




			<div>Typical</div> <div>----</div> <div>----</div>																																	
E	05/Dec/2019	Initial release per PIM revision 16																																		
D	09/Sep/2019	Initial release per PIM revision 15																																		
C	31/May/2019	Initial release per PIM revision 14																																		
B	08/Apr/2019	Initial release per PIM revision 13																																		
A	04/Feb/2019	Initial release per PIM revision 11																																		
REV	DATE	MODIFICATIONS		<div><div>GE Healthcare</div><div>----</div><div>----</div><div>----</div></div> <div>REVOLUTION CT/REVOLUTION APEX</div> <div>FINAL STUDY</div> <table><tr><td colspan="2">Drawn by</td><td>Verified by</td><td>Concession</td><td>S.O. (GON)</td><td>PIM Manual</td><td>Rev</td></tr><tr><td colspan="2">PMM</td><td>BAP</td><td>-</td><td>----</td><td>5418654-1EN</td><td>16</td></tr><tr><td>Format</td><td>Scale</td><td colspan="3">File Name</td><td>Date</td><td>Sheet</td></tr><tr><td>A3</td><td>1/4"=1'-0"</td><td colspan="3">EN-CT-TYP-REVOLUTION_CT-WEB.DWG</td><td>05/Dec/2019</td><td>01/17</td></tr></table>					Drawn by		Verified by	Concession	S.O. (GON)	PIM Manual	Rev	PMM		BAP	-	----	5418654-1EN	16	Format	Scale	File Name			Date	Sheet	A3	1/4"=1'-0"	EN-CT-TYP-REVOLUTION_CT-WEB.DWG			05/Dec/2019	01/17
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A3	1/4"=1'-0"	EN-CT-TYP-REVOLUTION_CT-WEB.DWG							05/Dec/2019	01/17																										
01 - C1 - Cover Sheet		10 - S3 - Structural Details (1)																																		
02 - C2 - Disclaimer - Site Readiness Checklist		11 - S4 - Structural Details (2)																																		
03 - A1 - General Notes		12 - M1 - HVAC																																		
04 - A2 - Equipment Layout		13 - E1 - Electrical Notes																																		
05 - A3 - Radiation Protection		14 - E2 - Electrical Layout																																		
06 - A4 - Equipment Dimensions		15 - E3 - Electrical Elevations																																		
07 - A5 - Delivery		16 - E4 - Power Requirements																																		
08 - S1 - Structural Notes		17 - E5 - Electrical Details - Interconnect																																		
09 - S2 - Structural Layout																																				
A mandatory component of this drawing set is the GE Healthcare Pre Installation manual. Failure to reference the Pre Installation manual will result in incomplete documentation required for site design and preparation. Pre Installation documents for GE Healthcare products can be accessed on the web at: <a href="http://www.gehealthcare.com/siteplanning">www.gehealthcare.com/siteplanning</a>																																				
GE does not take responsibility for any damages resulting from changes on drawings made by others. Errors may occur by not referring to the complete set of final issue drawing. GE cannot accept responsibility for any damage due to the partial use of GE final issue drawings, however caused. All dimensions are in millimeters unless otherwise specified. Do not scale from printed pdf files. GE accepts no responsibility or liability for defective work due to scaling from these drawings.																																				

DISCLAIMER

GENERAL SPECIFICATIONS

- GE is not responsible for the installation of developers and associated equipment, lighting, cassette trays and protective screens or derivatives not mentioned in the order.
- The final study contains recommendations for the location of GE equipment and associated devices, electrical wiring and room arrangements. When preparing the study, every effort has been made to consider every aspect of the actual equipment expected to be installed.
- The layout of the equipment offered by GE, the dimensions given for the premises, the details provided for the pre-installation work and electrical power supply are given according to the information noted during on-site study and the wishes expressed by the customer.
- The room dimensions used to create the equipment layout may originate from a previous layout and may not be accurate as they may not have been verified on site. GE cannot take any responsibility for errors due to lack of information.
- Dimensions apply to finished surfaces of the room.
- Actual configuration may differ from options presented in some typical views or tables.
- If this set of final drawings has been approved by the customer, any subsequent modification of the site must be subject to further investigation by GE about the feasibility of installing the equipment. Any reservations must be noted.
- The equipment layout indicates the placement and interconnection of the indicated equipment components. There may be local requirements that could impact the placement of these components. It remains the customer's responsibility to ensure that the site and final equipment placement complies with all applicable local requirements.
- All work required to install GE equipment must be carried out in compliance with the building regulations and the safety standards of legal force in the country concerned.
- These drawings are not to be used for actual construction purposes. The company cannot take responsibility for any damage resulting therefrom.

CUSTOMER RESPONSIBILITIES

- It is the responsibility of the customer to prepare the site in accordance with the specifications stated in the final study. A detailed site readiness checklist is provided by GE. It is the responsibility of the customer to ensure all requirements are fulfilled and that the site conforms to all specifications defined in the checklist and final study. The GE Project Manager of Installation (PMI) will work in cooperation with the customer to follow up and ensure that actions in the checklist are complete, and if necessary, will aid in the rescheduling of the delivery and installation date.
- Prior to installation, a structural engineer of record must ensure that the floor and ceiling is designed in such a way that the loads of the installed system can be securely borne and transferred. The layout of additional structural elements, dimensioning and the selection of appropriate installation methods are the sole responsibility of the structural engineer. Execution of load bearing structures supporting equipment on the ceiling, floor or walls are the customer's responsibility.

RADIO-PROTECTION

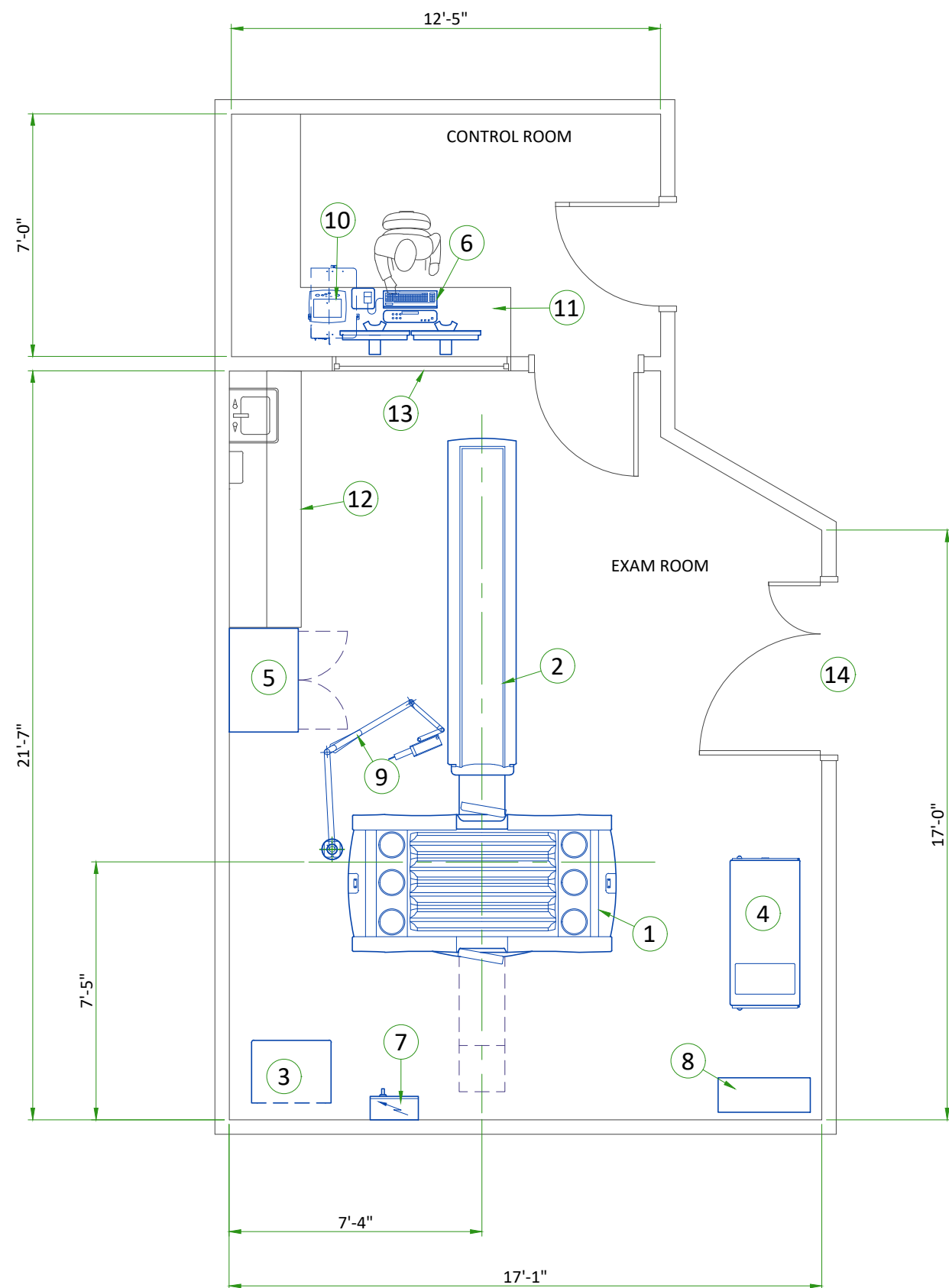
- Suitable radiological protection must be determined by a qualified radiological physicist in conformation with local regulations. GE does not take responsibility for the specification or provision of radio-protection.

THE UNDERSIGNED, HEREBY CERTIFIES THAT I HAVE READ AND APPROVED THE PLANS IN THIS DOCUMENT.		
DATE	NAME	SIGNATURE

GLOBAL SITE READINESS CHECKLIST (DI)

DOC1809666 Rev. 6	
Customer Name:	PMI Name:
GON/SO Number:	Field Service Name:
Equipment:	Country/City or City/State:
Site Visit Date for SRC:	SRC Status:
Site Ready Checks at Installation	
General Site Planning	
Room dimensions, including ceiling height, for all Exam, Equipment/Technical & Control rooms meets GE specifications.	
Ceiling support structure, if on the GE drawing, is at correct location and height according to the drawing specifications. Levelness and spacing has been measured. Overhead support Structure has been confirmed with contractor to meet GE criteria.	
Rooms that will contain equipment, including staging areas if applicable, are construction debris free. Precautions must be taken to prevent debris from entering rooms containing equipment.	
Finished ceiling is installed. If applicable ceiling tiles installed per PMI discretion.	
Delivery route from truck to installation space has been reviewed, all communications have occurred, arrangements made for special handling (if needed). Floors along delivery route will support weight of the equipment, reinforcements arranged if needed.	
System power & grounding (PDB/MDP) is available as per GE specifications, installed at point of final connection and ready to use. Lock Out Tag Out is available.	
System power and grounded audit has been scheduled to be completed during installation of equipment. (If Required) GEHC PM to confirmed if needed.	
Adequate room illumination installed and working.	
Cableways (floor, wall, ceiling, etc.) ready for GE cables and are of correct length and diameter. Cableways routed per GE Final drawings and access openings installed as determined by GEHC PM. Surface floor duct installed at time of system installation.	
HVAC systems Installed, and the site meets minimum environmental operational system requirements.	
Network outlets installed and computer network available and working.	
Hospital IT/connectivity contacts have been engaged and information has been added to Project management tool. (If Required)	
Floor levelness/flatness is measured and within tolerance, and there are no visible defects per GEHC specifications. Floor Strength and thickness have been discussed with customer/contractor and they have confirmed GE requirements are met.	
Customer supplied countertops where GE equipment will be installed are in place.	
Specific for CT & X-ray	
Doors and windows complete or scheduled to be installed. If applicable, radiation protection (shielding) finished & radioprotection regulatory approval for installation obtained.	
PMI Signature:	
Customer Signature:	
FS Signatature: optional	

CUSTOMER SITE READINESS REQUIREMENTS	ENVIRONMENT
<ul style="list-style-type: none"><li>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.</li><li>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.</li><li>New construction requires the following;<ol style="list-style-type: none"><li>Secure area for equipment,</li><li>Power for drills and other test equipment,</li><li>Capability for image analysis,</li><li>Restrooms.</li></ol></li><li>Provide for refuse removal and disposal (e.g. crates, cartons, packing)</li><li>It is the customer's responsibility to contract a vibration consultant/engineer to implement site design modifications to meet the GE vibration specification. Refer to the system preinstallation manual for the vibration specification.</li></ul>	<p><b>MAGNETIC FIELD SPECIFICATIONS</b></p> <ul style="list-style-type: none"><li>Limit the magnetic interference to guarantee specified imaging performance.</li></ul> <p><b>GANTRY:</b></p> <ul style="list-style-type: none"><li>Ambient static magnetic fields less than 1 Gauss.</li><li>Ambient AC magnetic fields less than 0.01 Gauss peak.</li></ul> <p><b>SYSTEM CABINET:</b></p> <ul style="list-style-type: none"><li>Ambient static magnetic fields less than 10 Gauss.</li></ul> <p><b>OPERATOR CONSOLE:</b></p> <ul style="list-style-type: none"><li>Ambient static magnetic fields less than 10 Gauss.</li><li>Use static dissipative vinyl.</li></ul> <p><b>MAXIMUM AUDIBLE NOISE LEVEL OF THE SYSTEM</b></p> <ul style="list-style-type: none"><li>The maximum ambient noise level is produced by the gantry during a CT scan acquisition.</li><li>It is less than 70 dBA when measured at a distance of one meter from the nearest gantry surface, in any direction.</li><li>Noise level produced by UPS system: 69 dBA.</li></ul>



#### LEGEND

A	GE Supplied	C	Customer/contractor supplied and installed
B	GE Supplied/contractor installed	D	Available from GE
E	Existing/Reinstall		

BY	ITEM	DESCRIPTION	MAX HEAT OUTPUT (btu)	WEIGHT (lbs)	MAX HEAT OUTPUT (W)	WEIGHT (kg)
A	1	Gantry	27150	6335	7950	2875
A	2	Patient Table (NG-2000V)	-	1474	-	670
A	3	Power Distribution Unit	1200	796	352	361
A	4	System Cabinet IV	7899	706	3100	335
A	5	Service Cabinet	-	90	-	41
A	6	Operators Console	5100	105	1500	48
D/B	7	Main Disconnect Panel	-	55	-	25
D	8	Uninterruptible Power Supply (14 kVA)	3000	620	880	281
D	9	Injector - ceiling mounted	-	79	-	36
D	10	Injector Control and Electronics	320	22	94	10
C	11	Counter top for equipment				
C	12	Counter top with sink, base and wall cabinets				
C	13	Lead glass window				
C	14	Minimum door opening for equipment delivery is 46 in. w x 78 in. h [1168mm x 1980mm], contingent on a 96 in. [2438mm] corridor width				

#### EXAM ROOM HEIGHT

Finished ceiling height	8'-0"
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The [GE HPI Technical Support Group](#) is an additional resource that can provide answers for general GE product siting questions and can be reached at (877)-305-9677 or mail to: [HPITechCOE@ge.com](mailto:HPITechCOE@ge.com)  
For [Accessory Sales](#): (866) 281-7545 Options 1, 2, 1, 2 or mail to: [gehccaccessorysales@ge.com](mailto:gehccaccessorysales@ge.com)

RADIATION PROTECTION TABLES

A cylindrical PMMA phantom with a diameter of 32 cm [12.60 in] and a length of 25 cm [9.84 in] (for the 80 mm [3.15 in] collimation measurements) or 30 cm [11.81 in] (for the 160 mm [6.30 in] collimation measurements) is centered in the scan plane and scanned. Stray radiation measurements are made for both the vertical and the horizontal planes which include the axis of rotation. The horizontal plane is 1.03 m [3.38 ft] above the floor. Tables below show stray radiation for 80 mm [3.15 in] collimation. The air kerma per 100 mAs (μGy / 100 mAs) is provided at 0.5 m [1.6 ft] intervals within each plane. The CT scan technique that results in the maximum stray radiation per unit mAs is used for all measurements as follows:

- Detector Coverage = 80 mm [3.15 in] (128x0.625 mm [5.04x0.02 in])
- Tube voltage = 140 kV
- SFOV = Medium Body

Typical Stray Radiation in μGy/100 mAs - Horizontal Plane 80 mm [3.15 in] Collimation													
X-axis (m [ft])	Z-axis (m [ft])												
	3 [9.8]	2.5 [8.2]	2 [6.6]	1.5 [4.9]	1 [3.3]	0.5 [1.6]	0 [0]	-0.5 [-1.6]	-1 [-3.3]	-1.5[-4.9]	-2 [-6.6]	-2.5[-8.2]	-3 [-9.8]
-1.5 [-4.9]	1.9	2.7	3.9	3.5	2.6	0.4	0.1	0.1	0.1	0.2	1.0	1.5	1.3
-1 [-3.3]	1.9	2.9	4.8	8.3	12.3	2.3	ISO		2.1	4.7	3.6	2.4	1.7
-0.5 [-1.6]	1.9	2.7	4.7	8.4	18.2	45.4			16.5	6.3	4.4	2.4	1.3
0 [0]	1.1	2.6	4.1	8.0	21.2	81.2			26.1	7.6	4.3	2.4	1.5
0.5 [1.6]	1.6	2.7	4.5	7.7	18.6	45.4			16.5	6.3	4.4	2.4	1.3
1 [3.3]	1.9	2.9	4.8	8.3	12.3	2.3			2.1	4.7	3.6	2.4	1.7
1.5 [4.9]	1.9	2.7	3.9	3.5	2.6	0.4	0.1	0.1	0.1	0.2	1.0	1.5	1.3

Typical Stray Radiation in μGy/100 mAs - Vertical Plane 80 mm [3.15 in] Collimation													
Y-axis (m [ft])	Z-axis (m [ft])												
	3 [9.8]	2.5 [8.2]	2 [6.6]	1.5 [4.9]	1 [3.3]	0.5 [1.6]	0 [0]	-0.5 [-1.6]	-1 [-3.3]	-1.5[-4.9]	-2 [-6.6]	-2.5[-8.2]	-3 [-9.8]
1.5 [4.92]	2.2	3.2	4.4	6.3	3.3	0.3	0.3	0.1	0.1	1.4	2.4	2.3	2.1
1 [3.28]	2.1	3.1	4.7	6.7	10.7	2.8	ISO		1.1	4.7	4.3	2.9	1.9
0.5 [1.64]	2.1	3.1	5.1	9.1	18.0	42.4			19.7	7.9	4.4	2.8	1.8
0 [0]	1.1	2.6	4.1	8.0	21.2	81.2			26.1	7.6	4.3	2.4	1.5
-0.5 [-1.64]	Table								14.9	6.2	4.2	2.5	1.5

Tables below show stray radiation for 160 mm [6.30 in] collimation. The air kerma per 100 mAs (μGy / 100 mAs ) is provided at 0.5 m [1.6 ft] intervals within each plane. The CT scan technique that results in the maximum stray radiation per unit mAs is used for all measurements as follows:

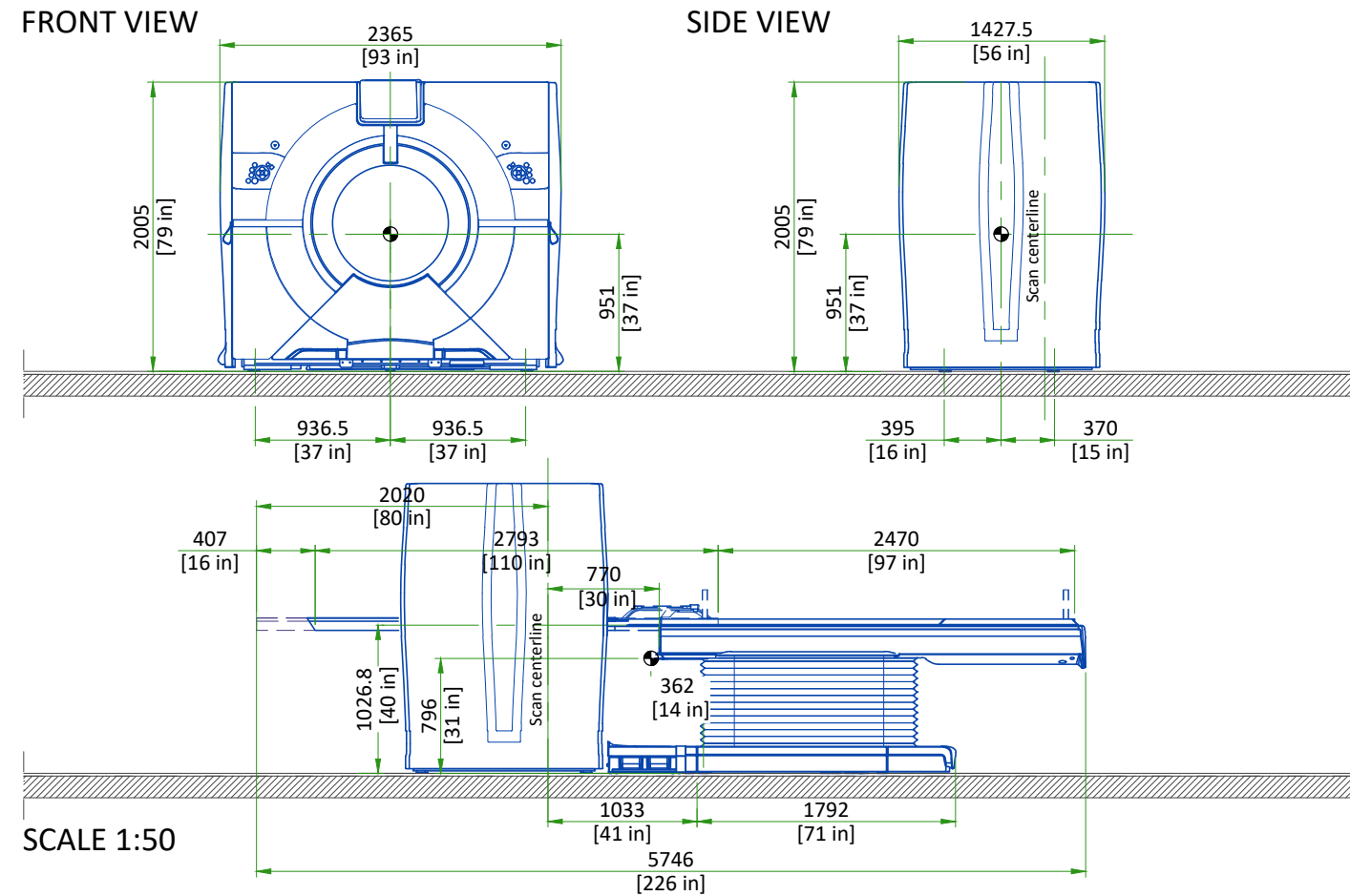
- Detector Coverage = 160 mm [6.30 in] (256x0.625 mm [10.08x0.02 in])
- Tube voltage = 140 kV
- SFOV = Medium Body

Typical Stray Radiation in μGy/100 mAs - Horizontal Plane 160 mm [6.30 in] Collimation													
X-axis (m [ft])	Z-axis (m [ft])												
	3 [9.8]	2.5 [8.2]	2 [6.6]	1.5 [4.9]	1 [3.3]	0.5 [1.6]	0 [0]	-0.5 [-1.6]	-1 [-3.3]	-1.5[-4.9]	-2 [-6.6]	-2.5[-8.2]	-3 [-9.8]
-1.5 [-4.9]	3.7	4.6	7.1	9.2	5.7	1.8	0.2	0.7	0.7	3.1	7.8	5.2	3.5
-1 [-3.3]	3.6	4.8	7.8	12.8	16.9	8.4	ISO		9.2	11.3	4.6	3.6	3.4
-0.5 [-1.6]	3.9	4.7	8.0	22.0	29.4	68.3			49.8	17.8	8.3	5.0	3.4
0 [0]	3.0	3.4	4.1	25.8	35.4	86.8			52.1	17.0	8.1	4.8	3.2
0.5 [1.6]	3.0	4.0	7.2	14.3	29.5	56.2			50.9	15.1	7.7	5.2	4.4
1 [3.3]	3.3	4.6	7.5	13.2	27.8	6.5			36.3	15.3	9.2	5.1	4.2
1.5 [4.9]	3.1	4.4	6.5	8.3	8.3	2.1	0.6	0.4	0.2	1.8	8.8	3.4	3.0

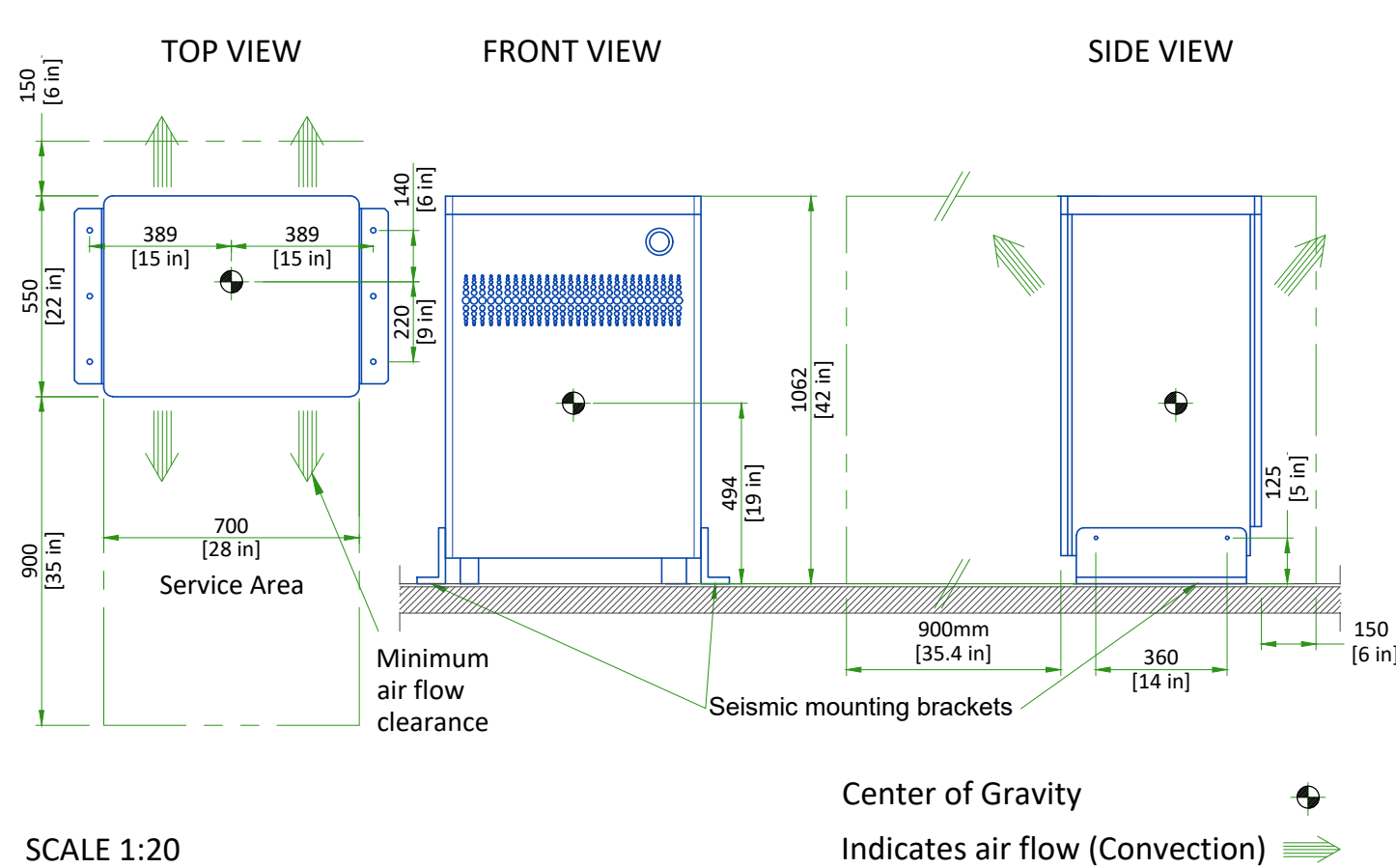
Typical Stray Radiation in μGy/100 mAs - Vertical Plane 160 mm [6.30 in] Collimation													
Y-axis (m [ft])	Z-axis (m [ft])												
	3 [9.8]	2.5 [8.2]	2 [6.6]	1.5 [4.9]	1 [3.3]	0.5 [1.6]	0 [0]	-0.5 [-1.6]	-1 [-3.3]	-1.5[-4.9]	-2 [-6.6]	-2.5[-8.2]	-3 [-9.8]
1.5 [4.9]	3.5	5.0	7.3	9.6	7.9	0.7	0.5	0.2	0.3	1.6	4.4	4.2	3.6
1 [3.3]	3.6	5.2	8.4	11.1	15.1	9.7	ISO		0.3	14.7	8.7	5.7	4.4
0.5 [1.6]	3.7	5.0	10.3	13.5	15.6	7.8			1.4	11.6	8.4	5.6	3.9
0 [0]	3.0	3.4	4.1	25.8	35.4	86.8			52.1	17.0	8.1	4.8	3.2
-0.5 [-1.6]	Table								26.2	14.7	9.6	5.3	3.4



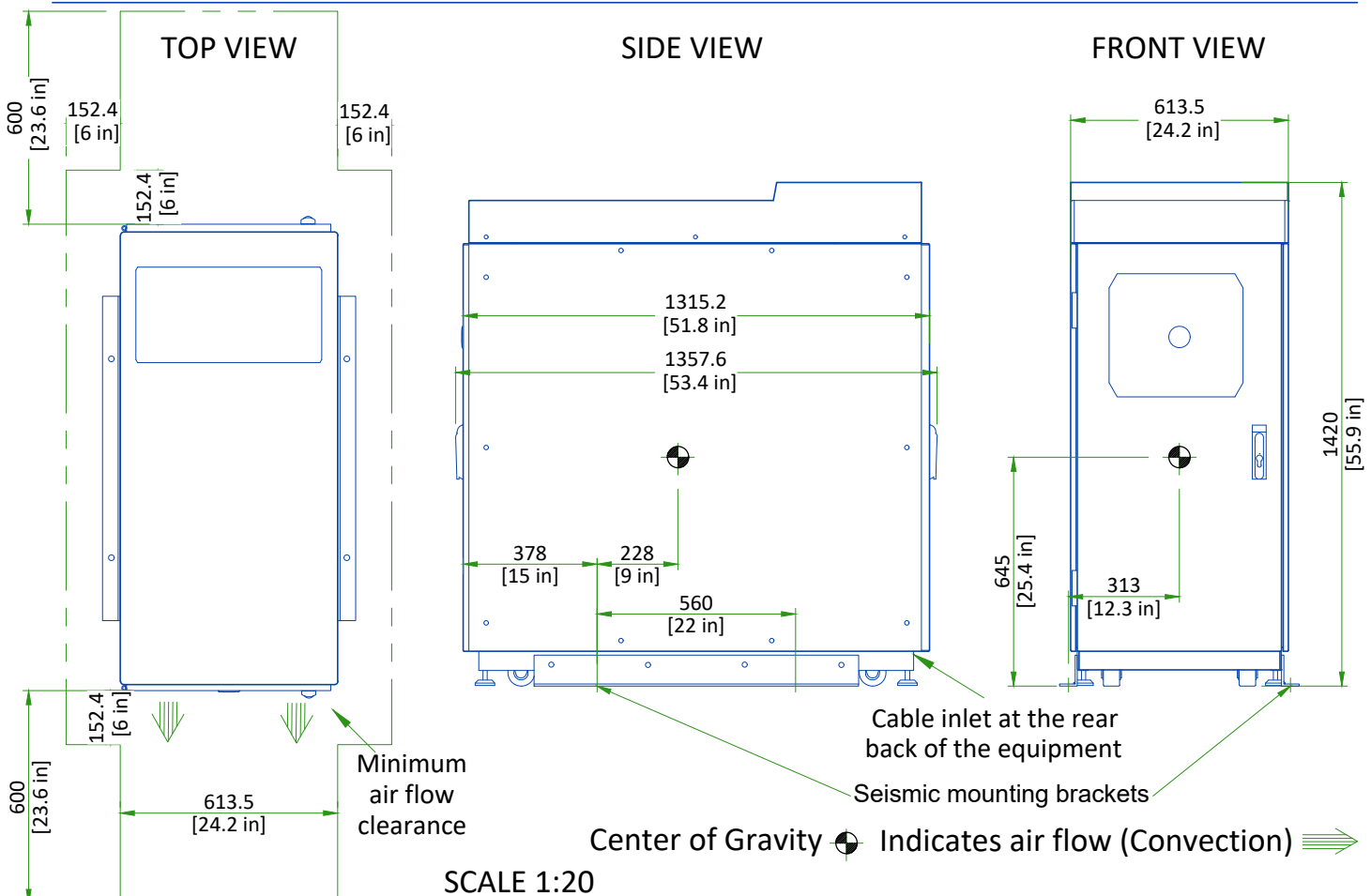
GANTRY WITH TABLE



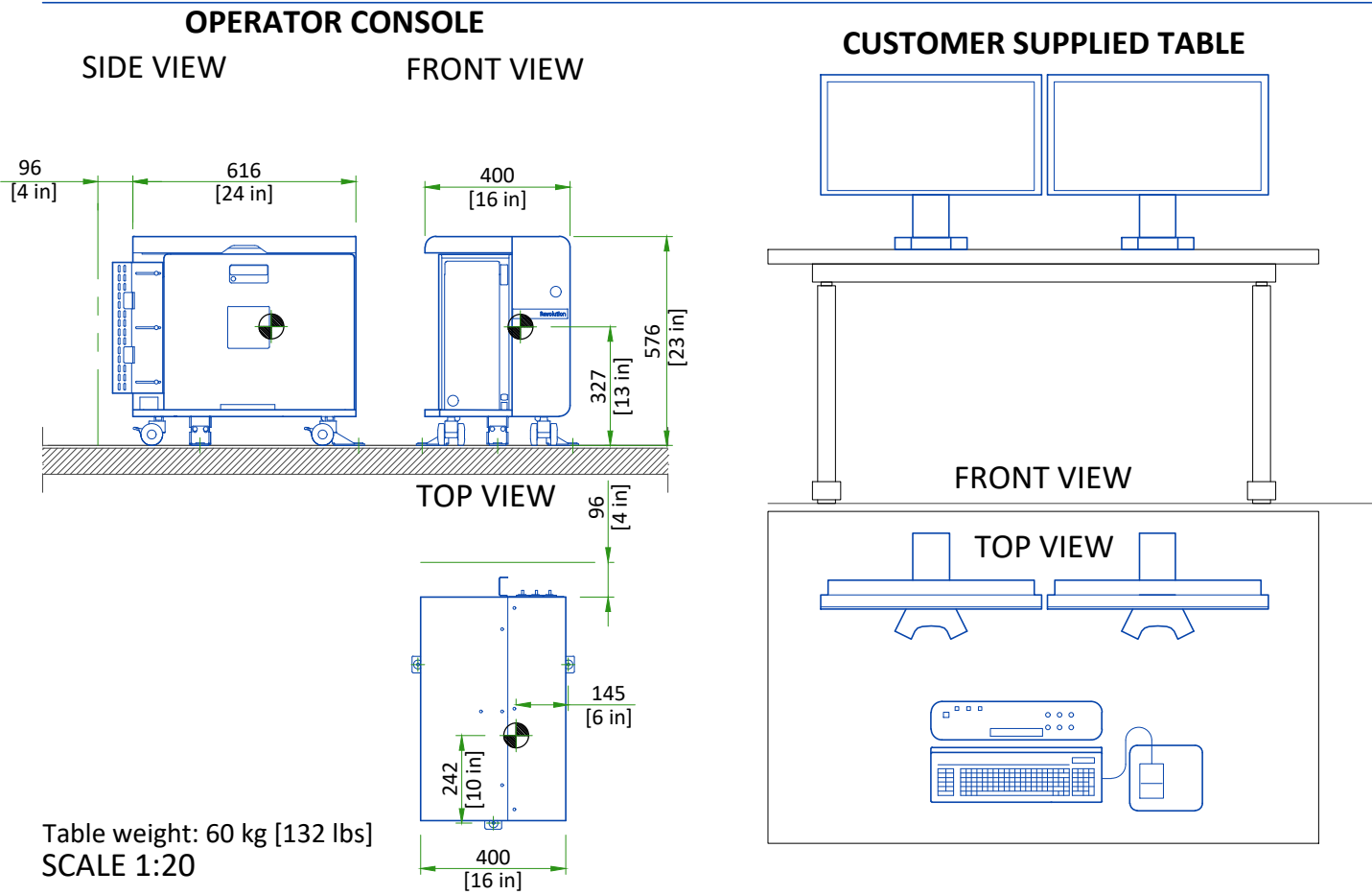
POWER DISTRIBUTION UNIT (PDU)



SYSTEM CABINET



CUSTOMER SUPPLIED TABLE AND OPEN CONSOLE

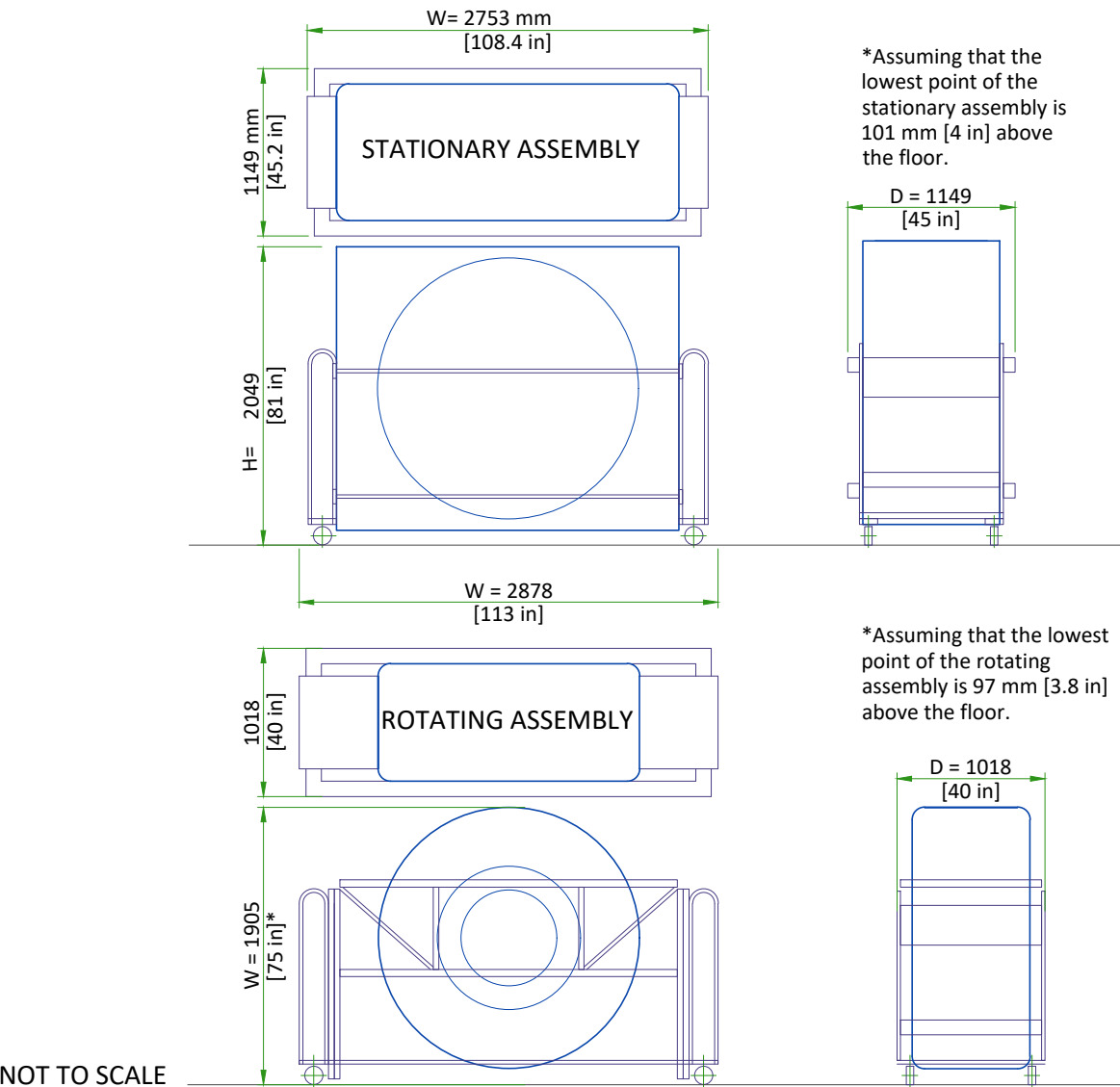


DELIVERY

THE CUSTOMER/CONTRACTOR SHOULD:

- Provide an area adjacent to the installation site for delivery and unloading of the GE equipment.
- Ensure that the dimensions of all doors, corridors, ceiling heights are sufficient to accommodate the movement of GE equipment from the delivery area into the definitive installation room.
- Ensure that access routes for equipment will accommodate the weights of the equipment and any transportation, lifting and rigging equipment.
- Ensure that all necessary arrangements for stopping and unloading on public or private property not belonging to the customer have been made.

DIMENSIONS OF DELIVERY WITH DOLLY TRANSPORT EQUIPMENT					
EQUIPMENT		DIMENSIONS		WEIGHT	
GANTRY	STATIONARY ASSEMBLY	LENGTH	2753 mm [108.4 in]	1738.8 kg	3830 lbs
		WIDTH	1149 mm [45.2 in]		
		HEIGHT	2049 mm [80.7 in]		
	ROTATING ASSEMBLY	LENGTH	2878 mm [113.3 in]	1681.6 kg	3704 lbs
		WIDTH	1018 mm [40.1 in]		
		HEIGHT	1905 mm [75 in]		
NG PATIENT TABLE (2000 & 2000V)		LENGTH	3866.4 mm [155.2 in]	1257.6 kg (2000) 1280.0 kg (2000V)	2770 lbs (2000) 2816 lbs (2000V)
		WIDTH	863.6 mm [34 in]		
		HEIGHT	1244.6 mm [49 in]		
NG PATIENT TABLE (1700V)		LENGTH	3866.4 mm [155.2 in]	1108 kg	2438 lbs
		WIDTH	863.6 mm 34 in]		
		HEIGHT	1244.6 mm [49 in]		



NOT TO SCALE

Typical

REVOLUTION CT/REVOLUTION APEX |

EN-CT-TYP-REVOLUTION CT-WEB.DWG |

Rev E | Date 05/Dec/2019 |

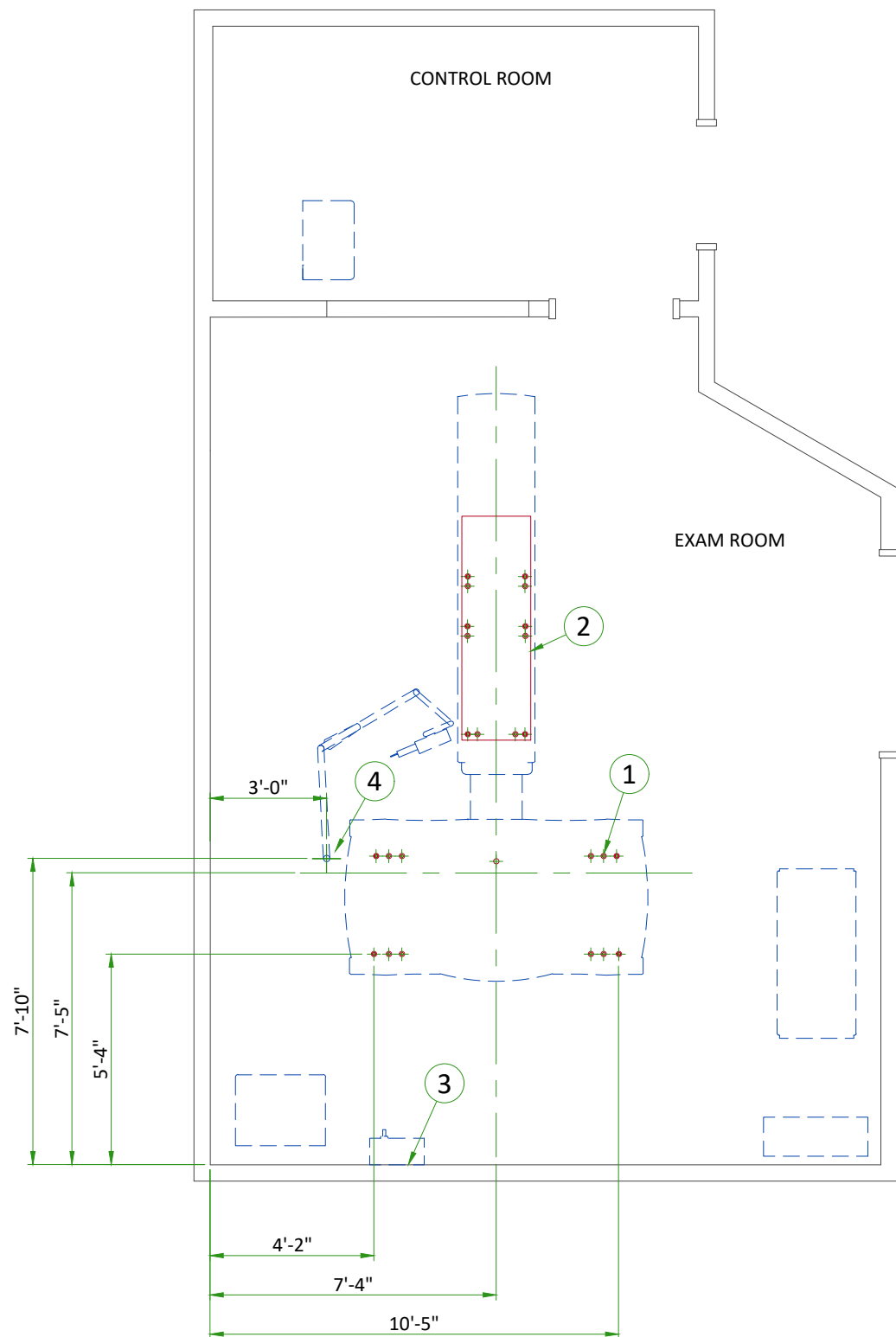
A5 - Delivery

| 07/17

STRUCTURAL NOTES

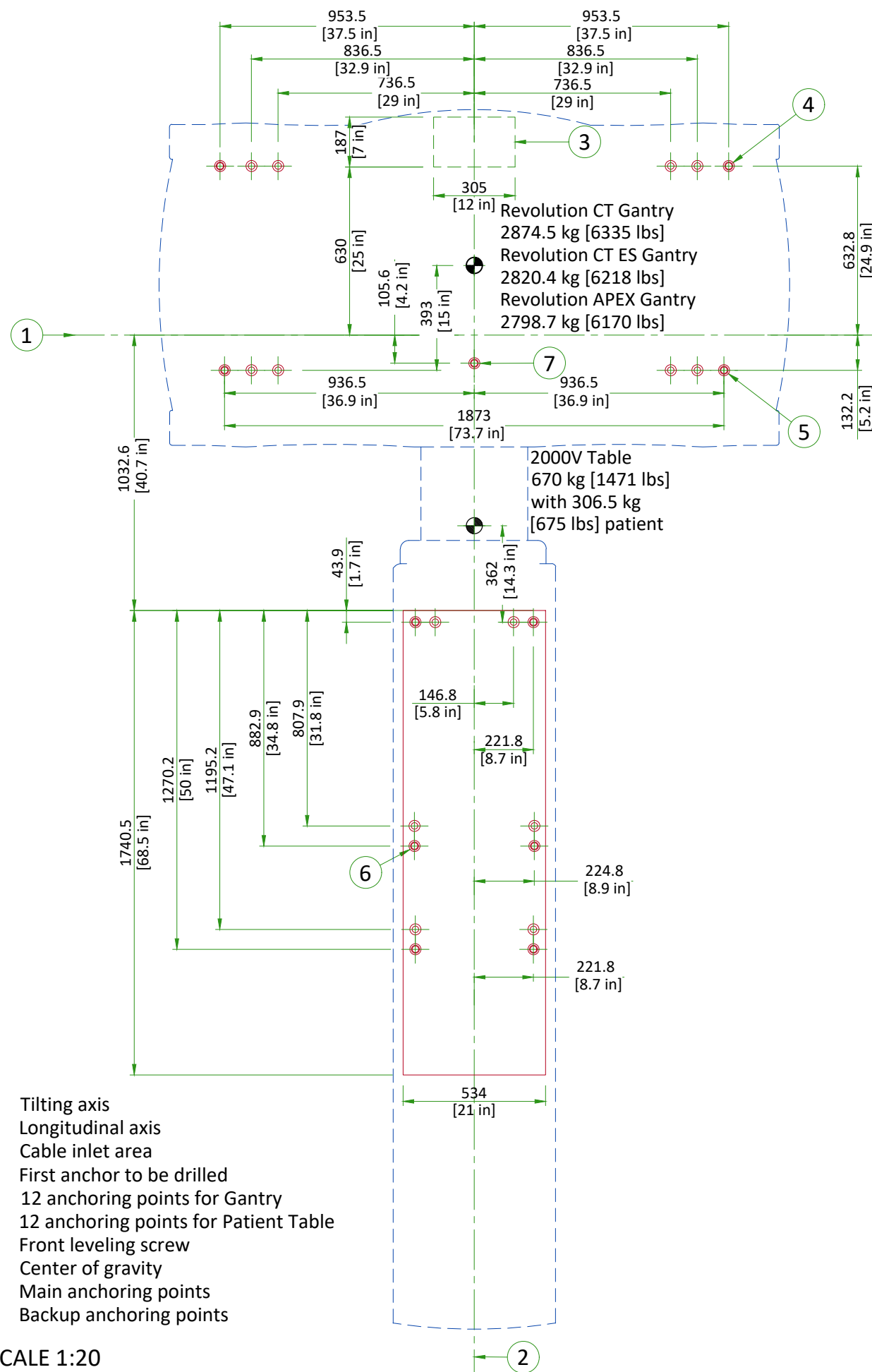
- all steel work and parts necessary to support ceiling mounted equipment is to be supplied by the customer or his contractors.
- methods of support for the steelwork that will permit attachment to structural steel or through bolts in concrete construction should be favored. Do not use concrete or masonry anchors in direct tension.
- all units that are wall mounted or wall supported are to be provided with supports where necessary. Wall supports are to be supplied and installed by the customer or his contractors. See plan and detail sheets for suggested locations and mounting hole locations.
- all ceiling mounted fixtures, air vents, sprinklers, etc. To be flush mounted, or shall not extend more than 1/4" below the finished ceiling.
- floor slabs on which equipment is to be installed must be level to 1/4" in 10'-0"
- dimensions are to finished surfaces of room.
- customers contractor must provide all penetrations in post tension floors.
- customers contractor must provide and install any non-standard anchoring. Documents for standard anchoring methods are included with GE equipment drawings for geographic areas that require such documentation.
- customers contractor must provide and install hardware for "through the floor" anchoring and/or any bracing under access floors. This contractor must also provide floor drilling that cannot be completed because of an obstruction encountered while drilling by the GE installer such as rebar etc.
- it is the customer's responsibility to perform any floor or wall penetrations that may be required. The customer is also responsible for ensuring that no subsurface utilities (e.g., electrical or any other form of wiring, conduits, piping, duct work or structural supports (i.e. post tension cables or rebar)) will interfere or come in contact with subsurface penetration operations (e.g. drilling and installation of anchors/screws) performed during the installation process. To ensure worker safety, GE installers will perform surface penetration operations only after the customer's validation and completion of the "GE surface penetration permit"





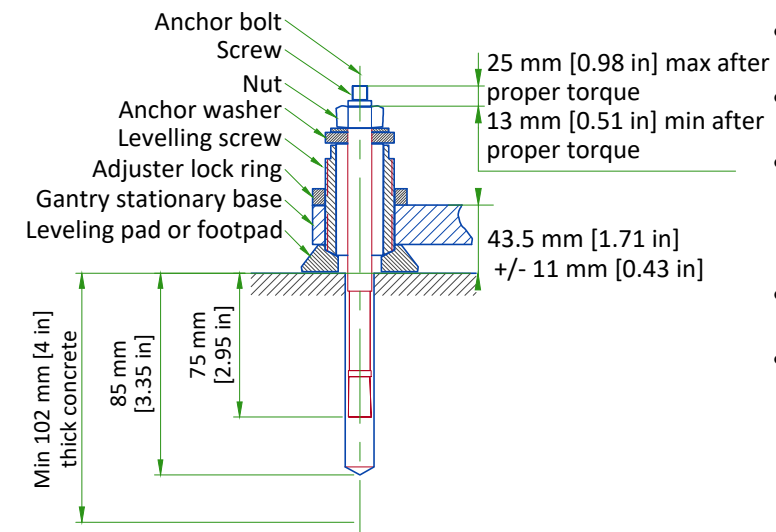
ITEM	DESCRIPTION
(CONTRACTOR SUPPLIED & INSTALLED)	
1	Gantry leveling pads. See Structural Detail
2	Table base plate and leveling pads. See Structural Detail
3	Support Backing, locate as shown
4	Structural supports for fastening the overhead counterpoised suspension. Support should run continuous with no fittings extending below face of channel, be parallel, square, and in the same horizontal plane, above finished ceiling. Ensure mounting surface is installed level or plumb within +/- 1 degree, and is structurally sufficient to maintain a level or plumb condition under 110 lb (50kg) system load and maximum system moment of 4400 in-lb (500n-m). Methods of support that will permit attachment to structural steel or through bolts in concrete construction should be favored. Do not use screw anchors in direct tension. 14" x 14" x 1/2" thick steel plate provided by manufacturer. See detail on structural detail sheets.

## ANCHORING/LOADING DISTRIBUTION TO THE FLOOR



## FLOOR SPECIFICATIONS

### GE SUPPLIED GANTRY ANCHORS



### FINISHED FLOOR REQUIREMENTS

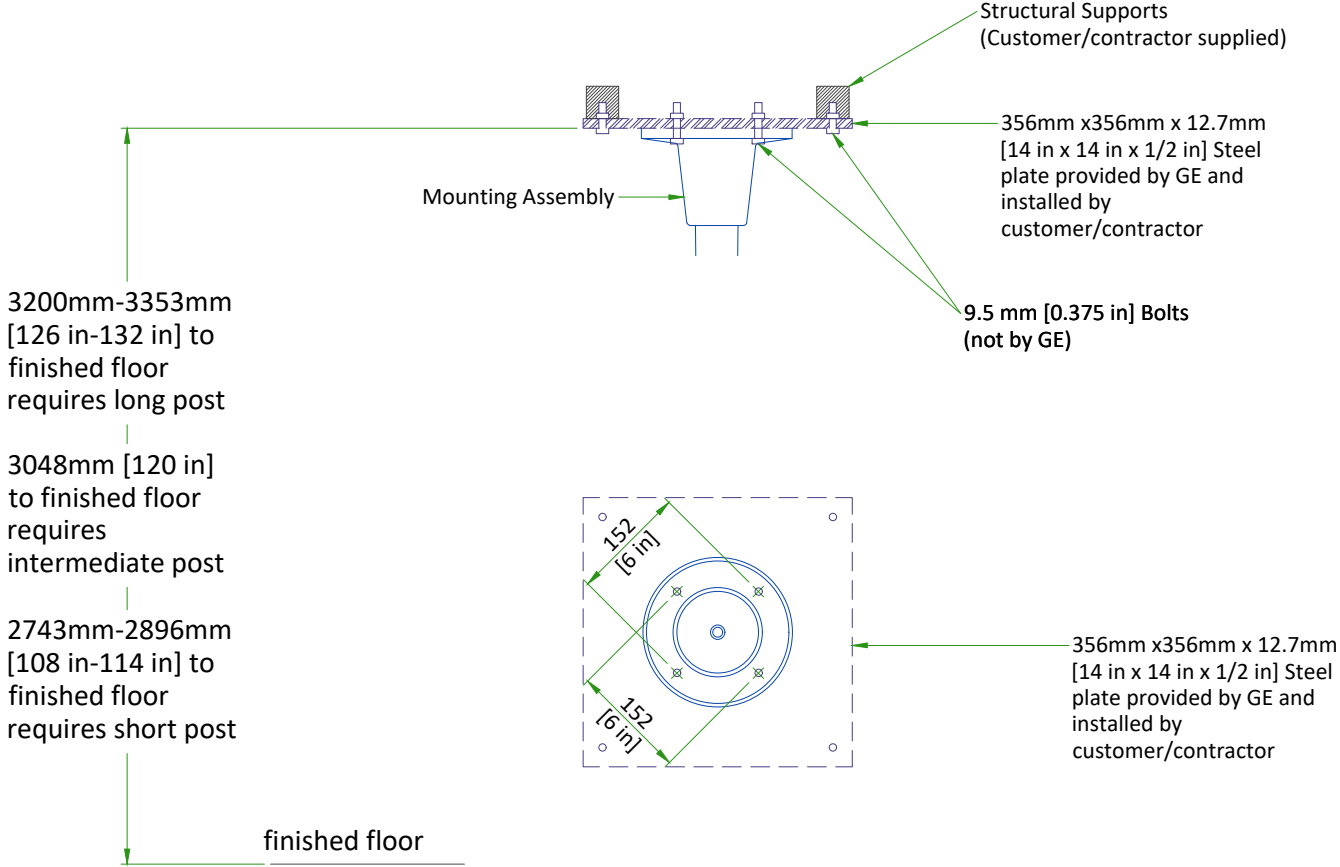
- Installation requires a finished floor in the scan and control rooms.
- The floor surface in the scan room directly under the gantry and table must be level.
- The floor levelness tolerance of the floor surface that the gantry and table will rest on is 6 mm [0.25 in] over a 3500 mm [10.0 ft] distance.
- Shims should not be used to compensate for a floor that does not meet this requirement.
- If the concrete floor has a floor covering installed over it (such as floor tile), the foot pad load bearing areas under the gantry and the patient table shall be cut into the flooring to ensure the table and gantry rest on a solid surface. (Openings cut during installation.)
- These floor penetrations can be sealed if required. These requirements apply to all installation types.

### Notes:

- Anchors must be embed at least 100 mm [3.9 in] from concrete floor edge or expansion joint

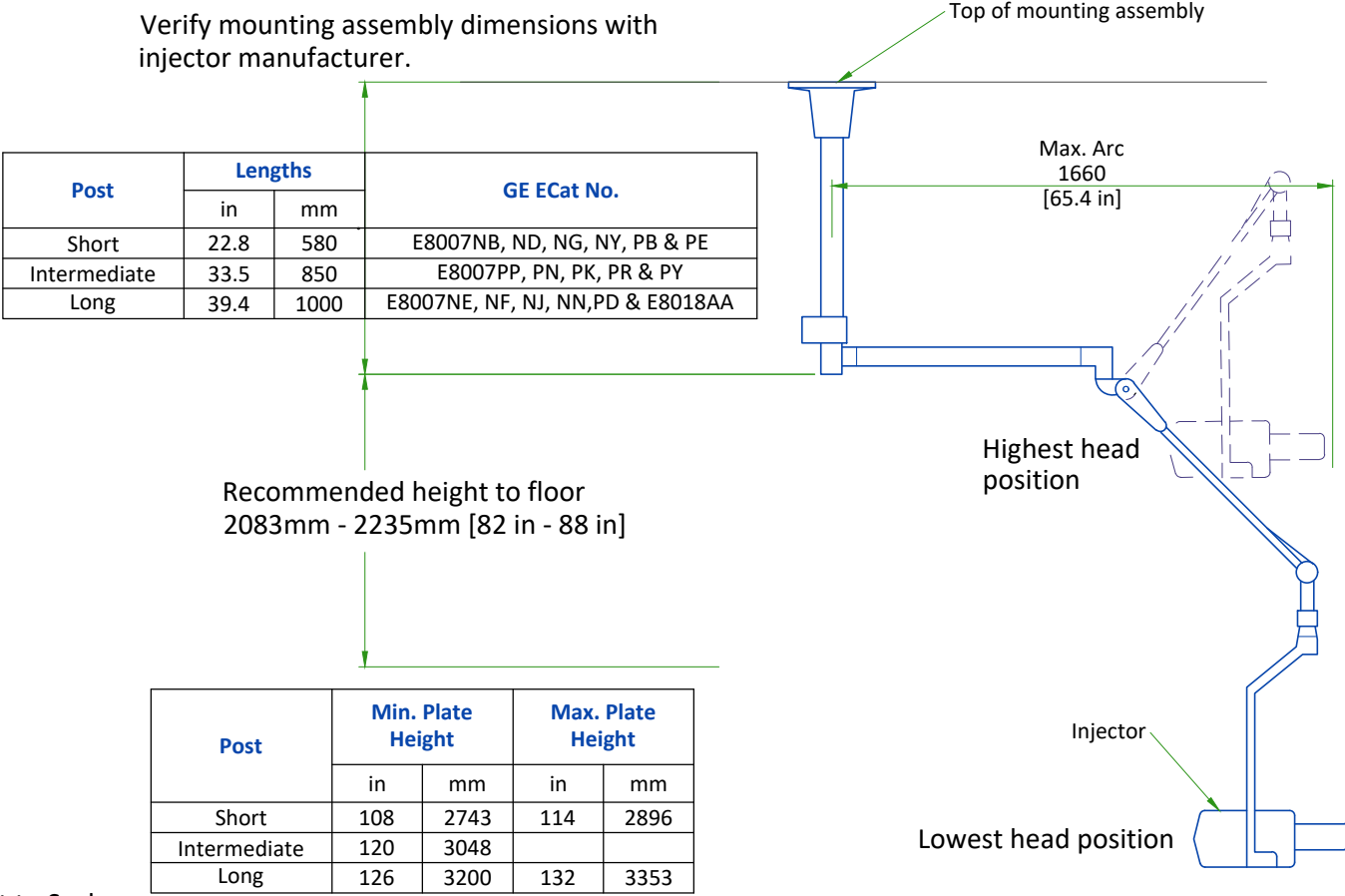
NOT TO SCALE

MEDRAD MOUNTING DETAILS FOR CEILING INJECTOR



Scale 1:10

MEDRAD MOUNTING DETAILS FOR CEILING INJECTOR



Not to Scale

TEMPERATURE AND HUMIDITY SPECIFICATIONS

IN-USE CONDITIONS

	EXAM ROOM			CONTROL ROOM		
Temperature (From -150 m [-492 ft] to 1600 m [5249 ft])	Min	Recommended	Max	Min	Recommended	Max
	18°C	22°C	26°C	18°C	22°C	26°C
	64°F	72°F	79°F	64°F	72°F	79°F
Temperature (From 1600 m [5249 ft] to 3000 m [9843 ft])	Min	Recommended	Max	Min	Recommended	Max
	18°C	22°C	25°C	18°C	22°C	25°C
	64°F	72°F	77°F	64°F	72°F	77°F
Temperature gradient	≤ 3°C/h			≤ 3°C/h		
	≤ 5.4°F/h			≤ 5.4°F/h		
Relative humidity (1)	30% to 70%			30% to 70%		

STORAGE CONDITIONS

Temperature	+4°C to +27°C
	40°F to +80°F
Temperature gradient	≤ 3°C/h
	≤ 5.4°F/h
Relative humidity (1)	20% to 60%
Humidity gradient	≤ 5%/h

Storage longer than 6 months is not recommended.

(1) Non-condensing

AIR RENEWAL

According to local standards.

NOTE

In case of using air conditioning systems that have a risk of water leakage it is recommended not to install it above electric equipment or to take measures to protect the equipment from dropping water.

HEAT DISSIPATION DETAILS

ROOM	DESCRIPTION	Max (btu)	Max (kW)
Exam Room	Gantry and Patient Table	27150	7.95
	TOTAL	27150	8.0
Exam Room or Technical Room*	Power distribution unit	1200	0.352
	System Cabinet IV	10578	3.1
	Partial UPS - Powerware 9355-15-14GE	3000	0.88
	TOTAL	14778	4.3
Control Room	Operator console (including 2 monitors)	5100	1.5
	TOTAL	5100	1.5
*Technical Room is not mandatory, the placements of these elements are recommended in the Exam Room.			

ELECTRICAL NOTES

1. All wires specified shall be copper stranded, flexible, thermo-plastic, color coded, cut 10 foot long at outlet boxes, duct termination points or stubbed conduit ends. All conductors, power, signal and ground, must be run in a conduit or duct system. Electrical contractor shall ring out and tag all wires at both ends. Wire runs must be continuous copper stranded and free from splices.
- 1.1. Aluminum or solid wires are not allowed.
2. Wire sizes given are for use of equipment. Larger sizes may be required by local codes.
3. It is recommended that all wires be color coded, as required in accordance with national and local electrical codes.
4. Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with local or national codes.
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 distribution unit and one on each wall of the procedure room. Use hospital approved outlet or equivalent.
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.
7. Routing of cable ductwork, conduits, etc., must run direct as possible otherwise may result in the need for greater than standard cable lengths (refer to the interconnection diagram for maximum usable lengths point to point).
8. Conduit turns to have large, sweeping bends with minimum radius in accordance with national and local electrical codes.
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.
10. The maximum point to point distances illustrated on this drawing must not be exceeded.
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.
12. GEHC conducts power audits to verify quality of power being delivered to the system. The customer's electrical contractor is required to be available to support this activity.

- All junction boxes, conduit, duct, duct dividers, switches, circuit breakers, cable tray, etc., are to be supplied and installed by customers electrical contractor.
- Conduit and duct runs shall have sweep radius bends
- Conduits and duct above ceiling or below finished floor must be installed as near to ceiling or floor as possible to reduce run length.
- Ceiling mounted junction boxes illustrated on this plan must be installed flush with finished ceiling.
- All ductwork must meet the following requirements:

1.Ductwork shall be metal with dividers and have removable, accessible covers.

2.Ductwork shall be certified/rated for electrical power purposes.

3.Ductwork shall be electrically and mechanically bonded together in an approved manner.

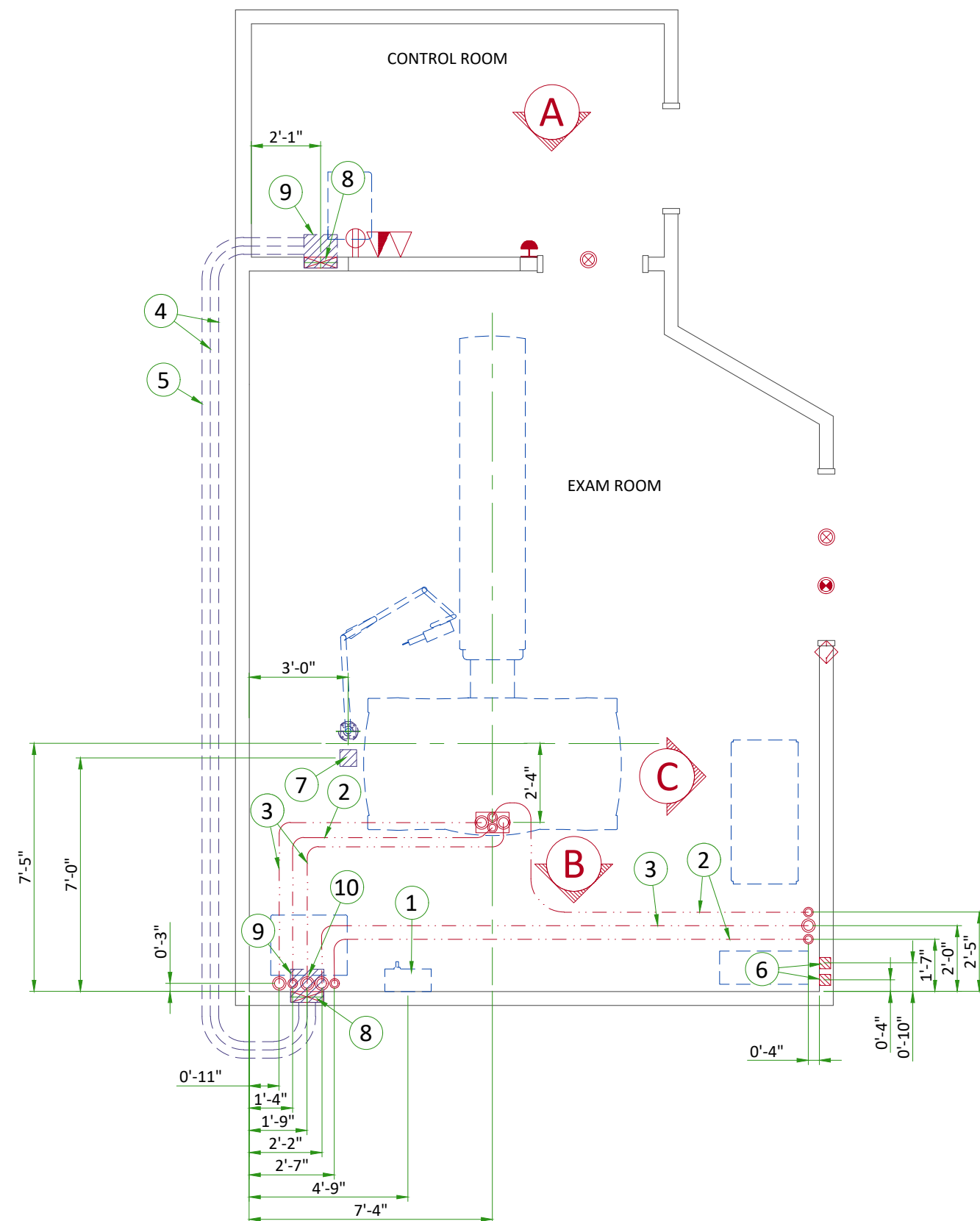
4.PVC as a substitute must be used in accordance with all local and national codes.
- All openings in access flooring are to be cut out and finished off with grommet material by the customers contractor.
- General contractor to insert pull cords for all cable run conduits between the equipment room and the operators control room.
- 10 foot pigtails at all junction points.
- Grounding is critical to equipment function and patient safety. Site must conform to wiring specifications shown on this plan.

CONNECTIVITY REQUIREMENTS

Broadband Connections are necessary during the installation process and going forward to ensure full support from the Engineering Teams for the customers system. Maximum performance and availability for the customers system is maintained and closely monitored during the lifetime of the system. Proactive and reactive maintenance is available utilising the wide range of digital tools using the connectivity solutions listed below:

- Site-to-Site VPN/GE Solution
- Site-to-Site VPN/Customer Solution
- Connection through Dedicated Service Network
- Internet Access - connectivity for InSite 2.0

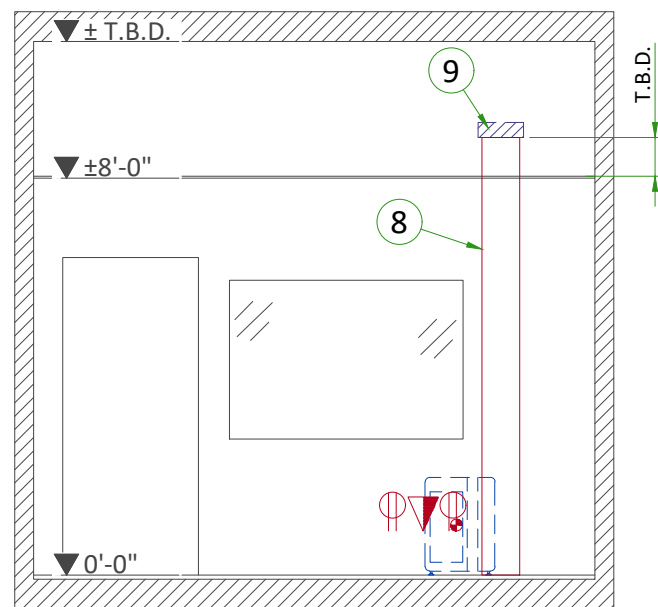
The requirements for these connectivity solutions are explained in the broadband solutions catalogue (separate document).



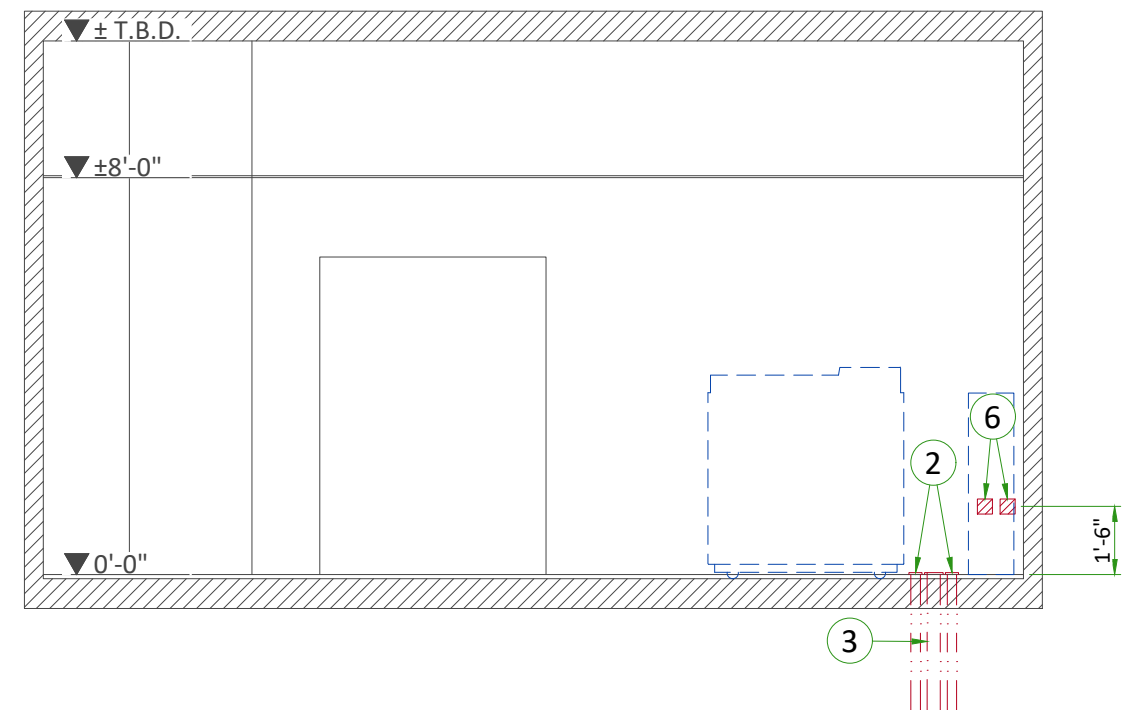
ITEM	DESCRIPTION	
1	Main disconnect panel	
2	2 1/2" [64] conduit below floor	
3	3 1/2" [89] conduit below floor	
4	2 1/2" [64] conduit above ceiling	
5	3 1/2" [89] conduit above ceiling	
6	4" x 4" x 4" [100 x 100 x 100] box 18" [450] above finished floor for UPS	
7	6" x 6" x 4" [150 x 150 x 100] box above ceiling for Injector	
8	10" x 3 1/2" [250 x 100] flush wall duct with minimum 2 dividers	
9	Box above ceiling size per local code	
10	Provide suitable length and diameter flexible metal conduit with 2 90 degree connectors	
ITEM	QTY	Outlet Legend for GE Equipment
△		Dedicated telephone line(s)
▲		Network outlet
⊕		Duplex hospital grade, dedicated wall outlet 120-v, single phase power
⊞		System emergency off (SEO), (recommended height 1.2m [48"] above floor)
⊗		X-Ray room warning light control panel
⊙		X-Ray ON lamp (L1) - 24V
◇		Door interlock switch (needed only if required by state/local codes)

Additional Conduit Runs (Contractor Supplied and Installed)				
From	To	Qty	Size	
			In.	mm
3 phase power	Main disconnect	1	AS REQ'D	AS REQ'D
Main disconnect	Emergency off	1	1/2	13
	Power Distribution Unit	1	AS REQ'D	AS REQ'D
Power Distribution Unit	Door Switch	1	1/2	13
	Warning light control	1	1/2	13
Warning light		1	1/2	13
1 phase power		1	1/2	13
Main Disconnect Panel	UPS	1	1 1/4	30
Power Distribution Unit		1	2	50
Injector	Injector Control	1	2 1/2	64

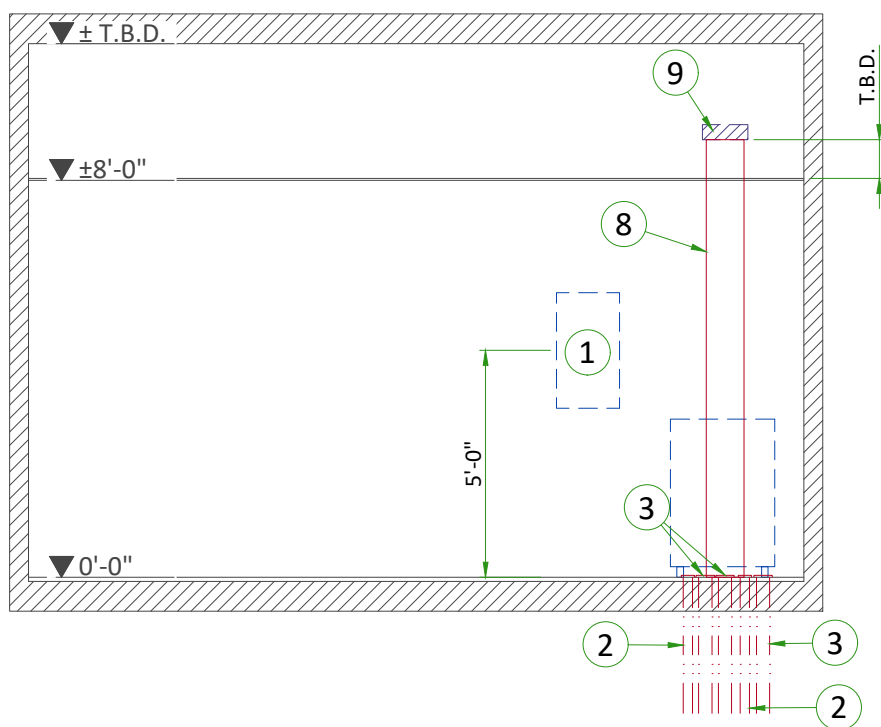




A



C



B

POWER REQUIREMENTS

POWER SUPPLY	3 PHASES+G (4-Wire system, neutral not used) 380/400/420/440/460/480 V ± 10%
FREQUENCIES	50/60Hz ± 3Hz
MAXIMUM POWER DEMAND	150 kVA
AVERAGE (CONTINUOUS) POWER DEMAND	11 kVA
POWER FACTOR	0.85

- Power supply should come into a main disconnect panel (MDP) containing the protective units and controls.
- The section of the supply cable should be calculated in accordance with its length and the maximum permissible voltage drops.
- There must be discrimination between supply cable protective device at the beginning of the installation (main low-voltage transformer side) and the protective devices in the MDP.
- Potential future upgrade may require a Maximum Power Demand of 200 kVA to be compatible.

SUPPLY CHARACTERISTICS

- Power input must be separate from any others which may generate transients (elevators, air conditioning, radiology rooms equipped with high speed film changers...).
- All equipment (lighting, power outlets, etc...) installed with GE system components must be powered separately.
- Phase imbalance 2% maximum.
- Transients must be less than 1500V peak. (on a 400V line)
- Maximum source regulation allowable is 6%. The combination of daily voltage variation (no load) and source regulation under full load shall not exceed + 10/-13% of nominal.

GROUND SYSTEM

- System of equipotential grounding.
- Equipotential: The equipotential link will be by means of an equipotential bar. This equipotential bar should be connected to the protective earth conductors in the ducts of the non GE cableways and to additional equipotential connections linking up all the conducting units in the rooms where GE system units are located.

CABLES

- Power and cable installation must comply with the distribution diagram.
- All cables must be isolated and flexible, cable color codes must comply with standards for electrical installation.
- The cables from signaling and remote control (Y, SEO, L...) will go to MDP with a pigtail length of 1.5m, and will be connected during installation. Each conductor will be identified and isolated (screw connector).

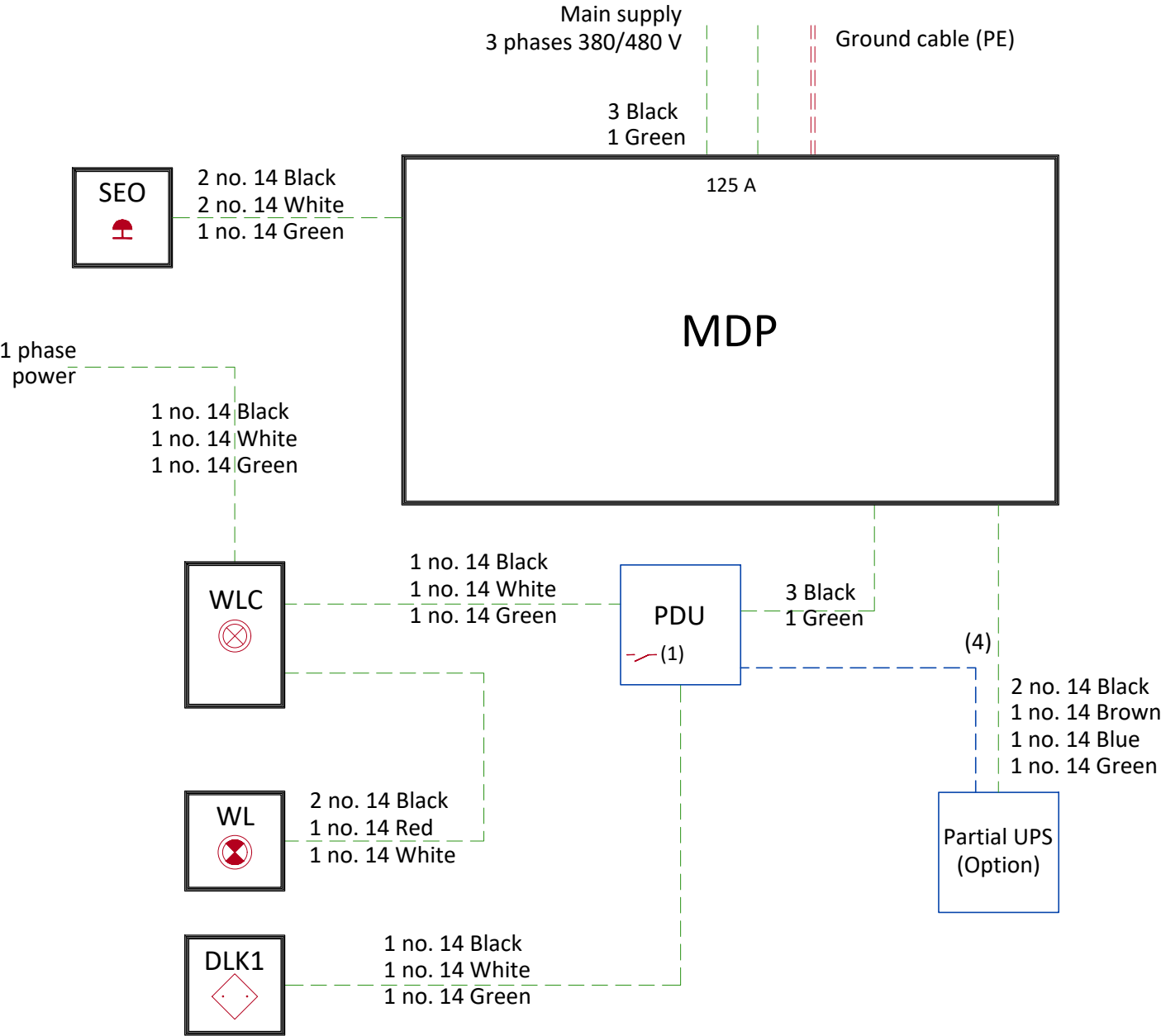
CABLEWAYS

The general rules for laying cableways should meet the conditions laid down in current standards and regulations, with regard to:

- Protecting cables against water (cableways should be waterproof).
- Protecting cables against abnormal temperatures (proximity to heating pipes or ducts).
- Protecting cables against temperature shocks.
- Replacing cables (cableways should be large enough for cables to be replaced).
- Metal cableways should be grounded.

FEEDER TABLE							
Sub-Feeder length (MDP/PDB to PDU)	MIN. SUB-FEEDER WIRE SIZE, AWG OR MCM (sq. mm)/VAC						
	380 VAC	400 VAC	420 VAC	440 VAC	460 VAC	480 VAC	
15m (50ft)	3/0 (85)	3/0 (85)	3/0 (85)	2/0 (70)	2/0 (70)	2/0 (70)	
GENERAL NOTES							
In all cases qualified personnel must verify that the feeder (at the point of take-off) and the run to the CT system meet all the requirements stated in the PIM							
For a single unit installation, the minimum transformer size is 225KVa, with 2.4% rated regulation at unity power factor. Resultant maximum allowable feeder regulation is 3.4%. Note: Not applicable to 200kVA systems.							
Grounding conductor will be a 1/0 minimum. this ground will run from the equipment back to the power source/main grounding point and always travel in the same conduit with the feeders							

POWER DISTRIBUTION



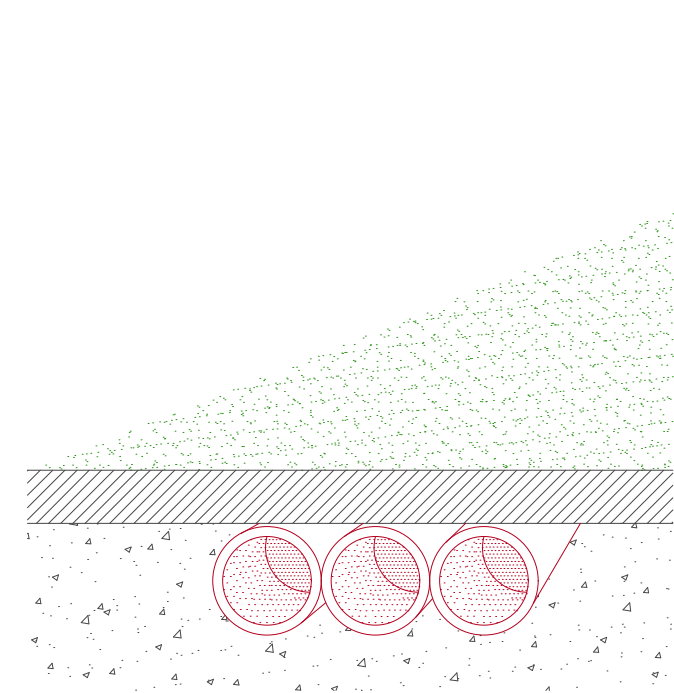
- MDP Main Disconnect Panel
- PDU Power distribution unit
- SEO Emergency OFF button (Control Room), located 1.50m (4.9') above floor
- WLC Warning Light Control
- WL Warning Light
- DLK1 Door Interlock Switch (needed only if required by state/local codes)

- Notes :
- (1) Two dry contacts: "System ON" and "X-Ray ON", both released by PDU.  
Max. voltage = 30 V
  - (2) If length < 10 m (32.8')  
Cable with 2m (6.6') extra length on the floor behind the back of PDU
  - (3) Cable with 2m (6.6') extra length on the floor behind the back of PDU
  - (4) Cable delivered with partial UPS installed by GE (Option)

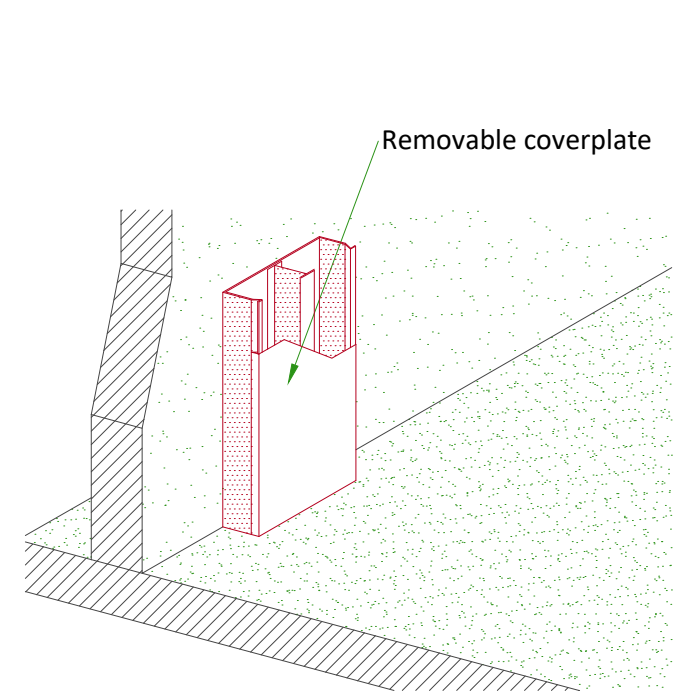
--- Cable SUPPLIED BY
--- CUSTOMER
--- Cable SUPPLIED BY GE
Equipment SUPPLIED BY CUSTOMER
Equipment SUPPLIED BY GE

CABLE MANAGEMENT

CONDUIT IN THE FLOOR



VERTICAL DUCT ON WALL



INTERCONNECTIONS

