



			Typical ---- ----					
REV	DATE	MODIFICATIONS						
01 - C1 - Cover Sheet 02 - C2 - Disclaimer - Site Readiness 03 - A1 - General Notes 04 - A2 - Equipment Layout 05 - A3 - Section Views 06 - A4 - Equipment Details & Delivery 07 - S1 - Structural Notes 08 - S2 - Structural Layout 09 - S3 - Structural Details (1)		10 - S4 - Structural Details (2) 11 - M1 - HVAC 12 - E1 - Electrical Notes 13 - E2 - Electrical Layout 14 - E3 - Electrical Elevations 15 - E4 - Details-Interconnections 16 - E5 - Power Requirements						
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: https://www.gehealthcare.com/support/manuals								
GE HealthCare 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 drawings. GE HealthCare cannot accept responsibility for any damage due to the partial use of GE HealthCare final issue drawings, however caused. All dimensions are in millimeters unless otherwise specified. Do not scale from printed pdf files. GE HealthCare accepts no responsibility or liability for defective work due to scaling from these drawings.								
 GE HealthCare ---- ---- ----								
OPTIMA XR646 HD FINAL STUDY								
Drawn by		Verified by		Concession		GON/Quote	PIM Manual	Rev
RET		REK		-		-	5643972-1EN	11
Format	Scale	File Name					Date	Sheet
A3	1/4"=1'-0"	EN-RAD-TYP-OPTIMA_XR_646_G3-NF.DWG					26/Jun/2025	01/16

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

CUSTOMER SITE READINESS REQUIREMENTS

REQUIRED MANUALS FOR SYSTEM PRE-INSTALLATION	
Description	Document Number*
Product specific Pre-installation Manual	Refer to cover page
*documents can be accessed in multiple languages at https://www.gehealthcare.com/support/manuals	

- 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.
- The items on the GE HealthCare Site Readiness Checklists listed below are REQUIRED to facilitate equipment delivery to the site. Equipment will not be delivered if these requirements are not satisfied.

REQUIRED SITE-READINESS CHECKLISTS FOR SYSTEM PRE-INSTALLATION	
Modality	Document Number*
Computerized Tomography	DOC2949059
Radiology, Radiology and Fluouroscopy, Mammography, Bone Mass Densitometry	DOC2949063
All modality Customer/Contractor Worksheet	DOC2949068
*documents can be accessed in multiple languages at https://www.gehealthcare.com/support/manuals	

- 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. Restrooms.
- Provide for refuse removal and disposal (e.g. crates, cartons, packing)
- For CT systems it is required to minimize vibrations within the scan room. 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 Pre-installation manual for vibration specifications.

ENVIRONMENTAL SPECIFICATIONS

MAGNETIC INTERFERENCE

In order to avoid interference on the system, static field limits from the surrounding environment must be less than <1 Gauss around the unit.

LIGHT REQUIREMENTS

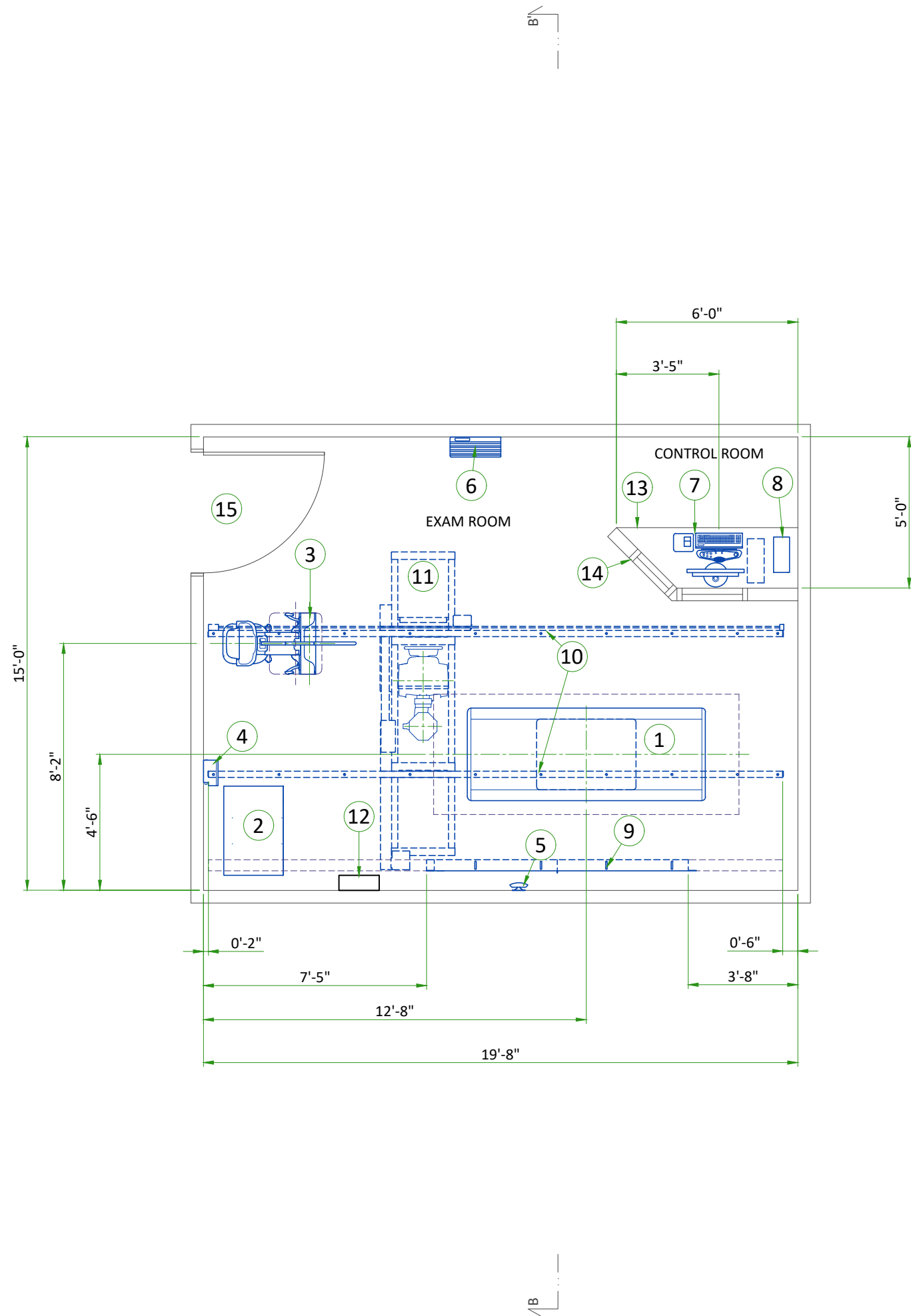
For the electronic ballast of fluorescent lamp in exam room, the operating frequency should be above 42 kHz.

ACOUSTIC OUTPUT

Measured 1 m [3.28 ft] from any point in system.

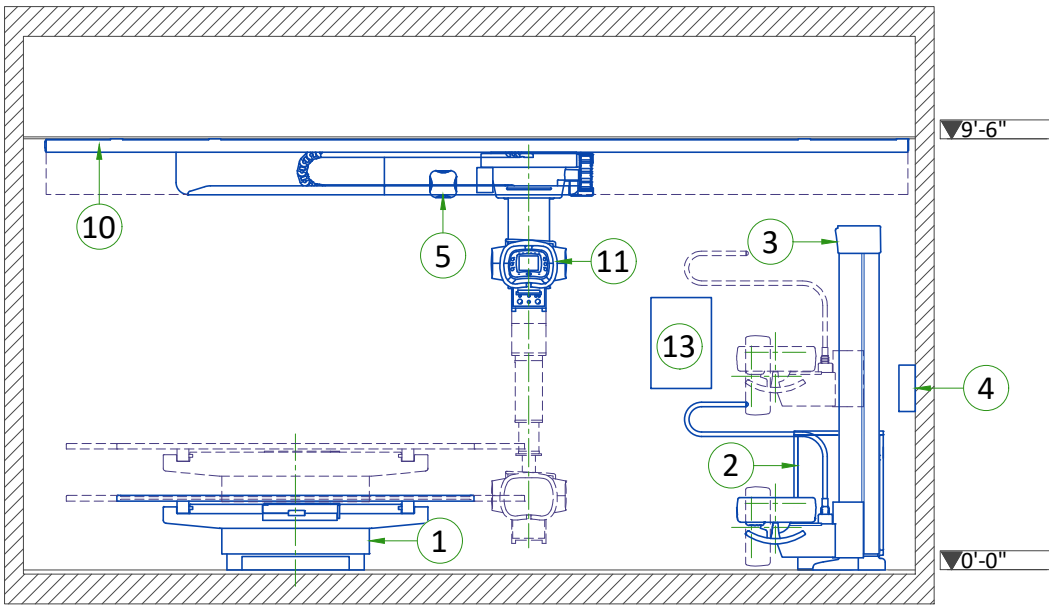
In-use: less than 60 dBA

Stand-by: less than 55 dBA



LEGEND						
A	GE SUPPLIED			D	AVAILABLE FROM GE	
B	GE SUPPLIED/CONTRACTOR INSTALLED			E	EQUIPMENT EXISTING IN ROOM	
C	CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED			*	ITEM TO BE REINSTALLED FROM ANOTHER SITE	
BY	ITEM	DESCRIPTION	MAX HEAT OUTPUT (BTU/h)	WEIGHT (lbs)	MAX HEAT OUTPUT (W)	WEIGHT (kg)
A	1	BAMBOO TABLE	-	692	-	314
A	2	VCP CABINET	-	437	-	198
A	3	GLOBAL G3 STANDARD WALL STAND	-	626	-	284
A	4	TETHER INTERFACE BOX (TIB)	232	15	68	7
A	5	ACCESS POINT	-	1	-	0.6
A	6	GRID HOLDER	-	30	-	13.8
A	7	OPERATOR CONSOLE	-	23	-	10.6
A	8	PARTIAL UPS	-	26	-	12
A	9	CABLE CHAIN SUPPORT	-	-	-	-
A	10	LONGITUDINAL STATIONARY RAILS	-	-	-	-
A	11	OTS WITH 3 m BRIDGE WITH CABLE CHAIN	-	712	-	323
D	12	MAIN DISCONNECT PANEL (MDP)	-	-	-	-
C	13	COUNTER TOP FOR EQUIPMENT- PROVIDE GROMMETED OPENINGS AS REQUIRED TO ROUTE CABLES				
C	14	CONTROL WALL, 7 FT. HIGH WITH LEAD GLASS VIEWING WINDOW				
C	15	MINIMUM OPENING FOR EQUIPMENT DELIVERY IS 950 mm x 1900 mm [37.5 in x 75 in], CONTINGENT ON A 2500 mm [96 in] CORRIDOR WIDTH (NOTE: IMAGE PASTE OPTION REQUIRES AN 1100 mm x 2100 mm [44 in x 82 in] OPENING)				
*REFER TO HEAT DISSIPATION DETAIL ON PAGE M1 FOR SYSTEM HEAT LOAD INFORMATION						
Applications						
The chart shows the application possible to perform with the present equipment positioning, however the sales contract may not include it.						
Auto Image Pasting at Wall Stand					YES	
THE FOLLOWING SHOTS ARE NOT AVAILABLE IN THIS LAYOUT						
REAR TO FRONT CROSS TABLE SHOT						
EXAM ROOM HEIGHT						
FINISHED FLOOR TO SLAB HEIGHT					TBD	
FALSE CEILING HEIGHT					rec. 9'-6"	
For Accessory Sales: (866) 281-7545 Options 1, 2, 1, 2 or mail to: gehcaccessorysales@ge.com						
Rev E Date 26/Jun/2025 A2 - Equipment Layout 04/16						

FRONT VIEW A-A'



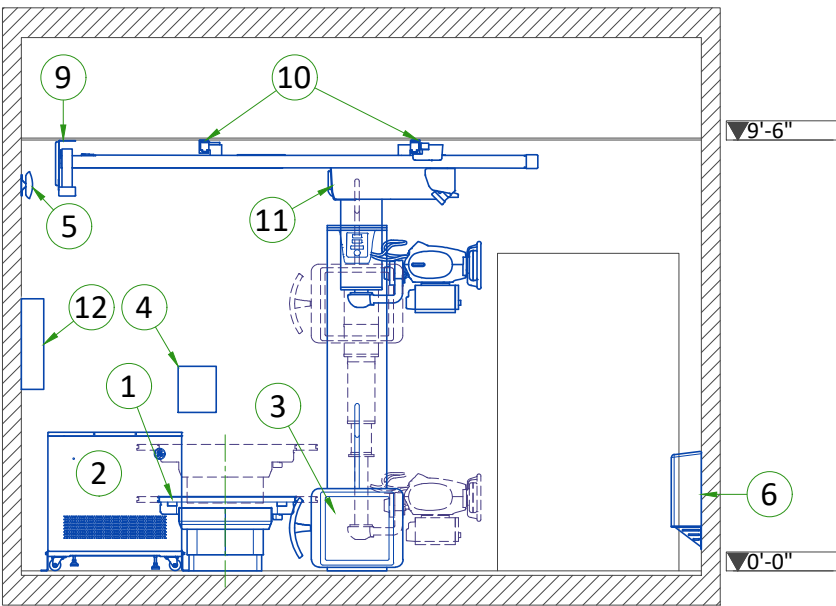
EXAM ROOM CEILING HEIGHTS

RECOMMENDED AND MINIMUM ROOM HEIGHTS				
CONFIGURATION		SPECIFICATIONS	CEILING HEIGHT	
All	2m or 3m Bridge	Recommended	2836 mm	111.65 in
	2m or 3m Bridge with WS at head Side	Minimum	2705 mm	106.5 in
Drape	2m or 3m Bridge with WS at foot Side	Minimum	2686 mm	105.75 in
Chain	2m or 3m Bridge with WS at foot Side	Minimum	2725 mm	107.28 in

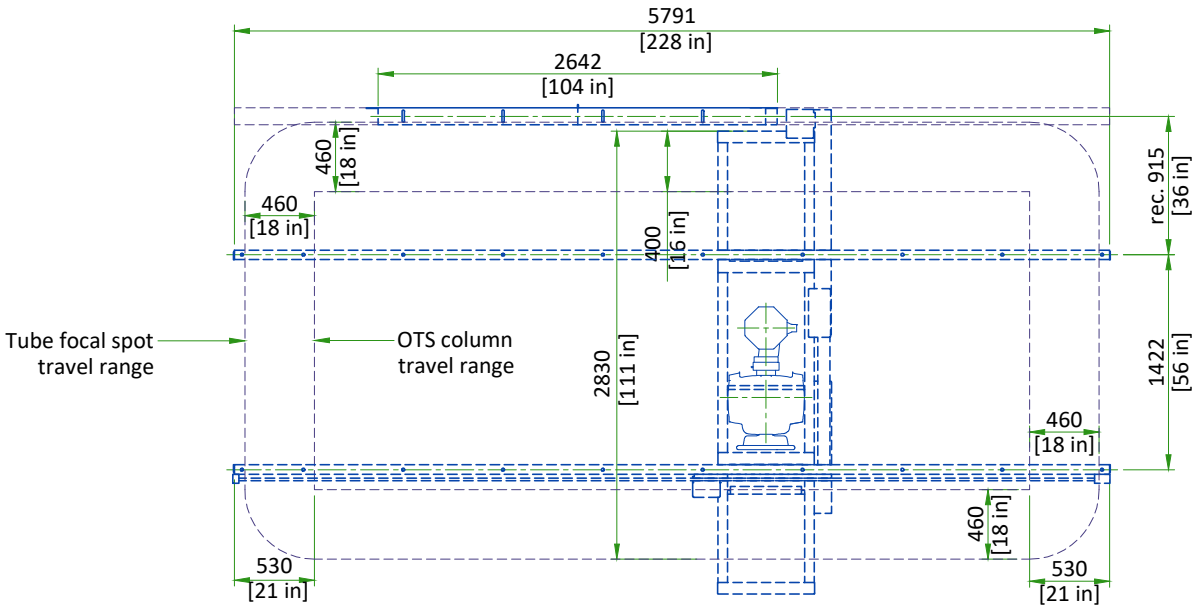
Note : measured from the floor to the top of the longitudinal rails

CEILING HEIGHT WITH FOOTSTOOL	
CEILING HEIGHT (mm [in])	COMMENTS
2686 ~ 2966 [105.7 ~ 116.8]	Patient barrier platform only (197 mm [7.8 in]), no need for footstool
2966 ~ 3036 [116.8 ~ 119.5]	Need 267 mm [10.5 in] footstool
3036 ~ 3179 [119.5 ~ 125.2]	Need 410 mm [16.1 in] footstool

SIDE VIEW B-B'



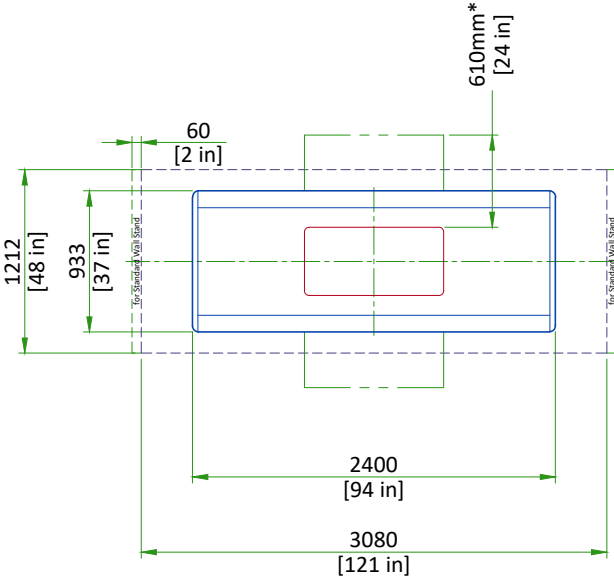
FOCAL SPOT TRAVEL WITH 3M BRIDGE



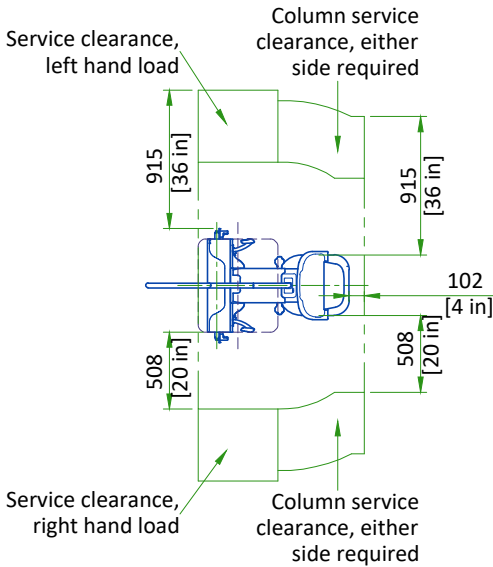
NOT TO SCALE Note: Focal Spot Travel depends on the length of the bridge and rails.

CLEARANCE AREAS

G3/BAMBOO TABLE WITH STANDARD WALLSTAND



*Recommended service access clearance is 915 mm [3 ft].



SCALE 1:50

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

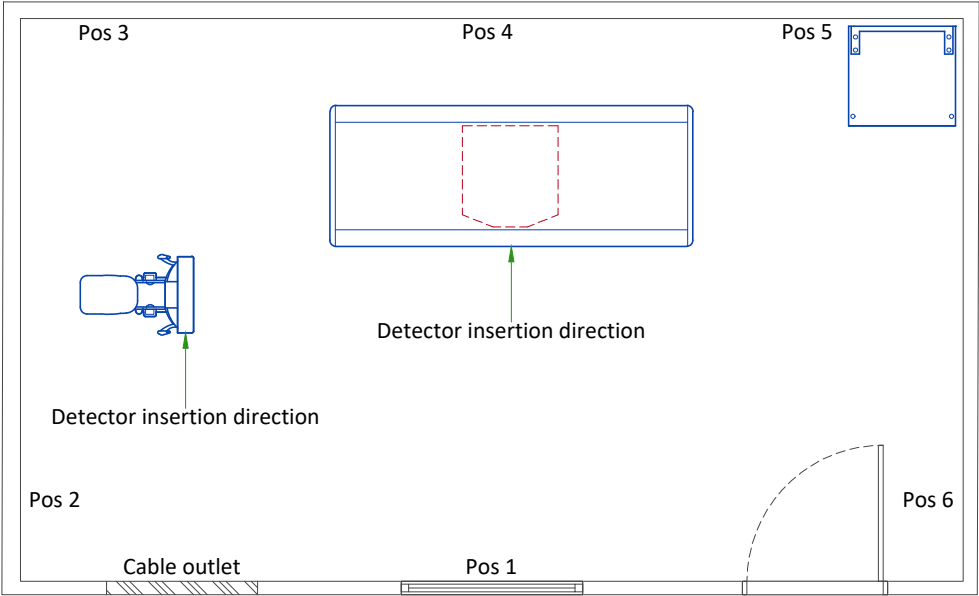
EQUIPMENT	DIMENSIONS LxWxH mm (in)	WEIGHT kg (lb)
STANDARD WALLSTAND	2111x911x1860 (83.1x35.9x73.2)	260 kg (573 lbs) + dolly
EXTENDED WALLSTAND	2340x911x1860 (92.1x35.9x73.2)	280 kg (617 lbs) + dolly
MANUAL WALLSTAND	2000x911x1840 (78.7x35.9x72.4)	260 kg (573 lbs) + dolly
BAMBOO TABLE	2600x1240x925 (102x48.8x36.4)	482.5 kg (1064 lbs)
GLOBAL G3 TABLE	2350x940x800 (93x37x31.5)	380 kg (838 lbs) + dolly
STANDARD TABLE	1319x833x570 (52x33x22.4)	268 kg (590 lbs) + dolly
STATIONARY RAILS (4 m)* (set of 2 rails)	4400x62.5x84.3 (173x2.5x3.3)	48 kg (106 lbs)
OTS	900x940x1020 (35.4x37x40)	217 kg (478 lbs)
2M BRIDGE	3170x800x457 (124.8x31.5x18.7)	204 kg (450 lbs)
3M BRIDGE	3350x650x550 (131.9x25.6x21.7)	245 kg (540 lbs)

Refer to Equipment Layout for site-specific equipment configuration.
*Available in lengths up to 5.79 m (19 ft)

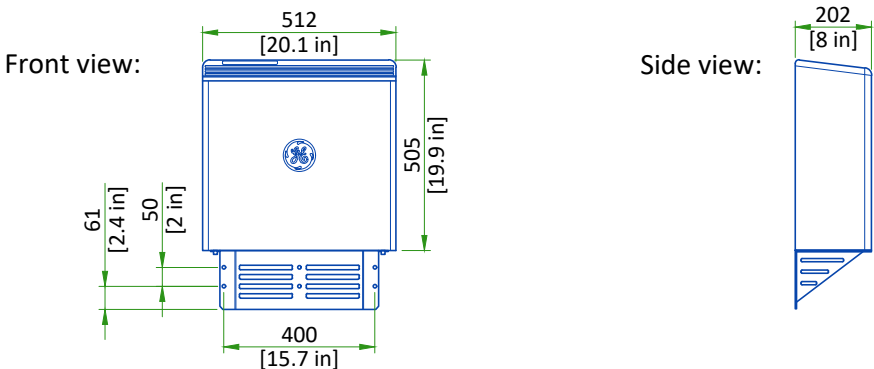
ACCESS POINT POSITION

AP Wall-mounting position:

- There are 6 different positions available for AP wall-mounting.
- Install at more than 2.5 m [8.2 ft] height from floor level to avoid potential blocking from human or other obstacles.
- One Ethernet cable to Magic PC and one power cable to system cabinet are connected on the back of the AP.
- Use wall mount adapter included with AP.
- AP is only provided for wireless system, it is not included in Non Wireless Configuration system.



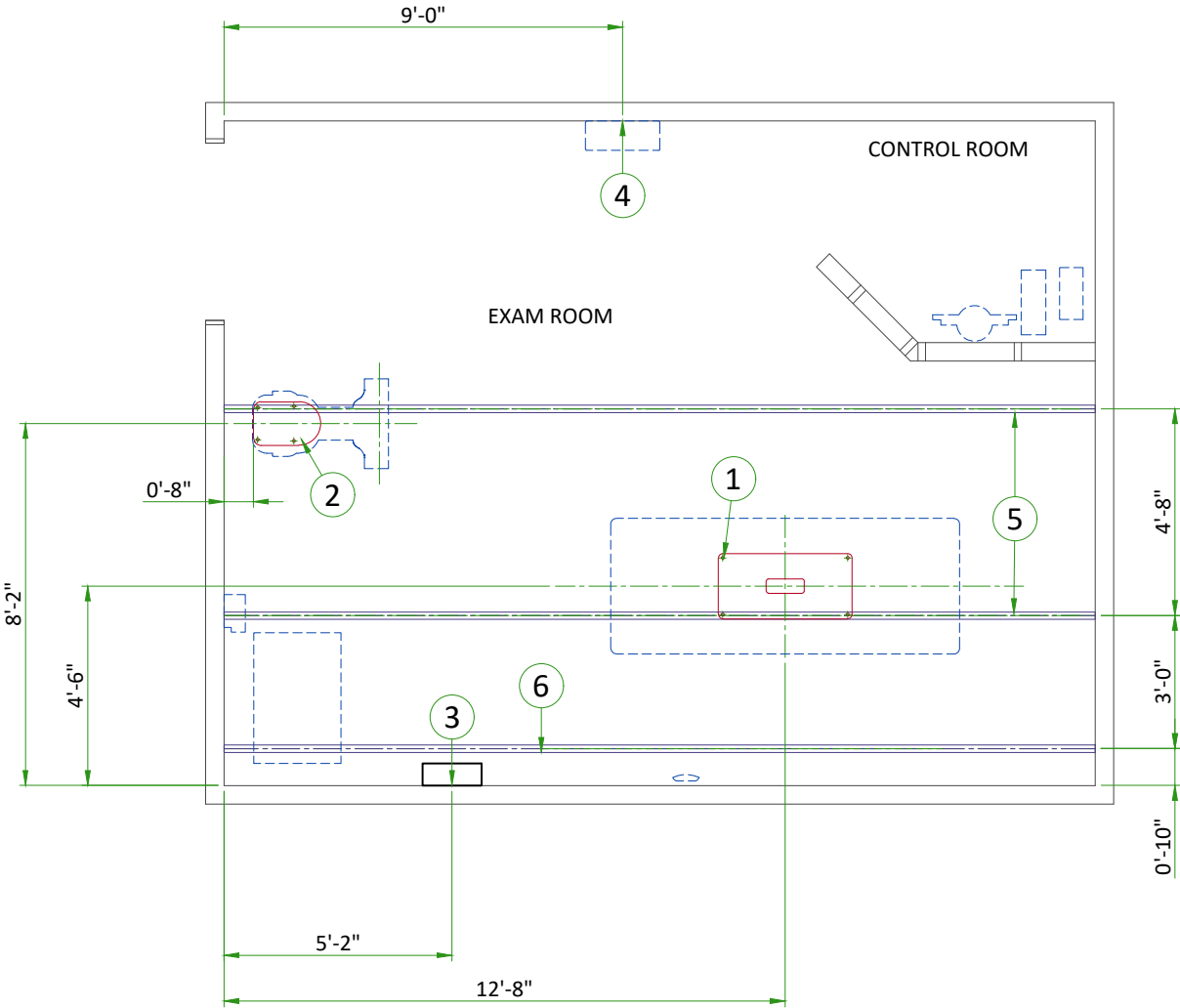
GRID HOLDER



The bottom edge of the Grid Holder must be < 300 mm [11.8 in] from the bottom of the Holder to the floor.

SCALE 1:20

STRUCTURAL NOTES			CEILING REQUIREMENTS										
• 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 for suggested locations. • Control walls shall be constructed to minimum 2130mm (7'-0") high. • 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". • Different anchor types are used to install the components of the system. Refer to Structural Requirements Section(s) of the Pre-Installation Manual for each anchor requirement. • Refer to the Structural Requirements Section for the required minimum embedment. • The ground surface must be flat and leveled, maximum tolerance for leveling is ±1.5 mm per 1 m (0.2 in per 10 feet). A grout pad provided by the contractor is required to meet this specification. The maximum pad thickness is 6.3 mm (0.25 in).			To allow installation of the stationary rail cross-members, clearance is required between the ends of the stationary rails and the walls. It is recommended that sprinkler heads not be placed between the stationary rails. All sprinkler heads should be mounted so they do not extend downward more than 6.35 mm [1/4 in] from the ceiling while in the 'resting' position. In addition, there should not be anything mounted in the ceiling (i.e. lights, A/C returns, etc) between the stationary rails. This is because the OTS longitudinal drive belt assembly is located on the movable bridge, approximately centered between the two stationary rails, and may come into contact with those ceiling-mounted items during normal use. Stationary rails are designed for top (ceiling) mounting. Rails can be ordered and are supplied in the following sizes: <table><tr><td>- 4115 mm [13 ft 6 in]</td><td>- 5334 mm [17 ft 6 in]</td></tr><tr><td>- 4420 mm [14 ft 6 in]</td><td>- 5640 mm [18 ft 6 in]</td></tr><tr><td>- 4724 mm [15 ft 6 in]</td><td>- 5791 mm [19 ft]</td></tr><tr><td>- 5030 mm [16 ft 6 in]</td><td></td></tr></table> The choice of length depends on room size, configuration and the possible presence of obstructions.			- 4115 mm [13 ft 6 in]	- 5334 mm [17 ft 6 in]	- 4420 mm [14 ft 6 in]	- 5640 mm [18 ft 6 in]	- 4724 mm [15 ft 6 in]	- 5791 mm [19 ft]	- 5030 mm [16 ft 6 in]	
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Typical	OPTIMA XR646 HD	EN-RAD-TYP-OPTIMA XR 646 G3-NF.DWG	Rev E Date 26/Jun/2025	S1 - Structural Notes	07/16								

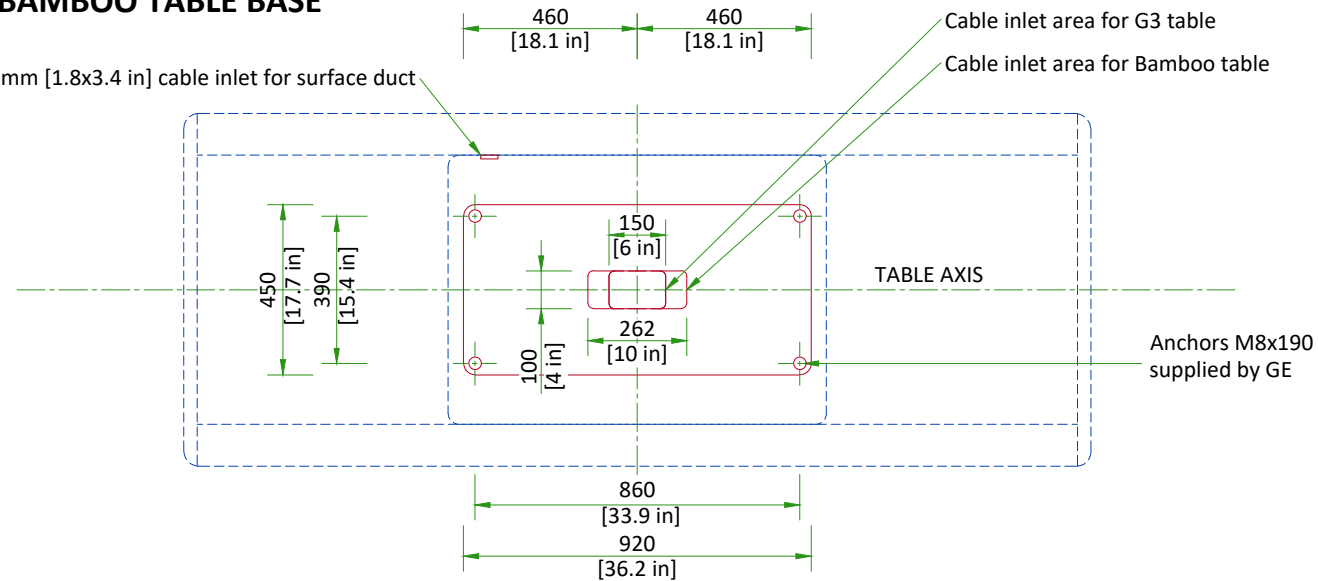


ITEM	DESCRIPTION
(GE SUPPLIED / CONTRACTOR INSTALLED)	
1	Area occupied by GE supplied table baseplate
2	Area occupied by GE supplied wall stand baseplate
(CONTRACTOR SUPPLIED & INSTALLED)	
3	Support backing, locate as shown.
4	Support backing for Grid Holder, locate as shown. Refer to Equipment Detail page.
5	Structural support in ceiling for fastening ceiling supported equipment. Supports to run continuous with no fittings extending below face of channel, run wall to wall, be parallel, square, and in the same horizontal plane, flush with the finished ceiling. Rails are mounted to these supports every 2'-2" and require 350 lbs. (597 lbs. In seismic regions) per bolt load. Methods of support that permit attachment to structural steel or through bolts in concrete should be favored. Do not use screw anchors in direct tension.
6	Structural support in ceiling for fastening cable drape rail. Supports to run continuous with no fittings extending below face of channel, run wall to wall, be parallel, square, and in the same horizontal plane, flush with the finished ceiling. Rails are mounted to these supports every 2'-2" and require 50 lbs. Per bolt load. Methods of support that permit attachment to structural steel or through bolts in concrete should be favored. Do not use screw anchors in direct tension.

TABLE ANCHORING

G3/BAMBOO TABLE BASE

46x86 mm [1.8x3.4 in] cable inlet for surface duct



The floor bearing the system is recommended to be concrete and the thickness to be determined by a Structural Engineer to properly support the equipment loads. The supplied anchors require a minimum embedment of 90 mm [3.5 in] into the concrete. If the floor thickness is less than 95 mm [3.7 in], it is recommended that the unit be secured using a through-bolt method with a reinforcement plate on the back side. The floor levelness tolerance of the floor surface that the table will rest on is 6 mm [1/4 in] over a 3048 mm [10 ft] distance.

SCALE 1:20

OTS SUSPENSION RAILS MOUNTING SPECIFICATIONS

3 m BRIDGE

When a 22.7 kg [50 lb] force is applied vertically upward, downward or horizontally at any support rail mounting point, the attachment interface must not deflect more than 1.5 mm [1/16 in]

When a 136 kg [330 lb] load is applied vertically downward or horizontally at any stationary rail mounting point, the attachment interface must not deflect more than 1.5 mm [1/16 in]

660.4 ±1.5 mm
[26 ±1/16 in]

The bottom surface of stationary rail and cable support rail must be flat, no obvious protrusions larger than 1mm. (only applicable for non-Unistrut construction)

Stationary rail mounting points must be parallel within ± 3 mm [$\pm 1/8$ in]

When a 45.4 kg [100 lb] force is applied vertically upward at any stationary rail mounting point, the attachment interface must not deflect more than 1.5 mm [1/16 in]

min. 870/rec. 915/max. 960 ± 3 mm
[min. 34.3/rec. 36/max. 37.8 $\pm 1/8$ in]

1422 ±3 mm
[56 ±1/8 in]

Diagonals must be equal within $\pm 6.5 \text{ mm } [\pm 1/4 \text{ in}]$

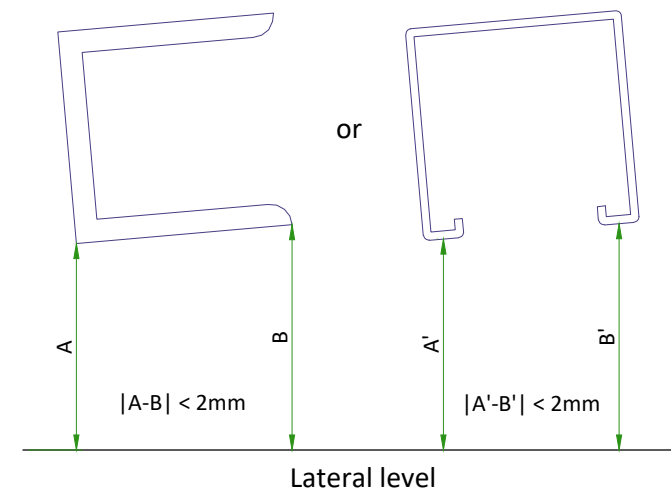
All mounting points must be located on a common centerline within ± 1.5 mm [$\pm 1/16$ in]

— All mounting points must be in the same horizontal plane within ± 2.4 mm [$\pm 3/32$ in]

Distance between holes axis 660.4 mm [26 in], Maximum load per screw is 160 kg [353 lb], however each mounting screw must not "PULL OUT" or otherwise fail under a vertically downward dead load of 635 kg [1400 lb]. Bolts for mounting stationary rails on Unistrut or equivalent supplied by GE (1/2" - 13 headed bolts)

ADDITIONAL RAIL REQUIREMENTS

The bottom surface of the stationary rail and cable support rails must be horizontal, and the height difference between each support rail edge along the lateral direction must be less than 2 mm (or angle with level along lateral direction must less than 2°).



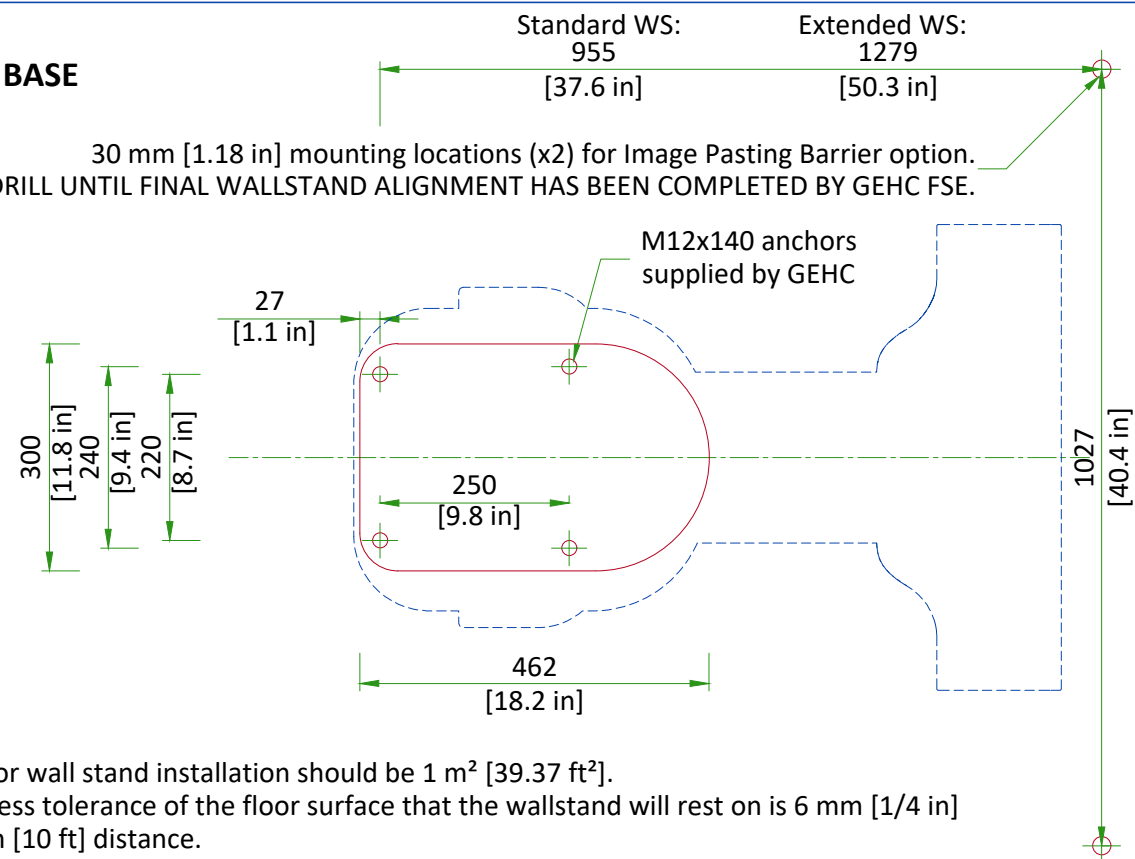
WALLSTAND ANCHORING

WALLSTAND BASE

Standard WS:
955

Extended WS:
1279

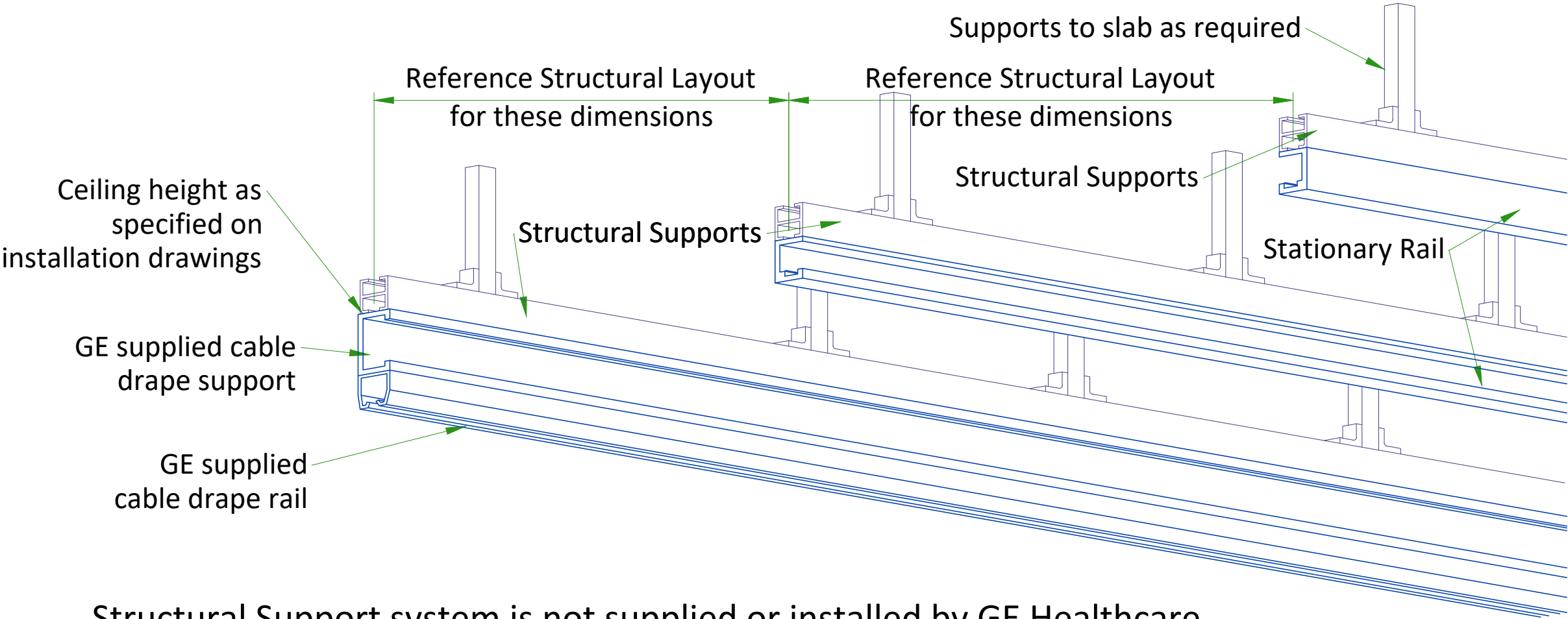
30 mm [1.18 in] mounting locations (x2) for Image Pasting Barrier option.
DO NOT DRILL UNTIL FINAL WALLSTAND ALIGNMENT HAS BEEN COMPLETED BY GEHC FSE.



Concrete area for wall stand installation should be 1 m² [39.37 ft²].
The floor levelness tolerance of the floor surface that the wallstand will rest on is 6 mm [1/4 in] over a 3048 mm [10 ft] distance.

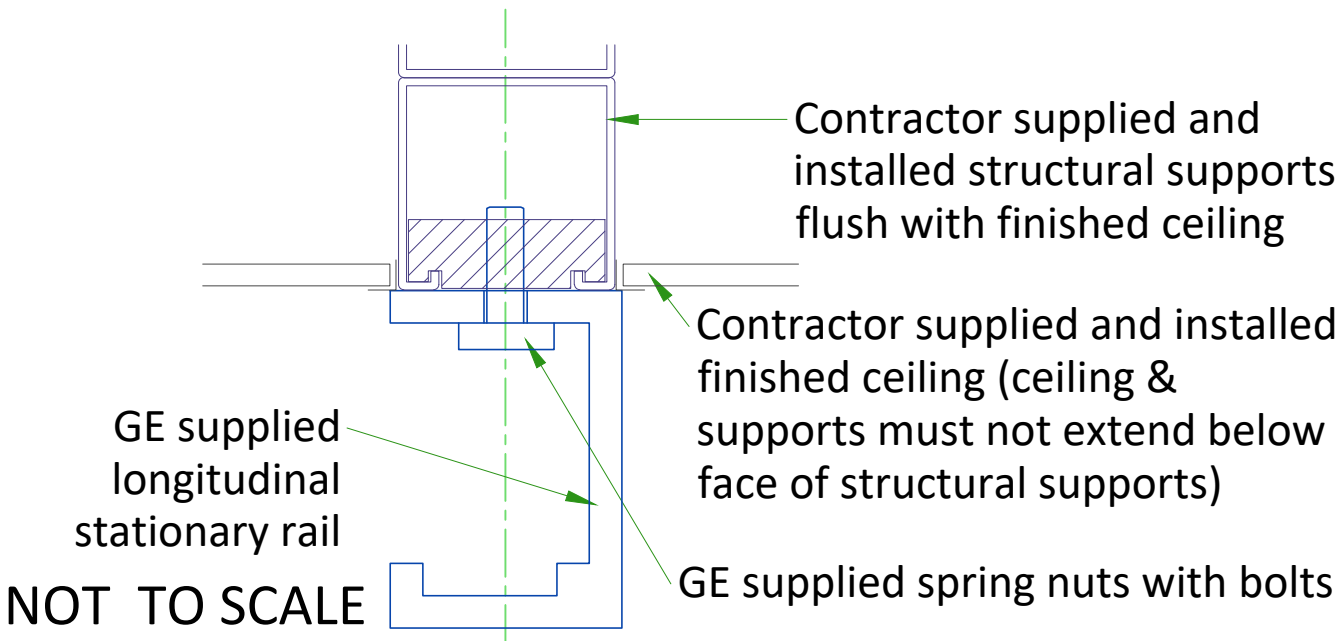
SCALE 1:10

XT RADIOGRAPHIC SUSPENSION, INBOARD MOUNTING

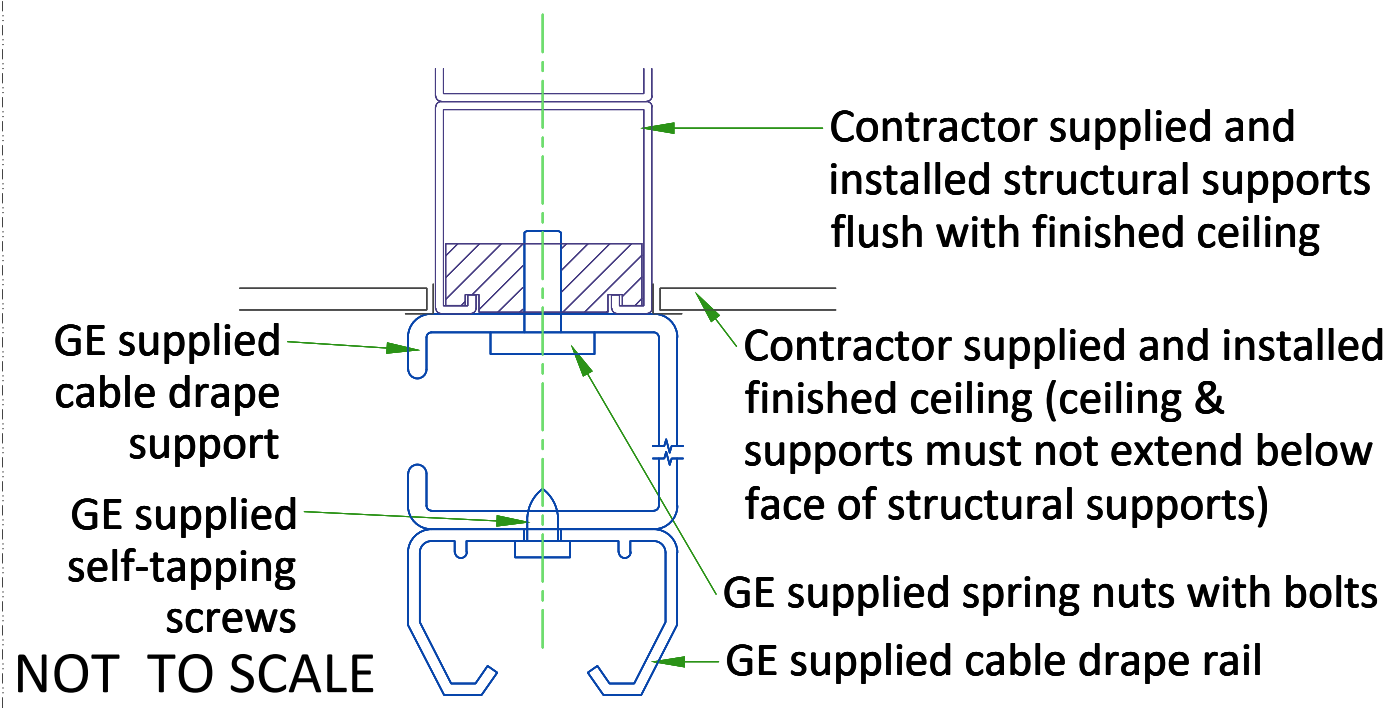


Structural Support system is not supplied or installed by GE Healthcare

DETAIL 1



DETAIL 2



TEMPERATURE AND HUMIDITY SPECIFICATIONS

IN-USE CONDITIONS

	EXAM ROOM		CONTROL ROOM	
	Min	Max	Min	Max
	15°C [59°F]	32°C [90°F]	15°C [59°F]	32°C [90°F]
Temperature gradient	< 10°C/h [< 50°F/h]		< 10°C/h [< 50°F/h]	
Relative humidity (1)	20% to 75%		20% to 75%	
Humidity gradient	< 30%/h		< 30%/h	

STORAGE CONDITIONS

Temperature	-5°C [23°F] to +50°C [122°F]
Temperature gradient	< 20°C/h [< 68°F/h]
Relative humidity (1)	10% to 85%
Humidity gradient	< 30%/h

Storage longer than 90 days 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

SYSTEM POWER CONSUMPTION	HEAT OUTPUT			
	STANDBY		IN-USE	
Standby Power	1.0 kW	3412 BTU/hr		
Standby Current	2.0 A			
Continuous Power			2.2 kW	7507 BTU/hr
Continuous Current			4.5 A	

CONNECTIVITY REQUIREMENTS

Your new GE Healthcare imaging modality will require local and remote connectivity to enable our full range of digital support:

- Local connectivity - This allows your system to connect to local devices such as PACS and modality worklist. We will require network information to configure the system(s), and a live ethernet port(s) prior to the delivery of the system(s).
- Remote connectivity - Your GE Healthcare service warranty includes InSite™ (applicable to InSite capable products), a powerful broadband-based service which enables digital tools that can help guard your hospital against equipment downtime and revenue loss by quickly connecting you to a GE Healthcare expert.

Depending on product family and software version, imaging systems can be connected in one of the following methods:

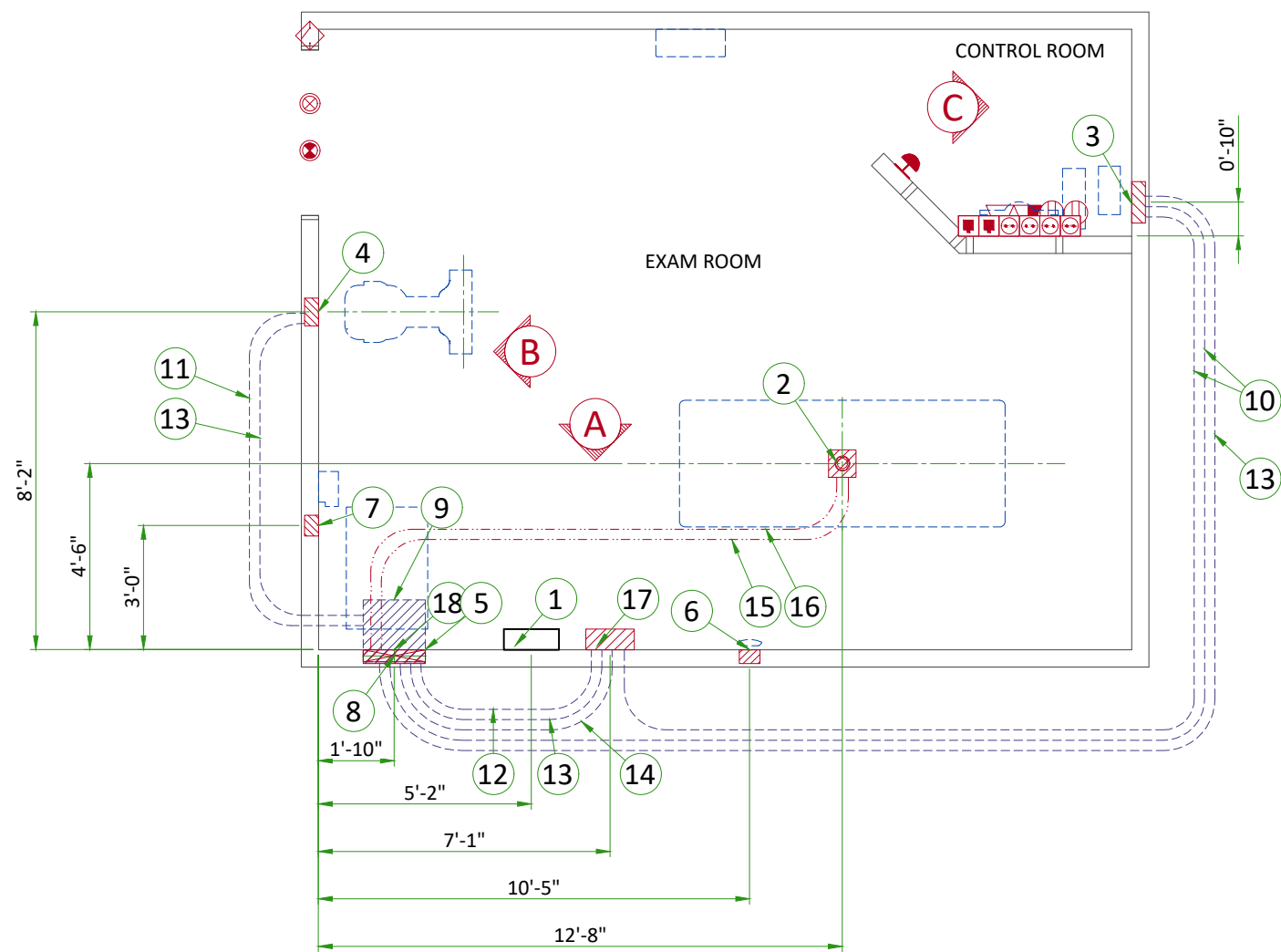
1. TLS over TCP Port 443 (Preferred method for new products) via:
 - a. DNS resolution
 - b. Customer-provided Proxy or
 - c. GE Proxy (Available in some regions)
2. Site-to-Site IPsec VPN tunnel

Please provide the GE project manager with the contact information for the resource that can provide information required to set up these connections. GEHC will send out communication to these contacts, which will include the project's Connectivity requirements, and a Connectivity form. This form will need to be completed and returned to GEHC prior to delivery of the system to ensure the system is tested and connectivity is enabled prior to the completion of the installation.

ELECTRICAL NOTES

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. In some cases GEHC will specify ground wires to be sized larger than code. In these situations, the GEHC specification must be followed.
10. 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.
11. The maximum point to point distances illustrated on this drawing must not be exceeded.
12. Physical connection of primary power to GEHC equipment is to be made by customers electrical contractor with the supervision of a GEHC representative. The GEHC representative would be required to identify the physical connection location, and insure proper handling of GEHC equipment.
13. 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.
14. Every installation is unique. The electrical contractor will be required to support the installation of the GEHC equipment by providing knockouts, grommeted openings, bushings, etc. as required. All power connections to be performed by the electrician.

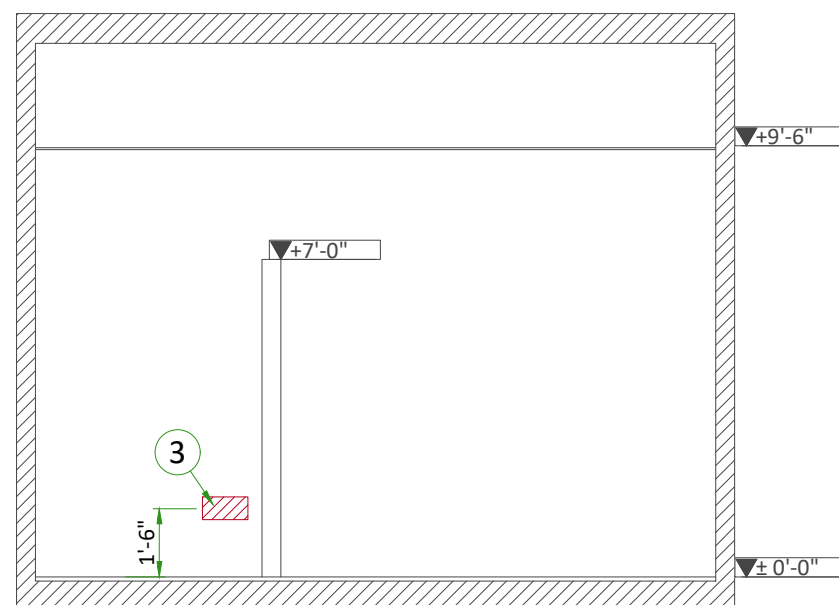
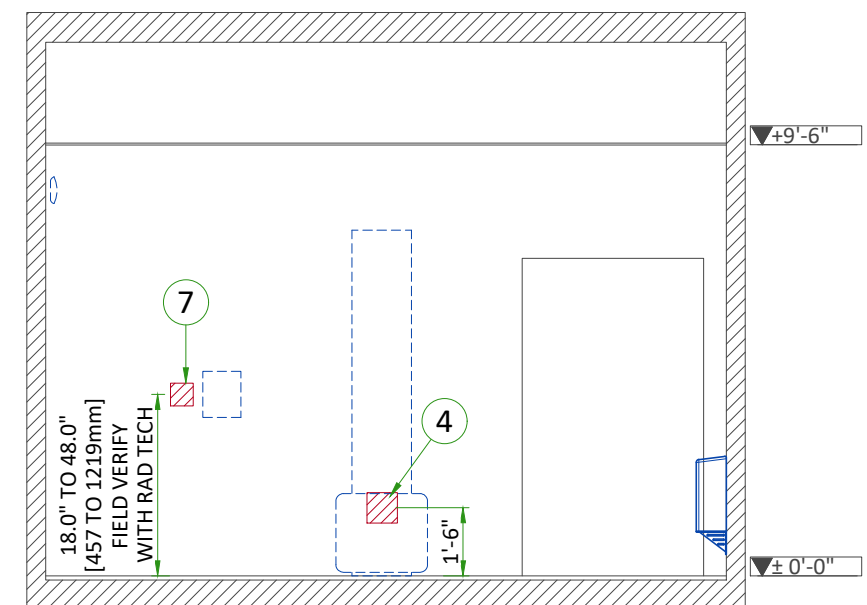
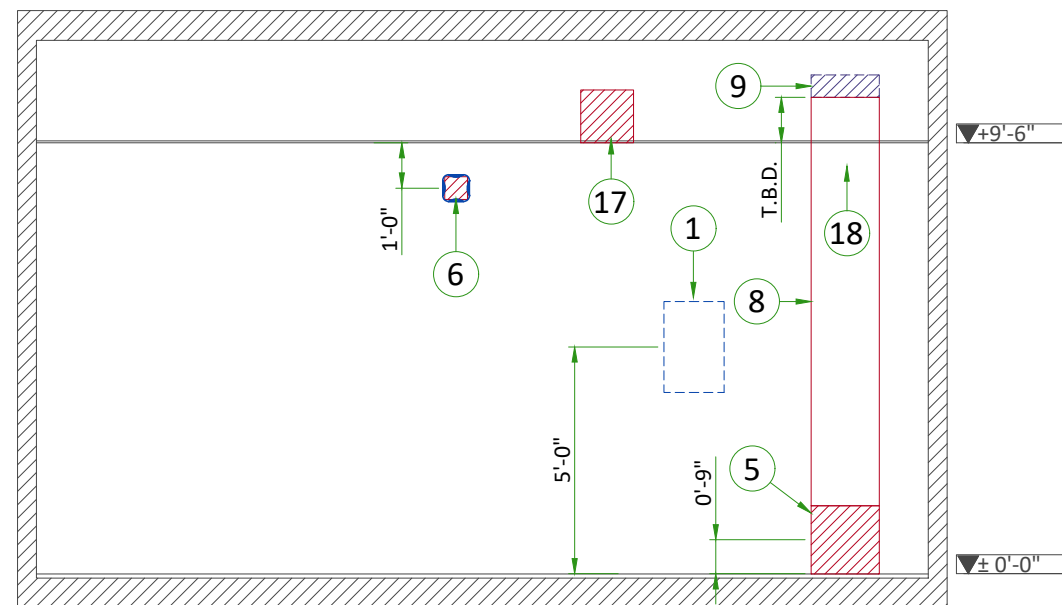
- All junction boxes, conduit, duct, duct dividers, switches, circuit breakers, cable tray, etc., are to be supplied and installed by customers electrical contractor. All junction boxes shall be provided with covers.
- Conduit and duct runs shall have gradual sweep radius bends.
- Conduits and duct above 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 raceway and access flooring are to be cut out and finished off with grommet material by the customers contractor.
- Electrical contractor to provide measured pull strings in all conduit and raceway runs.
- Provide 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.



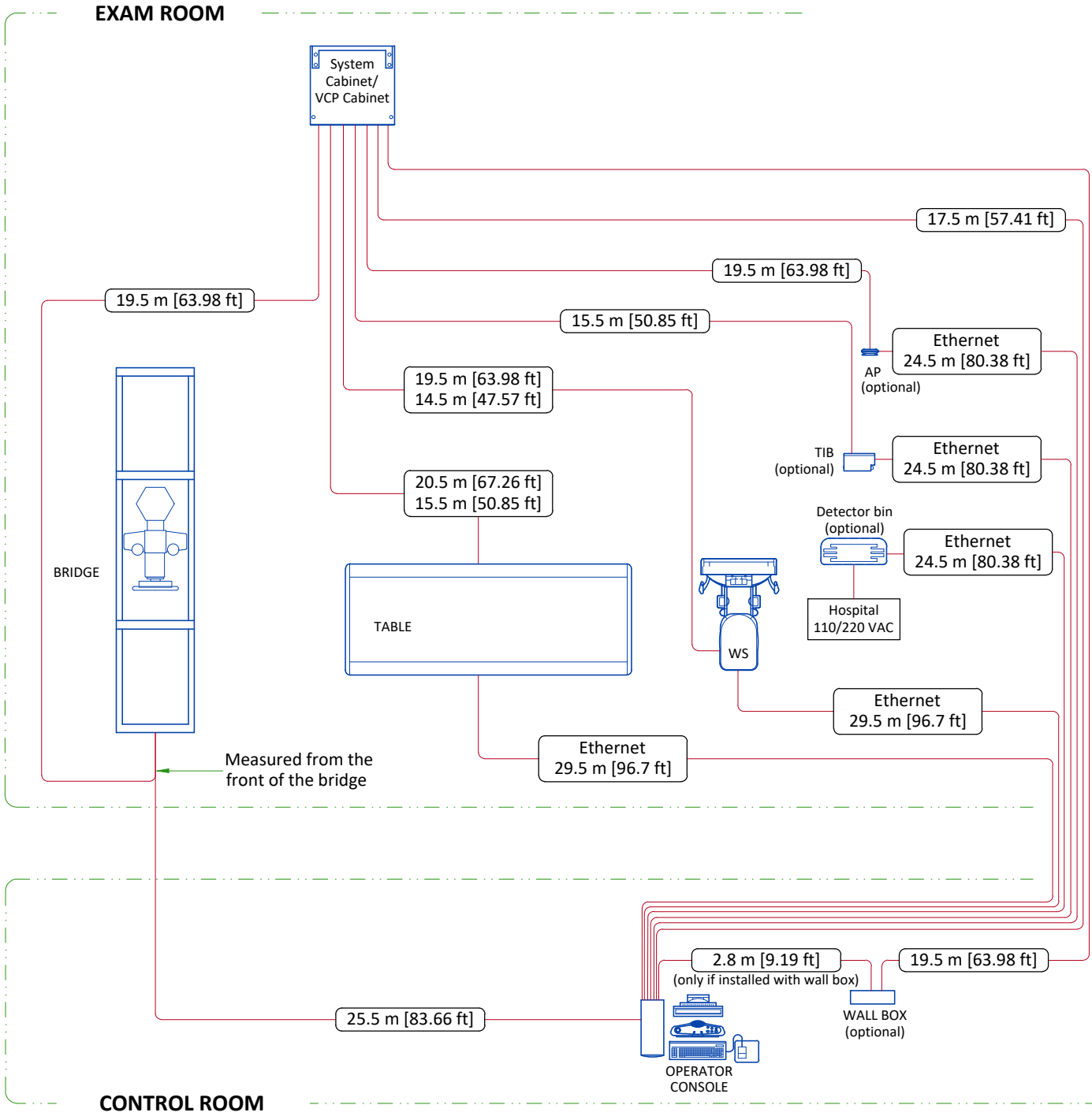
Item	Electrical Layout Item List
1	Main Disconnect Panel
2	Box below floor size per local code, with 3" [75] conduit cut flush with floor
3	Flush 12"x6"x4" [300 x 150 x 100] box (Control)
4	Flush box - size per local code (Chest Unit)
5	Flush box - size per local code (Generator)
6	Flush box - size per local code (Access Point)
7	Flush box - size per local code (TIB)
8	18" x 3 1/2" [450 x 100] Flush vertical wall duct with minimum 2 dividers
9	Box above ceiling size per local code
10	One 1" [25] conduit above ceiling
11	One 1 1/2" [38] conduit above ceiling
12	One 2" [50] conduit above ceiling
13	One 2 1/2" [64] conduit above ceiling
14	One 3 1/2" [89] conduit above ceiling
15	One 2" [50] conduit below floor
16	One 2 1/2" [64] conduit below floor
17	Flush box in ceiling size per local code
18	Grommeted opening (OTS)

ITEM	Electrical Outlet Legend
Customer/contractor supplied and installed items unless otherwise specified. Height above floor determined by local codes unless otherwise specified.	
	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)
	Duplex hospital grade, dedicated wall outlet 120-v, single phase power
	Dedicated telephone line(s)
	Network outlet

Additional Conduit Runs (Contractor Supplied and Installed)					
From (Bubble # / Item)	To (Bubble # / Item)	Qty	Size		
			In.	mm	
3 Phase Power	1 Main Disconnect	1	As req'd	As req'd	
	Emergency Off	1	1/2	13	
1 Main Disconnect	8 Systems Cabinet	1	As req'd	As req'd	
Warning Light	Warning Light Control	1	1/2	13	
1 Phase Power		1	As req'd	As req'd	
		1	1/2	13	
5 Systems Cabinet	Door Switch	1	1/2	16	
	7 TIB	1	2	53	
	6 Access Point	1	1	27	
	7 TIB	1	1	27	
3 Operators Console	6 Access Point	1	2	53	



INTERCONNECTIONS

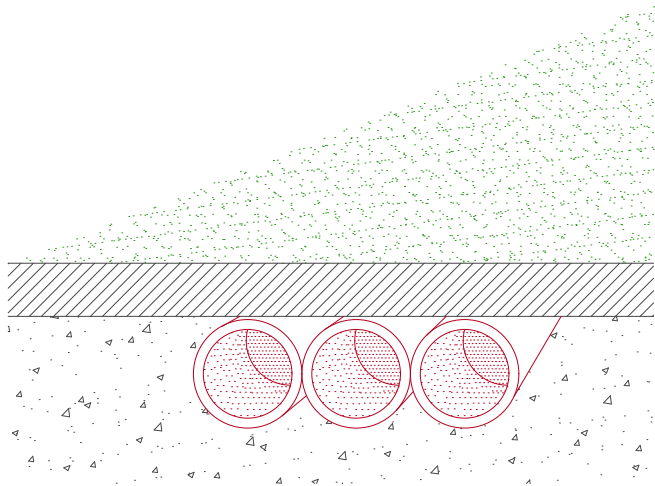


ROUTE ALL CABLES AS DIRECTLY AS POSSIBLE.

.....m [.....ft] - Long usable length
.....m [.....ft] - Standard usable length

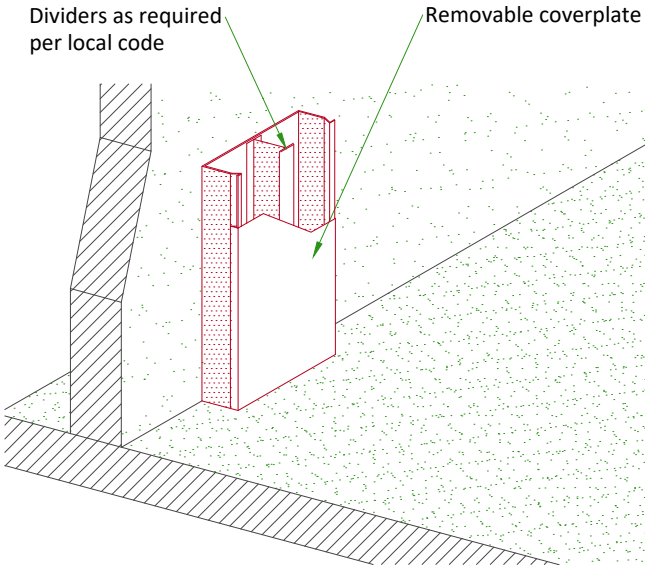
TYPICAL CABLE MANAGEMENT

CONDUIT IN THE FLOOR

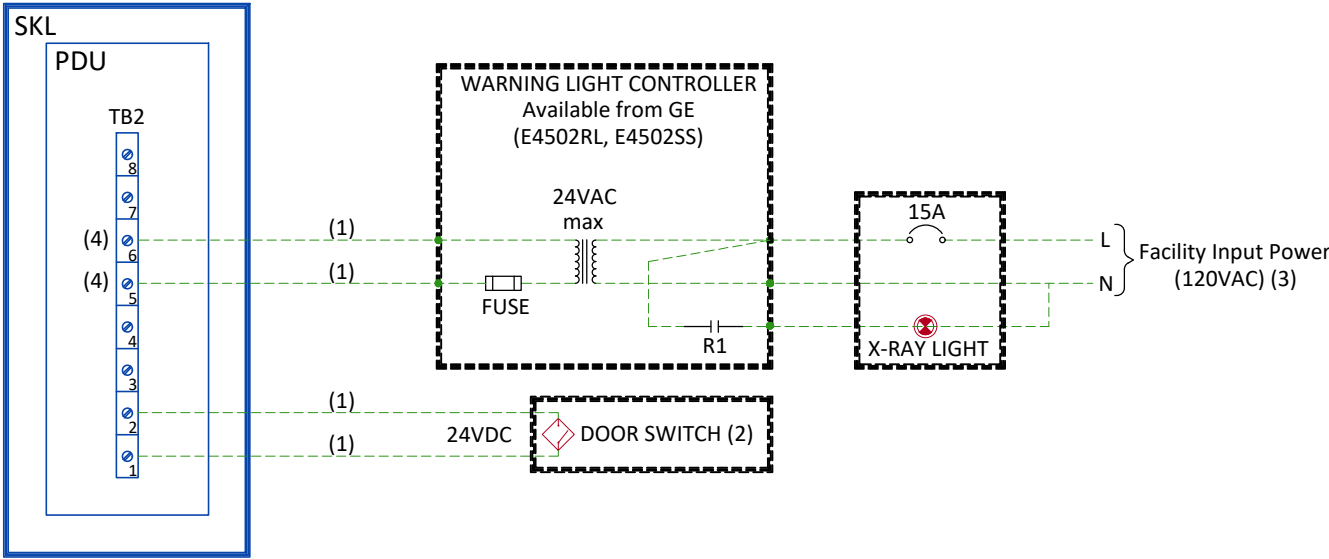


NOT TO SCALE

VERTICAL DUCT ON WALL



EXAM ROOM WARNING LIGHT AND DOOR INTERLOCK



Notes :

- (1) Wire size: 2mm² [14 AWG] at 24V
- (2) Door Interlock circuit is jumpered out if a door switch is not provided.
- (3) Grounding not shown on the detail, but must comply with local codes.
- (4) Normally open relay contact in cabinet

-----	Cable SUPPLIED BY CUSTOMER	□	Fuse
-----	Cable SUPPLIED BY GE	⏏	Relay coil and contact - normally open (de-energized state)
-----	Equipment SUPPLIED BY CUSTOMER	⏏	Control power transformer
-----	Equipment SUPPLIED BY GE	⏏	Circuit breaker
PDU	Power Distribution Unit		
SKL	System Cabinet		
TB2	Terminal Block 2		

POWER REQUIREMENTS

POWER SUPPLY	380/400/415/440/460/480V ±10%, Wye THREE-PHASE + G
FREQUENCIES	50/60Hz ± 3Hz
POWER DEMAND	125kVA
MAXIMUM LINE RESISTANCE PER 2 PHASES (Ohm)	380V : 0.096/ 400V : 0.100 / 415V : 0.113 440V : 0.125 / 480V : 0.150

- Power supply should come into a Main Disconnect Panel (MDP/PDB) 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 material at the beginning of the installation (main low-voltage transformer side) and the protective devices in the MDP/PDB.

SUPPLY CHARACTERISTICS

- Power input must be separated 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.

GROUND SYSTEM

- 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 units are located.

CABLES

- Power and cable installation must comply with the distribution diagram below.
- All cables must be isolated and flexible.
- Cable color codes must comply with standards for electrical installation.

Case PDB furnished by GE : The cables for signals and remote control (Y, SEO, L...) will go to MDP/PDB with a pigtail length of 1.5m [4.9 ft], 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

MIN. FEEDER WIRE SIZE, AWG OR MCM (sq. mm)/VAC	MINIMUM FEEDER WIRE LENGTH - ft (m)								
	50 (15)	100 (30)	150 (46)	200 (61)	250 (76)	300 (91)	350 (107)	400 (122)	450 (137)
480 VAC	2 (34)	2 (34)	2 (34)	1 (45)	1/0 (54)	2/0 (68)	3/0 (85)	3/0 (85)	4/0 (107)
GENERAL NOTES									
In all cases qualified personnel must verify that the feeder (at the point of take-off) and the run to the GE system meet all the requirements stated in the PIM									
For a single unit installation, the minimum transformer size is 150 kVA, Synthesized power feed is not acceptable									
Grounding conductor will be of the same size as the feeder. 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

