

Drawing Index

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

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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 ***

BrightSpeed Preinstallation Manual

5141177-100

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:

www.gehealthcare.com/siteplanning

GE Healthcare



CT Site Planning



imagination at work

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

The items 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 Healthcare Site Readiness Checklist Rev 19					
Before using this document ensure you have the latest Rev from MyWorkshop on DOC0422752					
GEHC Global Order #		Customer:			
GEHC PMI:		FE / Installer:			
The customer is responsible for proper site preparation regardless of any GEHC measurements/inspections/assessments.					
Inspection Date:	Storage is item ready?	PIM is ready?	FE is item ready?	Comments	
				If "N", enter comments or action plan	
1					MR Magnet Delivery Requirements: Ensure cryogen venting system is available for magnet connection as defined by GEHC Pre-Installation Manual (PIM) requirements, exhaust fan system is installed and operational, 480V power, and chilled water supply is available 24x7 that meets system cooling requirements. External connectivity is available for magnet monitoring and phone service is available during delivery. Surface mount vibromat installed where required. Magnet room final flooring is in place.
2					MR RF Screen Room Requirements: RF Screen Room is tested with copy of Test Report, emailed to ISAdminCOE@ge.com, that it is compliant with GEHC specifications. Dock Bolt and magnet anchors (if applicable) installed using 2 part anchor. For Hdx systems, blower box mount bolts installed by RF vendor using 2 part anchors.
3					State Regulatory Requirements: Facility registration number provided for states of IL, KY, HI, RI, SC, TX, X-ray shielding plan and state acknowledgment letter provided to installer for AR, DC, NC, SC, CO, & WA.
3					Site Drawing Requirements: Final version of equipment network and antenna. Installation drawings (including red lined versions) verified to match actual room and has been provided to installer.
4					Surface Penetration Requirements: Customer/Contractor scheduled to provide required drilling or cutting into floors, ceilings, and walls, OR surface penetration permit available and posted in the room when GEHC will perform the work.
5					Pre-Delivery Route Requirements: The equipment delivery route from the truck to the final destination within the facility has been reviewed with all key stakeholders to safely meet the minimum requirements for equipment access, and all communications/notifications have occurred. Arrangements have been made for special handling (elevator, rigging, floor protection, fork lift, rollback truck, etc).
6					Finished Room Requirements: Rooms that will contain equipment, including storage areas not in scan suite, are dust free. Provisions taken to maintain a dust free room. Precautions must be taken to prevent dust from entering rooms containing equipment when construction is incomplete in adjacent areas. All walls primed (final coat not needed on Day 1). Shielding, doors, and windows are to be installed. No contractor work being done during or after the installation that will cause dust in the installation areas or potential equipment damage. Room security to prevent unauthorized access and theft has been discussed with customer. The customer is aware of these security issues, implications and responsibility. For Storage Room must meet PIM requirements for storage.
7					Electrical Requirements: Lockable (LOTO) Main Disconnect Panel (MDP) is installed per GE guidelines and system power is available. Conduits, electrical cable ducting/dividers/cable trays, and access flooring is installed in proper location and height. Surface floor duct and load-side wires can be installed at time of system installation. Validate outlet location and requirements meet specifications for device/equipment.
8					HVAC Requirements: The HVAC/Chilled Water systems designed to maintain the environment per spec/PIM is at running state and appears to provide the desired environmental conditions including location of vents, temperature and humidity for system operation.
9					Flooring Requirements: Floor is clean and prepared for final floor covering. Floor levelness/flatness is measured and within tolerance, and there are no visible defects per GEHC specifications. Confirm customer anchoring plan aligns with designed floor thickness. Final flooring installed where required for network racks.
10					Ceiling Requirements: Unistrut (or equivalent) location, levelness and spacing is measured for vendor confirmed and consistent with the requirement of the installation drawings. Ensure unistrut and rails are not used as mounting surfaces. Ceiling grid is installed. Permanent lighting is installed and operational. HVAC diffusers are installed and connected to ductwork. Ceiling tiles installed per PIM discretion.
11					Staging Requirements: Space has been identified to support the active installation process only. This area meets PIM project book requirements.
11					Storage space has been identified, if needed. This secured space would be used to store equipment indefinitely. If offsite, transportation plan has been developed at customer expense. This space must meet PIM requirements.
12					Network Connectivity: Hardwire for network connectivity/network drop is in place prior to delivery with specified network fire wall configuration where required. Site surveys for wireless mobile XR units have been completed.
13					Medical Gases Requirements: Systems (hard piped or portable) in place to allow testing and calibration of equipment (anesthesia), including ventilation.

GE Healthcare
Installation Services Design Center
Milwaukee, Wisconsin
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SHEET TITLE: SITE READINESS
MODALITY TYPE: BRIGHTSPEED ELITE
THIS PLAN IS SUBMITTED TO SUGGEST LOCATION OF GE HEALTHCARE EQUIPMENT AND ASSOCIATED APPARATUS, ELECTRICAL WIRING DETAILS AND ROOM ARRANGEMENTS. IT IS NOT TO BE USED FOR CONSTRUCTION PURPOSES. HOWEVER, THE COMPANY CANNOT ACCEPT RESPONSIBILITY FOR ANY DAMAGES RESULTING THEREFROM.

PROJECT TITLE:
6-58f
TYPICAL FINAL

PROJECT	REVISION
6-58f	09
DATE:	15.May.15
DRAWN BY:	JGA
CHECKED BY:	TMS

REVISION HISTORY:

SHEET
C1

PIM R14

GE EQUIPMENT LISTING

ITEM NO.	QUANTITY ORDERED	REFER TO SHEET "D"	ITEM DESCRIPTION (* = EXISTING/REINSTALL)	WEIGHT	HEAT OUTPUT (PER HOUR)	DETAIL NO.	STRC PLAN	ELEC PLAN	EQUIPMENT CROSS REFERENCE CHART	
									P = PREAPPROVAL	C = CALCULATIONS/PENDING APPROVAL
1			OPERATOR'S CONSOLE / COMPUTER	535 lbs	8191 btu	B7858A	-	OC	S	
2			OPERATOR'S CHAIR							
3			POWER DISTRIBUTION UNIT	771 lbs	5119 btu	B7858D	-	PM	S	
4			STORAGE CABINET (EMPTY CABINET WEIGHT)	99 lbs		M3300S	-			
5			REAR CABLE COVER			B8141	-			
6			CT BRIGHTSPEED GANTRY	3899 lbs	18771 btu	B7816F B7816G B7816J B7816I B7816H B7996M B7816K	-	CTT	C	
7			PATIENT TABLE WITH EXTENDED TABLE TOP	749 lbs	682 btu	B7996M	-			

THE FOLLOWING ITEMS, WHICH HAVE BEEN ORDERED FROM GE HEALTHCARE, ARE TO BE INSTALLED BY THE CUSTOMER OR HIS CONTRACTOR.

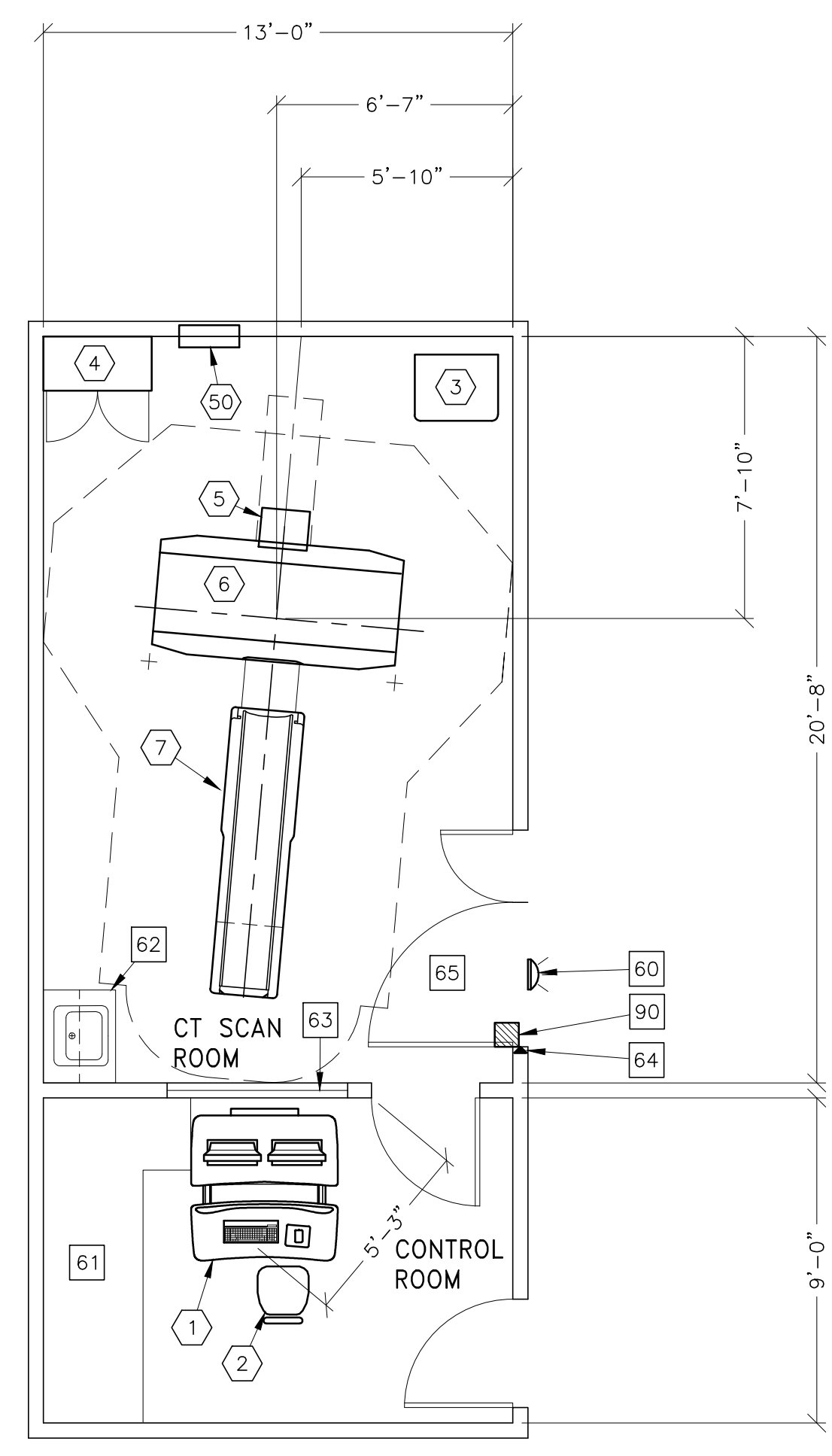
90	1		MAIN DISCONNECT CONTROL CAT NO. E4502AB (IF A UPS IS NOT OR WILL NOT BE ORDERED, THE E4502AB CAN BE USED.)	90 lbs			-	A1	C	
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SCALE: 1/4" = 1'-0"

EQUIPMENT LAYOUT

RECOMMENDED CEILING HEIGHT = 9'-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.



ANCILLARY ITEMS

CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS

ITEM NO.	ITEM DESCRIPTION (* INDICATES EXISTING)
60	X-RAY ON WARNING LIGHT - AVAILABLE FROM GE SUPPLY CALL 800-200-9760. GE CAT. NO. WX1ABW-DF-XIU
61	COUNTER TOP FOR EQUIPMENT - PROVIDE GROMMETED OPENINGS AS REQUIRED TO ROUTE INTERCONNECT CABLES TO RACEWAY BELOW COUNTERTOP.
62	COUNTER TOP WITH SINK, BASE AND WALL CABINETS
63	LEAD GLASS WINDOW
64	DOOR LIMIT SWITCH (REQUIRED IN SOUTH CAROLINA, OTHERWISE NEEDED ONLY IF REQUIRED BY STATE/LOCAL CODES)
65	MINIMUM DOOR OPENING FOR EQUIPMENT DELIVERY IS 44 IN. W X 83 IN. H (1118mm X 2108mm). CONTINGENT ON A 96 IN. (2438mm) CORRIDOR WIDTH

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

90	X-RAY ROOM WARNING LIGHT CONTROL PANEL REFERENCE JUNCTION POINT W/LED ON SHEET 61 FOR DETAILED DESCRIPTION -E4502RL FOR WARNING LIGHT CONTROL ONLY.
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GENERAL SPECIFICATIONS

- 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 ACCOMMODATE 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.
- ALL WORK TO BE IN COMPLIANCE WITH NATIONAL AND LOCAL BUILDING SAFETY CODES.
- DIMENSIONS ARE TO FINISHED SURFACES OF ROOM

SITE ENVIRONMENT SPECIFICATIONS

- AMBIENT OPERATING TEMPERATURE: 64° TO 79° F (18° TO 26° C) MAXIMUM ALLOWABLE TEMPERATURE CHANGE OF 5° F (3° C)/HOUR, MAXIMUM ROOM TEMPERATURE GRADIENT 5° F (3° C)
- HUMIDITY: 30 TO 60 PERCENT NON-CONDENSING, MAXIMUM ALLOWABLE CHANGE OF 5 PERCENT/HOUR.
- ALTITUDE: NOT TO EXCEED 7875 FT. (2400M) ABOVE SEA LEVEL.
- THE ENVIRONMENT FOR THE ELECTRONICS CABINET MUST BE CONTROLLED SO THE ABOVE RESTRICTIONS ARE NOT EXCEEDED.
- DO NOT RESTRICT THE AIR INTAKE OR AIR EXHAUST OF THE SYSTEM COMPONENTS.
- ENVIRONMENTAL CONDITIONS LISTED ABOVE MUST BE MAINTAINED AT ALL TIMES INCLUDING FOR EXAMPLE OVERNIGHT, WEEKENDS, AND HOLIDAYS.

MAGNETIC INTERFERENCE SPECIFICATIONS

- CT GANTRY MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN ONE GAUSS TO GUARANTEE SPECIFIED IMAGING PERFORMANCE. AMBIENT AC MAGNETIC FIELDS MUST BE BELOW 0.01 GAUSS PEAK.
- CT COMPUTER EQUIPMENT MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN TEN GAUSS TO GUARANTEE DATA INTEGRITY.
- MULTIFORMAT CAMERA EQUIPMENT MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN THREE GAUSS TO OBTAIN SPECIFIED GEOMETRIC LINEARITY.
- CT CONSOLE EQUIPMENT MUST BE LOCATED IN AMBIENT STATIC MAGNETIC FIELDS OF LESS THAN TEN GAUSS TO OBTAIN SPECIFIED GEOMETRIC LINEARITY.

GE Healthcare
Installation Services Design Center
Milwaukee, Wisconsin

SHEET TITLE: EQUIPMENT LAYOUT
MODALITY TYPE: BRIGHTSPEED ELITE
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PROJECT TITLE:
6-58f
TYPICAL FINAL

PROJECT	REVISION
6-58f	09

DATE: 15.May.15
DRAWN BY: JGA
CHECKED BY: TMS

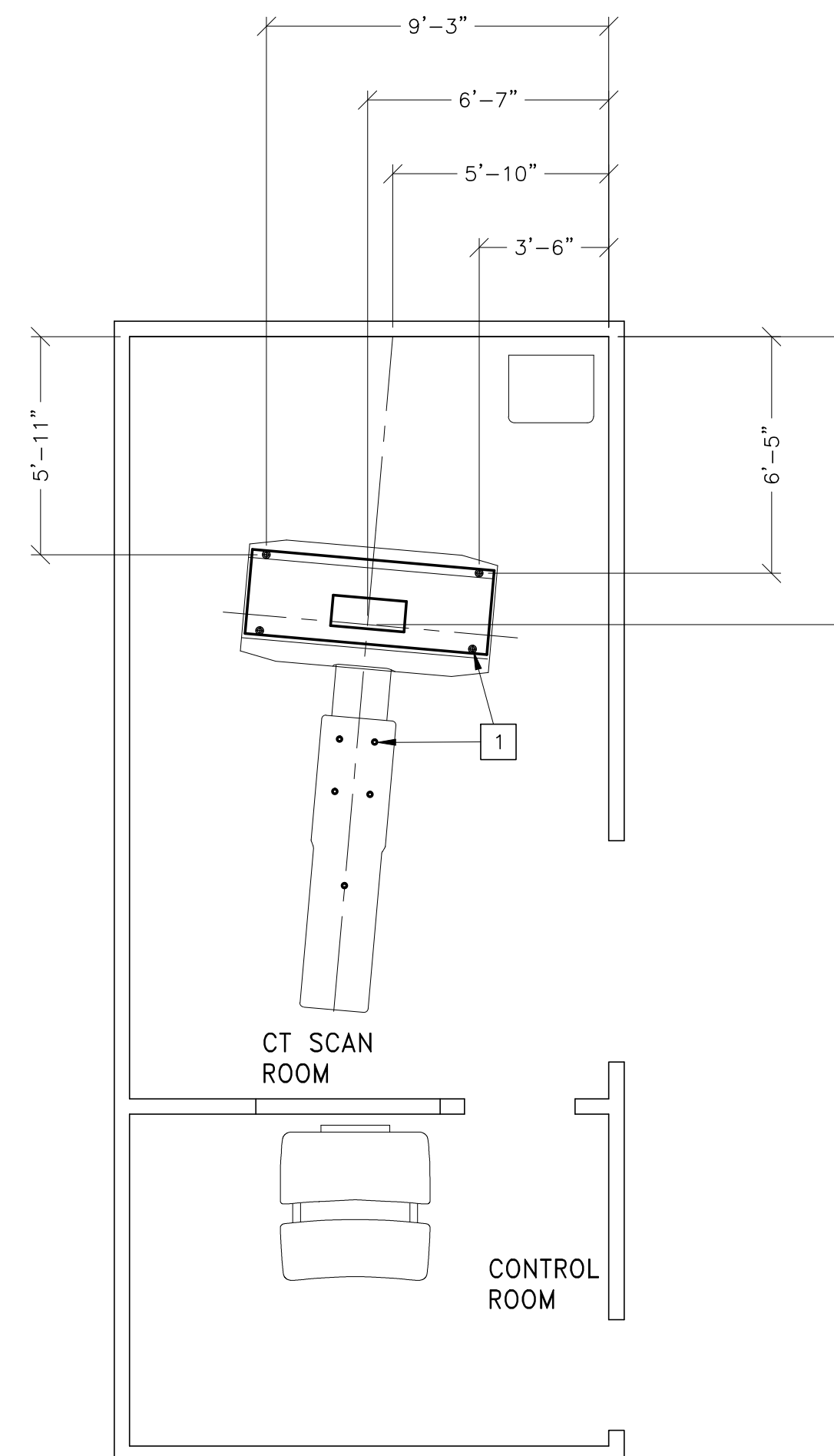
REVISION HISTORY:

SHEET
A1

CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS

ITEM NO.	ITEM DESCRIPTION (* INDICATES EXISTING)
<input type="checkbox"/>	
<input checked="" type="checkbox"/>	LEVELING AREA FOR GANTRY AND TABLE SEE DETAIL B78161 ON SHEET S2.

LEVELING AREA FOR GANTRY AND TABLE
SEE DETAIL B78161 ON SHEET S2.



STRUCTURAL NOTES

- o ALL STEEL WORK AND PARTS NECESSARY TO SUPPORT CEILING MOUNTED EQUIPMENT IS TO BE SUPPLIED BY THE CUSTOMER OR HIS CONTRACTORS.
- o 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.
- o 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.
- o ALL CEILING MOUNTED FIXTURES, AIR VENTS, SPRINKLERS, ETC. TO BE FLUSH MOUNTED, OR SHALL NOT EXTEND MORE THAN 1/4" BELOW THE FINISHED CEILING.
- o FLOOR SLABS ON WHICH EQUIPMENT IS TO BE INSTALLED MUST BE LEVEL TO 1/8" IN 10'-0"
- o DIMENSIONS ARE TO FINISHED SURFACES OF ROOM.
- o CUSTOMERS CONTRACTOR MUST PROVIDE ALL PENETRATIONS IN POST TENSION FLOORS.
- o 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.
- o 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.

GE Healthcare
Installation Services Design Center
Milwaukee, Wisconsin

SHEET TITLE: **STRUCTURAL LAYOUT**
MODALITY TYPE: **BRIGHTSPEED ELITE**

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PROJECT TITLE:
6-58f
TYPICAL FINAL

PROJECT	REVISION
6-58f	09

DATE: 15.May.15
DRAWN BY: JGA
CHECKED BY: TMS

REVISION HISTORY:

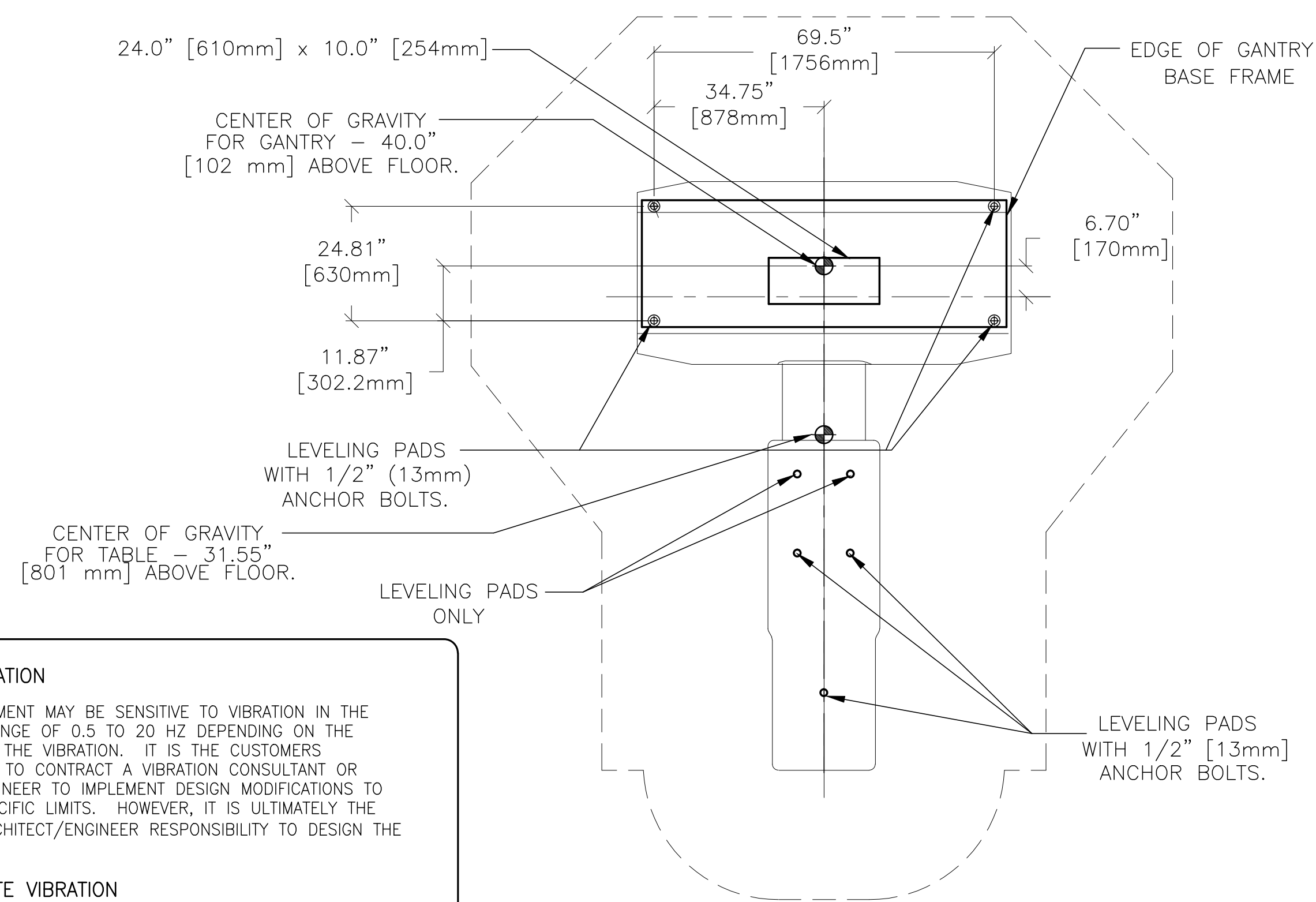
SHEET
S1

P1M R14

CT GANTRY AND TABLE ANCHOR/LEVELING

B78161

REV. DATE: 01/29/09



FLOOR VIBRATION

THE CT EQUIPMENT MAY BE SENSITIVE TO VIBRATION IN THE FREQUENCY RANGE OF 0.5 TO 20 HZ DEPENDING ON THE AMPLITUDE OF THE VIBRATION. IT IS THE CUSTOMERS RESPONSIBILITY TO CONTRACT A VIBRATION CONSULTANT OR QUALIFIED ENGINEER TO IMPLEMENT DESIGN MODIFICATIONS TO MEET THE SPECIFIC LIMITS. HOWEVER, IT IS ULTIMATELY THE CUSTOMER/ARCHITECT/ENGINEER RESPONSIBILITY TO DESIGN THE SITE SOLUTION.

STEADY STATE VIBRATION

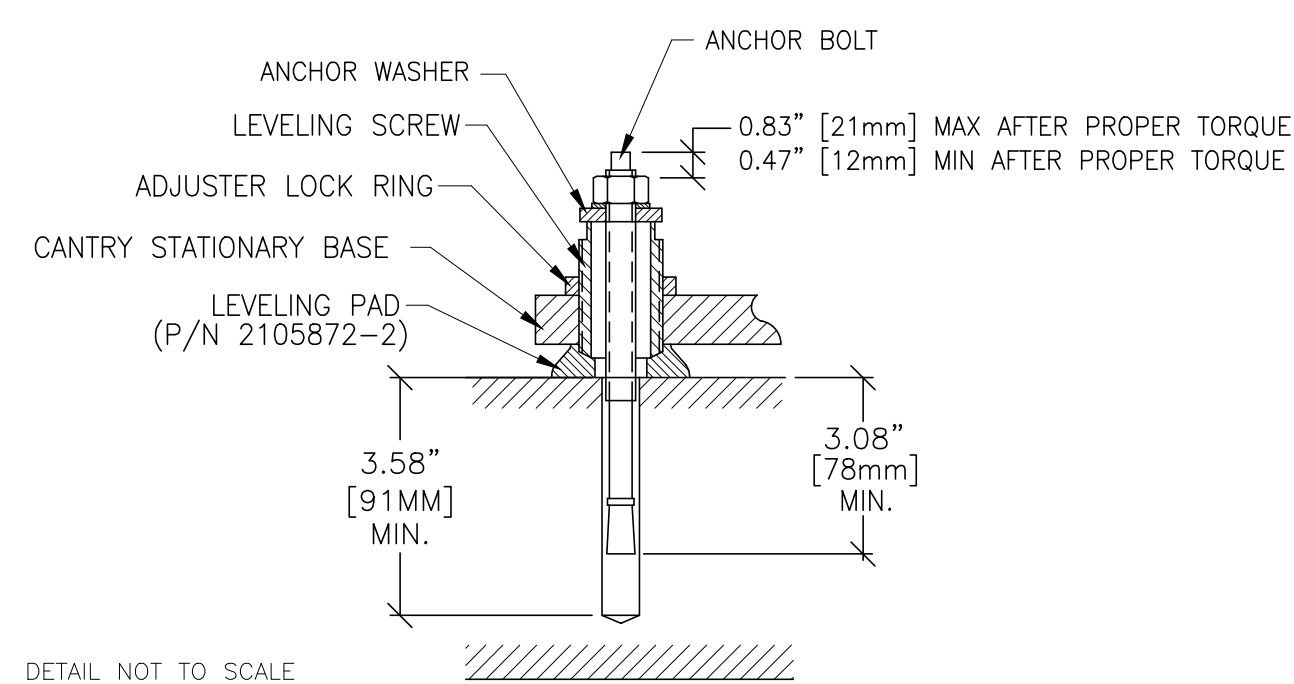
THE MAXIMUM STEADY STATE VIBRATION TRANSMITTED THROUGH THE FLOOR SHOULD NOT EXCEED 10^{-3} M/S² RMS MAXIMUM SINGLE FREQUENCY ABOVE AMBIENT BASELINE FROM 0.5 TO 80 HZ (MEASURED IN ANY 1 HOUR DURING A NORMAL OPERATING PERIOD).

TRANSIENT VIBRATION

THE BEHAVIORAL CHARACTERISTICS MUST BE SUCH THAT ANY MEASUREABLE TRANSIENT DISTURBANCE MUST ALSO BE MINIMIZED TO LESS THAN 0.01 M/S² PEAK-TO-PEAK.

EQUIPMENT LOCATION

TO MINIMIZE THE INTERFERENCE, THE SYSTEM SHOULD BE PLACED ON A SOLID FLOOR, LOCATED AS FAR AS POSSIBLE FROM THE VIBRATION SOURCES, SUCH AS PARKING LOTS, ROADWAYS, SUBWAYS, TRAINS, HALLWAYS, ELEVATORS, AND HOSPITAL PHYSICAL PLANTS. PLEASE NOTE THAT OTHER ITEMS NOT LISTED COULD ALSO BE POTENTIAL SOURCES OF VIBRATION.



SHEET TITLE: STRUCTURAL DETAILS
MODALITY TYPE: BRIGHTSPEED ELITE

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DATE: 15.May.15
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REVISION HISTORY:

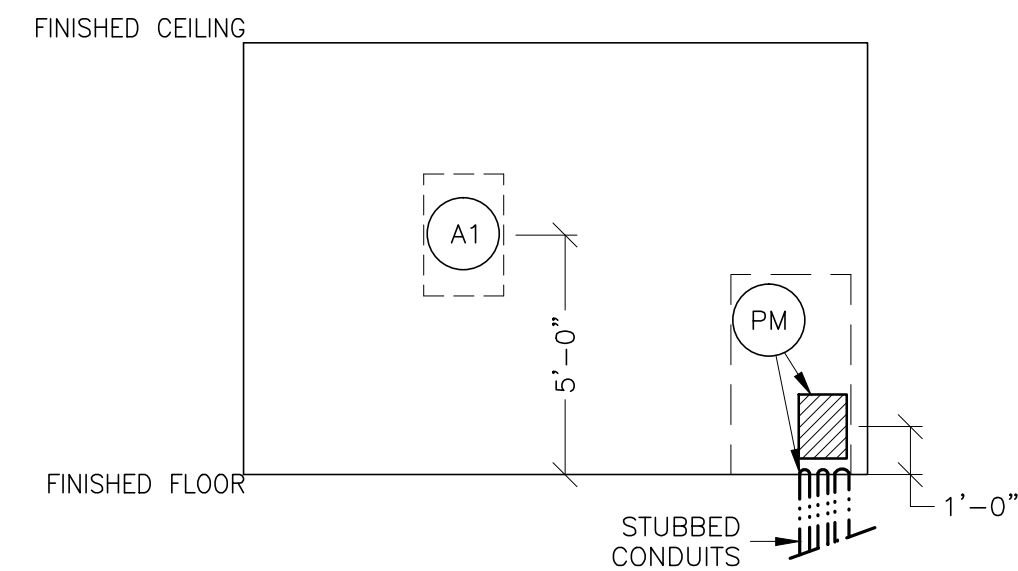
SHEET
S2

SCALE: 1/4" = 1'-0"

ELECTRICAL PLAN

RECOMMENDED CEILING HEIGHT = 9'-0"

JUNCTION POINT DESCRIPTIONS



FEEDER TABLE - CT Brightspeed Series/ Optima CT540

o CALCULATIONS BASED UPON NOMINAL VOLTAGE, WIRE SIZE IN AWG.
o RECOMMENDED FEEDER SIZES FROM DISTRIBUTION TRANS. TO POWER DISTRIBUTION UNIT.
o THE 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 AND NEUTRAL.
o NEUTRAL MUST BE TERMINATED PRIOR TO OR INSIDE THE MAIN DISCONNECT PANEL AND NOT BROUGHT INTO THE POWER DISTRIBUTION UNIT.
o FOR A FULL SYSTEM UPS REFER TO ELECTRICAL DETAILS FOR UPS FEEDER WIRES.

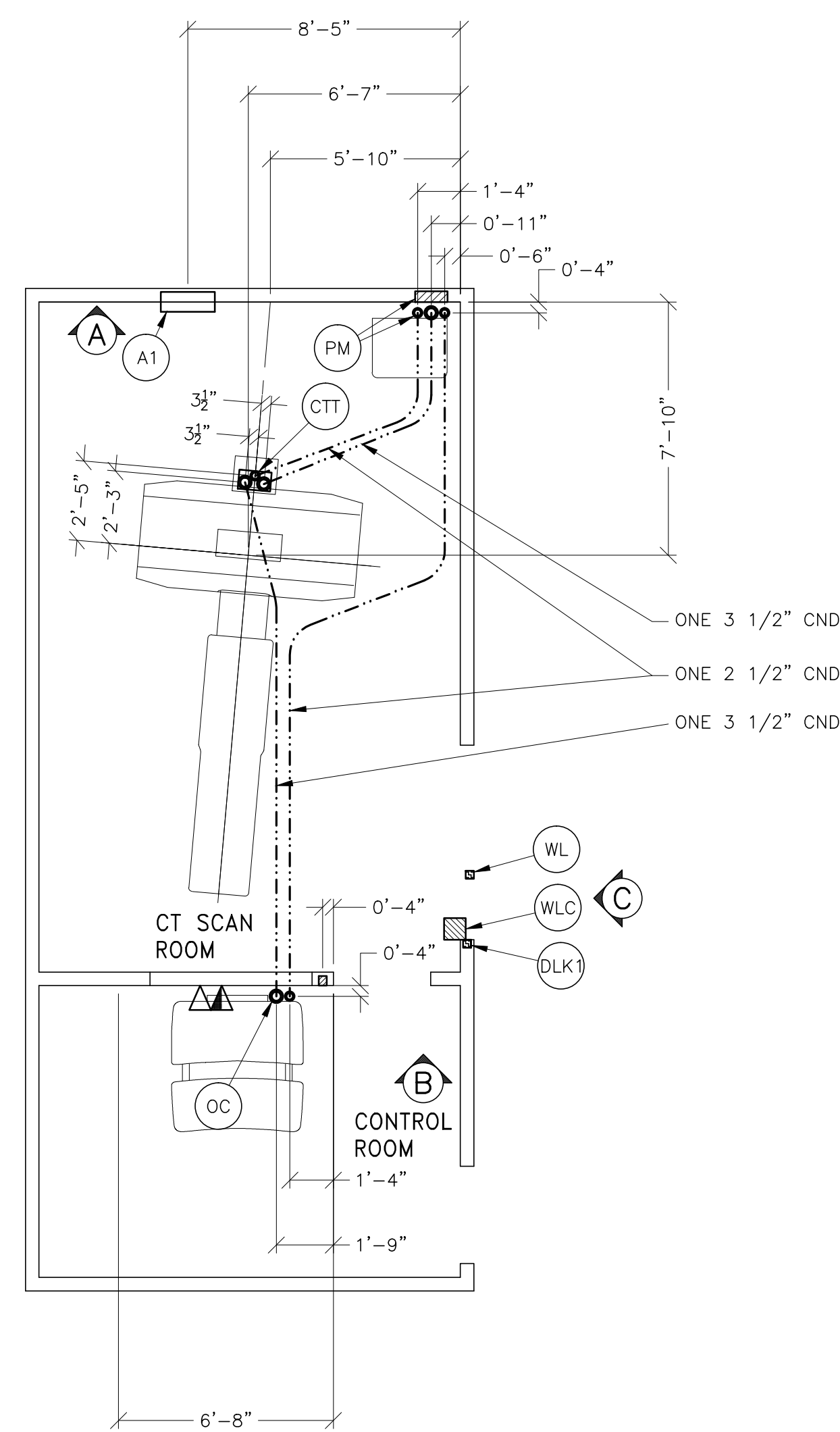
RUN LENGTH IN FEET	POWER SUPPLY VOLTAGE											
	350-410		368-432		386-454		405-475		423-497		442-518	
	FEEDER	GROUND	FEEDER	GROUND	FEEDER	GROUND	FEEDER	GROUND	FEEDER	GROUND	FEEDER	GROUND
50	2	(1/0)	2	(1/0)	3	(1/0)	3	(1/0)	3	(1/0)	3	(1/0)
100	2	(1/0)	2	(1/0)	3	(1/0)	3	(1/0)	3	(1/0)	3	(1/0)
150	2	(1/0)	2	(1/0)	3	(1/0)	3	(1/0)	3	(1/0)	3	(1/0)
200	2	(1/0)	2	(1/0)	3	(1/0)	3	(1/0)	3	(1/0)	3	(1/0)
250	1	(1/0)	1	(1/0)	2	(1/0)	2	(1/0)	2	(1/0)	3	(1/0)
300	1/0	(1/0)	1/0	(1/0)	1	(1/0)	1	(1/0)	2	(1/0)	2	(1/0)
350	2/0	(1/0)	1/0	(1/0)	1/0	(1/0)	1	(1/0)	1	(1/0)	1	(1/0)
400	2/0	(1/0)	2/0	(1/0)	1/0	(1/0)	1/0	(1/0)	1/0	(1/0)	1	(1/0)

REV. DATE: 12.Sep.12

- JUNCTION POINT NOTES**
- o ALL JUNCTION BOXES, CONDUIT, DUCT, DUCT DIVIDERS, SWITCHES, CIRCUIT BREAKERS, ETC., ARE TO BE SUPPLIED AND INSTALLED BY CUSTOMER'S ELECTRICAL CONTRACTOR.
 - o CONDUIT AND DUCT RUNS SHALL HAVE SWEEP RADIUS BENDS
 - o CONDUITS AND DUCT ABOVE CEILING OR BELOW FINISHED FLOOR MUST BE INSTALLED AS NEAR TO CEILING OR FLOOR AS POSSIBLE TO REDUCE RUN LENGTH.
 - o CEILING MOUNTED JUNCTION BOXES ILLUSTRATED ON THIS PLAN MUST BE INSTALLED FLUSH WITH FINISHED CEILING.
 - o 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.
 - o ALL OPENINGS IN ACCESS FLOORING ARE TO BE CUT OUT AND FINISHED OFF WITH GROMMET MATERIAL BY THE CUSTOMER'S CONTRACTOR.
 - o GENERAL CONTRACTOR TO INSERT PULL CORDS FOR ALL CABLE RUN CONDUITS BETWEEN THE EQUIPMENT ROOM AND THE OPERATORS CONTROL ROOM.
 - o 10 FOOT PIGTAILS AT ALL JUNCTION POINTS.
 - o ALL WIRING MUST BE THHN OR TFFN STRANDED COPPER THERMOPLASTIC 600 VOLT OR EQUIVALENT INSULATION. ALUMINUM OR SOLID WIRES ARE NOT ALLOWED.
 - o GROUNDING IS CRITICAL TO EQUIPMENT FUNCTION AND PATIENT SAFETY. SITE MUST CONFORM TO WIRING SPECIFICATIONS SHOWN ON THIS PLAN.

POINT	THE FOLLOWING MATERIALS ARE TO BE SUPPLIED AND INSTALLED BY THE CUSTOMER'S ELECTRICAL CONTRACTOR		
	DESCRIPTION	QTY.	HARDWARE
A1	MAIN DISCONNECT	1	PANEL - INCLUDED IN ORDER
CTT	CT SCANNER	2	3 1/2 IN. DIA. BUSHING & LOCKNUT
		1	2 1/2 IN. DIA. BUSHING & LOCKNUT
DLK1	DOOR SWITCH (NEEDED ONLY IF REQUIRED BY STATE/LOCAL CODES)	1	ROOM DOOR INTERLOCK LIMIT SWITCH IN FRAME - NORMALLY OPEN (24V) SINGLE GANG BOX
OC	OPERATORS CONSOLE	1	3 1/2 IN. DIA. BUSHING & LOCKNUT
		1	2 1/2 IN. DIA. BUSHING & LOCKNUT
PM	POWER DISTRIBUTION UNIT	1	SPLIT COVERPLATE
		1	3 1/2 IN. DIA. BUSHING & LOCKNUT
		1	2 1/2 IN. DIA. BUSHING & LOCKNUT
		1	6 FT. LENGTH OF 2 IN. FLEXIBLE METAL CONDUIT
		2	SUITABLE CONNECTORS
		1	12 X 16 X 4 IN. BOX
		1	6 FT. LENGTH OF 1/2 IN. FLEXIBLE METAL CONDUIT
WL	WARNING LIGHT	1	X-RAY ON INCANDESCENT LIGHT FIXTURE DO NOT USE FLUORESCENT FIXTURES GE CAT. NO. WX1ABW-DF-XIU OR EQUIVALENT
WLC	WARNING LIGHT CONTROLLER	1	E450BRL WARNING LIGHT CONTROL OR EQUIVALENT MAX 24V CONTROLLER

PLEASE SEE BELOW FOR ADDITIONAL REQUIRED CONDUIT RUNS AND SIZES.



JUNCTION POINT NOTES

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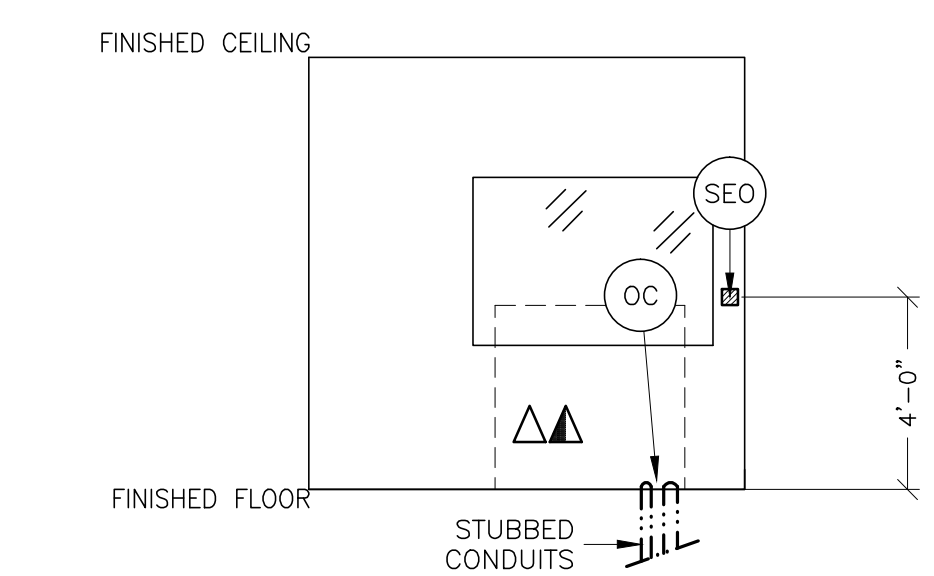
SHEET TITLE: ELECTRICAL LAYOUT
MODALITY TYPE: BRIGHTSPEED ELITE

PROJECT TITLE: 6-58f
TYPICAL FINAL

PROJECT: 6-58f
REVISION: 09

DATE: 15.May.15
DRAWN BY: JGA
CHECKED BY: TMS

REVISION HISTORY:



ADDITIONAL CONDUIT RUNS FOR ALL LIGHTSPEED, DISCOVERY, BRIGHTSPEED, OPTIMA SYSTEMS AND THE HISPEED QX/i (BY CONTRACTOR)

CONDUITS REQUIRED FOR BASE SYSTEM (CONDUITS ARE LOCATED ABOVE CEILING)

REV DATE: 06/09/10

WL	TO	WLC	ONE 1/2" CND.
WLC	TO	PM	ONE 1/2" CND.
PM	TO	A1	ONE CND. AS REQ'D
A1	TO	SEO	ONE 1/2" CND.
A1	TO	FEEDER	ONE CND. AS REQ'D
WLC	TO	120-V 1Ø POWER	CND. AS REQ'D
DLK1	TO	PM	ONE 1/2" CND.

NOTE: SEE E2 PAGE FOR MAXIMUM RUN LENGTHS

ELECTRICAL OUTLET LEGEND
CUSTOMER/CONTRACTOR SUPPLIED AND INSTALLED ITEMS. HEIGHT ABOVE FLOOR DETERMINED BY LOCAL CODES UNLESS OTHERWISE SPECIFIED.

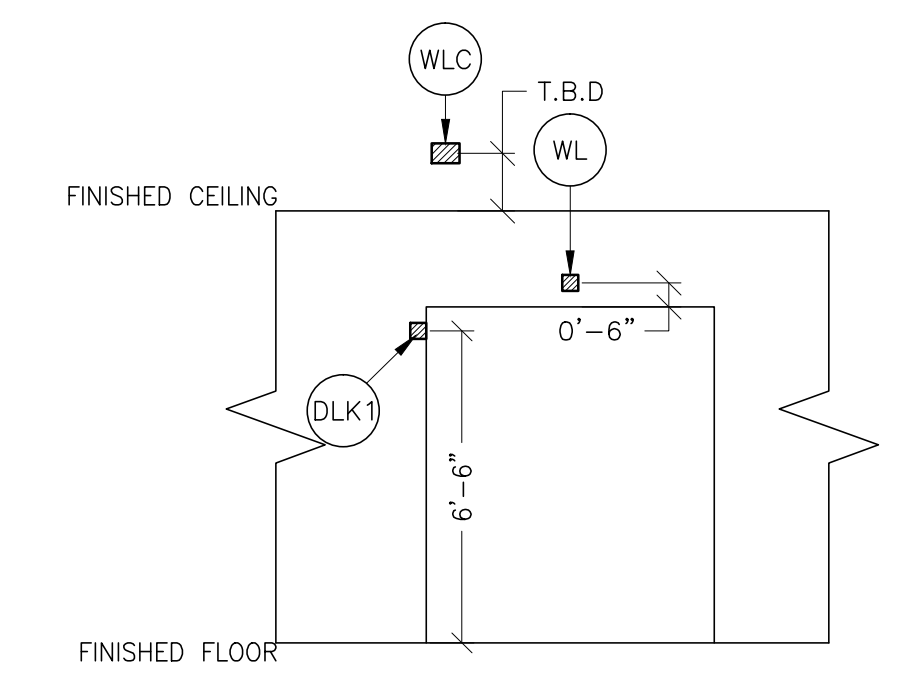
- △ DEDICATED TELEPHONE LINE(S) (SEE ELECTRICAL DETAIL ELEC-1 OR ELEC-67)
- ▲ NETWORK OUTLET (SEE ELECTRICAL DETAILS ELEC-83 AND ELEC-84 OR ELEC-87)

DUCT HATCHING LEGEND

- ABOVE CEILING DUCT
- UNDER FLOOR DUCT
- TRENCH DUCT (FLUSH FLOOR)
- SURFACE FLOOR DUCT
- CABLE TRAY
- ABOVE CEILING CONDUIT
- BELOW FLOOR CONDUIT

CONTRACTOR SUPPLIED AND INSTALLED WIRING
ELECTRICAL CONTRACTOR SHALL RING OUT AND TAG ALL WIRES AT BOTH ENDS.

WIRE RUN, FROM - TO	QUANTITY, WIRE SIZE/COLOR
A1 > SEO	1-NO. 14 BLACK, 1-NO. 14 WHITE, 1-NO. 14 GREEN
A1 > PDU	3-BLACK, 1 GREEN - REFER TO FEEDER TABLE
480V > A1	3 BLACK, 1 GREEN - REFER TO FEEDER TABLE
PM > DLK1	1-NO. 14 BLACK, 1-NO. 14 WHITE, 1-NO. 14 GREEN
WLC > 1 PHASE	1-NO. 14 BLACK, 1-NO. 14 WHITE, 1-NO. 14 GREEN
PM > WLC	1-NO. 14 BLACK, 1-NO. 14 WHITE, 1-NO. 14 GREEN
WL > WLC	2-NO. 14 BLACK, 1-NO. 14 RED, 1-NO. 14 WHITE



GE Healthcare
Installation Services Design Center
Milwaukee, Wisconsin

SHEET TITLE: ELECTRICAL LAYOUT
MODALITY TYPE: BRIGHTSPEED ELITE

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PROJECT TITLE: 6-58f
TYPICAL FINAL

PROJECT: 6-58f
REVISION: 09

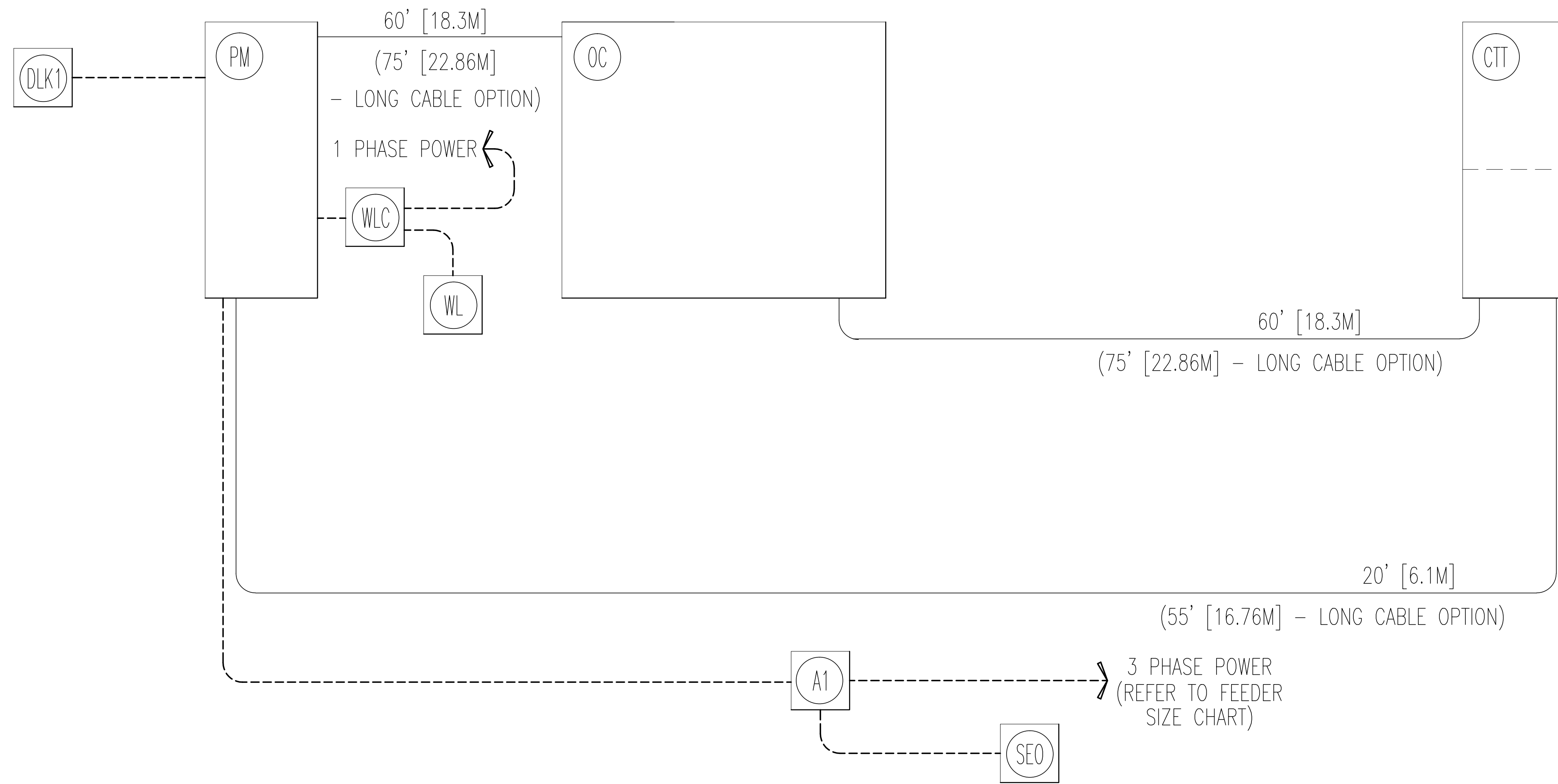
DATE: 15.May.15
DRAWN BY: JGA
CHECKED BY: TMS

REVISION HISTORY:

REVISION HISTORY:

SHEET
E1

INTERCONNECT DIAGRAM



POWER SPECIFICATIONS

CT Brightspeed Series/Optima CT540

(REV. DATE 12.Sep.12)

VOLTAGE: PRIMARY SOURCE IS REQUIRED FOR ALL INSTALLATIONS. RANGE OF LINE VOLTAGES: NOMINAL LINE VOLTAGE OF 380 TO 480, 3 PHASE, 50 OR 60 Hz. REQUIRED POWER SUPPLY: WYE CONNECTED. MAXIMUM DAILY VOLTAGE VARIATION MUST FALL WITHIN ONE OF THE RANGES IN TABLE A.

TABLE A ALLOWABLE INPUT VOLTAGES/CURRENT DEMAND

NOMINAL VOLTAGE	ABSOLUTE RANGE	CURRENT (AMPS)		MINIMUM STANDARD OVERCURRENT PROTECTION
		MOMENTARY	CONTINUOUS	
380	342-418	137	30	110-A
400	360-440	130	29	110-A
420	378-462	124	27	100-A
440	396-484	118	26	100-A
460	414-506	113	25	90-A
480	432-528	108	24	90-A

(ALL CALCULATIONS BASED UPON NOMINAL VOLTAGE)

PHASE-BALANCE: PHASE-TO-PHASE VOLTAGES MUST BE WITHIN +2 PERCENT OF THE LOWEST PHASE-TO-PHASE VOLTAGE. MAXIMUM ALLOWABLE TRANSIENT VOLTAGE SHOULD BE LIMITED TO 1500V PEAK.

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.

POWER DEMAND: CONTINUOUS POWER DEMAND = 20 KVA (MAX DEMAND = 90 KVA)

TABLE B MAXIMUM MOMENTARY POWER DEMAND.

DEMAND	CT HiSpeed
kVa *	90
POWER FACTOR AT	0.85

* DEMAND INCLUDES POWER FOR ENTIRE CT SYSTEM. LINE VOLTAGE REGULATION AT MAXIMUM POWER DEMAND MUST BE LESS THAN OR EQUAL TO 6 PERCENT.

DISTRIBUTION TRANSFORMER: FOR A SINGLE UNIT INSTALLATION, THE MINIMUM TRANSFORMER SIZE IS 112.5 KVA, WITH 2.4% RATED REGULATION AT UNITY POWER FACTOR. RESULTANT MAXIMUM ALLOWABLE FEEDER REGULATION IS 3.4%.

NOTE: THE CT SYSTEM MUST NOT BE POWERED IN A MULTIPLE INSTALLATION WHERE FILM CHANGERS ARE USED. FILM CHANGERS UTILIZE A LARGE NUMBER OF HIGH POWERED CLOSELY SPACED EXPOSURES WHICH MAY COINCIDE WITH THE CT SCAN.

ELECTRICAL NOTES

- NOTE 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. ALUMINUM OR SOLID WIRES ARE NOT ALLOWED.
- 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 DISTRIBUTION UNIT AND ONE ON EACH WALL OF THE PROCEDURE ROOM. USE HOSPITAL APPROVED OUTLET 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., 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).
- 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 CONDUIT OR RACEWAY.
- 59' [18M] MAXIMUM RUN LENGTH BETWEEN JUNCTION POINTS. Feet [Meters]

GE Healthcare
Installation Services Design Center
Milwaukee, Wisconsin

SHEET TITLE: ELECTRICAL SPECIFICATIONS
MODALITY TYPE: BRIGHTSPEED ELITE

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PROJECT TITLE:
6-58f
TYPICAL FINAL

PROJECT	REVISION
6-58f	09

DATE: 15.May.15
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CHECKED BY: TMS

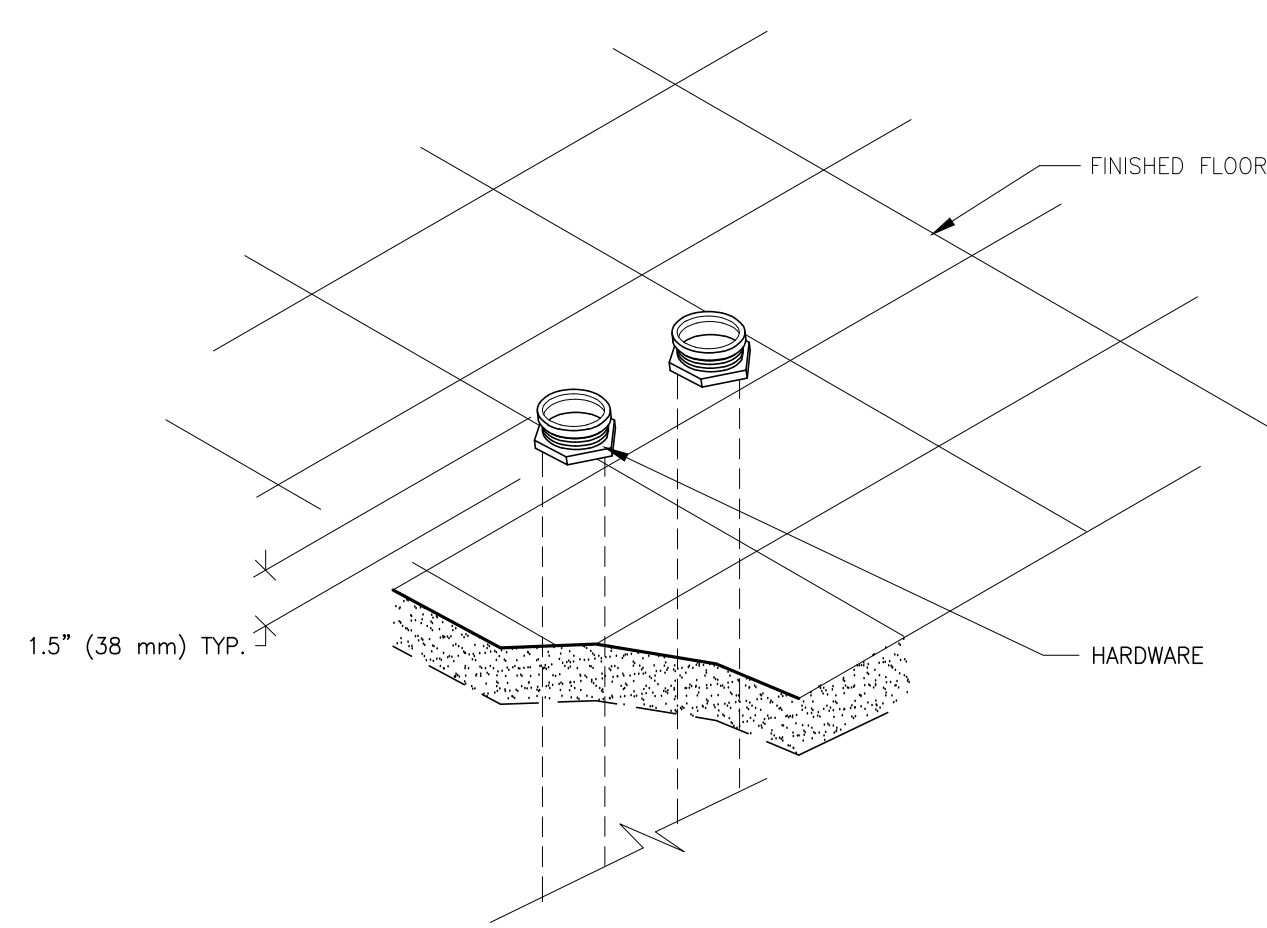
REVISION HISTORY:

SHEET
E2

ELECTRICAL DETAIL
CONDUITS THRU-FLOOR (TYPICAL)

ELEC-9

REV. DATE: 08/08/94



DETAIL NOT TO SCALE

ELECTRICAL DETAIL
INSITE CONNECTION (TYPICAL)

ELEC-1

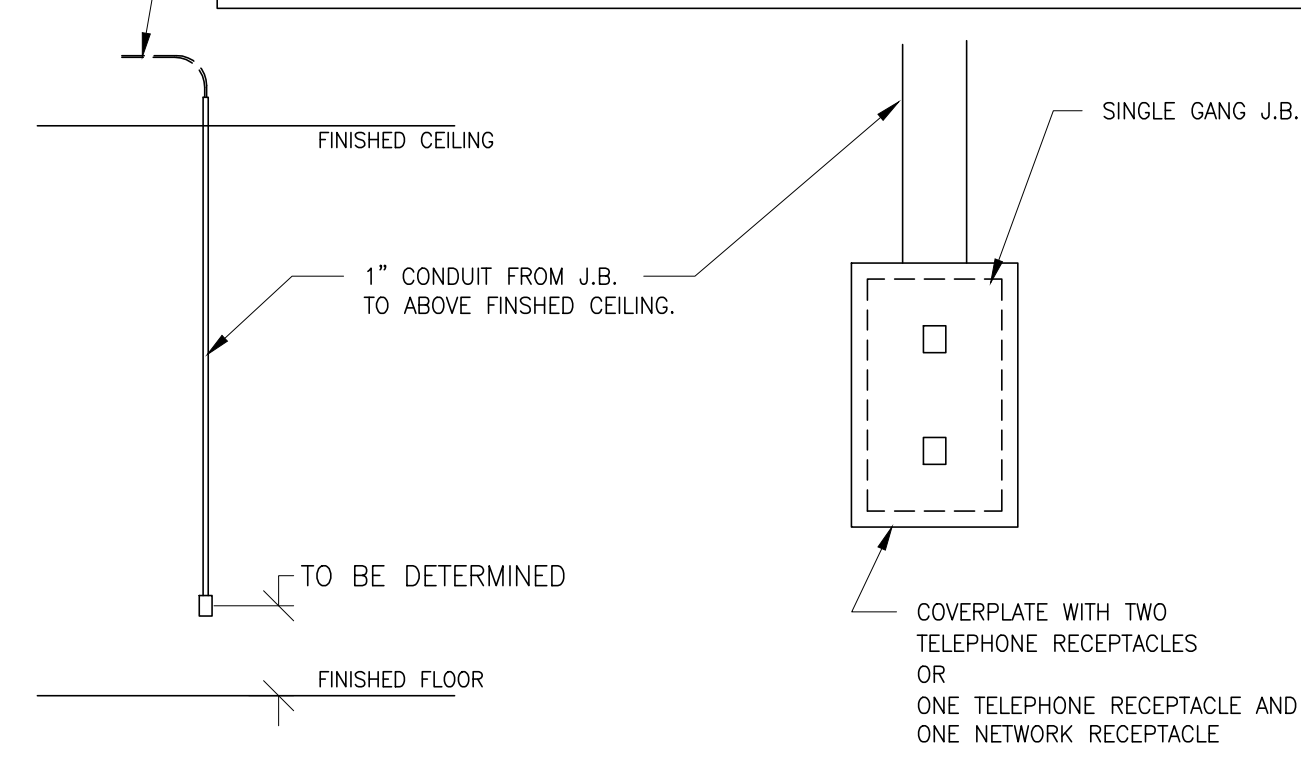
REV. DATE: 04/24/02

ONE OF THE FOLLOWING TWO SELECTIONS MUST BE INSTALLED AT THE LOCATION SHOWN ON THE ELECTRICAL PLAN (SHEET E1) FOR GE INSITE CONNECTION BASED UPON SYSTEM CONFIGURATION.

A) ONE INTERNET ACCESSIBLE VIRTUAL PRIVATE NETWORK (VPN) CONNECTION WITH A STATIC IP ADDRESS, AND ONE TELEPHONE LINE - DEDICATED-DIRECT-DIALING, VOICE GRADE.

OR

B) TWO TELEPHONE LINES - ONE DEDICATED DIRECT-DISTANCE-DIALING, VOICE GRADE AND ONE A DEDICATED DATA LINE.



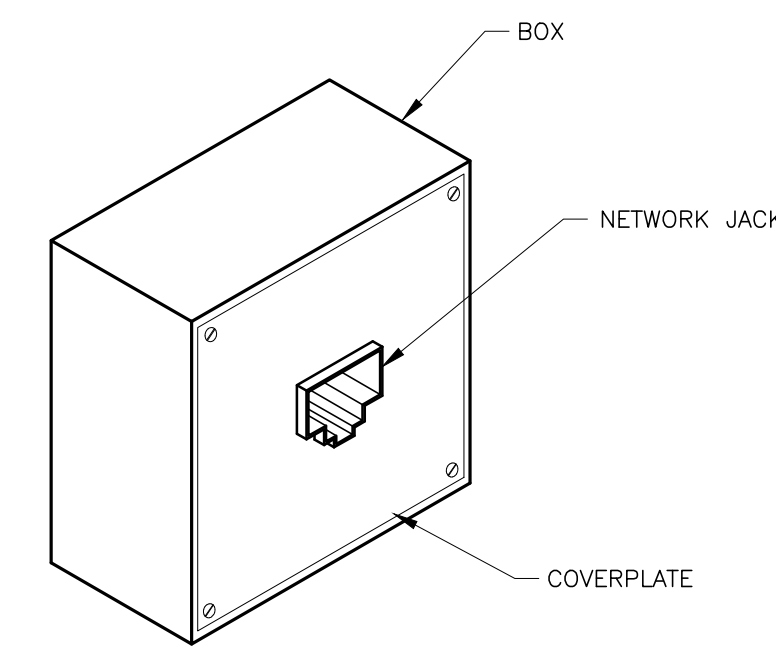
ALL ITEMS ILLUSTRATED ARE TO BE FURNISHED AND INSTALLED BY CUSTOMER OR THEIR CONTRACTOR.

DETAIL NOT TO SCALE

ELECTRICAL DETAIL
BOX WITH COVERPLATE AND NETWORK JACK

ELEC-83

REV. DATE: 10/06/98

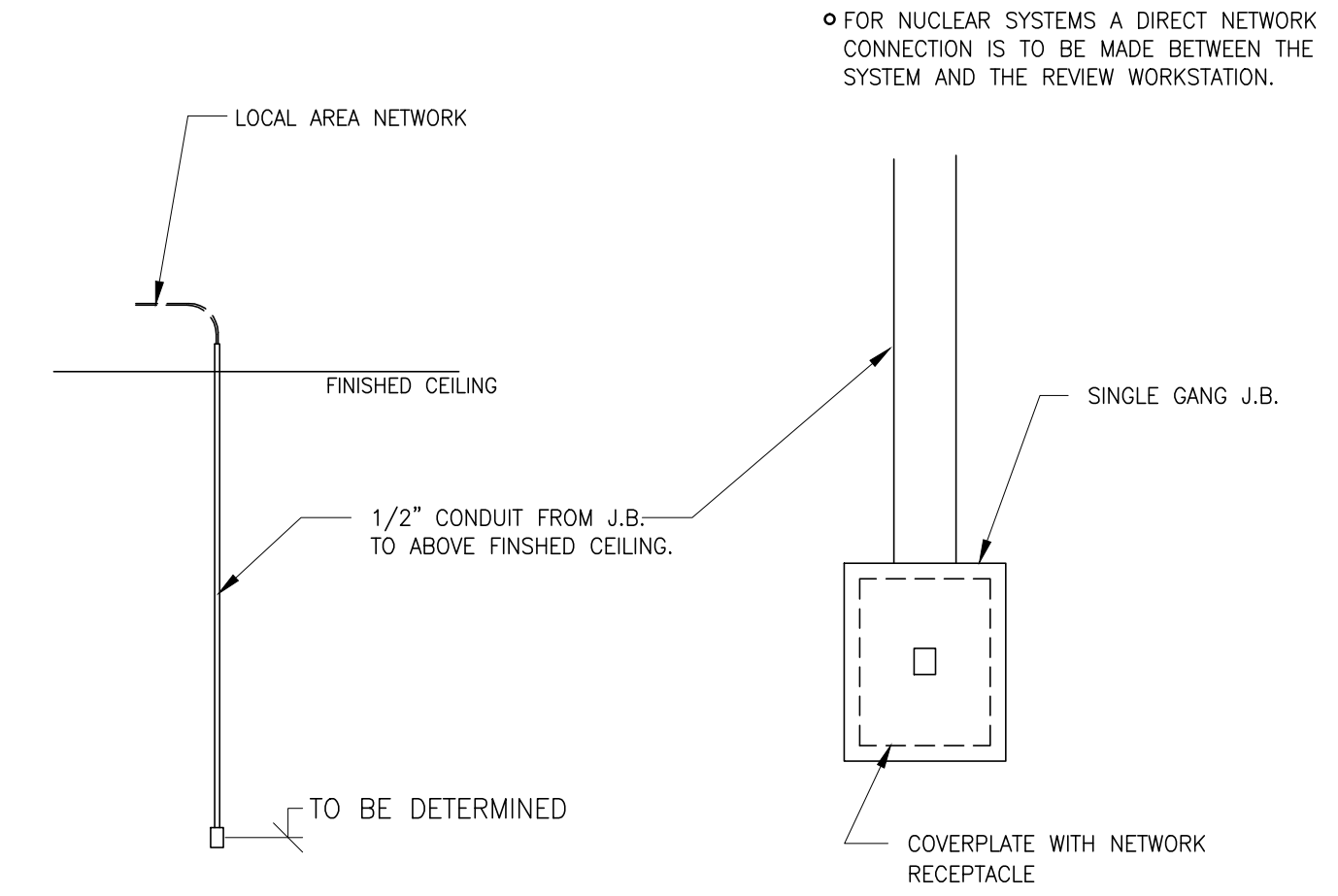


DETAIL NOT TO SCALE

ELECTRICAL DETAIL
NETWORK CONNECTION (TYPICAL)

ELEC-84

REV. DATE: 03/06/04



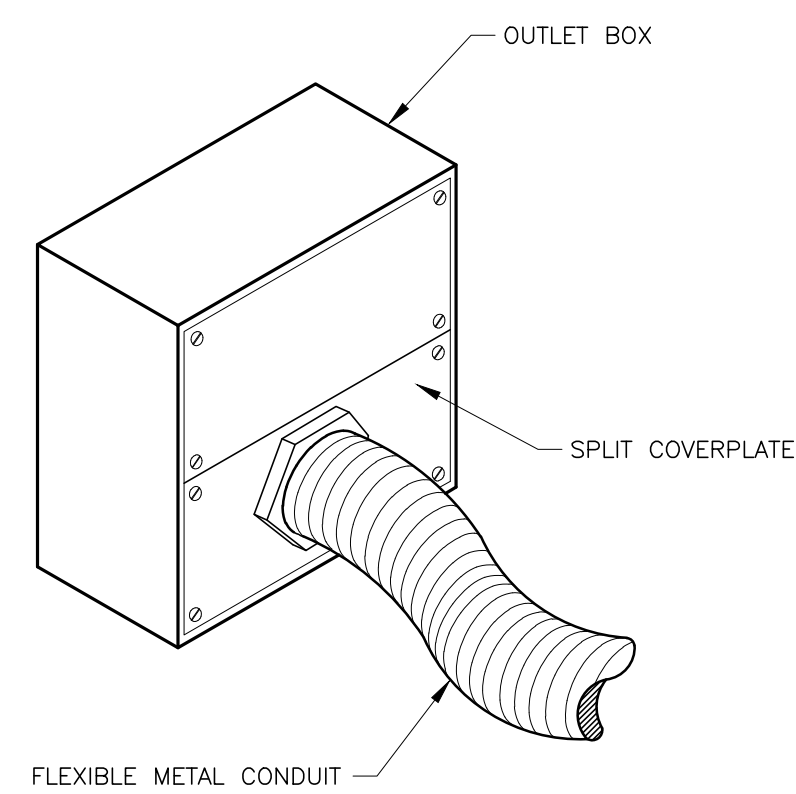
FOR NUCLEAR SYSTEMS A DIRECT NETWORK CONNECTION IS TO BE MADE BETWEEN THE SYSTEM AND THE REVIEW WORKSTATION.

DETAIL NOT TO SCALE

ELECTRICAL DETAIL
BOX WITH SPLIT COVERPLATE (TYPICAL)

ELEC-22

REV. DATE: 10/13/94

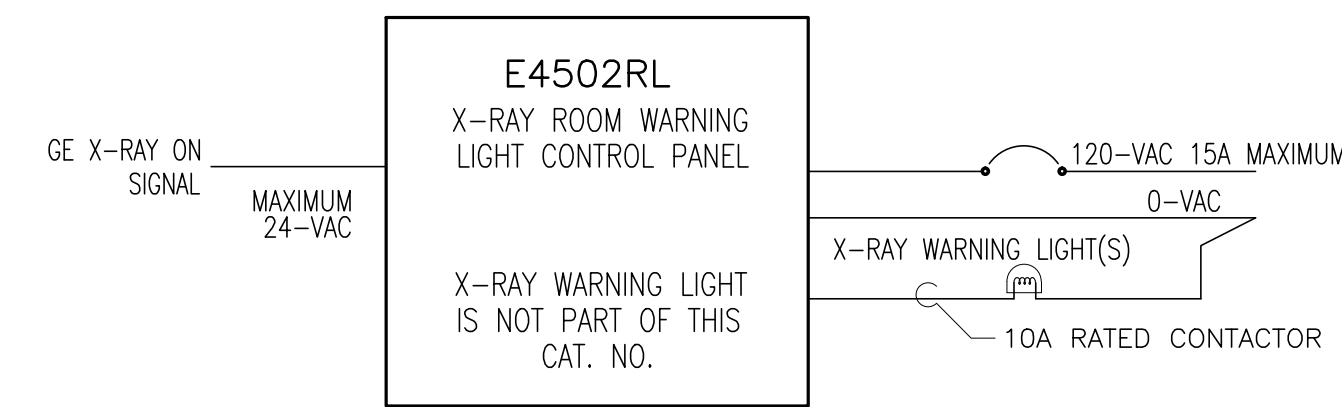


DETAIL NOT TO SCALE

ELECTRICAL DETAIL
WARNING LIGHT DIAGRAM

ELEC-72

REV. DATE: 05/14/09

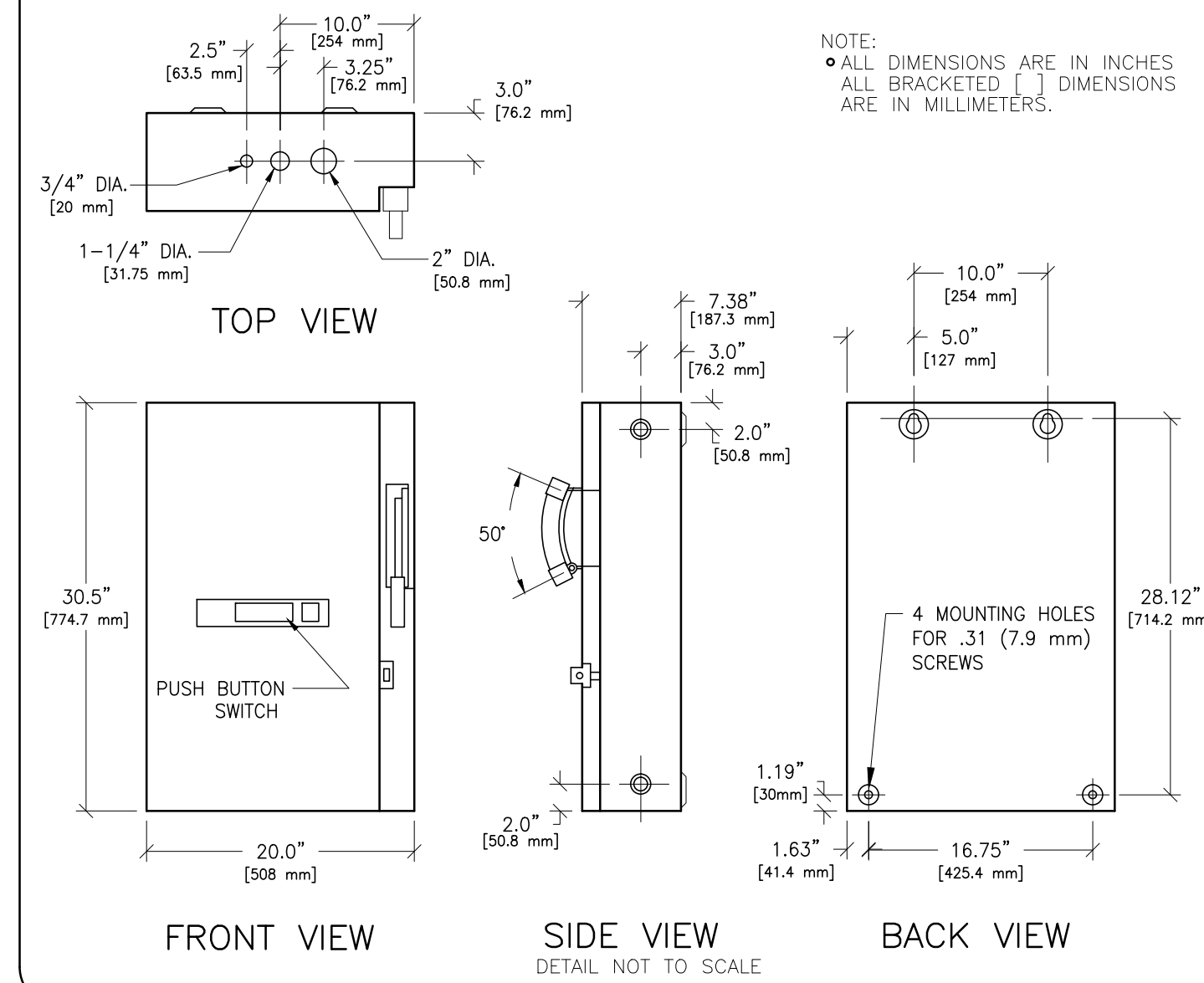


UNLESS SPECIFIED ON SHEET A1 AS BEING INCLUDED ON EQUIPMENT ORDER, ALL ITEMS ILLUSTRATED ARE TO BE FURNISHED AND INSTALLED BY CUSTOMER'S CONTRACTOR

DRAWING NOT TO SCALE

ELECTRICAL DETAIL
MAIN DISCONNECT

ELEC-35



NOTE:
ALL DIMENSIONS ARE IN INCHES
ALL BRACKETED () DIMENSIONS ARE IN MILLIMETERS.

FRONT VIEW SIDE VIEW BACK VIEW
DETAIL NOT TO SCALE

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Installation Services Design Center
Milwaukee, Wisconsin

SHEET TITLE: ELECTRICAL DETAILS
MODALITY TYPE: BRIGHTSPEED ELITE

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SHEET
E3

PJM R14

