CHI St. Vincent North - MRI and CT

2215 Wildwood Avenue Sherwood, Arkansas

CROMWELL
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501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CROMWELL ARCHITECTS ENGINEERS C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS

10-18-2024

Notes

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **TITLE SHEET**

Sheet Number **G-001**

ARCHITECTURAL ABBREVIATIONS

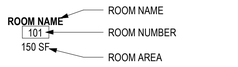
AB	ANCHOR BOLT
ACOUST.	ACOUSTICAL
AD	AUXILIARY DRAIN
ADJ.	ADJUSTABLE
ADMIN.	ADMINISTRATION
A.F.F.	ABOVE FINISH FLOOR
AGGRE.	AGGREGATE
ALUM.	ALUMINUM
BD	BOARD
B.F.F.	BELOW FINISH FLOOR
BLKG	BLOCKING
BM	BEAM
B.O.	BOTTOM OF
BPL	BASE PLATE
BS	BOTH SIDES
BTWN.	BETWEEN
B.U.R.	BUILT-UP ROOF
CAL.	CALIPER
CL	CENTERLINE
CFC	COMBINED FACILITIES COMPLEX
CSF	COMBINED SHARED FACILITIES
CG	CORNER GUARD
CJ	CONTROL JOINT
CLG	CEILING
CMU	CONCRETE MASONRY UNIT
COL.	COLUMN
CONC.	CONCRETE
CONC. BLK	CONCRETE BLOCK
CONST.	CONSTRUCTION
CONT.	CONTINUOUS
CT	CERAMIC TILE
DB	DECK BEARING
DIM.	DIMENSION
DR	DOOR
DTL	DETAIL
DWG	DRAWING
EA	EACH
E.B.	EXPANSION BOLT
EF	EXHAUST FAN
E.I.F.S.	EXTERIOR INSULATION AND FINISH SYSTEM
EJ	EXPANSION JOINT
ELEC.	ELECTRICAL
ELEV.	ELEVATION
EQ	EQUAL
EQUIP.	EQUIPMENT
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EXIST.	EXISTING
EXP	EXPANSION
EXT.	EXTERIOR
F	FEMALE
FD	FLOOR DRAIN
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET
F.F.E.	FINISH FLOOR ELEVATION
FIN.	FINISH
FLR	FLOOR
FND	FOUNDATION
F.O.C.	FACE OF CONCRETE
FRP	FIBERGLASS REINFORCED PANEL
FTG	FOOTING
GA	GAGE
GALV	GALVANIZED
GR	GUARD RAIL
GP	GUARD POST
GYP	GYPSUM
GYP.BD.	GYPSUM BOARD
H	HIGH
HD	HANDICAP
HC	HOLLOW CORE
HDW	HARDWARE
HM	HOLLOW METAL
HORIZ.	HORIZONTAL
HP	HORSEPOWER
HT	HEIGHT
INFO.	INFORMATION
INSUL.	INSULATION
INT	INTERIOR
JAN	JANITOR.
JT	JOINT
JST	JOIST
KCJ	KEYED CONTROL JOINT
LAV.	LAVATORY
KG	KILOGRAM
LCB	LIQUID CHALK BOARD
LM	LINEAL METER
LG	LONG
MAS	MASONRY
MATL.	MATERIAL
MAX	MAXIMUM
MB	MINI-BLINDS
M.D.	METAL DECK
MECH.	MECHANICAL
MEMB.	MEMBRANE
MEZZ.	MEZZANINE
MFR	MANUFACTURER
MISC.	MISCELLANEOUS
MO	MASONRY OPENING
M.S.	METAL STUD
MTL.	METAL
N.I.C.	NOT IN CONTRACT
NS	NON-SHRINK
N.T.S.	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OFW	OUTSIDE FACE OF WALL
OPNG	OPENING
OPP.	OPPOSITE
P LAM	PLASTIC LAMINATE
PL	PLATE
PLYWD.	PLYWOOD
PNL	PANEL
PROD	PRODUCE
KG/SQM	KILOGRAMS PER SQUARE METER
KG/SQCM	KILOGRAMS PER SQUARE CENTIMETER
QTY	QUANTITY
R	RISER
R	RADIUS
RD	ROOF DRAIN
REFRIG	REFRIGERATION
REINF	REINFORCING
REQD	REQUIRED
RM	ROOM
RPP	RACK POST PROTECTOR
SC	SOLID CORE
SCHED.	SCHEDULE
SECT.	SECTION
SHT.	SHEET
SIM.	SIMILAR
SPECS	SPECIFICATIONS
SMFE	SURFACE MOUNTED FEC
SRFE	SEMI-RECESSED FEC
S	SEWER
SS	SANITARY SEWER
S.S.	STAINLESS STEEL
SSC	STAINLESS STEEL CLOSURE
SST	STAINLESS STEEL THRESHOLD
STB	STAFF TRAINING BUILDING
STL	STEEL
STO.	STORAGE
STRUCT.	STRUCTURAL
SYM.	SYMBOL
T	TREAD
T & B	TOP AND BOTTOM
THK	THICK
THRESH.	THRESHOLD
TJ	TOOLED JOINT
TO	TOP OF
T.O.S.	TOP OF STEEL
T.O.P.	TOP OF PANEL
TS	TUBE STEEL
TYP	TYPICAL
T.O.M.	TOP OF MASONRY
U.N.O.	UNLESS NOTED OTHERWISE
VCT	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
V.I.F.	VERIFY IN FIELD
W	WIDE
W/	WITH
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WG	WALL GUARD
W/O	WITHOUT
WP	WATERPROOFING
WT	WEIGHT
WWF	WELDED WIRE FABRIC

INDEX OF DRAWINGS

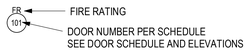
SHEET NUMBER	SHEET NAME	ISSUE DATE	REVISION DATE
GENERAL INFORMATION			
G-001	TITLE SHEET	10-18-2024	
G-002	INDEX, SYMBOLS & ABBREV.	10-18-2024	
G-003	GENERAL NOTES & DETAILS	10-18-2024	
GI102	CT (EXISTING RELOCATED) INFORMATION	10-18-2024	
GI103	CT (EXISTING RELOCATED) INFORMATION	10-18-2024	
GI104	CT (EXISTING RELOCATED) INFORMATION	10-18-2024	
GI105	CT (EXISTING RELOCATED) INFORMATION	10-18-2024	
GI106	CT (EXISTING RELOCATED) INFORMATION	10-18-2024	
GI107	CT (EXISTING RELOCATED) INFORMATION	10-18-2024	
GI108	MRI GENERAL INFORMATION	10-18-2024	
GI109	MRI GENERAL INFORMATION	10-18-2024	
GI110	MRI GENERAL INFORMATION	10-18-2024	
GI111	MRI GENERAL INFORMATION	10-18-2024	
GI112	MRI GENERAL INFORMATION	10-18-2024	
GI113	MRI GENERAL INFORMATION	10-18-2024	
GI114	MRI GENERAL INFORMATION	10-18-2024	
GI115	MRI SHIELDING REPORT	10-18-2024	
GI116	MRI SHIELDING REPORT	10-18-2024	
GI117	MRI SHIELDING REPORT	10-18-2024	
GI118	MRI SHIELDING REPORT	10-18-2024	
GI119	MRI SHIELDING REPORT	10-18-2024	
GI120	MRI SHIELDING REPORT	10-18-2024	
LIFE SAFETY			
GI001	LIFE SAFETY CODE ANALYSIS	10-18-2024	
GI101	LIFE SAFETY FLOOR PLAN	10-18-2024	
ARCHITECTURAL			
AD101	DEMOLITION PLANS	10-18-2024	
A-101	FIRST FLOOR PLAN	10-18-2024	
A-102	REFLECTED CEILING PLANS AND SECTIONS	10-18-2024	
A-501	DETAILS	10-18-2024	
A-601	ROOM FINISH SCHEDULE, NOTES AND LEGENDS-DOOR SCHEDULE AND TYPES	10-18-2024	
FIRE ALARM			
FA001	FIRE ALARM LEGEND AND NOTES	10-18-2024	
FA101	FIRE ALARM FIRST FLOOR CEILING PLAN	10-18-2024	
FIRE SUPPRESSION			
FX001	FIRE PROTECTION LEGEND AND NOTES	10-18-2024	
FX101	FIRE PROTECTION FIRST FLOOR PLAN	10-18-2024	
FX501	FIRE PROTECTION DETAILS	10-18-2024	
PLUMBING			
P-001	PLUMBING LEGEND, NOTES, AND SCHEDULES	10-18-2024	
PD101	PLUMBING DEMOLITION PLANS	10-18-2024	
P-101	PLUMBING PLANS	10-18-2024	
P-501	PLUMBING DETAILS AND RISERS	10-18-2024	
MECHANICAL			
M-001	MECHANICAL LEGEND AND SYMBOLS	10-18-2024	
MD101	MECHANICAL DEMOLITION PLAN	10-18-2024	
M-101	MECHANICAL HVAC PLAN - FIRST FLOOR	10-18-2024	
M-102	MECHANICAL ROOF PLAN	10-18-2024	
M-501	MECHANICAL DETAILS	10-18-2024	
M-601	MECHANICAL SCHEDULES	10-18-2024	
M-701	MECHANICAL CONTROLS	10-18-2024	
ELECTRICAL			
E-001	ELECTRICAL LEGEND	10-18-2024	
ED101	FIRST FLOOR ELECTRICAL DEMOLITION PLAN	10-18-2024	
EL101	FIRST FLOOR LIGHTING PLAN	10-18-2024	
EP101	FIRST FLOOR POWER PLAN	10-18-2024	
E-401	ENLARGED ELECTRICAL PLANS - MRI	10-18-2024	
E-402	ENLARGED ELECTRICAL PLANS - CT	10-18-2024	

SYMBOLS LEGEND

ROOM LABEL



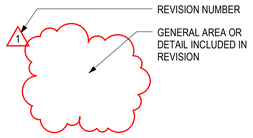
DOOR LABEL



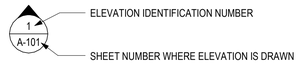
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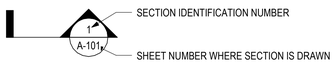
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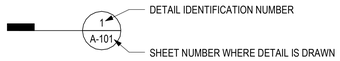
ELEVATION SYMBOL



SECTION SYMBOL



DETAIL SYMBOL



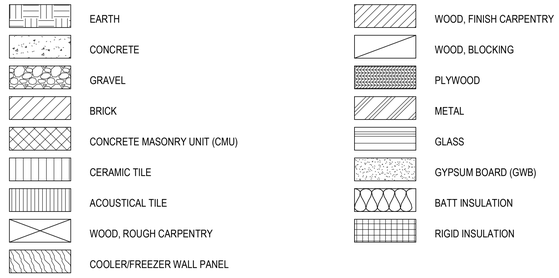
KEY NOTE



PARTITION TAG



SECTION INDICATIONS



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Design Phase

CONSTRUCTION DOCUMENTS

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No.	Date	Description

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ARCHITECTS ENGINEERS C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS

10-18-2024

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **INDEX, SYMBOLS & ABBREV.**

Sheet Number **G-002**

NOTES

A. GENERAL CONSTRUCTION REQUIREMENTS:

A1. ALL WORK SHALL BE DONE IN A SAFE AND WORKMANLIKE MANNER AND IN STRICT ACCORDANCE WITH THE UFC, GOVERNING BUILDING CODES, NATIONAL ELECTRIC CODE, AND ALL APPLICABLE REGULATIONS AND ORDINANCES HAVING JURISDICTION.

A2. THE CONTRACTOR IS TO UNDERSTAND ALL DRAWINGS AND SPECIFICATIONS COMPLETELY. EACH ASPECT OF THE WORK MAY BE INDICATED IN ONE DISCIPLINE OR INDICATED IN MULTIPLE DISCIPLINES. REVIEW ALL INFORMATION FROM ALL DISCIPLINES AND COMPLETELY FIELD VERIFY ALL CONDITIONS BEFORE IMPACTING EXISTING CONDITIONS OR PROVIDING NEW WORK.

A3. EACH SUBCONTRACTOR IS RESPONSIBLE FOR HAVING A THOROUGH KNOWLEDGE OF ALL DRAWINGS AND SPECIFICATIONS IN THEIR RELATED FIELD. THE FAILURE TO DO SO DOES NOT RELIEVE ANY RESPONSIBILITY FOR PERFORMING THIS WORK PROPERLY. NO ADDITIONAL COMPENSATION SHALL BE ALLOWED BECAUSE OF CONDITIONS THAT OCCUR DUE TO FAILURE TO FAMILIARIZE WORKERS WITH THIS KNOWLEDGE.

A4. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD PRIOR TO FABRICATION OF ALL ITEMS, AND IF ANY DISCREPANCIES ARE FOUND BETWEEN WHAT IS SHOWN ON THE PLANS AND WHAT EXISTS IN THE FIELD, CONTACT THE ARCHITECT TO DETERMINE THE PROPER COURSE OF ACTION. THE CONTRACTOR'S APPROVAL FOR FABRICATION INDICATES THE ACCEPTANCE OF EXISTING CONDITIONS.

A5. THE OWNER SHALL OCCUPY PORTIONS OF THE FACILITY DURING CONSTRUCTION. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ALL CONSTRUCTION PROCEDURES WHICH WILL INTERFERE WITH THE NORMAL DAILY OPERATIONS OF THE FACILITY. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE OWNER FOR ALL INTERRUPTIONS OF UTILITY SERVICES TO THE EXISTING BUILDING PRIOR TO THE INTERRUPTION. ACCIDENTAL INTERRUPTIONS SHALL BE REMEDIED IMMEDIATELY WITH APPROPRIATE FORCES.

A6. THE EXISTING BUILDING SHALL BE PROTECTED AT ALL TIMES FROM MOISTURE, DUST AND DEBRIS. INSTALL DUST PARTITIONS AS REQUIRED AND/OR AS SHOWN TO KEEP THE EXISTING PREMISES FREE FROM DUST AND DEBRIS. PROVIDE BARRICADES SEPARATING THE PUBLIC FROM CONSTRUCTION ACTIVITY.

A7. ANY DAMAGE TO THE OWNER'S PROPERTY OR OWNER'S EMPLOYEES CAUSED BY THE CONSTRUCTION PROCESS SHALL BE REPAIRED/REPLACED AT NO COST TO THE OWNER OR OWNER'S EMPLOYEES.

A8. THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF THE SECURITY SYSTEM OF THE EXISTING FACILITY AT ALL TIMES. THIS INCLUDES KEEPING THE FACILITY SECURE FROM PERSONS, ENVIRONMENTAL ELEMENTS, OR HAZARDS. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE OWNER PRIOR TO THE MODIFICATION OF ANY SECURITY SYSTEM OR THE DISABLING OF SUCH.

A9. THE CONTRACTOR SHALL KEEP THE CONSTRUCTION AREA FREE AND CLEAR OF DEBRIS. REMOVE TRASH AND DEBRIS FROM CONSTRUCTION AREA AND DO NOT ALLOW TO ACCUMULATE. NO FLAMMABLE MATERIALS/LIQUIDS MAY BE STORED IN THE EXISTING BUILDING OR THE EXPANSION DURING CONSTRUCTION. PROVIDE EXTINGUISHERS AS REQUIRED BY LOCAL AND STATE AUTHORITIES, UL LISTED 2A:20BC DRY CHEMICAL FIRE EXTINGUISHERS, ACCESSIBLE AT ALL TIMES WITHIN ALL CONSTRUCTION AREAS.

A10. THE CONTRACTOR SHALL MAINTAIN THE REQUIRED NUMBER OF EXITS FROM THE FACILITY. MAINTAIN EXITS, EXIT SIGNS AND EMERGENCY LIGHTING AT ALL TIMES AS REQUIRED BY THE GOVERNING AUTHORITIES.

A11. REMOVE ANY EXISTING ITEMS, SERVICES, FINISHES/OR SURFACES AS REQUIRED FOR THE INSTALLATION OF NEW CONSTRUCTION.

A12. REPAIR, RE-ROUTE AND EXTEND ALL SERVICES, PIPING, CONDUIT OF EXISTING ITEMS AND EQUIPMENT AS REQUIRED DURING THE CONSTRUCTION PROCESS FOR THE COMPLETE INSTALLATION AND OPERATIONS OF NEW EQUIPMENT. THIS INCLUDES ALL ITEMS SHOWN OR NOT SHOWN ON THE DRAWINGS. RESET EXISTING EQUIPMENT OR RELATED ITEMS AS REQUIRED FOR PROPER OPERATION.

A13. PATCH, REPAIR, AND REFINISH CONSTRUCTION AT INTERFACE OF NEW AND EXISTING FINISHES. FINISH NEW SURFACES AT INTERFACE TO MATCH EXISTING.

A14. ALL QUESTIONS RELATING TO THE CONSTRUCTION OF THIS PROJECT SHALL BE DONE IN WRITTEN FORM USING THE "REQUEST FOR INFORMATION" FORM, INCLUDED IN THE SPECIFICATIONS, THROUGH THE GENERAL CONTRACTOR ONLY. FOLLOW INSTRUCTIONS WHEN COMPLETING AND SENDING THIS FORM.

B. GENERAL SITE VERIFICATION REQUIREMENTS:

B1. EXISTING CONDITIONS SHOWN IN THESE PLANS ARE BASED ON LIMITED FIELD OBSERVATIONS BY THE ARCHITECT AND ORIGINAL DESIGN DRAWINGS. ALL EXISTING MATERIAL, DIMENSIONS, ELEVATIONS, AND GENERAL CONDITIONS OF THE BUILDING SHALL BE VERIFIED BEFORE PURCHASE OF MATERIAL AND CONSTRUCTION. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES BETWEEN PLANS AND FIELD CONDITIONS IMMEDIATELY.

B2. ALL UTILITY LOCATIONS SHOWN ARE APPROXIMATE. THE CONTRACTOR SHALL FIELD VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES (WHETHER SHOWN OR NOT) PRIOR TO THE SUBMISSION OF HIS BID OR THE COMMENCEMENT OF CONSTRUCTION. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT OF THE DISCOVERY OF EXISTING UTILITIES NOT SHOWN OR NOTED ON DRAWINGS. THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND DEPTHS OF UNDERGROUND UTILITY SERVICES PRIOR TO ANY EXCAVATION.

C. GENERAL FLOOR PLAN NOTES:

REFER TO ARCH PLAN SHEETS

C1. ALL DIMENSIONS ARE TO FACE OF CMU OR STUD UNLESS NOTED OTHERWISE.

C2. CLEAN, PATCH AND REPAIR EXISTING WALL SURFACES SCHEDULED TO BE REFINISHED. ALL EXISTING GYPSUM BOARD SURFACES, WHICH ARE DAMAGED IN ANY WAY SHALL BE REPAIRED PRIOR TO THE APPLICATION OF SCHEDULED WALL.

C3. ALL NEW FLOORING SHALL BE PROTECTED FROM SCRATCHING, MARKING, STAINING, ETC. DURING CONSTRUCTION. ANY FLOORING THAT IS DAMAGED BY CONSTRUCTION AND DOES NOT APPEAR IN NEW CONDITION AT THE TIME OF POSSESSION WILL BE REPLACED BY THE GENERAL CONTRACTOR AT HIS EXPENSE. INSTALL TRANSITION STRIP WHERE FLOORING ABUTS EXPOSED CONCRETE FLOOR.

C4. CLEAN ALL EXISTING HVAC GRILLES WHICH REMAIN, PRIOR TO CONTRACT COMPLETION.

D. GENERAL DEMOLITION REQUIREMENTS:

REFER TO ARCH DEMO SHEETS

D1. ALL DEMOLITION SHALL BE CARRIED OUT IN A SAFE MANNER AND IN STRICT ACCORDANCE WITH OSHA REGULATIONS.

D2. THE CONTRACTOR SHALL FIELD VERIFY THE EXTENT OF DEMOLITION. THE WORK INCLUDES, BUT IS NOT LIMITED TO, THE DEMOLITION AND REMOVAL OF WALLS, CEILINGS, ROOFING, DOORS, FIXTURES, PLUMBING, MECHANICAL AND ELECTRICAL ITEMS INCLUDING CONDUITS AND DUCTWORK AS SHOWN ON DRAWING OR AS REQUIRED FOR THE INSTALLATION OF THE NEW WORK FOR A COMPLETE JOB. THE CONTRACTOR SHALL REPLACE ANY/ALL FLOOR, WALL, OR CEILING FINISHES DAMAGED AS A RESULT OF DEMOLITION. MATCH EXISTING ADJACENT FINISHES.

D3. WHEN UTILITIES ARE REMOVED, CAP AND SEAL A MINIMUM OF 8" BELOW FINISH FLOOR OR A MINIMUM OF 6" ABOVE FINISH CEILING.

D4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE ADEQUATE SHORING, BRACING AND SUPPORT SYSTEMS FOR EXISTING STRUCTURE AND TO KEEP THE EXISTING STRUCTURE INTACT AND IN A SAFE CONDITION DURING DEMOLITION AND NEW CONSTRUCTION. THE CONTRACTOR SHALL RETAIN A REGISTERED PROFESSIONAL ENGINEER TO DESIGN THE SHORING OR BRACING AND SPECIFY DEMOLITION PROCEDURES. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR MEANS AND METHODS OF DEMOLITION AND NEW CONSTRUCTION.

D5. DURING DEMOLITION AND RECONSTRUCTION, THE CONTRACTOR SHALL COORDINATE WITH THE OWNER ANY REQUIRED SAFETY BARRIERS OR BARRICADES. PROVIDE BARRICADES SO AS TO PRECLUDE INTRUSION OF PUBLIC INTO CONSTRUCTION AREAS.

D6. REFER TO THE OWNER APPROVED CONSTRUCTION PHASING SCHEDULE FOR PHASING OF DEMOLITION AND NEW CONSTRUCTION. COORDINATE DEMOLITION WITH NEW CONSTRUCTION IN ORDER THAT THE FACILITY WILL HAVE UNINTERRUPTED WATER, SEWER, ELECTRICAL, GAS AND FIRE PROTECTION SERVICE. THE CONTRACTOR IS RESPONSIBLE FOR MAKING ALL NECESSARY TEMPORARY UTILITY PROVISIONS REQUIRED.

D7. ALL DEMOLITION MATERIALS NOT SALVAGED BY THE OWNER SHALL BE REMOVED BY THE CONTRACTOR. COORDINATE WITH THE OWNER REGARDING MATERIALS TO BE SALVAGED BY THE OWNER. REFER ALSO TO DRAWINGS AND SPECIFICATIONS FOR SALVAGED ITEMS.

D8. REMOVE EXISTING RESILIENT FLOORING SYSTEM AT EXISTING BUILDING FLOOR AREAS AND REPAIR CONCRETE SUBSTRATE FOR NEW FLOORING SYSTEM.

D9. REFER TO MECHANICAL, PLUMBING, FIRE PROTECTION, AND ELECTRICAL DRAWINGS FOR NECESSARY FLOOR SLAB DEMOLITION FOR THE INSTALLATION OF NEW PIPING OR CONDUITS.

D10. THE CONTRACTOR SHALL USE A WET SAW FOR SLAB SAWING. NO JACK HAMMERS WILL BE ALLOWED WITHOUT PRIOR APPROVAL FROM THE OWNER. REMOVE EXISTING CERAMIC TILE/QUARRY TILE AT AREAS TO RECEIVE NEW FLOOR FINISH. PREPARE CONCRETE SUBSTRATE, CEMENT GROUT INFILL DEPRESSED AREAS. FLUSH AND LEVEL FOR NEW FLOOR FINISH FOR SMOOTH TRANSITION TO ADJACENT FLOOR AREAS.

D11. PROTECT ALL WATER PIPING AT AREAS OF DEMOLITION, EXPANSION AND REMODEL, WHERE EXISTING PIPING IS SUBJECT TO FREEZING. PROTECT PIPING SO AS NOT TO FREEZE.

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Project Number **2024-101**

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Sheet Title

GENERAL NOTES & DETAILS

Sheet Number

G-003

APPLICABLE CODES AND STANDARDS

CODE	EDITION	DESCRIPTION
AFPC	2021	ARKANSAS FIRE PREVENTION BUILDING CODE
NFPA 1	2021	FIRE CODE
NFPA 10	2022	STANDARD FOR PORTABLE FIRE EXTINGUISHERS
NFPA 13	2019	INSTALLATION OF SPRINKLER SYSTEMS
NFPA 24	2019	STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES
NFPA 25	2020	STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER BASED FIRE PROTECTION SYSTEMS
NFPA 70	2020	NATIONAL ELECTRIC CODE
NFPA 72	2019	NATIONAL FIRE ALARM CODE
NFPA 90A	2021	STANDARD INSTALLATION OF AIR CONDITIONING AND VENTILATION SYSTEMS
NFPA 101	2021	LIFE SAFETY CODE

EXISTING STRUCTURE - CLASSIFICATION OF WORK

PER INTERNATIONAL EXISTING BUILDING CODE

- ☐ REPAIRS
- ☐ ALTERATION LEVEL 1
- ☒ ALTERATION LEVEL 2
- ☐ ALTERATION LEVEL 3
- ☐ CHANGE OF OCCUPANCY
- ☐ ADDITIONS
- ☐ HISTORIC BUILDING
- ☐ RELOCATED BUILDING

ALCOHOL BASED HAND RUB DISPENSERS

WHERE DISPENSERS ARE INSTALLED IN THE CORRIDOR, CORRIDOR WIDTH SHALL BE A MINIMUM OF 6 FEET. MAXIMUM DISPENSER CAPACITY IN ROOMS, CORRIDORS, AND AREAS OPEN TO CORRIDORS SHALL BE 1.2L. MAXIMUM DISPENSER CAPACITY IN SUITES OF ROOMS SHALL BE 2.0L. WHERE AEROSOL DISPENSERS ARE USED, MAXIMUM CAPACITY SHALL BE 18oz AND LIMITED TO LEVEL 1 AEROSOLS. DISPENSERS SHALL BE A MINIMUM OF 4 FEET HORIZONTALLY FROM THE NEXT DISPENSER. NOT MORE THAN 37.8L (10GAL) OF SOLUTION, OR 1135oz OF LEVEL 1 AEROSOLS SHALL BE IN USE OUTSIDE OF A STORAGE CABINET IN A SINGLE SMOKE COMPARTMENT. STORAGE OF GREATER THAN 5 GALLONS IN A SINGLE SMOKE COMPARTMENT SHALL MEET THE REQUIREMENTS OF NFPA 30. DISPENSERS SHALL NOT BE INSTALLED: ABOVE AN IGNITION SOURCE FOR A DISTANCE OF 1" TO EACH SIDE OF THE IGNITION SOURCE, TO THE SIDE OF A N IGNITION SOURCE WITHIN A 1" HORIZONTAL DISTANCE TO THE SOURCE, BENEATH AN IGNITION SOURCE WITHIN A 1" VERTICAL DISTANCE FROM THE IGNITION SOURCE. THE MOST COMMON IGNITION SOURCES ARE ELECTRICAL OUTLETS.

OCCUPANCY CLASSIFICATION

☒ SINGLE
☐ MIXED
☐ SEPARATED ☐ NON SEPARATED

OCCUPANCY CLASSIFICATION(S): I-2
ACCESSORY OCCUPANCIES: N/A

CONSTRUCTION CLASSIFICATION: TYPE I (3,3,2)

HEIGHT AND AREA - ACTUAL

BUILDING HEIGHT	HEIGHT IN FEET 71' - 4"	HEIGHT IN STORIES 3
BUILDING AREA	5,247.00 SF	

HEIGHT AND AREA- ALLOWABLE

		TABULAR AREA (TABLE 506.2)		TABULAR HEIGHT (TABLE 504.3-4)		
OCCUPANCY CLASSIFICATION	TYPE OF CONSTRUCTION	AREA FACTOR	AREA	AREA FACTOR	FEET	STORIES
I-2	TYPE 1(3,3,2)	SM	UL	SM	UL	UL

UNLIMITED AREA ☒ YES ☐ NO

INTERIOR FINISH REQUIREMENTS

	EXITS	EXIT ACCESS CORRIDORS	OTHER SPACES
WALL & CEILING FINISH	A or B	A or B	A or B
FLOOR COVERINGS	I or II	I or II	I or II

(TABLE 803.13)

INCIDENTAL USES

- ☐ FURNACE ROOM
- ☐ ROOMS WITH BOILERS
- ☐ REFRIGERANT MACHINERY ROOM
- ☐ HYDROGEN FUEL GAS ROOMS
- ☐ INCINERATOR ROOMS
- ☐ PAINT SHOPS IN OTHER THAN F
- ☐ GROUP E LABORATORIES AND VOCATIONAL SHOPS
- ☐ GROUP I-2 LABORATORIES
- ☐ AMBULATORY CARE FACILITIES LABORATORIES
- ☐ LAUNDRY ROOMS OVER 100 SQFT
- ☐ GROUP I-2 LAUNDRY ROOMS OVER 100 SQFT
- ☐ GROUP I-3 CELLS AND GROUP I-2 PATIENT ROOMS
- ☐ GROUP I-2 PHYSICAL PLANT MAINTENANCE SHOPS
- ☐ AMBULATORY CARE FACILITIES OR GROUP I-2 WASTE AND LINEN COLLECTION ROOM WITH AGGREGATE VOLUME OF 10CF
- ☐ OTHER THAN AMBULATORY AND GROUP I-2 WASTE AND LINEN COLLECTION ROOMS OVER 100 SQFT
- ☐ AMBULATORY CARE FACILITIES OR GROUP I-2 STORAGE ROOMS OVER 100 SQFT
- ☐ ELECTRICAL INSTALLATIONS AND TRANSFORMERS

IF APPLICABLE, SEPARATION AND/OR PROTECTION: N/A (TABLE 509.1)

FIRE PROTECTION SYSTEMS

FIRE PROTECTION SYSTEM	REQUIRED	PROVIDED	SECTION
AUTOMATIC SPRINKLER	●	●	903
ALTERNATIVE AUTO FIRE EXT			904
STANDPIPE	●	●	905
PORTABLE FIRE EXTINGUISHERS	●	●	906
FIRE ALARM AND DETECTION	●	●	907
EMERGENCY ALARM			908
SMOKE CONTROL			909
SMOKE & HEAT REMOVAL			910
FIRE COMMAND CENTER			911
FIRE DEPT. CONNECTIONS	●	●	912
FIRE PUMPS	●	●	913
EMERGENCY RESPONDER FEATURES			914
CARBON MONOXIDE DETECTION			915
GAS DETECTION SYSTEMS			916
MASS NOTIFICATION SYSTEMS			917
EMERGENCY RESP. COMM COVERAGE			918

FIRE RESISTANCE OF BUILDING ELEMENTS

	REQUIRED	SECTION
STRUCTURAL FRAME	3	601
BEARING WALLS (EXTERIOR)	3	601
BEARING WALLS (INTERIOR)	2	601
NON-BEARING WALLS (EXTERIOR)	0	601
NON-BEARING WALLS (INTERIOR)	0	601
FLOOR CONSTRUCTION	2	601
ROOF CONSTRUCTION	1.5	601
INTERIOR EXIT STAIRWAYS	2	1023
SHAFT ENCLOSURE	2	713
CORRIDORS	0.5	1020

MEANS OF EGRESS

MEANS OF EGRESS ELEMENT	REQUIRED	PROVIDED	SECTION
NUMBER OF EXITS	2	2	1006.3.3
EXIT ACCESS TRAVEL DISTANCE	200 ft	173 ft	1017.2
DEAD-END LIMIT	30 ft	0 ft	1020.5
COMMON PATH OF TRAVEL LIMIT	100 ft	49 ft	1006.2.1

TOTAL OCCUPANT LOAD:	64
EGRESS WIDTH:	0.2" PER PERSON FOR LEVEL COMPONENTS/ 0.3" STAIRS AND RAMPS
MINIMUM CORRIDOR WIDTH:	96"
CLEAR OPENING DOOR WIDTH:	34"
ILLUMINATION OF EGRESS:	1 FT-CANDLE AT THE FLOOR AND 0.2 FT-CANDLE FOR A SINGLE LIGHT FAILURE.
EMERGENCY EGRESS LIGHTING:	EXIT ACCESS AND DISCHARGE ONLY. ACCESS INCLUDES DESIGNATED CORRIDORS, AISLES, AND PASSAGEWAYS. DISCHARGE INCLUDES DESIGNATED DOORS, WALKWAYS, AND RAMPS LEADING TO A PUBLIC WAY. PERFORMANCE PER NFPA 101 7.9.
EXIT MARKING:	MARKING OF EXITS AND THE MEANS OF EGRESS SHALL BE PER NFPA 101 7.10
SMOKE RESISTIVE WALLS:	AT CORRIDOR WALLS AND DOORS (NOT REQUIRED TO BE RATED, JUST RESIST PASSAGE PER NFPA 101 18.3.6.2/3)
SMOKE BARRIER:	<22,500 SQUARE FEET
SMOKE PARTITION REFUGE AREA:	NOT LESS THAN 30 SQUARE FEET PER PATIENT SHALL BE PROVIDED ON EACH SIDE OF THE BARRIER UTILIZING PATIENT ROOMS, CORRIDORS, TREATMENT AREAS, AND OTHER LOW-HAZARD AREAS.

CROMWELL
1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 19823
10-18-2024

Notes

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **LIFE SAFETY CODE ANALYSIS**

Sheet Number **G1001**

EGRESS SYMBOLS

EGRESS SPACE TAG:

OFFICE — SPACE NAME
101 — SPACE NUMBER
100 SF — SPACE AREA
1 Occupant(s) — SPACE OCCUPANCY LOAD

PATH OF EGRESS

COMMON PATH OF TRAVEL

TOTAL TRAVEL DISTANCE

EGRESS DOOR LOAD TAG:
COL — CALCULATED OCCUPANT LOAD
TEC — TOTAL EXITING CAPACITY

EGRESS STAIR DOOR LOAD TAG:
COL — CALCULATED OCCUPANT LOAD
TEC — TOTAL EXITING CAPACITY

LIFE SAFETY EQUIPMENT

FE — FIRE EXTINGUISHER - HOOK MOUNTED
FEC — FIRE EXTINGUISHER IN CABINET
FHV — FIRE HOSE VALVE CABINET
75' TRAVEL DISTANCE FOR FIRE EXTINGUISHERS

WALL SEPERATIONS

HALF-HOUR FIRE WALL
45-MINUTE FIRE WALL
1 HOUR FIRE WALL
2 HOUR FIRE/SMOKE WALL
"S" REPRESENTS SMOKE BARRIER WALL
EACH ◆ REPRESENTS 1-HOUR OF FIRE RATING

LIFE SAFETY SCHEDULE - CT AREA

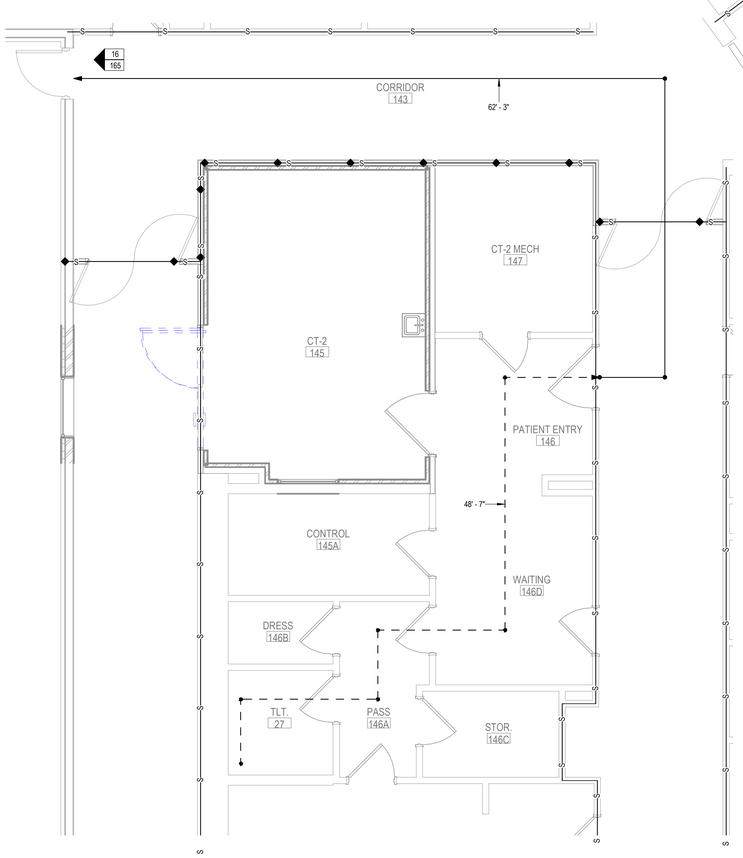
NAME	NUMBER	SPACE AREA	AREA PER PERSON	OCCUPANT LOAD
TLT.	27	47 SF	150 SF	0
CORRIDOR	143	445 SF	150 SF	3
CT-2	145	286 SF	150 SF	2
CONTROL	145A	87 SF	150 SF	1
PATIENT ENTRY	146	96 SF	150 SF	1
PASS	146A	62 SF	150 SF	0
DRESS	146B	28 SF	150 SF	0
STOR.	146C	50 SF	300 SF	0
WAITING	146D	131 SF	15 SF	9
CT-2 MECH	147	111 SF	300 SF	0
		1341 SF		16

LIFE SAFETY SCHEDULE - MRI AREA

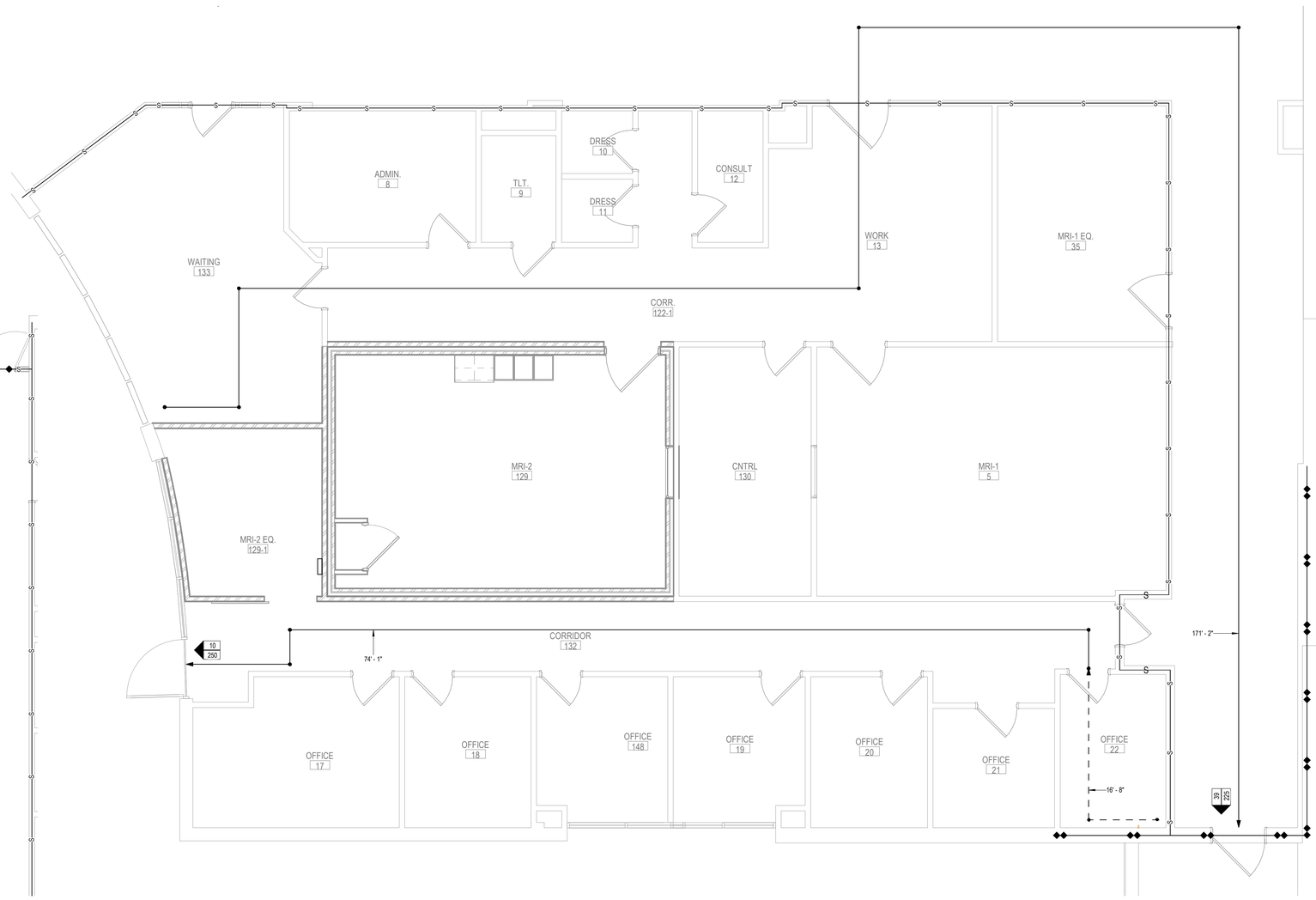
NAME	NUMBER	SPACE AREA	AREA PER PERSON	OCCUPANT LOAD
MRI-1	5	501 SF	150 SF	3
ADMIN.	8	141 SF	150 SF	1
TLT.	9	46 SF	150 SF	0
DRESS	10	26 SF	150 SF	0
DRESS	11	26 SF	150 SF	0
CONSULT	12	50 SF	150 SF	0
WORK	13	293 SF	150 SF	2
OFFICE	17	169 SF	150 SF	1
OFFICE	18	110 SF	150 SF	1
OFFICE	19	110 SF	150 SF	1
OFFICE	20	102 SF	150 SF	1
OFFICE	21	84 SF	150 SF	1
OFFICE	22	94 SF	150 SF	1
MRI-1 EQ.	35	229 SF	300 SF	1
CORR.	122-1	283 SF	150 SF	2
MRI-2	129	435 SF	150 SF	3
MRI-2 EQ.	129-1	141 SF	300 SF	0
CNTRL	130	190 SF	150 SF	1
CORRIDOR	132	406 SF	150 SF	3
WAITING	133	382 SF	15 SF	25
OFFICE	148	109 SF	150 SF	1
		3925 SF		48

LIFE SAFETY - PATH OF EGRESS...

TRAVEL PATH			
FROM ROOM	TO ROOM	EXIT TRAVEL TYPE	LENGTH
OFFICE 22	CORRIDOR 132	COMMON PATH	16' - 8"
CORRIDOR 132	CORRIDOR 132	TOTAL TRAVEL	74' - 1"
			90' - 10"
TLT. 27	CORR. 34	COMMON PATH	48' - 7"
CORR. 34	CORRIDOR 143	TOTAL TRAVEL	62' - 3"
			110' - 11"
WAITING 133		TOTAL TRAVEL	171' - 2"
			171' - 2"



1 LIFE SAFETY - FIRST LEVEL - FLOOR PLAN - CT AREA
1/4" = 1'-0"
0 2 4 8
TRUE NORTH / NORTH PLAN



2 LIFE SAFETY - FIRST LEVEL - FLOOR PLAN - MRI AREA
1/4" = 1'-0"
0 2 4 8
TRUE NORTH / NORTH PLAN

CROMWELL
1300 East 6th Street Little Rock, AR 72202
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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR
72120

CHI St. Vincent

Design Phase
CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CROMWELL ARCHITECTS ENGINEERS #5 — STATE OF ARKANSAS — CERTIFICATE OF AUTHORITY

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 19823

10-18-2024

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title
LIFE SAFETY FLOOR PLAN

Sheet Number
GI101

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PHILIPS

www.healthcare.philips.com



*Photo shown is not site specific.

Revision History

Note for Architects and/or Contractors: If revisions are listed, these drawings must be thoroughly reviewed so that all changes can be incorporated into your project

Rev.	Date	Revision Descriptions	By
-			

Table of Contents

Section A - Equipment Plan
General Notes ---------- AN
Equipment Legend ---------- AL
Site Layout ---------- A1
Equipment Layout ---------- A2
Transport Details ---------- AD1
Equipment Details ---------- AD2 - AD3

Section S - Support Plan
Support Notes ---------- SN
Support Legend ---------- SL
Support Layout - Floor & Wall ---------- S1
Support Layout - Ceiling ---------- S2
Support Details ---------- SD1-SD2

Section E - Electrical Plan
Electrical Notes ---------- EN
Electrical Legend ---------- EL
Electrical Layout ---------- E1
Raceway & Conduit Information ---------- E2
Electrical Details ---------- ED1 - ED2

Section MP - Miscellaneous Details
Miscellaneous Details ---------- MP1-MP2
Remote Service Network ---------- N1
Check List ---------- CHK

PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number
N-SRD100003
Date Drawn: 12/16/2020
Quote: None
Order: None

C1

12.16.2020

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THIS SHEET IS PART OF THE DOCUMENT SET LISTED ON SHEET C1 AND SHOULD NOT BE SEPARATED.

General Specifications

1. **Responsibility**
The customer shall be solely responsible, at their expense for preparation of site, including any required structural alterations. The site preparation shall be in accordance with plans and specifications provided by Philips. Compliance with all safety, electrical, and building codes relevant to the equipment and its installation is the customer's responsibility. Sufficiency of such plans and specifications, specifically including, but not limited to the accuracy of the dimensions described therein, shall be the sole responsibility of the customer. The customer shall advise Philips of conditions at or near the site which could adversely affect the carrying out of the installation work and shall ensure that such conditions are corrected and that the site is fully prepared and available to Philips before the installation work is due to begin. The customer shall provide all necessary plumbing and/or carpentry work as well as electrical raceways and/or conduit wiring required to attach and install products ready for use.

2. **Permits**
Customer shall obtain all permits and licenses required by federal, state/provincial or local authorities in connection with the construction, installation and operation of the products and shall bear any expense in obtaining same or in complying with any related rules, regulations, ordinances and statutes.

3. **Radiation Protection**
The customer or their contractor, at their own expense, shall obtain the service of a licensed radiation physicist to specify radiation protection

4. **Asbestos and Other Toxic Substances**
Philips assumes no hazardous waste (i.e., pcb's in existing transformers) exists at the site. If any hazardous materials are found, it shall be the sole responsibility of the customer to properly remove and dispose of these materials at their expense. Any delays caused in the project for this special handling shall result in Philips' time period for completion being extended by like period of time. Philips assumes that no asbestos material is involved in this project in any ceilings, walls or floors. If any asbestos material is found anywhere on the site, it shall be the customer's sole responsibility to properly remove and/or make safe this condition, at the customer's sole expense.

5. **Labor**
In the event local labor conditions make it impossible or undesirable to use Philips' regular employees for such installation and connection, such work shall be performed by laborers supplied by the customer, or by an independent contractor chosen by the customer at the customer's expense, and in such case, Philips agrees to furnish adequate engineering supervision for proper completion of the installation.

6. **Schedule**
The general contractor should provide Philips with a schedule of work to assist in the coordination of delivery of Philips supplied products and primary equipment, which are to be installed by the contractor.

7. **Extended Installation or Turnkey Work by Philips**
Any room preparation requirements for Philips equipment indicated on these drawings is the responsibility of the customer. If an extended installation or turnkey contract exists between Philips and the customer for room preparation, then additional work required for the equipment will not be represented on these drawings. Some of the responsibilities of the customer as depicted in these drawings may be assumed by Philips. In the event of a conflict between the work described in the turnkey contract work scope and these drawings, the turnkey contract work scope shall govern.

(14.0)

General Considerations

1. Wheels on control room equipment are provided for service only. Philips equipment located in the control room should not be repositioned post-installation and should be handled with care.
2. Philips CT systems come with a calibration phantom, service tools, and manuals. These should be stored in or near the exam room if possible, for ease of use and access by the Philips service engineer and customer physicist. Consult with Philips service.

(14.0)

Minimum Site Preparation Requirements

A smooth efficient installation is vital to Philips and their customers. Understanding what the minimum site preparation requirements are will help achieve this goal. The following list clearly defines the requirements which must be fulfilled by the customer before the installation can begin.

1. Walls to be painted or covered, baseboards installed, floors to be tiled and/or covered, ceiling shall have grid tiles, architectural features (such as casework or bulkheads) installed and finished, lighting fixtures installed and operational, light levels for servicing of equipment to be a minimum of 500 lux, and the area in and around the CT Suite must be dust free.
2. Doors and windows, especially radiation protection barriers, installed and finished with locksets operational (see sheet MP1 of final drawing package for details).
3. All electrical convenience outlets, conduit, raceway and junction boxes installed and operational.
4. Incoming mains power (including any power devices purchased through Philips) operational and available at the CT Gantry (reference sheet ED1 of final drawing package).
5. 120 V convenience outlets operational.
6. All support structures correctly installed. All channels, pipes, beams and/or other supporting devices should be level, parallel, and free of lateral or longitudinal movements.
7. Door switch (if required) and door light (if required) wires must be pulled and available for connection.
8. All HVAC (heating, ventilating and air conditioning) installed and operational per specifications listed under "HVAC Requirements for General Equipment Locations" on this page and under "Air Flow Diagram" on sheet MP1 of final drawing package.
9. All plumbing installed and operational (if required).
10. All doors and passage sizes are adequate for moving of equipment from exterior to specified room. Required door width is 48" (1220mm) for 96" (2438mm) adjacent corridor and 72" (1830mm) for 72" (1830mm) adjacent corridor (78" (1981mm) for 72" (1830mm) adjacent corridor for Brilliance Big Bore). Required minimum door height shall be 80" (2031mm) clear opening.
11. The floor levelness under the CT Gantry and the Patient Table meets Philips specifications. If the customer cannot meet these specifications, then contact the local Philips Service Representative to discuss optional solutions. See floor levelness detail sheet on final drawing package for details.
12. The structural floor support of the CT Suite and the delivery path is adequate for the weight of the equipment and is validated by the customer prior to delivery of the system. See transport and support detail sheets on final drawing package for details.
13. A telephone line is required to be operational in the control room prior to delivery of the system.
14. Internet access is required to be available in the control area prior to delivery of the system for Web FSE Access. See sheet N1 of final drawing package for details.
15. Remote Service Diagnostics - Medical imaging equipment to be installed by Philips is equipped with a service diagnostic feature which allows for remote and on site service diagnostics. To establish this feature, a RJ45 type Ethernet 10/100/1000 Mbit network connector must be installed as shown on plan. Access to customer's network via their remote access server is needed for Remote Service Network (RSN) connectivity. All cost with this feature are the responsibility of the customer. See sheet N1 of final drawing package for details.

Note
Once Philips has moved equipment into the CT Suite and started the installation, the contractor shall schedule his work around the Philips installation team on site. It is suggested that a telephone be provided in the suite to receive telephone calls. This would alleviate facility staff from answering calls for Philips personnel.

(18.0)

Electrical Requirements
Ingenuity CT Configuration

Supply Configuration:	3 phase, 3 wire power, Earth (with Philips-approved Isotran transformer power device)
Nominal Line Voltage:	480 VAC ± 10%, 50/60 Hz, ±3 Hz
Branch Power Requirement:	112.5 kVA minimum (150 kVA preferred)

Refer to sheet ED1 of final drawing package for complete electrical requirements (14.0)

HVAC Requirement for General Equipment Locations

Operating temperature range within the CT Exam Room is 64° F (18° C) to 75° F (24° C) [Ideal stable room temperature setting: 72° F (22° C)] at 35% to 70% relative humidity (non-condensing). Temperature variations within this range (18-24° C; 64-75° F) must not exceed 5° F (3° C) during operations. Temperature gradient must not exceed 5° F (3° C) per hour. Room air-conditioning supply vents should not discharge directly over patient table and treatment area, which may cause discomfort to the patient.

Operating temperature range throughout rest of CT Suite is 59° F (15° C) to 75° F (24° C) [Ideal stable room temperature setting: 72° F (22° C)] at 35% to 70% relative humidity (non-condensing). Operating temperature change per hour throughout the CT suite is 5° F (3° C).

The above conditions must be maintained at all times including overnight, weekends and holidays. Heat output in one area of CT suite must not affect temperature and humidity in other areas. It is strongly recommended that any definable areas within the suite, i.e. equipment closets, control areas, etc. (if applicable), be individually environmentally controlled as required to meet the ambient ranges specified.

See Equipment Detail sheets of final drawing package for individual equipment ratings which may or may not operate simultaneously. (14.0)

Air-Cooling Requirements -- CIRS Recon/COM Cabinet

1. Placement of CRC should accomodate CRC heat levels.
   1.1. 4" required between back of CRC and wall.
   1.2. Avoid running raceway behind back of CRC. If raceway passes behind CRC, 4" required between back of CRC and surface of existing raceway.
2. If CRC cabinet is placed in a corner or under a desk, there must be airflow around the cabinet and a method for the hot exhaust air from the computers (vented in rear) to escape.
   2.1. Provide 5 X 46 cm (2" x 18") or equivalent area opening on counter top near wall .

(18.0)

Vibration Specifications

	Operation Gantry & Couch	Operation Rest of System
Vibration Frequency Range in Hz	1-150	1-150
Vibration/Shock Amplitude in mm (peak to peak)	0.15	0.15
Vibration Acceleration in grams	*	0-2
Shock Acceleration in g	0-2	0-2
Steady State Vibration	*	N/A
Air Pressure in kPa (10mbar)	70-110	70-100

* See chart on MP1 sheet of final drawing package.

(14.0)

Magnetic Field Limitations

To avoid image quality issues the magnetic field may not exceed 2 gauss (0.2mT) at any point on the Brilliance CT System. (14.0)

Radiation Considerations

Refer to sheet MP1 of final drawing package for Stray Radiation Dose Map. A licensed radiation physicist needs to determine any shielding requirements for the site. If lead shielding is required, it is the customer's responsibility to ensure that the shielding meets state, local, and site-specific requirements. (14.0)

PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number
N-SRD100003
Date Drawn: 12/16/2020
Quote: None
Order: None

AN

12.16.2020

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VERIFY ALL DIMENSIONS IN FIELD

Equipment Legend

A Furnished and installed by Philips
B Furnished by customer/contractor and installed by customer/contractor
C Installed by customer/contractor
D Furnished by Philips and installed by contractor
E Existing
F Future
G Optional

	Equipment Designation	Description	Detail Sheet: Weight (lbs)	Heat Load (BTU/hr)	
A	WS	Ingenuity CT Scanner Gantry	4300	18000	AD2
A	WT	Patient Table Extended Version	880		AD2
A	OC	Operator's Console (dual monitor)	45	1000	AD2
A	CRC	CIRS Recon / COM Cabinet	313	5850	AD2
D	PDU	ECT 115kVA PDU LM	827		AD3
G	UPS	3 kVA Console UPS	155	850	AD3
G	COM	IMR Host Computer Cabinet *	174	1450	
G	REC	IMR Server Recon Cabinet *	279	8872	
G	INJ	Bayer Injector (ceiling)**	116	-	-

* Cabinet if IMR option is purchased in future. Shown here for space, weight, and heat load planning requirements. Additional raceway/conduit may be needed. (Replaces CRC cabinet)

** Possible injector location for use with iPatient if purchased. Bayer injector shown for illustration only.

PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

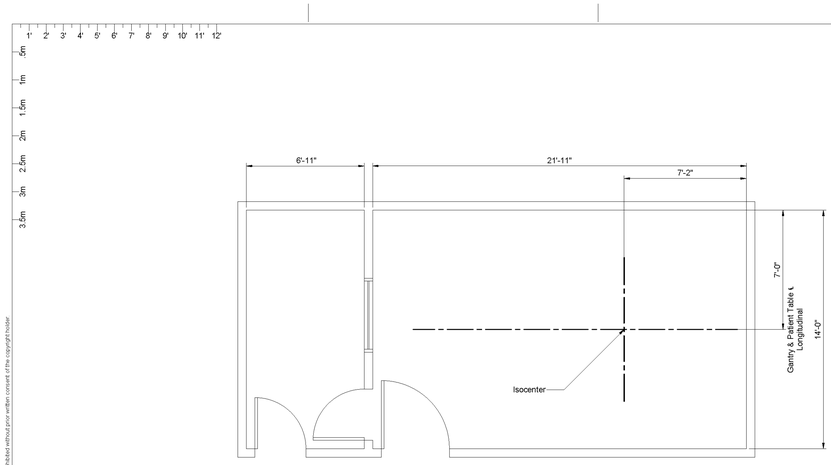
Project Details
Drawing Number
N-SRD100003
Date Drawn: 12/16/2020
Quote: None
Order: None

AL

12.16.2020

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Site Layout

1/4" = 1'-0"

Recommended Ceiling Height: 9' - 0" (2743mm)
Minimum Ceiling Height: 8' - 0" (2438mm)

PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number
N-SRD100003
Date Drawn: 12/16/2020
Quote: None
Order: None

A1

12.16.2020

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp



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Project Number **2024-101**

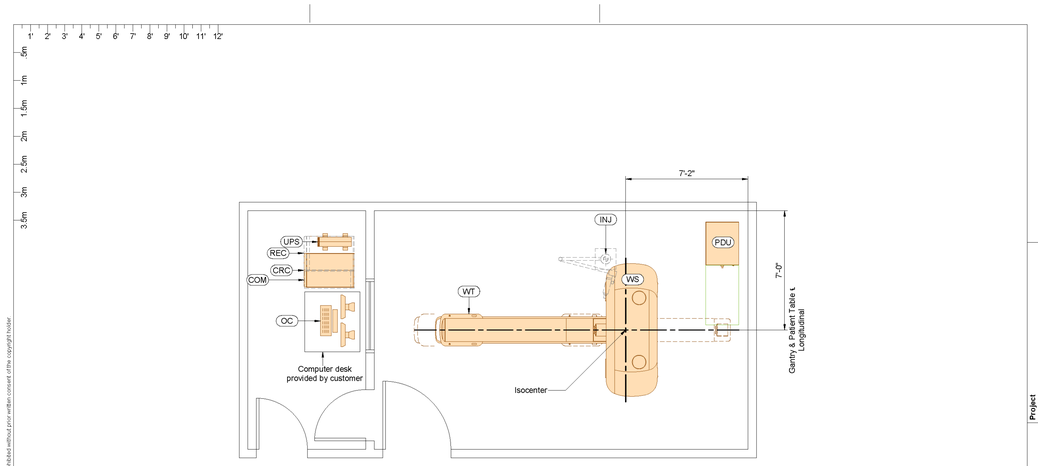
Issue Date **10-18-2024**

Sheet Title

CT (EXISTING RELOCATED) INFORMATION

Sheet Number

GI102





Equipment Layout

1/4" = 1'-0"

Recommended Ceiling Height: 9' - 0" (2743mm)
Minimum Ceiling Height: 8' - 0" (2438mm)

General Notes

- Any counters, keyboard trays and cabinetry shown to be supplied and installed by contractor.
- Field to verify all existing Philips and/or third party equipment will not affect the functionality of the system and its components.

Site Planning Issues and Considerations

- Exact equipment configuration to be verified with local Philips Sales.

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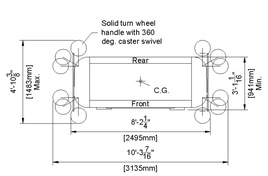
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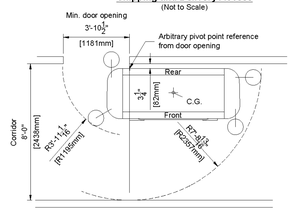
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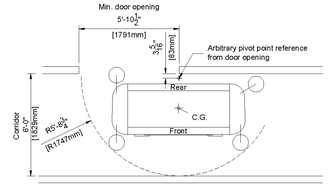
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Shipping and Delivery Access

(Not to Scale)







Gantry with covers:	4300 lbs (1950 kg)
Shipping tubes (set of two):	228 lbs (103 kg)
Dolly wheels/hinges (set of four):	368 lbs (167 kg)
Gantry lifting assembly:	367 lbs (166 kg)
Width with Covers and Protective Packing Guards:	41.0" (1041mm)
Minimum Gantry Width:	37.03" (941mm)
Gantry Height with Covers:	78.92" (2005mm)*

*add 0.5" (12mm) to raise gantry on dolly for minimum floor clearance

Extended Patient Table Transport Weight with transport wheels:	1000 lbs. (454 kg)
Extended Patient Table Transport Dimensions:	118" L x 34.5" W x 29" H (height can vary) (2997mm L x 876mm W x 740mm H)
Standard/Bariatric Patient Table Transport Weight with transport wheels:	930 lbs (422 kg)
Standard/Bariatric Patient Table Transport Dimensions:	108" L x 34.5" W x 21.5" H (height can vary) (2743mm L x 876mm x 547mm H)

Configuration for ocean or air transport: Gantry, top/front/rear covers, shipping tubes all within, and including, wooden crate = 6068 lbs (2752 kg)

Configuration for lifting off of a delivery truck: Gantry, top/front/rear covers, shipping tubes, dolly wheels = 4896 lbs (2221 kg)

Configuration for moving through hospital building: Gantry, top/front/rear covers, dolly wheels/hinges = 4668 lbs (2117 kg)

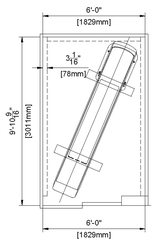
Configuration for lifting through a roof opening: Gantry and top/front/rear covers and lifting assembly = 4667 lbs (2116 kg)

Notes:
1. Door Height Requirements
   - Scanner unit will fit through a 6'-8" (2032mm) door height with dolly assembly provided by Philips.
2. Casters Note
   - The casters have 8" (203mm) diameter hard plastic wheels. Tiled floors should be protected.
   - Always move gantry with dolly wheels in the maximum width position for safety tilt reasons.
3. Forklift
   - Minimum rating of 10,000 to 12,000 lbs. Can balance a load that is 8' (2438mm) long with center of gravity at midpoint.
   - Forks must be no larger than 7.25" (184mm) W x 2.25" (57mm) H, must spread to 24" (610mm) apart, and be a minimum of 60" (1524mm) long.

(14.0)

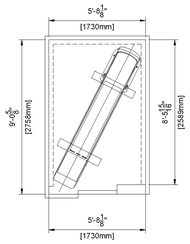
Extended Couch Elevator Transport Detail

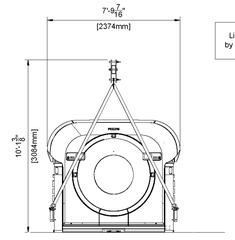
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Standard Couch Elevator Transport Detail

(Not to Scale)

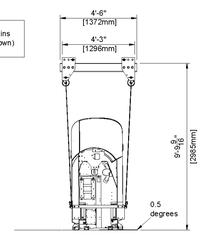




Gantry Lifting Detail

(Not to Scale)

Lifting straps/chains
by riggers (not shown)



(14.0)

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Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
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Room:

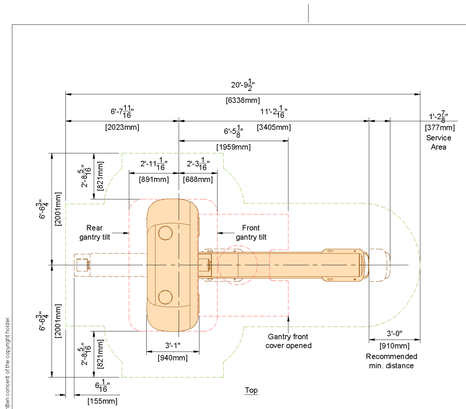
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Project Manager:
Contact Number:
Email:
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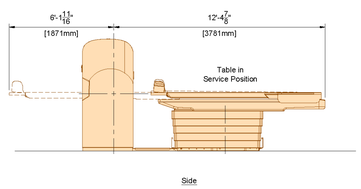
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Order: None

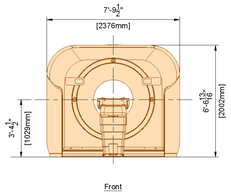
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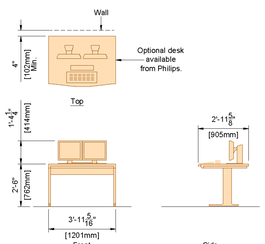
Audible noise: 69 dBA maximum at 1 meter from Isocenter

(14.0)

WS	Ingenuity CT Scanner Gantry	
	Weight	Heat Dissipation
	4300 lbs	18000 btu/hr

(14.0)

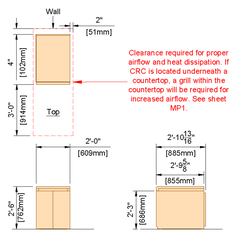
WT	Patient Table Extended Version	
	Weight	Heat Dissipation
	880 lbs	Included in gantry heat output



Optional desk weighs 148 lbs. (67 kg)

(14.0)

OC	Operator's Console	
	Weight	Heat Dissipation
	40 lbs	1000 btu/hr



(18.0)

CRC	CIRS Recon / Com Cabinet	
	Weight	Heat Dissipation
	313 lbs	5850 btu/hr

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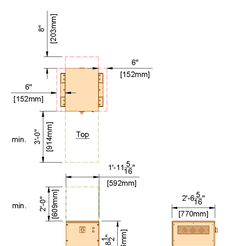
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Project Details
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Order: None

AD2

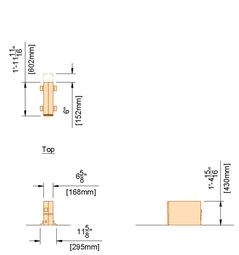
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(18.0)

PDU	ECT 115 KVA PDU LM	
	Weight	Heat Dissipation
	826 lbs	2210 btu/hr



(14.0)

UPS	3 kVA Console UPS	
	Weight	Heat Dissipation
	155 lbs	850 btu/hr

CROMWELL

1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue Sherwood, AR 72120

CHI St. Vincent

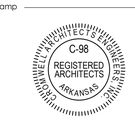
Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title

CT (EXISTING RELOCATED) INFORMATION

Sheet Number

GI103

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Minimum Site Preparation Requirements

1. **General**
   The customer shall be solely responsible, at its expense, for preparation of the site, including any required structural alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and building codes. The customer shall be solely responsible for obtaining all construction permits from jurisdictional authority.

2. **Equipment Anchorage**
   Philips provides, with this plan and specifications, information relative to equipment size, weight, shape, anchoring hole locations and forces which may be exerted on anchoring fasteners. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of equipment anchoring to floors, wall and/or ceiling of the building. Any anchorage test required by local authority shall be the customer's responsibility. Stud type anchor bolts should not be specified as they hinder equipment removal for service.

3. **Floor Loading and Surface**
   Philips provides, with this plan and specifications, information relative to size, weight and shape of floor mounted equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings confirmation of the structural adequacy of the floor upon which the equipment will be placed. Any load test required by local authority, shall be the customer's responsibility. The floor surface upon which Philips equipment is to be placed/anchored shall be flat and level per specifications on sheet SD2.

4. **Ceiling Support Apparatus**
   Philips provides, with this plan and specifications, information relative to size, weight and shape of ceiling supported equipment. The customer shall be solely responsible, through the engineer of record for the building, to provide on the architectural/construction drawings, information regarding the approved method of structural support apparatus, fasteners and anchorage to which Philips will attach equipment. Any anchorage and/or load test required by local authority shall be the customer's responsibility.

   The structural support apparatus surface to which Philips equipment is to be attached, shall have horizontal equipment attachment surfaces parallel, square and level to within plus or minus 1/16" (2mm).

   Any drilling and/or tapping of holes required to attach Philips equipment to the structural support apparatus shall be the responsibility of the customer.

   Fasteners/anchors (i.e., bolts, spring nuts, lock and flat washers) and strip closures shall be provided by the customer.

5. **Lighting**
   Lighting fixtures shall be placed in such a position that they are not obscured by equipment or its movement, nor shall they interfere with Philips ceiling rails and equipment movement or otherwise adversely affect the equipment. Such lighting fixture locations shall be the sole responsibility of the customer.

6. **Ceiling Obstructions**
   There shall be no obstructions that project below the finished ceiling in the area covered by ceiling suspended equipment travel.

7. **Seismic Anchorage (For Seismic Zones Only)**
   All seismic anchorage hardware, including brackets, backing plates, bolts, etc., shall be supplied and installed by the customer/contractor unless otherwise specified within the support legend on this sheet. Installation of electronic cabinets to meet seismic anchorage requirements must be accomplished using flush mounted expansion type anchor/bolt systems to facilitate the removal of a cabinet for maintenance. Do not use threaded rod/adhesive anchor systems.

(14.0)

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All dimensions must be off of the finished wall.

If a wall is furred out to hide electrical duct or boxes, the dimensions included in this plan must come off of the finished furred wall.

Notes:

1. Anchors for items that are installed/anchored by customer/contractor shall be provided by customer/contractor.
2. Anchors for items that are installed/anchored by Philips shall be provided by Philips. If customer's engineering documents specify anchors other than those listed in this document, the anchors shall be provided by customer/contractor and installed by Philips.
3. In all instances, the wall and/or floor support are the sole responsibility of the customer/contractor. The customer's architect/engineer of record shall specify wall and/or floor support sufficient for the bolt forces shown on the details.

Floor & Wall Support Legend

A Furnished and installed/anchored by Philips (see exceptions - Note 2, below)
B Furnished by customer/contractor and installed/anchored by customer/contractor
C Installed/anchored by customer/contractor
D Furnished by Philips and installed/anchored by contractor
E Existing
F Future
G Optional

	Item Number	Description	Detail Sheet
A	F1	Floor anchor location for Gantry	SD1
A	F2	Floor anchor location for Patient Table	SD1

Ceiling Support Legend

A Furnished and installed/anchored by Philips (see exceptions - Note 2, below)
B Furnished by customer/contractor and installed/anchored by customer/contractor
C Installed/anchored by customer/contractor
D Furnished by Philips and installed/anchored by contractor
E Existing
F Future
G Optional

	Item Number	Description	Detail Sheet
D	IN	Ceiling Plate for Bayer Injector	

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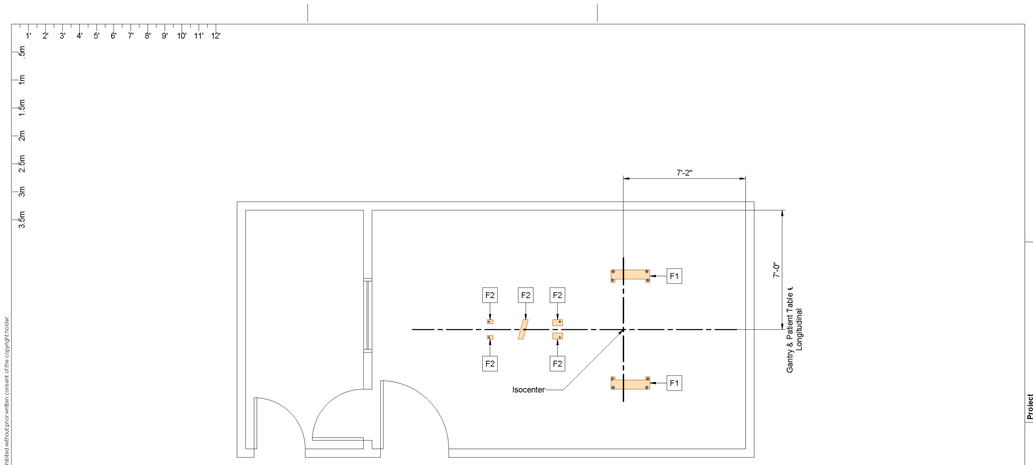
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Floor & Wall Support Layout

1/4" = 1'-0"

Recommended Ceiling Height: 9' - 0" (2743mm)
Minimum Ceiling Height: 8' - 0" (2438mm)

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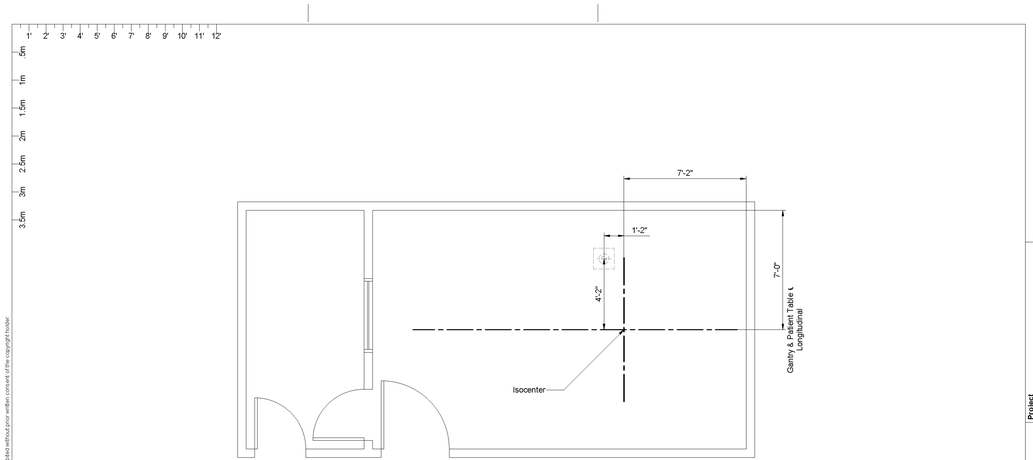
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Ceiling Support Layout - Equipment

1/4" = 1'-0"

Recommended Ceiling Height: 9' - 0" (2743mm)
Minimum Ceiling Height: 8' - 0" (2438mm)

CROMWELL
1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue Sherwood, AR 72120

CHI St. Vincent

Design Phase
CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CROMWELL ARCHITECTS ENGINEERS, INC. C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS
10-18-2024

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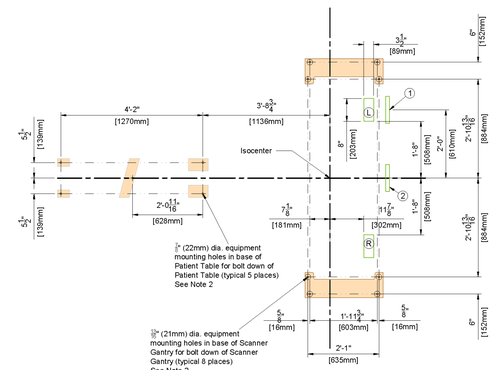
Issue Date
10-18-2024

Sheet Title
CT (EXISTING RELOCATED) INFORMATION

Sheet Number
GI104

Ingenuity CT Scanner Gantry and Patient Table Floor Anchoring Detail

(Not to Scale)



Floor Anchoring Notes:

1. The installation materials included with the Brilliance CT Configuration are for anchoring the Gantry to a floor made of concrete. To anchor to other types of floors, purchase the appropriate installation materials locally.

   In order to meet electrical ground isolation requirements, all methods of scanner gantry and patient support bolting must not come in contact with any building steel structure or reinforcement. Modular building floor structures may require additional bracing beneath scanner gantry and patient support, in order to eliminate vibration that can affect clinical images.

2. Holes need to be drilled for fasteners at the locations shown. The depth and the diameter of the holes to be determined by the customer/contractor. Philips supplied hardware requires 5/8" (16mm) dia. x 2" (51mm) deep drilled floor holes. Contractor to verify if other types of mounting hardware are required depending on site construction conditions and local building code requirements.

3. Anchor hardware supplied by Philips does not apply to seismic zones. Philips equipment forces will not exceed 50% of the Ultimate Anchor Value Ratings under normal operating conditions.

Ⓛ Ⓡ

Actual 8" x 3 1/2" (200mm x 90mm) gantry base plate cable access opening for flush raceway or box.

"L" is preferred location. "R" is alternate location.

① ②

Actual 9 1/2" x 2 3/4" (242mm x 70mm) gantry edge cable access opening for surface raceway.

"1" is preferred location. "2" is alternate location.

Ultimate Anchor Value Ratings:	
- Tension =	3300 lbs (14.7 kN)
- Shear =	4580 lbs (20.4 kN)
- Bolt Torque =	22 ft.-lbs (30 Nm)

* Philips supplies drop-in anchors, 1/2" dia. (qty. = 13). Customer's Structural Engineer to determine appropriate anchoring materials.

Patient Table:
Weight: 890 lbs (404kg)
Floor Area: 5.5 sq. ft. (.510 sq. m.)
Concrete Load Area: (F2 X 5) 0.72 sq.ft. (0.06 sq.m.)

Scanner Gantry:
Weight: 4,300 lbs (1,941kg)
Floor Area: 19.44 sq. ft. (1.8 sq. m.)
Concrete Load Area: (F1 X 2) 2.61 sq.ft. (0.24 sq.m.)

F1 F2

(18.0)

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PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number:
N-SRD1100003
Date Drawn: 12/16/2020
Quote: None
Order: None

SD1

12.16.2020

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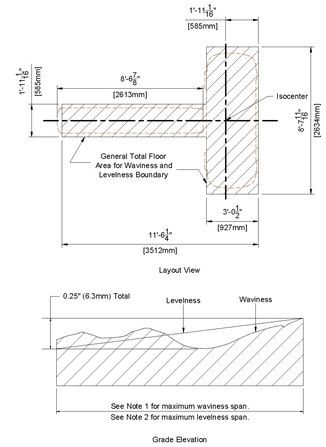
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Ingenuity CT Floor Levelness/Waviness Detail

(Not to Scale)

Observações:

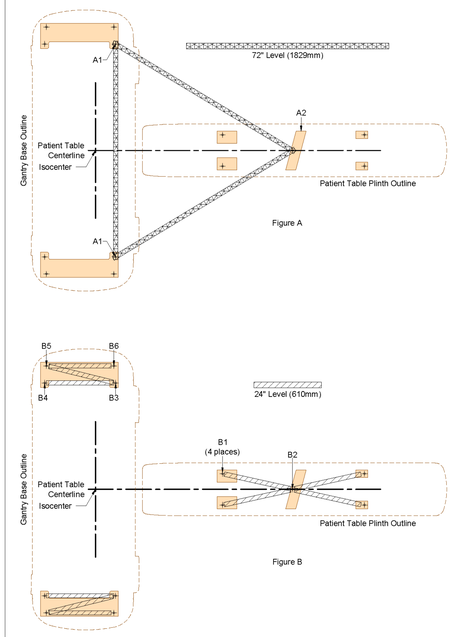
1. Floor waviness of exam room shall not exceed 1/4" (6.3mm) when measured within 12" (300mm) from any point within the shaded area on layout.
2. Floor levelness of exam room shall not exceed 1/4" (6.3mm) when measured between any two boundary points across the shaded area on layout.
3. Bare concrete is always preferable to any type of floor covering. If installing over a soft floor covering, it is recommended that local Philips Service returns and verifies mounting bolt torque after 48 hours.
4. If floor levelness and waviness specifications cannot be met, a self-leveling grout kit can be purchased through Philips (Part #4535 671 43981, including installation instructions). Contact local Philips Service Representative at least 2 weeks prior to installation date to order kit and avoid delays. The leveling kit will work for floors which are up to 1/2" (12.7mm) out of level. For floors which are more than 1/2" (12.7mm) out of level other solutions must be used.



(14.0)

Instructions for Verifying Floor Levelness

(Not to Scale)



Notes:

The levelness of the floor can be verified using a 72" (1829mm) level and a 24" (610mm) level with +/- 1/16" (1.6mm) tolerance.

If the anchor holes have not been drilled at the time of floor levelness verification, refer to sheet SD1 to approximately locate the anchor hole locations in the room.

The following summarizes Brilliance CT leveling specification tolerances and appropriate action for each case.

- 0"-1/4" (0mm - 6.3mm) out of level: Philips Service can level system using Philips supplied shims.
- 1/4"-1/2" (6.3mm - 13mm) out of level: Philips epoxy leveling kit should be order and installed. Contact local Philips Service Representative at least 2 weeks prior to installation date to order kit and avoid delays.
- more than 1/2" (13mm) out of level: Customer must correct floor before installation can begin

Instructions:

72" (1829mm) Level Placement (see Figure A):

a. Begin by placing the 72" (1829mm) level across the gantry's front anchor hole locations (A1). Verify levelness is within 1/4" (6.3mm).
b. Next, place the 72" (1829mm) level between one front gantry anchor hole location (A1) and center patient support anchor location (A2). Verify levelness is within 1/4" (6.3mm).
c. Repeat step b) at opposite gantry front anchor hole location (A1) and center patient support anchor hole location (A2) and verify levelness is within 1/4" (6.3mm).

24" (610mm) Level Placement (see Figure B):

a. Place the 24" (610mm) level between the center patient support anchor hole location (B2) and one of the outer corner patient support anchor hole locations (B1). Verify levelness is within 1/4" (6.3mm). Repeat this step for each corner anchor hole location for the patient support (4 places).
b. Place the 24" (610mm) level between the front inner gantry column anchor hole location (B3) and rear inner gantry column anchor hole location (B4). Verify levelness is within 1/4" (6.3mm). Repeat this step between front inner (B3) and rear outer gantry column anchor hole locations (B5) and between rear outer (B5) and front outer gantry column anchor hole locations (B6).
c. Repeat step b) for opposite side of gantry mounting area and verify levelness is within 1/4" (6.3mm).

(14.0)

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PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number:
N-SRD1100003
Date Drawn: 12/16/2020
Quote: None
Order: None

SD2

12.16.2020

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General Electrical Information

1. **General**
   The customer shall be solely responsible, at their expense, for preparation of the site, including any required electrical alterations. The site preparation shall be in accordance with this plan and specifications, the architectural/construction drawings and in compliance with all safety and electrical codes, the customer shall be solely responsible for obtaining all electrical permits from jurisdictional authority.
2. **Materials and Labor**
   The customer shall be solely responsible, at its expense, to provide and install all electrical ducts, boxes, conduit, cables, wires, fittings, bushings, etc., as separately specified herein.
3. **Electrical Ducts and Boxes**
   Electrical ducts and boxes shall be accessible and have removable covers. Floor ducts and boxes shall have watertight covers. Ducts shall be divided into as many as three separate channels by metal dividers, separately specified herein, to separate wiring and/or cables into groups as follows: Group a, power wiring and/or cables. Group b: signal and/or data and protective ground wiring and/or cables. Group c: x-ray high voltage cables. The use of 90 deg. ells is not acceptable. On ceiling duct and wall duct use 45 deg. bends at all corners. All intersecting points in duct to have cross over tunnels supplied and installed by contractor to maintain separation of cables.
4. **Conduit**
   Conduits are to be metal. Conduit point-to-point runs shall be as direct as possible. Empty conduit runs used for cables may require pull boxes located along the run. A pull wire or cord shall be installed in each conduit run. All conduits which enter duct prior to their termination point must maintain separation from other cables via use of dividers, cross over tunnels, or flex conduit supplied and installed by contractor from entrance into duct to exit from duct. Maximum conduit lengths shown on these plans are calculated from electrical box entrance to electrical box entrance. Any conduit installed below grade must be water tight.
5. **Conductors**
   All conductors, separately specified, shall be 90° C stranded copper, rung out and marked.
6. **Disconnecting Means**
   A disconnecting means shall be provided as separately specified on sheet ED1.
7. **Warning Lights and Door Switches**
   "X-ray on" warning lights and x-ray termination door switches should be provided at all entrances to x-ray rooms as required by code.

(14.0)

Electrical Notes

1. The contractor will supply & install all breakers and incoming power to the breakers based on local code requirements and Philips cable requirements on sheet ED1. The exact location of the breakers will be determined by the architect or contractor.
2. Philips only supplies the EPO with the STACO UPS package. Otherwise, it is contractor supplied with the isolation transformer. The contractor will install and supply the EPO in control room or based on local code requirements. The exact location of shunt trips will be determined by the architect or contractor.
3. The contractor shall supply & install all pull boxes, raceways, conduit runs, steel covers, etc. Conduit/raceways must be free from burrs and sharp edges over its entire length. Electrical raceway shall be installed with removable covers. The raceway should be accessible for their entire length. In case of non-accessible floors, walls and ceilings, an adequate number of access hatches should be supplied to enable installation of cabling. Approved conduits may be substituted. All raceways will be designed in a manner that will not allow cables to fall out of the raceway when the covers are removed. In most cases, this will require above-ceiling raceway to be installed with the covers removable from the top. Raceway systems as illustrated on this drawing are based upon length of furnished cables. Any changes in routing of raceway system could exceed maximum allowable length of furnished cables. Conduit or raceway above-ceiling must be kept as near to finished ceiling as possible.
4. All pre-terminated, cut-to-length cables, will be supplied and installed by Philips. All wires through the main disconnect and to the gantry will be supplied and installed by the contractor, subject to local arrangements.
5. Conduit sizes shall be verified by the architect, electrical engineer or contractor, in accordance with Philips, local or National Electrical Codes, whichever requires the largest diameter.
6. Convenience outlets are not illustrated. Their number and location are to be specified by the customer/architect. Locate at least one duplex outlet within 2'-0" (610mm) of the system rack cabinet (s) and at least three (3) outlets spaced around the control room.
7. All sections of raceway and conduit shall be grounded with an independent #6 a.w.g. green wire that is to be attached using solderless lugs. All ceiling mounted structural support members and ceiling plates shall also be grounded. All grounding connections, terminals, etc. shall be installed in a manner to provide accessibility for inspection, maintenance, repair, etc. (Does not refer to CT system and components, for facility only. Refer to ED1)

(14.0)

Electrical Specifications

The supply source shall provide isolation between its input mains and output with copper windings and a 3.5% regulation rating or better (2% is preferred) compliant to UL1561 and grounded per N.E.C. Article 250-30 Grounding and Bonding, Exhibit 250.13,where the wye is bonded to protective earth. When stepping up voltage to meet Philips requirements, reverse orientation and wiring of the supply transformer is forbidden. Floating delta or corner/split leg ground is only permitted when the Philips approved isolation transformer (or other Philips approved power conditioners) are provided as a separately derived source and re-grounded as per above. Philips shall approve the type and use of any power protection and conditioning equipment.

1. A dedicated facility branch transformer is not needed when the Philips Isotran unit is provided. The Isotran will provide isolation between its delta input and wye output as a separately derived source. The benefits of having this isolation transformer on the branch line feeding the CT system are:
   a. Provides isolated and dedicated earth conductors (PE1 and PE2) at the Neutral / Ground X0 reference point directly to the CT system.
   b. Minimizes the run length of feeders to within 61 meters (200 ft).
   c. Improve power factors and reduce fault current.
   d. Adjusts voltages from 200V - 480V to meet CT system input requirements.
   e. Reduce harmonic currents induced in the supply.
   f. Enables CT system to meet EN/IEC regulatory requirements.

   Exception note: Grounding and bonding per N.E.C 250.14 is permitted when the grounding electrode conductor connection is made at the first disconnecting means, then fed directly to the CT room safety disconnect box.
2. The CT system equipment components (which includes control equipment and console UPS) shall be insulated from building steel, such as; raceways, trough ducts, junction boxes, floor rebar, etc. Apply Philips Mylar anchor washers. Only isolated ground wires from the facility power source or power conditioner shall provide proper grounding to the CT system, assuring safety and ground quality in compliance with country and local codes. See Protective Earth Ground.
3. Dedicated protective earth conductors shall be supplied by the facility and be the same size as the power feeders. The earth conductors shall have their origin at the facility electric utility power entrance or a separately derived supply source (or Philips approved power conditioner) with an N/G reference point per NEC 250-30, exhibit 250.13 (see supply device above) or NEC 250, exhibit 250.14 (See exception note below). The primary earth (PE1) conductor shall be sized equal to, and routed with, the output power conductors between the supply device and the CT system incoming line connections. The alternate primary earth (PE2) conductor can be the minimum size allowed by local codes, and must be routed in the same conduit as the primary earth (PE1). Resistance between CT system ground and the facility earth ground must not exceed 0.5 Ohm
4. Locate power conditioners, step-up transformers or isolation transformers close to the CT Suite when possible (200' (61m) maximum). Refer to wire distances given on sheet ED1.
5. All power conditioning and surge suppressor equipment shall be installed according to manufacturer's specifications and installation instructions. Some devices may require additional external fuse protection. All work shall comply with local building codes.
6. Important Notice : Power supply for patient automatic power injector system should derive from a ground potential equal to the CT System (if applicable).

(14.0)

Power Quality Guidelines

1. Power supplied to medical imaging equipment must be separate from power feeds to air conditioning, elevators, outdoor lighting, and other frequently switched or motorized loads. Such loads can cause waveform distortion and voltage fluctuations that can hinder high quality imaging.
2. Equipment that utilizes the facility power system to transmit control signals (especially clock systems) may interfere with medical imaging equipment, thus requiring special filtering.
3. The following devices provide a high impedance, nonlinear voltage source, which may affect image quality:
   Static UPS systems, Series filters, Power conditioners, and Voltage regulators. Do not install such devices at the mains supply to medical imaging equipment without consulting Philips installation or service personnel.
4. Line impedance is the combined resistance and inductance of the electrical system and includes the impedance of the power source, the facility distribution system, and all phase conductors between the source and the imaging equipment. Philips publishes recommended conductor sizes based on equipment power requirements, acceptable voltage drops, and assumptions about the facility source impedance (see sheet ED1). The minimum conductor size is based on the total line impedance and N.E.C. requirements. Unless impedance calculations are performed by an electrical engineer, the recommended values must be used.

(14.0)

Electrical Requirement Notes

Electrical power distribution at the facility shall comply with:

1. Phase conductors sized per N.E.C. 517.73 and in accordance with Philips voltage drop requirements. Recommendations are in table 310-16, 90 deg. C copper wires.
2. Room Safety Disconnect sized per N.E.C. 517.72 de-rating, reflecting Philips requirements.
3. Ground conductors to be sized equivalently to phase conductors, unless otherwise noted.
4. Metal conduit shall not be used as the equipment ground conductor.
5. ANSI / NFPA 70 - National Electrical Code
   Article 250 - grounding
   Article 517 - health care facilities
6. ANSI / NFPA 99 - health care facilities
7. NEMA standard XR9 - power supply guideline for x-ray machines

(18.0)

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PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number:
N-SRD1100003
Date Drawn: 12/16/2020
Quote: None
Order: None

EN

12.16.2020

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Electrical Legend

A	Furnished and installed by Philips		
B	Furnished and installed by customer/contractor		
C	Installed by customer/contractor		
D	Furnished by Philips and installed by contractor		
E	Existing		
F	Future		
G	Optional		
	Item Number	Description	Detail Sheet
	Wall		
B	WL	Warning light above X-ray room door, if required by code or desired by customer. (Optional - not shown)	ED1 ED2
B	DS	Door activated switch, if required by code or desired by customer. Switch located on hinge side of door. (Optional - not shown)	ED1 ED2
B	S1	120 VAC / 15 A, single pole general purpose ON/OFF switch with red cover. Flush mounted 60" (1524mm) above finished floor to centerline of box. Safety switch is required between scanner unit and "WL" for Philips Service, if a warning light is used. Locate next to "A1" if possible or near isolation transformer. (Optional - not shown)	ED1 ED2
B	A1	480V, 125 A, 3 phase, 3 pole, fused room disconnect (class R or J slow-trip curve characteristic) 60" (1524mm) above finished floor to centerline of box. Location per local code or owner's requirements and within Philips specifications.	ED1
B	A2	24 VAC, 1 A minimum rating, remote emergency off (EPO), latching type, single mushroom push button, with N.O. dry contacts, and hinged, see-through protective cover. Facility power not required to this device. Surface mounted 60" (1524mm) above finished floor to centerline of box. (Minimum requirement).	ED1
B	ISO1 ISO2	8" (203mm) W x 8" (203mm) L x 4" (102mm) D surface mounted junction box shall contain removable cover plate with one 2" (51mm) diameter flexible conduit connector. Bottom of box 36" (914mm) above finished floor. To be used for Philips approved isolation transformer.	ED1
B	CRC	8" (203mm) W x 4 3/4" (121mm) L grommeted cable opening at bottom of cover plate on "WR1". Preferred location behind final location of "CRC" cabinet.	
B	WR1	4 3/4" (121mm) W x 3 1/2" (89mm) D (or equivalent) surface mounted wall raceway with removable steel cover plate, bottom 3 1/2" (89mm) above finished floor. Install a barrier strip to form 2 compartments.	ED2
B	R1	4 3/4" (121mm) W x 3 1/2" (89mm) D (or equivalent) surface mounted riser with removable steel cover plate. Riser to run from "FR1" up to bottom of "A1" box.	
B	R2	(2) 4 3/4" (121mm) W x 3 1/2" (89mm) D (or equivalent) surface mounted riser with removable steel cover plate. Riser to run from "FR1" up to "WR1".	

Electrical Legend

A	Furnished and installed by Philips		
B	Furnished and installed by customer/contractor		
C	Installed by customer/contractor		
D	Furnished by Philips and installed by contractor		
E	Existing		
F	Future		
G	Optional		
	Item Number	Description	Detail Sheet
	Floor		
B	WS	8" (203mm) W x 8" (203mm) L removable cover plate, shall contain a field cut opening with grommet located by Philips Service prior to installation.	
B	FR1	12" (305mm) W x 3" (76mm) D (or equivalent) metal-lined floor trench compartment with rigid cover plate, flush to finished floor. Install a barrier strip to form 2 compartments.	ED2
	Duplexes		
B		120 V / 20 A dedicated duplex outlet.	
	Network Connectors		
B	N1	RJ45 type Ethernet 100/1000 Mbit network connector. Access to customer's network via their remote access server is needed for Remote Service network (RSN) connectivity.	N1
B	N2	RJ45 type Ethernet 100/1000 Mbit connector (1000 Mbit recommended) with access to customer's network. Locate within 10' (3048mm) of network card. Network fiber optic and Ethernet cabling, connectors, wall boxes, patch panels, etc. are the responsibility of the purchaser. Philips assumes no responsibility for procurement, installation, or maintenance of these components.	
B	e	RJ45 type Ethernet 100/1000 Mbit network connector with internet access for Philips Field Service Engineer connectivity to on-line system documentation.	

PHILIPS

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Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number:
N-SRD1100003
Date Drawn: 12/16/2020
Quote: None
Order: None

EL

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CROMWELL
1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue Sherwood, AR 72120

CHI St. Vincent

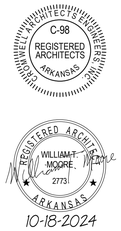
Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp



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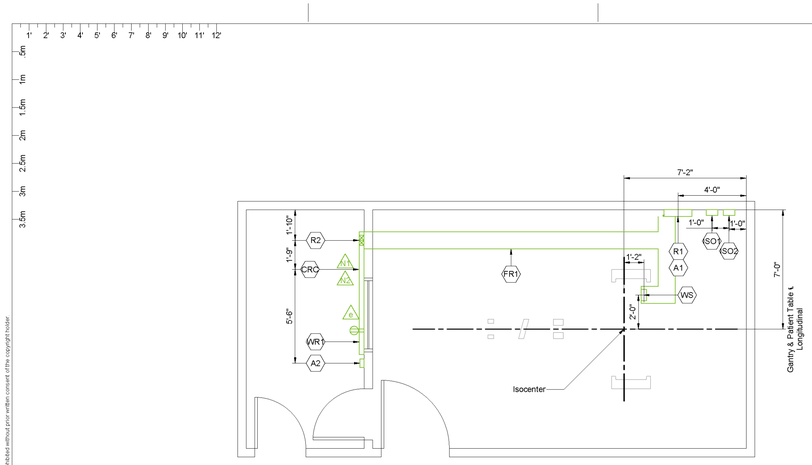
Issue Date
10-18-2024

Sheet Title
CT (EXISTING RELOCATED) INFORMATION

Sheet Number
GI105

CROMWELL
1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Refer to Electrical Legend - Sheet EL and Electrical Connections - Sheet E2



Electrical Layout

1/4" = 1'-0"

Recommended Ceiling Height: 9' - 0" (2743mm)
Minimum Ceiling Height: 8' - 0" (2438mm)

PHILIPS

Project
Ingenuity Core / Core 128 / Elite
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Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number
N-SRD100003
Date Drawn: 12/16/2020
Quote: None
Order: None

E1

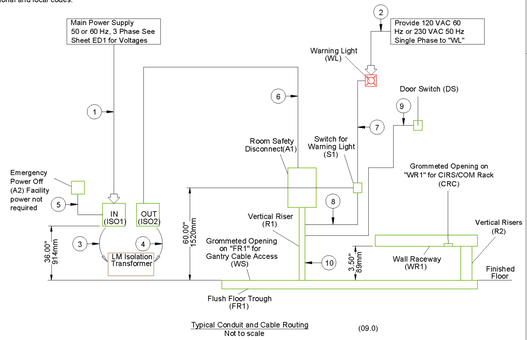
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Typical Conduit and Cable Routing
(Not to Scale)

Note:
- Conduit routings determined by contractor within specified conduit length limits.
- All material and labor provided by contractor.
- Given conduit diameters shall comply with applicable national and local codes.
- Junction box sizes shall comply with applicable national and local codes.



Typical Conduit and Cable Routing
Not to scale

(09.0)

Refer to Electrical Legend - Sheet EL and Electrical Layout - Sheet E1

The use of 90° elbows are not acceptable. Use 45° bends at all raceway corners. The use of crossover tunnels at all applicable locations is required.

The minimum bend radius of the fiber optic cables is 2" (51mm).

Conduit Required

General Notes

1. All conduit runs must take most direct route point to point.
2. All conduit runs must have a pull string.

A Conduit supplied/installed by contractor - Philips cables installed by Philips
B Conduit supplied/installed by contractor - Philips cables installed by contractor
C Conduits and cables supplied and installed by contractor
D Conduit existing - cables supplied and installed by Philips
E Conduit existing - cables supplied by Philips and installed by contractor
F Conduit existing - cables supplied and installed by contractor
G Optional equipment, verify with local Philips Service

* P Power (AC), D Power (DC), G Ground, S Signal, H High Tension, C Cooling Hose, A Air Supply Hose

	Run No.	Conduit From	Conduit To	Conduit Quantity	Cable Type (*)	Minimum Conduit Size	Maximum Conduit Length	Special Requirements
C	1	Hosp. Power	ISO1	1	P	Per N.E.C.	Per N.E.C.	
C	2	Hosp. Power	WL	1	P	Per N.E.C.	Per N.E.C.	
C	3	ISO1	"ISO"	1	P	2"	10'	Flex conduit.
C	4	"ISO"	ISO2	1	P	2"	10'	Flex conduit.
C	5	ISO1	A2	1	P	¾"	100'	
C	6	ISO2	A1	1	P	Per N.E.C.	200'	
C	7	WL	S1	1	P	¾"	100'	
C	8	S1	R1	1	P	¾"	100'	Conduit run for connection b/w "WS" and "S1". Cable route continued through racewaytrough.
C	9	DS	R1	1	P	¾"	200'	Conduit run for connection b/w "WS" and "DS". Cable route continued through racewaytrough.
C	10	A1	WS	1	P	2"	25'	Cable routed thru racewaytrough.
A	11	WS	CRC	1	(P/G)	2 1/2"	--	Cable routed through racewaytrough. Max cable length = 58 feet.
A	12	WS	CRC	1	(S)	2 1/2"	--	Cable routed through racewaytrough. Max cable length = 58 feet.

PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
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Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
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N-SRD100003
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Quote: None
Order: None

E2

12.16.2020

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Run Distances and Conductor Sizes

A Copper Wire Size [run from facility supply to LM transformer (ISO1) based on 480 VAC supply side]: (200 feet [61m] max listed) See Note A.

3 #1 AWG (42mm^2) Power — 0' - 50' (15.2m)
1 #1 AWG (42mm^2) Dedicated Ground

3 #0 AWG (53mm^2) Power — 51' - 100' (30.5m)
1 #0 AWG (53mm^2) Dedicated Ground

3 #00 AWG (67mm^2) Power — 101' - 200' (61.0m)
1 #00 AWG (67mm^2) Dedicated Ground

Copper Wire Size [run from facility supply to LM transformer (ISO1) based on 200/208 VAC supply side]:

3 #350 kcm (177mm^2) Power — 0' - 50' (15.2m)
1 #350 kcm (177mm^2) Dedicated Ground

Note: If 50' distance is exceeded, Philips recommends use of a full system UPS.

B Copper Wire Size [run from LM transformer (ISO2) to Room Disconnect (A1) based on 480 VAC load side]: (200 feet [61m] max listed) See Note A.

4 #2 AWG (34mm^2) Power & Isolated Ground (PE1) — 0' - 50' (15.2m)
1 #8 AWG (8mm^2) Redundant Isolated Ground (PE2)

4 #1 AWG (42mm^2) Power & Isolated Ground (PE1) — 51' - 100' (30.5m)
1 #6 AWG (13mm^2) Redundant Isolated Ground (PE2)

4 #00 AWG (67mm^2) Power & Isolated Ground (PE1) — 101' - 200' (61.0m)
1 #4 AWG (21mm^2) Redundant Isolated Ground (PE2)

C Copper Wire Size [run from Room Disconnect (A1) to CT Scanner Gantry (WS)]: (25 feet [7.62m] max listed)

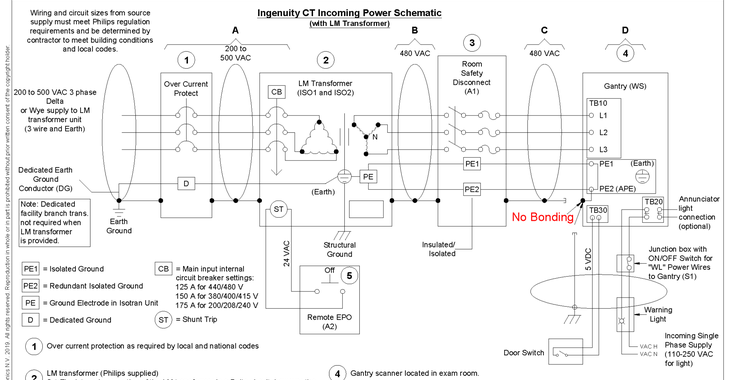
4 #2 AWG (34mm^2) Power & Isolated Ground (PE1) — 0' - 25' (7.6m)
1 #8 AWG (8mm^2) Redundant Isolated Ground (PE2)

Note A: Total combined wiring length of runs A) and B) not to exceed 250' - 0" (76.2m).

All Wires Shown Below Shall Be Supplied and Installed by the Customer / Contractor.

(18.0)

Ingenuity CT Incoming Power Schematic
(with LM Transformer)



PE1 = Isolated Ground
PE2 = Redundant Isolated Ground
PE = Ground Electrode in Isotran Unit
D = Dedicated Ground
CB = Main input internal circuit breaker settings: 125 A for 440/480 V, 150 A for 380/400/415 V, 175 A for 200/208/240 V
ST = Shunt Trip

1. Over current protection as required by local and national codes
2. LM transformer (Philips supplied)
   2a) The internal connection of the LM transformer is a Delta circuit, however the LM transformer is capable of accepting both Delta and Wye supply.
3. Room safety disconnect box with fuses and lock-out (customer/contractor). Locate after LM transformer power unit and within vision of gantry in exam room. Room safety disconnect with fuses de-rated at 125 A.
4. Gantry scanner located in exam room.
5. Remote EPO switch (customer/contractor) Minimum required for remotely turning off LM transformer (for emergency use only - not intended as a daily or routine means of disconnect). Facility power not required. (Latching-type single mushroom push button dry switch - N.O. contacts for shunt trip)

(18.1)

D Mains Supply and Power Quality Requirements
Ingenuity CT Configuration

Mains Supply Configurations:	3 phase Wye, 3 wires and Earth 1 & 2 (L1, L2, L3, PE1, PE2) to Scanner
Nominal Input Power: [± 10% total (absolute) limits]	480 VAC to CT Gantry
Maximum Power Required:	110 kVA @ 5 sec., max. 80 kW x-ray exposure
Steady State/long time/ processing power required:	15kVA
Mains Branch Power Capacity:	112.5 kVA min. (150 kVa preferred)
Line Frequency Range:	47 to 63 Hz
Phase-to-Phase:	3%
Load Voltage Regulation:	± 5% not to exceed absolute limits
Conductor Impedance:	Ohms/1000 ft. (305m), .85 PF, copper wires in steel conduit
Power Factor:	0.85 min. PF (transformer if used)
Mains Resistance:	160 mOhm line to line, max.
Line voltage variation:	±10% - -10% total (absolute) limits @ 380-480 VAC
Voltage Impulse:	± 2 kV per IEC 61000-4-4
Voltage Surge:	± 2 kV per IEC 61000-4-5
Voltage Sag:	-10% of nominal within absolute limits.
Static Frequency Variation:	±3 Hz
Harmonic Voltage Distortion: (single, total)	10% max. THDv
Supply Current 440/480 VAC:	Standby 4A, 3 phase average Steady State 20A Max. 149A (80kW scan @ 480 VAC, , 85PF) 5 sec.
Supply Current 380/400/415 VAC:	Standby 5A, 3 phase average Steady State 25A Max. 189A (80kW scan @ 380 VAC, , 85PF) 5 sec.
Supply Current 200/208/240 VAC:	Standby 9A, 3 phase average Steady State 46A Max. 345A (80kW scan @ 208 VAC, .85PF) 5 sec.
Max. Load Voltage Drop Range: [total (absolute)* limits]	432 to 528 VAC
Voltage drop allowed in cable:	2% allowed in feeder wires when supply source and other line impedance contributors do not exceed an additional 3%, which equates to a 5% total regulation limit.

(19.0)

PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number
N-SRD100003
Date Drawn: 12/16/2020
Quote: None
Order: None

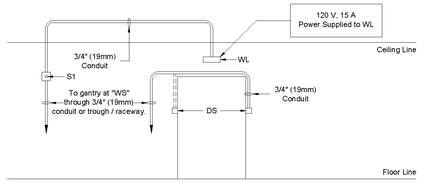
ED1

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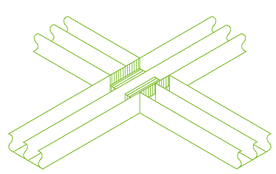
Door Switch / Warning Light / Switch Detail
(Not to Scale)



Notes:
- Door switch to be located on hinge side of door jamb.
- In case of a double jamb, a door switch should be located on each hinge side.
- Maximum 120V / 25 watt incandescent bulbs recommended for warning light. Due to lag time in activation, fluorescent light not to be used.
- These items are optional. Consult with local Philips Service.

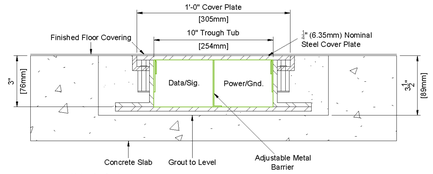
WL DS S1 (14.0)

Detail – Crossover Example



(14.0)

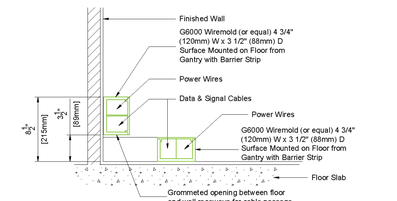
Cross Section Detail
Recommended Typical Trough Flush in Floor
(Not to scale)



Notes for Contractors:
- Top of trough cover plate must be flush with top surface of concrete floor slab in order to ensure flat and level surface for application of finished floor covering material.
- Provide liquid tight covers.
- Apply all metal construction and materials.
- Apply barriers and cross-overs as required.
- Materials and installation to comply with local codes.
- Compartment separation requirements based on cable label ratings may differ per local codes. Add or modify barriers as required.

FR1 (14.0)

Surface Wall / Floor Raceway Cross Section Detail
(Not to scale)



- Compartment separation requirements based on cable label ratings may differ per local codes. Add or modify barriers as required.

WR1 (14.0)

Raceway Notes:

All raceway shall be surface mounted on finished surfaces unless otherwise specified, and shall be provided with removable covers, the full length. Covers shall be clear of any obstruction for insertion of pre-plugged cables.

All raceway shall be 4 ½" (120mm) x 3 ½" (88mm) deep G-6000 "Wiremold" (or equal) for floor, walls, or ceiling.

Removable type barrier strip and crossovers must be provided for separation of A.C. power wires from Philips signal cables. (14.0)

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Project

CHI St. Vincent North - MRI and CT

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase
CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp





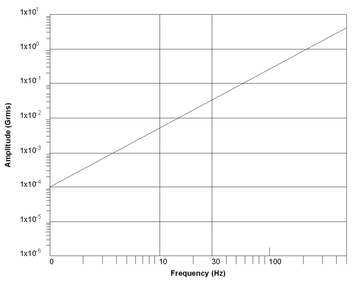
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Project Number
2024-101

Issue Date
10-18-2024

Sheet Title
CT (EXISTING RELOCATED) INFORMATION

Sheet Number
GI106



The measurement should be taken at the site, at the gantry and patient table location, prior to the installation of the system, from 1 to 150 Hz.

Frequencies from 10 to 30 Hz coming from the floor would have a higher effect on the system related vibrations. Any high amplitude measurements in these frequency ranges could affect image quality and the source should be identified and vibration dampening solutions implemented.

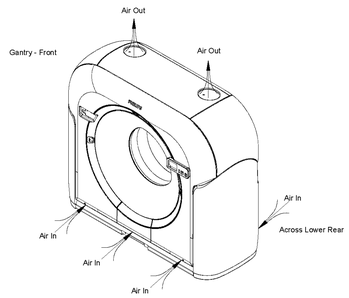
Measurements in the acceptable range should be below the baseline indicated at left.

Floor Vibration Amplitude Limits

(20.0)

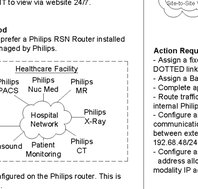
Air Flow Diagram
(Not to Scale)

690 CFM airflow at 0 degree tilt and 143 RPM



(14.0)

Lead Glass View Window Detail
(Not to Scale)



If applicable, the general contractor shall supply and install lead glass view 3' - 0" (910mm) above finished floor to bottom of glass.

(14.0)

Air-Flow Diagram -- CIRS Recon/COM Cabinet
(Not to Scale)

1. Placement of CRC should accomodate CRC heat levels.
   1.1. 4" required between back of CRC and wall.
   1.2. Avoid running raceway behind back of CRC. If raceway passes behind CRC, 4" required between back of CRC and surface of existing raceway.
2. If CRC cabinet is placed in a corner or under a desk, there must be airflow around the cabinet and a method for the hot exhaust air from the computers (vented in rear) to escape.
   2.1. Provide 5 X 46 cm (2" x 18") or equivalent area opening on counter top near wall .

(18.0)

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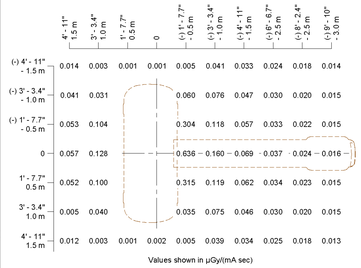
Project Details
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N-SRD100003
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Order: None

MP1

12.16.2020

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Stray Radiation Dose Map
(Ingenuity CT)



Values shown in µGy/(mA sec)

The measurements were performed on a standard CTDI body phantom, which is a cylindrical phantom with diameter 32 cm and length 15 cm and is made of PMMA. The phantom was centered in the gantry opening and the tomographic plane passed through the middle of the phantom in the Z-direction.

The measurements were performed with the following parameters: maximum collimation opening 64 x 0.625 = 40mm, at 140 kV and 570 mAs.

The following stray radiation map is measured at 100 cm from the floor in the horizontal plane. The values shown are in µGy/mAs units which were calculated from the direct measurements.

This plan view can be applied for side view. The Isocenter to floor distance is 40.5" (1028.7mm).

(14.0)

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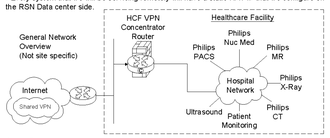
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Philips Healthcare Remote Services Network (RSN)

Secure broadband connection required for Philips remote technical support, diagnostics, and applications assistance

Broadband Site-to-Site Connectivity (Preferred)
This connectivity method is designed for customers who prefer a connection from the RSN Data Center to the Health Care Facility (HCF) utilizing their existing VPN equipment.

Connectivity Details:
- A Site-to-Site connection from the RSN data center's Cisco router will be established to the HCF's VPN concentrator.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE as standard, but alternative standards are also available, such as AES, MD5, SHA, Security Association lifetime and Encryption Mode.
- Every system that we will be servicing remotely will have a static NAT IP that we configure on the RSN Data center side.

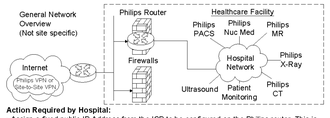


Action Required by Hospital:
- Review and approve connection details.
- Complete appropriate Site Checklist.
- Configure and allow Site-to-Site access prior to setting up connectivity depending on the access criteria that the HCF decides to implement (ex: Source IP filtering, destination IP filtering, NAT assignment, etc.).
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to the designed IP provided by Philips.

Broadband Router Installed at Health Care Facility
This connectivity method is designed for customers who have a dedicated high speed connection for Philips equipment.

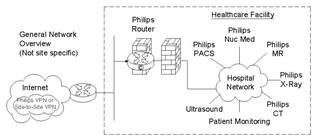
Connectivity Details:
- An RSN Cisco 1711 or 1712 router will be preconfigured and installed at the HCF by Philips in conjunction with the HCF IT representative.
- The VPN Tunnel will be an IPSEC, 3DES encrypted Tunnel using IKE and will be established from the RSN-DC and terminated at the RSN Router on-site.
- One to One NAT is used to limit access to Philips equipment only.
- Router Config and IP auditing is enabled for Customer IT to view via website 24/7.
- Dedicated DSL connections are also supported.

Option 1: Parallel to HCF Firewall Connectivity Method
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site utilizing all the security features provided and managed by Philips.



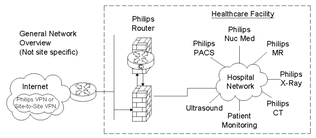
Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.

Option 2: Back End Connected to the HCF Firewall Connectivity Method
This connectivity method is designed for customers who prefer a Philips RSN Router installed on site by setting up an IP-Based policy allowing access thru existing HCF Firewall to Philips equipment.



Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Route traffic from within the hospital network with destination addresses 192.68.48.0/22 to internal Philips router Ethernet interface. This is the DASHED line connected to the firewall.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

Option 3: Router Installed Inside the HCF's DZM
This connectivity method is designed for customers who prefer the RSN Router installed inside and existing, or new DMZ, allowing access to Philips equipment.



Action Required by Hospital:
- Assign a fixed public IP Address from the ISP to be configured on the Philips router. This is the DOTTED link on the picture connected to the firewall.
- Assign a Back end IP for the Philips router on the Hospital Network.
- Complete appropriate Site Checklist.
- Configure and allow on the firewall on the DASHED line interface IPSec protocol communication by opening protocol 500, 50, 51, 47 and port 23 + TACACS. Traffic should be between external IP Address located on the Philips router and the RSN Data center IP address 192.68.48/24 and IP address AOSN TACAS.
- Configure and allow on the firewall on the DASHED line interface access between the IP address allocated by the hospital to the Philips internal Ethernet router interface and the target modality IP address.

(14.0)

PHILIPS

Project
Ingenuity Core / Core 128 / Elite
Standard Reference Drawing
Not Site Specific
Room:

Philips Contacts
Project Manager:
Contact Number:
Email:
Drawn By:

Project Details
Drawing Number
N-SRD100003
Date Drawn: 12/16/202
Quote: None
Order: None

N1

12.16.202

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Instructions

This form is to be used by Project Manager, Contractor, and Service Engineer. Information is used to develop and determine site ready date.

Be sure to contact the Zone Installation Specialist (ZIS), Field Service Engineer (FSE), or National Support Specialist (NSS) if you have questions concerning any of these checklist items.

Site Readiness Checklist

Required Prior to Delivery

- ☐ **Cable Trough/Raceway/Conduit:** Installed, cleaned and locations checked per Philips Final Drawings. Duct covers in place. Cable openings are clear, without sharp edges. ***Greenlee*** pull strings/measuring tape, (Part # 435, or equivalent), are in place.
- ☐ **Ceiling (Hard):** Installed and painted.
- ☐ **Ceiling (Drop-In):** Installed.
- ☐ **Customer Site Preparation:** Verified per Philips Final Drawings.
- ☐ **Delivery Path and Truck Parking:** Has been checked with the customer and lead FSE including verifying floor loading, delivery route, elevator capacity, height, width and depth clearances, and a plan for bad weather.
- ☐ **Doors:** Installed.
- ☐ **Drawings (Final):** Shows all room obstacles to include millwork, lighting overlay, structure overlay, med gases and plumbing.
- ☐ **Flooring:** Installed and covered with protective covering (i.e. scratch protection).
- ☐ **Glass:** Installed.
- ☐ **HVAC (Climate Equipment):** Installed and operational. Humidity and temperature requirements per Philips Final Drawings.
- ☐ **Installation Team:** Has received the room drawings and necessary contact phone numbers.
- ☐ **Millwork:** Completely installed in all rooms.
- ☐ **Parking:** Parking area identified for installers.
- ☐ **Performance Testing Requirements Identified:** Determine if Certificate of Compliance is required, (i.e. NEMA, OSHPD, AHCA).
- ☐ **Permits and Inspections:** Completed by applicable governing authorities. Method statement available and safety meetings attended (OSHPD, AHCA).
- ☐ **Philips Project Space:** Is clean, free of dust, all construction-related debris and tools have been removed.
- ☐ **Restroom Facilities**: Toilet facilities, including area to wash up, are available.
- ☐ **Room Lighting:** Installed and operational.
- ☐ **Room Security:** Room is secure, with keys and alarm codes provided.
- ☐ **Site Access:** Is available for after hours. Storage for tools, parts, covers and packing material has been arranged.
- ☐ **Site Is Safe To Work:** PPE requirements identified (Construction and Hospital). No open Mains, slippery floors, sharp edges, or hazardous goods on site.
- ☐ **Sprinklers:** Installed.
- ☐ **Transport & Handling Tools:** Crane, forklift, wheels and trolleys have been specified with the LMP/rigging company. NOTE: If rigging provided by Philips, verify the vendor is on the Philips' Approved Suppliers List.
- ☐ **Walls:** Installed and final finished, (i.e. final coat painted and/or tiled).
- ☐ **Existing Equipment:** Is dismantled and removed from the site.
- ☐ **Floor Levelness:** Checked with Laser Level and is level per Philips Final Drawings.
- ☐ **System Orientation:** Verified per Philips Final Drawings.
- ☐ **Table Isocenter:** Verified per Philips Final Drawings.
- ☐ **Mains Power Supply:** Installed per Philips Final Drawings. (Including impedance, isolated grounds, wire size verified, and distribution unit has been installed).
- ☐ **UPS:** Fully installed per Philips Final Drawings, and startup has been scheduled with vendor.
- ☐ **Anchoring (Gantry and Table):** Methods have been identified and all anchoring materials, other than those shipped with the system, are available per Philips Final Drawings.
- ☐ **Magnetic Fields (Nearby):** Within the vicinity of the CT equipment, have been determined as acceptable for CT system components per Philips Final Drawings.
- ☐ **CT Power Inspection and Grounding:** Audit form reviewed and signed by CPM and FSE.

Required Prior to Philips System Power Up

- ☐ **Wall Outlets:** Installed and functional.
- ☐ **Door Interlock Switch:** If required, is installed per Philips Final Drawings.
- ☐ **X-Ray in Use or Warning Light:** If required, is installed per Philips Final Drawings.

Required Prior to Install Complete

- ☐ **Physicist:** If required, verify the Physicist has been scheduled.
- ☐ **Network Connections:** Hardware is installed and active per Philips Final Drawings. All network information provided by facility IT, i.e. IP addresses (static IPs only), AE Titles, SNM, GTWY and DNS server are available.
- ☐ **UPS:** Commissioned and certified by UPS vendor.

Approved for Delivery

Project Manager	Date
Service Engineer	Date

PHILIPS

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1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue Sherwood, AR 72120

CHI St. Vincent

Design Phase
CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

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2024-101

Issue Date
10-18-2024

Sheet Title
CT (EXISTING RELOCATED) INFORMATION

Sheet Number
GI107



REV	DATE	MODIFICATIONS
A	19/Aug/2024	Final (DC-442592)

St Vincent Medical Center North
Sherwood, AR
USA

01 - C1 - Cover Sheet
02 - C2 - Disclaimer - Site Readiness
03 - A1 - General Notes
04 - A2 - Equipment Layout
05 - A3 - Section Views
06 - A4 - Acoustic - Proximity Limits
07 - A5 - RF shielding
08 - A6 - Equipment Details (1)
09 - A7 - Equipment Details (2)
10 - A8 - Delivery
11 - S1 - Structural Notes
12 - S2 - Structural Layout
13 - S3 - Structural Details
14 - M1 - Mechanical Layout
15 - M2 - HVAC-Venting
16 - M3 - Chilled Water
17 - M4 - Cryogenics (1)
18 - M5 - Cryogenics (2)
19 - E1 - Electrical Notes
20 - E2 - Electrical Layout
21 - E3 - Electrical Elevations
22 - E4 - Electrical Details
23 - E5 - Power Requirements - Power Distribution
24 - E6 - Facility Supplied Wiring
25 - E7 - Interconnections

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
Suhail Altal
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SIGNA ARTIST EVO CPO
FINAL STUDY

Drawn by	Verified by	Concession	GON/Quote	PIM Manual	Rev
FD	TNC	-	5427926	5884915-8EN	2

Format	Scale	File Name	Date	Sheet
A3	1/4"=1'-0"	MRI-M355996-FIN-00-A.DWG	19/Aug/2024	01/25

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.

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
Magnet Room Venting	5850263
RF Shielded Room Pre-installtion Requirements for MR systems	5850260
IEC Electromagnetic Compatibility	5850261
Acoustic Room Details	5850262
Magnet Venting Conformance Assessment Form	2705036

*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 Checklist **DOC2949060** and Worksheet **DOC2949068** are REQUIRED to facilitate equipment delivery to the site. Equipment will not be delivered if these requirements are not satisfied.
  - 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)
  - 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.

MRI SITE PLANNING REMINDERS

Please refer to pre-installation checklist in pre-installation manual listed on the cover sheet for items critical to image quality.

1. The layout should be arranged so that the 5g line is contained to the magnet room. If not possible, a barrier is recommended to prevent entry to the 5g field area.
2. The spaces around, above, and below the magnet must be reviewed for effects of the 5g, 3g, 1g, and .5g fields. Refer to the proximity limit chart in the MR pre-installation manual referenced on the cover sheet.
3. For moving metal, the restriction lines typically extend outside of the MR space. Please confirm there are no moving metal concerns within these areas.
4. For vibration, analysis to be completed as required per pre-installation manual.
5. For EMI, review the site for the location of the main electrical feeders, AC devices, or distribution systems. An EMI study is recommended if large AC systems are nearby.
6. Details of the floor below the magnet must be reviewed. The structural engineer must verify that the quantity of steel in the volume 10ft [3.1m] x 10ft [3.1m] x 13in [.3m] deep (below the magnet) does not exceed the allowable steel content as given in the MR pre-installation manual referenced on the cover sheet.
7. Remove, cover, or fill-in abandoned ducts or troughs from the Equipment and Magnet rooms. Access/computer room flooring in the Equipment room can either be removed or assessed and reinforced to support heavier cabinets.

Responsibility for the coordination, design, engineering, and site preparation resides with the customer and their project architects and contractors. GE does not, by providing reviews and furnishing comments and assistance, accept any responsibility beyond its obligations as defined in the MR system, sale/purchase agreement.

IMAGE QUALITY CONSIDERATIONS

Broadband RF noise is a single transient or continuous series of transient disturbances caused by an electrical discharge. Low humidity environmental conditions will have higher probability of electrical discharge. The electrical discharge can occur due to electrical arcing (micro arcing) or merely static discharge. Some potential sources capable of producing electrical discharge include:

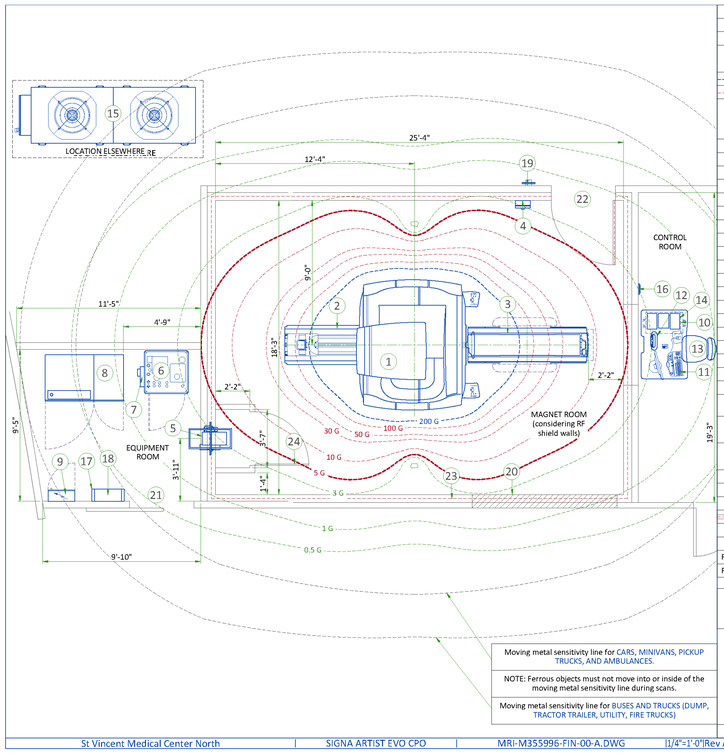
- Loose hardware/fasteners vibration or movement (electrical contunuity must always be maintained)
- Flooring material including raised access flooring (panels & support hardware) and carpeting
- Electrical fixtures (i.e. Lighting fixtures, track lighting, emergency lighting, battery chargers, outlets)
- Ducting for HVAC and cable routing
- RF shield seals (walls, doors, windows etc.)

For additional information regarding image quality, refer to the pre-installation manual listed on the cover sheet.

MAGNETIC INTERFERENCE SPECIFICATIONS

- The customer must establish protocols to prevent persons with cardiac pacemakers, neurostimulators, and biostimulation devices from entering magnetic fields of greater than 5 gauss (exclusion zone).
- Main power transformers must remain outside the 3 gauss field. EMI < 40mG RMS AC at the magnet location. EMI 4.43mGp-p DC, refer to Preinstallation Manual for additional information.
- Potential exists under fault conditions that the 5 gauss line may expand radially to 19.68 ft. [6.0 m] and axially to 24.61 ft. [7.5 m] for 2 seconds or less. It should be noted that normal rampdowns or magnet rundown unit initiated quenches will not cause the magnetic field to expand.
- It is recommended every site consider the event of a quench and plan accordingly (such as placing 5 gauss warning signs at expanded locations).
- The ferrous metal objects listed below must not move into or inside of the moving metal sensitivity line during scans.

TYPCIAL MOVING MAGNETIC MASS	DISTANCE RADIALLY		DISTANCE AXIALLY	
Carts, Gurneys 100-400 lbs [45-182 kg]	3 Gauss line		3 Gauss line	
Forklifts, small elevator, cars, minivans vans, pickup trucks, ambulances (objects greater than 400 lbs [182 kg])	15.5 FT	4.72 M	21.0 FT	6.4 M
Buses and trucks (dump, tractor trailer, utility, fire trucks)	18.1 FT	5.52 M	24.5 FT	7.47 M



Moving metal sensitivity line for CARS, MINIVANS, PICKUP TRUCKS, AND AMBULANCES.

NOTE: Ferrous objects must not move into or inside of the moving metal sensitivity line during scans.

Moving metal sensitivity line for BUSES AND TRUCKS (DUMP, TRACTOR TRAILER, UTILITY, FIRE TRUCKS)

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
	200 GAUSS		5 GAUSS
	100, 50, 30, 10 GAUSS		3, 1, 0.5 GAUSS

BY	ITEM	DESCRIPTION	MAX HEAT OUTPUT (BTU/h)	WEIGHT (lbs)	MAX HEAT OUTPUT (W)	WEIGHT (kg)
A	1	MAGNET (MAG)	8189	11731	2400	5320
A	2	REAR PEDESTAL (PED)	-	212	-	96
A	3	PATIENT TABLE (PT)	-	463	-	210
A	4	MAGNET RUNDOWN UNIT (MRU)	-	7	-	3.2
A	5	PENETRATION PANEL (PP)	-	-	-	-
A	6	INTEGRATED COOLING CABINET	5118	1288	1500	584
A	7	MAGNET MONITOR (MON)	819	8	240	3.6
A	8	POWER, GRADIENT, RF CABINET (PGR)	32421	3347	9502	1518
B	9	MAIN DISCONNECT PANEL (MDP)	901	126	264	57
A	10	OPERATOR CONSOLE (GOC)	4947	133	1450	60.4
A	11	OPERATOR WORKSPACE (OW)	-	126	-	57
A	12	WIRELESS GATING CHARGING STATION	-	-	-	-
D	13	OPERATOR'S CHAIR	-	-	-	-
A	14	MUSIC SYSTEM	-	-	-	-
B	15	DIMPLEX CHILLER	204713	4300	59998	1950
B	16	REMOTE GRAPHIC DISPLAY (RGD)	-	-	-	-
B	17	WATER FILTER	-	-	-	-
B	18	MANUAL WATER BYPASS	-	-	-	-
D	19	METAL DETECTOR (HAND HELD)	-	-	-	-
C	20	MAGNET ACCESS 2.5m x 2.5m [98.5in x 98.5in]	-	-	-	-
C	21	MINIMUM OPENING FOR EQUIPMENT DELIVERY IS 1016 mm x 2083 mm [40 in x 82 in], CONTINGENT ON A 1829 mm [72 in] CORRIDOR WIDTH				
C	22	MINIMUM OPENING FOR EQUIPMENT DELIVERY IS 1092 mm x 2083 mm [43 in x 82 in], CONTINGENT ON A 2438 mm [96 in] CORRIDOR WIDTH				
C	23	DEFINE RF SHIELD'S INSET ACCORDING TO PROVISIONS MADE BY THE RF SHIELD VENDOR				
C	24	LOUVERED DOORS - REFER TO PREINSTALL MANUAL FOR REQUIREMENTS				
		RF SHIELD - 100 dB ATTENUATION				

EXAM ROOM HEIGHT

FINISHED FLOOR TO SLAB HEIGHT	12'-4"
FALSE CEILING HEIGHT	9'-0"

Upgrade Note:
Equipment shown on drawing is being upgraded.
All equipment must be verified for accuracy by GE PMI or Field Engineer.

For Accessory Sales: (866) 281-7545 Options 1, 2, 1, 2 or mail to: gehcaccessorysales@ge.com

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1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR
72120

CHI St. Vincent

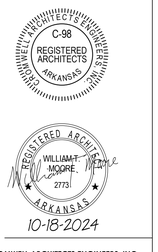
Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp



Notes

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Project Number **2024-101**

Issue Date **10-18-2024**

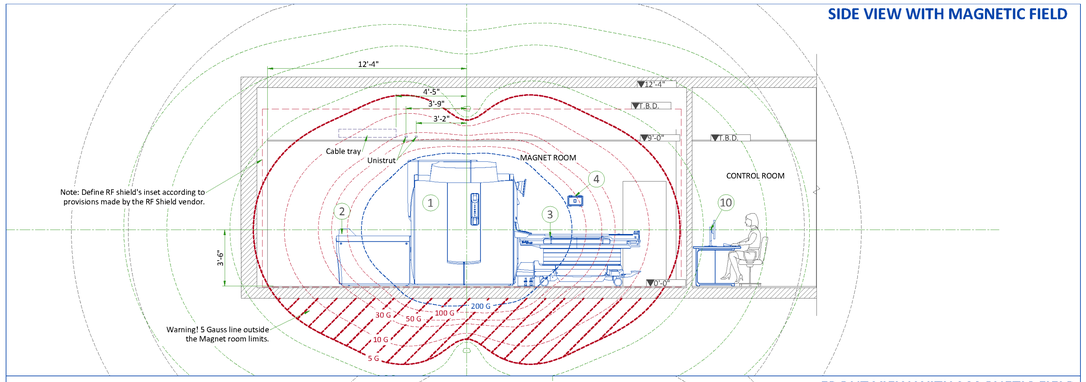
Sheet Title

MRI GENERAL INFORMATION

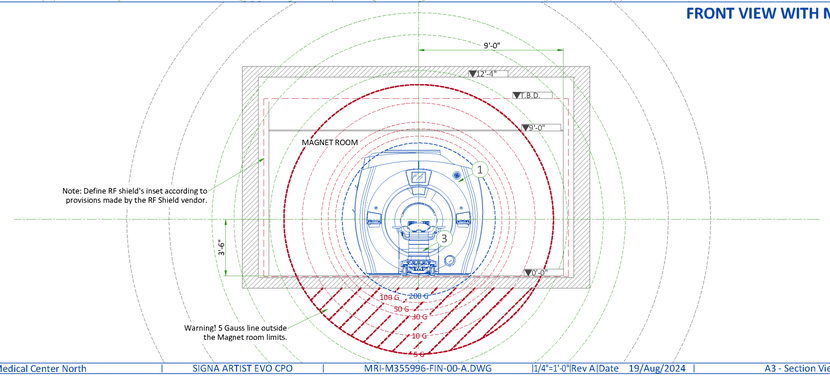
Sheet Number

GI108

SIDE VIEW WITH MAGNETIC FIELD



FRONT VIEW WITH MAGNETIC FIELD



St Vincent Medical Center North | SIGNA ARTIST EVO CPO | MRI-M355996-FIN-00-A.DWG | 1|4"=1'-0"|Rev A|Date 19/Aug/2024 | A3 - Section Views | 05/25

ACOUSTICS SPECIFICATIONS

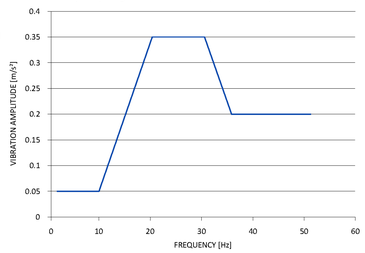
Acoustic and vibroacoustic information is provided for site planning and architectural design activities. It is the customer's responsibility to hire a qualified acoustic engineer for solutions to further attenuate this transmitted noise and vibration, if required. The actual room noise level may vary based on room design, optional equipment, and usage:

Control Room: 62dBA
Equipment Room: 80dBA
Magnet Room: 124dBA*
(maximum sound pressure level at magnet bore isocenter)

* Frequency: 20 Hz to 20kHz

FREQUENCY (Hz)	AMPLITUDE (m/s²)
2	0.05
10	0.05
20	0.35
30	0.35
35	0.2
50	0.2

Low Frequency Magnet Floor Vibration (Vibration Amplitude at Each Foot)

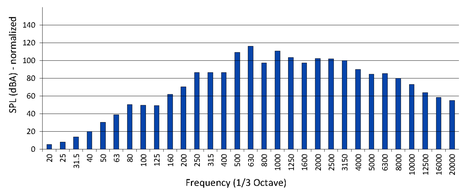


ISOGAUSS PLOTS

* The isogauss contour plots depicted on this drawing represent magnetic fringe fields resulting from the normal operation of the magnet provided with the MR system. The actual magnetic field intensity at any point in the vicinity of the magnet when installed may vary from the contour plots due to factors such as the concentrating effects of nearby ferrous objects ambient magnetic fields, including the earth's magnetic field. Therefore, the contours shown are only approximations of actual field intensities found at a corresponding distance from the magnet's isocenter.

SOUND PRESSURE SPECTRAL DISTRIBUTION

1/3 Band Relative SPL



MAGNETIC PROXIMITY LIMITS

Gauss (mT) Limit	Equipment
0.5 gauss (0.05mT)	Nuclear camera
1 gauss (0.1mT)	Positron Emission Tomography scanner, Linear Accelerator, Cyclotrons, Accurate measuring scale, Analog image intensifiers, Bone Densitometers, Video display (tube), CT scanner, Ultrasound, Lithotriptor, Electron microscope
3 gauss (0.3mT)	Power transformers, Main electrical distribution transformers
5 gauss (0.5mT)	Cardiac pacemakers, Neurostimulators, Biostimulation devices
10 gauss (1mT)	Magnetic computer media, Line printers, VCRs, Film processor, X-ray tubes, Emergency generators, Commercial laundry equipment, Food preparation area, Water cooling equipment, HVAC equipment, Major mechanical equipment room, Credit cards, watches, and clocks, Air conditioning equipment, Fuel storage tanks, Motors greater than 5 horsepower
50 gauss (5mT)	Metal detector for screening, LCD panels, Telephones
No Limit	Digital Detectors

The customer must provide detail defining ferrous material below the magnet to the Project Manager so the GE Healthcare MR Siting and Shielding team can review for compliance.

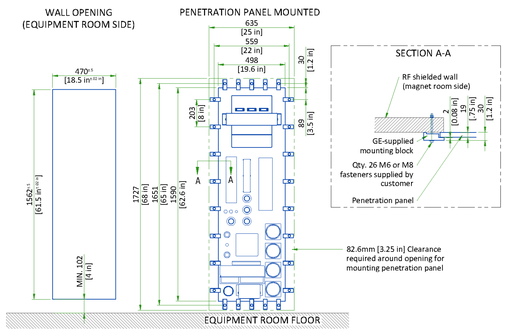
STEEL MASS LIMITS TO MAGNET ISOCENTER (3x3 m [10x10 ft] AREA UNDER MAGNET)

Limits Of Steel Mass		Distance Below Top Surface Of Floor	
kg/m²	lbs/ft²	mm	in
0	0	0 - 76	0-3
9.8	2	76 - 127	3-5
14.7	3	127 - 254	5-10
39.2	8	254 - 330	10-13
98.0	20	330+	13+

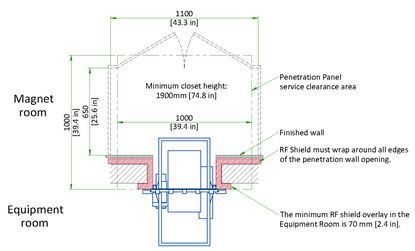
The actual field strength can be affected by Magnetic shielding, Earth's magnetic field, other magnetic fields and stationary or moving metal. This information must be used to evaluate potential site interaction of GE Healthcare equipment with other non-GE Healthcare equipment. Magnetic shielding can be installed to prevent interaction between the magnet and nearby sensitive devices. The GE Healthcare Project Manager of Installation (PMI) can work with the customer to coordinate the magnetic shielding site evaluation. The customer is responsible for installation of all magnetic shielding.

St Vincent Medical Center North | SIGNA ARTIST EVO CPO | MRI-M355996-FIN-00-A.DWG | Rev A|Date 19/Aug/2024 | A4 - Acoustic - Proximity Limits | 06/25

PENETRATION PANEL WALL OPENING



PENETRATION PANEL PLAN VIEW



If the closet depth is less than 1000mm [39.4 in], the closet must have door(s) configured to clear the service area for the Penetration Panel.

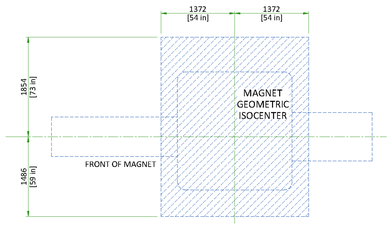
PENETRATION PANEL CLOSET

An enclosure (i.e. closet) must be provided to restrict access to the PEN panels and for storage of excess interconnections.

- The PEN closet must have a mechanical locking mechanism to restrict access to the PEN panels
- The PEN closet must maintain the minimum service area outside the 200 Gauss in the magnet room.
- PEN closet must allow free air exchange of **400CFM (680 m³/hour)** between the Magnet room and PEN closet for MR system blowers. Airflow may be achieved through door louvers or other openings in the PEN closet that meet all other PEN closet requirements

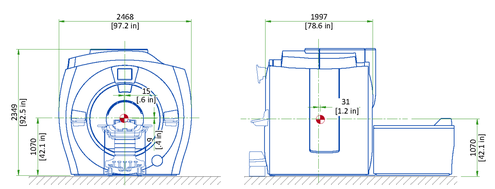
MINIMUM MAGNET CEILING HEIGHT (TOP VIEW)

If the ceiling height is between 2500 mm (98.5 in.) and 2667 mm (105 in.), the flexible main lead extension for low ceiling height (2.5M Low Ceiling Kit-Passive, M7000GM) is required for ramping the magnet. Contact the GEHC PMI and GEHC Service Field Engineer for further evaluation.



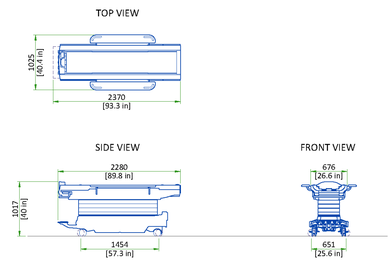
St Vincent Medical Center North | SIGNA ARTIST EVO CPO | MRI-M355996-FIN-00-A.DWG | 1:10 |Rev A|Date 19/Aug/2024 | RF shielding | 07/25

MAGNET ENCLOSURE



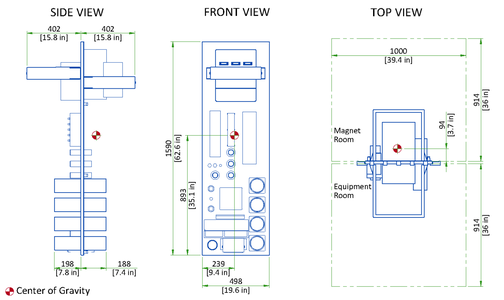
Note:
Center of gravity is approximate and includes the GE Healthcare supplied VibroAcoustic Dampening Kit, but does not include cryogens, gradient assembly, side mounted electronics, or enclosures.
Enclosure dimensions are for reference only, NOT FOR SITE PLANNING USE.
Center of gravity

PATIENT TRANSPORT TABLE (PT)



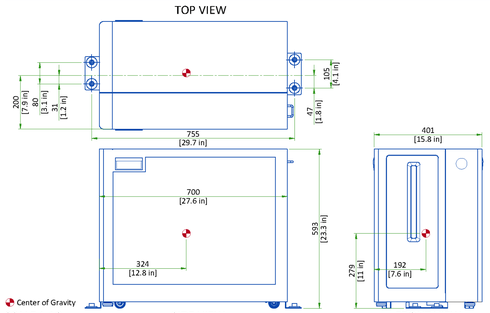
SCALE 1:50

PENETRATION PANEL



Center of Gravity
SCALE 1:20

GLOBAL OPERATORS CABINET (GOC)



Center of Gravity
SCALE 1:10

St Vincent Medical Center North | SIGNA ARTIST EVO CPO | MRI-M355996-FIN-00-A.DWG | Rev A|Date 19/Aug/2024 | A6 - Equipment Details (1) | 08/25

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501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CENTRAL ARKANSAS ARCHITECTS ENGINEERS C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS
10-18-2024

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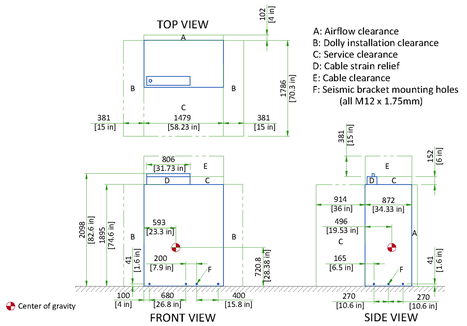
Project Number **2024-101**

Issue Date **10-18-2024**

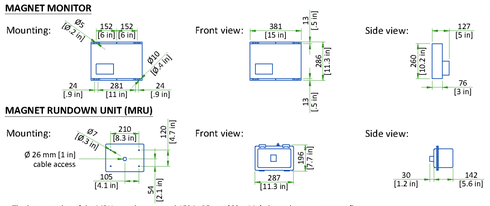
Sheet Title **MRI GENERAL INFORMATION**

Sheet Number **GI109**

POWER, GRADIENT, RF CABINET (PGR)



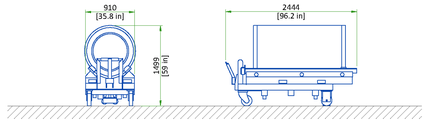
MAGNET MONITOR AND MAGNET RUNDOWN UNIT (MRU)



The bottom edge of the MRU must be mounted 1524 ±25 mm [60 ± 1 in] above the magnet room floor.

SCALE 1:20

GRADIENT COIL REPLACEMENT

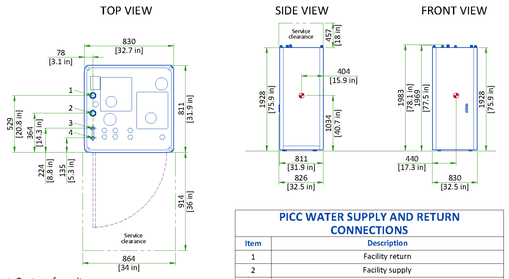


Front view of the IRMW Gradient Side view of the IRMW Gradient

EQUIPMENT	DIMENSIONS LxWxH		WEIGHT		NOTE
	mm	in	kg	lbs	
Replacement IRMW gradient coil assembly on a shipping cradle/cart	910x2444x1499	35.8x96.2x59	1449	3194	Initial gradient coil assembly is shipped installed in the magnet. Shipping/installation cart is used to install re-placement coil assembly only.

The weight bearing structure of the site should support any additional weight of the main replacement parts occurring during maintenance of the magnet, throughout the whole lifecycle of the MR.

PLATFORM INTEGRATED COOLING CABINET (pICC)

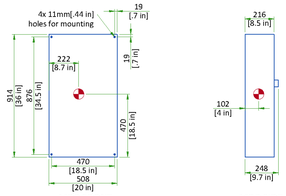


NOT TO SCALE

PICC WATER SUPPLY AND RETURN CONNECTIONS

Item	Description
1	Facility return
2	Facility supply
3	City Water Return for Cryocooler compressor backup
4	City Water Supply for Cryocooler compressor backup

MAIN DISCONNECT PANEL (MDP)



SCALE 1:20

Center of gravity

St Vincent Medical Center North | SIGNA ARTIST EVO CPO | MRI-M355996-FIN-00-A.DWG | Rev A|Date 19/Aug/2024 | A7 - Equipment Details (2) | 09/25

St Vincent Medical Center North | SIGNA ARTIST EVO CPO | MRI-M355996-FIN-00-A.DWG | Rev A|Date 19/Aug/2024 | A8 - Delivery | 10/25

STRUCTURAL NOTES

- 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.
- Dimensions are to finished surfaces of room.
- Certain MR procedures require an extremely stable environment to achieve high resolution image quality. Vibration is known to introduce field instabilities into the imaging system. The vibration effects on image quality can be minimized during the initial site planning of the mr suite by minimizing the vibration environment. See PROXIMITY LIMITS, PATIENT TABLE DOCK ANCHOR MOUNTING REQUIREMENTS AND VIBROACOUSTIC DAMPENING KIT details for additional information.
- Standard steel studs, nails, screws, conduit, piping, drains and other hardware are acceptable if properly secured. Any loose steel objects can be violently accelerated into the bore of the magnet. Careful thought should be given to the selection of light fixtures, cabinets, wall decorations, etc. To minimize this potential hazard. For safety, all removable items within the magnet room such as faucet handles, drain covers, switch box cover plates, light fixture components, mounting screws, etc. must be non-magnetic. If you have a specific question about material, bring it to the attention of your GE project manager of installations.
- Floor levelness refer to MAGNET ROOM FLOOR SPECIFICATIONS DETAIL, this floor levelness requirement is important for accurate patient table docking.
- Non-movable steel such as wall studs or hvac components will produce negligible effect on the active shield magnet.
- Customer's contractor must provide all penetrations in post tension floors.
- Customer's 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.
- Customer's 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.
- Customer's contractor to provide and install appropriate supports for the storage of excess cables.
- 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"

SEISMIC OVERVIEW

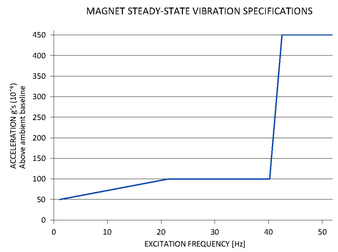
The customer must comply with local seismic anchoring codes that pertain to this site.

Seismic calculations are available upon request through our local GE Healthcare Project Manager for GE Healthcare manufactured equipment. These calculations are per California Building Code (CBC) and International Building Code (IBC)

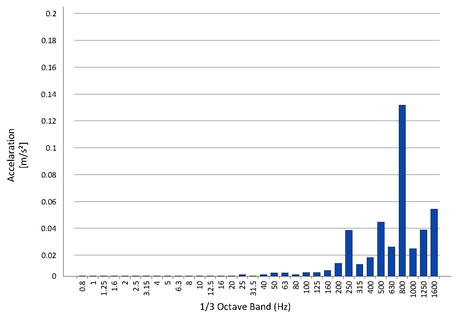
VIBRATION SPECIFICATIONS

Excessive vibration can affect MR image quality. Vibration testing must be performed early in the site planning process to ensure vibration is minimized. Both steady state vibration (exhaust fans, air conditioners, pumps, etc.) and transient vibrations (traffic, pedestrians, door slamming, etc.) must be assessed. The magnet cannot be directly isolated from vibration. Any vibration issue must be resolved at the source.

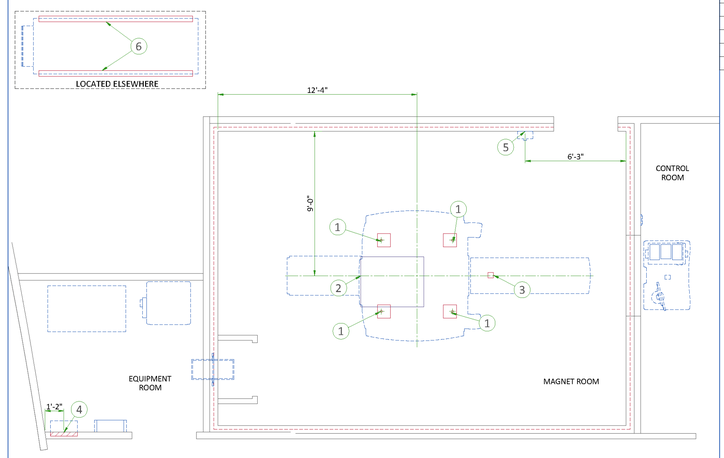
Transient vibration levels above the specified limits in the MR Site Vibration Test Guidelines must be analyzed. Any transient vibration that causes vibration to exceed the steady-state level must be mitigated.



VIBRATION TRANSMITTED THROUGH VIBROACOUSTIC MAT



St Vincent Medical Center North | SIGNA ARTIST EVO CPO | MRI-M355996-FIN-00-A.DWG | Rev A|Date 19/Aug/2024 | S1 - Structural Notes | 11/25



ITEM	DESCRIPTION
	(GE SUPPLIED / CONTRACTOR INSTALLED)
1	Vibroacoustic dampening kit (see floor structural detail)
2	Magnet cable concealment kit
	(CONTRACTOR SUPPLIED & INSTALLED)
3	Patient table dock rebar free area
4	Structural wall backing for Main Disconnect Panel
5	Structural wall backing for Magnet Rundown Unit
6	Two I-beam runners are to support chiller feet at both ends. Refer to Dimplex manual.

St Vincent Medical Center North | SIGNA ARTIST EVO CPO | MRI-M355996-FIN-00-A.DWG | 1/4"=1'-0"|Rev A|Date 19/Aug/2024 | S2 - Structural Layout | 12/25

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Project

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Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

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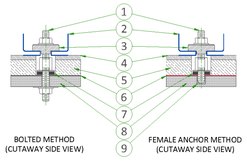
Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **MRI GENERAL INFORMATION**

Sheet Number **GI110**

PATIENT TABLE DOCK ANCHOR MOUNTING REQUIREMENTS



- The RF Shield vendor must design and install the dock anchor bolt
- The dock anchor hole must be drilled **after** the Magnet is installed
- The dock anchor must not contact floor rebar or other structural steel
- The dock anchor must electrically contact the RF shield at point of entry
- The RF shield vendor must perform a pull test on the anchor (equal to the clamping force).

The dock anchor properties must comply with the following requirements:

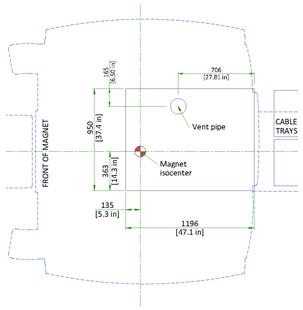
a. Anchors must be two-part assembly (male/female)
b. Female side must be expansion- or epoxy-type
c. Male side must be a bolt or threaded rod with appropriate-sized nut (bolt or rod must be removable - not epoxied or cemented in place)
d. Anchors must be electrically conductive
e. Anchors must be non-magnetic
f. Anchors must not induce galvanic corrosion with the RF shield
g. Anchors must be commercially procured
h. The anchor rod hole clearance in the table frame anchor base is 11mm [0.43 in]. The anchor rod diameter must be sized appropriately.
i. Anchors must meet the following clamping force: 2,669 N [600 lb]
j. The anchor rod must extend 60 mm ± 13 mm [2.25 in ± 0.5 in] above the finished floor
k. The anchor rod must be less tha 152 mm [6 in] in total length (length above the floor plus embedded length)
l. If underside of deck is metallic, then insulating bushing must be added to through bolt hardware to prevent grounding of shield at this point.

1 Removable Anchor Rod (Male insert)
2 Dock
3 Clamp bracket
4 Finished floor
5 Filler Board or Grout
6 RF Shield
7 Conductive Fibrous Washer (RF seal)
8 Concrete
9 Female Anchor Insert

NOT TO SCALE

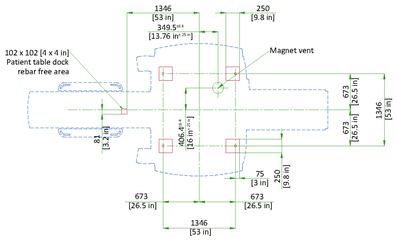
CABLE CONCEALMENT

This drawing gives two methods of locating this assembly in the room.
1) Measure to isocenter
2) Measure to vent pipe



SCALE 1:25

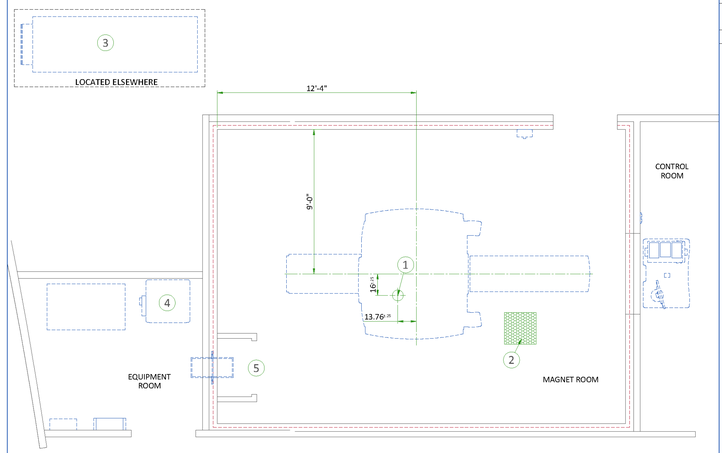
MAGNET MOUNTING



NOT TO SCALE

MAGNET ROOM FLOOR SPECIFICATIONS

- Magnet, Enclosure, and Patient Table areas must be flat and level within 3 mm [0.125 in].
- The finished floor must support the weight of all components (e.g., patient table, gradient coil replacement cart) throughout operation and service life.



ITEM	DESCRIPTION
1	Cryogen vent (200mm [8"] O.D.)
2	Emergency exhaust vent - refer to magnet room vent requirements (reuse existing)
3	(2) 50mm [2"] I.D. High pressure hoses and (2) 50mm [2"] to 38mm [1.5"] Reducers
4	38mm [1.5"] NPT Male connectors, (2) 38mm [1.5"] copper lines (insulated) and (2) shut off valves. Refer to chilled water block diagram.
5	Closet must allow free air exchange of 400 CFM between magnet room and closet

MECHANICAL/PLUMBING NOTES

• All piping, fittings, supports, hoses, clamps, ventlation systems, etc. are to be supplied and installed by the customer or his contractors.
• For complete design and requirements, specifications and guidelines refer to the pre-installation manual: system cooling, cryogen venting, waveguides and exhaust venting.
• An emergency water cooling back-up supply is recommended for continuous cryogen compressor operation. If using an open loop back-up design, ensure a drain is provided. please refer to the pre-install manual for optional back-up coolant supply requirements

TEMPERATURE AND HUMIDITY SPECIFICATIONS

IN-USE CONDITIONS

	MAGNET ROOM	CONTROL ROOM	EQUIPMENT ROOM
Temperature	15-21°C	15-32°C	15-32°C [3]
	59-69.8°F	59-89.6°F	59-89.6°F [3]
Temperature gradient [1]	**≤ 3°C/h**	**≤ 3°C/h**	**≤ 3°C/h**
	≤ 5°F/h	**≤ 5°F/h**	**≤ 5°F/h**
Relative humidity	30% to 60%	30% to 70%	30% to 70%
Humidity gradient [2]	**≤ 5%/h**	**≤ 5%/h**	**≤ 5%/h**

NOTE
1) Operating temperature gradient limits shall be between -3°C/hr (-5°F/hr) and 3°C/hr (5°F/hr), when averaged over 1 hour
2) Operating humidity gradient limits shall be between -5% RH/hr and 5% RH/hr (5°F/hr), when averaged over 1 hour
3) Maximum ambient temperature is derated by 1°C per 300 m above 2000 m (not to exceed 2600 m).

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.

MAGNET ROOM VENTING REQUIREMENTS

HVAC VENT REQUIREMENTS

- HVAC vendor must comply with Magnet room temperature and humidity specifications and RF shielding specifications.
- RF Shield vendor must install open pipe or honeycomb HVAC waveguides.
- All serviceable parts in the Magnet room (e.g.: diffusers) must be non-magnetic.
- Waveguides must be nonmagnetic and electrically isolated.
- Incoming air must contain at least **5% air** from outside the Magnet room (inside or outside the facility) to displace residual helium.

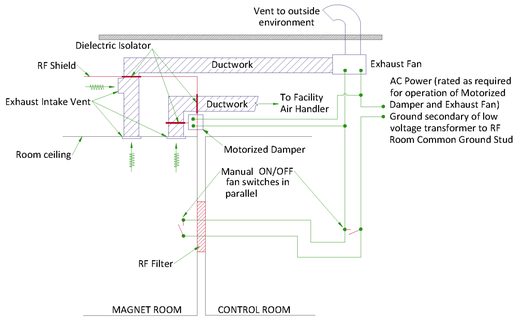
EMERGENCY VENT REQUIREMENT

- Exhaust vent system is supplied by the customer.
- All items within the RF enclosure must be non-magnetic.
- The exhaust vent system must be tested and operational before the magnet is installed.
- The exhaust intake vent must be located near the magnet cryogenic vent at the highest point on the finished or drop ceiling.
- The Magnet room exhaust fan and exhaust intake vent must have a capacity of at least **1200 CFM (34 m³/min)** with a minimum of **12 room air exchanges per hour.**
- The exhaust fan must be placed above RF shielding located outside 10 gauss (**1mT**) and with appropriate waveguide.
- The system must have a manual exhaust fan switch near the Operator Workspace and in the Magnet room near the door (the switches must be connected in parallel).
- All system components must be accessible for customer inspection, cleaning and maintenance

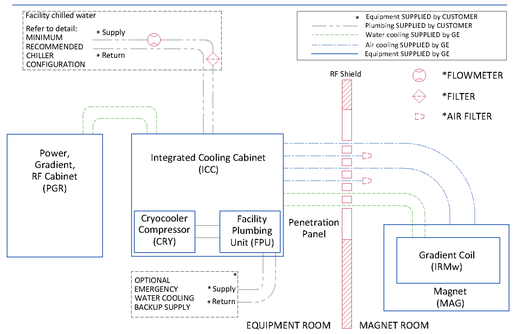
HEAT DISSIPATION DETAILS

DESCRIPTION	ROOM	IDLE W		AVERAGE		MAX	
		W	btu	W	btu	W	btu
Magnet (MAG) and Patient Table (PT)	Magnet	561	1915	1200	4095	2400	8189
Main Disconnect Panel (MDP)	Equipment	132	450	132	450	264	901
Power, Gradient, RF Cabinet (PGR)	Equipment	4288	14665	4866	16603	9502	32421
Integrated Cooling Cabinet (ICC)	Equipment	250	853	600	2046	1000	3410
Cryocooler Compressor (CRY) (Inside ICC)	Equipment	500	1706	500	1706	500	1706
Magnet Monitor (MM)	Equipment	240	819	240	819	240	819
Operator Workspace equipment (OW)	Control	1450	4947	1450	4947	1450	4947
Penetration Panel (PP)	Equipmet	0	0	0	0	0	0

MAGNET ROOM EXHAUST FAN SCHEMATIC



CHILLED WATER BLOCK DIAGRAM

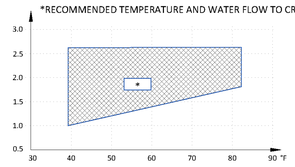


LIQUID COOLANT SPECIFICATIONS

PARAMETER	REQUIREMENTS
Availability	Continuous
Antifreeze	No more than 50% propylene glycol water or ethylene glycol water
Minimum Flow	114 L/min [30 gpm]
Maximum Flow	132 L/min [35 gpm]
Maximum Pressure Drop in ICC at Minimum Flow	2.2 bar (32.0 psi) with 50% propylene glycol-water; 1060 kg/m³ density 1.4 bar (20.3 psi) with pure water; 994 kg/m³ density
Maximum Pressure Drop in ICC at Maximum Flow	2.9 bar (42 psi) with 50% propylene glycol-water; 1060 kg/m³ density 1.9 bar (27.6 psi) with pure water; 994 kg/m³ density
Temperature rise at Minimum Flow	7.3°C (13°F) with 50% propylene glycol-water; 3346 J/(kg K) specific heat; 1060 kg/m³ density; 49 kW heat
Temperature rise at Maximum Flow	6.3°C (11.3°F) with 50% propylene glycol-water; 3346 J/(kg K) specific heat; 1060 kg/m³ density; 49 kW heat
Maximum inlet pressure to ICC	6 bar [87 psi]
Chiller size	Minimum 49 kW
Condensation protection	Facility plumbing to the ICC must be properly routed and insulated to prevent equipment damage or safety hazards
Minimum continuous heat load	7.5 kW
Inlet temperature to ICC	5 to 15°C [41 to 59° F]
Customer supplied feeder hose (from main water supply to ICC)	38.1 mm [1.5 in] minimum hose inside diameter
Water quality	Refer to pre-installation manual for detailed specifications

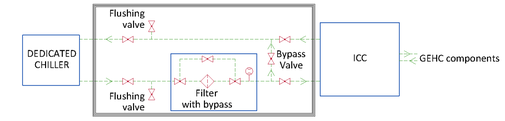
CITY WATER BACKUP SPECIFICATIONS FOR COMPRESSOR

INLET WATER FLOW/TEMPERATURE FOR CRYOCOOLER COMPRESSOR



	MIN	MAX
INLET TEMP	39.2°F (4°C)	82.4°F (28°C)
INLET FLOW	1.0 gpm (4 l/min)	2.6 gpm (10 l/min)
TEMP RISE	89.6°F at 1.0 gpm (32°C at 4 l/min flow)	53.6°F at 2.6 gpm (12°C at 10 l/min flow)
HEAT DISSIPATION (kW)	7.2 kW	
PRESSURE DROP	8.7 psi at 2.1 gpm flow (60 kPa at 8 l/min flow)	

MINIMUM RECOMMENDED CHILLER CONFIGURATION



FLOW METER
VALVE
FILTER
Equipment supplied by GEHC
Customer/contractor supplied and installed

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Project

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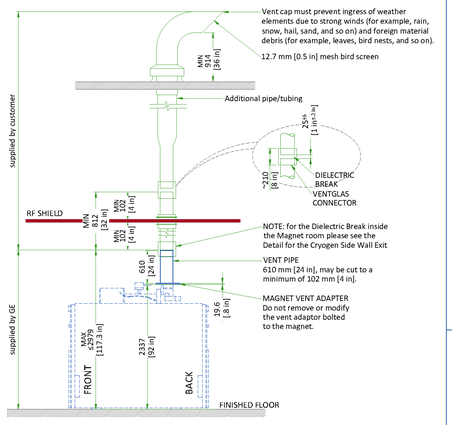
Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **MRI GENERAL INFORMATION**

Sheet Number **GI111**

TYPICAL CRYOGENIC VENT PIPE DETAIL



Waveguide is contractor supplied. Minimum 812 mm [32 in]. Must extend at least 102 mm [4 in] on magnet room side of the wall/ceiling and 25±6 mm [1±0.25 in] from the GE supplied pipe below isolation joint.

1. The 203 mm [8 in] OD vent material must be one of the following materials with the wall thickness indicated:
   a. SS 304: Minimum 0.89 mm [0.035 in]; Maximum 3.18 mm [0.125 in]
   b. AL 6061-T6: Minimum 2.11 mm [0.083 in]; Maximum 3.18 mm [0.125 in]
   c. CU DWV, M or L: Minimum 2.11 mm [0.083 in]; Maximum 3.56 mm [0.140 in]
2. Either tubes or pipes may be used and must be seamless or have welded seams

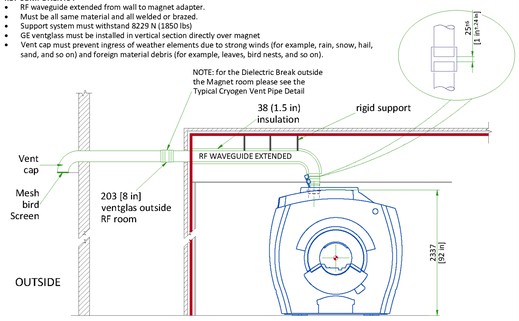
NOTE
All welds on the pipe must be ground down to a smooth 203 mm [8 in] diameter so that it can be clamped to the Ventglas with enough force.

3. Corrugated pipe or spiral duct must not be used
4. If required, bellows pipe less than 300 mm [12 in] in length may be used as a thermal expansion joint
5. The vent pipe must withstand the maximum pressure listed in the Pre-Installation Manual
6. Waveguide vent material must match the outside diameter of the magnet flanged vent adapter

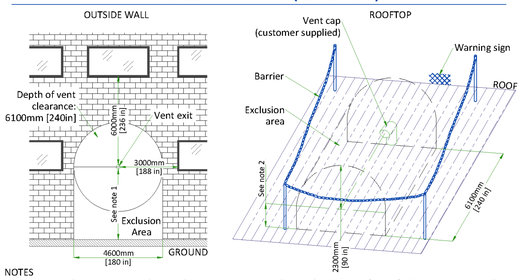
TYPICAL CRYOGEN SIDE WALL EXIT WITH LONG SWEEP ELBOW

KEY COMPONENTS :

- RF waveguide extended from wall to magnet adapter.
- Must be all same material and all welded or brazed.
- Support system must withstand 8229 N (1850 lbs)
- GE ventglass must be installed in vertical section directly over magnet
- Vent cap must prevent ingress of weather elements due to strong winds (for example, rain, snow, hail, sand, and so on) and foreign material debris (for example, leaves, bird nests, and so on).



CRYOGENIC VENTING (EXTERIOR)



NOTES

(1) Restricted area: minimum distance between vent pipe and ground is 3660mm [144 in]. Barriers are required. Public area: barriers are not required if height is > 5000mm [197 in].

(2) The bottom of the 90° elbow must be at least 914mm [36 in] above the roof deck (or higher if at risk of being blocked by drifting snow, sand, or other potential obstructions.)

NOT TO SCALE

MAGNET CRYOGENIC VENT SYSTEM PRESSURE DROP MATRIX

Outer dia. of pipe (D)	Distance of vent system component from magnet		Pressure drop for straight pipe		Std sweep 45° elbow		Long sweep 45° elbow		Std sweep 90° elbow		Long sweep 90° elbow		90° miter bend	
	m	ft	kPa/m	psi/ft	kPa	psi	kPa	psi	kPa	psi	kPa	psi	kPa	psi
8 in. (200mm)	0.00-3.05	0-10	1.629	0.072	3.877	0.562	2.585	0.375	7.269	1.054	4.846	0.703	14.539	2.108
	3.05-6.10	10-20	2.784	0.123	6.393	0.927	4.262	0.618	11.987	1.738	7.992	1.159	23.975	3.476
	6.10-9.15	20-30	4.172	0.184	8.712	1.263	5.808	0.842	16.535	2.369	10.890	1.579	32.670	4.737
	9.15-12.2	30-40	5.391	0.238	10.847	1.573	7.231	1.049	20.338	2.949	13.559	1.966	40.677	5.898
	12.20-15.25	40-50	6.460	0.286	12.812	1.858	8.541	1.239	24.023	3.483	16.015	2.322	48.046	6.967
	15.25-18.30	50-60	7.394	0.327	14.620	2.120	9.747	1.413	27.413	3.975	18.275	2.650	54.826	7.950
	18.29-24.39	60-80	8.913	0.394	17.813	2.583	11.875	1.722	33.400	4.843	22.266	3.229	66.799	9.686
	24.39-30.49	80-100	10.049	0.444	20.514	2.974	13.676	1.983	38.463	5.577	25.642	3.718	76.926	11.154
10 in. (250mm)	0.00-6.10	0-20	0.824	0.036	2.382	0.345	1.588	0.230	4.467	0.648	2.978	0.432	8.934	1.295
	6.10-12.22	20-40	1.607	0.071	4.035	0.585	2.690	0.390	7.565	1.097	5.043	0.731	15.130	2.194
	12.22-18.29	40-60	2.239	0.099	5.477	0.794	3.651	0.529	10.269	1.489	6.846	0.993	20.537	2.978
	18.29-24.39	60-80	2.745	0.121	6.733	0.976	4.489	0.651	12.625	1.831	8.416	1.220	25.249	3.661
	24.39-30.49	80-100	3.145	0.139	7.827	1.135	5.218	0.757	14.676	2.128	9.784	1.419	29.353	4.256
12 in. (300mm)	0.00-6.10	0-20	0.424	0.019	1.486	0.215	0.991	0.144	2.786	0.404	1.858	0.269	5.573	0.808
	6.10-12.22	20-40	0.829	0.037	2.501	0.363	1.667	0.242	4.689	0.680	3.126	0.453	9.377	1.360
	12.22-18.29	40-60	1.169	0.052	3.408	0.494	2.272	0.329	6.389	0.926	4.260	0.618	12.779	1.853
	18.29-24.39	60-80	1.453	0.064	4.218	0.612	2.812	0.408	7.908	1.147	5.272	0.764	15.816	2.293
	24.39-30.49	80-100	1.688	0.075	4.941	0.716	3.294	0.478	9.263	1.343	6.176	0.895	18.527	2.686
14 in. (350mm)	0.00-6.10	0-20	0.235	0.010	0.970	0.141	0.647	0.094	1.819	0.264	1.213	0.179	3.639	0.528
	6.10-12.22	20-40	0.459	0.020	1.619	0.235	1.079	0.157	3.036	0.440	2.024	0.293	6.072	0.880
	12.22-18.29	40-60	0.652	0.029	2.209	0.320	1.473	0.214	4.142	0.601	2.761	0.400	8.284	1.201
	18.29-24.39	60-80	0.817	0.036	2.745	0.398	1.830	0.265	5.147	0.746	3.431	0.498	10.293	1.493
	24.39-30.49	80-100	0.958	0.042	3.231	0.469	2.154	0.312	6.059	0.879	4.039	0.586	12.117	1.757
16 in. (400mm)	0.00-6.10	0-20	0.184	0.008	0.875	0.127	0.584	0.085	1.641	0.238	1.094	0.159	3.283	0.476
	6.10-12.22	20-40	0.356	0.016	1.444	0.209	0.962	0.140	2.707	0.392	1.804	0.262	5.413	0.785
	12.22-18.29	40-60	0.508	0.022	1.968	0.285	1.312	0.190	3.689	0.535	2.460	0.357	7.379	1.070
	18.29-24.39	60-80	0.642	0.028	2.451	0.355	1.634	0.237	4.596	0.666	3.064	0.444	9.191	1.333
	24.39-30.49	80-100	0.759	0.034	2.896	0.420	1.931	0.280	5.430	0.787	3.620	0.525	10.861	1.575

Notes

1. Refer to Magnet Room Venting manual 5850263-1EN for specifications of distances >100 ft (30.49 m).
2. Elbows with angles greater than 90 deg must not be used
3. Data in Table is based on the following facts and assumptions:
   a. Initial flow conditions at magnet interface
   b. EM energy (13MJ) is dumped to He during quench and rises He temperature to 10 Kelvin
   c. Gas temperature starting at 10 Kelvin and increase with length determined by thermal energy balance
   d. 90% He is assumed to be evacuated within 30 sec. None left after quench.
   e. Absolute roughness is assumed to be 0.25 mm.
   f. R/D = 1.0 for standard sweep elbows, R/D = 1.5 for long sweep elbows where D = outer diameter of pipe; R = radius of bend
3. The total pressure drop of the entire cryogenic vent system must be less than 17 psi (117.2 kPa). The calculation starts at the magnet vent interface and ends at the termination point outside the building.

LIGHTING REQUIREMENTS

- All lighting fixtures and associated components must meet all RF shielded room and RF grounding requirements (e.g., track lighting is not recommended due to possible RF noise).
- All removable lighting fixtures and associated components must be non-magnetic.
- All lighting must use direct current (the DC must have less than 5% ripple).
- 300 lux must be provided at the front of the magnet for patient access and above the magnet for servicing.
- Fluorescent lighting must not be used in the magnet room.
- Lighting must be adjusted using a discrete switch or a variable DC lighting controller.
- SCR dimmers or rheostats must not be used.
- DC LED lighting may be used if the DC power converter and RF sources are all located outside the magnet room RF shield.
  NOTE: LED lighting could cause image quality issues due to RF interference. Make sure a MR-compatible LED lighting solution is chosen.
- Battery chargers (e.g., used for emergency lighting) must be located outside the magnet room.
- LED Lighting or short filament length incandescent bulbs are recommended.
- Linear lamps are not recommended due to the high burnout rate.

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.

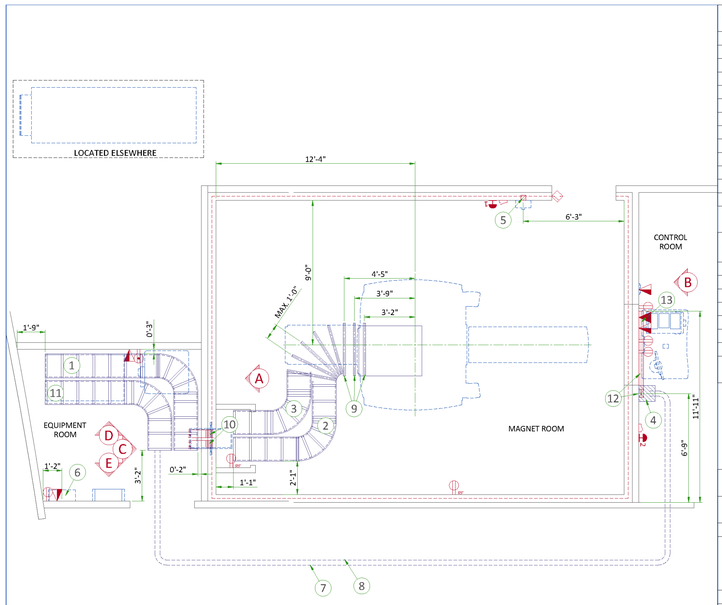
ELECTRICAL NOTES

1. 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 distritbution 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 raceway and 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.



ITEM	Electrical Layout Item List
1	Cable ladder 18" x 6" [450 x 150]
2	Non-ferrous cable ladder 18" x 4" [450 x 100]
3	Non-ferrous cable ladder for gradient cables 18" x 4" [450 x 100]
4	Box above finish ceiling (Control room) per local code
5	Box in wall 4" x 4" x 2" [100 x 100 x 50] (MRU) @ 5'-4" above finish floor, on center
6	Main disconnect panel (MDP)
7	Conduit above RF screen 2" [50]
8	Conduit above RF screen 3" [75]
9	Non-ferrous unistrut cable support 36" [915]
10	RF Filters - grounded to RF shield at Common Ground Stud
11	Cable tray for gradient cables 18" x 6" [450 x 150]
12	6" x 3 1/2" [150 x 100] surface vertical wall duct with minimum 2 dividers
13	Grommeted opening (Operator's console)

ITEM	QTY	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 (EO1-2), (recommended height 1.2m [48"] above floor)
		Door interlock switch
		Emergency exhaust fan switch 1.2m [48"] height recommended)
		Duplex hospital grade, dedicated wall outlet 120-v, single phase power
		Network outlet
		Dedicated telephone lines/network connection
		Duplex hospital grade, dedicated outlet 120-v emergency, single phase power, 15a
RF		Duplex hospital grade, dedicated outlet 120-v, single phase outlet routed through RF filter

Additional Conduit Runs
(Contractor Supplied and Installed)

From (Bubble # / Item)		To (Bubble # / Item)	Qty	Size	
				in.	mm
6	Main Disconnect Panel	Facility Power	1	As req'd	As req'd
6	Main Disconnect Panel	Power, Gradient, RF cabinet	1	As req'd	As req'd
		Integrated Cooling Cabinet	1	As req'd	As req'd
		System emergency off 2	1	1/2	16
	System emergency off 2	Penetration Panel	1	1/2	16
	Door switch	Power, Gradient, RF cabinet	1	3/4	20
	System emergency off 1	Penetration Panel	1	3/4	20
5	Magnet Rundown Unit	Magnet	1	1	25
		RF filter #1	1	As req'd	As req'd
	RF filter #1	120-V 1Ø Power	1	As req'd	As req'd
	Room Light	RF filter #2	1	As req'd	As req'd
	RF filter #2	Facility emergency power	1	As req'd	As req'd
	Dimplex Chiller	Remote Graphic Display	1	3/4	20
		Facility Power	1	as Req'd	

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

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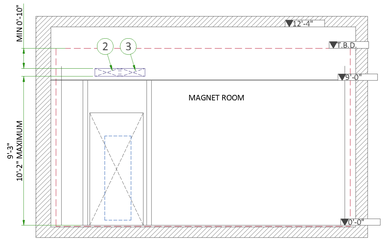
Project Number **2024-101**

Issue Date **10-18-2024**

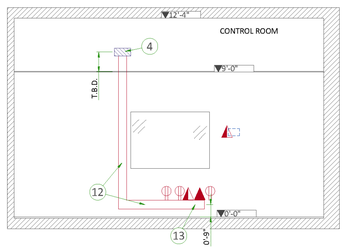
Sheet Title **MRI GENERAL INFORMATION**

Sheet Number **GI112**

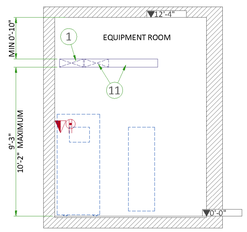
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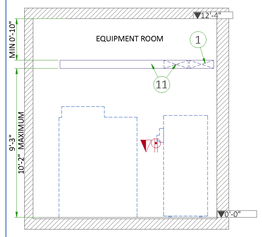
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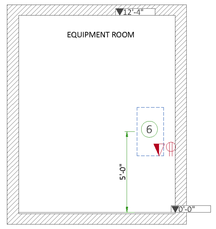
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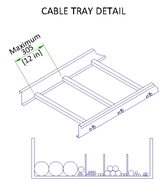
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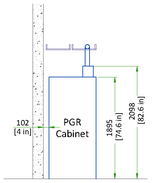


E

CABLE TRAYS IN EQUIPMENT ROOM

CABLE TRAY DETAIL





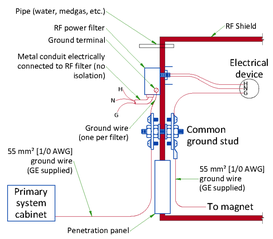
Minimum Cable Tray Width					
	PGR		ICC		OW
	Electrical	Air/Water	Electrical	Air/Water	Electrical
Pen Panel	300 [12 in]	N/A	N/A	450 [18 in]	76 [3 in]
PGR	N/A	N/A	76 [3 in]	150 [6 in]	76 [3 in]
ICC	76 [3 in]	150 [6 in]	N/A	N/A	N/A
OW	76 [3 in]	N/A	N/A	N/A	N/A

NOT TO SCALE

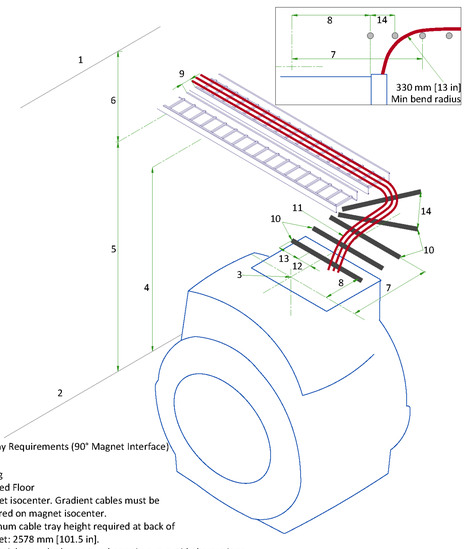
TYPICAL MAGNET ROOM GROUNDING

GROUNDING REQUIREMENTS

- All power lines into the RF shielded room require an RF filter.
- All electrical devices (for example, outlets, light fixtures, and so on) must have a ground wire from device power source and be grounded to the RF Shield at the RF Common Ground Stud.
- Resistance between any two grounded devices must not exceed 0.1 ohm to ensure equal potential ground system within the Magnet Room.
- Do not ground non-MR equipment to the MR ground system.
- The common ground stud must be installed near the penetration point(s) of the GE equipment, into the RF shield between the Equipment Room and Magnet Room.
- For additional information refer to RF Shielded Room manual 5850260-1EN



CABLE TRAYS REQUIREMENTS IN MAGNET ROOM



Cable Tray Requirements (90° Magnet Interface)

1 - Ceiling
2 - Finished Floor
3 - Magnet isocenter. Gradient cables must be centered on magnet isocenter.
4 - Minimum cable tray height required at back of Magnet: 2578 mm [101.5 in].
Tray height may be lower at other points to avoid obstructions.
5 - Maximum height from floor to top of tray (anywhere in Magnet room): 3251 mm [128 in].
6 - Minimum distance from top of cable tray to ceiling or other obstruction: 254 mm [10 in].
7 - Tray end to isocenter: 1336 ±12 mm [52.60 ±0.5 in].
8 - Other cable termination to isocenter: 955 ±12 mm [37.60 ±0.5 in].
9 - Minimum distance between trays: 12 mm [0.5 in].
10 - Non-ferrous cable support.
11 - Minimum gradient cable bend radius 330 mm [13 in].
12 - The center of the gradient cable group is 89 mm [3.5 in] from magnet center.
13 - Outer gradient cable is 450 mm [18 in] from edge of non-ferrous cable support.
14 - Distance between non-ferrous cable support: ≤ 305 mm [12 in].

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **MRI GENERAL INFORMATION**

Sheet Number **GI113**

POWER REQUIREMENTS

SPECIFICATIONS OF MAIN POWER INPUT

POWER SUPPLY	**380/400/415/480V ±10%, 3 PHASE + GND**
FREQUENCIES	**380/400/415V at 50Hz ± 3Hz, 480V at 60Hz ± 3Hz**
TOTAL SYSTEM 50ms PEAK POWER	**129 kVA**
TOTAL SYSTEM CONTINUOUS POWER	**88 kVA**
STAND-BY POWER	**< 17 kVA**

- Governing electrical codes may require a neutral wire. If present, neutral must be terminated in MDP.
- Power input must be separated from any others which may generate transients (elevators, air conditioning, radiology rooms equipped with high speed film changers...).
- Total voltage harmonic distortion less than 2.5%. Phase imbalance must not exceed 2%.
- Lock-out/Tag-out: The Main Disconnect Panel (MDP) shall provide an external single point lock-out/tag-out feature for the entire system and a means to externally lock-out/tag-out each output breaker independently. Each lock-out/tag-out feature shall accommodate a standard sized lock hasp.

SPECIFICATIONS OF OPTIONAL BACK-UP POWER SUPPLY

MAGNET MONITOR REQUIRES A 100-240 VAC, 50/60 HZ, 3.0 A FACILITY SUPPLIED OUTLET. POWER AT THE OUTLET MUST BE CONTINUOUSLY AVAILABLE.

FOR CRYOCOOLER COMPRESSOR	
POWER INPUT	**380/400/415/480V, THREE-PHASE + G**
POWER REQUIREMENT	**MIN 9kVA**
POWER CONSUMPTION	**MAX 7.2kW / STEADY STATE 6.5kW at 50Hz** **MAX 8.3kW / STEADY STATE 7.5kW at 60Hz**
FREQUENCY	**380/400/415V at 50Hz ± 3Hz, 480V at 60Hz ± 3Hz**

Power to Cryocooler Compressor must be removed when emergency off circuit is actuated.

CABLES

- Power and cable installation must comply with the distribution diagram.
- Size of the Main power input cable is determined by the customer, taking its length and admissible voltage drops into consideration.
- 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,Emergency Off Buttons,L...) will go to Main Panel with a pigtail length of 1.5m [60in], and will be connected during installation.
- Each conductor will be identified and isolated (screw connector).

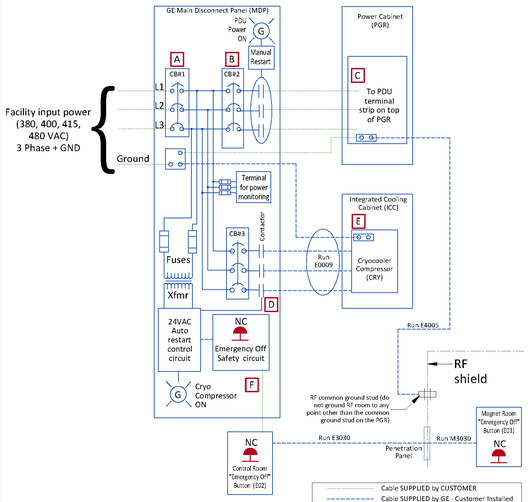
GROUND SYSTEM

- The equipotential link will be by means of an equipotential bar.
- The grounding point of MDP is directly connected to the building's ground by an isolated copper cable.
- The impedance of the earth bar should be less than or equal to 2 ohms.

GUIDANCE ON SLECTION OF FEEDER AND TRANSFORMER FOR MR SYSTEM			
	Direct feed from facility to MR system	MR system fed by dedicated facility distribution transformer	
Prerequisite Conditions			
MR System Incoming Voltage	480V 3-phase		
Minimum Source short-circuit kVA	7,900 kVA (at source of feeder to MDP)	8,325 kVA (at input to distribution transformer)	
Minimum No-Load Voltage	460V	475V (transformer secondary tapped accordingly)	
Feeder and Transformer Recommendations			
Dedicated Distribution Transformer Recommendations	N/A	Size: 225 kVA Impedance (Z): ≤5% K-Factor: ≥ K=20 200A overcurrent protection on secondary*	Size: 225 kVA Impedance (Z): ≤4% K-Factor: ≥ K=20 200A overcurrent protection on secondary*
Maximum Feeder Length*	280 ft	150 ft	240 ft
Feeder Size - 3-phase power conductors*	3/0 AWG Cu	3/0 AWG Cu	
Feeder Size - Ground (USA)*	6 AWG Cu (equipment grounding conductor)	4 AWG Cu (supply side bonding jumper) 6 AWG Cu (equipment grounding conductor)	
Feeder Size - Ground (Canada)*	6 AWG Cu (bonding conductor)	6 AWG Cu (bonding conductor)	

* NOTE: Recommendations shown apply only to cases defined exactly as shown in this table and when not in conflict with local electrical codes . For all other cases, refer to the local codes and the System Voltage Regulation Calculator located on the GE Healthcare Site Planning Website

POWER DISTRIBUTION



NOTES:

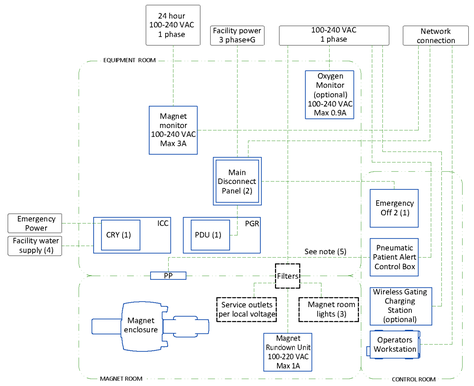
1) Cryocooler Compressor (CRY) must operate 24 hours per day, 7 days per week.
2) Runs E0009, E3030 and M3030 are GE supplied cables. All other wiring is customer supplied and installed.
3) Two remote Emergency Off Maintained Buttons are supplied with the MDP. Emergency Off removes power from all outputs when activated.
4) All MDP output circuits drop out on loss of power. the Cryocooler (CRY) circuit will automatically restart upon restoration of power.
5) MDP Short circuit current rating is 25,000 amperes at 480 VAC.
6) MDP is NRTL labeled.
7) All feeder circuits require dedicated ground wires.

CB	MDP
1	200 A
2	150 A
3	25 A

Accepts following range of standard stranded conductors. All wire types, color and sizing to be selected in accordance with governing electrical code(s).

GE MDP M7100ZA 380V-480V				
Item	Phase		Ground	
	sq mm	AWG/kcmil	sq mm	AWG/kcmil
A	6-120	10-250	16-120	6-250
B	10-120	8-250	35-120	2-250
C	2.5-70	14-2/0	2.5-70	14-2/0
D	2.5-4	14-10	2.5-16	14-10
E	2.5-6	14-10	2.5-6	14-10
F	0.5-10	22-10	-	-

FACILITY SUPPLIED WIRING



This diagram displays minimum power requirements for GE equipment and should be used as a guide to determine appropriate wire sizes per local regulatory requirements.

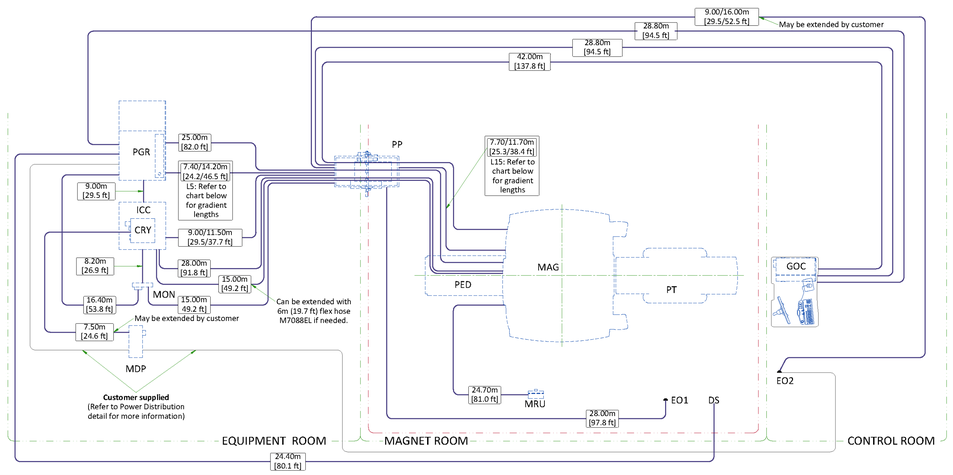
CRY	Cryocooler Compressor (Inside ICC)
ICC	Integrated Cooling Cabinet
PDU	Power Distribution Unit (inside PGR)
PGR	Power, Gradient, RF Cabinet
PP	Penetration Panel

Notes :

(1)	Refer to Power Distribution detail for more information
(2)	Size incoming wires from GE equipment according to conductor sizes listed on Power Distribution detail. A network connection must be provided near the MDP to support power quality monitoring.
(3)	Refer to Lighting Requirements detail
(4)	This group contains water lines which shall be routed separate from electrical lines (I.E. power and signal)
(5)	A cable is supplied by GE but may be extended if needed.

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

INTERCONNECTIONS



GRADIENT CABLE LENGTH OPTIONS

Length Identifier	Available lengths m (ft)	Proposed
L5 (Equipment Room)	3.7 (12.9)	-
	5.7 (18.7)	-
	7.7 (25.3)	-
	9.7 (31.8)	-
	11.7 (38.4)	-
	13.7 (45.0)	-
	15.7 (51.5)	-
L15 (Magnet Room)	4.6 (15.1)	-
	6.6 (21.6)	-
	8.6 (28.2)	-
	10.6 (34.7)	-
	12.6 (41.3)	-

CABLE ROUTING FOR ACCESSORIES

OPTION	FROM	TO	CABLE LENGTH m (ft)
Magnetic Resonance Elastography (MRE)	MRE	Magnet (Isocenter)	Nominal: 7.31 (24) Maximum: 10.06 (33)
	MRE	PP	15.24 (50)
	MRE	Ethernet Hub in PGR	15.24 (50)
	MRE	Customer Supplied Outlet	60Hz: 6.10 (20) 50Hz: 7.62 (25)
Multi-Nuclear Spectroscopy (MNS)	MNS	PGR	9.85 (32.3)
	MNS	PGR	7.85 (25.7)/14 (45.9)
	PP	PGR	8.2 (26.9)/14.35 (47)
Brainwave (BW)	BW	PP	18.3 (60)

GENERAL NOTE: PMI must validate proposed selectables and send confirmation to OTR. Refer to MyProjects if Proposed field is blank.
GOLDSEAL/SILVER PREFERRED NOTE: Cable lengths listed may differ from what is shipped with the system. Contact the Goldseal group for actual lengths to be delivered.
ROOM MOVE NOTE: Cable lengths listed may differ from what is included with reinstalled system. Contact the local field engineer for actual lengths to be delivered.

Order Configuration Options

Configuration	Equipment Room - site option	Magnet Room - site option	Proposed
A	Short	Short	-
B	Long	Short	-
C	Short	Long	-

CROMWELL
1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CROMWELL ARCHITECTS ENGINEERS C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS
10-18-2024

Notes

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title

MRI GENERAL INFORMATION

Sheet Number

GI114

BRADEN SHIELDING SYSTEMS
9260 Broken Arrow Expressway, Tulsa, OK. 74145
Main Phone: (918) 624-2888, Fax: (918) 624-2886
Website: www.bradenshielding.com
Email: info@bradenshielding.com

R.F. SHIELDED ENCLOSURE DRAWINGS

FOR

TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T

PROJECT : "RF" ENCLOSURE

CUSTOMER :

SITE LOCATION : ADDRESS
CITY, ST, ZIP

FINAL INSTALLATION

GE PROJECT NO. _____ REV. __ DATED: __

GE SITE PLANNING GUIDE 5670001 REV. __

GE PROJECT MANAGER:
PHONE NO. ___ ___ _____

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME=BRMB1]

GENERAL NOTES

1. All overall dimensions shown are to the exterior of walls and (or) ceiling.
2. The enclosure assembly site must be clean, dry, free of obstructions and covered. All metallic surfaces such as conduits, ducts and pipes that may make contact to the erected enclosure must be isolated or removed. The floor surface on which the enclosure will rest must be clean, free of irregularities, smooth and level to within 1/8 inch in 10 feet.
3. To achieve a flush floor elevation that is level with the finish floor of the adjacent room or hallway, the slab should be recessed 1". If there is no recess, a ramp must be supplied by others.
4. The RF enclosure ceiling system is typically supported by parent room overhead construction with the use of dielectrically isolated, adjustable hangers. The RF ceiling loads are approximately 6 lbs. per sq. ft. exclusive of interior suspended ceilings, lighting and ductwork. It is the responsibility of the owner to insure that the overhead construction will adequately support the RF enclosure ceiling.
5. Braden will furnish suspended ceiling clips in the form of 1/4" – 20 x 3/4" inside diameter eye bolts, on a grid of 4'–0" x 4'–0" for the entire ceiling, non–seismic.
6. The clearance between the RF enclosure and the parent room walls is 2" min (4" on outswing door walls). The clearance between the RF enclosure and the parent room ceiling is 4" min. This allows adequate clearance for wall stiffeners and also insures against grounding. All RF enclosures shall have no physical contact between shielding materials and building constructions.
7. Customer or contractor must provide clean, dry staging area for lay–out and storage of RF room components as close to the location of the RF enclosure area as possible.
8. Isocenter location shall not be determined by Braden.
9. Contractor / owner to provide adequate trash container(s) for the disposal of expendable material from the enclosure installation and removal from site.
10. Installation crews will require a minimum of two 110 vac, 20 amp service connections for drop cords.
11. It will not be the responsibility of Braden to provide any finished flooring.
12. Braden guarantees to maintain isolation from ground (1000 ohms) until the qualification test is completed. It will be the contractor's responsibility to maintain ground isolation through interior finish completion and magnet vendor equipment delivery.

ENCLOSURE INTEGRITY

Once installation crew(s) have vacated the site, it will be the responsibility of the customer to maintain the integrity of the enclosure. Enclosure integrity shall consist of, but not limited to:

1. Maintaining parent room and the enclosure free of any water or moisture incursion.
2. Allow no unauthorized or non–approved connections or attachments to the enclosure.
3. Ensure that no penetrations of the enclosure occur. If the enclosure is inadvertently penetrated, contact Braden so that remedial repairs can be undertaken.
4. Ensure that painters, drywallers, flooring installers, and etc. do not contaminate RF window screens with; paint, varnish, floor mastic, spackling or other finishing products. Should this occur, contact Braden so that remedial repairs can be undertaken.
5. RF preformance: @ 100db / 450w per IEEE Std. 299–2006
   a. 63.86 MHz +/– 0.5 MHz
   b. 51.00 +/– 0.5 MHz
   c. 76.60 +/– 0.5 MHz

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MEDICAL, RF Only]
[MSTRNAME=BRMB2]
[FILENAME=]

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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2					4				

CUST'S P.O. NO.
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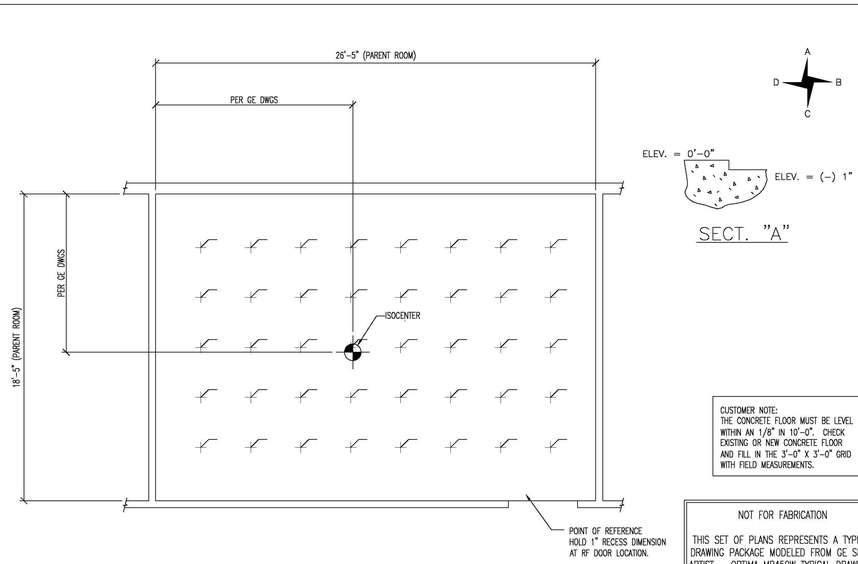
BRADEN SHIELDING SYSTEMS
9260 Broken Arrow Expressway, Tulsa, OK. 74145
(918) 624-2888 Phone, (918) 624-2886 Fax

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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :

SCALE: 1"–0" = 1'–0"
SHEET NUMBER G01 OF REV.
JOB NUMBER 0

REFER TO PROJECT MANUAL FOR CT SHIELDING REPORT



RECOMMENDED CONCRETE RECESS PLAN
(PLAN VIEW)

CUSTOMER NOTE:
THE CONCRETE FLOOR MUST BE LEVEL WITHIN AN 1/8" IN 10'–0". CHECK EXISTING OR NEW CONCRETE FLOOR AND FILL IN THE 3'–0" X 3'–0" GRID WITH FIELD MEASUREMENTS.

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[FILENAME=]

BRADEN SHIELDING SYSTEMS
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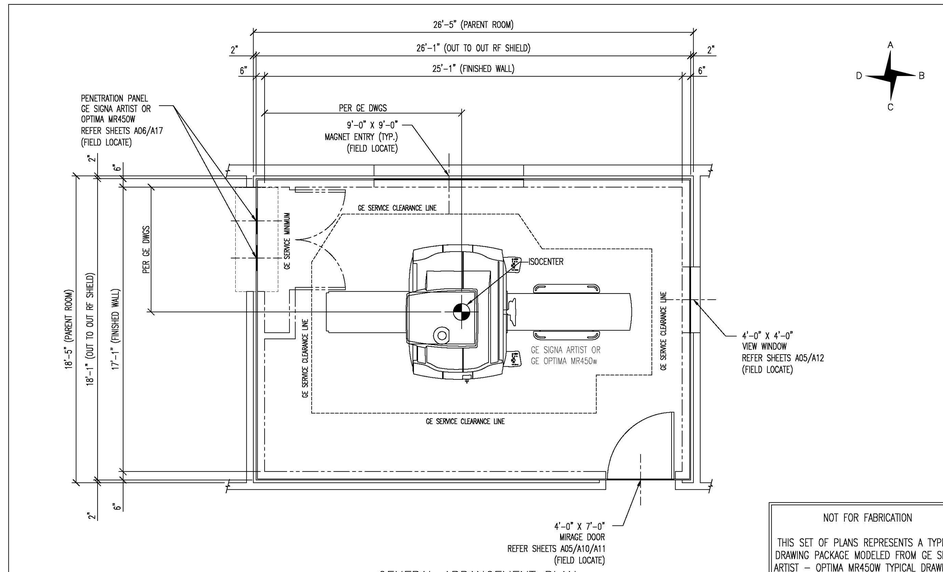
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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :

SCALE: 1/4" = 1'–0"
SHEET NUMBER F01 OF REV.
JOB NUMBER 0

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
1					3				
2					4				

CUST'S P.O. NO.
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GENERAL ARRANGEMENT PLAN
(PLAN VIEW)

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[FILENAME=]

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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :

SCALE: 1/4" = 1'–0"
SHEET NUMBER A01 OF REV.
JOB NUMBER 0

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
1					3				
2					4				

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

ARCHITECTS ENGINEERS C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS
10-18-2024

Notes

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Project Number **2024-101**

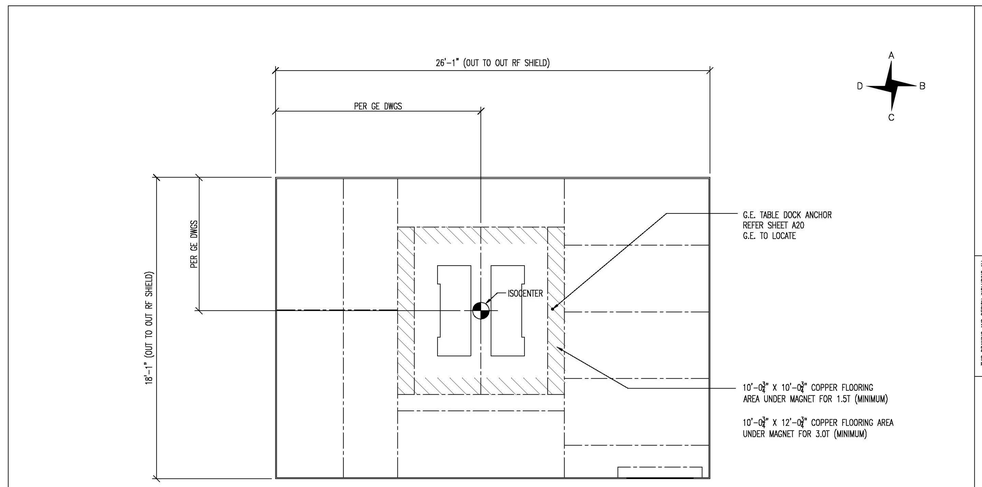
Issue Date **10-18-2024**

Sheet Title

MRI SHIELDING REPORT

Sheet Number

G1115



RF FLOOR PLAN
(PLAN VIEW)

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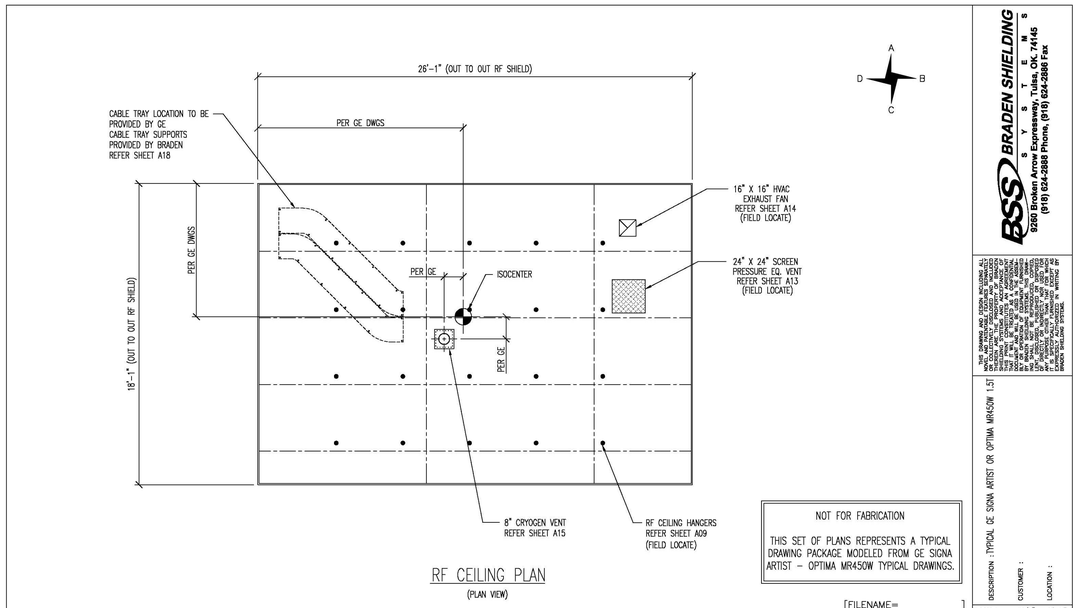
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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 1/4" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
1					3				
2					4				

CUST'S P.O. NO.
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SHEET NUMBER A02 OF
JOB NUMBER
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RF CEILING PLAN
(PLAN VIEW)

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[FILENAME=]

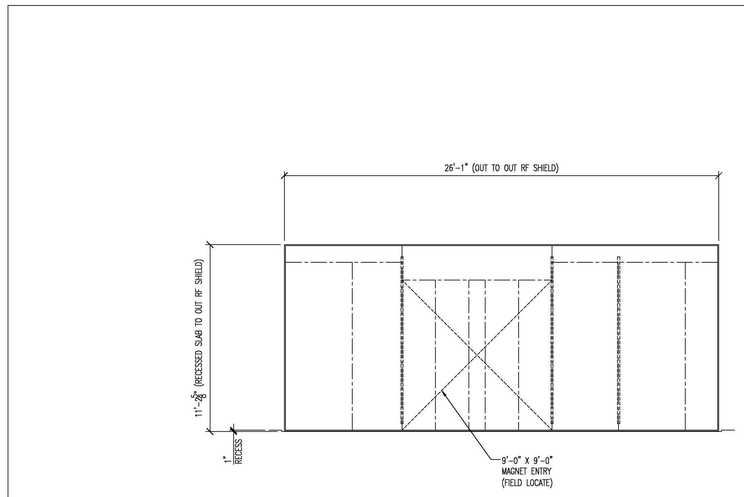
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CUSTOMER :
LOCATION :
SCALE: 1/4" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
1					3				
2					4				

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SHEET NUMBER A03 OF
JOB NUMBER
REV. 0



RF "A" WALL INTERIOR ELEVATION
(LOOKING FROM INSIDE)

NOT FOR FABRICATION

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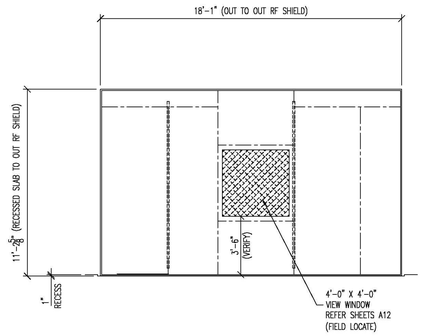
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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 1/4" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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2					4				

CUST'S P.O. NO.
DRAWN BY THS 10/14/19
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SHEET NUMBER A04 OF
JOB NUMBER
REV. 0



RF "B" WALL INTERIOR ELEVATION
(LOOKING FROM INSIDE)

NOT FOR FABRICATION

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[FILENAME=]

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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 1/4" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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2					4				

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CROMWELL ARCHITECTS ENGINEERS INC. C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS
10-18-2024

Notes

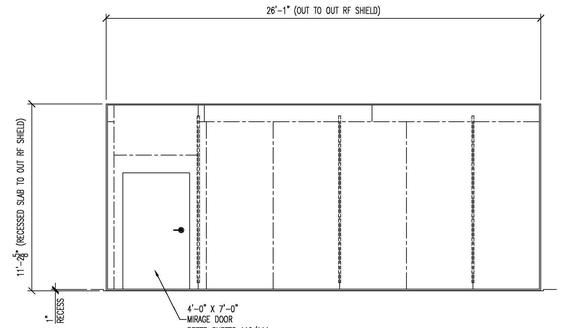
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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **MRI SHIELDING REPORT**

Sheet Number **GI116**



RF "C" WALL INTERIOR ELEVATION

(LOOKING FROM INSIDE)

NOT FOR FABRICATION

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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T

CUSTOMER :

LOCATION :

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

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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CUST'S P.O. NO.

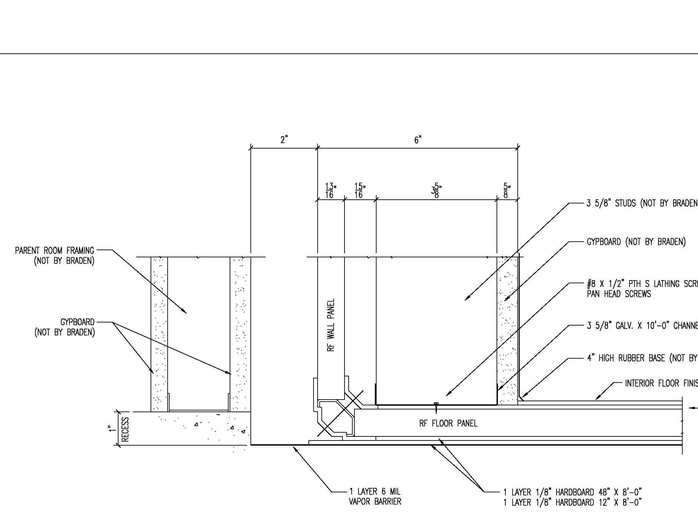
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REV. 0

JOB NUMBER



FRAMING AND TRIMMING
WITH 3 5/8" STUDS (2 1/2" & 1 5/8" OPTIONAL)

FLOOR & CEILING SIMILAR

[MSTRNAME=BRMC18]

[FILENAME=]

NOT FOR FABRICATION

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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T

CUSTOMER :

LOCATION :

SCALE: 6" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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CUST'S P.O. NO.

DRAWN BY THS 10/14/19

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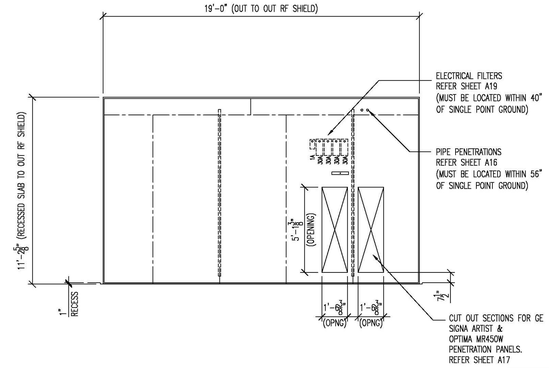
SHEET NUMBER A08 OF

REV. 0

JOB NUMBER

CUSTOMER AND INSTALLER NOTE:

PER G.E. REQUIRED SPECIFICATIONS, ELECTRICAL FILTERS MUST BE INSTALLED WITHIN 40" OF GROUND STUD, PIPE PENETRATIONS WITHIN 56" OF GROUND STUD. CHANGES REQUIRE WRITTEN AUTHORIZATION FROM G.E. TO THE CUSTOMER AND BRADEN.



RF "D" WALL INTERIOR ELEVATION

(LOOKING FROM INSIDE)

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[FILENAME=]

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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T

CUSTOMER :

LOCATION :

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

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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CUST'S P.O. NO.

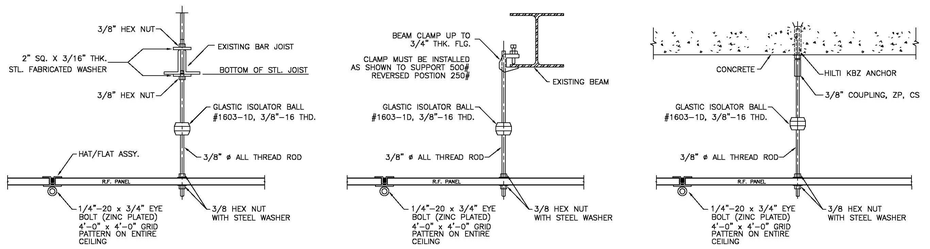
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REV. 0

JOB NUMBER



STRUCTURAL CEILING SUPPORT
ATTACHMENT TO BUILDING CONSTRUCTION

(TYPICAL 0 PLACES)

(PART. NO. QUANTITIES ARE TOTAL REQUIRED)

SELF SUPPORTING OPTION ALSO AVAILABLE

[MSTRNAME= BRMC3]

[FILENAME=]

NOT FOR FABRICATION

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BRADEN SHIELDING SYSTEMS
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(918) 624-2888 Phone, (918) 624-2886 Fax

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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T

CUSTOMER :

LOCATION :

SCALE: 3" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
1				
2				
3				
4				

CUST'S P.O. NO.

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SHEET NUMBER A09 OF

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JOB NUMBER

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501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

ARKANSAS STATE BOARD OF ARCHITECTS, ENGINEERS & INTERIOR DESIGNERS — C-98 REGISTERED ARCHITECTS — ARKANSAS

REGISTERED ARCHITECT — WILLIAM T. MOORE — 2773 — ARKANSAS

10-18-2024

Notes

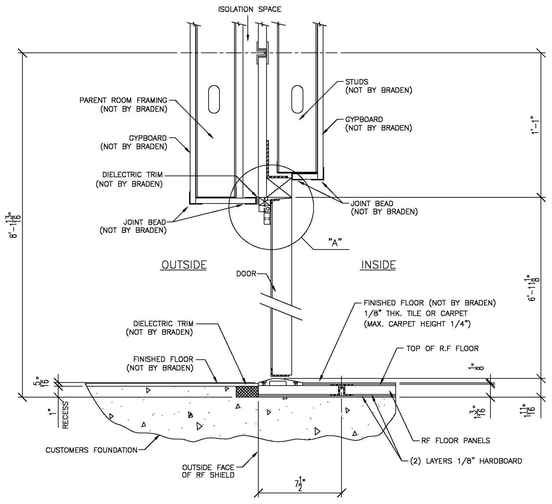
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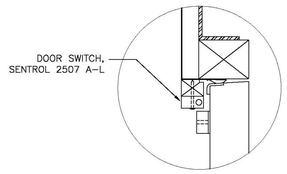
Issue Date **10-18-2024**

Sheet Title **MRI SHIELDING REPORT**

Sheet Number **GI117**



VERTICAL DOOR SECTION



DETAIL "A"

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME= BRMB4]
[FILENAME=]

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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 2" = 1'-0"

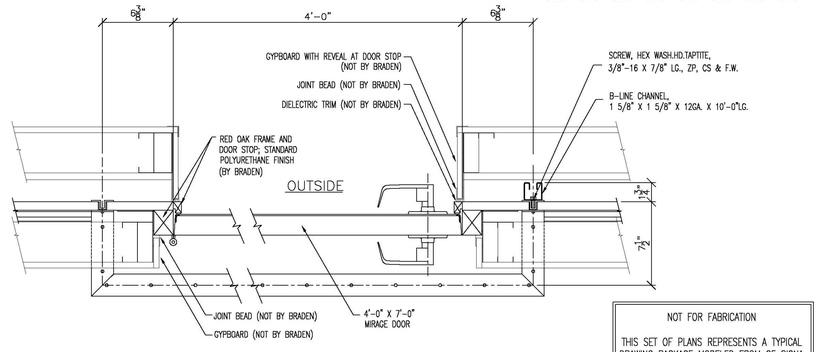
REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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2				
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4				

CUST'S P.O. NO.
DRAWN BY THS 10/28/19
CHECKED BY
SHEET NUMBER A10 OF
REV. 0
JOB NUMBER

QUANTITY	ONE
TYPE	MIRAGE
SIZE	4'-0" X 7'-0"
HAND / SWING	RIGHT HAND / INSWING
PLASTIC LAMINATE	FORMICA "FINNISH OAK" #118-58
LIMIT SWITCH	YES
LOCKSET	SCHLAGE CLASSROOM FUNCTION
VISION LITE	NO
SILL TYPE	FLUSH
CUSTOMERS ROUGH OPENING	4'-6" X 7'-4" (4'-0" X 7'-0" DOOR ONLY)

IMPORTANT CUSTOMER NOTE:

CUSTOMER OR ARCHITECT TO VERIFY DOOR LAMINATE. BRADEN'S STANDARD LAMINATE IS "FORMICA 118-58, FINNISH OAK", OTHER LAMINATES MAY BE SUBSITUTED FOR WILSONART OR FORMICA.



HORIZONTAL DOOR SECTION

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

FLUSH SILL
[MSTRNAME= BRME4]
[FILENAME=]

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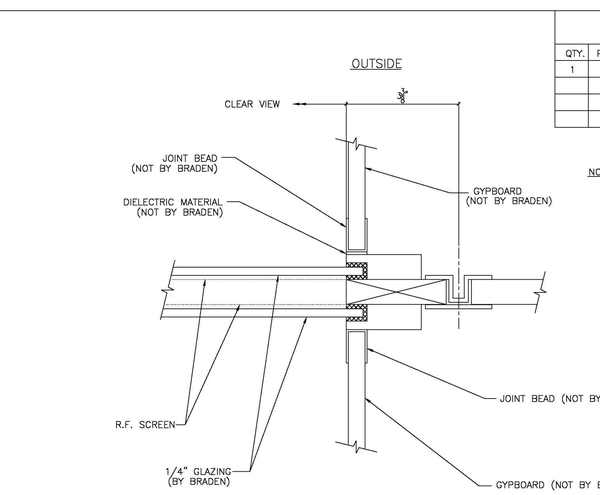
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CUSTOMER :
LOCATION :
SCALE: 2" = 1'-0"

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REV. 0
JOB NUMBER



WINDOW SCHEDULE

QTY.	PART NUMBER	DESCRIPTION
1		4'-0" X 4'-0" CLEARVIEW, GLAZING BY BRADEN

NOTE: EXTERNAL DIELECTRIC ISOLATION MATERIAL IS NOT FURNISHED OR INSTALLED BY BRADEN.

VIEW WINDOW SECTION

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME= BRMB14]
[FILENAME=]

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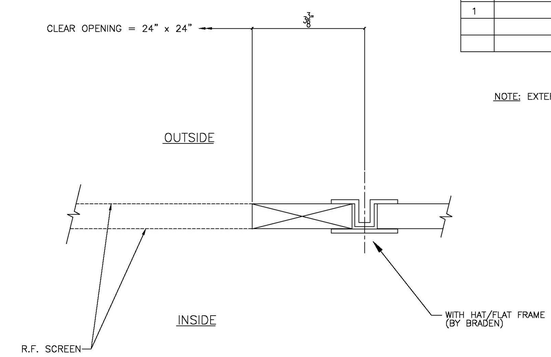
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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 6" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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JOB NUMBER



WINDOW SCHEDULE

QTY.	PART NUMBER	DESCRIPTION
1		24" x 24" PRESSURE RELIEF VENT

NOTE: EXTERNAL DIELECTRIC ISOLATION MATERIAL IS NOT REQUIRED

24" X 24" PRESSURE RELIEF VENT (PRV)

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME= BRMB14]
[FILENAME=]

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LOCATION :
SCALE: 6" = 1'-0"

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JOB NUMBER

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501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

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Project Number **2024-101**

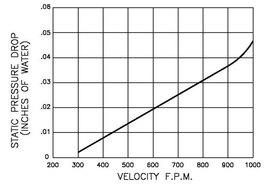
Issue Date **10-18-2024**

Sheet Title

MRI SHIELDING REPORT

Sheet Number

GI118



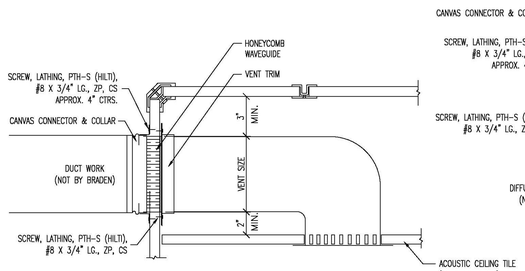
Quan.	Product Number	Size (Width x Height)
	SUPPLY	
	RETURN	
	EXHAUST	

NOTE: BRADEN TO PROVIDE HONEYCOMB VENT WAVEGUIDE MATERIAL AT ALL HVAC PENETRATIONS.

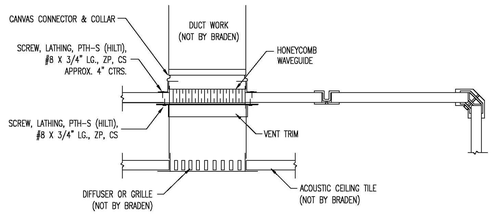
ALL HVAC PENETRATIONS MUST BE EITHER SQUARE OR RECTANGULAR.

BRADEN TO PROVIDE DIELECTRIC CONNECTOR COLLAR MATERIAL FOR EXTERIOR SIDE OF WAVEGUIDE (NOT INSTALLED BY BRADEN).

SIZE AND QUANTITY OF DUCT PENETRATIONS
SQUARE OF RECTANGLE ONLY.



W.G. VENT AT WALL PENETRATION



W.G. VENT AT CEILING PENETRATION

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME= BRME7]
[MEDICAL] [FILENAME=]

WAVEGUIDE VENT (HVAC)

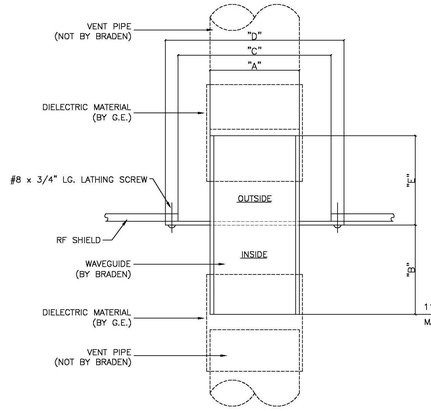
BRADEN SHIELDING SYSTEMS
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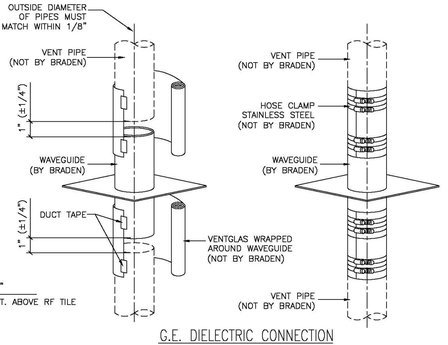
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DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 1"–0" = 1"–0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
1					3				
2					4				

CUST'S P.O. NO.
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SHEET NUMBER A14 OF
JOB NUMBER
REV. 0





G.E. DIELECTRIC CONNECTION

VENTGLAS TO BE INSTALLED BY MECHANICAL SUBCONTRACTOR.

SUPPLY / VENT WAVEGUIDE PENETRATION

QUAN.	WAVEGUIDE PART NO.	NOMINAL SIZE	A	B	C	D	E
0		6" DIA.	6 1/4"	9"	8 1/4"	12"	9"
0		8" DIA.	8"	12"	10 1/4"	14"	12"
0		12" DIA.	12"	19 3/4"	13 1/2"	17 1/4"	19 3/4"
0		10" DIA.	10"	15"	11 1/2"	15 1/4"	15"

IMPORTANT NOTE:

THE CRYOGEN VENT LENGTH IS BASED ON A G.E. REQUIREMENT FROM FINISHED FLOOR. BEFORE ANY SHIELD HEIGHT ADJUSTMENTS ARE MADE PLEASE BE AWARE OF THE IMPLICATIONS.

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME= BRMI10]
[FILENAME=]

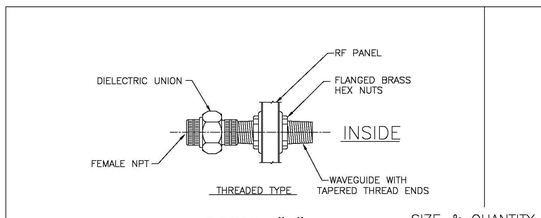
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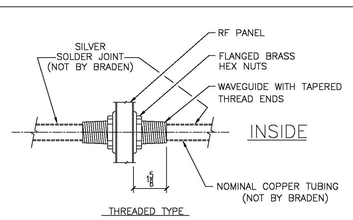
DESCRIPTION : TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 2" = 1"–0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE	REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
1					3				
2					4				

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SHEET NUMBER A15 OF
JOB NUMBER
REV. 0



DETAIL "A"



DETAIL "B"

SIZE & QUANTITY OF PLUMBING & MEDICAL GAS PENETRATIONS.

CUSTOMER NOTE:
IF A PRE-ACTION SPRINKLER SYSTEM IS USED THE PENETRATIONS CAN BE LOCATED ANYWHERE IN THE RF SHIELD. IF A WET PIPE SYSTEMS USED THE PENETRATIONS IN THE RF SHIELD MUST BE LOCATED NEAR THE MRI VENDOR PENETRATION PANEL.

CUSTOMER NOTE:
MEDICAL GAS LINES INSTALLED PER DETAIL "B" WILL GROUND THE RF SHIELD. IT IS RECOMMENDED THAT THE MEDICAL PENETRATIONS BE INSTALLED IN THE VICINITY OF THE MRI VENDOR PENETRATION PANEL. PLEASE REFER TO MRI VENDOR DRAWINGS FOR SPECIFIC LOCATION.

IF LOCAL CODES PERMIT A DIELECTRIC UNION TO BE INSTALLED ON THE MEDICAL PENETRATION THEN REFER TO DETAIL "A".

QUAN.	REFERENCE DETAIL	WAVEGUIDE PART NO.	DIELECTRIC PART NO.	WAVEGUIDE NOMINAL PIPE SIZE	NOMINAL COPPER TUBING SIZE	LENGTH (W/O UNION)	USE
	A			1/2" SCH.40	N/A	4"	
	A			3/4" SCH.40	N/A	4"	
	A			1" SCH.40	N/A	4"	
	A			1 1/4" SCH.40	N/A	4 1/2"	
	A			1 1/2" SCH.40	N/A	5"	SPRINKLER
	A			2" SCH.40	N/A	6"	
	B			3/4" SCH.80 – .742 ID	1/2" – .625 OD	4"	O_2, MA, NO_x
	B			1" SCH.80 – .957 ID	3/4" – .875 OD	4"	MV , WAGD

WAVEGUIDE MECHANICAL PENETRATION

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME: BRMD9]
[FILENAME=]

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CUSTOMER :
LOCATION :
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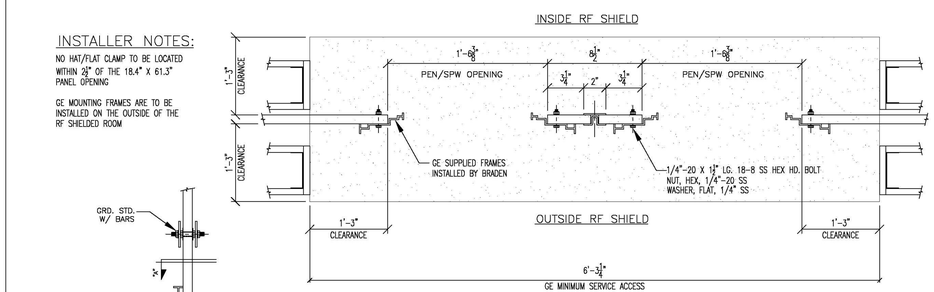
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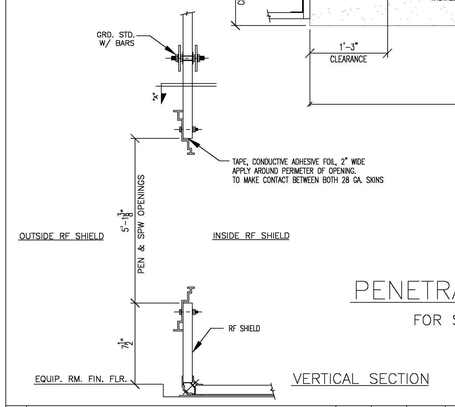
INSTALLER NOTES:

NO HAT/FLAT CLAMP TO BE LOCATED WITHIN 2½" OF THE 18.4" X 61.3" PANEL OPENING

GE MOUNTING FRAMES ARE TO BE INSTALLED ON THE OUTSIDE OF THE RF SHIELDED ROOM



HORIZONTAL SECTION



PENETRATION PANEL SECTIONS

FOR SIGNA ARTIST OR OPTIMA MR450W

VERTICAL SECTION

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME= BRMB19]
[FILENAME=]

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CROMWELL
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501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

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10-18-2024

Notes

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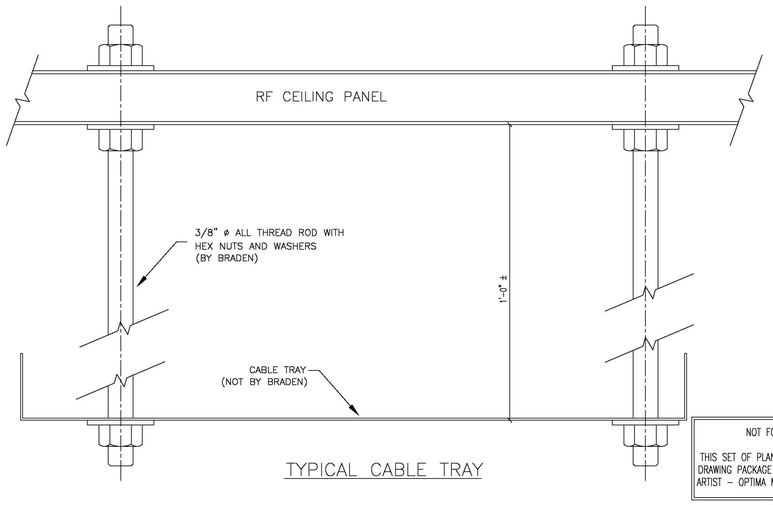
Issue Date **10-18-2024**

Sheet Title

MRI SHIELDING REPORT

Sheet Number

GI119



TYPICAL CABLE TRAY

NOT FOR FABRICATION

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[MSTRNAME= BRMC16]
[FILENAME=]

BRADEN SHIELDING SYSTEMS
9260 Broken Arrow Expressway, Tulsa, OK. 74145
(918) 624-2888 Phone, (918) 624-2886 Fax

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DESCRIPTION: TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 1'-0" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
1				
2				
3				
4				

CUST'S P.O. NO.
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SHEET NUMBER A18 OF
JOB NUMBER
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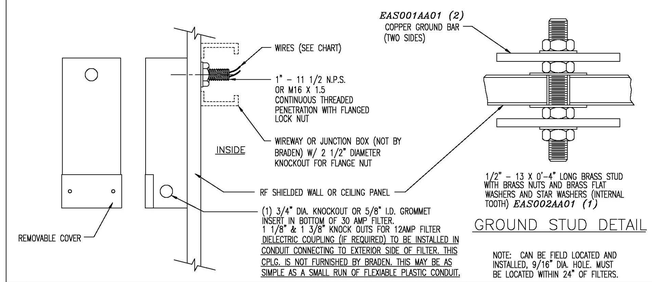
QUAN.	PART NO.	CURRENT RATING	FREQUENCY	MAXIMUM VOLTAGE	A	B	C	D	WIRE SIZE	TYPICAL USE	CONNECTOR TYPE
0	*EAC002AA24 (0)*	2 X 1A	0–60 HZ.	500 VDC *	6 1/8"	2 3/4"	1 15/16"	11/16"	4.5 LBS.	SMOKE DETECTOR, HUMIDISTAT	WIRE TERMINAL
0	*EAC002AA30 (0)*	4 X 1A	0–60 HZ.	500 VDC *	6 1/8"	4 5/16"	1 15/16"	11/16"	4.5 LBS.	THERMOSTAT, SMS EPO/UPS, LED DIM	WIRE TERMINAL
0	*EAC002AA31 (0)*	6 X 1A	0–60 HZ.	500 VDC *	6 1/8"	5 1/8"	1 15/16"	11/16"	4.5 LBS.	LED PWR (3 FIXTURE/FILTER)	WIRE TERMINAL
0	*EAC002AA32 (0)*	8 X .5A	0–60 HZ.	500 VDC *	8 7/16"	6 11/16"	2 3/8"	1"	4.5 LBS.	NURSE CALL, CODE BLUE, POE, VOIP	RJ45 MODULAR
0	*EAC002AA33 (0)*	CAT5 / 6	0–60 HZ.	N/A **	10 7/16"	3 15/16"	2 3/4"	7/8"	4.5 LBS.	ETHERNET 10BASE–T, 100BASE–T, 1000BASE–T	RJ45 MODULAR
0	*EAC002AA20 (0)*	2 X 30A	0–60 HZ.	277 VAC 600 VDC	12"	5"	3"	1 5/8"	U.L. LISTED #10 WIRE,	LIGHTING, OUTLETS, E.R.D., LED PWR	WIRE TERMINAL

QUAN.	PART NO.	DESCRIPTION
0	*EAS003AA01 (0)*	ELECTRIC FILTER WARNING STICKER (FOR FILTERS 30A AND ABOVE)

* THESE FILTERS ARE USED FOR AC OR DC APPLICATION UP TO AND INCLUDING 250 VAC/500 VDC
** THESE FILTERS REQUIRE 120VAC RECEPTACLE WITHIN 54" OF FILTER

NOTES:

1. DIELECTRIC COUPLING (IF REQUIRED) WILL BE INSTALLED IN CONDUITS CONNECTING TO FILTER , NOT FURNISHED OR INSTALLED BY BRADEN.



GROUND STUD DETAIL

NOTE: CAN BE FIELD LOCATED AND INSTALLED, 9/16" DIA. HOLE MUST BE LOCATED WITHIN 24" OF FILTERS.

FIELD INSTALLATION (ALL FILTERS)

1. FOR POWER FILTERS CUT A 1 5/16" DIA HOLE, FOR SIGNAL FILTERS 11/16" DIA HOLE.
2. DEBURR METAL AT HOLE CUT.
3. CLEAN PANEL SURFACES SURROUNDING HOLE
4. CLEAN FLANGED LOCK NUT , FLAT SURFACE
5. INSTALL FILTER WITH FLANGED LOCK NUT FLAT SURFACE AGAINST SHIELD.

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME= BRMD1]
[MEDICAL] [FILENAME=]

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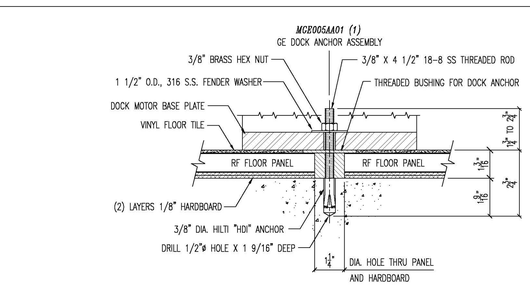
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CUSTOMER :
LOCATION :
SCALE: 1'-0" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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REV. 0



G.E. DOCK ANCHOR DETAIL
(1 REQUIRED)

NOTICE

THE EXACT LOCATION FOR INSTALLING THE MAGNET ANCHOR IS DETERMINED BY DIMENSIONAL FOOTPRINT DRAWINGS FOR THE MR EQUIPMENT TO BE INSTALLED. THE DESIGN CENTER GROUP AT GE HEALTH CARE WILL PROVIDE TO THE RF SHIELD ROOM VENDOR THE DIMENSIONAL DRAWING SHOWING ALL ANCHOR LOCATIONS.
THE DOCK ANCHORS SHALL BE INSTALLED AT THE ANCHOR LOCATION DETERMINED BY GE SERVICE USING THE DOCK ASSEMBLY ALIGNED TO THE MAGNET. RF SHIELD ROOM VENDOR IS RESPONSIBLE FOR INSTALLING THE TWO PART ANCHOR.

DOCK ANCHOR INSTALLATION:

1. INSTALL AFTER MAGNET DELIVERY
2. DRILL HOLE TO APPROXIMATE DEPTH INDICATED.
4. CLEAN HOLE WITH WIRE BRUSH AND SHOP VAC.
5. ANY UNDERLAYMENT REMOVED WITH THE HOLE SAW IN EXCESS OF THE NORMAL TWO LAYERS OF 1/8" HARDBOARD MUST BE RETURNED TO THE HOLE FOR PROPER BUSHING INSTALLATION.
6. SET ANCHOR THEN THREAD ROD FOLLOWED BY THE BUSHING. TIGHTEN BUSHING WITH SPANNER WRENCH.
7. TORQUE TEST 3/8" ANCHOR TO 18 Ft/Lbs.

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTRNAME= BRMJ6]
[FILENAME=]

GE SIGNA ARTIST OR OPTIMA MR450W
DOCK ANCHOR DETAIL

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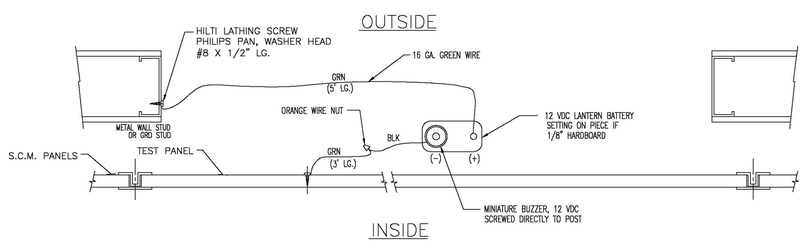
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DESCRIPTION: TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 1/2" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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GROUND ALARM HORIZONTAL SECTION

NOTICE

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THE DOCK ANCHORS SHALL BE INSTALLED AT THE ANCHOR LOCATION DETERMINED BY GE SERVICE USING THE DOCK ASSEMBLY ALIGNED TO THE MAGNET. RF SHIELD ROOM VENDOR IS RESPONSIBLE FOR INSTALLING THE TWO PART ANCHOR.

NOT FOR FABRICATION

THIS SET OF PLANS REPRESENTS A TYPICAL DRAWING PACKAGE MODELED FROM GE SIGNA ARTIST – OPTIMA MR450W TYPICAL DRAWINGS.

[MSTANAME = BRMI5]
[FILENAME=]

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DESCRIPTION: TYPICAL GE SIGNA ARTIST OR OPTIMA MR450W 1.5T
CUSTOMER :
LOCATION :
SCALE: 2" = 1'-0"

REV.	REVISION DESCRIPTION	MADE	CHECKED	DATE
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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp





Notes

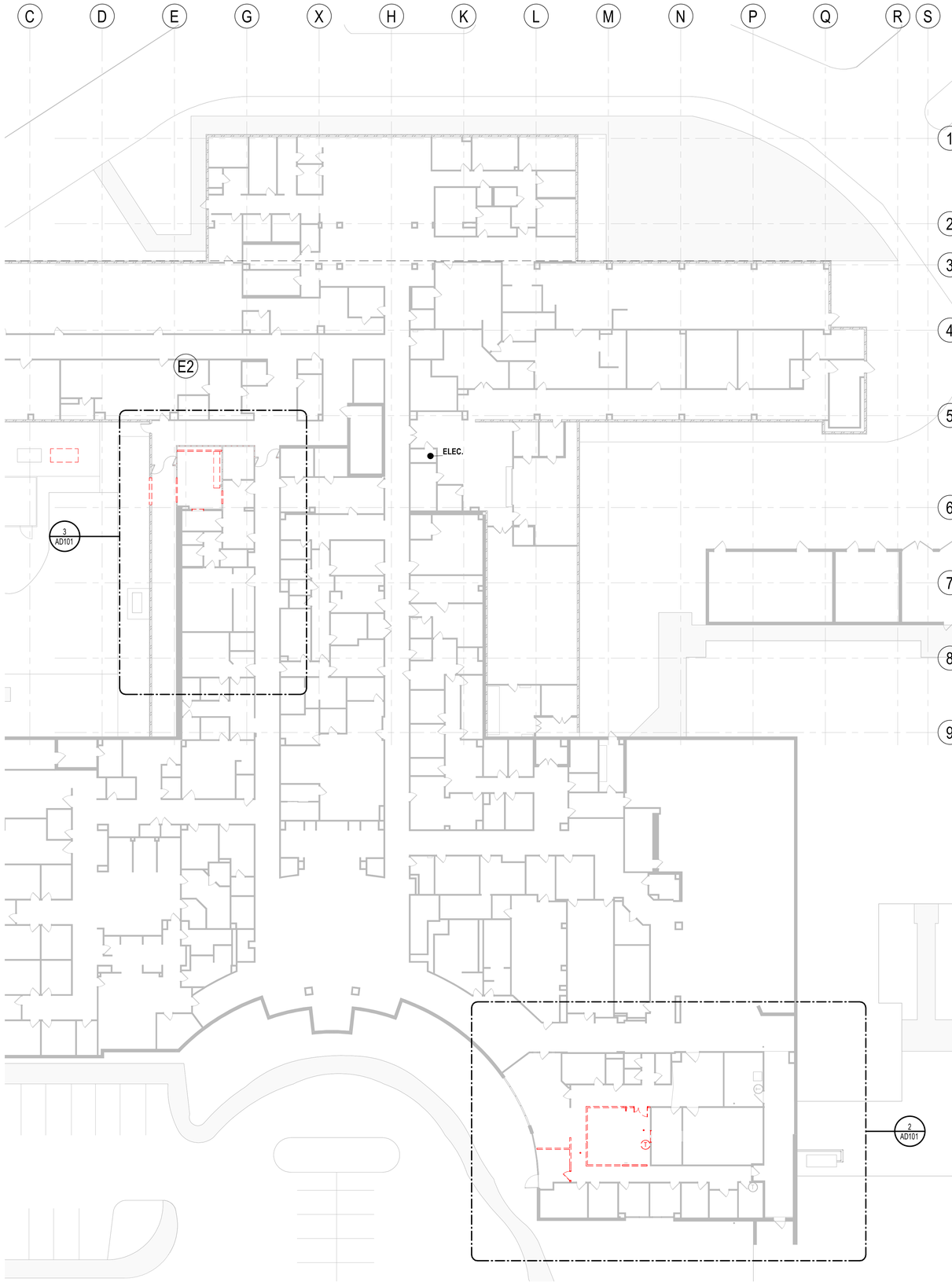
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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **MRI SHIELDING REPORT**

Sheet Number **GI120**



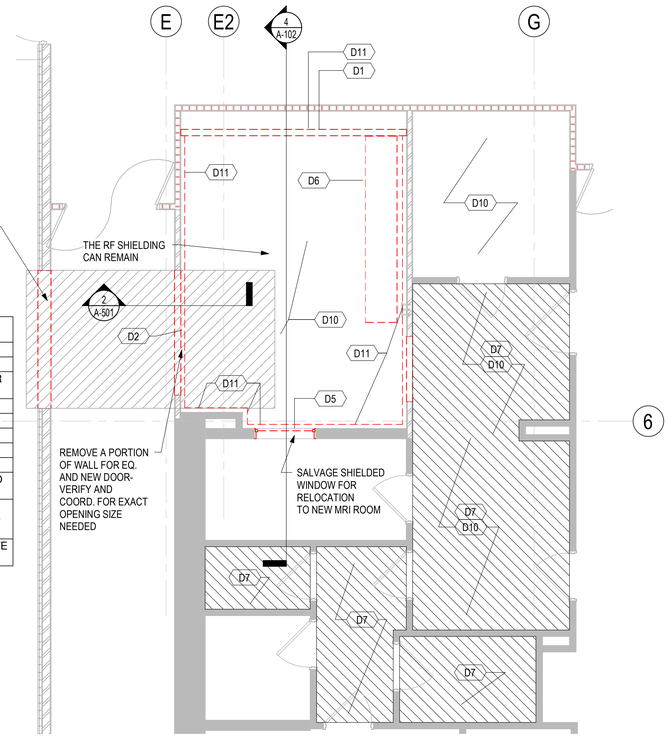
DEMOLITION KEY NOTES	
Key Value	Keynote Text
D1	REMOVE EXISTING WALL
D2	REMOVE A PORTION OF THE EXISITNG WALL FOR EQUIPMENT - REFER TO VENDOR DRAWINGS
D3	REMOVE EXISTING DOOR
D5	REMOVE EXISTING WINDOW
D6	REMOVE EXISTING MILLWORK
D7	REMOVE CARPET
D10	REMOVE CEILING
D11	REMOVE MRI SHIELDING WALL AND ALL RELATED COMPONENTS
D12	REMOVE A PORTION OF THE STOREFRONT FRAMING AND GLASS FOR EQUIPMET REMOVAL - REPLACE IN SAME LOCATION
D13	SAW CUT AND REMOVE A PORTION OF CONCRETE SLAB

REFER TO OTHER SHEETS FOR ADDITIONAL DEMOLITION INFORMATION

1 - FIRST LEVEL - OVERALL DEMOLITION PLAN

1/16" = 1'-0"

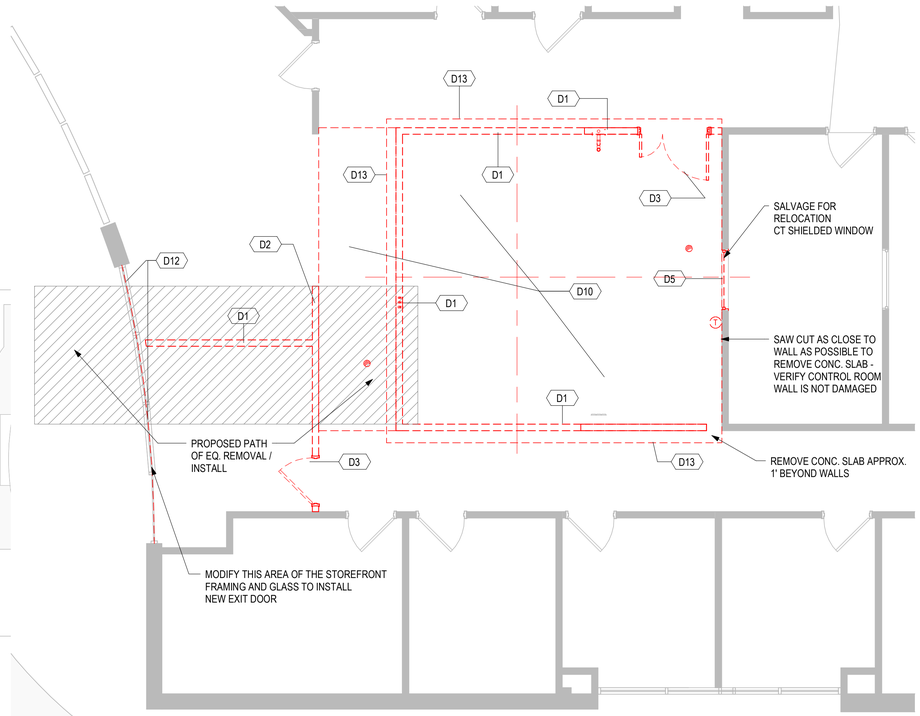
SCALE : 1/16" = 1'-0"



1 - FIRST LEVEL - DEMOLITION PLAN - EXISTING MRI AREA

1/4" = 1'-0"

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



1 - FIRST LEVEL - DEMOLITION PLAN - EXISTING CT AREA

1/4" = 1'-0"

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

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Project

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Sherwood, AR 72120

CHI St. Vincent

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Revisions

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ARCHITECTS ENGINEERS C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS

10-18-2024

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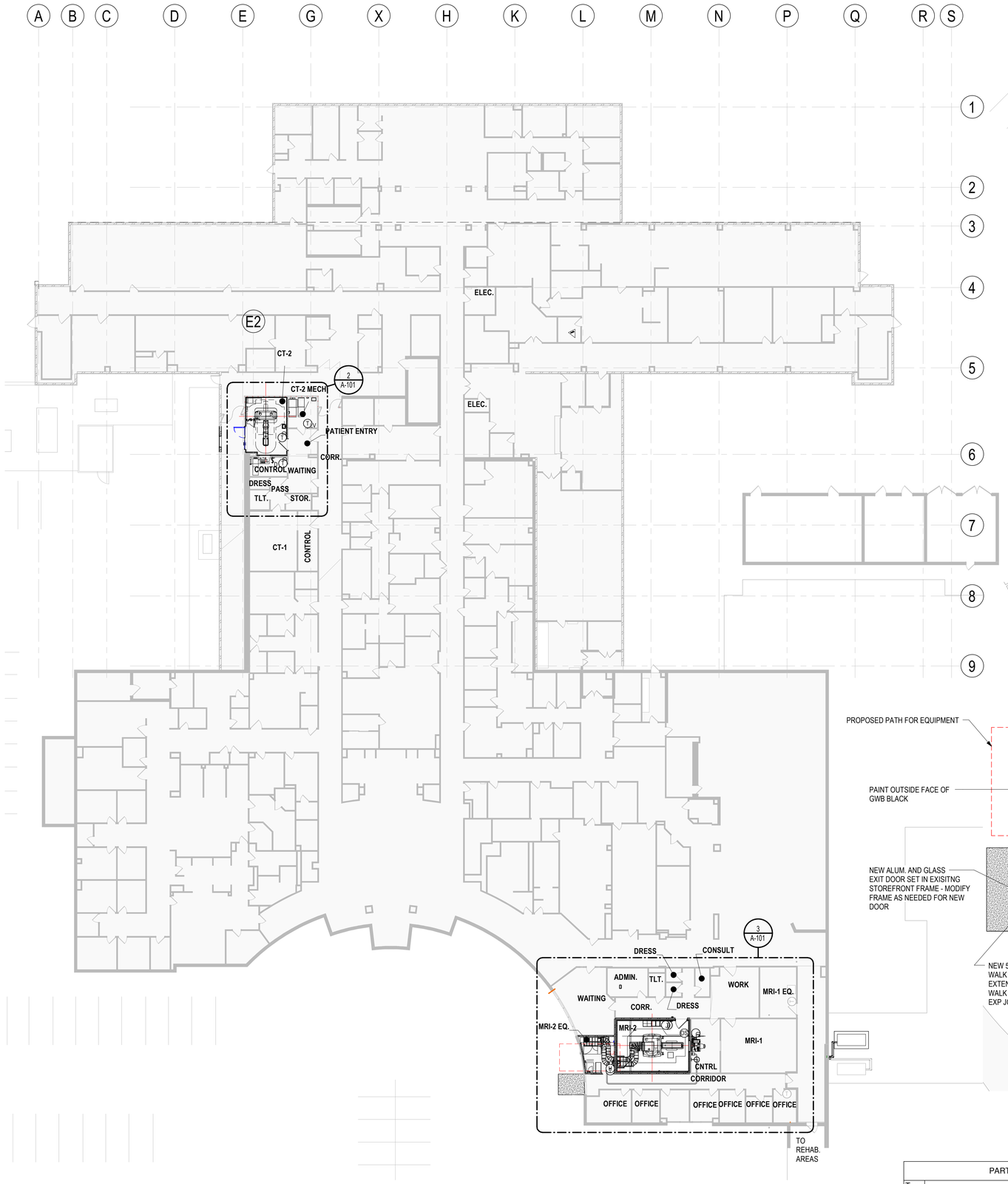
Issue Date 10-18-2024

Sheet Title

DEMOLITION PLANS

Sheet Number

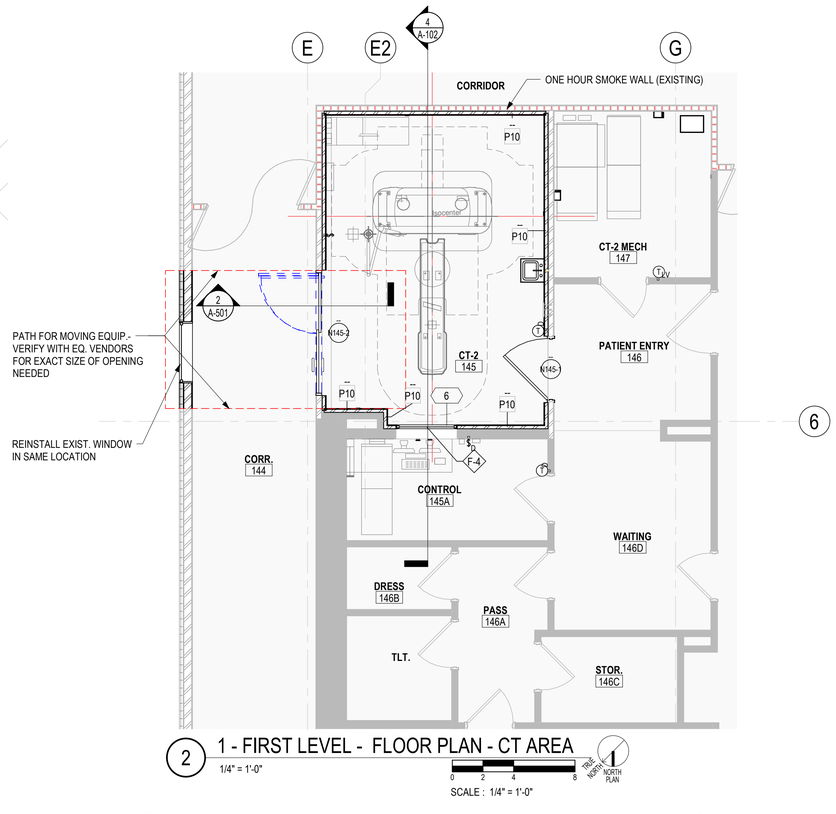
AD101



1 - FIRST LEVEL - OVERALL FLOOR PLAN

1/16" = 1'-0"

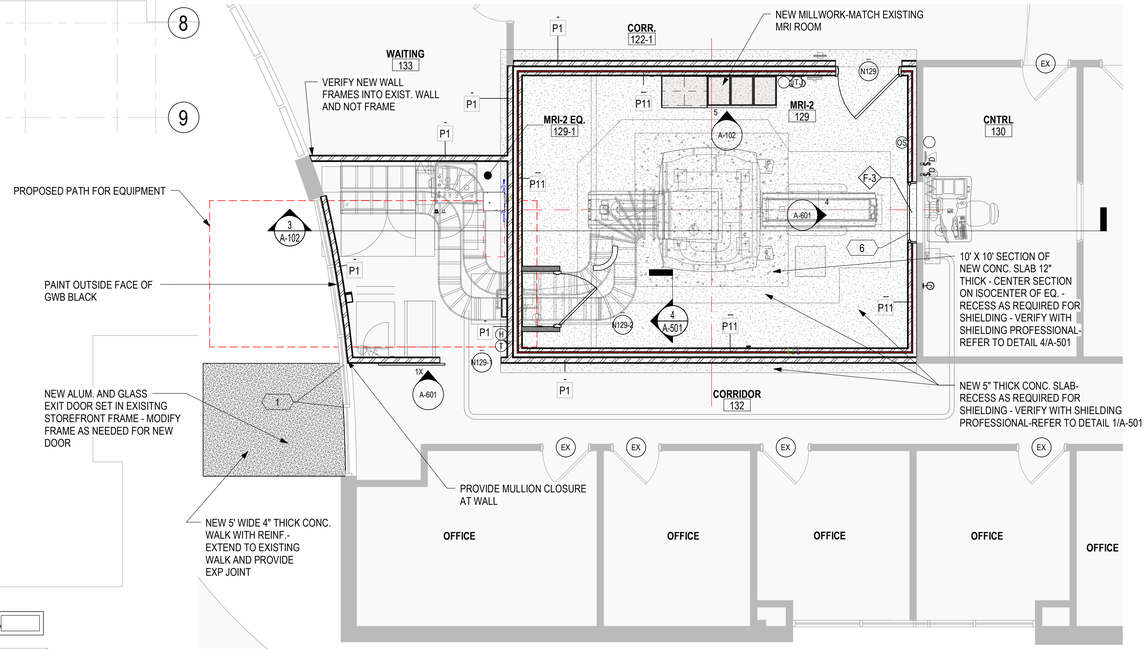
SCALE : 1/16" = 1'-0"



1 - FIRST LEVEL - FLOOR PLAN - CT AREA

1/4" = 1'-0"

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



1 - FIRST LEVEL - FLOOR PLAN - MRI AREA

1/4" = 1'-0"

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

PARTITION TYPES			
Type Mark	Description	Fire Rating	STC
P1	GYP. BD. ON 3-5/8" METAL STUD	-	SB
P10	LEAD-LINED GYP. BD. ON 2.5" METAL STUD-CT SHIELDING PER VENDOR	--	
P11	GYP. BD. ON 2.5" METAL STUD-RF SHIELDING PANELS PER VENDOR	--	--

KEY NOTES	
Key Value	Keynote Text
1	MODIFY EXISTING STOREFRONT FRAME TO ACCOMMODATE NEW EXIT DOOR
2	RESERVED
3	NEW CEILING
5	NEW SHIELDING PANELS
6	RELOCATED EXISTING WINDOW WITH SHIELDING PER VENDOR
01000	Division 01 - General Requirements

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Project

CHI St. Vincent North - **MRI and CT**

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CHI St. Vincent

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CONSTRUCTION DOCUMENTS

Revisions

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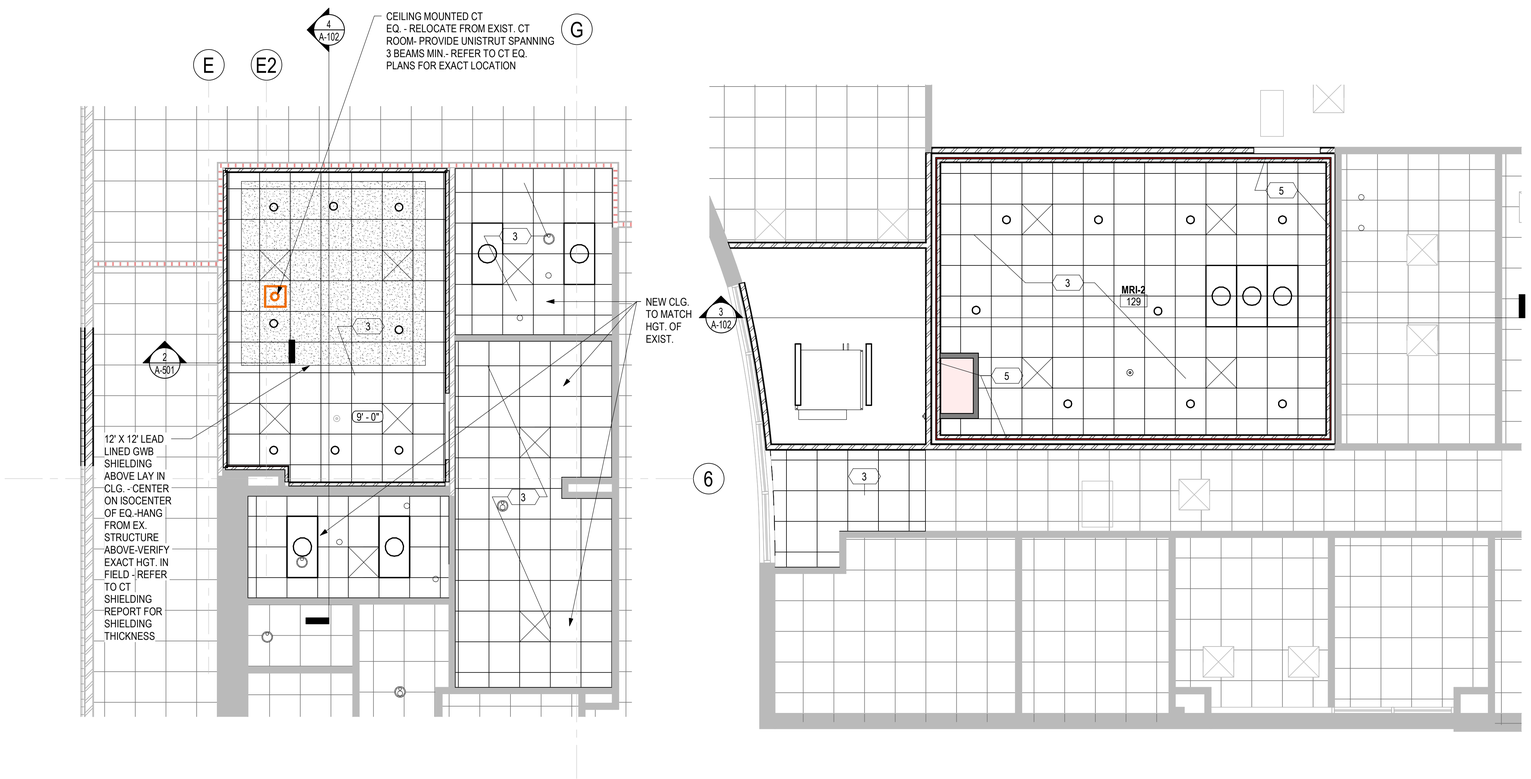
Issue Date 10-18-2024

Sheet Title

FIRST FLOOR PLAN

Sheet Number

A-101



1 - FIRST LEVEL REFLECTED CEILING PLAN - CT AREA

1/4" = 1'-0"

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

2 - 1 - FIRST LEVEL REFLECTED CEILING PLAN - MRI AREA

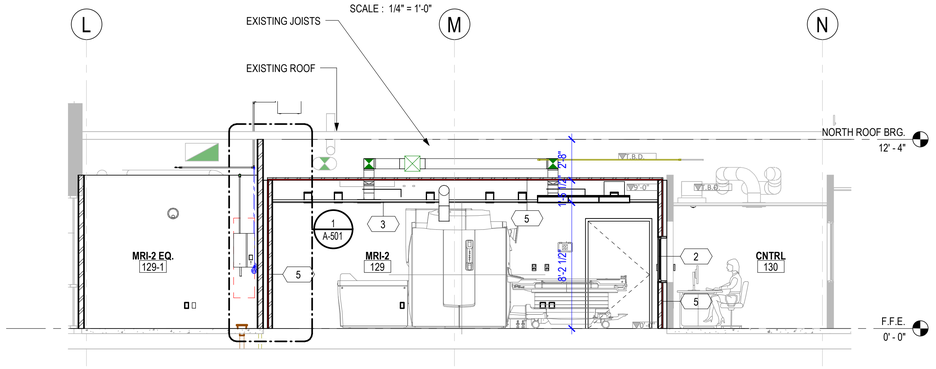
1/4" = 1'-0"

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

SYMBOLS LEGEND

- LAY-IN ACOUSTICAL CEILING GRID
- GYP. BOARD CEILING - FINISH AS SCHEDULED
- LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
- EMERGENCY LIGHT FIXTURE - SEE ELECTRICAL DRAWINGS
- EMERGENCY LIGHT FIXTURE W/BATTERY PACK - SEE ELECTRICAL DRAWINGS
- CEILING MOUNTED EXIT LIGHT
- SUPPLY AIR GRILLE
- RETURN AIR GRILLE

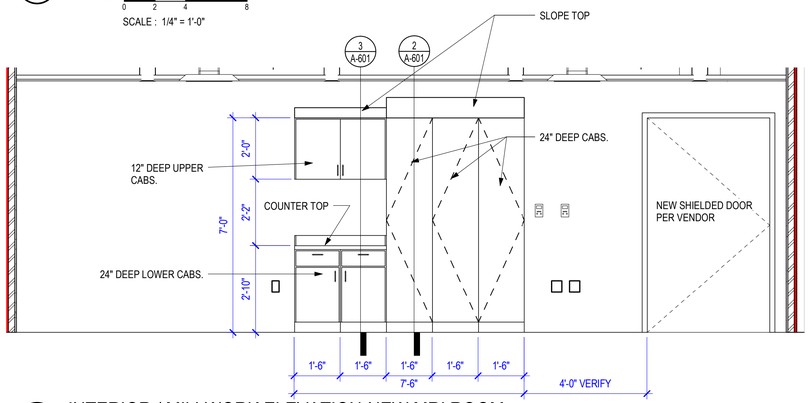
REFER TO LIFE SAFETY, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION NOT SHOWN.



3 - SECTION-NEW MRI

1/4" = 1'-0"

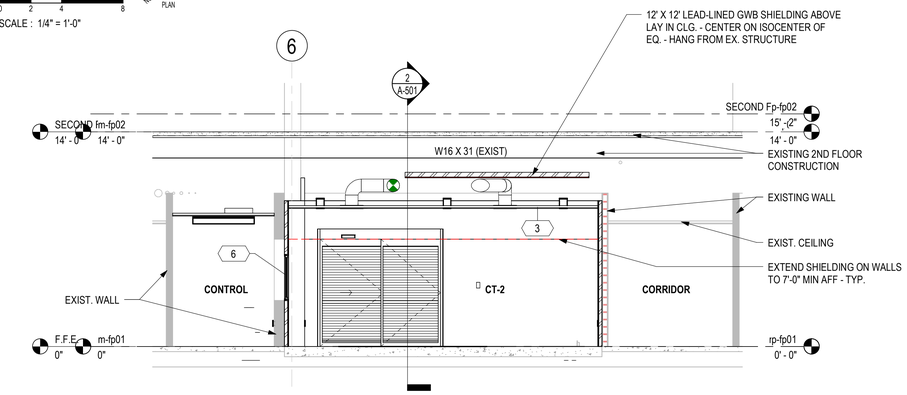
SCALE : 1/4" = 1'-0"



5 - INTERIOR / MILLWORK ELEVATION-NEW MRI ROOM

1/2" = 1'-0"

SCALE : 1/2" = 1'-0"



4 - SECTION - NEW CT

1/4" = 1'-0"

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

KEY NOTES	
Key Value	Keynote Text
1	MODIFY EXISTING STOREFRONT FRAME TO ACCOMMODATE NEW EXIT DOOR
2	RESERVED
3	NEW CEILING
5	NEW SHIELDING PANELS
6	RELOCATED EXISTING WINDOW WITH SHIELDING PER VENDOR
01000	Division 01 - General Requirements

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Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

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C-98 REGISTERED ARCHITECTS ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS

10-18-2024

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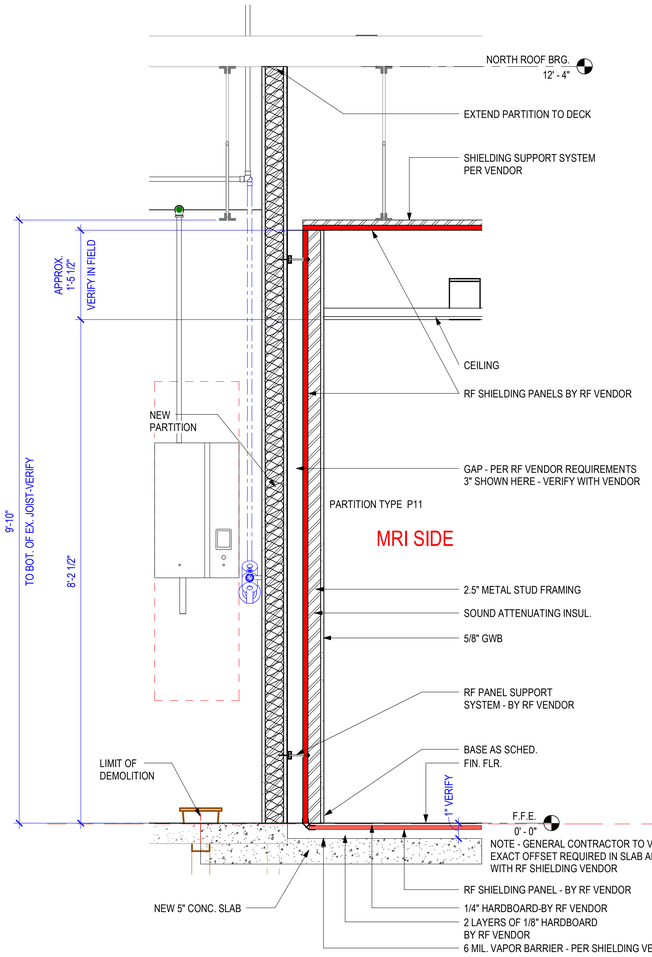
Issue Date **10-18-2024**

Sheet Title

REFLECTED CEILING PLANS AND SECTIONS

Sheet Number

A-102



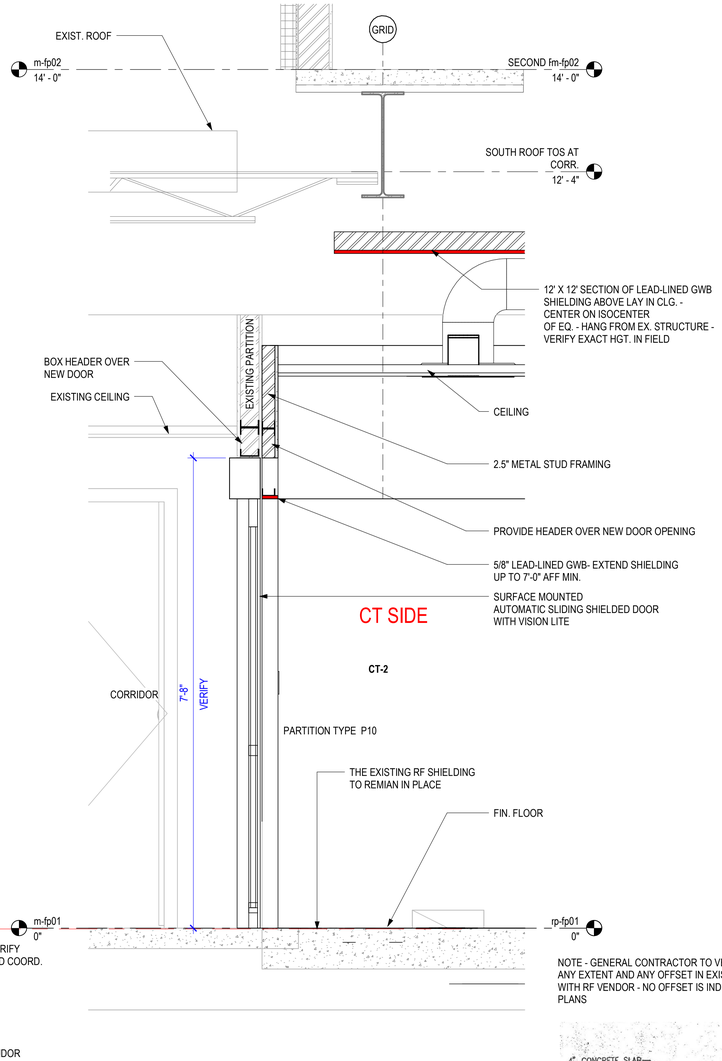
1 WALL SECTION-NEW MRI - P11

1" = 1'-0"

PARTITION TYPE P11/SB

SCALE : 1" = 1'-0"

REFER TO R.F. SHIELDED ENCLOSURE DOCUMETNS AS PROVIDED BY BRADEN SHIELDING SYSTEMS FOR MRI SHIELDING - PROVIDED FOR REFERENCE

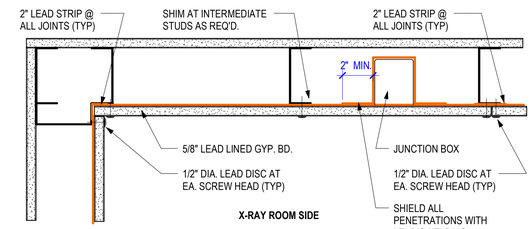


2 WALL SECTION-NEW CT AREA - P10

1" = 1'-0"

PARTITION TYPE P10

SCALE : 1" = 1'-0"



LEAD SHIELDING NOTES:

1) ALL WALL PENETRATIONS AND ELEC. & MECH. ROUGH-INS BELOW 7'-0" SHALL BE SHIELDED.

2) ALL LEAD LINERS SHALL EXTEND TO 7'-0" A.F.F. ***(MIN.) 1/16" THICK LEAD*** SHIELDING UNLESS OTHERWISE NOTED IN PHYSICIST'S CALCULATION REPORT.

3) ALL JOINTS, OVERLAPS, OUTLET BOXES, WALL DUCTS, BACKING PLATES, ETC. IN THE BARRIER SHALL PROVIDE THE EQUIVALENT SHIELDING AS STATED FOR THE BARRIER.

4) ALL VIEW WINDOWS HAVE LEAD GLASS OR "CLEAR PB" LEADED ACRYLIC EQUIVALENT ***TO 1/16" LEAD*** (PER PHYSICIST'S CALCULATION REPORT).

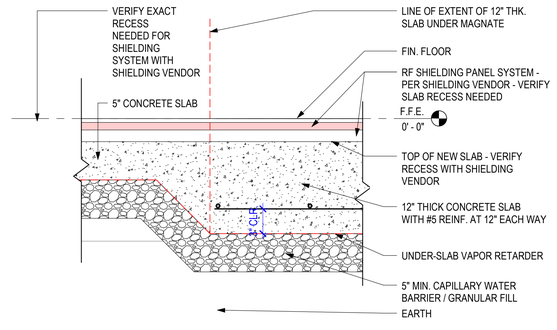
5) OVERLAP LEAD AT ALL JOINTS 2" MIN. AS NOTED.

6) DOORS & FRAMES SHALL BE LINED WITH EQUIVALENT AMOUNT OF LEAD.

3 LEAD SHIELDING DETAIL

3" = 1'-0"

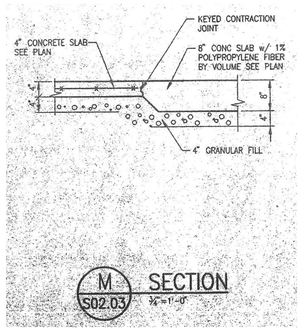
SCALE : 3" = 1'-0"



4 DETAIL - NEW MRI SLAB

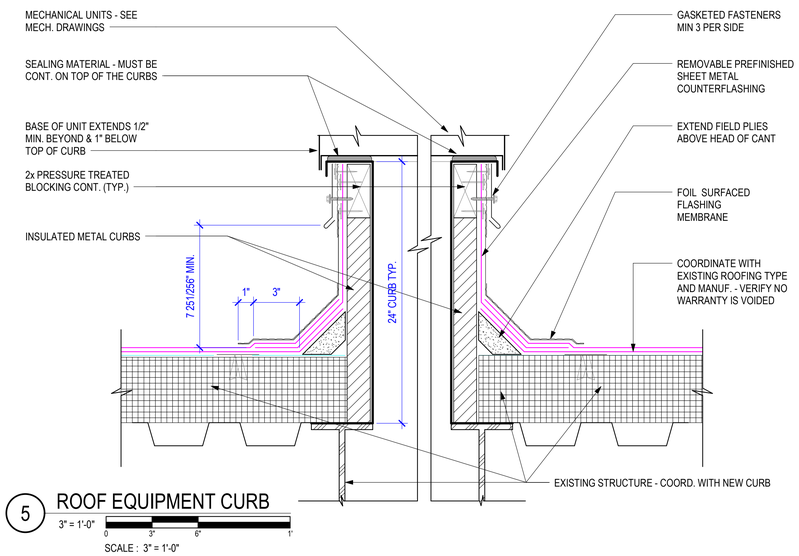
1 1/2" = 1'-0"

SCALE : 1-1/2" = 1'-0"



2A EXISTING DETAIL - NEW CT ROOM-EAST WALL

NO SCALE THIS DETAIL IS SHOWN FOR INFORMATION PURPOSES ONLY



5 ROOF EQUIPMENT CURB

3" = 1'-0"

SCALE : 3" = 1'-0"

CROMWELL
1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

ARCHITECTS ENGINEERS
C-98
REGISTERED ARCHITECTS
ARKANSAS

REGISTERED ARCHITECT
WILLIAM T. MOORE
2773
ARKANSAS
10-18-2024

Notes

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **DETAILS**

Sheet Number **A-501**

ROOM FINISH SCHEDULE

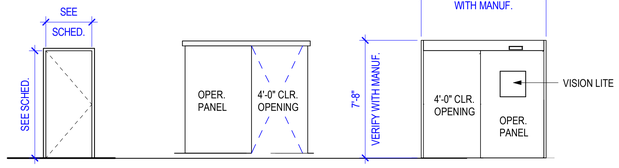
ROOM NUMBER	ROOM NAME	FLOOR	BASE	NORTH WALL MATERIAL	NORTH WALL COLOR	SOUTH WALL MATERIAL	SOUTH WALL COLOR	EAST WALL MATERIAL	EAST WALL COLOR	WEST WALL MATERIAL	WEST WALL COLOR	CEILING MATERIAL	CEILING COLOR	ROOM NUMBER	GENERAL FINISH NOTES
122-1	CORR.	EXST	EXST, RB-1	GWB	P-1	EXST	EXST	EXST	EXST	---	---	EXST	EXST	122-1	#7
129	MRI-2	RSF-1	RB-1	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	ACT	ACT-2	129	
129-1	MRI-2 EQ.	LVT-1	RB-1	GWB	P-1	GWB	P-1	GWB	P-1	GWB	P-1	EXPOSED	---	129-1	
130	CNTRL	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	130	
132	CORRIDOR	EXST/LVT-1	RB-1	EXST GWB	EXST/P-1	GWB	P-1	EXST ALG	---	---	---	EXST/ACT	ACT-1	132	#7
133	WAITING	EXST	EXST, MATCH	GWB	MATCH	---	---	EXST ALG	EXST	EXST	EXST	EXST	EXST	133	
143	CORRIDOR	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	143	
144	CORR.	EXST	EXST	---	---	EXST	EXST	EXST	EXST	EXST/ALG	EXST/---	EXST	EXST	144	
145	CT-2	RSF-1	RB-1	GWB	P-1	GWB	P-1	GWB/ ALG	P-1/---	GWB	P-1	ACT	ACT-3	145	
145A	CONTROL	LVT-1	RB-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	ACT	ACT-3	145A	
146	PATIENT ENTRY	LVT-1	RB-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	ACT	ACT-3	146	
146A	PASS	LVT-1	RB-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST	EXST	146A	
146B	DRESS	LVT-1	RB-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST	EXST	146B	
146C	STOR.	LVT-1	RB-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST	EXST	146C	
146D	WAITING	LVT-1	RB-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	EXST GWB	P-1	ACT	ACT-3	146D	
147	CT-2 MECH	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	EXST	ACT	ACT-3	147	

GENERAL FINISH NOTES:

1. SHEET VINYL TO RECEIVE SOLID MATCHING HEAT WELDING RODS, COLOR LISTED IN FINISH LEGEND.
2. HOLLOW METAL FRAMES IN AREAS WHERE EXISTING ADJACENT FRAMES ARE REMAINING ARE TO BE PAINTED TO MATCH THE EXISTING FRAMES. ALL OTHER HOLLOW METAL FRAMES ARE TO BE APINTED P-2
3. WOOD DOORS TO BE FACTORY FINISHED. STAIN TO BE SELECTED FROM MANUFACTURER'S STANDARD OFFERING. COORDINATE WITH FACILITY STANDARDS.
4. FLOORING TRANSITIONS TO BE AS FOLLOWS:
   - RSF TO LVT: JOHNSONITE, SLIM LINE TRANSITION, COLOR: PEBBLE 32
5. RSF AND LVT TO RECEIVE MANUFACTURER'S RECOMMENDED ADHESIVES, PENDING CONCRETE MOISTURE TESTING.
6. WAITING 133, CORR 122-1, CORR 132 - PATCH FLOOR AND CEILING AS NEEDED WITH OWNERS ATTIC STOCK. MATCH WALL BASE ON NEW NORTH WALL TO MATCH EXISTING ON ADJACENT WALLS
7. WHERE 'MATCH' IS CALLED OUT IN FINISH SCHEDULE, PATCH AND MATCH NEW FINISHES WITH EXISTING FINISHES IN ROOM.
8. MRI-2 129 - NEW MILLWORK TO RECEIVE PL-1 ON ALL EXPOSED SURFACES AND SS-1 ON COUNTER AND SPLASH
9. ALL NEW FINISHES TO BE COORDINATED WITH FACILITY BEFORE ORDERED AND INSTALLED

DOOR SCHEDULE

DOOR NO.	DOOR TYPE	DOOR SIZE W	DOOR SIZE HT	DOOR SIZE THK	DOOR MATERIAL	FRAME TYPE	FRAME MATERIAL	FRAME FINISH	FRAME DETAILS HEAD	FRAME DETAILS JAMB	FRAME DETAILS THRSHLD.	HARDWARE SET NO.	DOOR NO.	COMMENTS
N129	A	4' - 0"	7' - 0"		PER VENDOR	PER VENDOR	PER VENDOR	PER VENDOR	PER VENDOR	PER VENDOR	PER VENDOR	PER VENDOR	N129	SHIELDED FOR MRI
N129-1	B	4' - 4"	7' - 0"		WD	INTEGRAL	HM	PAINT			--	PER OWNER STANDARDS	N129-1	PROVIDE LOCK PER OWNER STANDARDS
N129-2	D	3' - 4"	7' - 0"			WOOD	WOOD	STAIN			--	PER OWNER STANDARDS	N129-2	PROVIDE LOCK PER OWNER STANDARDS
N145-1	A	4' - 0"	7' - 0"		--	HM-1	--	--	--	--	--	--	N145-1	LEAD LINED
N145-2	C	7' - 10 1/4"	7' - 0"		PER VENDOR	INTEGRAL	PER VENDOR	PER VENDOR	PER VENDOR	PER VENDOR	PER VENDOR	PER VENDOR	N145-2	LEAD LINED



A

B
TOP TRACK MOUNTED SLIDING DOOR
PROVIDE RECESSED HANDLE AND LOCK PER HOSP. STANDARDS

C
AUTOMATIC SLIDING UNIT - SHIELDED FOR CT

D
LOUVER

HM - 1

DOOR TYPES

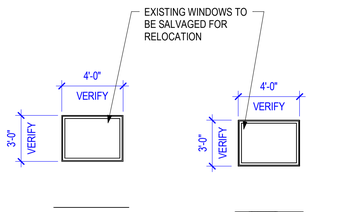
0 2 4 8

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

FRAME TYPES

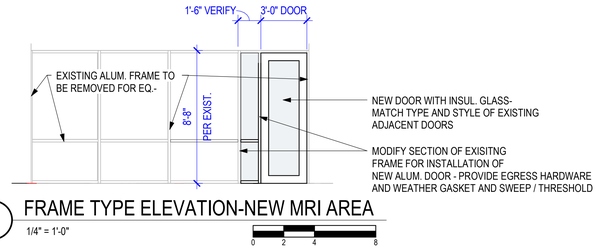
0 2 4 8

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



F-3
1/4" GLASS - CLEAR - SHIELDED FOR MRI
VERIFY EXACT SIZE TO FIT IN EXISTING LOCATION

F-4
1/4" GLASS - CLEAR- SHIELDED FOR CT
VERIFY EXACT SIZE TO FIT IN EXISTING LOCATION



1 FRAME TYPE ELEVATION-NEW MRI AREA

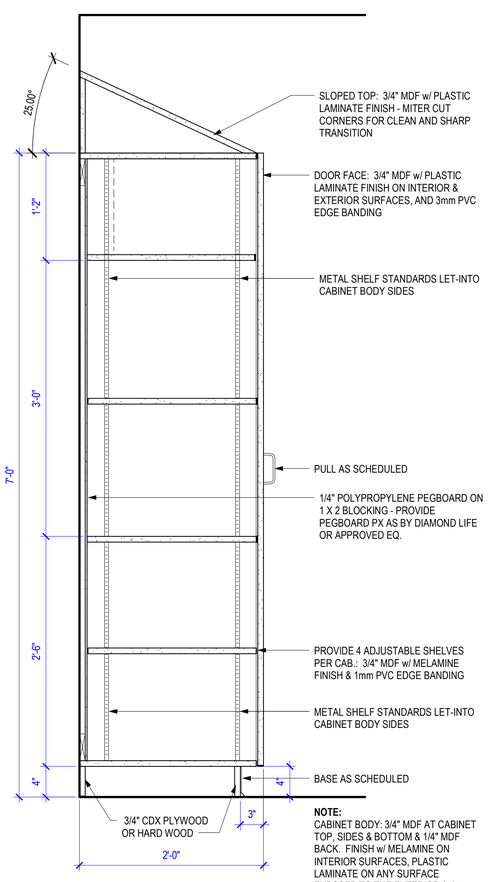
1/4" = 1'-0"

0 2 4 8

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

FINISHES LEGEND

FLOORS	
LVT-1	SHAW CONTRACT, UNVEIL 0601V, BLEACHED 01111, 9"X36"
RSF-1	SHAW CONTRACT, VITALITY SHEET 0873, UPLIFT 73120, WELD ROD: WEL 5226
BASE	
RB-1	JOHNSONITE, 32 PEBBLE WG
WALLS	
P-1	SHERWIN WILLIAMS, INCREDIBLE WHITE SW7028, LATEX, EGGSHELL
P-2	SHERWIN WILLIAMS, AGREEABLE GRAY SW709, SEMI GLOSS
CEILINGS	
ACT-1	MATCH EXISTING
ACT-2	ARMSTRONG, CLEAN ROOM #868 VL, 2X2 FIREGUARD WITH CLEAN ROOM 15/16" ALUMINUM GRID
ACT-3	ARMSTRONG, ULTIMA #1944, 2X2 TEGULAR LAY-IN, 15/16" PRELUDE WHITE GRID
MILLWORK	
SS-1	SOLID SURFACE, WILSONART, YUKON RIVERSTONE, 91996RS
PL-1	PLASTIC LAMINATE, WILSONART, VERANDA TEAK 8209K-28



NOTE:
CABINET BODY: 3/4" MDF AT CABINET TOP, SIDES & BOTTOM & 1/4" MDF BACK. FINISH w/ MELAMINE ON INTERIOR SURFACES, PLASTIC LAMINATE ON ANY SURFACE EXPOSED TO THE EXTERIOR & 1mm PVC EDGE BANDING.

2 MILLWORK DETAIL-TALL CAB. - MRI

1 1/2" = 1'-0"

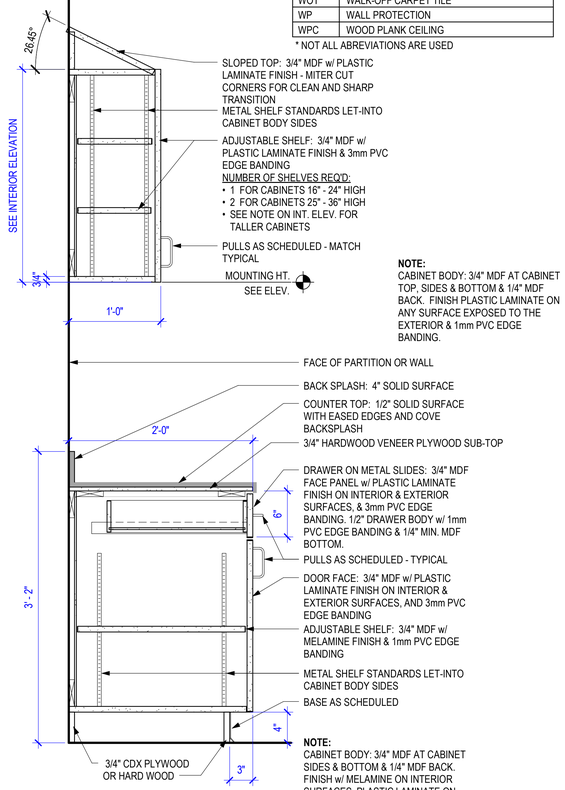
0 6" 1' 2'

SCALE : 1-1/2" = 1'-0"

MATERIAL LEGEND

---	"NO" OR "NONE"
ACT	ACOUSTICAL CEILING TILE
ACPT	ACOUSTICAL CEILING PERIMETER TRIM
ALG	ALUMINUM/ GLASS
AT	ACCENT TILE
AWC	ACOUSTICAL WALL COVERING
CF	CONCRETE FINISH
CG	CORNER GUARD
CMU	CONCRETE MASONRY UNIT
CONC	SEALED CONCRETE
CPT	CARPET
CR	CHAIR RAIL
CT	CERAMIC TILE
CTB	CERAMIC TILE BASE
EPT	EPOXY PAINT
EW	END WALL PROTECTION
EXP	EXPOSED STRUCTURE
EXST	EXISTING MATERIAL
FRL	FIBERGLASS REINFORCED LAMINATE
FRP	FIBERGLASS REINFORCED PANEL
GWB	GYPSUM WALL BOARD
HR	HAND RAIL
MB	MILLWORK BASE
MCP	METAL CEILING PANEL
MRGWB	MOISTURE RESISTANT GYPSUM WALL BOARD
P	PAINT
PL	PLASTIC LAMINATE
PLWD	PLYWOOD
PT	PORCELAIN TILE
PTB	PORCELAIN TILE BASE
RB	RESILIENT BASE
RES	RESINOUS FLOORING
RESB	RESINOUS INTEGRAL COVE BASE
RR	RUB RAIL
RSF	RESILIENT SHEET FLOORING
RST	RESILIENT STAIR TREAD
RWC	RIGID WALL COVERING
SS	SOLID SURFACE MATERIAL
SST	STAINLESS STEEL
ST	STAINED WOOD
STN	NATURAL STONE
SVB	INTEGRAL SHEET VINYL BASE
SV	SHEET VINYL
TBB	TILE BACKER BOARD
TER	TERRAZZO
TP	TOILET PARTITIONS
VCT	VINYL COMPOSITION TILE
VP	VINYL PLANK
VT	VINYL TILE
VWC	VINYL WALL COVERING
WG	WALL GUARD
WOM	WALK-OFF MAT
WOS	WALK-OFF SYSTEM
WOT	WALK-OFF CARPET TILE
WP	WALL PROTECTION
WPC	WOOD PLANK CEILING

* NOT ALL ABREVIATIONS ARE USED



NOTE:
CABINET BODY: 3/4" MDF AT CABINET TOP, SIDES & BOTTOM & 1/4" MDF BACK. FINISH PLASTIC LAMINATE ON ANY SURFACE EXPOSED TO THE EXTERIOR & 1mm PVC EDGE BANDING.

3 MILLWORK DETAIL - MRI

1 1/2" = 1'-0"

0 6" 1' 2'

SCALE : 1-1/2" = 1'-0"

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Project

CHI St. Vincent North - **MRI and CT**

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CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

REGISTERED ARCHITECTS C-98 ARKANSAS

REGISTERED ARCHITECT WILLIAM T. MOORE 2773 ARKANSAS

10-18-2024

Notes

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **ROOM FINISH SCHEDULE, NOTES AND LEGENDS-DOOR SCHEDULE AND TYPES**

Sheet Number **A-601**

ABBREVIATIONS

&	AND	GPM	GALLONS PER MINUTE
Ø	ROUND	HD	HEAD
/R	ON ROOF	H.P.	HIGH PRESSURE
A	AIR	HTG	HEATING
AB	ABOVE BASE	IN	INCH
ABV	ABOVE	INL	INLET
ACOUS	ACOUSTICAL	INSUL	INSULATION
ADD	ADDENDUM	INWG	INCHES WATER GAUGE
ADDL	ADDITIONAL	ITC	INSPECTOR TEST CONNECT
AFF	ABOVE FINISHED FLOOR	JT	JOINT
AG	ABOVE GROUND	LAB	LABORATORY
AHJ	AUTHORITY HAVING JURISDICTION		
ALT	ALTERNATE	LB	POUND
ALV	ALARM VALVE	LB/HR	POUNDS PER HOUR
ALUM	ALUMINUM	LF	LINEAL FOOT
AP	ACCESS PANEL	LOC	LOCATION
ARCH	ARCHITECT/ARCHITECTURAL	LP	LOW PRESSURE
AUTO	AUTOMATIC	MA	MIXED AIR
AUX	AUXILLARY DRAIN	MAN	MANUAL
BFF	BELOW FINISHED FLOOR	MAX	MAXIMUM
BFV	BUTTERFLY VALVE	MD	MOTORIZED DAMPER
BSMT	BASEMENT	MFR	MANUFACTURER
BTWN	BETWEEN	MIN	MINIMUM
CAP	CAPACITY	MISC	MISCELLANEOUS
CFCV	CONSTANT FLOW CNTRL. VL.	MRA	MOST HYDRAULICALY DEMANDING AREA
CFM	CUBIC FEET PER MINUTE		
CI	CAST IRON	NIC	NOT IN CONTRACT
CIS	COMMON INTELLIGEBELITY SYS.	NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
CEG	CEILING		
COL	COLUMN	NP	NOT POTABLE
COMB	COMBINATION	NTS	NOT TO SCALE
CONC	CONCRETE	O	OXYGEN
CONT	CONTINUE/CONTINUATION	OPNG	OPENING
COORD	COORDINATE	PD	PRESSURE DROP
COR	CONTRACTOR OFFICES REP.	PIV	POST INDICATOR VALVE
CTR	CENTER	PR	PAIR
CUFT	CUBIC FEET	PREL	PRELIMINARY
D/°	DEGREE	PS	PRESSURE
DCA	DETECTOR CHECK ASSY.	PRIM	PRIMARY
DCDA	DOUBLE DETECTOR CK. ASSY.	PRV	PRESS. REDUCING VALVE
DIA	DIAMETER	PSI	LBS. PER SQ. IN.
DI	DUCTILE IRON	PSIG	LBS. PER SQ. IN. GAUGE
DISCH	DISCHARGE	PW	POTABLE WATER
DMPR	DAMPER	REC	RECESSED
DN	DOWN	RED	REDUCER
DWG	DRAWING	REQD	REQUIRED
EA	EACH	SF	SQUARE FOOT
ECS	EMERGENCY COMM. SYSTEM	SD	SMOKE DAMPER
EAH	EXHAUST HOOD	SIM	SIMILAR
EX	EXISTING	SLV	SLEEVE
EXP	EXPANSION	SP	STATIC PRESSURE
EXPJT	EXPANSION JOINT	SPS	STATIC PRESSURE STATION
ESP	EXTERNAL STATIC PRESSURE	SQ	SQUARE
F°	DEGREES FAHRENHEIT	SS	STAINLESS STEEL
FD	FIRE DAMPER	STD	STANDARD
FDV	FIRE DEPARTMENT VALVE	T	THERMOSTAT
FHR	FIRE HOSE STATION	SYS	SYSTEM
FHV	FIRE HOSE VALVE	TCP	TEMP. CONTROL PANEL
FPI	FINS PER INCH	TD	TEMPERATURE DROP
FLEX	FLEXIBLE	TEMP	TEMPERATURE
FLG	FLANGE	TSP	TOTAL STATIC PRESSURE
FT	FOOT/FEET	TYP	TYPICAL
FTG	FOOTING	U/G	UNDER GROUND
FUT	FUTURE	U/S	UNDER SLAB
GAL	GALLON	UNO	UNLESS NOTED OTHERWISE
GALV	GALVANIZED	VL	VALVE
GEN	GENERATOR		
GENL	GENERAL		

EQUIPMENT ABBREVIATIONS

DBP	DOMESTIC WATER BOOST PUMP	FDCP	F.A. ACCESS PANEL
DCA	DETECTOR CHECK ASSY.	FMCP	F.A. MASS NOTIFICATION PNL.
DDCA	DOUBLE DETECTOR CHECK ASSY.	FAA	F.A. ANNUNCIATOR PNL.
FHR	FIRE HOSE STATION	LOC	LOCAL OPERATOR CONSOLE
F.A.	FIRE ALARM	NRSV	NON-RISING STEM VALVE
FPU	FIRE PUMP	ITC	INSPECTOR'S TEST
FDC	FIRE DEPARTMENT CONTROL	PNL	PANEL

FIRE ALARM PHASING

- NEW CONSTRUCTION FIRE EQUIPMENT (TYPICAL TAG FOR ALL NEW CONSTRUCTION) — FACP
- EXISTING FIRE ALARM EQUIPMENT FOR ALL EXISTING TAGS) (TYPICAL — (E)FACP
- FIRE ALARM EQUIPMENT FOR DEMOLITION (TYPICAL FOR ALL DEMOLITION TAGS) — (D)FACP

FIRE ALARM SHEET SET NOTE

* NOTE *

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.

FIRE ALARM DEVICE MOUNTING NOTE

WALL MOUNTED VISUAL DEVICES TO BE LOCATED SUCH THAT THE ENTIRE LENS OF THE STROBE IS BETWEEN 80" AND 96" AFF. ALL WALL MOUNTED NOTIFICATION DEVICES SHALL BE MOUNTED AT THE SAME HEIGHT AFF TO ACHIEVE A UNIFORM APPEARANCE OR AS DIRECTED BY THE A/E. WATTAGE AND CANDELA ARE GUIDELINES. CONTRACTOR RESPONSIBLE FOR FINAL SPACING AND TOTAL DEVICE POWER.

SYMBOL	DESCRIPTION
▼15 / 0.25 C	CEILING MOUNT SPEAKER AND CLEAR STROBE, 15 CANDELA AND 0.25 WATT TAP UNLESS NOTED OTHERWISE
▼15 / 0.25	WALL MOUNT SPEAKER AND CLEAR STROBE, 15 CANDELA AND 0.25 WATT TAP UNLESS NOTED OTHERWISE

GENERAL SYMBOLS

- REVISION NUMBER SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- DEMOLISH TO POINT INDICATED
- 1 / FX001 — NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS
- 1 — KEYNOTE
- PIPE CONTINUATION
- SPACE TAG: OFFICE — SPACE NAME; 101 — SPACE NUMBER
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT

FIRE ALARM DEVICES

— FIRE ALARM CONTROL PANEL
— FIRE ALARM PANEL TYPE

CONTROL PANELS ABBREVIATIONS:

APM	AMPLIFIER RACK
ACU	AUTONOMOUS CONTROL UNIT
BATT	BATTERY CABINET
FMCP	COMBI. FIRE ALARM/MASS NOTIFICATION CONTROL
DACT	DIGITAL ALARM COMMUNICATOR TRANSMITTER
FAA	FIRE ALARM ANNUNCIATOR
FACP	FIRE ALARM CONTROL
FSCP	FIRE SUPPRESSION CONTROL
GAP	GRAPHIC ANNUNCIATOR
LCD	LCD ANNUNCIATOR
LOC	LOCAL OPERATORS CONTROL
NAC	NOTIFICATION CIRCUIT POWER BOOSTER
PRE	PRE-ACTION SYSTEM
PRN	PRINTER
MIC	REMOTE VOICE
UPS	UINTERRUPTABLE POWER SUPPLY
EVAC	VOICE EVACUATION

F / ### — FIRE ALARM ABORT SWITCH; FIRE ALARM ABORT SWITCH TYPE

ABORT SWITCH ABBREVIATIONS:

AS	ABORT SWITCH
CO2	CARBON DIOXIDE
CA	CLEAN AGENT
DL	DELUGE SPRINKLER
DC	DRY CHEMICAL
EPO	EMERGENCY POWER OFF
F	FOAM
HL	HALON
PRE	PREACTION SYSTEM
WM	WATER MIST
WC	WET CHEMICAL

F / ### — FIRE ALARM PULL STATION; FIRE ALARM PULL STATION TYPE

PULL STATION ABBREVAITIONS:

CO2	CARBON DIOXIDE
CA	CLEAN AGENT
DL	DELUGE SPRINKLER
DC	DRY CHEMICAL
F	FOAM
HL	HALON
M	MANUAL
P	PULL STATAION
WM	WATER MIST
WC	WET CHEMICAL

SYMBOL	DESCRIPTION
S / P	SPOT-TYPE SMOKE DETECTOR (P-PHOTO, I-IONIZATION, SB-SOUNDER BASE)
S / S	DUCT SMOKE DETECTOR (S-SUPPLY, R-RETURN)
	HEAT DETECTOR (RATE OF RISE)
F	MANUAL PULL STATION (48" AFF UNLESS NOTED OTHERWISE)
WF	WATER FLOW SWITCH
VS	VALVE SUPERVISORY (TAMPER) SWITCH
DH	DOOR HOLD OPEN MODULE. PROVIDE FIRE ALARM LISTED HOLD-OPEN ASSEMBLY IF NOT CALLED OUT IN DOOR HARDWARE SCHEDULE.
E	ELECTRIC BELL FOR WATER FLOW. INSTALL AT 9'+/- ABOVE FINISHED GRADE OR AS DIRECTED BY FIRE MARSHAL.
AIM	ADDRESSABLE MODULE (AIM - INPUT, AOM - OUTPUT, AIO - INPUT/OUTPUT)
	UV FLAME DETECTOR
15	CEILING MOUNT CLEAR STROBE, 15 CANDELA UNLESS NOTED OTHERWISE
15	WALL MOUNT CLEAR STROBE, 15 CANDELA UNLESS NOTED OTHERWISE

GENERAL

1. FIRE ALARM SYSTEM AND DEVICES SHALL BE INSTALLED TO THE LATEST EDITION OF NFPA 72, NFPA 70, AND LOCAL REQUIRMENTS.
2. ALL FIRE ALARM INSTALLATIONS, INCLUDING PULLING OF WIRE AND MOUNTING OF DIVICES, SHALL HAVE OVERSIGHT OF A NICET LEVEL II FIRE ALARM TECHNICIAN OR HIGHER.
3. STROBES SHALL BE SYNCHRONIZED PER NFPA 72.
4. ALL FIRE ALARM CABLE SHALL BE RUN IN RED FACTORY COLORED CONDUIT.
5. THESE DESIGN DOCUMENTS PROVIDE GENERAL SPACING, LOCATION, AND COORDINATION CRITERIA. CONTRACTOR SHALL BE RESPONSIBLE FOR CIRCUIT CONFIGURATION, SYSTEM PERFORMANCE, SOFTWARE CONFIGURATION, DEVICE PROGRAMMING, SYSTEM COMMISSIONING, AND SYSTEM WARRANTY.
6. CONTRACTOR SHALL SUBMIT FIRE ALARM, DATA CUT-SHEETS, AND VOLTAGE DROP CALCULATIONS TO AHJ AND A/E FOR REVIEW AND APPROVAL PRIOR TO BEGINNING ANY WORK ON THE FA SYSTEM.
7. NO FA DOCUMENTS/PLANS SHALL BE USED FOR INSTALLATION OF THIS SYSTEM UNLESS THEY CONTAIN A REVIEW AND APPROVAL STAMP FROM THE AHJ AND THE A/E. THE LOCAL AHJ HAS THE AUTHORITY TO STOP ANY WORK UNTIL SUCH PLANS ARE ON SITE AND IN USE.
8. SEPARATE FIRE ALARM SPECIFICATIONS CONTAIN VERY DETAILED INFORMATION ABOUT THIS SYSTEM AND SHALL BE FOLLOWED, ON-SITE AND AVAILABLE DURING ANY CONSTRUCTION.
9. SECONDARY POWER PERFORMANCE TO MEET NFPA 72. 24 HOURS OF STANDBY POWER FOLLOWED BY 15 MINUTES OF ALARM FOR ALL CONNECTED DEVICES AT MAXIMUM LOAD. SECONDARY POWER FOR THE SYSTEM SHALL ALSO BE DESIGNED TO OPERATE MAXIMUM CONNECTER ALARM LOAD FOR 60 MINUTES IMMEDIATELY FOLLOWING DISCONNECTION OF PRIMARY POWER.
10. CIRCUITS TO BE 24V TYPICAL.
11. ALL NEW SYSTEMS AND DEVICES MUST INTERFACE WITH APPLICABLE EXISTING SYSTEMS. SHELL PANEL AND DEVICES MUST COMMUNICATE WITH EXISTING SITE FIRE ALARMS AND TENANT FINISH DEVICES MUST INTERFACE WITH EXISTING SHELL PANEL AND SYSTEMS.

LOCATION / SPACING

1. IN ACCORDANCE WITH 2019 NFPA 72, STROBES MAY BE MORE THAN 15 FEET FROM THE END OF A CORRIDOR WHEN ROOM SPACING CRITERIA APPLIES USING THE APPROPRIATE CANDELA.
2. WALL MOUNTED SPEAKER, STROBES, OR SPEAKER/STROBES SHALL BE AT 96" OR 6" BELOW THE CEILING, WHICHEVER IS LOWER.
3. ALL SMOKE DETECTORS SHALL BE LOCATED WHERE THEY CAN BE READILY SERVICED.
4. ALL SMOKE DETECTORS SHALL BE CEILING MOUNTED OR WITHIN 12" OF THE CEILING.
5. SMOKE DETECTORS SHALL NOT BE INSTALLED WITHIN 3' OF AN AIR-SUPPLY OR RETURN GRILLE PER MFG CRITERIA AND APPENDIX 'A' OF NFPA 72.
6. EACH POWER BOOSTER PANEL OR FIRE ALARM PANEL SHALL BE PROTECTED BY A SMOKE DETECTOR. WHEN PROVIDED, AREA DETECTORS WITHIN THE SAME SPACE WILL SATISFY THIS REQUIREMENT.
7. AIR HANDLER SYSTEMS OVER 2,000 CFM SHALL BE PROVIDED WITH MEANS TO SHUT DOWN UPON THE DETECTION OF SMOKE. THESE DETECTORS SHALL NOT INITIATE A GENERAL FIRE ALARM.
8. DAMPER AND HVAC SMOKE DETECTORS SHALL BE PROVIDED BY THE FIRE ALARM CONTRACTOR, LISTED WITH THE FIRE ALARM SYSTEM, AND INCORPORATE ADDRESSABLE MODULES.
9. WHERE APPLICABLE, SMOKE DETECTORS FOR AIR-HANDLER SHUT DOWN SHALL BE ON BOTH SUPPLY AND RETURN DUCTS.
10. WALL MOUNTED VISUAL DEVICES TO BE LOCATED SUCH THAT THE ENTIRE LENS OF THE STROBE IS BETWEEN 80" AND 96" AFF. ALL WALL MOUNTED NOTIFICATION DEVICES SHALL BE MOUNTED AT THE SAME HEIGHT AFF TO ACHIEVE A UNIFORM APPEARANCE OR AS DIRECTED BY THE A/E. WATTAGE AND CANDELA ARE GUIDELINES. CONTRACTOR RESPONSIBLE FOR FINAL SPACING AND TOTAL DEVICE POWER.

PERFORMANCE

1. ANY SMOKE DETECTOR THAT HAS BEEN INSTALLED PRIOR TO THE CONSTRUCTION CLEANUP OF ALL TRADES AND WITHOUT PRIOR WRITTEN APPROVAL OF THE ENGINEER AND LOCAL AHJ SHALL BE MARKED IN A MANNER THAT WILL IDENTIFY IT FROM RE-USE AND SHALL BE REPLACED PRIOR TO COMMISSIONING OF THE SYSTEM OR TURNING OVER TO THE OWNER. SUCH DETECTORS SHALL BE REPLACED AT THE SOLE EXPENSE OF THE INSTALLING CONTRACTOR.
2. DUCT DETECTORS SHALL BE MONITORED FOR INTEGRITY AND PROVIDE A SUPERVISORY SIGNAL AT THE FIRE ALARM PANEL. AIR HANDLER SYSTEMS SHALL BE RAN AND BLOWN OUT PRIOR TO INSTALLATION OF SMOKE DETECTORS.
3. FIRE ALARM AUDIBLE ALERT SIGNALS SHALL BE SET TO TEMPORAL CODE PER NFPA 72.
4. UNLESS OTHERWISE NOTED THE FOLLOWING MINIMUM SURVIVABILITY CRITERIA SHALL BE MET: SIGNALING LINE CIRCUITS CLASS "B", AND NOTIFICATION CIRCUITS CLASS "B".
5. INITIATING DEVICES SHALL BE INDIVIDUALLY ADDRESSABLE.

ACCEPTANCE TESTING

1. A COMPLETED AND SIGNED RECORD (CERTIFICATE) OF COMPLETION FORM SHALL BE PROVIDED BY THE CONTRACTOR TO THE AHJ, OWNER, AND A/E PRIOR TO COMMISSION TESTING. THIS CERTIFICATE SHALL CERTIFY THAT THE CONTRACTOR HAS PRE-TESTED EVERY DEVICE AND FUNCTION OF THE SYSTEM AND REPAIRED ANY DEFICIENCIES PRIOR TO THE COMMISSIONING TEST.
2. ALL SMOKE DETECTORS SHALL BE COMMISSIONED USING CANNED SMOKE OR A METHOD THAT WILL FUNCTIONALLY TEST THE SMOKE CHAMBER. THE USE OF MAGNETS FOR COMMISSION TESTING OF SMOKE DETECTORS IS STRICTLY PROHIBITED.
3. EACH AND EVERY DEVICE SHALL BE TESTED DURING COMMISSIONING AND PRIOR TO BEING TURNED OVER TO THE OWNER.
4. EACH NOTIFICATION CIRCUIT SHALL BE TESTED UNDER STANDBY/BATTERY POWER. ANY CIRCUIT THAT MEASURES LESS THAN 20 VOLTS DC OR THE NAMEPLATE VOLTAGE, WHICHEVER IS HIGHER, SHALL BE CONSIDERED AS FAILING THE DESIGN. NOTE: SOME SYSTEMS INCORPORATING SYNCHRONIZING MODULES CAN IMPAIR RESULTS. IF THE MODULE CANNOT BE BYPASSED FOR VOLTAGE READINGS, THE MANUFACTURER SHOULD BE CONTACTED FOR GUIDANCE. WHEN VOLTAGE CANNOT BE MEASURED, CIRCUIT WIRE RESISTANCE READINGS AND DEVICE LOAD MAY BE COMPARED TO DESIGN CALCULATIONS (MAKE SURE CIRCUIT IS REMOVED FROM POWER SUPPLY WHEN OBTAINING WIRE RESISTANCE). ONLY A QUALIFIED TECHNICIAN EMPLOYED BY THE INSTALLING CONTRACTOR SHOULD PERFORM THIS FUNCTION.
5. EACH CIRCUIT'S END-OF-LINE VOLTAGE SHALL BE DOCUMENTED FOR COMPARISON TO THE DESIGN END-OF-LINE CALCULATIONS.

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION — CROMWELL ARCHITECTS/ENGINEERS #5 — ARKANSAS ENGINEER

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 19820 — RYAN W. CROMWELL

10-18-2024

Notes

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Issue Date **10-18-2024**

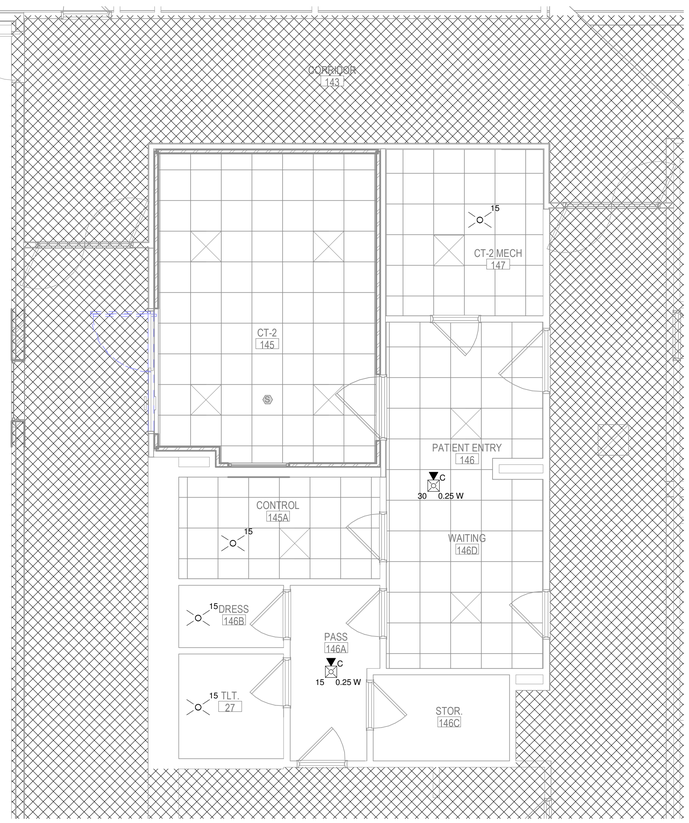
Sheet Title **FIRE ALARM LEGEND AND NOTES**

Sheet Number **FA001**

AREA NOT IN SCOPE

NOTE:

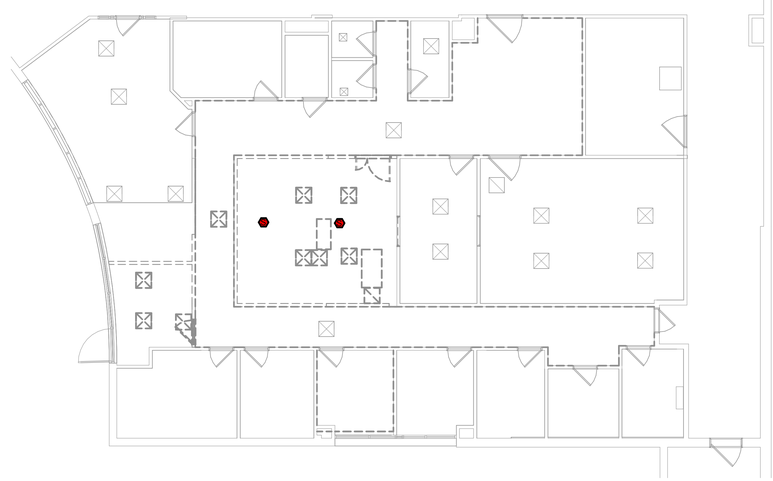
SMOKE DETECTOR IN MRI-2 129-1 SHALL CONNECT TO VESDA ASPIRATING SMOKE DETECTION SYSTEM. USE CPVC PIPE TO MRI-2 129-1 FOR SMOKE DETECTION FOR DOUBLE-INTERLOCK PREACTION RELEASING SERVICE.



1 FIRE ALARM - FIRST LEVEL - CEILING PLAN - CT AREA
1/4" = 1'-0"
0 2 4 8
TRUE NORTH / NORTH PLAN



2 FIRE ALARM - FIRST LEVEL - CEILING PLAN - MRI AREA
1/4" = 1'-0"
0 2 4 8
TRUE NORTH / NORTH PLAN



3 FIRE ALARM - FIRST LEVEL - DEMO CEILING PLAN - MRI AREA
1/8" = 1'-0"
0 4 8 16
TRUE NORTH / NORTH PLAN

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STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 19823

10-18-2024

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Sheet Title

FIRE ALARM FIRST FLOOR CEILING PLAN

Sheet Number

FA101

ABBREVIATIONS

&	AND	GPM	GALLONS PER MINUTE
Ø	ROUND	HD	HEAD
/R	ON ROOF	H.P.	HIGH PRESSURE
A	AIR	HTG	HEATING
AB	ABOVE BASE	IN	INCH
ABV	ABOVE	INL	INLET
ACOUS	ACOUSTICAL	INSUL	INSULATION
ADD	ADDENDUM	INWG	INCHES WATER GAUGE
ADDL	ADDITIONAL	ITC	INSPECTOR TEST CONNECT
AFF	ABOVE FINISHED FLOOR	JT	JOINT
AG	ABOVE GROUND	LAB	LABORATORY
AHJ	AUTHORITY HAVING JURISDICTION		
ALT	ALTERNATE	LB	POUND
ALV	ALARM VALVE	LB/HR	POUNDS PER HOUR
ALUM	ALUMINUM	LF	LINEAL FOOT
AP	ACCESS PANEL	LOC	LOCATION
ARCH	ARCHITECT/ARCHITECTURAL	LP	LOW PRESSURE
AUTO	AUTOMATIC	MA	MIXED AIR
AUX	AUXILLARY DRAIN	MAN	MANUAL
BFF	BELOW FINISHED FLOOR		
BFV	BUTTERFLY VALVE	MAX	MAXIMUM
BSMT	BASEMENT	MCW	MAKE-UP COLD WATER
BTWN	BETWEEN	MD	MOTORIZED DAMPER
CAP	CAPACITY	MFR	MANUFACTURER
CFCV	CONSTANT FLOW CNTRL. VL.	MIN	MINIMUM
CFM	CUBIC FEET PER MINUTE	MISC	MISCELLANEOUS
CI	CAST IRON	MRA	MOST HYDRAULICALY
CIS	COMMON INTELLIGEBELITY SYS.		DEMANDING AREA
CEG	CEILING	NFPA	NOT IN CONTRACT
COL	COLUMN		NATIONAL FIRE PROTECTION
COMB	COMBINATION		ASSOCIATION
CONC	CONCRETE	NP	NOT POTABLE
CONT	CONTINUE/CONTINUATION	NTS	NOT TO SCALE
COORD	COORDINATE	O	OXYGEN
COR	CONTRACTOR OFFICES REP.	OPNG	OPENING
CTR	CENTER	PD	PRESSURE DROP
CUFT	CUBIC FEET	PIV	POST INDICATOR VALVE
D/°	DEGREE	PR	PAIR
DCA	DETECTOR CHECK ASSY.	PREL	PRELIMINARY
DCDA	DOUBLE DETECTOR CK. ASSY.	PS	PRESSURE
DIA	DIAMETER	PRIM	PRIMARY
DI	DUCTILE IRON	PRV	PRESS. REDUCING VALVE
DISCH	DISCHARGE	PSI	LBS. PER SQ. IN.
DMPR	DAMPER	PSIG	LBS. PER SQ. IN. GAUGE
DN	DOWN	PW	POTABLE WATER
DWG	DRAWING	REC	RECESSED
EA	EACH	RED	REDUCER
ECS	EMERGENCY COMM. SYSTEM	REQD	REQUIRED
EAH	EXHAUST HOOD	SF	SQUARE FOOT
EX	EXISTING	SD	SMOKE DAMPER
EXP	EXPANSION	SIM	SIMILAR
EXPJT	EXPANSION JOINT	SLV	SLEEVE
ESP	EXTERNAL STATIC PRESSURE	SP	STATIC PRESSURE
F°	DEGREES FAHRENHEIT	SPS	STATIC PRESSURE STATION
FD	FIRE DAMPER	SQ	SQUARE
FDV	FIRE DEPARTMENT VALVE	SS	STAINLESS STEEL
FHR	FIRE HOSE STATION	STD	STANDARD
FHV	FIRE HOSE VALVE	T	THERMOSTAT
FPI	FINS PER INCH	SYS	SYSTEM
FLEX	FLEXIBLE	TCP	TEMP. CONTROL PANEL
FLG	FLANGE	TD	TEMPERATURE DROP
FT	FOOT/FEET	TEMP	TEMPERATURE
FTG	FOOTING	TSP	TOTAL STATIC PRESSURE
FUT	FUTURE	TYP	TYPICAL
GAL	GALLON	U/G	UNDER GROUND
GALV	GALVANIZED	U/S	UNDER SLAB
GEN	GENERATOR	UNO	UNLESS NOTED OTHERWISE
GENL	GENERAL	VL	VALVE
		VOL	VOLUME

EQUIPMENT ABBREVIATIONS

AFMS	AIR FLOW MEASURING STATION	FDC	FIRE DEPARTMENT CONTROL
CF	CABINET FAN	FDCP	F.A. ACCESS PANEL
CF	CHEMICAL FEEDER	FMCP	F.A. MASS NOTIFICATION PNL.
DBP	DOMESTIC WATER BOOST PUMP	FAA	F.A. ANNUNCIATOR PNL.
DCA	DETECTOR CHECK ASSY.	LOC	LOCAL OPERATOR CONSOLE
DDCA	DOUBLE DETECTOR CHECK ASSY.	NRSV	NON-RISING STEM VALVE
FHR	FIRE HOSE STATION	ITC	INSPECTOR'S TEST
F.A.	FIRE ALARM	PNL	PANEL
FPU	FIRE PUMP		

FIRE PROTECTION SHEET SET NOTE

* NOTE *
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.

GENERAL SYMBOLS

- REVISION NUMBER SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- DEMOLISH TO POINT INDICATED
- NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS (1 / FX001)
- KEYNOTE (1)
- NON-RETARDABLE FLOW SWITCH (W)
- TAMPER SWITCH (TS)
- HYDRAULIC REFERENCE POINT:
  - REF POINT AT PIPE (XXXX)
  - REF. POINT AT TOP OF VERTICAL PIPE (XXXX)
  - REF. POINT AT BOTTOM OF VERTICAL PIPE (XXXX)
- PIPE CONTINUATION
- SPACE TAG:
  - OFFICE — SPACE NAME
  - 101 — SPACE NUMBER
  - 100 SF — SPACE AREA
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT

FIRE PROTECTION PIPING LEGEND

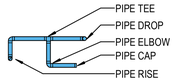
- 6" — PIPE SIZE TAG (DIAMETER Ø")
- (E) — EXISTING TO REMAIN PIPE
- (D) — DEMOLISHED PIPE
- 6" FP-D — PIPE SIZE AND SYSTEM TAG
- FP-D — FIRE PROTECTION DRY
- FP-PA — FIRE PROTECTION PRE-ACTION
- FP-W — FIRE PROTECTION WET
- FP-O — FIRE PROTECTION OTHER
- FP-C — FIRE PROTECTION CLEAN AGENT

SPRINKLERS

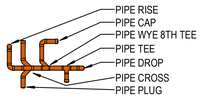
K-VALUE SYMBOLS:
- 5.6
- 8.0
- 11.2
- 14.0
- 25.2

SPRINKLER ORIENTATION:
- CONCEALED
- UPRIGHT
- PENDENT
- RECESSED
- HORIZONTAL SIDEWALL
- • VERTICAL SIDEWALL - 5.6K
- • VERTICAL SIDEWALL - 8.0K
- • VERTICAL SIDEWALL - 11.2K

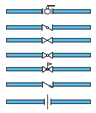
METALLIC PIPE SYMBOLS



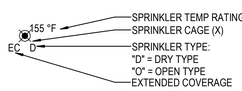
PLASTIC PIPE SYMBOLS



PIPE ACCESSORIES



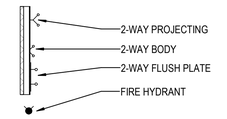
SPRINKLER TAGS



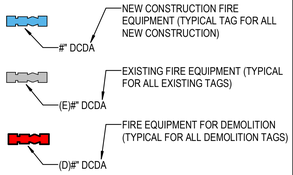
PIPE ACCESSORY TAGS



FIRE DEPARTMENT CONNECTIONS



FIRE PROTECTION PHASING



FIRE PROTECTION HAZARD LEGEND

- ORDINARY HAZARD 2 (0.20/1500)

GENERAL NOTES

1. THE CONTRACTOR SHALL PROVIDE AND INSTALL AN AUTOMATIC FIRE SPRINKLER SYSTEM TO FULLY PROTECT THIS FACILITY. THE FIRE SPRINKLER SYSTEM SHOWN THESE DRAWINGS IS BASED ON PRESCRIPTIVE DESIGN AND CONCEPTUAL ONLY.
2. THE SPRINKLER CONTRACTOR SHALL SUBMIT COMPLETE FIRE SPRINKLER SYSTEM SHOP DRAWINGS BASED ON NFPA 13 AND SPECIFICATION REQUIREMENTS AND SUBMIT FOR APPROVAL PRIOR TO INSTALLATION.
3. THE EQUIPMENT SHOWN ARE SUGGESTED LOCATIONS HOWEVER FINAL LAYOUT SHALL BE IN ACCORDANCE WITH APPLICABLE CODES, MANUFACTURER'S RECOMMENDATIONS, AND EQUIPMENT LISTINGS. CONTRACTOR SHALL COORDINATE BRANCH LINE AND SPRINKLER HEAD LOCATIONS WITH CEILING PANELS, LIGHTING FIXTURES, HVAC DUCTS AND AIR DEVICES, PLUMBING AND OTHER TRADES NOT SPECIFICALLY NAMED.
4. ALL EQUIPMENT SHALL BE UL LISTED AND FM APPROVED IN ACCORDANCE WITH NFPA 13 AND PROJECT SPECIFICATIONS.
5. CONTRACTOR SHALL SUBMIT SETS OF FIRE SUPPRESSION PLANS, DATA CUT-SHEETS, AND HYDRAULIC CALCULATIONS TO A/E AND AHJ FOR REVIEW AND APPROVAL PRIOR TO BEGINNING ANY WORK ON THE FIRE SUPPRESSION SYSTEM.
6. THE CONTRACTOR SHALL CONDUCT WATER SUPPLY HYDRANT TEST FOR THIS PROJECT BASED ON NFPA 291 REQUIREMENTS AND UTILIZE THIS DATA TO DESIGN THE SPRINKLER SYSTEM. THE HYDRANT LOCATIONS, FLOW TESTS, AND DATE SHALL BE INDICATED ON THE SHOP DRAWINGS. AUTOMATIC SPRINKLER PROTECTION SYSTEM IS REQUIRED TO PROTECT THIS ENTIRE FACILITY. A MINIMUM 10% SAFETY FACTOR IS REQUIRED BETWEEN THE AVAILABLE WATER SUPPLY AND THE SPRINKLER SYSTEM DEMAND.
7. FIRE PROTECTION DEVICES AND PIPING ON PLANS ARE NOT FOR CONSTRUCTION, THEY ARE FOR COST ESTIMATING ONLY.
8. THE CONTRACTOR SHALL CONFORM TO THE SYMBOLS INDICATED IN NFPA 170 TO DEVELOP THE AS-BUILT DRAWINGS FOR THIS PROJECT.
9. ALL AUTOMATIC SPRINKLER DRAIN VALVES FOR FIRE DEPARTMENT CONNECTIONS SHALL BE INSTALLED IN THE HORIZONTAL POSITION.
10. FLEXIBLE COUPLINGS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13.
11. ALL DRAIN PIPING SHALL BE COORDINATED WITH AND APPROVED BY A/E FOR ARRANGEMENT, LOCATION (DOWNSPOUT, DOCK PARKING LOT, ETC.) AND APPROPRIATENESS OF THE MEANS OF DISCHARGE (STORM SEWER, SANITARY SEWER, BIOSWALE, ETC.) THAT WILL HANDLE THE FULL FLOW OF THE DRAIN WITHOUT SPECIAL TOOLS OR EQUIPMENT AND WITH DAMAGE TO LANDSCAPING OR PAVEMENT.
12. INSPECTOR'S TEST CONNECTION SHALL BE NOT LARGER THAN 1/2" ORIFICE AND BE LOCATED ON THE REMOTE BRANCH LINE.

SYSTEM NOTES

1. ALL SYSTEM PIPING SHALL BE HYDROSTATICALLY TESTED @ 200 PSI FOR TWO HOURS OR AT 50 PSI ABOVE THE OPERATIONAL STATIC PRESSURE OF THE SYSTEM, WHICHEVER IS GREATER.
2. EACH VALVE SHALL HAVE A PERMANENTLY AFFIXED SIGN INDICATING ITS FUNCTION. ALL VALVE HANDLES MUST BE ACCESSIBLE.
3. A STOCK OF SPARE SPRINKLERS, NOT LESS THAN 6, CONSISTING OF A REPRESENTATIVE MIX OF EACH STYLE AND TEMPERATURE RATING SHALL BE PROVIDED WITH A WRENCH AND BE LOCATED NEAR THE RISER. SPARE SPRINKLER CABINET WILL BE MOUNTED WHERE THE SPRINKLERS WILL NOT BE SUBJECTED TO TEMPERATURES ABOVE 100 DEG. F.
4. SPRINKLERS SHALL BE A MINIMUM OF 1/2" NPT 1/2" ORIFICE K-5.6 QUICK RESPONSE, PENDENT SPRINKLERS SHALL BE INSTALLED IN THE CENTER POINTS OF THE CEILING TILES. CONCEALED SPRINKLERS WITH WHITE COVER PLATES SHALL BE INSTALLED THROUGHOUT FINISHED CEILINGS. OTHER SPRINKLERS SHALL BE GLASS BULB, BRONZE FINISHED WITH AN ORIFICE AND THREAD SIZE APPROPRIATE FOR THE HAZARD AND DENSITY.
5. BRANCH LINE CONNECTIONS TO THE MAIN SHALL BE PRE-DRILLED, SHOP WELDED OUTLETS OR OTHER CONNECTIONS AS APPROVED, MECHANICAL TEES SHALL NOT BE USED ON NEW SYSTEMS. MAIN PIPING FOR THE SYSTEMS SHALL BE SCHEDULE 40. BRANCH LINE PIPING FOR THIS PROJECT SHALL BE SCHEDULE 40 PIPE WITH SCREWED AND/OR WELDED FITTINGS. IF A HISTORY OF CORROSION IS KNOWN TO EXIST, SCHEDULE 10 PIPING MAY BE USED.
6. THREADABLE THINWALL, ENGINEERED PIPE SIZING, IE DYNATHREAD/DYNAFLOW, AND CPVC MAY NOT BE USED.
7. ALL MATERIALS USED IN THE INSTALLATION OF THIS SYSTEM(S) SHALL BE NEW AND OF CURRENT ISSUE. ALL MATERIALS SHALL BE APPROVED BY UL AND BE IN CONFORMANCE WITH SPECIFICATIONS, CURRENT EDITION OF NFPA-13 AS WELL AS THE AUTHORITY HAVING JURISDICTION.
8. SYSTEM PIPING WILL BE SUPPORTED AND BRACED WITH HANGERS
9. PAINTING OF THE SYSTEM PIPING AND COMPONENTS SHALL BE DONE PER A/E SPECIFICATIONS.
10. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE INTEGRITY OF THE SPRINKLER SYSTEM DURING CONSTRUCTION.
11. ELEVATIONS AND DIMENSIONS SHOWN ON THESE DRAWINGS ARE NOMINAL.
12. THE VERTICAL DISTANCE BETWEEN THE SPRINKLER DEFLECTOR AND THE CEILINGS AND/OR ROOF DECK SHALL BE A 1" MIN AND 12" MAX PER NFPA 13.
13. THE SMALL-ROOM RULE MAY BE USED IN ROOMS UNDER 800 SQUARE FEET. THIS RULE ALLOWS THAT SPRINKLERS TO BE SPACED UP TO 9' FROM ONE WALL, UP TO 225sq ft PER SPRINKLER, PROVIDED THERE IS AN 8" LINTEL AT THE DOORS/OPENINGS.
14. WATER VELOCITIES SHALL NOT EXCEED 20-FPS.
15. SPRINKLER AREAS WILL BE LIMITED IN ACCORDANCE WITH NFPA 13.
16. ALL PIPE UP TO 4" SHALL HAVE AN ANTIBACTERIAL PROTECTIVE COATING EQUIVALENT TO ALLIED TUBE AND CONDUIT M-COTE, AND BE SHOWN TO NOT BE INCOMPATIBLE WITH CPVS. CONTRACTOR TO VERIFY.
17. AUTOMATIC SPRINKLER SYSTEMS SHALL BE SUPERVISED AND INTERFACE WITH NEW FIRE ALARM SYSTEM.
18. THE CONTRACTOR SHALL PROVIDE THE INSPECTOR WITH COPY OF: THE "CONTRACTOR'S MATERIAL & TEST CERTIFICATE FOR ABOVEGROUND PIPING" IN ACCORDANCE WITH NFPA 13; AND THE "RECORD OF COMPLETION" FOR FIRE ALARM SYSTEMS IN ACCORDANCE WITH NFPA 72. THESE DOCUMENTS SHALL BE PRESENTED UPON SUCCESSFUL COMPLETION ON THE SYSTEM TEST AND PRIOR TO ACCEPTANCE OF THE SYSTEM.
19. ONE SET OF STAMPED, APPROVED DRAWINGS SHALL BE ON SITE AT ALL TIMES AND MADE AVAILABLE TO INSPECTORS ON DEMAND.
20. FIRE DEPARTMENT VEHICLE ACCESS ROADWAYS SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION. REQUIRED WATER FLOW SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION AND PRIOR TO ANY COMBUSTIBLES BEING BROUGHT ON SITE.
21. FIRE PROTECTION SYSTEMS SHALL BE INSTALLED BY A CONTRACTOR LICENSED TO PERFORM SUCH WORK IN THE PROJECT JURISDICTION.

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Sheet Title

FIRE PROTECTION LEGEND AND NOTES

Sheet Number

FX001

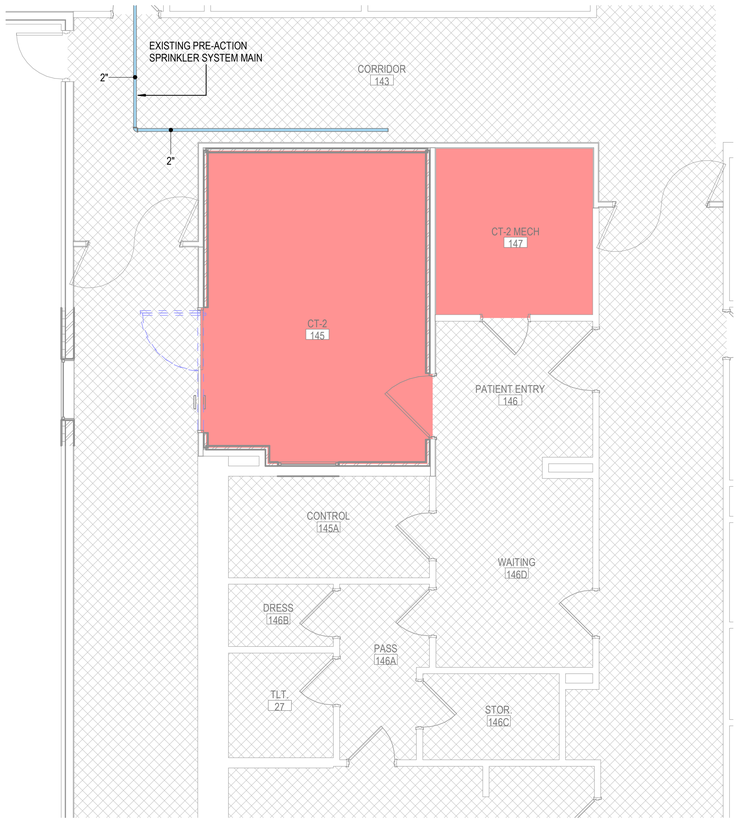
NOTES:

1. PROVIDE MODIFICATIONS TO THE EXISTING FIRE SUPPRESSION SYSTEM AS REQUIRED FOR RENOVATIONS AS INDICATED. REFER TO ARCHITECTURAL DRAWINGS FOR COMPLETE DETAILS OF ALL AREAS TO BE RENOVATED. ALL MODIFICATIONS TO THE EXISTING FIRE SUPPRESSION SYSTEM SHALL BE IN ACCORDANCE WITH 2021 NFPA 101, 2019 NFPA 13, FM GLOBAL REQUIREMENTS, AND LOCAL AHJ REQUIREMENTS.
2. THIS IS A FULLY SPRINKLERED BUILDING WITH AN EXISTING CLASS I WET STANDPIPE SYSTEM AND EXISTING FIRE PUMP.
3. CONTRACTOR TO FIELD VERIFY ALL EXISTING FIRE PROTECTION CONDITIONS PRIOR TO THE DEVELOPMENT OF SHOP DRAWINGS.
4. REUSE EXISTING DOUBLE INTERLOCK PRE-ACTION FIRE SUPPRESSION SYSTEM TO PROTECT ROOMS CT-2 145, CT-2 MECH 31, MRI-2 129, AND MRI-2 EQ. 129-1.
5. ALL PRE-ACTION PIPING, SPRINKLER HEADS, FITTINGS, AND HANGERS LOCATED IN ROOMS MRI-2 129 AND MRI-2 EQ. 129-1 SHALL BE NON-FERROUS MATERIAL.

Hazard Zones

ORDINARY HAZARD 2

AREA NOT IN CONTRACT

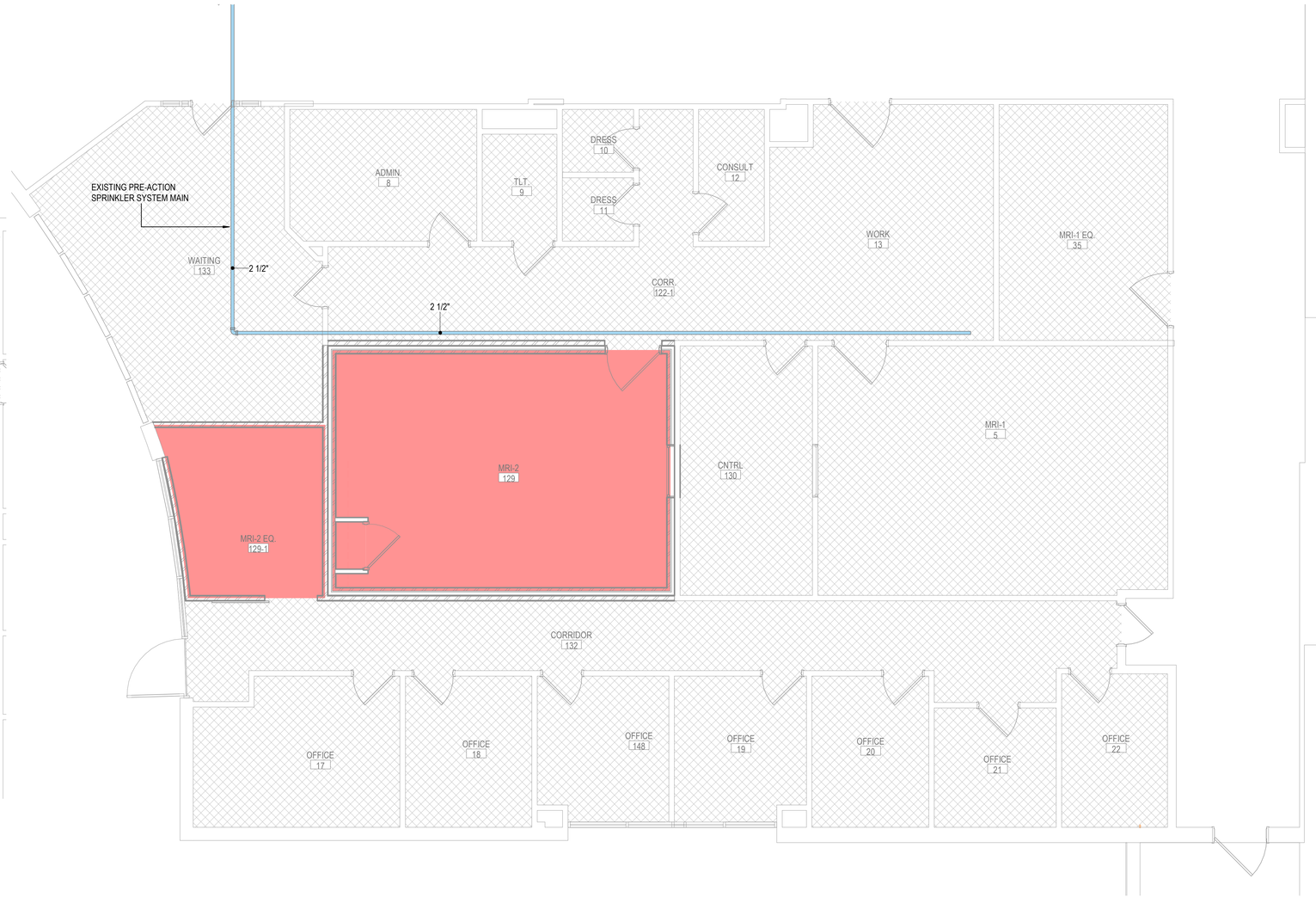


1 FIRE PROTECTION - FIRST LEVEL - FLOOR PLAN - CT AREA

1/4" = 1'-0"

0 2 4 8

TRUE NORTH NORTH PLAN



2 FIRE PROTECTION - FIRST LEVEL - FLOOR PLAN - MRI AREA

1/4" = 1'-0"

0 2 4 8

TRUE NORTH NORTH PLAN

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS ENGINEERS
#5
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 19823
10-18-2024

Notes

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Project Number **2024-101**

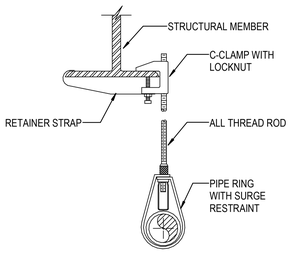
Issue Date **10-18-2024**

Sheet Title

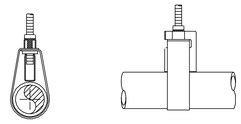
FIRE PROTECTION FIRST FLOOR PLAN

Sheet Number

FX101

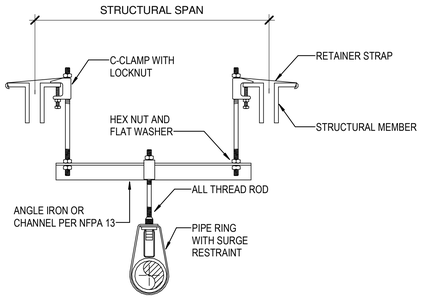


1 BEAM CLAMP HANGER
NOT TO SCALE

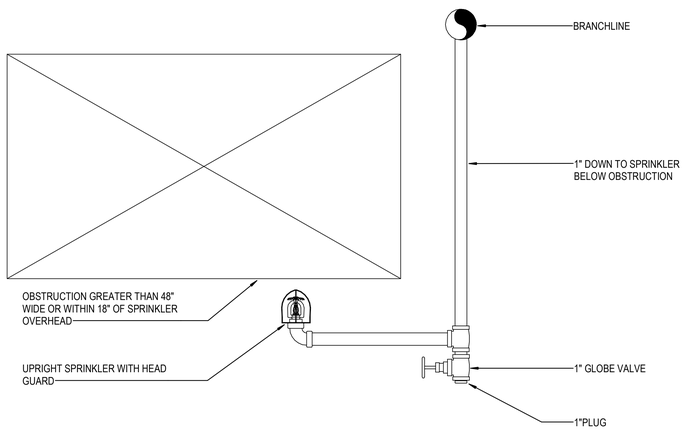


NOTE: SURGE RESTRAINERS ARE TO BE USED ONLY WITH BAND HANGERS TO RESTRAIN THE UPWARD MOVEMENT OF PIPE AS IT OCCURS DURING SPRINKLER HEAD ACTIVATION OR SEISMIC ACTIVITY. INSTALL AT ENDS OF LINES AND AT 30' INTERVALS ON BRANCH LINES.

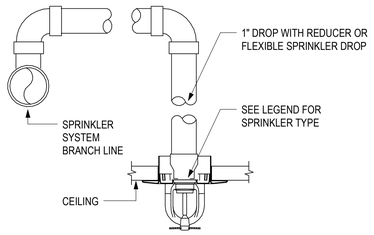
2 HANGER SURGE
NOT TO SCALE



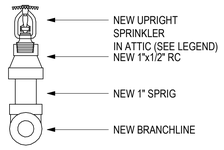
3 TRAPEZE HANGER
NOT TO SCALE



4 SPRINKLER UNDER OBSTRUCTION
NOT TO SCALE



5 RETURN BEND
NOT TO SCALE



6 UPRIGHT SPRINKLER DETAIL
NOT TO SCALE

CROMWELL
1300 East 6th Street Little Rock, AR 72202
501.372.2900 cromwell.com

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CHI St. Vincent

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CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS, ENGINEER

STATE OF ARKANSAS
JAY R. ROBERTS
REGISTERED PROFESSIONAL ENGINEER
No. 19823

10-18-2024

Notes

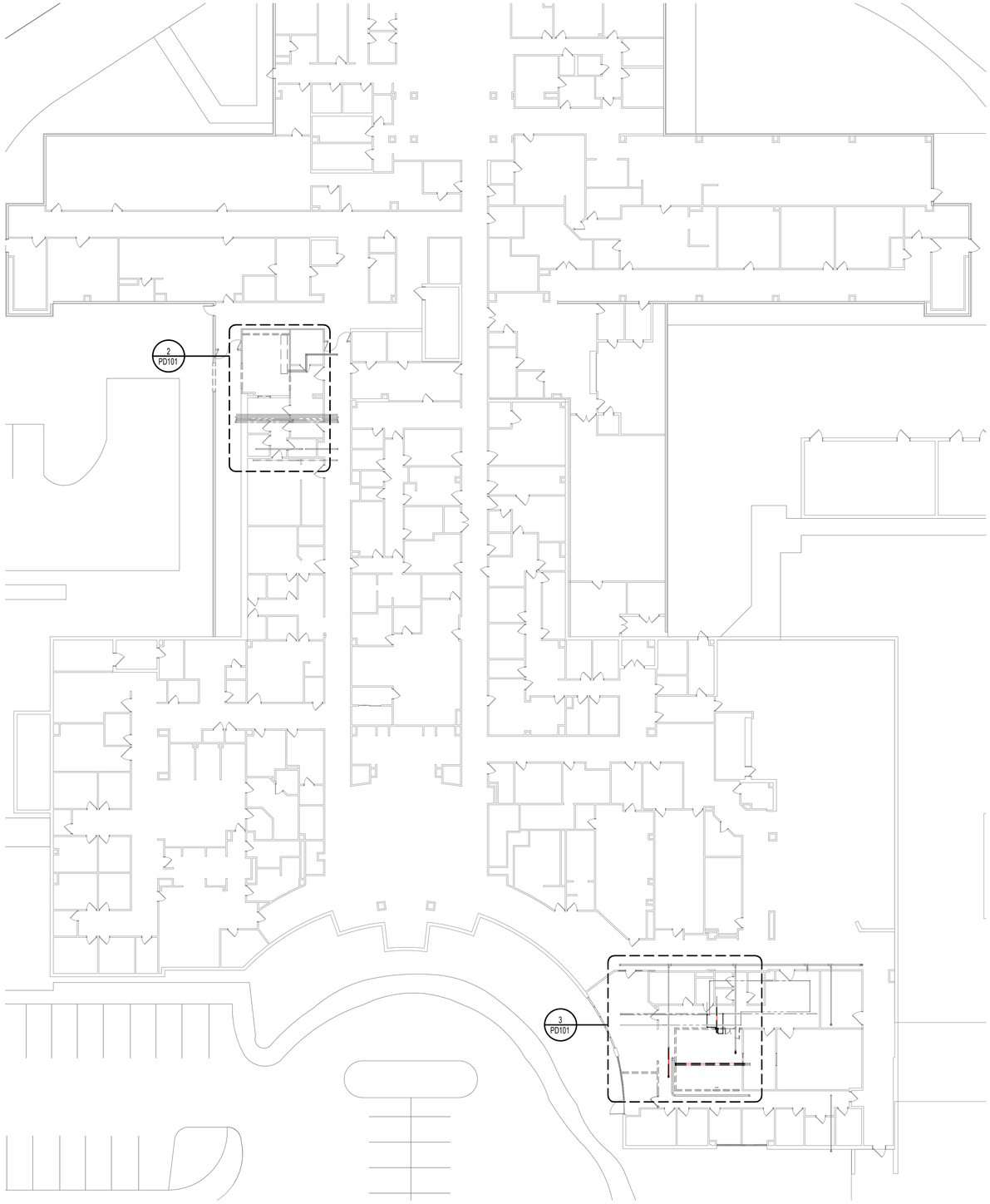
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Project Number **2024-101**

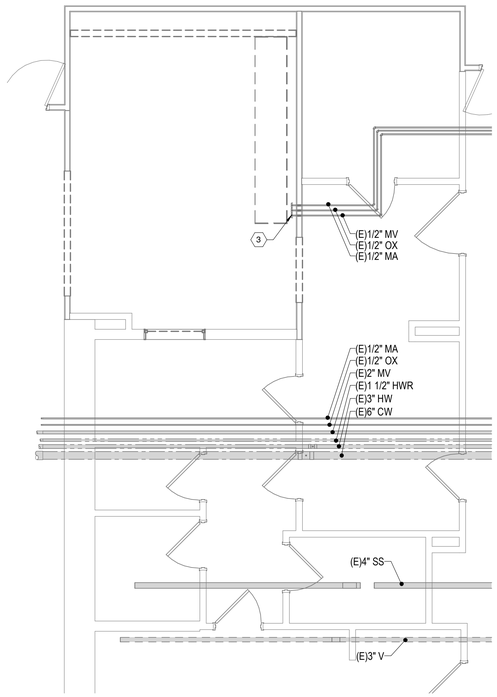
Issue Date **10-18-2024**

Sheet Title **FIRE PROTECTION DETAILS**

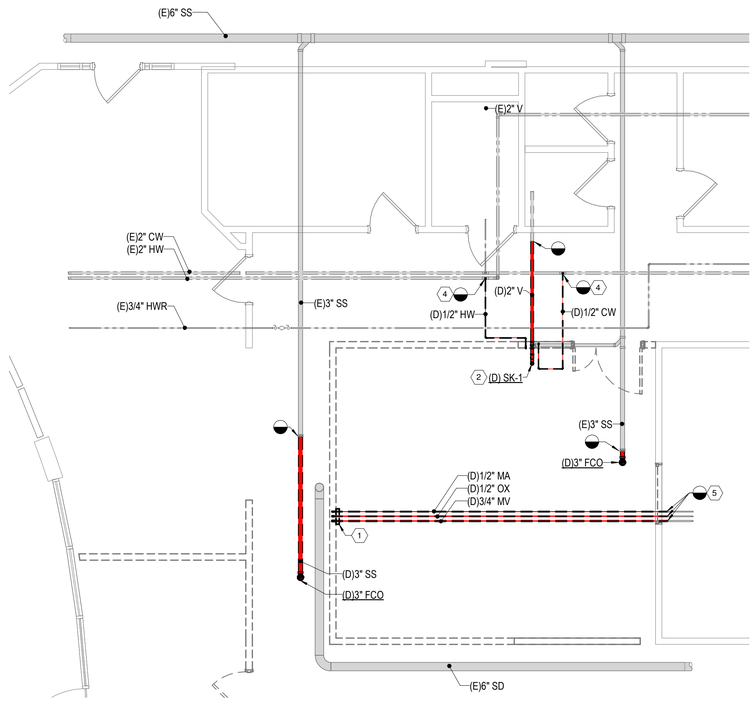
Sheet Number **FX501**



1 FIRST FLOOR OVERALL PLUMBING DEMO PLAN
1/16" = 1'-0"
0 8 16 32
TRUE NORTH
NORTH PLAN



2 ENLARGED CT PLUMBING DEMO PLAN
1/4" = 1'-0"
0 2 4 8
TRUE NORTH
NORTH PLAN



3 ENLARGED MRI PLUMBING DEMO PLAN
1/4" = 1'-0"
0 2 4 8
TRUE NORTH
NORTH PLAN

GENERAL NOTES

1 REFER TO SHEET P-001 FOR LEGEND AND NOTES.

KEYED NOTES

1 DEMO EXISTING MED GAS PIPING AND OUTLET AND PREPARE FOR RELOCATION.
2 DEMO EXISTING SINK IN ITS ENTIRETY AND ASSOCIATED PIPING TO POINTS INDICATED. CAP AND CONCEAL PIPING AT WALL.
3 EXISTING MED GAS OUTLET TO REMAIN.
4 DEMOLISH EXISTING CW AND HW PIPING BACK TO SHUT OFF VALVE AND CAP.
5 DEMOLISH EXISTING MED GAS PIPING TO POINT INDICATED. PREP PIPING FOR RECONNECTION IN NEW WORK.

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CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20265
HUNTER P. BROCK
10-18-2024

Notes

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **PLUMBING DEMOLITION PLANS**

Sheet Number **PD101**

ABBREVIATIONS

AC	AIR COMPRESSOR	HVAC	HEATING, VENTILATION, AIR COND.
ACU	AIR CONDITIONING UNIT	HP	HORSE POWER
AD	AREA DRAIN	HRWH	HEAT RECLAIM WATER HEATER
AFC	ABOVE FINISH CEILING	HS	HOSE STATION
AFF	ABOVE FINISH FLOOR	HW	HOT WATER
AFG	ABOVE FINISHED GRADE	HWG	HOT WATER GENERATOR
AHJ	AUTHORITY HAVING JURISDICTION	HWR	HOT WATER RETURN
APPROX	APPROXIMATE	HWST	HOT WATER STORAGE TANK
ARCH	ARCHITECT/ARCHITECTURAL	ID	INSIDE DIAMETER/DIMENSION
ARD	AUXILIARY ROOF DRAIN	KW	KILOWATTS
BFF	BELOW FINISH FLOOR	LAV	LAVATORY
BLDG	BUILDING	LF	LINEAR FEET
BTU	BRITISH THERMAL UNITS	LPG	LIQUID PETROLEUM GAS
BTUH	BRITISH THERMAL UNITS/HOUR	LWT	LEAVING WATER TEMPERATURE
CAP	CAPACITY	MAX	MAXIMUM
CB	CATCH BASIN	MBH	THOUSAND BTU/PER HOUR
CD	CONDENSATE DRAIN	MECH	MECHANICAL
CFH	CUBIC FEET/HOUR	MDL	MODEL
CFM	CUBIC FEET/MINUTE	MFR	MANUFACTURER
CI	CAST IRON	MH	MANHOLE
CLG	CEILING	MIN	MINIMUM
CO	CLEAN OUT	MISC	MISCELLANEOUS
COL	COLUMN	MTD	MOUNTED
CONC	CONCRETE	NA	NOT APPLICABLE
CONN	CONNECT	NFPA	NATIONAL FIRE PROTECTION ASSO.
CONST	CONSTRUCTION	NTS	NOT TO SCALE
CONT	CONTINUE	OA	OUTSIDE AIR
COTG	CLEAN OUT TO GRADE	OD	OUTSIDE DIAMETER/DIMENSION
CP	CIRCULATING PUMP	PD	PRESSURE DROP
CR	CONDENSATE RETURN	PLBG	PLUMBING
CW	COLD WATER	PRESS	PRESSURE
DCOTG	DOUBLE CLEANOUT TO GRADE	PRV	PRESSURE REDUCING VALVE
DD	DESICCANT DEHUMIDIFIER	PSI	POUNDS PER SQUARE INCH
DEG(°)	DEGREE	RA	RETURN AIR
DEMO	DEMOLITION	RD	ROOF DRAIN
DF	DRINKING FOUNTAIN	REF	REFERENCE
DS	DOWN SPOUT	REQD	REQUIRED
DIA	DIAMETER	REV	REVISION, REVISED
DTL	DETAIL	RM	ROOM
	DOMESTIC WATER HEATER (G) GAS	RPM	REVOLUTIONS PER MINUTE
(G/E)WH	(E) ELECTRIC	SC	STEAM CONDENSATE
EFF	EFFICIENT	SCH	SCHEDULE
ELEV	ELEVATION	SECT	SECTION
ELEC	ELECTRICAL	SK	SINK
EQ	EQUAL	SP	STATIC PRESSURE
EQUIP	EQUIPMENT	SPEC	SPECIFICATION(S)
EWT	ENTERING WATER TEMPERATURE	SS	SANITARY SEWER
EX, EXT	EXISTING	ST	STEAM
EXP	EXPANSION	STL	STEEL
FCO	FLOOR CLEANOUT	SUCT	SUCTION
FD	FLOOR DRAIN	TEMP	TEMPERATURE
FL	FLOW LINE	TDH	TOTAL DYNAMIC HEAD
FLEX	FLEXIBLE CONNECTION	TH	TOTAL HEAD
FLR	FLOOR SINK	TWMV	THREE WAY MODULATING VALVE
FPM	FLOOR	TMV	THERMOSTATIC MIXING VALVE
FS	FEET PER MINUTE	TYP	TYPICAL
FPWH	FREEZE PROOF WALL HYDRANT	UL	UNDERWRITERS LABORATORY
FPRH	FREEZE PROOF ROOF HYDRANT	UR	URINAL
G	GAS	V	VENT
GA	GAUGE	VLV	VALVE
GAL	GALLON	VEL	VELOCITY
GALV	GALVANIZED	VERT	VERTICAL
GI	GREASE INTERCEPTOR	VTR	VENT THROUGH ROOF
GPH	GALLONS PER HOUR	VOL	VOLUME
GPM	GALLONS PER MINUTE	WC	WATER CLOSET
GT	GREASE TRAP	WCO	WALL CLEANOUT
HB	HOSE BIBB	WTR	WATER
HT	HEIGHT	WP	WORKING PRESSURE
HTG	HEATING	WT	WEIGHT

GENERAL PLUMBING SYMBOLS

- REVISION NUMBER SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- DEMOLISH TO POINT INDICATED
- NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS (e.g. 1 / P-001)
- KEYNOTE
- PIPE CONTINUATION

SPACE TAG:

- OFFICE — SPACE NAME
- 101 — SPACE NUMBER
- 100 SF — SPACE AREA

- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT

SEISMIC DESIGN CRITERIA

1. SEISMIC DESIGN DATA:
   - A. SEISMIC DESIGN CATEGORY: D
     - a. SEE SHEET S-001 FOR MORE INFO.
2. PROVIDE SEISMIC BRACING AS REQUIRED PER NFPA.

PLUMBING PHASING

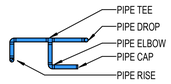
- EWH-1 — NEW CONSTRUCTION PLUMBING EQUIPMENT (TYPICAL TAG FOR ALL NEW CONSTRUCTION)
- (E)EWH-1 — EXISTING PLUMBING EQUIPMENT (TYPICAL FOR ALL EXISTING TAGS)
- (D)EWH-1 — PLUMBING EQUIPMENT FOR DEMOLITION (TYPICAL FOR ALL DEMOLITION TAGS)

PIPING LEGEND

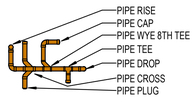
- (E) — EXISTING PIPE TAG
- (D) — DEMOLISHED PIPE TAG

NEW CONSTRUCTION	EXISTING	
CW		DOMESTIC COLD WATER
HW		HOT WATER 120°F
HWR		HOT WATER 120°F RECIRCULATION
CD		CONDENSATE DRAIN
SS		SANITARY SEWER
V		SANITARY VENT
SD		STORM DRAIN
MA		MEDICAL COMPORESSED AIR
CO		MEDICAL CARBON DIOXIDE
N2		MEDICAL NITROGEN
N2O		MEDICAL NITROUS OXIDE
OX		MEDICAL OXYGEN
MV		MEDICAL VACUUM
WAGD		MEDICAL WAGD

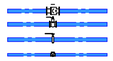
PRESSURE PIPE SYMBOLS



GRAVITY PIPE SYMBOLS

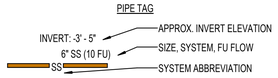


PIPE ACCESSORIES

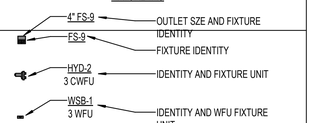


PLUMBING TAGS

PIPE TAG



FIXTURE TAG



PLUMBING SHEET SET NOTE

* NOTE *

ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.

MEDICAL GAS GENERAL NOTES

1. PROVIDE, INSTALL, AND TEST MEDICAL GAS SYSTEM IN COMPLIANCE WITH NFPA 99.
2. PIPING LAYOUT IS DIAGRAMMATIC ONLY. FIELD VERIFY AND COORDINATE ACTUAL LOCATION AND SIZES OF PIPING AND PIPE ACCESSORIES WITH ALL OTHER TRADES.
3. PROVIDE CERTIFICATION FOR ALL MEDICAL GAS PIPING WITHIN THE SCOPE OF THIS PROJECT. CONTRACTOR TO BEAR THE COST OF RE-CERTIFICATION AT NO ADDITIONAL COST TO THE OWNER.
4. EQUIP ALL SERVICE VALVES TEE OFF OF MAIN BRANCH LINE WITH LOCKABLE HANDLES.
5. SIZES SHOWN ARE NOMINAL DIAMETERS. ALL PIPING TO BE HARD DRAWN COPPER TUBE, ASTM B819, TYPE K, FACTORY CLEANED, PURGED, AND SEALED FOR MEDICAL GAS SERVICE. INCLUDE MARKING OR LABELING, "CLEANED FOR MEDICAL GAS SERVICE" AND "CLEANED FOR OXYGEN SERVICE." COPPER WROUGHT FITTINGS ARE TO BE SIMILAR. ALL JOINTS TO BE BRAZED PER NFPA 99. ALL COPPER PIPING BELOW GRADE TO BE WRAPPED OR SLEEVED IN POLYETHYLENE MATERIAL.
6. PROVIDE FIRE STOPPING FOR ALL FLOOR AND WALL PENETRATIONS AS REQUIRED TO PRESERVE THE FIRE RESISTANCE RATING OF THE PENETRATED ASSEMBLY.
7. INCLUDE MATERIALS AND INSTALLATION COST OF ALL MEDICAL WIRING IN BASE BID.
8. INTERVALS OF PIPE SUPPORTS: (EXAMPLE PIPE SIZE-SUPPORTSPACING IN FEET) 1/2" - 6FT, 3/4" - 7FT, 1" - 8FT, 1-1/4' - 9FT, 1-1/2" & 2" - 10 FT
9. PROVIDE SEISMIC PROTECTION FOR MEDICAL GAS SYSTEM PIPING AND COMPONENTS AS REQUIRED BY NFPA. REFER TO SEISMIC REQUIREMENTS.
10. ALL EXISTING EQUIPMENT, PIPING, ETC. ARE BASED ON AS-BUILT DRAWINGS AND LIMITED SITE SURVEY. VERIFY LOCATIONS AND MAKE PROVISIONS SHOULD THERE BE ANY CONFLICTS OR VARIATIONS.
11. CONNECT NEW MEDICAL GAS SERVICES TO EXISTING. PATCH TO MATCH EXISTING WALLS AND CEILING PENETRATIONS.

PLUMBING GENERAL NOTES

1. ALL PLUMBING SYSTEMS SHALL BE INSTALLED AS PER SPECIFICATIONS AND GOVERNING CODES.
2. ALL DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENTS OR GEOMETRIC RELATIONSHIPS OF EQUIPMENT AND SERVICES. THEY ARE NOT INTENDED TO SPECIFY OR SHOW EVERY OFFSET, FITTING OR COMPONENT. CONTRACTOR SHALL NOT SCALE DRAWINGS. INFORMATION AND COMPONENTS SHOWN ON RISER DIAGRAMS OR DETAILS, BUT NOT SHOWN ON PLANS, AND VICE-VERSA, SHALL BE PROVIDED AS IF EXPRESSLY REQUIRED BY BOTH. THE CONTRACTOR SHALL SUBMIT A REQUEST FOR INFORMATION (RFI) IF INFORMATION CONFLICTS. DRAWINGS SPECIFIC TO THIS DISCIPLINE DO NOT LIMIT THE RESPONSIBILITY OF WORK REQUIRED BY CONTRACT DOCUMENTS. REFER TO ARCHITECTURAL, STRUCTURAL, ELECTRICAL AND OTHER DRAWINGS FOR COMPLETE INFORMATION.
3. BY NECESSITY, THESE DRAWINGS REFLECT A SYSTEM DESIGNED AROUND SPECIFIC REFERENCE PRODUCTS, THE SELECTION OF WHICH HAS IMPACTED THE DESIGNS OF OTHER TRADES (HVAC, ELECTRICAL, STRUCTURAL, ETC.). IF ALTERNATE MANUFACTURERS, FUEL SOURCES, SIZES, OR MODEL NUMBERS ARE SUBMITTED OR BID, IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR AND ALL SUBCONTRACTORS TO COORDINATE ALL DIFFERENCES PRIOR TO BID. NO EXTRAS WILL BE ALLOWED FOR CHANGES REQUIRED TO OTHER TRADES IF ALTERNATE EQUIPMENT IS BID OR INSTALLED AT THE CONTRACTORS OPTION.
4. EXCEPT WHERE MODIFIED BY SPECIFIC NOTATION TO THE CONTRARY, IT SHALL BE UNDERSTOOD THAT THE INDICATION AND/OR DESCRIPTION OF ANY ITEM, IN THE DRAWINGS OR SPECIFICATIONS OR BOTH, CARRIES WITH IT THE INSTRUCTION TO FURNISH AND INSTALL THE ITEM, REGARDLESS OF WHETHER OR NOT THIS INSTRUCTION IS EXPLICITLY STATED AS PART OF THE INDICATION OR DESCRIPTION.
5. CONTRACTOR SHALL PAY ALL UTILITY FEES & CHARGES AS PART OF BASE BID IN THE CONTRACT.
6. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL WORK WITH THAT OF OTHER TRADES; i.e., ARCHITECTURAL, HVAC, ELECTRICAL, STRUCTURAL, FIRE PROTECTION AND CIVIL PRIOR TO CONSTRUCTION.
7. THE CONTRACTOR SHALL COORDINATE UTILITY LOCATIONS, SIZES AND INVERT ELEVATIONS PRIOR TO CONSTRUCTION; i.e., SANITARY SEWER, STORM DRAIN, FIRE PROTECTION, AND DOMESTIC WATER.
8. PROVIDE ISOLATION VALVES AT EACH FIXTURE GROUP OR BATTERY OF FIXTURES IN THE DOMESTIC CW, HW, HWR AND GAS PIPING. VALVES SHALL BE EASILY ACCESSIBLE. WHERE HARD CEILINGS ARE LOCATED, VALVES SHALL BE ACCESSED THROUGH ACCESS PANELS. ACCESS PANELS SHALL BE COORDINATED WITH ARCHITECT PRIOR TO CONSTRUCTION.
9. PROVIDE STOP VALVES AT ALL PLUMBING FIXTURES ON BOTH HOT AND COLD WATER SUPPLY LINES. VALVES, ESCUTCHEONS, FITTINGS, ETC., SHALL BE CHROME PLATED AND INSTALLED TIGHT TO WALL. WHERE PIPING IS EXPOSED, CHROME PLATED PIPE SHALL BE USED.
10. ALL EXPOSED OR ACCESSIBLE P-TRAPS SHALL BE CHROME PLATED AND PROVIDED WITH BOTTOM CLEANOUT PLUGS.
11. SLOPE 2-1/2" AND SMALLER DRAIN WASTE AND VENT (DWV) LINES AT MIN. (2%) 1/4" FALL PER FT.,, 3" TO 6" DWV LINES AT MIN. (1%) 1/8" FALL PER FT. AND 8" AND LARGER DWV LINES AT MIN. (.5%) 1/16" FALL PER FT. SANITARY SEWER AND WATER SHALL BE A MINIMUM OF 10' APART OR THE DOMESTIC WATER SERVICE SHALL BE 12" ABOVE THE TOP OF THE SEWER LINE, AT ITS HIGHEST POINT, IF PLACED IN SAME TRENCH.
12. PROVIDE ALL FITTINGS, TRANSITIONS, COUPLINGS, ADAPTERS, UNIONS, AND OTHER ACCESSORIES NEEDED TO COMPLETE CONNECTIONS AND PROPER OPERATIONS OF PLUMBING FIXTURES AND PLUMBING EQUIPMENT.
13. REFER TO SPECIFICATIONS FOR ACCEPTABLE MANUFACTURERS OF PLUMBING FIXTURES AND EQUIPMENT, AND PROPER APPLICATIONS OF SAME.
14. PROVIDE CLEANOUTS IN ALL SEWERS, WHETHER SHOWN OR NOT, AT INTERVALS NOT TO EXCEED 50 FEET, AT EACH CHANGE OF DIRECTION GREATER THAN 45°, AND ALL VERTICAL STACKS AT A HEIGHT OF 30" ABOVE FINISH FLOOR AT THE BASE OF EACH STACK.
15. WHERE WATER PRESSURES EXCEED 70 PSI, PROVIDE WATER PRESSURE REDUCING VALVES (PRV) CONFORMING TO ASSE 1003 WITH STRAINER IN WATER SUPPLY LINES, SETTING AT 70 PSI. SEE CODE AND MANUFACTURER INFORMATION FOR ACCEPTABLE PRESSURE REQUIREMENTS.
16. ALL PIPING PENETRATIONS OF THE RATED CEILING AND WALL MUST BE MADE WITH METAL PIPE OR UL LISTED APPROVED DEVICES. FIRE STOP ALL PIPE PENETRATIONS THRU RATED WALLS. SEE ARCHITECTURAL DRAWINGS FOR LOCATIONS, RATINGS AND FIRE STOPPING DETAILS.
17. DO NOT ROUTE ANY PIPING OVER ELEC. ROOMS, COMPUTER ROOMS, OR ELEC. PANELS.
18. ALL CONDENSATE DRAIN, SEWER & VENT PIPING SHALL BE RODDED AND CLEANED AT END OF CONSTRUCTION. ALL TRAPS SHALL BE CLEANED AND PRIMED AT END OF CONSTRUCTION.
19. PROVIDE WATER HAMMER ARRESTORS IN FIXTURE BRANCHES WHERE QUICK CLOSING VALVES ARE INSTALLED; i.e., FLUSH VALVES, ICE MAKERS, DISHWASHERS, ETC.
20. PROVIDE APPROVED BACKFLOW PREVENTION OR ANTI-SIPHON DEVICES AT ALL FIXTURES THAT COULD CONTAMINATE THE POTABLE WATER SYSTEM.
21. INSULATE ALL WATER AND CONDENSATE ABOVE FINISH FLOOR. SEE SPECIFICATIONS FOR THICKNESS SCHEDULE.
22. AN APPROVED TRAP SEAL DEVICE CONFORMING TO ASSE 1072 SHALL BE INSTALLED AT ALL FLOOR AND HUB DRAINS. ALL DRAINS SHALL HAVE DEEP SEAL TRAPS, 4" DEEP SEAL MINIMUM. INSTALL TRAP GUARD DEVICES PER MANUFACTURER'S INSTRUCTIONS.
23. DOMESTIC WATER SERVICE PIPING AND FITTINGS; E.G., CHECK VALVES, RPZA, SHUT-OFF VALVES, STRAINERS, PRESSURE REGULATORS, ETC. SHALL COMPLY WITH NSF 61 CRITERIA. ALL CAST IRON EQUIPMENT IS TO BE INTERNALLY EPOXY COATED.

PLUMBING FIXTURE

ID	BASIS OF DESIGN		COLD	HOT	WASTE	INDIRECT	VENT	TRAP	SPECIFICATION
	MANUFACTURER & MODEL	ACCESSORIES							
LV-1	AMERICAN STANDARD, 0356.015 "LUCERNE"	LEONARD MIXING VALVE #170-LF-BP, MCGUIRE OFFSET GRID STRAINER #PW155WC, MCGUIRE P-TRAP #PW8090, MCGUIRE SUPPLY STOP VALVES #LFBV2-02, WADE CARRIER #530 SERIES, T&S BRASS, B-2866-05-VF05	1/2"	1/2"	2"	---	2"	1-1/4"	LAVATORY - ADA COMPLIANT, 18-1/4"x20-1/2"x38"H, WALL HUNG, WHITE VITREOUS CHINA, FRONT OVERFLOW, TWO FAUCET HOLES ON 8" CENTERS, FAUCET - 0.5 GPM, CHROME PLATED LEAD FREE, 5-3/4" GOOSENECK SWING SPOUT, DECK MTD, 4" WRIST BLADES, CONCEALED DUAL HOT/COLD SUPPLY, 8" FIXED CENTERS, CARRIER - CONCEALED ARM WALL CARRIER
FS-1	MIFAB, FS1520-FL-150-MG	(-MG) MIFAB "MI-GARD" TRAP SEAL DEVICE,	---	---	SEE PLAN	---	2"	SEE PLAN	FLOOR SINK - 8"x8"x6"D, ACID RESISTANT ENAMEL COATING ON DRAIN AND GRATE, (-150) LOOSE SET 1/2 GRATE, ANCHOR FLANGE, OPTIONAL CLAMPING COLLAR FOR MEMBRANE FLOORS, SEEPAGE OPENINGS, ANTI-SPLASH ALUMINUM DOME BOTTOM STRAINER

PLUMBING ACCESSORY

ID	BASIS OF DESIGN	UTILITY CONNECTION	SPECIFICATION
	MANUFACTURER & MODEL		
RPZA-1	APOLLO VALVE, RPLF4A-218-A4F	3/4"CW	REDUCED PRESSURE ZONE ASSEMBLY - 3/4 INCH, LEAD FREE CAST BRASS, EASILY REMOVABLE MODULAR CHECK VALVE ASSEMBLIES, CAPTURED STAINLESS STEEL SPRINGS, BALL VALVE SHUT-OFFS W/ STAINLESS STEEL HANDLES AND UNIONS, WYE STRAINER INCLUDED, MODULAR RELIEF VALVE, 175 PSI MAX WORKING PRESSURE, 33F-180F TEMP RANGE, ALL PARTS, COMPONENTS, AND ASSEMBLIES MADE IN USA
FCO	WADE, 6000-1 SERIES	SAME SIZE AS LINE, MAX 4"	FLOOR CLEANOUT - SAME SIZE AS LINE, MAX. 4", HEAVY DUTY CAST IRON, FERRULE, THREADED ADJUSTABLE HOUSING, INTEGRAL CLAMPING COLLAR, ABS PLUG, 6-3/4"DIA ROUND SCORIATED SECURE TOP WITH SATIN NICKEL-BRONZE FINISH

DEMOLITON / RENOVATION NOTES

1. IN THESE GENERAL NOTES, "PLUMBING" SHALL REFER TO, BUT NOT BE LIMITED TO SYSTEMS, COMPONENTS AND EQUIPMENT FOR [HOT WATER, HOT WATER RETURN, COLD WATER, SEWER, SEWER VENTS, STORM SEWER, CONDENSATE WASTE, MEDICAL GAS, MEDICAL GAS OUTLETS, MEDICAL GAS EQUIPMENT, ISOLATION VALVES, BALANCING VALVE, REGULATORS, EQUIPMENT AND PIPING, ETC.]
2. CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO: * PIPE SYSTEMS, SIZES AND LOCATIONS.* VALVE LOCATIONS.* EQUIPMENT CONDITIONS, CONNECTIONS AND LOCATIONS.* BALANCING VALVES.* HAMMER ARRESTORS.
3. ALL EXISTING PLUMBING EQUIPMENT AND PIPING ADJACENT TO AND/OR IN AREAS OF DEMOLITION SHALL BE PROPERLY IDENTIFIED FOR LOCATION, SIZE, CONDITION AND SYSTEM(S) OPERATION. ALL SYSTEMS SHALL BE COMPARED TO THE PLUMBING DRAWINGS AND EXISTING RECORD DRAWINGS (EXISTING RECORD DRAWINGS SHALL BE REQUESTED FROM [OWNER OR GOVERNMENT]) AND DOCUMENT ALL VARIATIONS. AFTER THE EXISTING SYSTEMS ARE INVESTIGATED AND DOCUMENTED, THE CONTRACTOR SHALL CAP AND/OR REMOVE ALL PLUMBING EQUIPMENT AND PIPING BACK TO POINT OF DEMOLITION BOUNDARY AS NOTED ON PLANS. DEMOLITION BOUNDARY AND PHASING SHALL BE COORDINATED WITH ARCHITECT AND [OWNER OR GOVERNMENT] PRIOR TO CONSTRUCTION. ALL BRANCHES AND DROPS NOT REMOVED SHALL BE CAPPED AND PREPARED FOR FUTURE RECONNECTION WHEN NEW EQUIPMENT AND/OR FIXTURES ARE INSTALLED, AS REQUIRED.
4. COORDINATE AND SCHEDULE THE REMOVAL OF EXISTING PLUMBING AND SYSTEM SHUT-DOWNS WITH OWNER, ARCHITECT AND MAINTENANCE PERSONNEL PRIOR TO CONSTRUCTION.
5. MAINTAIN EXISTING PLUMBING WITH PHASED DEMOLITION AND INSTALLATION OF NEW WORK, PROVIDING TEMPORARY SERVICES AS REQUIRED.
6. EXISTING PLUMBING EQUIPMENT BEING REMOVED AND NOT RE-USED, SHALL REMAIN THE PROPERTY OF THE OWNER (AS APPROVED BY THE OWNER) AND SHALL BE DELIVERED UPON REMOVAL TO LOCATION DESIGNATED BY THE GOVERNMENT. ALL OTHER SYSTEM COMPONENTS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
7. UPON COMPLETION OF NEW ADDITION, NEW PLUMBING EQUIPMENT AND PIPING WILL BE INSTALLED AS SHOWN ON RENOVATED PLUMBING PLANS. RECONNECT ALL EXISTING BRANCHES AND EQUIPMENT TO NEW SYSTEM PIPING AS REQUIRED FOR OPERATION.
8. REPLACE AND/OR PATCH TO MATCH EXISTING, ANY COMPONENTS OF THE EXISTING PLUMBING SYSTEMS TO FACILITATE ITS INSTALLATION WITHIN THE NEW RENOVATED AREAS. SUCH ITEMS MAY INCLUDE, BUT NOT BE LIMITED TO, FITTINGS, SUPPORTS, NEW MOUNTING SYSTEMS, NEW ACCESS DOORS, ETC.
9. DAMAGED, OR INOPERABLE PLUMBING COMPONENTS INSPECTED PRIOR TO DEMOLITION AND DETERMINED NOT SUITABLE FOR REUSE, THAT WILL EFFECT THE INTEGRITY OF THE OPERATION OF THE PLUMBING SYSTEM, SHALL BE REPLACED WITH NEW OF LIKE, OR EQUAL QUALITY.
10. PATCH ALL WALLS, FLOORS, ROOFS AND CEILINGS TO MATCH EXISTING OR NEW (IF APPLIED) FOR ALL OPENINGS CREATED BY DEMOLITION WORK OF EQUIPMENT AND PLUMBING SYSTEM PENETRATIONS.

ADA REQUIREMENTS

FAUCET CONTROLS: CONTROLS SHALL BE LEVER HANDLES OPERABLE WITH ONE HAND AND SHALL NOT REQUIRE TIGHT GRASPING, PINCHING, OR TWISTING OF WRIST. THE FORCE REQUIRED TO ACTIVATE CONTROLS SHALL BE NO GREATER THAN 5 lbf.

SINKS: SINKS SHALL BE MOUNTED WITH THE RIM OR COUNTER SURFACE NO MORE THAN 34" ABOVE FINISHED FLOOR. PROVIDE A CLEARANCE OF AT LEAST 27" HIGH, 30" WIDE, AND 19" DEEP. SINKS SHALL BE A MAXIMUM OF 6-1/2" DEEP. ALL WATER AND DRAIN PIPING UNDER SINKS SHALL BE PROVIDED WITH INSULATING FOAM INSERT, COVERED WITH A 1/8" VINYL OUTER SHELL. ANGLE STOPS SHALL HAVE A FLIP TOP ACCESS.

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Project

CHI St. Vincent North - **MRI and CT**

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CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

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Project Number **2024-101**

Issue Date **10-18-2024**

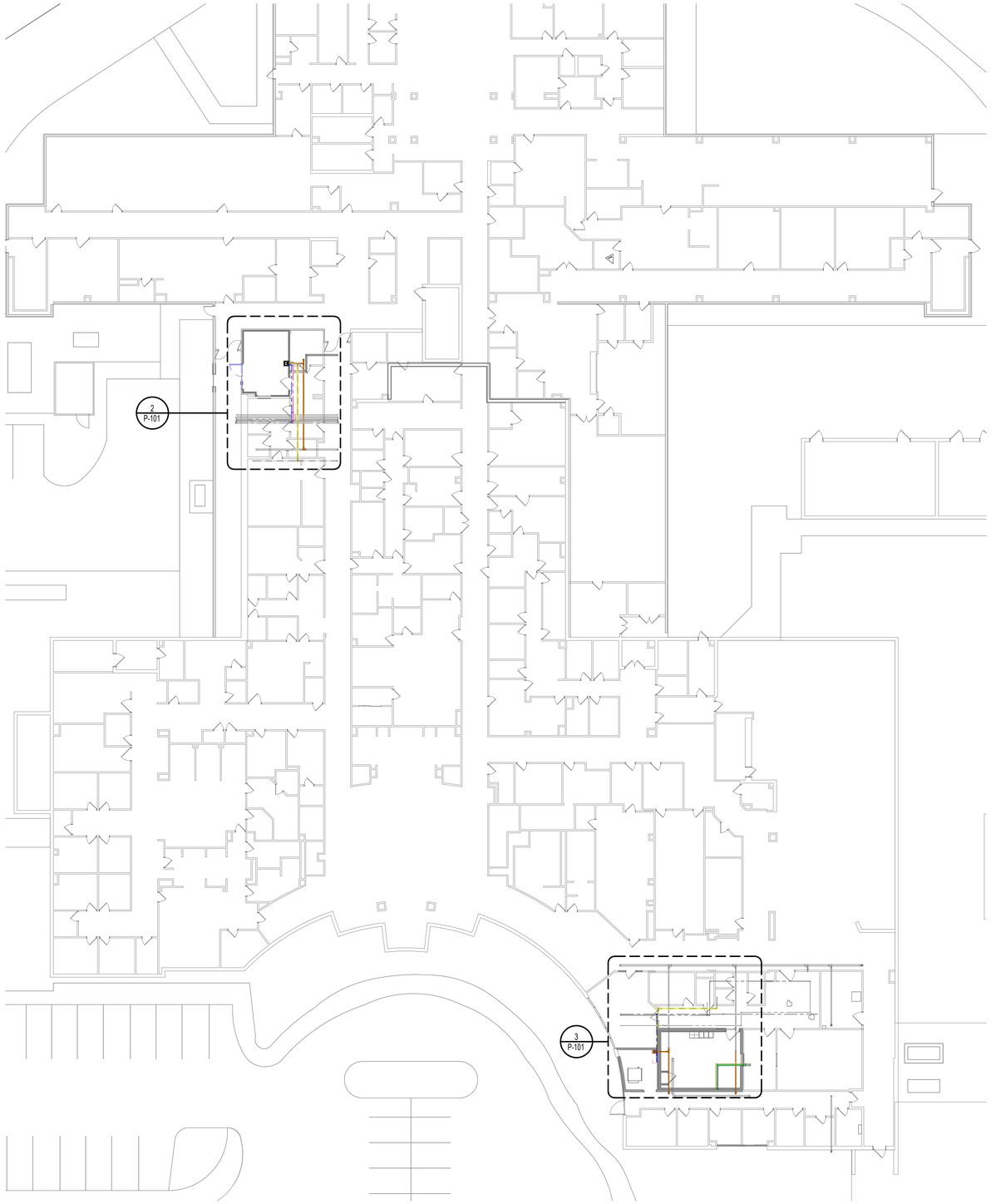
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PLUMBING LEGEND, NOTES, AND SCHEDULES

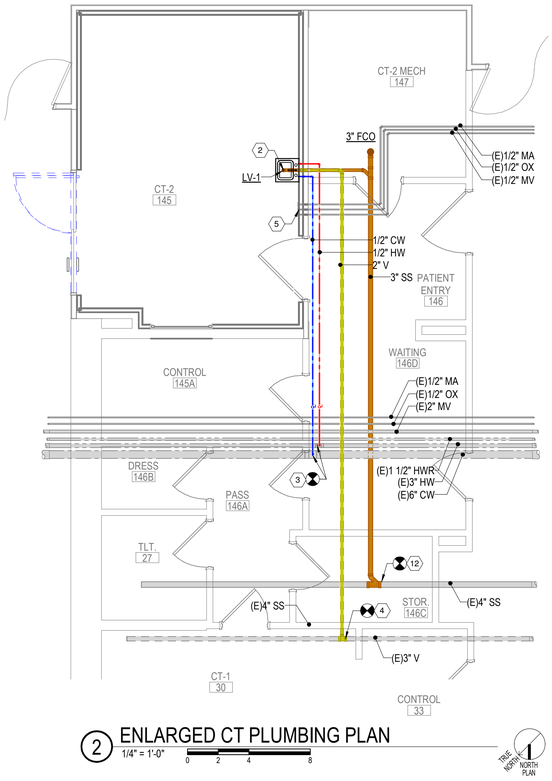
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P-001

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1 FIRST FLOOR OVERALL PLUMBING PLAN
1/16" = 1'-0"



2 ENLARGED CT PLUMBING PLAN
1/4" = 1'-0"

GENERAL NOTES

1 REFER TO SHEET P-001 FOR LEGEND AND NOTES.

KEYED NOTES

1 INSTALL NEW RPZ FOR MRI-2 EQUIPMENT ROOM. CONTRACTOR TO COORDINATE FINAL LOCATION.

2 INSTALL NEW WALL MOUNTED SINK. CONTRACTOR TO COORDINATE EXACT LOCATION TO NOT INTERFERE WITH CT MACHINE CLEARANCE AND OWNER ACCESSIBILITY.

3 CONNECT NEW DOMESTIC WATER PIPING TO EXISTING DOMESTIC WATER PIPING AT APPROXIMATELY THIS LOCATION ABOVE CEILING. VERIFY SIZE AND LOCATION OF EXISTING PIPING PRIOR TO INSTALLATION.

4 CONNECT NEW VENT PIPING TO EXISTING VENT PIPING AT APPROXIMATELY THIS LOCATION ABOVE CEILING. VERIFY SIZE AND LOCATION OF EXISTING PIPING PRIOR TO INSTALLATION.

5 EXISTING MED GAS OUTLET TO REMAIN.

6 CONNECT NEW MED GAS PIPING TO EXISTING MED GAS PIPING AT APPROXIMATELY THIS LOCATION ABOVE CEILING. CONTRACTOR TO ROUTE NEW PIPING THRU THE SIDEWALL OF THE RF ENCLOSURE AND CONTINUE TO WALL OUTLETS CONTAINED WITHIN THE RF ENCLOSURE. PIPING AND SUPPORTS SHALL BE OF NON-FERROUS CONSTRUCTION. VERIFY SIZE AND LOCATION OF EXISTING PIPING PRIOR TO INSTALLATION.

7 EXISTING STORM DRAIN PIPING ROUTED IN THE JOIST SPACE ABOVE NEW RF SHIELD TO REMAIN. INSTALL 4" DEEP DRIP PAN FOR LENGTH OF PIPING ROUTED OVER MRI ROOM AND ROUTE 3/4" DRAIN TO FLOOR SINK IN MRI EQUIPMENT ROOM.

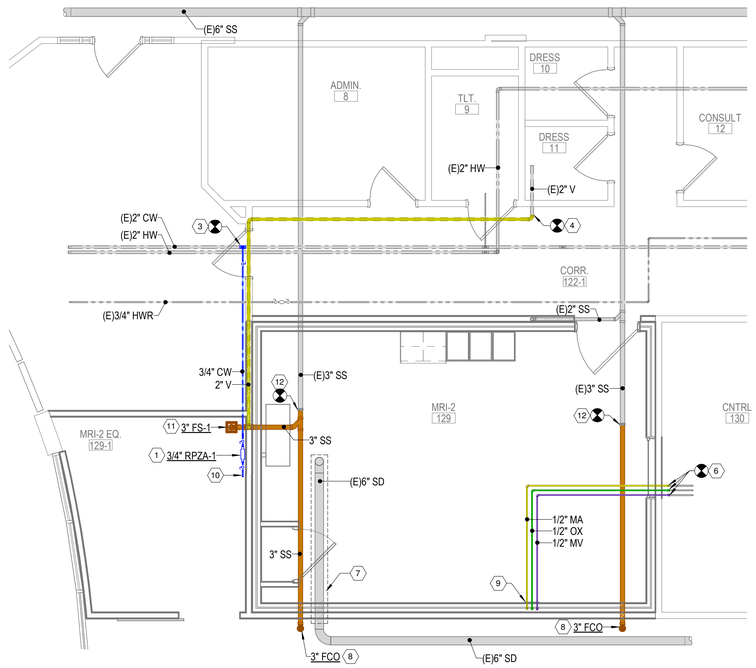
8 EXTEND SANITARY SEWER PIPING AND LOCATE NEW FCO OUTSIDE OF THE MRI RF ENCLOSURE.

9 REINSTALL EXISTING MED GAS OUTLETS IN NEW LOCATION AS REQUIRED. VERIFY EXACT LOCATION WITH OWNER AND EQUIPMENT PRIOR TO ROUGH-IN.

10 ROUTE 1/2" CW PIPE TO HUMIDIFIER IN CRAC-01 AND CONNECT IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

11 CONTRACTOR SHALL COORDINATE EXACT LOCATION WITH ALL TRADES PRIOR TO ROUGH-IN. INSTALL IN A LOCATION THAT WILL MAINTAIN EQUIPMENT CLEARANCES AND PREVENT ACCESSIBILITY ISSUES.

12 CONNECT NEW SANITARY SEWER PIPING TO EXISTING SANITARY SEWER PIPING AT APPROXIMATELY THIS LOCATION BELOW GRADE. VERIFY SIZE AND LOCATION OF EXISTING PIPING PRIOR TO INSTALLATION.



3 ENLARGED MRI PLUMBING PLAN
1/4" = 1'-0"

Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

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CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20295
WALTER P. BROCK
10-18-2024

Notes

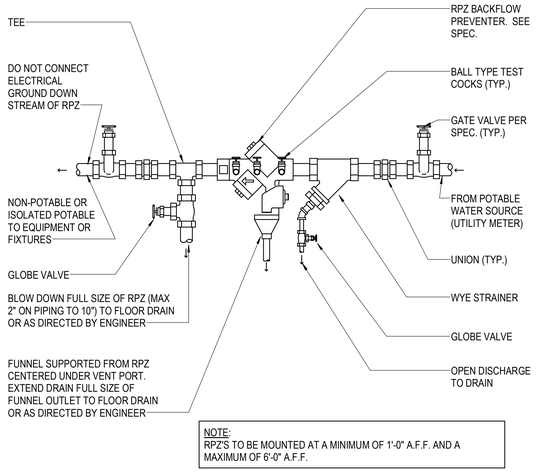
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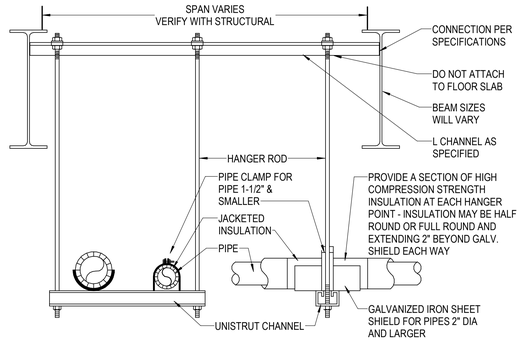
Sheet Title **PLUMBING PLANS**

Sheet Number **P-101**



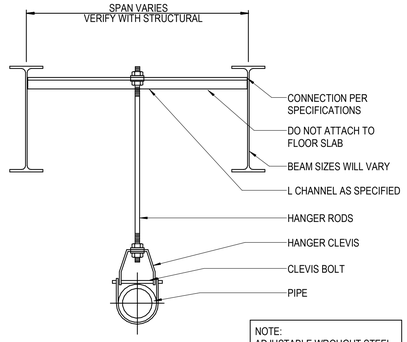
NOTE:
RPZ'S TO BE MOUNTED AT A MINIMUM OF 1'-0" A.F.F. AND A MAXIMUM OF 6'-0" A.F.F.

1 BACKFLOW PREVENTER FOR EQUIP. CONN.
NOT TO SCALE



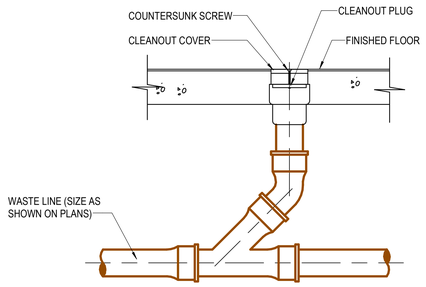
NOTES:
1. INSULATION TO BE CONTINUOUS THROUGH HANGERS. DO NOT BREAK INSULATION AT SUPPORTS, DO NOT INSULATE AROUND HANGERS.
2. INSULATION JACKET TO BE CONTINUOUS THROUGH PIPE SUPPORT COMPONENTS.
3. USE CLEVIS HANGERS FOR SINGLE PIPE RUNS, USE TRAPEZE HANGERS TO GROUP AS MUCH PIPING AS POSSIBLE PER HANGER.

2 TRAPEZE PIPE HANGER
NOT TO SCALE

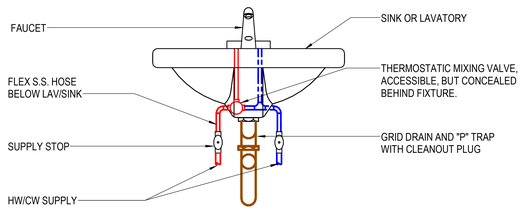


NOTE:
ADJUSTABLE WROUGHT STEEL CLEVIS PIPE HANGER SHALL BE INSTALLED AT EACH PIPE JOINT.

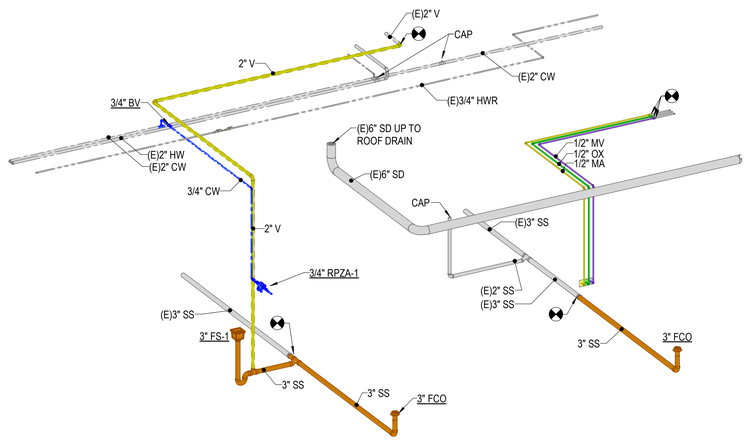
3 PIPE SUPPORTING HANGER
NOT TO SCALE



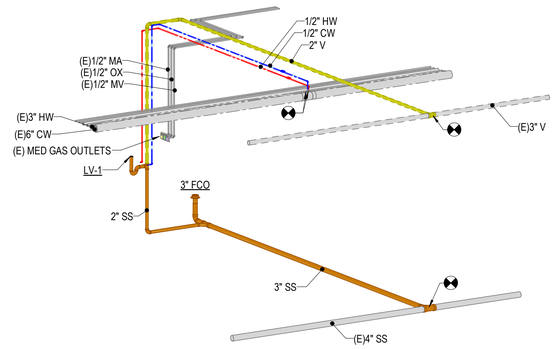
4 FLOOR CLEANOUT
NOT TO SCALE



5 P.O.U MIXING VALVE
NOT TO SCALE



6 PLUMBING RISER - MRI AREA
NOT TO SCALE



7 PLUMBING RISER - CT AREA
NOT TO SCALE

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Project

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CHI St. Vincent

Design Phase
CONSTRUCTION DOCUMENTS

Revisions

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Stamp

CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS ENGINEER

STATE OF ARKANSAS
WALTER P. BROCK
REGISTERED PROFESSIONAL ENGINEER
No. 20285
10-18-2024

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Project Number **2024-101**
Issue Date **10-18-2024**
Sheet Title **PLUMBING DETAILS AND RISERS**
Sheet Number **P-501**

GENERAL NOTES

1 REFER TO SHEET M-001 FOR MECHANICAL NOTES, ABBREVIATIONS, AND LEGEND SYMBOLS.

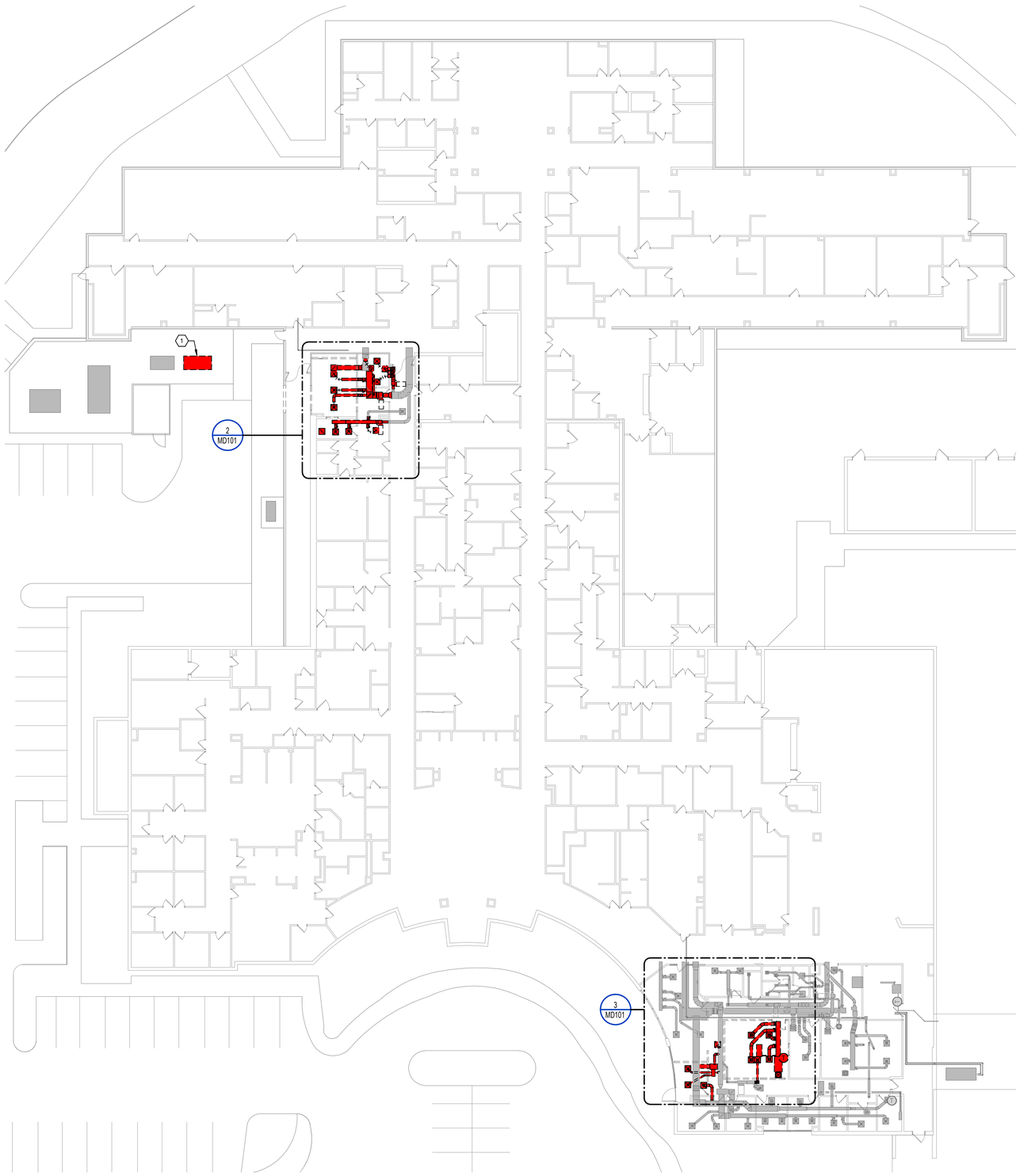
KEYED NOTES

1 CONTRACTOR TO DEMOLISH EXISTING MRI CHILLER AND ALL ASSOCIATED PIPING AND COMPONENTS AND RETURN TO OWNER DESIGNATED LOCATION

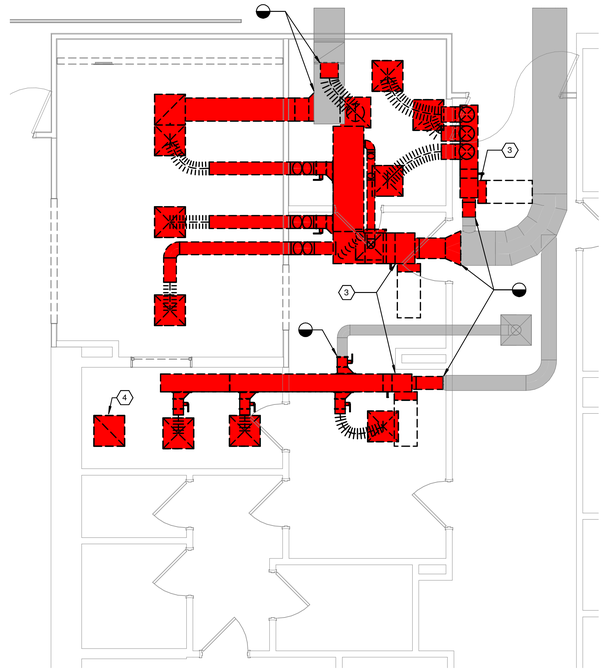
2 REMOVE EXISTING CRAC UNIT AND ASSOCITATED CONDENSING UNIT ON THE ROOF AND CONTROLS AND RETURN TO OWNER DESIGNATED LOCATION. DEMOLISH ALL ASSOCIATED DUCTWORK, PIPING, AND AIR DEVICES.

3 DEMOLISH EXISTING SUPPLY TERMINAL AND ALL ASSOCIATED DUCTING, THERMOSTATS, AND AIR DEVICES TO EXTENTS SHOWN. PREP HWS/HWR PIPING FOR RECONNECTION IN NEW WORK.

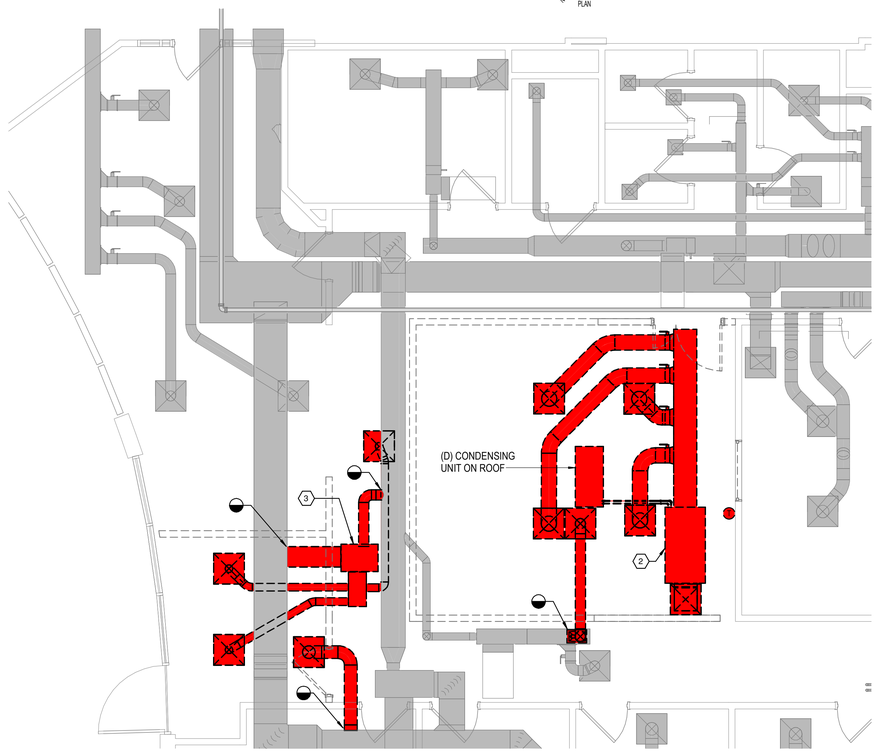
4 DEMOLISH EXISTING RETURN GRILLE. PREP DUCTWORK FOR RECONNECTION IN NEW WORK.



1 FIRST FLOOR DEMOLITION PLAN
1/16" = 1'-0"
0 8 16 32



2 FIRST FLOOR DEMOLITION PLAN - EXISTING MRI
1/4" = 1'-0"
0 2 4 8



3 FIRST FLOOR MECHANICAL DEMOLITION PLAN - EXISTING CT
1/4" = 1'-0"
0 2 4 8

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CHI St. Vincent

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CROMWELL ARCHITECTS/ ENGINEERS #5 CERTIFICATE OF AUTHORIZATION ARKANSAS ENGINEER

STATE OF ARKANSAS REGISTERED PROFESSIONAL ENGINEER No. 20255 HUNTER P. BROCK
10-18-2024

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Issue Date **10-18-2024**

Sheet Title

MECHANICAL DEMOLITION PLAN

Sheet Number

MD101

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	MBH	THOUSAND BTUs PER HOUR
AHU	AIR HANDLING UNIT	MCA	MINIMUM CIRCUIT AMPS
BHP	BRAKE HORSE POWER	MOCP	MAXIMUM OVER CURRENT PROTECTION
BTU	BRITISH THERMAL UNIT		
CFM	CUBIC FEET PER MINUTE	NC	NORMALLY CLOSED
CV	CONSTANT VOLUME	NO	NORMALLY OPENED
CU	CONDENSING UNIT	NTS	NOT TO SCALE
DB	DRY BULB TEMPERATURE (°F)	OA	OUTSIDE AIR
DDC	DIRECT DIGITAL CONTROLS	PSI	POUNDS PER SQUARE INCH
DOAS	DEDICATED OUTSIDE AIR SYSTEM	PSIG	PSI GAUGE
DN	DOWN	PVC	POLYVINYL CHLORIDE PIPE
EAT	ENTERING AIR TEMPERATURE	RA	RETURN AIR
EF	EXHAUST FAN	RH	RELATIVE HUMIDITY
ESP	EXTERNAL STATIC PRESSURE	RHC	REHEAT COIL
EWT	ENTERING WATER TEMPERATURE	RLA	RUNNING LOAD AMPS
FCU	FAN COIL UNIT	RPM	REVOLUTIONS PER MINUTE
FD	FIRE DAMPER	RS/RL	REFRIGERANT SUCTION & LIQUID LINES
FLA	FULL LOAD AMPS		
FPI	FINS PER INCH	RTU	ROOFTOP AIR HANDLING UNIT
FPM	FEET PER MINUTE	SA	SUPPLY AIR
GPM	GALLONS PER MINUTE	SF	SUPPLY FAN
IV	INTAKE VENTILATOR	SP	STATIC PRESSURE
KW	KILOWATT	TSP	TOTAL STATIC PRESSURE
LAT	LEAVING AIR TEMPERATURE	VAV	VARIABLE AIR VOLUME
LRA	LOCKED ROTOR AMPS	VRF	VARIABLE REFRIGERANT FLOW
LWT	LEAVING WATER TEMPERATURE	VFD	VARIABLE FREQUENCY DRIVE
		WB	WET BULB TEMPERATURE (°F)

GENERAL MECHANICAL SYMBOLS

- REVISION NUMBER SHOWN ON PLANS
- POINT WHERE NEW CONNECTS TO EXISTING
- DEMOLISH TO POINT INDICATED
- NUMBER OF DETAIL ON SHEET / NUMBER OF SHEET WHERE DETAIL APPEARS (1 / M-001)
- KEYNOTE (1)

CONTINUATION SYMBOLS:

- PIPE
- ROUND DUCT
- RECTANGULAR DUCT

SPACE TAG:

- OFFICE — SPACE NAME
- 101 — SPACE NUMBER
- 100 SF — SPACE AREA
- ITEM TO BE DEMOLISHED
- AREA NOT IN CONTRACT

HVAC ENERGY DESIGN CONDITIONS

LOCATION:	SHERWOOD, AR
OUTDOOR SUMMER (0.4% OCCURANCE):	98.5°F DB / 77°F WB
OUTDOOR WINTER (99.0% OCCURANCE):	20.1°F DB
INSIDE SETPOINT SUMMER:	72°F DB / 30-55% RH.
INSIDE SETPOINT WINTER:	70°F DB

SEISMIC DESIGN CONDITIONS

1. SEISMIC DESIGN DATA:
   A. SEISMIC DESIGN CATEGORY: D
   B. MECHANICAL COMPONENTS IMPORTANCE FACTOR: 1.5
2. SEISMIC RESTRAINTS **ARE** REQUIRED FOR THE MECHANICAL COMPONENTS AND SYSTEMS PER THE REQUIREMENTS FOR THE INTERNATIONAL BUILDING CODE (IBC) AS DEFINED PER ASCE 7 - SECTION 13.6.
3. REFER TO THE SPECIFICATIONS.

MECHANICAL EQUIPMENT TAGS

- RTU-XX — EQUIPMENT MARK ID
- EVAV-XX — EQUIPMENT MARK ID
- 200 CFM — EQUIPMENT AIRFLOW
- EVAV-XX — EQUIPMENT MARK ID

MECHANICAL DATA DEVICES

- SENSOR
- MANUAL SWITCH — MS
- THERMOSTAT — T
- AHU-1
- SENSOR INTERLOCK
- LOCKING COVER (OPTIONAL)

HVAC DUCTWORK LEGEND

22/14	SQUARE DUCT SIZE TAG (WIDTH x HEIGHT)
22/14Ø	OVAL DUCT SIZE TAG (WIDTH / HEIGHT)
22Ø	ROUND DUCT SIZE TAG (DIAMETER)
(E)	EXISTING DUCT TAG
(D)	DUCT BEING DEMOLISHED
S/A	SUPPLY AIR
O/A	OUTSIDE AIR
R/A	RETURN AIR
E/A	EXHAUST AIR
SE/A	LAB & SPECIALTY EXHAUST AIR

DROP	RECTANGULAR SUPPLY/OUTSIDE AIR DUCT RISE
DROP	ROUND SUPPLY/OUTSIDE AIR DUCT RISE
DROP	RECTANGULAR RETURN AIR DUCT RISE
DROP	ROUND RETURN AIR DUCT RISE
DROP	RECTANGULAR EXHAUST AIR DUCT RISE
DROP	ROUND EXHAUST AIR DUCT RISE

- FLEXIBLE CONNECTION
- 90° ELBOW W/ TURNING VANE
- 90° BEND, ROUND DUCT
- 45° BEND, ROUND DUCT
- 45° RECTANGULAR DUCT
- 30° OR LESS FOR ALL SIMILAR FITTINGS (TOP / SIDE)
- RECTANGULAR TRANSITION (TOP / SIDE)

HVAC GRILLES/DIFFUSERS

- SUPPLY DIFFUSER (SEE PLANS OR SCHEDULE FOR SIZES)
- RETURN GRILLE (SEE PLANS OR SCHEDULE FOR SIZES)
- EXHAUST GRILLE (SEE PLANS OR SCHEDULE FOR SIZES)

MECHANICAL PHASING

- NEW CONSTRUCTION MECHANICAL EQUIPMENT (TYPICAL TAG FOR ALL NEW CONSTRUCTION) — EVAV-XX
- EXISTING MECHANICAL EQUIPMENT (TYPICAL FOR ALL EXISTING TAGS) — (E)EVAV-XX
- MECHANICAL EQUIPMENT FOR DEMOLITION (TYPICAL FOR ALL DEMOLITION TAGS) — (D)EVAV-XX

HYDRONIC PIPING LEGEND

6"	PIPE SIZE TAG (DIAMETER Ø")
6" CHR	PIPE SIZE AND SYSTEM TAG
(E)	EXISTING PIPE TAG
(D)	DEMOLITION PIPE TAG
CHR	CHILLED WATER RETURN
CHS	CHILLED WATER SUPPLY
CD	CONDENSATE DRAINAGE
CR	CONDENSATE RETURN
CWR	CONDENSER WATER RETURN
CWS	CONDENSER WATER SUPPLY
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
RS/RL	REFRIGERANT 2-LINE SET
RS/RL/HG	REFRIGERANT 3-LINE SET
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
STM	STEAM
CDR	STEAM CONDENSATE RETURN
STM-HP	STEAM HIGH PRESSURE

METALLIC PIPE SYMBOLS

- PIPE TEE
- PIPE DROP
- PIPE ELBOW
- PIPE CAP
- PIPE RISE

PLASTIC PIPE SYMBOLS

- PIPE RISE
- PIPE CAP
- PIPE WYE 8TH TEE
- PIPE TEE
- PIPE DROP
- PIPE CROSS
- PIPE PLUG

PIPE ACCESSORIES

- 2-WAY MOTORIZED VALVE
- 3-WAY MOTORIZED VALVE
- 3-WAY VALVE
- BALL VALVE
- BUTTERFLY VALVE
- CHECK VALVE
- GATE VALVE
- GLOBE VALVE
- NEEDLE VALVE
- PLUG VALVE
- PRESSURE REDUCING VALVE
- SOLENOID VALVE
- SWING CHECK VALVE
- UNION

DUCT ACCESSORIES

- FIRE DAMPER
- SMOKE DAMPER
- COMBINATION FIRE/SMOKE DAMPER
- MANUAL BALANCING DAMPER
- MOTORIZED DAMPER

MECHANICAL SHEET SET NOTE

* NOTE *
ALL OF GENERAL NOTES ON THIS SHEET ARE TO BE APPLIED TO ALL OTHER DRAWINGS IN THIS SET. SYMBOLS AND ABBREVIATIONS SHOWN ON THIS SHEET MAY OR MAY NOT BE USED IN THE CONTAINED REFERENCE DRAWINGS.

GENERAL NOTES

1 ALL WORK SHALL COMPLY WITH THE 2010 EDITION OF THE "INTERNATIONAL MECHANICAL CODE", THE 2014 EDITION OF THE "ARKANSAS ENERGY CODE", NFPA 90A, AND ALL CITY, STATE, AND LOCAL REQUIREMENTS.
2 REFER TO THE PROJECT MANUAL FOR ALL REQUIREMENTS
3 REFER TO ARCHITECTURAL PLANS FOR: - REFLECTED CEILING PLAN FOR EXACT LOCATION OF AIR DEVICES AND CEILING TYPES. - EXACT LOCATIONS AND MOUNTING HEIGHTS OF EXTERIOR LOUVERS. - FIRE RATED WALLS AND PARTITIONS. PROVIDE FIRE DAMPERS IN DUCT PENETRATIONS OF ALL FIRE RATED WALLS AND PARTITIONS AS NECESSARY TO MEET CITY AND STATE REQUIREMENTS. - ALL WALL AND ROOF PENETRATIONS AND EQUIPMENT MOUNTING DETAILS.
4 ALL DUCTWORK SHALL BE CONSTRUCTED FROM GALVANIZED STEEL IN CONFORMANCE WITH SMACNA "HVAC DUCT CONSTRUCTION STANDARDS," LATEST EDITION
5 U.L. LISTED FLEXIBLE DUCT RUN-OUTS MAY BE USED, BUT SHALL NOT EXCEED 5'-0" IN LENGTH. ALL FLEXIBLE DUCT TO BE PROPERLY SUPPORTED WITH NO KINKS OR HARD BENDS.
6 DUCT FITTINGS: - SUPPLY TAKE-OFFS TO CEILING SUPPLY DIFFUSERS TO BE CONICAL TAP OR 45° SIDE TAP. - ALL DUCT RUN-OUTS TO HAVE LOCKING QUADRANT VOLUME DAMPERS. PROVIDE STAND-OFF BRACKET TO ACCOMMODATE INSULATION THICKNESS. - ALL 90° ROUND ELBOWS TO HAVE R/D=1.5 (UNLESS OTHERWISE NOTED). - ALL 90° RECTANGULAR ELBOWS TO HAVE TURNING VANES (UNLESS OTHERWISE NOTED). - PROVIDE HARD ELBOW WHEN TRANSITIONING FROM RIGID TO FLEXIBLE DUCT WHEN CONNECTING TO AIR DEVICES. REFER TO DETAIL.
7 DUCTWORK TO BE COORDINATED WITH STRUCTURAL, ELECTRICAL, PLUMBING, AND FIRE PROTECTION, COMPONENTS AND SYSTEMS. ALL DUCTWORK THAT HAS TO BE OFFSET DUE TO AN OBSTRUCTION SHALL BE SLOPED WITH 2-30° ELBOWS UNLESS OTHERWISE NOTED.
8 PROVIDE ACCESS PANELS IN CEILINGS OTHER THAN LAY-IN TYPE WHERE NECESSARY: - CLOSELY COORDINATE LOCATIONS AND SIZE OF ACCESS PANELS WITH INSTALLED EQUIPMENT TO ACHIEVE GREATEST ACCESSIBILITY FOR MAINTENANCE PURPOSES. - PROVIDE ACCESS PANEL AT BALANCING DAMPERS, FIRE DAMPERS, CONTROLS, VALVES, TRAPS, CLEAN OUTS, ETC. - PROVIDE ACCESS PANELS FOR GREASE DUCTS, AS REQUIRED BY NFPA 96, FOR CLEANING PURPOSES, AT CHANGES IN DIRECTION, ETC.
9 COMPLETELY INSULATE THE TOPS OF ALL CEILING DIFFUSERS.
10 CLOSELY COORDINATE LOCATIONS OF INSTALLED EQUIPMENT TO ACHIEVE THE GREATEST ACCESSIBILITY.
11 MAINTAIN 10'-0" MINIMUM CLEARANCE BETWEEN OUTSIDE AIR INTAKES AND ALL EXHAUST FANS, FLUES, PLUMBING VENTS, ETC.
12 ALL ROOF MOUNTED HVAC EQUIPMENT, INCLUDING BUT NOT LIMITED TO EXHAUST FANS, CONDENSING UNITS, AND ROOF-TOP UNITS, SHALL BE A MINIMUM OF 10' FROM THE ROOF'S EDGE, OR PARAPET, UNLESS OTHERWISE NOTED ON PLANS. IN SUCH CASE, CONTRACTOR SHALL COORDINATE WITH ARCHITECT TO PROVIDE SAFETY HANDRAILS AROUND ROOF MOUNTED HVAC EQUIPMENT THAT IS LOCATED LESS THAN 10' FROM ROOF'S EDGE, OR PARAPET.
13 PROVIDE FLEXIBLE CONNECTIONS AT INLETS AND OUTLETS OF ALL AIR HANDLING UNITS, MAKE-UP AIR UNITS, FURNACES, AND/OR EXHAUST FANS.
14 PROVIDE 6" CONCRETE PADS UNDER GROUND MOUNTED EQUIPMENT. EACH PAD TO EXTEND A MINIMUM OF 6" BEYOND OUTLINE OF UNIT ON ALL SIDES.
15 ROOF MOUNTED CONDENSING UNITS SHALL BE PLACED ON PATE OR APPROVE EQUAL EQUIPMENT SUPPORTS, MODEL ES-2 W/ INSULATION, FIBER CANT, AND METAL CAP, MINIMUM 11" HIGH ABOVE ROOF DECK. MAKE WEATHER TIGHT.
16 ATTIC MOUNTED AND ABOVE CEILING MOUNTED EQUIPMENT SUBJECT TO WATER/CONDENSATE OVERFLOW SHALL BE SET IN DRAIN PANS WITH DRAINS TO THE OUTSIDE OR SANITARY SEWER SYSTEM WITH VISIBLE DISCHARGE
17 CONDENSATE PIPING SHALL BE COMPRISED OF TYPE "M", DWV COPPER, OR SCHEDULE 40 PVC. PVC EXPOSED TO SUNLIGHT SHALL HAVE UV RESISTANT COATING.
18 ALL EXTERIOR EXPOSED PIPING SUSCEPTIBLE TO FREEZING, SUCH AS CONDENSATE PIPING, SHALL BE INSULATED WITH 1" FIBERGLASS PIPING INSULATION WITH 0.020" ALUMINUM JACKET AND HEAT TRACED AT 5 WATTS/FOOT. SEAL JACKET WATER-TIGHT.
19 ALL WALL-MOUNTED, OCCUPANT-CONTROLLED HVAC DEVICES, I.E., THERMOSTATS, HUMIDISTAT, CO2 CONTROLLERS, CONTROL PANELS, ETC., SHALL BE MOUNTED 4'-0" ABOVE FINISHED FLOOR. CONTROLS LOCATED IN PUBLIC AREAS SHALL HAVE CLEAR PLASTIC LOCKING COVERS.
20 COORDINATE WORK CLOSELY WITH CONTROL CONTRACTOR. PROVIDE ALL NECESSARY DUCT, PIPE TAPS, TEES, WELLS, CONTROL DAMPERS, AIR MEASURING STATIONS, AND OTHER ACCESSORIES REQUIRED BY CONTROL SYSTEM
21 SLEEVE AND SEAL ALL PIPE AND DUCT PENETRATIONS THROUGH FIRE RATED AND NON-RATED SLABS AND PARTITIONS.

DEMOLITION NOTES

1 CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS INCLUDING, BUT NOT LIMITED TO:
* PIPE SIZES AND ROUTING.
* EQUIPMENT CONNECTIONS AND LOCATIONS.
* CONTROLS.
2 PROVIDE NECESSARY MODIFICATIONS TO NEW AND EXISTING SYSTEMS TO FACILITATE THE INSTALLATION AND INTERFACE OF NEW AND EXISTING SYSTEMS.
3 EXISTING SYSTEMS AND INFORMATION SHOWN ON THESE PLANS WERE DEVELOPED USING EXISTING BUILDING DRAWINGS. CONTRACTOR SHALL VERIFY AT SITE ALL EXISTING SYSTEMS. REMOVE ALL PORTIONS OF PIPING SYSTEMS BEING REMOVED OR ABANDONED. TERMINATE EXISTING SYSTEMS ABOVE CEILINGS AND BELOW FLOOR SLABS IN A MANNER THAT WILL NOT CONFLICT WITH NEW WORK. CLOSELY COORDINATE NEW WORK WITH EXISTING SYSTEMS. PROVIDE OFFSETS IN EXISTING AND NEW SYSTEMS AS REQUIRED TO AVOID CONFLICTS.
4 COORDINATE AND SCHEDULE ALL CONNECTIONS TO EXISTING SYSTEMS AND SYSTEM SHUT-DOWNS WITH MAINTENANCE PERSONNEL.
5 MAINTAIN EXISTING BUILDING SYSTEMS WITH PHASED DEMOLITION AND INSTALLATION OF NEW WORK, PROVIDING TEMPORARY SERVICES AS REQUIRED.
6 USE EXISTING PIPING SYSTEM VALVES WHERE POSSIBLE TO ISOLATE SYSTEMS AND TO CAP EXISTING PIPING. REPLACE EXISTING VALVES WHERE NECESSARY WHEN EXISTING VALVES WILL NOT HOLD.
7 EXISTING EQUIPMENT BEING REMOVED AND DESIGNATED TO REMAIN THE PROPERTY OF THE OWNER SHALL BE DELIVERED UPON REMOVAL TO LOCATION DESIGNATED BY OWNER. ALL OTHER SYSTEM COMPONENTS REMOVED SHALL BECOME THE PROPERTY OF THE CONTRACTOR.
8 REMOVE AND RELOCATE SMALL CONDUIT, CABLE, PIPE AND DUCT, PIPE AND CEILING HANGERS ETC. AS NECESSARY TO ACHIEVE A COMPLETE INSTALLED MECHANICAL SYSTEM AS SHOWN ON DRAWINGS.
9 PATCH ALL WALLS, FLOORS, ROOFS AND CEILINGS TO MATCH EXISTING OR NEW (IF APPLIED) FOR ALL OPENINGS CREATED BY DEMOLITION WORK OF EQUIPMENT AND HVAC SERVICE PENETRATIONS.
10 REPLACE AND/OR PATCH TO MATCH EXISTING; ANY EXISTING PIPE AND/OR DUCT INSULATION THAT IS TO REMAIN EXISTING AND IS DAMAGED OR REMOVED DURING CONSTRUCTION.
11 REFER TO ELECTRICAL PLANS FOR EXTENT OF DEMOLITION WORK RELATING TO WIRING FOR SUPPORT OF HVAC EQUIPMENT TO BE REMOVED.

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION — CROMWELL ARCHITECTS/ ENGINEERS #5 — ARKANSAS ENGINEER

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 20295 — WALTER P. BROCK
10-18-2024

Notes

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title

MECHANICAL LEGEND AND SYMBOLS

Sheet Number

M-001

GENERAL NOTES

1 REFER TO SHEET M-001 FOR MECHANICAL NOTES, ABBREVIATIONS, AND LEGEND SYMBOLS.

KEYED NOTES

1 INSTALL MANUAL OVERRIDE WALL SWITCH IN CLEAR PLASTIC ENCLOSURE TO ALLOW EXHAUST SYSTEM ACTIVATION BY USER. VERIFY LOCATION WITH MRI VENDOR.

2 ROUTE 14/14 EA DUCT FOR MRI EXAM ROOM EMERGENCY HELIUM EXHAUST SYSTEM UP TO ROOF MOUNTED FAN. INSTALL WAVE GUIDE AT RF CEILING PENETRATION.

3 CONNECT HELIUM EXHAUST TO MRI CRYOGENIC VENT CONNECTION. COORDINATE EXACT ROUTING, SIZING, MATERIAL, AND INSULATION TYP AND THICKNESS PER MRI MANUFACTURER'S REQUIREMENTS.

4 CONNECT CHS/CHR PIPING TO MRI INTEGRATED COOLING CABINET. COORDINATE CONNECTION LOCATION AND INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.

5 ALL HVAC COMPONENTS (DUCTWORK, AIR DEVICES, CONTROLS, FASTENERS, ACCESSORIES, ETC.) WITHIN THE MRI RF SHIELD SHALL BE OF NON-FERROUS CONSTRUCTION.

6 RELOCATE AIR DEVICES IN CEILING GRID TO PROVIDE AT MINIMUM 2' OF SEPARATION FROM NEW MRI-2 EQUIPMENT WALL.

7 OXYGEN MONITORING SENSOR WITH VISUAL AND AUDIABLE ALARMS. LOCATE NEAR DESIGNATED CRYOGEN FILLING AREA, VERIFY WITH MRI VENDOR. MONITOR AND ALARMS SHALL BE FREE OF FERROUS MATERIALS AND SHALL BE MRI COMPATIBLE. INTERLOCK WITH BAS.

8 EXISTING SUPPLY DUCT ROUTED BETWEEN JOISTS TO REMAIN INSTALLED ABOVE THE RF SHIELDING.

9 PROVIDE 24"W X 12"H DOOR GRILLE ASSEMBLY. INSTALL APPROXIMATELY 12' A.F.F. TO THE BOTTOM OF GRILLE. GRILLE SHALL BE FREE OF FERROUS MATERIALS.

10 NEW MRI CHILLER PROVIDED BY MRI VENDOR AND INSTALLED BY CONTRACTOR. INSTALL AND PIPE IN STRICT ACCORDANCE WITH THE MRI EQUIPMENT MANUFACTURER'S REQUIREMENTS.

11 CONTRACTOR TO PROVIDE A 6" CONCRETE PAD FOR THE MRI AIR COOLED CHILLER. COORDINATE FINAL DIMENSIONS OF THE PAD WITH THE MRI VENDOR.

12 CHILLED WATER PIPING SHOWN TO BE 2" BUT MAY VARY BASED ON THE FINAL MRI EQUIPMENT SITE PACKAGE DESIGN AND THE ASSOCIATED FINAL DESIGN BY THE CHILLER MANUFACTURER. CONFIRM EXACT PIPE SIZE REQUIRED BY CHILLER MANUFACTURER PRIOR TO ROUGH-IN.

13 HEAT TRACE ALL EXTERIOR CHS/CHR PIPING. EACH CIRCUIT SHOULD BE 120V, 1 PHASE, 20 AMP CIRCUIT FOR 5 WATT PER LINEAR FOOR HEAT TRACE. COORDINATE WITH ELECTRICAL.

14 INSTALL NEW VAV TERMINAL IN SAME LOCATION AS EXISTING TERMINAL DEMOLISHED. PROVIDE NEW COIL PACKAGE AND RECONNECT HWS/HWR AS REQUIRED TO PROVIDE A COMPLETE AND OPERATIVE SYSTEM.

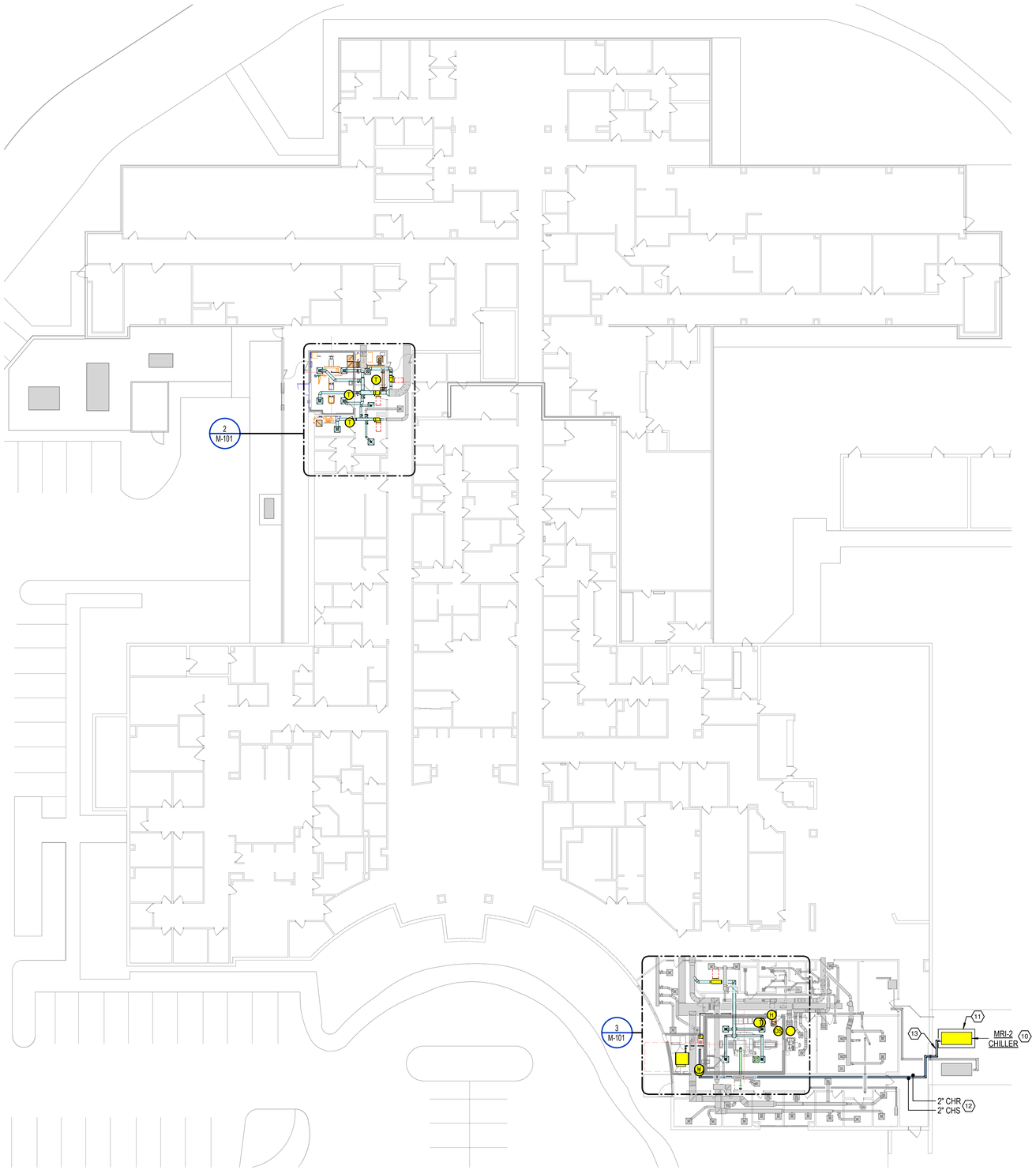
15 PENETRATION (HORIZONTAL OR VERTICAL) THROUGH RF WAVE GUIDE. COORDINATE SPECIFICS OF FABRICATING AND CONNECTING DUCTWORK TO RF SHIELDING WITH MRI SHIELDING MANUFACTURER. DUCTWORK IS NOT TO CONTACT THE SHIELD. REFER TO MRI EQUIPMENT DRAWINGS FOR ADDITIONAL INFORMATION.

16 CONNECT NEW RETURN AIR GRILLE TO EXISTING RETURN DUCTWORK.

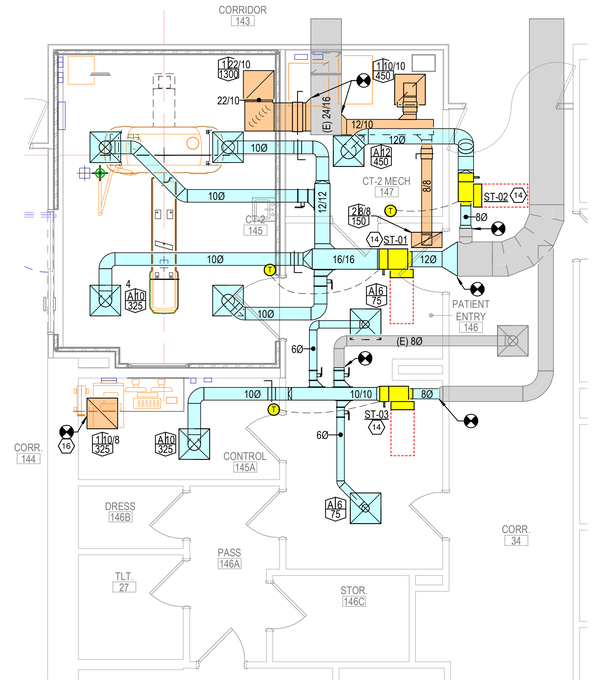
17 INSTALL WALL MOUNTED STEAM HUMIDIFIER. ROUTE A 3/4" CW LINE FROM THE RPZ TO THE HUMDIFIER AND CONNECT COMPLETE AND OPERATIVE IN STRICT ACCORDANCE WITH THE HUMIDIFIER MANUFACTURER'S INSTRUCTIONS. ROUTE A DRAIN LINE TO THE NEAREST FLOOR SINK IN STRICT ACCORDANCE WITH THE HUMIDIFER MANUFACTURER'S INSTRUCTIONS.

18 ROUTE A 1" STEAM LINE ABOVE CEILING AS SHOWN TO THE DUCT MOUNTED STEAM DIFFUSER. PROVIDE A STAND-BY LOSS DRAIN LINE BACK TO THE HUMIDIFIER. ALL PIPING SHALL BE PROVIDED IN STRICT ACCORDANCE WITH THE HUMIDIFER MANUFACTURER'S REQUIREMENTS.

19 DUCTWORK IS ROUTED ABOVE RF CABIN. VERTICALLY PENETRATE SHIELDING AT LOCATION INDICATED. PROVIDE BALANCING DAMPER AT AIR DEVICE CONNECTION WITHIN THE RF SHIELD ENCLOSURE. DAMPER CONSTRUCTION SHAL SHALL BE FREE OF FERROUS MATERIALS AND MRI COMPATIBLE.



1 FIRST FLOOR MECHANICAL PLAN
1/16" = 1'-0"
0 8 16 32



2 FIRST FLOOR MECHANICAL PLAN - CT AREA
1/4" = 1'-0"
0 2 4 8

3 FIRST FLOOR MECHANICAL PLAN - MRI AREA
1/4" = 1'-0"
0 2 4 8

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Project

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CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

STATE OF ARKANSAS — REGISTERED ARCHITECTS' ENGINEERS — CROMWELL ARCHITECTS ENGINEERS #5 — ARKANSAS ENGINEER

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 20265 — HUNTER P. BROCK

10-18-2024

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title

MECHANICAL HVAC PLAN - FIRST FLOOR

Sheet Number

M-101

GENERAL NOTES

1 REFER TO SHEET M-001 FOR MECHANICAL NOTES, ABBREVIATIONS, AND LEGEND SYMBOLS.

KEYED NOTES

1 ROUTE CRYOGENIC VENT THRU ROOF AND DISCHARGE TO APPROVED WEATHERPROOF DEVICE AT A MINIMUM OF 36" ABOVE THE FINISHED ROOF. PIPE MATERIAL AND EXACT TERMINATION TO BE PROVIDED IN STRICT ACCORDANCE WITH THE MRI MANUFACTURER'S REQUIREMENTS. FIELD VERIFY 25'-0" CLEARANCE FROM OUTSIDE AIR INTAKES. SEE MRI MANUFACTURER'S DRAWINGS FOR ADDITIONAL INFORMATION.

2 INTERLOCK ROOF MOUNTED EXHAUST FAN WITH MRI EXAM ROOM OXYGEN DETECTION SYSTEM.

3 PROVIDE ROOF SUPPORT FOR CONDENSING UNIT.



1 ROOF MECHANICAL PLAN

1/16" = 1'-0"

0 8 16 32

TRUE NORTH 1 NORTH PLAN

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Design Phase

CONSTRUCTION DOCUMENTS

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CERTIFICATE OF AUTHORIZATION
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ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 20285
HUNTER P. BROCK
10-18-2024

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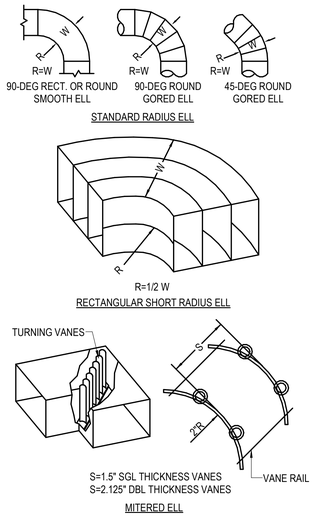
Issue Date **10-18-2024**

Sheet Title

MECHANICAL ROOF PLAN

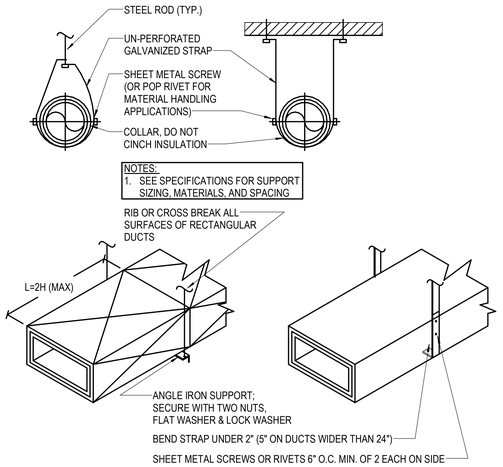
Sheet Number

M-102



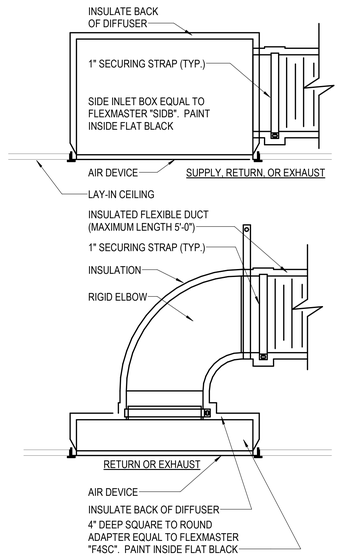
NOTES:
1. WHERE STANDARD RADIUS TURNS ARE NOT POSSIBLE, MITERED ELL'S WITH TURNING VANES SHALL BE PROVIDED FOR ALL CHANGES IN HORIZONTAL AND VERTICAL DUCT DIRECTION 45-DEGREEOR GREATER.
2. CONSTRUCT ELBOWS IN ACCORDANCE WITH SMACNA HVAC DUCTCONSTRUCTION STANDARDS - METAL AND FLEXIBLE.
3. AIR VELOCITIES 1200 FPM AND LESS:
   A. TURNING VANE ELBOW SHALL BE TURNING VANE ELBOW SHALL BE SINGLE WIDTH VANES FOR VANE LENGTHS UP TO 24"
   B. TURNING VANE ELBOW SHALL BE ASHRAE FITTING CR3-15 WITH DOUBLE WIDTH VANES FOR VANE LENGTHS OVER 24".
4. AIR VELOCITIES OVER 1200 FPM: TURNING VANE ELBOW SHALL BE ASHRAE FITTING CR3-15 WITH DOUBLE WIDTH VANES.
5. ROUND ELBOWS SHALL BE SMOOTH OR GORED. 90-DEGREE GORED ELL'S SHALL BE MINIMUM 5-PIECE AND 45-DEGREE GORED ELL'S SHALL BE MINIMUM 3-PIECE.
6. VANES SHALL BE WELDED TO THE VANE RAIL IN DUCT SYSTEMS WITH AIR VELOCITIES 3000 FPM AND HIGHER.
7. ELBOWS WITH MITERED THROATS/RADIUS HEELS AND ELBOWS WITH MITERED THROATS/CHAMFERED HEELS ARE NOT ACCEPTABLE.

1 DUCT FITTING - DUCT ELBOW SPEC
NOT TO SCALE



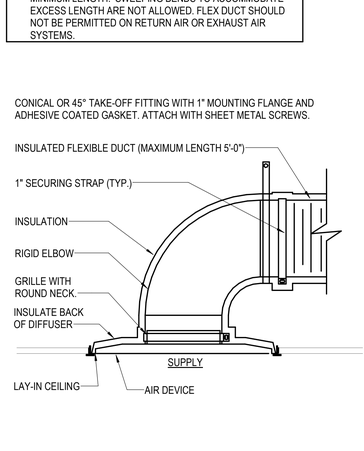
NOTES:
1. SEE SPECIFICATIONS FOR SUPPORT SIZING, MATERIALS, AND SPACING

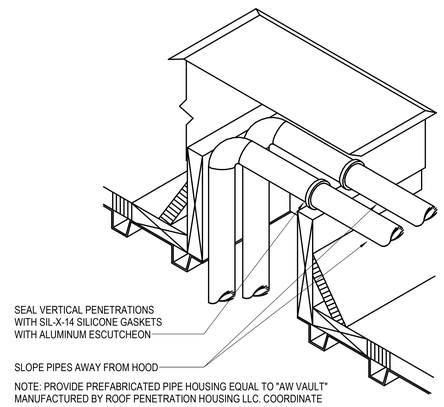
2 DUCT ACCESSORY - DUCT HANGERS
NOT TO SCALE



NOTES:
1. FLEX SHALL BE RUN AS STRAIGHT AS POSSIBLE AND CUT TO MINIMUM LENGTH. SWEEPING BENDS TO ACCOMMODATE EXCESS LENGTH ARE NOT ALLOWED. FLEX DUCT SHOULD NOT BE PERMITTED ON RETURN AIR OR EXHAUST AIR SYSTEMS.

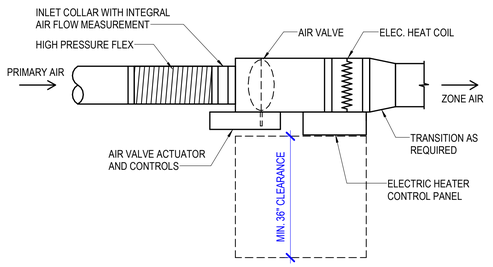
3 AIR TERMINAL - AIR DEVICE CONNECTION
NOT TO SCALE



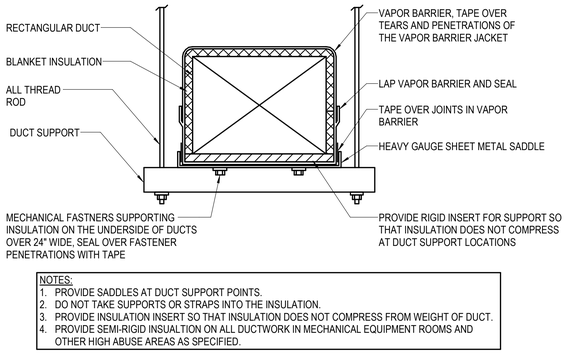


NOTE: PROVIDE PREFABRICATED PIPE HOUSING EQUAL TO "AW VAULT" MANUFACTURED BY ROOF PENETRATION HOUSING LLC. COORDINATE ROOF SLOPE, OPENINGS, AND PIPE REQUIREMENTS WITH MFGR.

4 PIPE SUPPORT - PIPE PENETRATION THRU ROOF
NOT TO SCALE

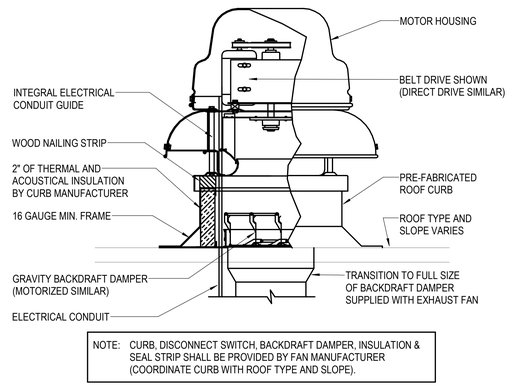


5 VAV - SHUT-OFF - ELECTRIC HEAT
NOT TO SCALE



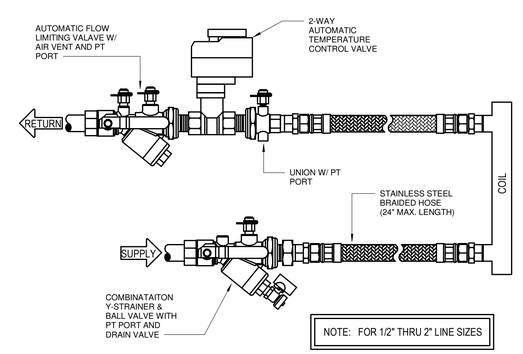
NOTES:
1. PROVIDE SADDLES AT DUCT SUPPORT POINTS.
2. DO NOT TAKE SUPPORTS OR STRAPS INTO THE INSULATION.
3. PROVIDE INSULATION INSERT SO THAT INSULATION DOES NOT COMPRESS FROM WEIGHT OF DUCT.
4. PROVIDE SEMI-RIGID INSUALTION ON ALL DUCTWORK IN MECHANICAL EQUIPMENT ROOMS AND OTHER HIGH ABUSE AREAS AS SPECIFIED.

6 DUCT ACCESSORY - DUCT SUPPORT (LESS THAN 36 IN.)
NOT TO SCALE



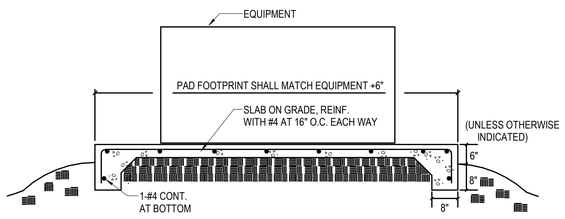
NOTE: CURB, DISCONNECT SWITCH, BACKDRAFT DAMPER, INSULATION & SEAL STRIP SHALL BE PROVIDED BY FAN MANUFACTURER (COORDINATE CURB WITH ROOF TYPE AND SLOPE).

7 EXHAUST FAN - ROOF MOUNTED DOWNBLAST
NOT TO SCALE

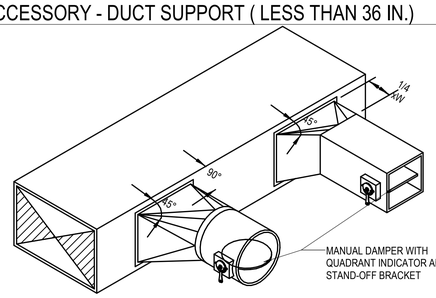


NOTE: FOR 1/2" THRU 2" LINE SIZES

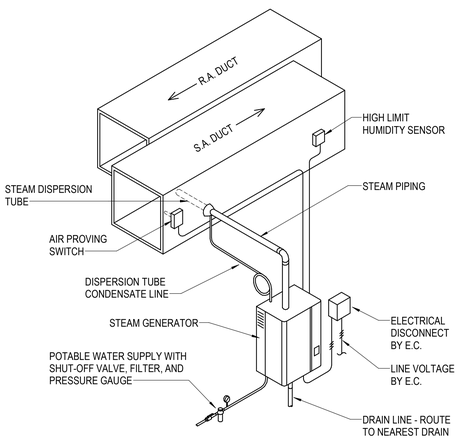
8 HYDRONIC PIPING - COIL PACKAGE - 2-WAY
NOT TO SCALE



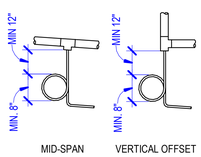
9 HOUSEKEEPING PAD - OUTDOOR
NOT TO SCALE



10 DUCT TAKEOFF
NOT TO SCALE

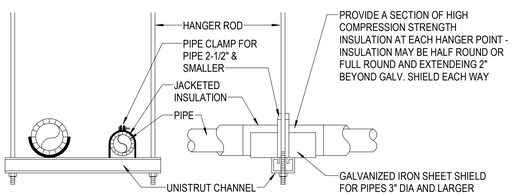


13 HUMIDIFIER - ISOTHERMAL ELECTRODE
NOT TO SCALE



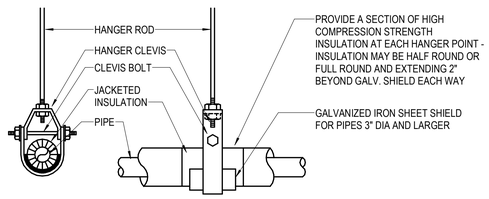
STEAM CONDENSATE DRIP LEGS

NOTES:
1. CONFIGURATION SHOWN IS GENERIC. REFER TO PLANS FOR INTENDED SYSTEM CONFIGURATION.
2. COORDINATE INSTALLATION HEIGHT OF STEAM PIPING AND ASSOCIATED CONDENSATE DRAIN PIPING WITH THE WORK OF ALL OTHER TRADES PRIOR TO ANY ROUGH-IN TO ENSURE STEAM PIPING AND ASSOCIATED CONDENSATE DRAIN PIPING IS INSTALLED AS HIGH AS POSSIBLE ABOVE CEILING/SPACE AND TO ALLOW FOR PROPER PITCHING OF PIPE.
3. HORIZONTAL STEAM PIPING AND CONDENSATE PIPING SHALL BE PITCHED MIN. 1" EVERY 48".
4. DRIP LEGS SHALL BE PROVIDED IN THE STEAM PIPING EVERY 15' O.C. AND AT ALL VERTICAL CHANGES (RISES/DROPS) IN PIPE DIRECTION.
5. REFER TO PLANS FOR HUMIDISTAT LOCATION.



NOTES:
1. INSULATION TO BE CONTINUOUS THROUGH HANGERS. DO NOT BREAK INSULATION AT SUPPORTS, DO NOT INSULATE AROUND HANGERS
2. INSULATION JACKET TO BE CONTINUOUS THROUGH PIPE SUPPORT COMPONENTS.
3. USE CLEVIS HANGERS FOR SINGLE PIPE RUNS, USE TRAPEZE HANGERS TO GROUP AS MUCH PIPING AS POSSIBLE PER HANGER.

11 PIPE SUPPORT - TRAPEZE HANGER
NOT TO SCALE



NOTES:
1. INSULATION TO BE CONTINUOUS THROUGH HANGERS. DO NOT BREAK INSULATION AT SUPPORTS, DO NOT INSULATE AROUND HANGERS.
2. INSULATION JACKET TO BE CONTINUOUS THROUGH PIPE SUPPORT COMPONENTS.
3. USE CLEVIS HANGERS FOR SINGLE PIPE RUNS, USE TRAPEZE HANGERS TO GROUP AS MUCH PIPING AS POSSIBLE PER HANGER.

12 PIPE SUPPORT - CLEVIS HANGER
NOT TO SCALE

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Project

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Design Phase
CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

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CERTIFICATE OF AUTHORIZATION — CROMWELL ARCHITECTS/ ENGINEERS #5 — EXPIRES 6/30/2025

STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 20265 — JUNIPER P. BROCK — 10-18-2024

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Project Number **2024-101**

Issue Date **10-18-2024**

Sheet Title **MECHANICAL DETAILS**

Sheet Number **M-501**

COMPUTER ROOM AIR CONDITIONER

MARK	SERVES	DX COOLING DATA				FAN DATA					ELECTRIC HEATING				HUMIDIFICATION		ELECTRICAL DATA				FILTER	WEIGHT (LBS)	MANUFACTURER*	MODEL*	REMARKS
		TOTAL (MBH)	SENSIBLE (MBH)	ENTERING AIR TEMP		NO.	TYPE	HP (EA.)	CFM	ESP	KW	STEPS	VOLTS	PH	KW	LB/HR	MCA	MOCP	VOLTS	PH					
				DB °F	WB °F																				
CRAC-01	251 DATA	48,000	41,600	72	60	1	ECM	2.6	2,200	0.20	10.8	2	460	3	2.8	8.0	20.3	30	460	3	MERV-8	498	LIEBERT	MT-048	SEE BELOW

NOTES: *OR APPROVED EQUAL
1. PROVIDE DX COOLING COILS.
2. PROVIDE FACTORY MOUNTED UNIT DISCONNECT SWITCH.
3. PROVIDE SINGLE POINT POWER CONNECTION.
4. PROVIDE CONDENSATE PUMP WITH OVERFLOW SAFETY SWITCH.
5. PROVIDE MANUFACTURER'S BACNET IP COMPATIBLE UNIT CONTROLLER EQUAL TO LIEBERT iCOM CONTROL SYSTEM.
6. PROVIDE STEAM GENERATING CANISTER HUMIDIFIER.
7. PROVIDE SCR ELECTRIC REHEAT.
8. PROVIDE HIGH TEMPERATURE SENSOR, SMOKE SENSOR, FILTER CLOG SWITCH, AND TEMPERATURE AND HUMIDITY SENSORS.
9. PROVIDE RETURN FILTER BOX.

COMPUTER ROOM CONDENSING UNITS

MARK	SERVES	AMB TEMP (°F)	CONDENSER FAN		COMPRESSOR			ELECTRICAL DATA				REFRIG. TYPE	MANUFACTURER	MODEL	REMARKS
			NO.	HP	NO.	TYPE	HP (EA)	VOLTS	PH	FLA	MOCP				
CRCU-01	CRAC-01	95	1	1/2	1	DIGITAL		460	3	12.6	25 A	R-410A	LIEBERT	PFD054A-L1	SEE BELOW

NOTES:
1. PROVIDE FACTORY INSTALLED UNIT DISCONNECT SWITCH .
2. DIGITAL SCROLL COMPRESSOR WITH VARIABLE CAPACITY OPERATION FROM 40%-100%.
3. LOW AMBIENT OPERATION
4. PROVIDE ROOF CURB.

EXHAUST FANS

GENERAL			FAN						ELECTRICAL			MANUFACTURER	MODEL	REMARKS
MARK	SERVES	WEIGHT (LBS)	DRIVE	TYPE	CFM	ESP	RPM	SONES	VOLTAGE	MOTOR	CONTROL			
EF-01	MRI EXAM ROOM	43	DIRECT	CENT.	1,200	0.25"	1,561	9.9	120/1/60	1/4 HP	NOTE 3	GREENHECK	G-100-VG	SEE NOTES

* OR APPROVED EQUAL
NOTES:
1. PROVIDE ELECTRICAL DISCONNECT, BACKDRAFT DAMPER, ROOF CURB, AND BIRD SCREEN.
2. PREMIUM EC MOTOR.
3. FAN SHALL BE INTERLOCKED AND CONTROLLED BY THE OXYGEN MONITORING SYSTEM. CONTRACTOR SHALL PROVIDE INTERLOCKING CONTROL IN STRICT ACCORDANCE WITH THE OXYGEN MONITORING SYSTEM REQUIREMENTS.

VAV SUPPLY TERMINAL BOXES (W/ HW HEAT)

MARK	SERVES	TYPE	INLET SIZE	MAX. AIRFLOW (CFM)	MIN. AIRFLOW (CFM)	INLET S.P.	VAV A.P.D. (IN W.C.)	MAX. N.C.	HOT WATER HEATING COIL									MAKE	MODEL	REMARKS
									AIRFLOW (CFM)	FLUID	ROWS	CAP. (MBH)	GPM	WPD (FT H2O)	EAT (°F)	LAT (°F)	EWT (°F)	LWT (°F)			
ST-01	1ST FLOOR - CT-2 EXAM	SINGLE DUCT TERMINAL	12	1300	390	1.0	0.25	25	390	WATER	2	17,000	1.25	0.05	55	95	160	130	TITUS	DESV	SEE NOTES
ST-02	1ST FLOOR - CT-2 MECH	SINGLE DUCT TERMINAL	08	450	0	1.0	0.25	25	COOLING ONLY										TITUS	DESV	SEE NOTES
ST-03	1ST FLOOR - CT-2 CONTROL	SINGLE DUCT TERMINAL	08	575	175	1.0	0.25	25	175	WATER	1	8,000	0.6	0.8	55	95	160	130	TITUS	DESV	SEE NOTES

NOTES: *OR APPROVED EQUAL
1. 22-GAUGE GALVANIZED CASING CONSTRUCTION, MECHANICALLY SEALED, AND LEAK RESISTANT.
2. FACTORY HANGER BRACKETS.
3. 1/2" CLOSED CELL FOAM INSULATION LINER.
4. PROVIDE 2-WAY VALVE COIL PIPING PACKAGE.

VAV TERMINAL BOXES (W/ ELEC HEAT)

MARK	SERVES	TYPE	INLET SIZE	CLG. MAX. CFM	CLG. MIN. CFM	INLET S.P.	MAX. A.P.D. (IN W.C.)	MAX. N.C.	HEAT CFM	HEATING COIL						MANUF'R	MODEL	REMARKS
										KW	EAT (°F)	LAT (°F)	CONTROL	VOLTAGE	FLA			
ST-04	RTU20-1	SINGLE DUCT TERMINAL	10	800	400	1.0	0.25	26	400	5.5	55.0	95.0	SCR	208/3/60	16	TITUS	DESV	SEE NOTES

NOTES: * OR APPROVED EQUAL
1. 22-GAUGE GALVANIZED CASING CONSTRUCTION, MECHANICALLY SEALED, AND LEAK RESISTANT.
2. FACTORY HANGER BRACKETS.
3. 1/2" CLOSED CELL FOAM INSULATION LINER.
4. SINGLE POINT ELECTRICAL CONNECTION AND INTEGRAL CONTROL TRANSFORMER.
5. ACCESS DOOR INTERLOCK DISCONNECT SWITCH.

AIR DEVICES

KEY: NO. IF MORE THAN ONE / MARK (4 / A / 6 / 210) — NECK / CFM

MARK	DESCRIPTION	MANUF'R / MODEL	SIZE	NECK	MOUNTING	MATERIAL	FINISH	REMARKS
A	SQUARE PLAQUE	PRICE ASPD	24x24	SEE PLAN	LAY-IN CEILING	ALUMINUM	WHITE	NOTE 1
1	CUBE CORE	PRICE 80	24x24	SEE PLAN	LAY-IN CEILING	ALUMINUM	WHITE	NONE
2	CUBE CORE	PRICE 80	24x12	SEE PLAN	LAY-IN CEILING	ALUMINUM	WHITE	NONE

*OR APPROVED EQUAL
NOTES:
1. FACTORY INSULATED BACKPAN.

HUMIDIFIERS

MARK	SERVES	TYPE	MAX. CAPACITY (LB/HR)	MIN. CAPACITY (LB/HR)	KW	STAGES	VOLTS/PH	MCA	MOCP	MANUF'R.	MODEL	REMARKS
H-1	ST-04 / MRI-2 SCAN ROOM	RESISTIVE	10.0	0.4	3.7	MOD.	208	17.8	25A	CONDAIR	RS-10	SEE NOTES

NOTES: * OR APPROVED EQUAL
1. MANIFOLD TO BE INSTALLED IN THE DUCTWORK. REFER TO THE PLANS FOR THE DUCT SIZE AND LOCATION.
2. MANIFOLD SIZED FOR ADEQUATE STEAM DISPERSION ACROSS CROSS-SECTIONAL AREA OF DUCTWORK.
3. MANUFACTURER'S MINIMUM ABSORPTION DISTANCE SHALL BE MAINTAINED FOR MANIFOLD.
4. PROVIDE NATIVE BACNET CONTROL INTERFACE.
5. PROVIDE DUCT MOUNTED DIFFERENTIAL PRESSURE SENSOR.
6. PROVIDE DUCT MOUNTED TEMPERATURE/HUMIDITY SENSORS.
7. PROVIDE STEAM SUPPLY TUBING BETWEEN HUMIDIFIER AND MANIFOLD. VERIFY EXACT LENGTH REQUIRED.
8. PROVIDE DRAIN TEMPERING VALVE KIT.
9. INSTALL ACCESSIBLE FOR OPERATION AND SERVICE AT APPROX. 48" A.F.F. PER MANUFACTURER'S INSTRUCTIONS.

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STATE OF ARKANSAS — REGISTERED PROFESSIONAL ENGINEER — No. 20265 — SUNTER P. BROCK — 10-18-2024

Notes

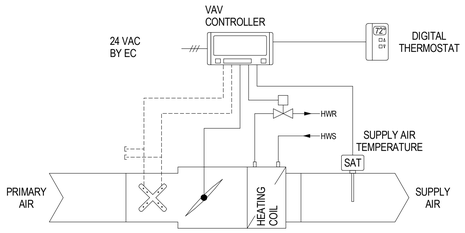
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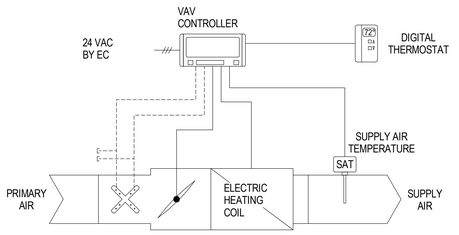
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Issue Date **10-18-2024**

Sheet Title **MECHANICAL SCHEDULES**

Sheet Number **M-601**





VAV TERMINAL UNIT WITH HOT WATER RE-HEAT
SEQUENCE OF OPERATION

THE AIR TERMINAL MODE OF OPERATION IS EITHER "OCCUPIED" OR "UNOCCUPIED" BASED UPON A COMMAND SENT BY THE BUILDING AUTOMATION SYSTEM (BAS). IF COMMUNICATION IS LOST WITH THE BAS, THE VAV CONTROLLER WILL OPERATE USING ITS LOCAL SETPOINTS.

OCCUPIED MODE:

DURING THE OCCUPIED MODE OF OPERATION, THE SPACE TEMPERATURE SETPOINT SHALL BE ADJUSTABLE BY THE OCCUPANT AT THE THERMOSTAT.

MINIMUM: 68°F (ADJUSTABLE)
MAXIMUM: 70°F (ADJUSTABLE)

THE COOLING SETPOINT SHALL BE EQUAL TO THE SPACE TEMPERATURE PLUS 1.0°F (ADJ.). ON A CALL FOR COOLING, THE TERMINAL DAMPER SHALL BE MODULATED BETWEEN THE COOLING MINIMUM AND THE COOLING MAXIMUM AIR FLOW SETPOINTS AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE AT THE COOLING SETPOINT. ON A CALL FOR HEATING, THE TERMINAL DAMPER SHALL BE MODULATED TO THE HEATING MINIMUM AND THE MAXIMUM AIR FLOW SETPOINTS AND THE (HOT WATER CONTROL VALVE OR SCR ELECTRIC STRIP HEAT) SHALL BE MODULATED OPEN AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE SETPOINT.

UNOCCUPIED (NIGHT SETBACK) MODE:

DURING THE UNOCCUPIED MODE, THE SETPOINTS SHALL BE AS FOLLOWS:

COOLING: 70°F (ADJUSTABLE)
HEATING: 65°F (ADJUSTABLE)

ON A CALL FOR COOLING, THE TERMINAL DAMPER SHALL BE MODULATED FROM FULLY CLOSED (0 CFM) TO THE MAXIMUM COOLING AIR FLOW SETPOINT AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE AT THE COOLING SETPOINT. ON A CALL FOR HEATING, THE TERMINAL DAMPER SHALL BE MODULATED BETWEEN THE MINIMUM HEATING AND THE MAXIMUM HEATING AIR FLOW SETPOINTS AND THE (HEATING WATER CONTROL VALVE OR SCR ELECTRIC STRIP HEAT) SHALL BE MODULATED OPEN AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE AT THE HEATING SETPOINT.

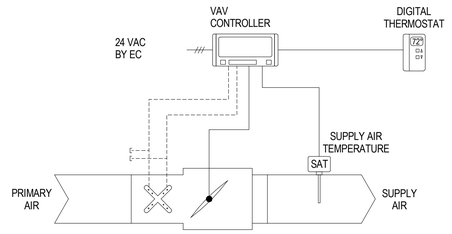
SAFETIES AND ALARMS:

SPACE SENSOR FAILURE: IF THERE IS A FAULT WITH THE OPERATION OF THE SPACE SENSOR (THERMOSTAT) AN ALARM WILL BE ANNUNCIATED AT THE BAS. SPACE SENSOR FAILURE WILL CAUSE THE VAV TO DRIVE THE DAMPER TO MINIMUM AIR FLOW IF THE VAV IS IN THE OCCUPIED MODE, OR DRIVE IT CLOSED IF THE VAV IS IN THE UNOCCUPIED MODE.

THE BAS SHALL PROVIDE ALARM MESSAGES FOR THE FOLLOWING:

- SA TEMPERATURE FAILURE
- LOW AIR FLOW
- PRIMARY AIR TEMPERATURE FAILURE
- SPACE TEMPERATURE FAILURE
- LOCAL SETPOINT FAILURE
- FLOW SENSOR

1 SINGLE DUCT VAV UNIT - HEATING WATER & ELECTRIC HEAT
NO SCALE



VAV TERMINAL UNIT (COOLING ONLY)
SEQUENCE OF OPERATION

THE AIR TERMINAL MODE OF OPERATION IS SHALL REMAIN IN "OCCUPIED" COOLING MODE ALL THE TIME.

OCCUPIED MODE:

DURING THE OCCUPIED MODE OF OPERATION, THE SPACE TEMPERATURE SETPOINT SHALL BE SET TO 70°F (ADJUSTABLE). THE TERMINAL DAMPER SHALL MODULATE AS REQUIRED TO MAINTAIN THE SPACE TEMPERATURE AT THE COOLING SETPOINT.

SAFETIES AND ALARMS:

SPACE SENSOR FAILURE: IF THERE IS A FAULT WITH THE OPERATION OF THE SPACE SENSOR (THERMOSTAT) AN ALARM WILL BE ANNUNCIATED AT THE BAS. SPACE SENSOR FAILURE WILL CAUSE THE VAV TO DRIVE THE DAMPER TO MINIMUM AIR FLOW IF THE VAV IS IN THE OCCUPIED MODE, OR DRIVE IT CLOSED IF THE VAV IS IN THE UNOCCUPIED MODE.

THE BAS SHALL PROVIDE ALARM MESSAGES FOR THE FOLLOWING:

- SA TEMPERATURE FAILURE
- LOW AIR FLOW
- PRIMARY AIR TEMPERATURE FAILURE
- SPACE TEMPERATURE FAILURE
- LOCAL SETPOINT FAILURE
- FLOW SENSOR FAILURE

2 SINGLE DUCT VAV UNIT - COOLING ONLY
NO SCALE

SEQUENCE OF OPERATION: HUMIDIFIER
BUILDING AUTOMATION SYSTEM INTERFACE: THE EXISTING SIEMENS BUILDING AUTOMATION SYSTEM (BAS) SHALL MONITOR THE HUMIDIFIER THROUGH THE BACNET INTERFACE.
HUMIDIFICATION: THE HUMIDIFIER SHALL MONITOR SPACE HUMIDITY LEVELS THROUGH THE DUCT MOUNTED HUMIDISTAT. ON A CALL FOR HUMIDIFICATION, THE HUMIDIFIER SHALL PROVE AIRFLOW THROUGH A DUCT MOUNTED DP AND THEN ENERGIZE THE STEAM GENERATION TO MAINTAIN MINIMUM SPACE HUMIDITY AT 30% RH (ADJ.) WHEN MINIMUM SPACE RELATIVE HUMIDITY IS SATISFIED, THE STEAM GENERATOR SHALL BE DE-ENERGIZED.
IF DUCT RH EXCEEDS 80% RH (ADJ.), THE THE STEAM GENERATOR SHALL BE DE-ENERGIZED AND AN ALARM SENT.
BAS MONITORING: AT A MINIMUM, THE BAS SHALL MONITOR THE FOLLOWING POINTS:

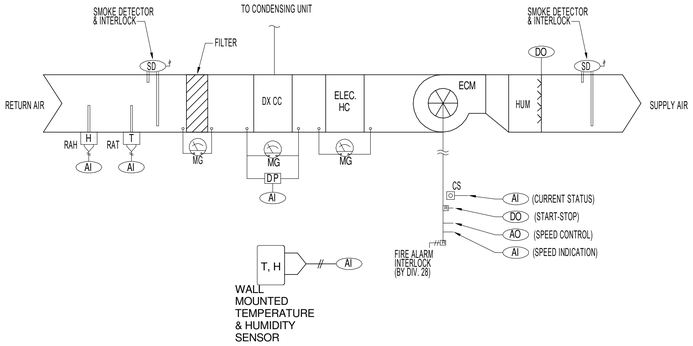
- HUMIDIFIER STATUS
- HUMIDIFIER FAULT/ALARM
- SPACE RH HUMIDITY

5 HUMIDIFIER - CONTROL DIAGRAM
NO SCALE

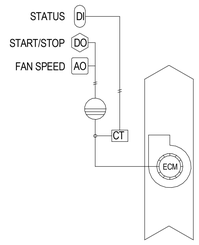
SEQUENCE OF OPERATION:

SCHEDULING:
COMPUTER ROOM AIR CONDITIONER SHALL OPERATE ACCORDING TO OWNER DEFINED SCHEDULE SET AT BUILDING AUTOMATION SYSTEM (BAS). DURING OCCUPIED MODE UNIT SHALL PROVIDE CONDITIONED AIR TO MRI EQUIPMENT ROOM. DURING UNOCCUPIED MODE UNIT SHALL BE
OFF.
BAS SHALL MONITOR ALL POINTS SHOWN ON AIRFLOW SCHEMATIC AS REQUIRED TO ACCOMPLISH THE FOLLOWING SEQUENCES.
COOLING:
WHEN ENABLED UNIT SHALL MODULATE DX CONDENSING UNIT CAPACITY TO MAINTAIN SPACE TEMPERATURE AT SETPOINT OF 68°F (ADJ) ELECTRIC REHEATING COIL SHALL MODULATE DURING DE-HUMIDIFICATION MODE TO ENSURE SPACE IS NOT OVER COOLED.
HUMIDIFIER:
STEAM GENERATOR HUMIDIFIER CONTROL SHALL MODULATE TO MAINTAIN SPACE RELATIVE HUMIDITY ABOVE SETPOINT OF 30% RH (ADJ).

FAN OPERATION:
SUPPLY FAN SHALL RUN CONTINUOUSLY. BAS SHALL START AND STOP
FAN.
ALARMS:
IF AT ANY TIME UNIT IS COMMANDED ON AND DOES NOT OPERATE AN ALARM SHALL BE SENT TO BAS. WHEN UNIT IS SHUTDOWN BY EITHER A STOP COMMAND OR A SYSTEM SAFETY, FAN SHALL DE-ENERGIZE AND COIL CONTROL VALVES SHALL
CLOSE.
FILTER DIFFERENTIAL PRESSURE SENSORS SHALL BE MONITORED BY BAS. SETPOINT FOR DIRTY FILTER ALARM SHALL BE ADJUSTABLE.
SHUTDOWN:
SYSTEM SHALL SHUT DOWN UPON SIGNAL FROM DUCT SMOKE DETECTOR OR BUILDING FIRE
ALARM.



3 COMPUTER ROOM AIR CONDITIONER CONTROL DIAGRAM
NOT TO SCALE



SEQUENCE OF OPERATION:

THE BAS SHALL MONITOR THE STATUS OF THE SPACE OXYGEN SENSOR. UPON LOW OXYGEN SIGNAL FROM THE BAS, THE EXHAUST FAN SHALL ACTIVATE. THE EXHAUST FAN SHALL ALSO BE CAPABLE OF A MANUAL OVERRIDE ACTIVATION FROM A MANUAL SWITCH LOCATED IN THE SPACE AND ADJACENT CONTROL ROOM.

ONCE ROOM OXYGEN LEVEL RETURNS TO NORMAL OR MANUAL SWITCH IS DEACTIVATED, FAN SHALL
DE-ENERGIZE.

AI SPACE OXYGEN LEVEL
OXYGEN SENSOR
MANUAL ACTIVATION SWITCH. SEE PLANS FOR LOCATION.

4 EXHAUST FAN (MRI VENTILATION) - CONTROL DIAGRAM
NO SCALE

GENERAL CONTROL NOTES

1. HVAC CONTROLS SHALL BE SIEMENS BRAND PROVIDED BY POWERS OF ARKANSAS TO MATCH THE EXISTING CHI ST. VINCENT NORTH CAMPUS-WIDE CONTROLS.
2. ADDITION TO THE EXISTING NETWORKED DDC SYSTEM SHALL BE IN COMPLIANCE WITH THE LATEST REVISION OF THE ASHRAE 135 BACNET STANDARD.
3. THE NEW COMPONENTS SHALL USE THE BACnet PROTOCOL FOR COMMUNICATION TO THE EXISTING OPERATOR WORKSTATION OR WEB SERVER AND FOR COMMUNICATION BETWEEN CONTROL MODULES. I/O POINTS, SCHEDULES, SETPOINTS, TRENDS AND ALARMS SHALL BE BACnet OBJECTS. INCLUDE ALL PROGRAMMING, OBJECTS, AND SERVICES REQUIRED TO MEET THE SEQUENCE OF CONTROL.
4. INSTALL THE ELECTRICAL EQUIPMENT, CONDUCTORS, AND ALL OTHER RELATED ITEMS IN ACCORDANCE WITH NFPA 70.
5. INSTALL ANY FIRE ALARM DEVICES AND RELATED EQUIPMENT IN ACCORDANCE WITH NFPA 72, NFPA 90A, NFPA 101, SBCCI, AND ANY APPLICABLE ANSI STANDARDS.
6. HOUSE ALL WIRE SPLICES NOT CONNECTED TO A DEVICE WITHIN A 4"x4"x2-1/8" JUNCTION BOX.
7. PROVIDE ALL NECESSARY: CONTROL POWER, CONTROL POWER WIRING, VALVES, ACTUATORS, CONDUIT, WIRING, CONTROLLERS, INTERFACE, SWITCHES, CIRCUIT BOARDS, THERMOSTATS, LABOR, ETC. FOR A COMPLETE AND OPERATIONAL SYSTEM. MAKE FINAL CONNECTION TO BAS DRY CONTACTS AS REQUIRED FOR A COMPLETE AND OPERATIONAL ADDITION TO THE EXISTING SYSTEM.
8. NO THIRD PARTY HARDWARE SHALL BE USED TO INTERFACE WITH SIEMENS SYSTEM CONTROLLER.

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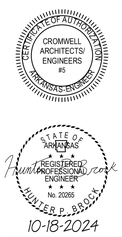
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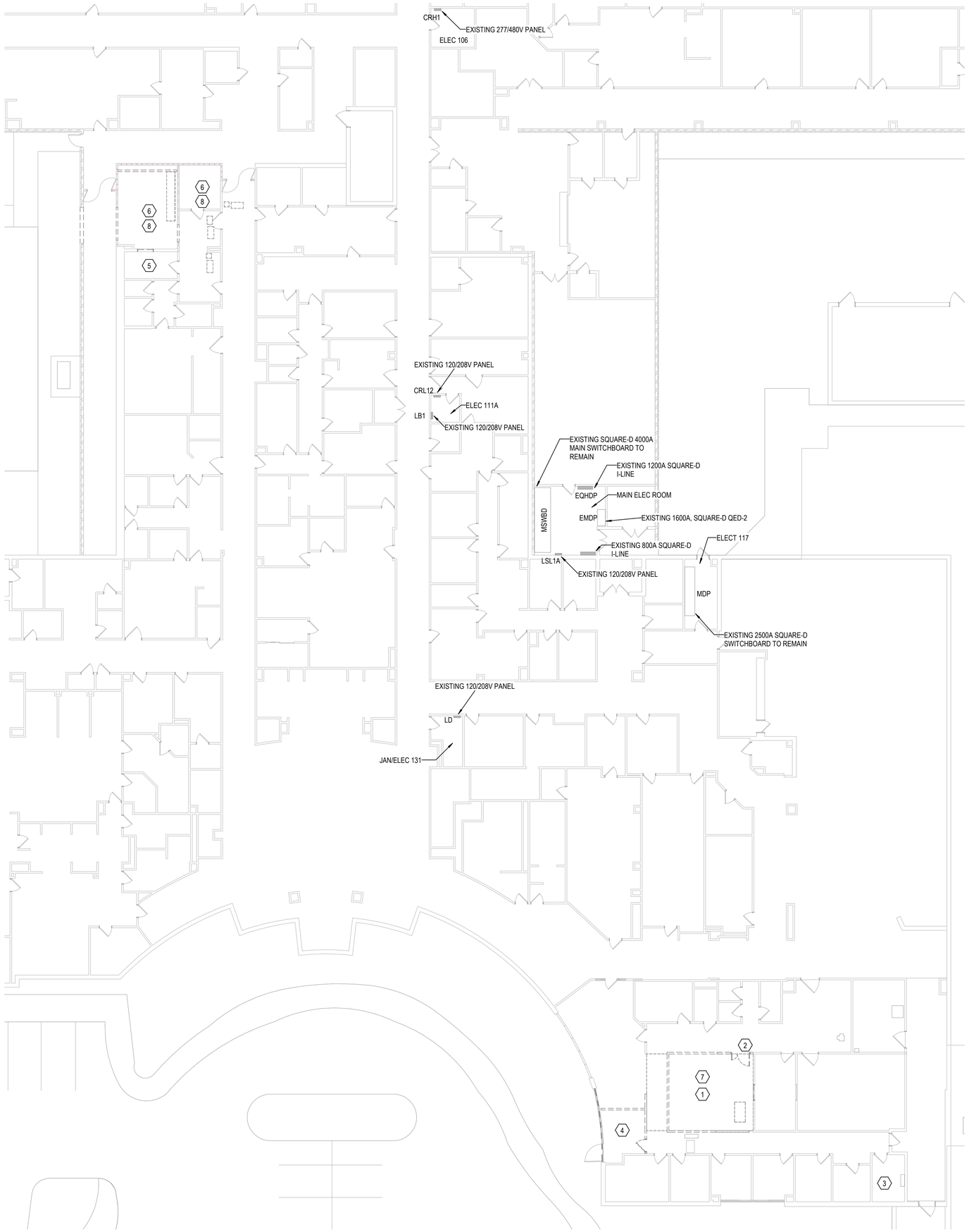
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Issue Date **10-18-2024**
Sheet Title **MECHANICAL CONTROLS**
Sheet Number **M-701**



1 FIRST FLOOR ELECTRICAL DEMOLITION PLAN
3/32" = 1'-0"

GENERAL NOTES:

1. COORDINATE ALL OUTAGES WITH OWNER 7 DAYS PRIOR TO DISCONNECTING POWER.

KEYED NOTES:

1. REMOVE ALL EXISTING CIRCUITS BACK TO OUTSIDE OF THE ROOM. ALL CIRCUITS WILL BE RE-USED IN NEW PHASE FOR THE NEW MRI THROUGH RF FILTERS. REFER TO NEW LIGHTING AND POWER PLAN FOR CIRCUITS THAT ARE RE-USED. ANY UNUSED CIRCUIT TO BE PULLED BACK TO THE PANEL.
2. REMOVE EXISTING XRAY IN-USE SIGN, STORE, AND RE-INSTALL FOR NEW CT ROOM. REFER TO CT FLOOR LIGHTING PLAN.
3. RE-LOCATE EXISTING UPS AND BATTERY CABINET FOR CT TO NEW CT ROOM. COORDINATE ALL WORK WITH PHILLIPS VENDOR PRIOR DISCONNECTING POWER AND RELOCATING. EXISTING 200A, 480V CIRCUIT TO REMAIN AND RE-USED FOR THE NEW MRI. REFER TO MRI PLANS FOR MORE DETAILS. REMOVE EXISTING ENCLOSED BREAKERS USED FOR THE CT. MRI UPS AND RELATED EQUIPMENT TO REMAIN. PROTECT DURING CONSTRUCTION.
4. REMOVE EXISTING LIGHT FIXTURES AND RECEPTACLES IN THE ROOM.
5. REMOVE ONLY LIGHT FIXTURES AND LIGHTING CIRCUIT IN THE ROOM.
6. REMOVE LIGHT FIXTURES AND LIGHTING CIRCUIT, RECEPTACLES AND RECEPTACLE CIRCUITS FROM THE ROOM. RECEPTACLE CIRCUITS TO BE RE-USED IN NEW PHASE REFER TO NEW CT PLANS.
7. REMOVE ALL RACEWAYS USED FOR CT EQUIPMENT. REMOVE ALL NON-FERROUS ELECTRICAL EQUIPMENT AND DEVICES FROM THE ROOM. COORDINATE WITH OWNER.
8. REMOVE ALL RACEWAYS USED FOR MRI EQUIPMENT.

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
Sherwood, AR 72120

CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
ARKANSAS ENGINEER

STATE OF ARKANSAS
REGISTERED PROFESSIONAL ENGINEER
No. 18939
ALI HONARMAND
10-18-2024

Notes

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Project Number 2024-101

Issue Date 10-18-2024

Sheet Title

FIRST FLOOR ELECTRICAL DEMOLITION PLAN

Sheet Number

ED101

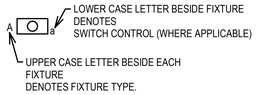
ELECTRICAL SYMBOLS

RECEPTACLES (MOUNTED 18" AFF UNLESS INDICATED OTHERWISE)

- DUPLEX RECEPTACLE OUTLET (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
- DUPLEX RECEPTACLE OUTLET (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R) MOUNT 4" ABOVE COUNTER TOP, SINK, OR BACKSPLASH (IF PRESENT)
- SINGLE RECEPTACLE OUTLET (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
- FLOOR RECEPTACLE OUTLET (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
- SINGLE RECEPTACLE OUTLET (50A, 250V, 3 POLE, 3 WIRE, NEMA 10-50R)
- SINGLE RECEPTACLE OUTLET (20A, 250V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 6-20R)
- SINGLE RECEPTACLE OUTLET (30A, 250V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 6-30R)
- SINGLE RECEPTACLE OUTLET (30A, 250V, 3 POLE, 4 WIRE, TWIST-LOCK, GROUNDING TYPE, NEMA L15-30R)
- 1 SINGLE SPECIAL-PURPOSE RECEPTACLE OUTLET; NUMBER CORRESPONDS TO THE SPECIAL-PURPOSE RECEPTACLE SCHEDULE
- R SINGLE RECEPTACLE FOR ELECTRIC RANGE (50A, 125/250V, 3 POLE, 4 WIRE, GROUNDING TYPE, NEMA 14-50R)
- DUPLEX RECEPTACLE MOUNTED IN CEILING (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
- TWO (2) DUPLEX RECEPTACLES MOUNTED IN DOUBLE GANG BACKBOX (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)
- TWO (2) DUPLEX RECEPTACLES FLOOR MOUNTED IN DOUBLE GANG BACKBOX (20A, 125V, 2 POLE, 3 WIRE, GROUNDING TYPE, NEMA 5-20R)

- LIGHT FIXTURE, CEILING MOUNTED
- LIGHT FIXTURE, CEILING MOUNTED, ON EMERGENCY CIRCUIT
- LIGHT FIXTURE, CEILING MOUNTED, WITH EMERGENCY SELF CONTAINED BATTERY PACK. BATTERY PACK IS TO REMAIN UNSWITCHED.
- LIGHT FIXTURE, WALL MOUNTED
- LIGHT FIXTURE, INDUSTRIAL STRIP, SURFACE OR PENDANT MOUNTED
- LIGHT FIXTURE, INDUSTRIAL STRIP, SURFACE OR PENDANT MOUNTED, ON EMERGENCY CIRCUIT
- LIGHT FIXTURE, INDUSTRIAL STRIP, SURFACE OR PENDANT MOUNTED, WITH EMERGENCY SELF CONTAINED BATTERY PACK. BATTERY PACK IS TO REMAIN UNSWITCHED.
- LIGHT FIXTURE, CEILING MOUNTED
- LIGHT FIXTURE, CEILING MOUNTED, ON EMERGENCY CIRCUIT
- LIGHT FIXTURE, CEILING MOUNTED, WITH EMERGENCY SELF CONTAINED BATTERY PACK. BATTERY PACK IS TO REMAIN UNSWITCHED.
- LIGHT FIXTURE, WALL MOUNTED
- EMERGENCY BATTERY POWERED LIGHTING UNIT, WITH SELF CONTAINED BATTERY, CHARGER, ETC. (REFER TO FIXTURE SCHEDULE FOR BATTERY TYPE, VOLTAGE, LAMP TYPE, WATTAGE, ETC.) TRIANGLES DEPICT QUANTITY AND AIMING OF LAMP HEADS
- EXIT SIGN, LIGHTED, CEILING MOUNTED. SHADED AREA INDICATES FACE. ARROW DEPICTS DIRECTIONAL ARROW ON SIGN. WHEN REQUIRED BY THE FIXTURE SCHEDULE, AN EMERGENCY SELF-CONTAINED BATTERY PACK IS TO REMAIN UNSWITCHED.
- EXIT SIGN, LIGHTED, WALL MOUNTED AT 7'-6" AFF (TO BOTTOM OF SIGN) UNLESS INDICATED OTHERWISE. ARROW DEPICTS DIRECTIONAL ARROW ON SIGN. WHEN REQUIRED BY THE FIXTURE SCHEDULE, AN EMERGENCY SELF-CONTAINED BATTERY PACK IS TO REMAIN UNSWITCHED.
- FLOOD LIGHT, ARROW INDICATES DIRECTION OF BEAM
- DOCK LIGHT
- PARKING AREA LIGHT FIXTURE, POLE MOUNTED

LIGHT FIXTURE IDENTIFICATION



SWITCHGEAR

- MAGNETIC MOTOR STARTER (FURNISHED BY DIVISION 23, UNLESS NOTED OTHERWISE)
- ELECTRICAL PANELBOARD, FLUSH MOUNTED
- ELECTRICAL PANELBOARD, SURFACE MOUNTED
- EXISTING ELECTRICAL PANELBOARD, FLUSH MOUNTED
- EXISTING ELECTRICAL PANELBOARD, SURFACE MOUNTED
- SAFETY SWITCH; 30A CURRENT RATING UNLESS NOTED OTHERWISE. +4'-0" TO HANDLE
- 30 F20 FUSIBLE SAFETY SWITCH; CURRENT RATING AND FUSE RATING NOTED. +4'-0" TO HANDLE
- CB CIRCUIT BREAKER IN WALL MOUNTED ENCLOSURE
- T ELECTRICAL TRANSFORMER, FLOOR MOUNTED UNLESS INDICATED OTHERWISE

ELECTRICAL SYMBOLS

TELEPHONE/COMMUNICATIONS/DATA (OUTLETS SHALL BE MOUNTED 18" AFF UNLESS INDICATED OTHERWISE)

- TELEPHONE OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD. SUBSCRIPT: W - WALL MOUNTED AT 54" AFF;
- TELEPHONE FLOOR OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
- DATA OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
- DATA FLOOR OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
- COMBINATION VOICE/DATA OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
- COMBINATION VOICE/DATA FLOOR OUTLET. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESSIBLE CEILING SPACE AND PULL CORD.
- 4'-0" HIGH x 3/4" THICK FIRE-RETARDANT PLYWOOD BACKBOARD. SEE PLANS FOR LENGTH.
- 2 WIRELESS ACCESS POINT OUTLET CEILING MOUNTED. OUTLET BOX WITH 1" C STUBBED ABOVE ACCESS CEILING SPACE AND PULL CORD. NUMBER INDICATES QUANTITY OF DATA JACKS. ABSENCE OF A NUMBER INDICATES ONE DATA JACK.
- CABLE TRAY

SINGLE LINE

- CIRCUIT BREAKER, TRIP RATING AS INDICATED, 3 POLE OR AS INDICATED
- 60A DISCONNECT SWITCH OR LOAD INTERRUPTER SWITCH, CURRENT RATING AS INDICATED, 3 POLE OR AS INDICATED
- GFI SWITCH WITH GROUND FAULT INTERRUPTER
- F30 FRS FUSE, CURRENT RATING AND TYPE WHEN INDICATED
- TRANSFORMER, DESCRIPTION AS NOTED OR PER SCHEDULE
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- SS PHASE SELECTOR SWITCH
- A AMMETER
- V VOLTMETER
- WH WATT-HOUR METER
- SPD SURGE PROTECTIVE DEVICE
- AUTOMATIC TRANSFER SWITCH
- G GENERATOR

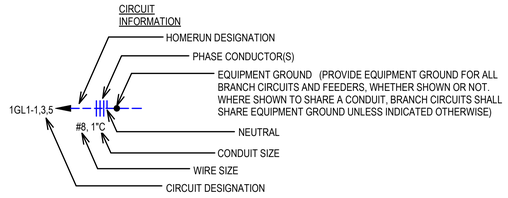
SWITCHES (MOUNTED AT 46", UNLESS INDICATED OTHERWISE) (LOWER CASE LETTER INDICATES DEVICES CONTROLLED)

- S_a SWITCH, SINGLE POLE, 20A
- S_2 SWITCH, DOUBLE POLE, 20A SWITCH
- S_3 3-WAY, 20A SWITCH
- S_4 4-WAY, 20A SWITCH
- S_K KEY OPERATED
- S_P SINGLE POLE SWITCH, WITH PILOT LIGHT
- S_M SINGLE POLE MANUAL MOTOR STARTING SWITCH, WITH THERMAL OVERLOAD ELEMENT AND PROVISIONS FOR LOCKING OPEN
- S_{M2} DOUBLE POLE MANUAL MOTOR STARTING SWITCH, WITH THERMAL OVERLOAD ELEMENT AND PROVISIONS FOR LOCKING OPEN
- S_D SWITCH, DIMMING (COORDINATE WITH FIXTURE MANUFACTURER)
- S_X SWITCH, MULLION SWITCH
- S_{LV} LOW VOLTAGE WITH MOMENTARY CONTACTS SWITCH
- S_O OCCUPANCY SENSOR, WALL MOUNTED, DUAL TECHNOLOGY
- OS OCCUPANCY SENSOR, CEILING MOUNTED, DUAL TECHNOLOGY.REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DETAILS.
- PC PHOTOCELL
- X LIGHTING CONTROL DEVICE (POWER PACK, TIME SWITCH, ETC.) REFER TO LIGHTING CONTROL SCHEDULE FOR DETAILS
- S_{RT} REMOTE TEST SWITCH

MISCELLANEOUS

- J JUNCTION BOX, WALL MOUNT AS INDICATED
- J JUNCTION BOX, CEILING MOUNT AS INDICATED
- CK CLOCK OUTLET, WALL MOUNTED 7'-6" AFF
- M MOTOR
- 10' BARE #6 COILED & EXOTHERMICALLY WELDED TO COLUMN
- TV CABLE TELEVISION OUTLET BOX MOUNTED 18" AFF WITH CONDUIT STUBBED ABOVE CEILING. PROVIDE PULL CORD.
- CONDUIT RUN, EXPOSED
- CONDUIT RUN, CONCEALED
- FLEXIBLE CONDUIT

CIRCUIT INFORMATION



- CIRCUIT DESIGNATION INDICATES PANELBOARD AND CIRCUIT(S) TO WHICH HOMERUN IS CONNECTED.
- WIRE SIZE SHALL BE NO. 12, UNLESS INDICATED OTHERWISE.
- CONDUIT SIZE SHALL BE MINIMUM ALLOWED BY SPECIFICATIONS FOR NO. 12 SIZE WIRE, 3/4" FOR NO. 10, UNLESS INDICATED OTHERWISE.
- CIRCUIT INFORMATION PROVIDED AT THE HOMERUN SYMBOL SHALL APPLY THE ENTIRE LENGTH OF THE CIRCUIT (FROM PANELBOARD TO LAST LOAD).
- WHEN NO PHASE CONDUCTOR OR NEUTRAL IS INDICATED AT THE HOMERUN SYMBOL, PROVIDE ONE PHASE CONDUCTOR AND ONE NEUTRAL, BOTH NO. 12.
- SWITCHING CONDUCTORS, CONDUCTORS FOR NIGHT LIGHT CIRCUITS (UNSWITCHED), ETC. ARE NOT SHOWN, BUT SHALL BE PROVIDED AS NECESSARY.
- WIRE SIZE INDICATED ON THESE DOCUMENTS AS INDICATED BY "NO." OR "#" HAS THE SAME MEANING AS "AWG" (N.E.C. NOMENCLATURE). (I.E."NO. 12" OR "# 12" MEANS "12AWG" IN N.E.C. NOMENCLATURE.)

SECURITY

- M MAGNETIC ALARM SWITCH
- D DURESS ALARM SWITCH
- MD MOTION DETECTOR
- CD CAPACITIVE DETECTOR
- CCTV CAMERA LOCATION, CEILING MOUNTED UNLESS INDICATED OTHERWISE
- KS KEYPAD ACCESS ALARM OVERRIDE CONTROL
- ELECTRIC PUSH-BUTTON
- CARD READER
- ES ELECTRIC STRIKE
- REX REQUEST TO EXIT PUSH BUTTON

ABBREVIATIONS:

AFF = ABOVE FINISHED FLOOR
AFL = ABOVE FINISHED LANDING
GFI = GROUND FAULT INTERRUPTER
IG = ISOLATED GROUND
UIO = UNLESS INDICATED OTHERWISE
WP = WEATHERPROOF CONSTRUCTION
OF/OI = OWNER FURNISHED / OWNER INSTALLED
CF/CI = CONTRACTOR FURNISHED / CONTRACTOR INSTALLED
TYP = TYPICAL
NIC = NOT IN CONTRACT

GENERAL SYMBOLS NOTES:

1. ALL SYMBOLS MAY NOT BE USED.

2. MOUNTING HEIGHTS ARE ABOVE FINISHED FLOOR OR GRADE TO THE CENTER LINE OF THE OUTLET, DEVICE, ETC. UNLESS INDICATED OTHERWISE.

3. LARGE AMPACITY CIRCUIT DESIGNATION EXAMPLE: 4 SETS OF 3#500, #250, #1/0G, 4"C MEANS IN EACH OF FOUR 4" CONDUITS INSTALL THREE 500 kCM CONDUCTORS, ONE 250 kCM NEUTRAL AND ONE #1/0 GROUND.

COLOR LEGEND:

- EXISTING TO REMAIN
- DEMOLISH
- NEW CONSTRUCTION

LINESTYLE LEGEND:

- DEMOLISH
- EXISTING TO REMAIN
- NEW

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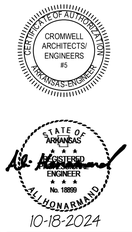
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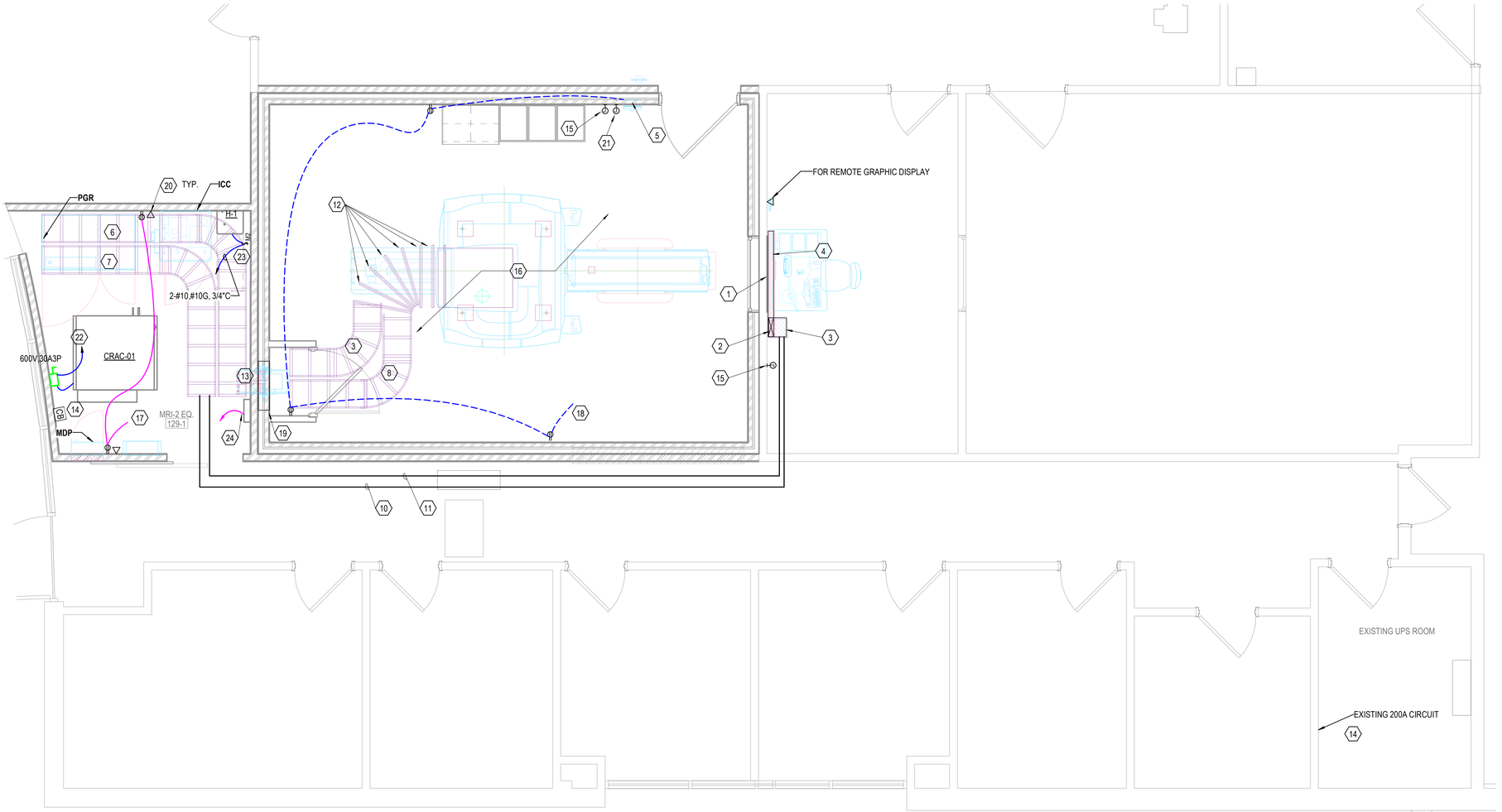
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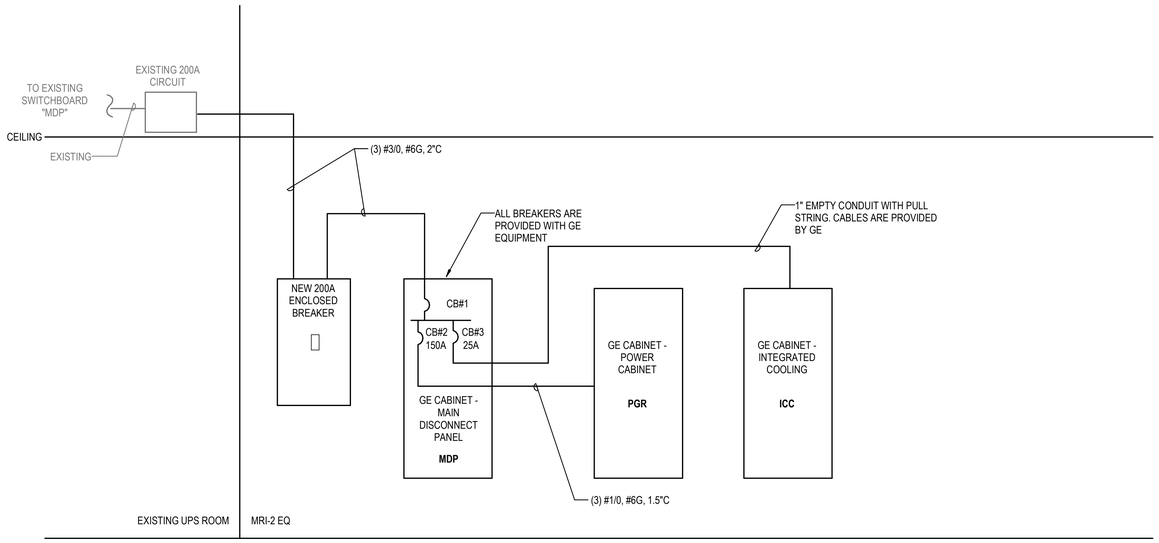
Sheet Title **ELECTRICAL LEGEND**

Sheet Number **E-001**



1 ENLARGED MRI-2 - POWER AND SYSTEMS

3/8" = 1'-0"



2 ONE-LINE DIAGRAM - MRI-2

N.T.S.

GENERAL NOTES:

1. GROUND THE MRI MAGNET AND ALL CABINETS AND EQUIPMENT TO BUILDING GROUNDING SYSTEM PER GE SITE SPECIFIC DRAWINGS.
2. REFER TO GE SITE SPECIFIC DRAWINGS AND PROVIDE AND INSTALL ALL CONDUITS, RACEWAYS, AND WIRES AS INDICATED ON GE DRAWINGS AND RACEWAY SCHEDULE.
3. REFER TO GE SITE SPECIFIC DRAWINGS AND VERIFY REQUIREMENTS AND CONNECTION POINTS FOR ALL GE EQUIPMENT PRIOR TO ROUGH IN.
4. CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL GUIDELINES AND INSTRUCTIONS SHOWN ON GE SITE SPECIFIC DRAWINGS.

KEYED NOTES:

1. FURNISH AND INSTALL 6" X 3.5" SURFACE MOUNTED WALL DUCT WITH MINIMUM 2 DIVIDERS. MOUNT HORIZONTALLY ON THE WALL. COORDINATE EXACT PLACEMENT WITH GE VENDOR PRIOR TO ROUGH IN.
2. FURNISH AND INSTALL 6" X 3.5" SURFACE MOUNTED WALL DUCT WITH MINIMUM 2 DIVIDERS. MOUNT VERTICALLY ON THE WALL. COORDINATE EXACT PLACEMENT WITH GE VENDOR PRIOR TO ROUGH IN.
3. PROVIDE PULL BOX ABOVE CEILING FOR A 2" AND A 3" CONDUIT.
4. PROVIDE GROMMET OPENING. COORDINATE SIZE WITH GE VENDOR.
5. PROVIDE 4" X 4" X 2" BACK BOX FOR MRU AT 5'-4" A.F.F. CONNECT POWER AS INDICATED. ROUTE 1" CONDUIT TO MAGNET. REFER TO SITE SPECIFIC DRAWINGS AN COORDINATE WITH GE VENDOR PRIOR TO ROUGH IN.
6. PROVIDING 16" X 6" CABLE LADDER. REFER TO GE SITE SPECIFIC DRAWINGS AND COORDINATE WITH VENDOR FOR MOUNTING HEIGHT AND ROUTING PRIOR TO ROUGH IN.
7. PROVIDING 16" X 6" CABLE LADDER FOR GRADIENT CABLES. REFER TO GE SITE SPECIFIC DRAWINGS AND COORDINATE WITH VENDOR FOR MOUNTING HEIGHT AND ROUTING PRIOR TO ROUGH IN.
8. PROVIDE NON-FERROUS CABLE LADDER TRAY 18" X 4". REFER TO GE SITE SPECIFIC DRAWINGS AND COORDINATE WITH VENDOR FOR MOUNTING HEIGHT AND ROUTING PRIOR TO ROUGH IN.
9. PROVIDE NON-FERROUS CABLE LADDER TRAY 18" X 4" FOR GRADIENT CABLES. REFER TO GE SITE SPECIFIC DRAWINGS AND COORDINATE WITH VENDOR FOR MOUNTING HEIGHT AND ROUTING PRIOR TO ROUGH IN.
10. PROVIDE 2" CONDUIT ABOVE RF SCREEN. COORDINATE EXACT PLACEMENT WITH GE VENDOR PRIOR TO ROUGH IN.
11. PROVIDE 3" CONDUIT ABOVE RF SCREEN. COORDINATE EXACT PLACEMENT WITH GE VENDOR PRIOR TO ROUGH IN.
12. PROVIDE NON-FERROUS UNISTRUT CABLE SUPPORT.
13. GROUND RF FILTER TO RF SHIELD AND COMMON GROUND STUD. COORDINATE WITH GE VENDOR FOR ALL DETAILS.
14. PROVIDE 600V, 200A3P, ENCLOSED BREAKER. EXTEND EXISTING 200A CIRCUIT IN THE EXISTING UPS ROOM THAT WAS PREVIOUSLY USED FOR THE REMOVED CT AND CONNECT TO THE ENCLOSED BREAKER.
15. PROVIDE EMERGENCY OFF BUTTON (MUSHROOM) WITH COVER. INTERLOCK WITH GE MAIN DISCONNECT PANEL (MDP) PER SITE SPECIFIC DRAWINGS. INSTALL WIRES IN 3/4" CONDUIT.
16. ALL CONDUITS, DEVICES, LIGHTING, BACK BOXES AND ANY OTHER ELECTRICAL EQUIPMENT AND DEVICES IN THE MRI ROOM SHIELD TO BE NON-FERROUS METAL. PROVIDE ALUMINUM CONDUIT AND BACK BOXES.
17. CONNECT TO EXISTING EMERGENCY RECEPTACLE CIRCUIT THAT WAS PREVIOUSLY MOVED OUT OF THE ROOM UNDER DEMOLITION PHASE. CKT # EL-34. FIELD VERIFY CIRCUIT NUMBER AND PANEL DESIGNATION.
18. CONNECT TO EXISTING NORMAL RECEPTACLE CIRCUIT THAT WAS PREVIOUSLY MOVED OUT OF THE ROOM UNDER DEMOLITION PHASE. CKT # LA2-76. FIELD VERIFY CIRCUIT NUMBER AND PANEL DESIGNATION.
19. PROVIDE FILTERS FOR EACH WIRING PENETRATION THROUGH THE PENETRATION PANEL. COORDINATE WITH RF SHIELDING CONTRACTOR AND GE VENDOR.
20. CONNECT DATA OUTLETS SHOWN ON THIS SHEET TO THE NEAREST DATA ROOM. COORDINATE EXACT TERMINATION LOCATION AND REQUIREMENTS WITH OWNER'S IT DEPARTMENT. TYPICAL FOR ALL DATA OUTLET IN PROJECT.
21. PROVIDE DOOR SWITCH. ROUTE 3/4" CONDUIT TO **PGR**.
22. CONNECT TO EXISTING I-LINE PANEL "HDP1" IN MAIN ELECTRICAL ROOM. PROVIDE 30A3P BREAKER. ROUTE 3-#10, #10G, IN 3/4" CONDUIT.
23. CONNECT TO EXISTING 400A PANEL LB1 LOCATED IN ELECTRICAL ROOM 111A. PROVIDE 25A2P, GFEP 30MA BREAKER. CONNECT POWER TO HUMIDIFIER.
24. CONNECT POWER TO FIRE SUPPRESSION PANEL. CONNECT TO EXISTING PANEL "LSL1A" LOCATED IN EXISTING MAIN ELECTRICAL ROOM. PROVIDE 20A1P BREAKER.

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Project

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CHI St. Vincent

Design Phase

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CERTIFICATE OF AUTHORIZATION CROMWELL ARCHITECTS/ ENGINEERS #5 ARKANSAS ENGINEER

STATE OF ARKANSAS REGISTERED ENGINEER No. 18899 ALI HONARMAND

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Notes

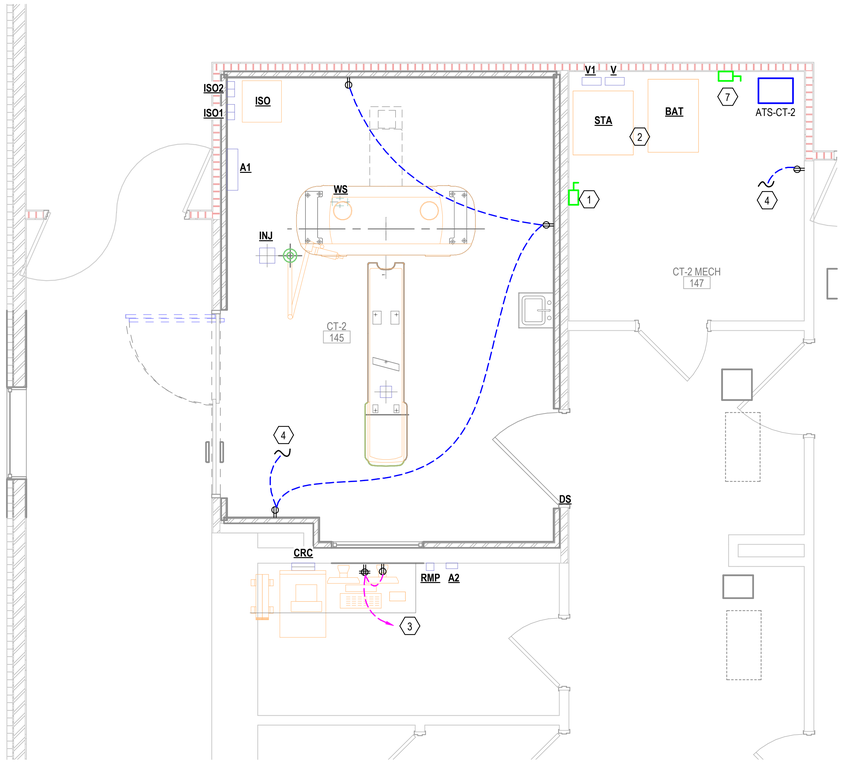
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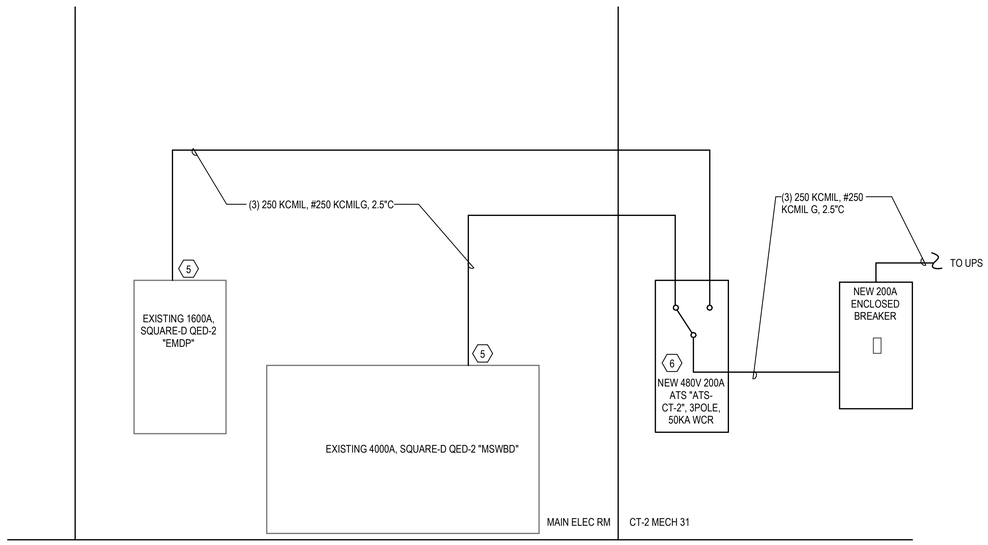
Sheet Title **ENLARGED ELECTRICAL PLANS - MRI**

Sheet Number **E-401**



1 ENLARGED CT-2 - POWER AND SYSTEMS

3/8" = 1'-0"



2 ONE-LINE DIAGRAM - CT-2

N.T.S.

CT EQUIPMENT & PULL BOXES SCHEDULE:

BAT	125KVA BATTERY CABINET. RELOCATE FROM EXISTING UPS ROOM.
STA	125KVA ELECTRONICS CABINET AND MODULES. RELOCATE FROM EXISTING UPS ROOM.
V1 V	PROVIDE 10"W X 10"L X 4"D SURFACE MOUNTED JUNCTION BOX WITH REMOVABLE COVER PLATE AND ONE 2" FLEXIBLE CONDUIT CONNECTOR. BOTTOM OF BOX TO BE 8" ABOVE FINISHED FLOOR. COORDINATE WITH PHILIPS VENDOR.
ISO	ISOTRAN LM TRANSFORMER. RELOCATE FROM EXISTING CT ROOM.
ISO1 ISO2	PROVIDE 8"W X 8"L X 4"D SURFACE MOUNTED JUNCTION BOX WITH REMOVABLE COVER PLATE WITH ONE 2" FLEXIBLE CONDUIT CONNECTOR. MOUNT BOTTOM OF THE BOX AT 36" ABOVE FINISHED FLOOR. BOX TO BE USED FOR TEAL ISOTRAN ISOLATION TRANSFORMER.
A1	RELOCATE EXISTING 600V, 200A3P DISCONNECT FUSED AT 125A FROM EXISTING CT ROOM. MOUNT AT 60" ABOVE FINISHED FLOOR.
INJ	PROVIDE 8"W X 8"L X 4"D JUNCTION BOX FLUSH IN FINISHED CEILING WITH REMOVABLE COVER PLATE WITH 2" GROMMETED OPENING.
WS	PROVIDE 10"W X 10"L X 4"D FLUSH MOUNTED JUNCTION FLOOR BOX WITH FIELD CUT OPENING WITH GROMMET. THE EXACT LOCATION OF THE BOX TO BE DETERMINED BY PHILIPS VENDOR.
CRC	PROVIDE 12"W X 12"L X 4"D SURFACE MOUNTED WALL BOX. PROVIDE WITH REMOVABLE COVER PLATE WITH GROMMETED NOTCH FOR CABLE ACCESS AS REQUIRED. MOUNT 12" FROM FLOOR TO BOTTOM OF THE BOX. COORDINATE EXACT LOCATION WITH PHILIPS VENDOR.
RMP	PROVIDE 4"W X 4"L X 4"D SURFACE MOUNTED WALL BOX. PROVIDE WITH REMOVABLE COVER PLATE WITH GROMMETED NOTCH FOR CABLE ACCESS AS REQUIRED. EXACT LOCATION TO BE DETERMINED BY PHILIPS VENDOR.
A2	PROVIDE EMERGENCY POWER OFF WITH 1A MINIMUM RATING, LATCHING TYPE, SINGLE MUSHROOM BUTTON, WITH N.O. DRY CONTACTS, AND HINGED WITH SEE THROUGH PROTECTIVE COVER. REFER TO SITE SPECIFIC DRAWINGS FOR ALL REQUIREMENTS AND CONNECTION POINT TO ISOTRAN LINE MATCH UNIT (ISO).
DS	PROVIDE DOOR SWITCH ON HINGE SIDE OF THE DOOR JAMB AND INTERLOCK WITH CT AS INDICATED ON PHILIPS SITE SPECIFIC DRAWINGS.

CONDUIT & WIRE SCHEDULE

*	FROM	TO	MAX LENGTH	COMMENTS
C	ATS-CT-2	V		(3) 250 KCMIL, #250 KCMIL G, 2.5"C(THROUGH 200A3P ENCLOSED BREAKER.
C	V	STA	10'	(3) 250 KCMIL, #250 KCMILG, 2.5"C, FLEX CONDUIT.
C	STA	V1	10'	(3) #1/0, #6G, 2"C, FLEX CONDUIT. RUN THROUGH THE 150A ENCLOSED BREAKER IN THE ROOM. COORDINATE EXACT PLACEMENT OF V1 AND ENCLOSED BREAKER WITH PHILIPS VENDOR PRIOR TO ROUGH IN.
C	A2	V1	100'	3/4" CONDUIT FOR CONNECTION FROM EPO TO UPS.
C	V1	ISO1	200'	(3) #1/0, #6G, 2"C
C	ISO1	ISO	10'	(3) #1/0, #6G, 2"C, FLEX CONDUIT.
C	ISO	ISO2	10'	(4) #2, #2G, #8G(REDUNDANT ISOLATED GROUND), 2"C, FLEX CONDUIT.
C	ISO1	A2	100'	3/4" CONDUIT FOR CONNECTION FROM EPO TO ISOTRANS.
C	ISO2	A1	25'	(4) #2, #2G, #8G(REDUNDANT ISOLATED GROUND), 2"C
C	DS	WS	200'	ONE 3/4" CONDUIT. CONNECT DOOR SWITCH TO WS PER SITE SPECIFIC DRAWINGS.
C	A1	WS	25'	(4) #2, #2G, #8G(REDUNDANT ISOLATED GROUND), 2"C
A	WS	CRC	58'	TWO 2.5" EMPTY CONDUITS.
B	INJ	CRC	75'	ONE 2.5" EMPTY CONDUITS.
B	RMP	V1	200'	ONE 1.5" CONDUIT. PROVIDE WIRES PER STACO UPS REQUIREMENTS. COORDINATE WITH PHILIPS VENDOR.

NOTS:

1. ALL CONDUIT RUNS MUST TAKE MOST DIRECT ROUTE POINT TO POINT.
2. ALL CONDUIT RUNS MUST HAVE A PULL STRING.

* A: CONDUIT SUPPLIED AND INSTALLED BY CONTRACTOR, PHILIPS CABLES INSTALLED BY PHILIPS.

B: CONDUIT SUPPLIED AND INSTALLED BY CONTRACTOR, PHILIPS CABLES INSTALLED BY CONTRACTOR.

C: CONDUITS AND CABLES SUPPLIED AND INSTALLED BY CONTRACTOR.

GENERAL NOTES:

1. REFER TO PHILIPS SITE SPECIFIC DRAWINGS AND PROVIDE AND INSTALL ALL CONDUITS, RACEWAYS, AND WIRES AS INDICATED ON GE DRAWINGS AND RACEWAY SCHEDULE.
2. REFER TO PHILIPS SITE SPECIFIC DRAWINGS AND VERIFY REQUIREMENTS AND CONNECTION POINTS FOR ALL GE EQUIPMENT PRIOR TO ROUGH IN.
3. CONTRACTOR IS RESPONSIBLE FOR FOLLOWING ALL GUIDELINES AND INSTRUCTIONS SHOWN ON PHILIPS SITE SPECIFIC DRAWINGS.
4. CONTRACTOR TO FIELD VERIFY EXACT PLACEMENT OF ALL BOXES AND CONDUITS SHOWN ON THESE DRAWINGS WITH PHILIPS VENDOR PRIOR TO ROUGH IN.
5. RECEPTACLES ON EMERGENCY POWER TO BE RED WITH STAINLESS STEEL COVER.

KEYED NOTES:

1. PROVIDE 600V, 150A3P ENCLOSED BREAKER FOR UPS OUTPUT. COORDINATE EXACT PLACEMENT IN THE ROOM WITH PHILIPS VENDOR PRIOR TO ROUGH IN.
2. PROVIDE ALL WIRES AND CONDUITS REQUIRED BETWEEN UPS AND BATTERY CABINET PER PHILIPS SITE SPECIFIC DRAWINGS.
3. CONNECT TO EXISTING PANEL "CRL12" IN EXISTING ELECTRICAL 111A. PROVIDE 20A1P BREAKER.
4. CONNECT TO EXISTING RECEPTACLE CIRCUIT IN THE ROOM.
5. PROVIDE 200A3P BREAKER.
6. PROVIDE NEW ATS. PROVIDE ALL COMMUNICATION WIRES, PROGRAMMING, AND ALL PARTS AND PIECES REQUIRED FOR CONNECTION TO THE EXISTING 1000KW KOHLER GENERATOR ON SITE.
7. PROVIDE 600V, 200A3P, ENCLOSED BREAKER FOR UPS INPUT.

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Project

CHI St. Vincent North - **MRI and CT**

2215 Wildwood Avenue
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CHI St. Vincent

Design Phase

CONSTRUCTION DOCUMENTS

Revisions

No.	Date	Description

Stamp

CERTIFICATE OF AUTHORIZATION
CROMWELL ARCHITECTS/ ENGINEERS #5
LITTLE ROCK, ARKANSAS

STATE OF ARKANSAS
REGISTERED ENGINEER
No. 18899
JEFFREY D. HARMAN
10-18-2024

Notes

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Issue Date **10-18-2024**

Sheet Title

ENLARGED ELECTRICAL PLANS - CT

Sheet Number

E-402

LIGHTING FIXTURE SCHEDULE					
TYPE	MODEL	MANUFACTURER	LAMP	VOLTAGE	DESCRIPTION
A1	AG-G-24-MRI-P-XX-UN-40	NEW STAR	4000K/80W	MVOLT	2X4 MRI ART TROFFER. REFER TO FLOOR PLAN FOR QUANTITY AND LAYOUT. VERIFY IMAGE WITH OWNER.
A2	2-ES-G-40L-940-4-125CA-D-UNV-DIM	ALKCO	4000K/4000LM/28W	MVOLT	2X4 LED TROFFER
A3	2-ES-G-80L-940-4-125CA-D-UNV-DIM	ALKCO	4000K/8000LM/55W	MVOLT	2X4 LED TROFFER
C1	DLM-6-MRI-HA-L5-40-0-A-A-3-UN-90C	NEW STAR	4000K/2380LM/34W	MVOLT	6" MRI DOWNLIGHT. PROVIDE REMOTE MOUNTED DRIVERS AS PER QUANTITY SHOWN ON THE DRAWINGS.
C2	6-R-N-P6R-DL-30-940-W-CC-WHAMF-Z10-U	LIGHTOLIER	4000K/3000LM/25W	MVOLT	6" LED DOWNLIGHT
T1	FSS-4-70L-840-UNV-DIM-FKR-126	SIGNIFY	4000K/7000LM/54W	MVOLT	4' LED STRIP LIGHT. PROVIDE WITH CHAIN
W1	WP-60-SCT-GT-10-BZ	STONCO	4000K/8000LM/60W	MVOLT	WALL PACK LED FIXTURE
X	LX-42-N-R-C	NEXUS	LED	MVOLT	EDGE LIT EXIT SIGN.

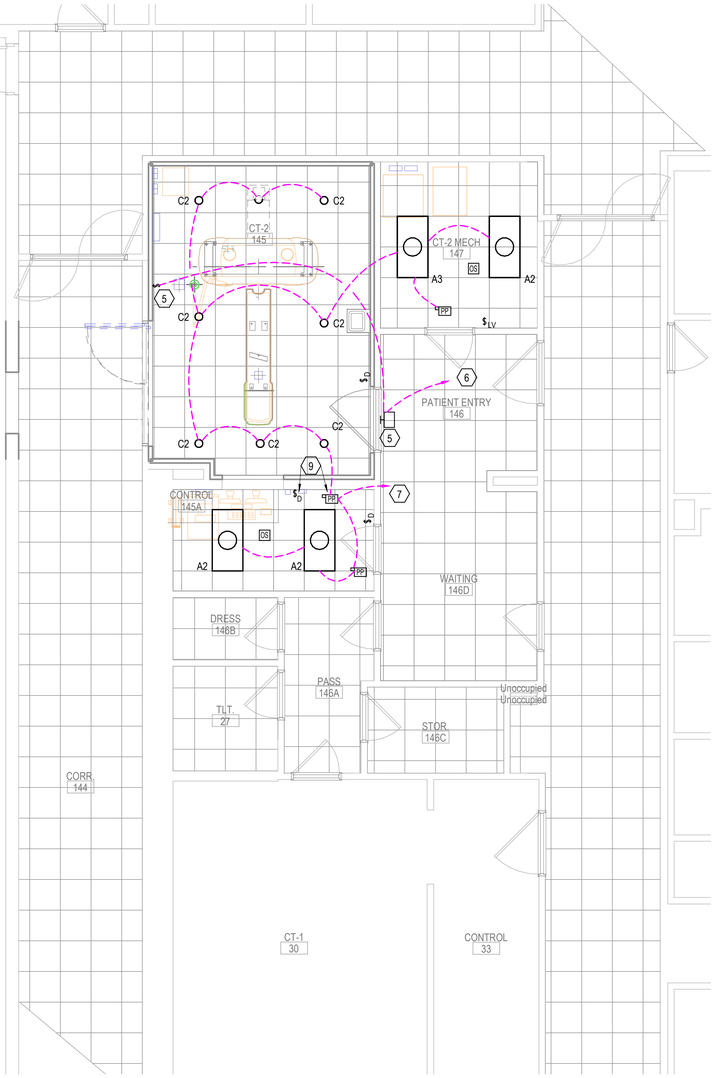
LIGHTING CONTROL DEVICE SCHEDULE			
TYPE	MODEL	MANUFACTURER	DESCRIPTION
$D	LMSW-211-XX	WATTSTOPPER	LOW VOLTAGE DIMMER SWITCH. ON/OFF AND RAISE/LOWER CONTROL
$LV	LMSW-101-W	WATTSTOPPER	LOW VOLTAGE ON/OFF SWITCH
OS	LMDC-111	WATTSTOPPER	CEILING MOUNTED OCCUPANCY SENSOR WITH DUAL TECHNOLOGY. AUTO ON/OFF
PP	LMRC-111-16M	WATTSTOPPER	POWER PACK WITH DIMMING

GENERAL NOTES:

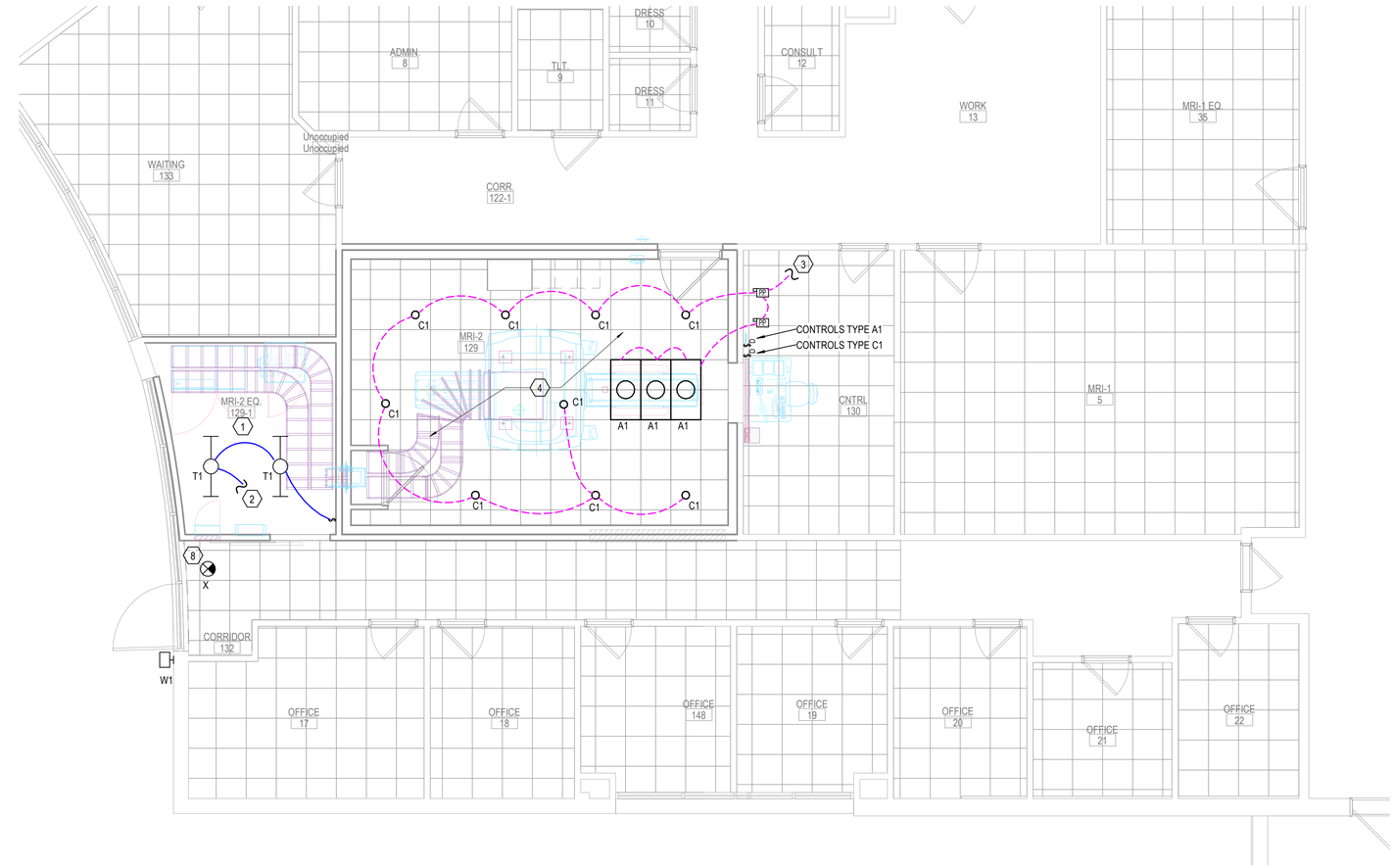
1. ALL LIGHT SWITCHES AND DIMMERS ON EMERGENCY POWER TO BE IN RED COLOR.

KEYED NOTES:

1. COORDINATE PLACEMENT OF THE LIGHT FIXTURES IN THIS ROOM WITH MRI EQUIPMENT AND VENDOR PRIOR TO ROUGH IN.
2. CONNECT TO EXISTING LIGHTING CIRCUIT IN THE AREA.
3. CONNECT TO EXISTING CRITICAL BRANCH LIGHTING CIRCUIT THAT WAS PREVIOUSLY MOVED OUT OF THE ROOM UNDER DEMOLITION PHASE. FIELD VERIFY CIRCUIT NUMBER AND PANEL DESIGNATION.
4. ROUTE LIGHTING CIRCUITS THROUGH RF SHIELD PENETRATION PANEL. PROVIDE FILTERS FOR EACH CIRCUIT. ALL CONDUITS AND JUNCTION BOXES WITHIN THE MRI RF SHIELD TO BE ALUMINUM (NON-FERROUS).
5. RE-INSTALL EXISTING X-RAY IN-USE SIGN PREVIOUSLY REMOVED. CONNECT TO LINE VOLTAGE ON/OFF SWITCH IN THE CT ROOM. CONNECT SWITCH TO CT'S GANTRY AND INTERLOCK WITH THE CT. REFER TO PHILIPS SITE SPECIFIC DRAWINGS FOR CONNECTION POINTS. COORDINATE WITH PHILIPS VENDOR PRIOR TO ROUGH IN. LABEL SWITCH "IN-USE LIGHT" .
6. CONNECT TO EXISTING PANEL "CRL12" IN EXISTING ELECTRICAL 111A. PROVIDE 20A1P BREAKER.
7. CONNECT TO EXISTING PANEL "CRH1" IN EXISTING ELECTRICAL 106. PROVIDE 20A1P BREAKER.
8. CONNECT EXIT LIGHT TO THE EXISTING LIFE SAFETY LIGHTING CIRCUIT IN THE CORRIDOR.
9. DIMMER SWITCH CONTROLS THE LIGHTS IN THE CT ROOM.



1 CT FLOOR LIGHTING PLAN
1/4" = 1'-0"



2 MRI FLOOR LIGHTING PLAN
1/4" = 1'-0"

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CROMWELL ARCHITECTS ENGINEERS
#5
ARKANSAS-ENGINEER

STATE OF ARKANSAS
REGISTERED ENGINEER
No. 18899
ALLISON A. RAND
10-18-2024

Notes

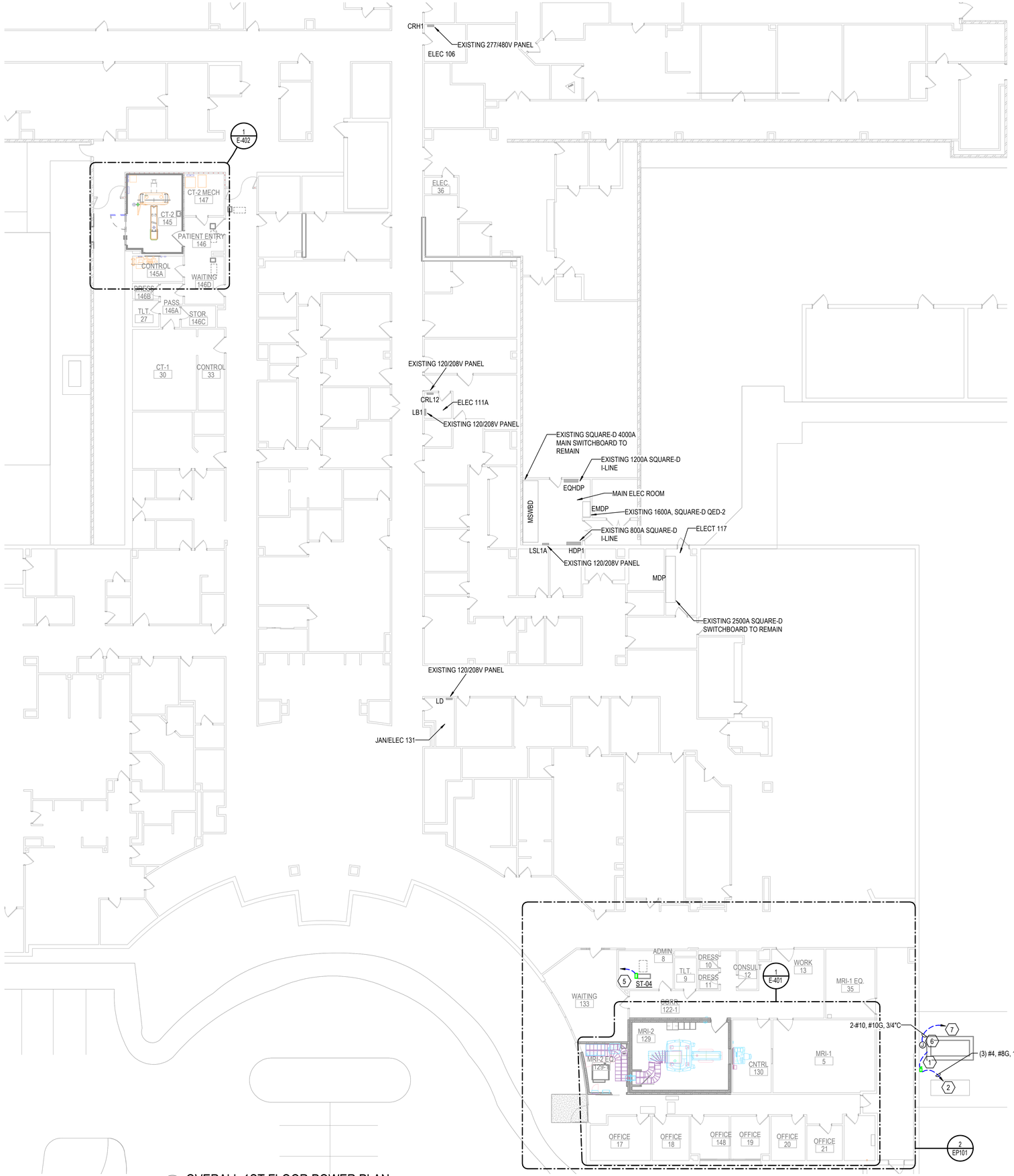
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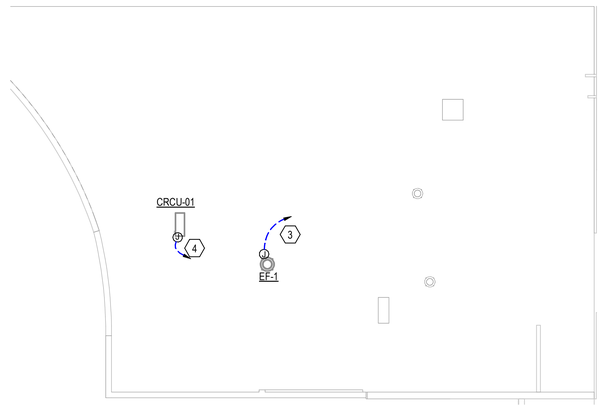
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Sheet Title
FIRST FLOOR LIGHTING PLAN

Sheet Number
EL101



1 OVERALL 1ST FLOOR POWER PLAN
3/32" = 1'-0"



2 ROOF PLAN - ELECTRICAL
3/32" = 1'-0"

KEYED NOTES:

1. PROVIDE 600V, 100A3P, NEMA3R DISCONNECT SWITCH AND CONNECT POWER TO MRI CHILLER. VERIFY EXACT LOCATION OF THE CHILLER WITH MECHANICAL CONTRACTOR PRIOR TO ROUGH IN, ADJUST LOCATION AS NEEDED.
2. CONNECT TO EXISTING SWITCHBOARD "MDP" LOCATED IN ELECT 117. PROVIDE 70A3P BREAKER.
3. CONNECT TO EXISTING PANEL "LD" IN JAN/ELEC 131. PROVIDE 20A/1P BREAKER. PROVIDE WEATHER PROOF MOTOR RATED DISCONNECT SWITCH.
4. CONNECT TO EXISTING I-LINE PANEL "HDP1" IN MAIN ELECTRICAL ROOM. PROVIDE 25A3P BREAKER. ROUTE 3-#10, #10G, IN 3/4" CONDUIT.
5. CONNECT TO EXISTING I-LINE PANEL "HDP1" IN MAIN ELECTRICAL ROOM. PROVIDE 20A3P BREAKER. ROUTE 3-#12, #12G, IN 3/4" CONDUIT. PROVIDE 600V, 30A3P DISCONNECT SWITCH.
6. CONNECT POWER TO HEAT TRACE.
7. CONNECT TO EXISTING 400A PANEL LB1 LOCATED IN ELECTRICAL ROOM 111A. PROVIDE 20A1P, GFEP 30MA BREAKER.

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ALI ZONAARMAND
10-18-2024

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Issue Date **10-18-2024**

Sheet Title **FIRST FLOOR POWER PLAN**

Sheet Number **EP101**