NOT BE EXCEEDED.
- NOTE 11: PHYSICAL CONNECTION OF PRIMARY POWER TO GE EQUIPMENT IS TO BE MADE BY CUSTOMERS ELECTRICAL CONTRACTOR WITH THE SUPERVISION OF A GE REPRESENTATIVE. THE GE REPRESENTATIVE WOULD BE REQUIRED TO IDENTIFY THE PHYSICAL CONNECTION LOCATION, AND INSURE PROPER HANDLING OF GE EQUIPMENT.

DIAGRAM KEY

---- CUSTOMER/CONTRACTOR SUPPLIED WIRING. ROUTE IN ADEQUATE CONDUIT OR RACEWAY.

GE FURNISHED CABLE RUNS. ROUTE IN EMPTY

59' [18M] MAXIMUM RUN LENGTH BETWEEN JUNCTION POINTS. Feet [Meters]

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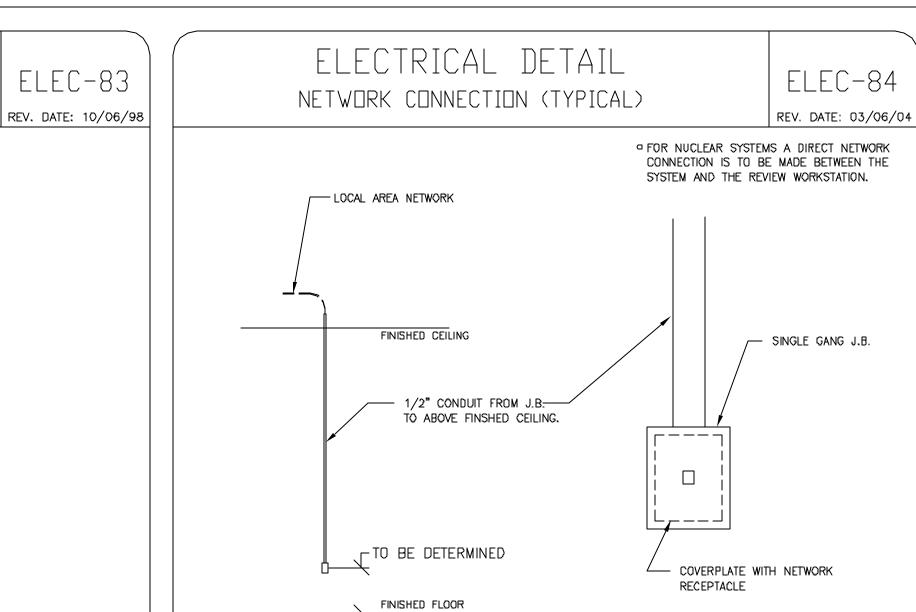
TION OF GE HEALTHCARE EQUIPMENT
IRING DETAILS AND ROOM ARRANGEMENTS
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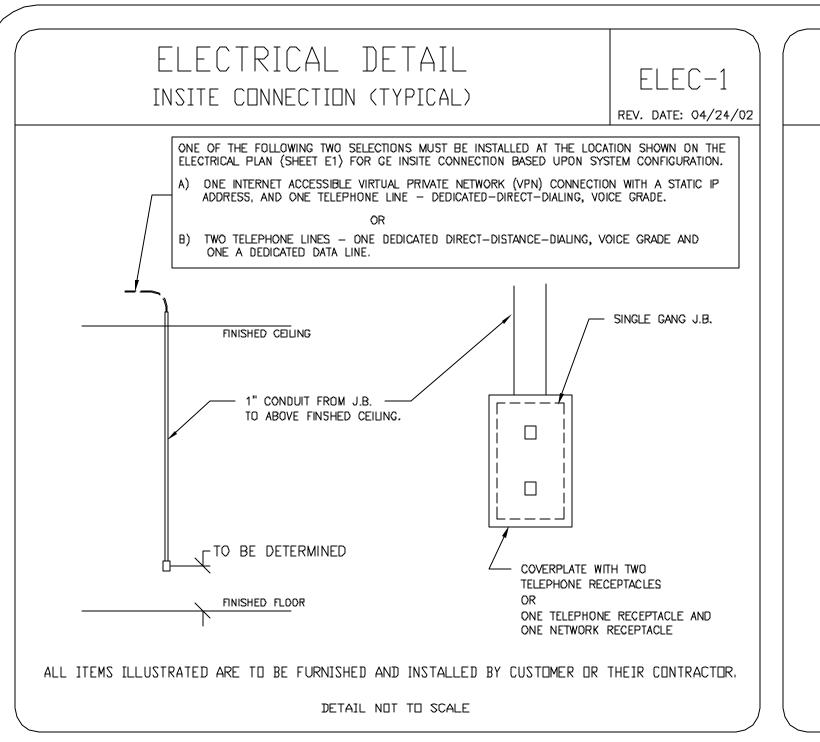
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ELECTRICAL DETAIL

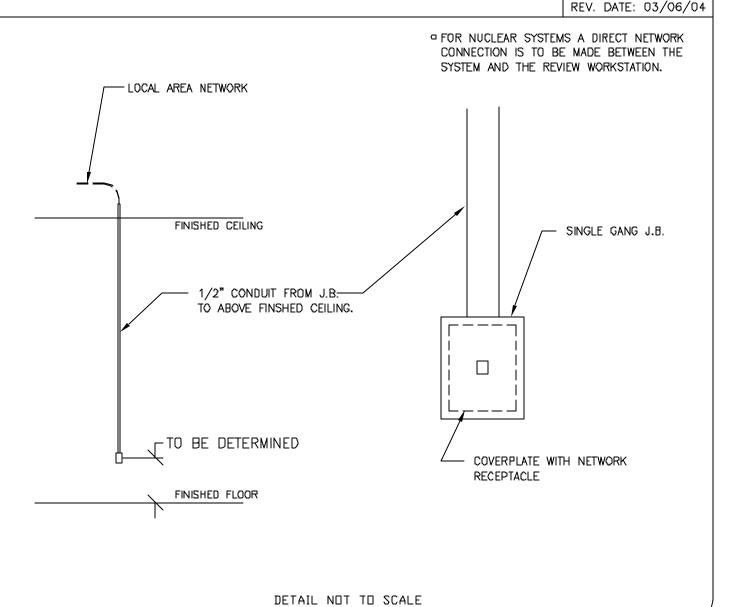
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— NETWORK JACK

- COVERPLATE

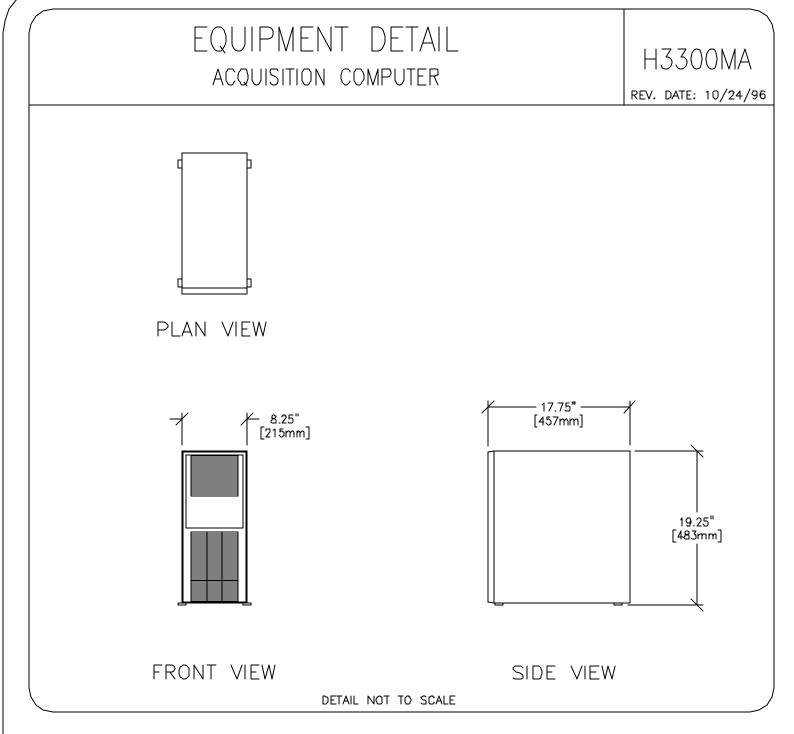
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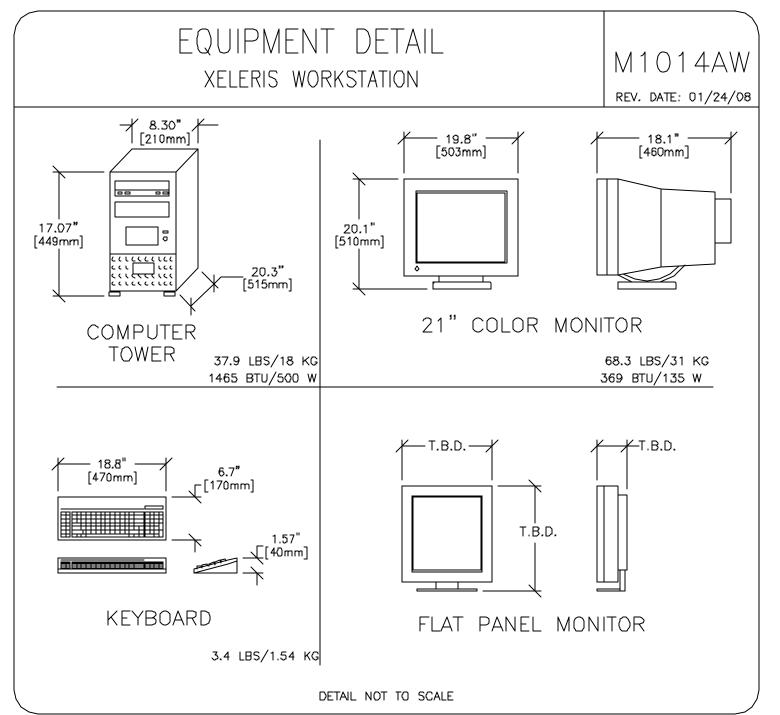


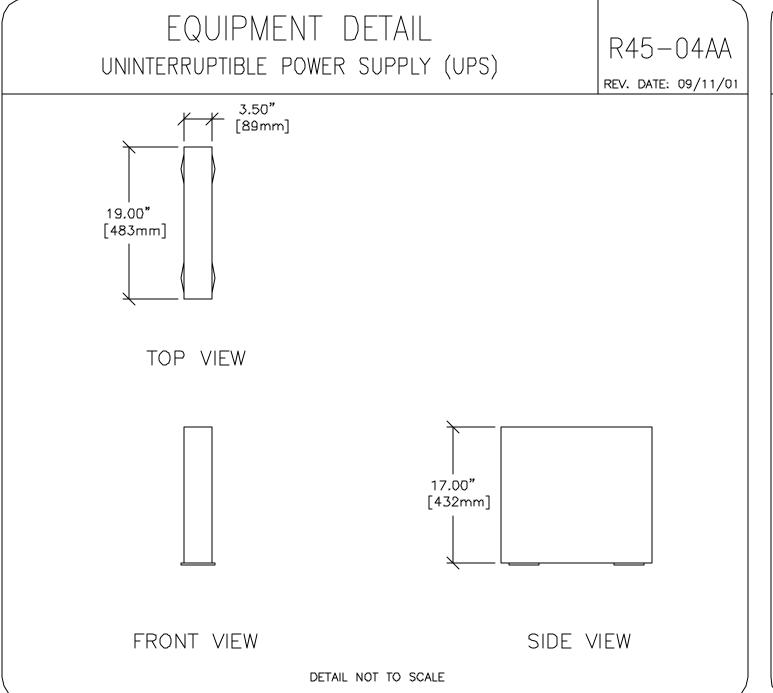
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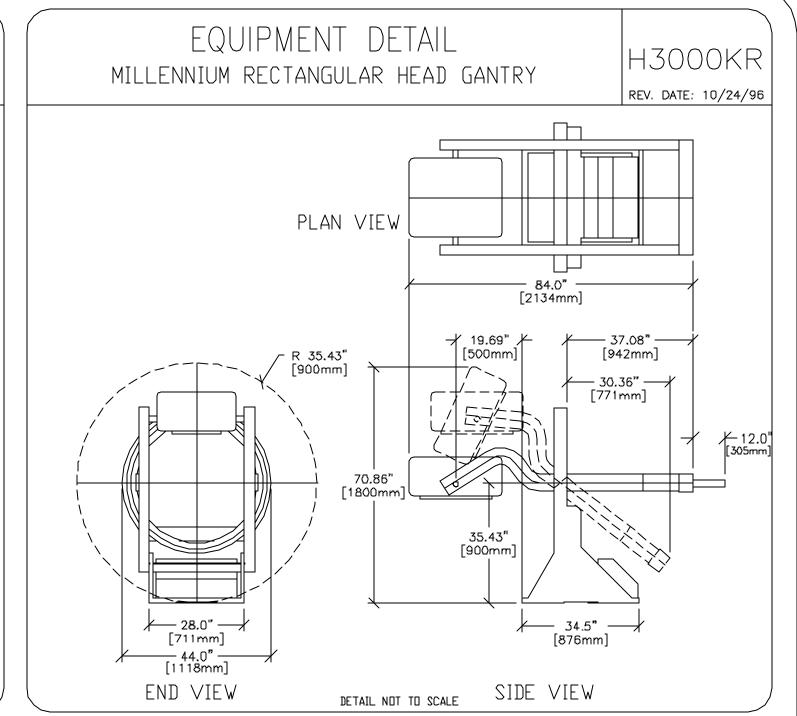
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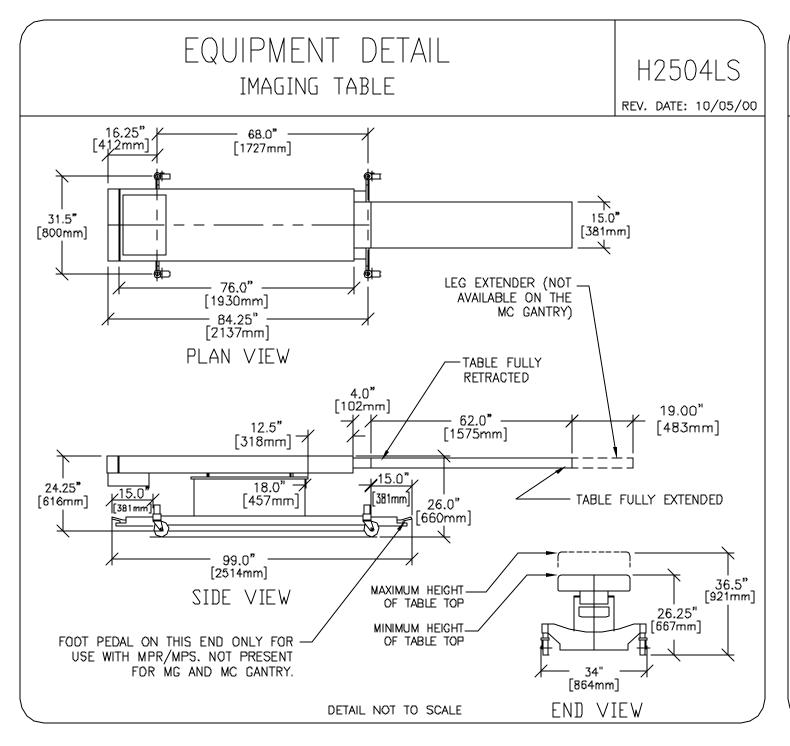
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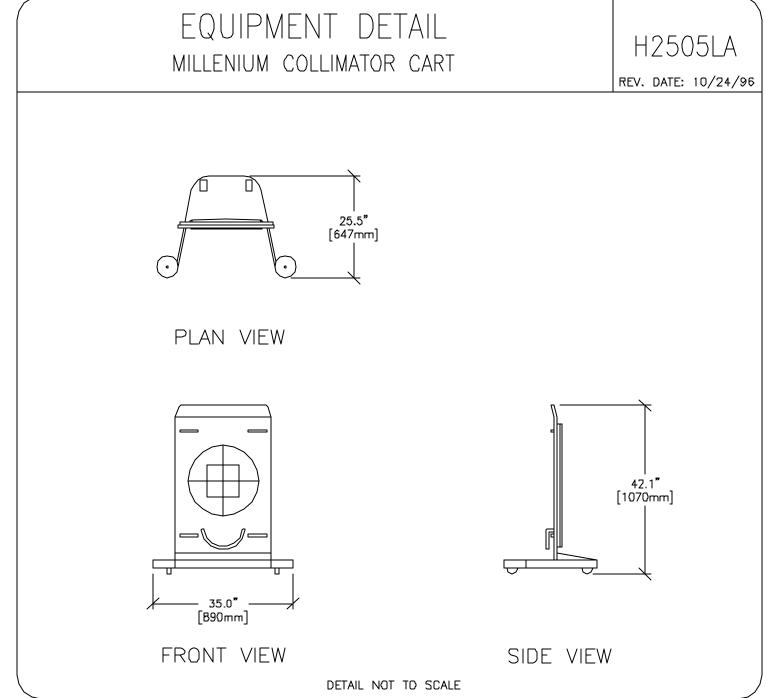


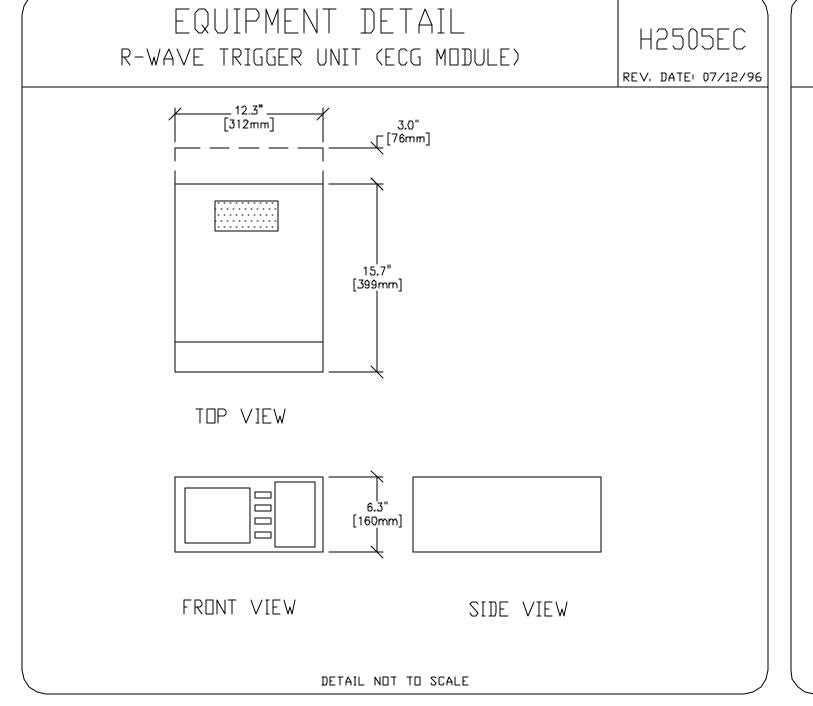


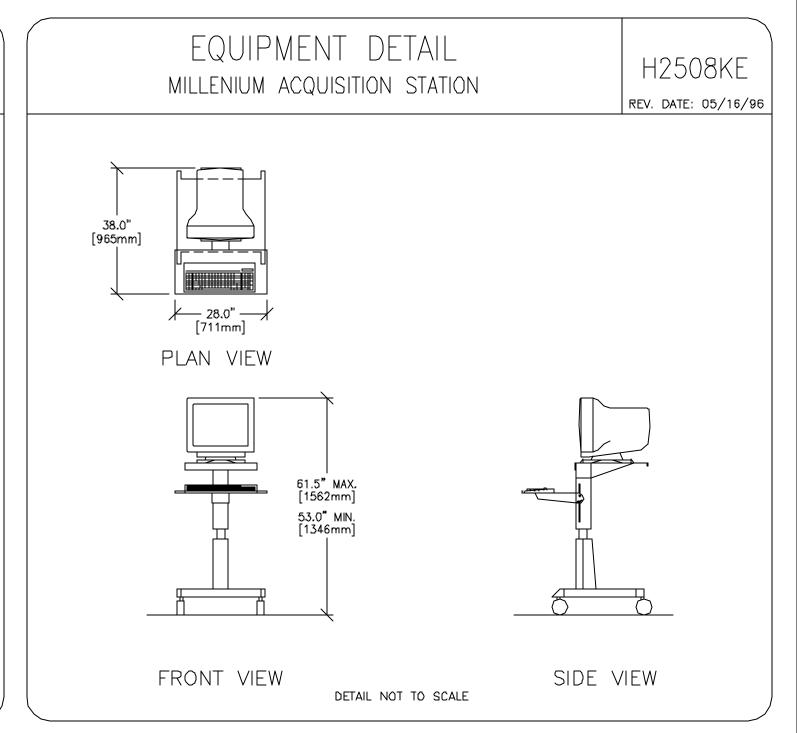














SHEET TITLE: EQUIPMENT DETAILS

MODALITY TYPE: MILLENIUM MPR

THIS PLAN IS SUBMITTED TO SUGGEST LOCATION OF GE HEALTHCARE EQUIPMENT AND ASSOCIATED APPARATUS, ELECTRICAL WIRING DETAILS AND ROOM ARRANGEMEN. IN PREPARING THIS PLAN, EVERY EFFORT HAS BEEN MADE TO CONFORM DETAILS TO ACTUAL EQUIPMENT EXPECTED TO BE INSTALLED. IT IS NOT TO BE USED FOR ACTUAL CONSTRUCTION PURPOSES, HOWEVER, AND THE COMPANY CANNOT ACCEPT RESPONSIBILITY FOR ANY DAMAGES RESULTING THEREFROM.

TYPICAL FINAL INSTALLATION DRAWIN

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