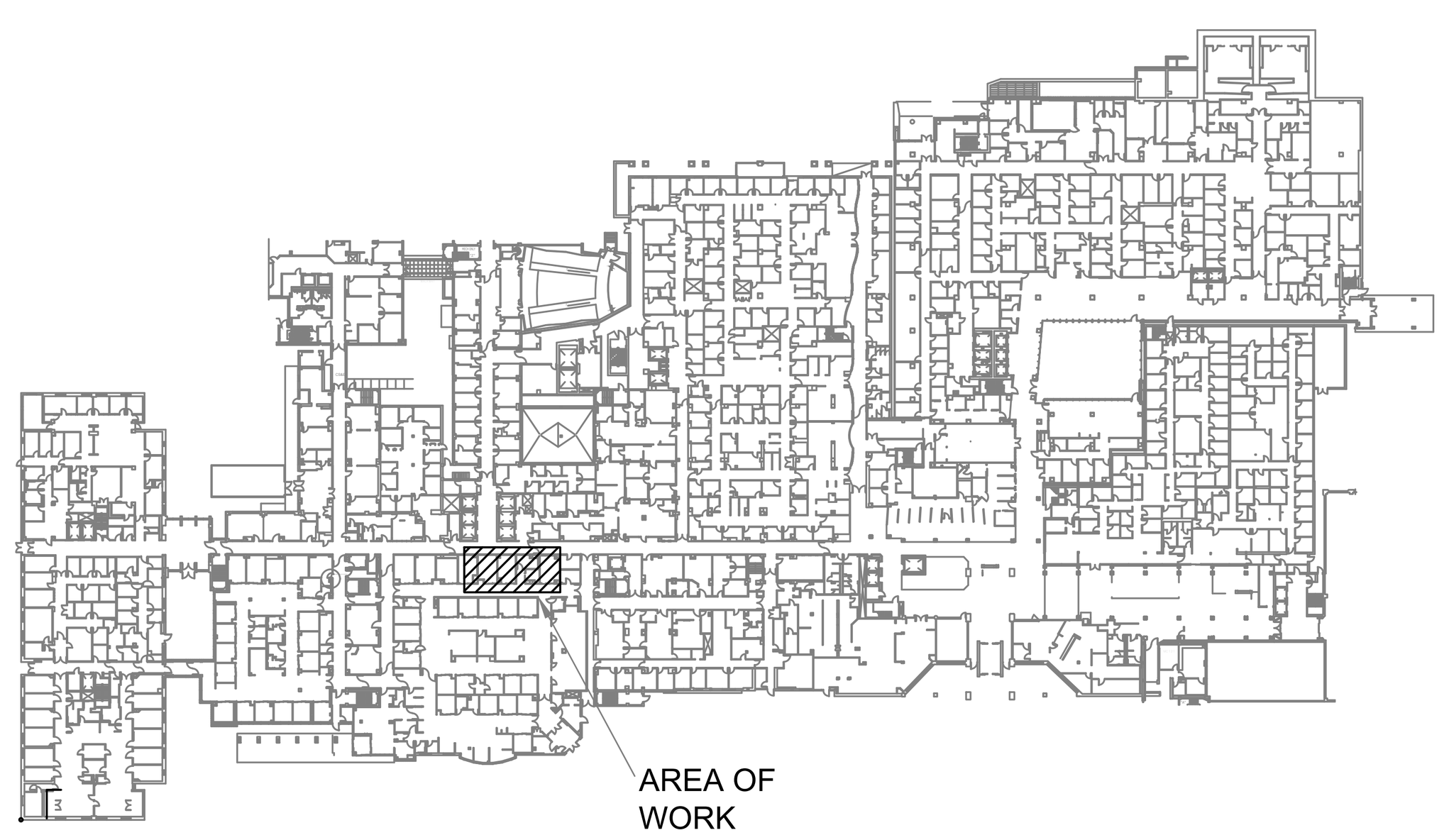
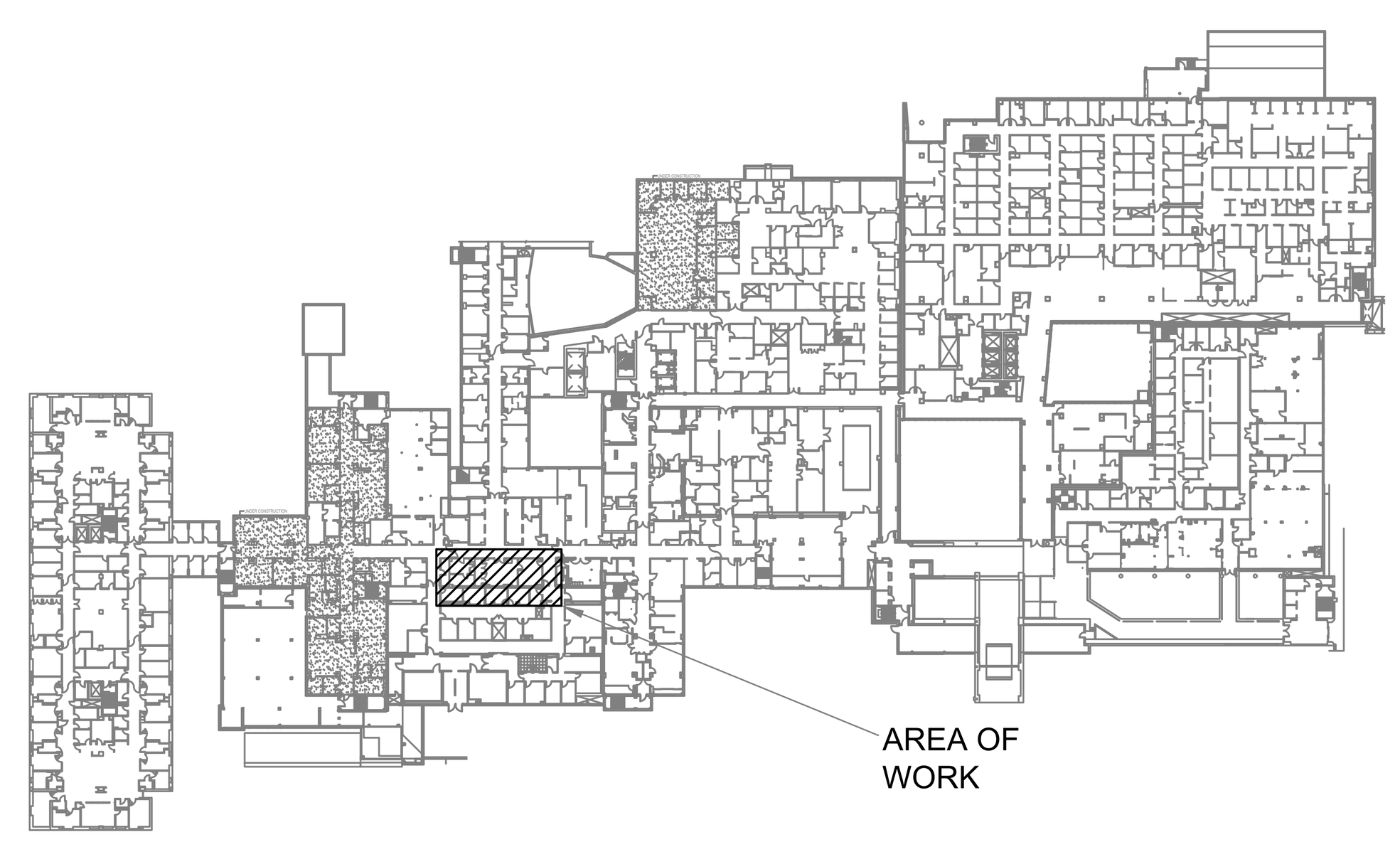
UNIVERSITY OF MISSOURI TEACHING HOSPITAL
CT REPLACEMENT 2E01
PROJECT NUMBER CP211291

FOR THE CURATORS OF THE UNIVERSITY OF MISSOURI

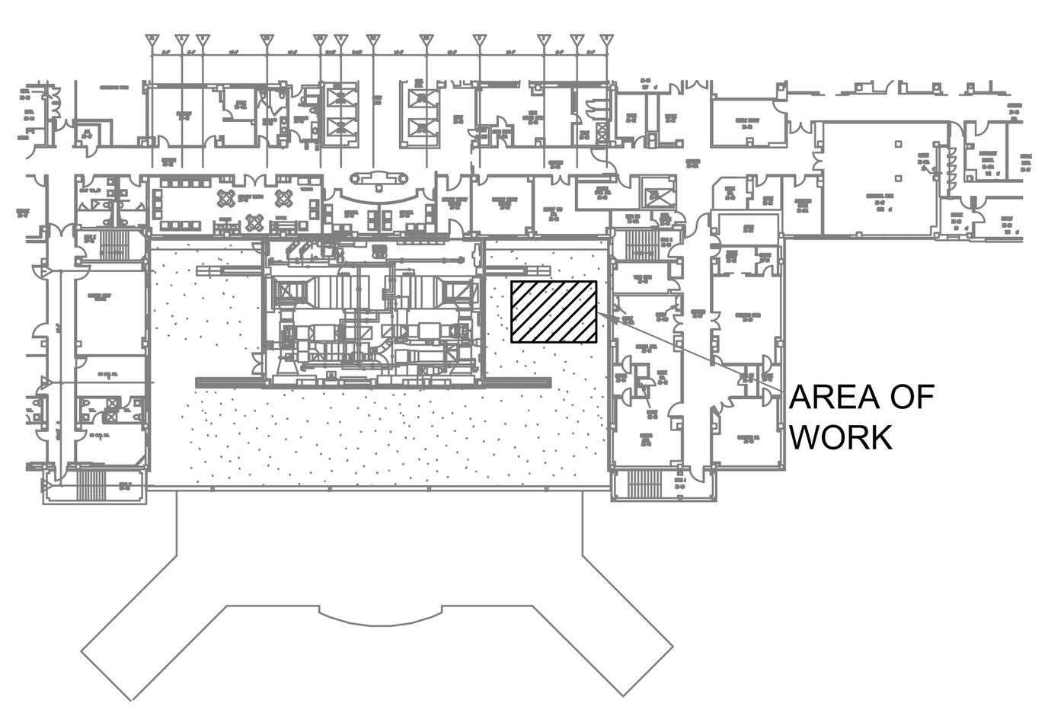
KEY PLAN FIRST FLOOR



KEY PLAN SECOND FLOOR



KEY PLAN THIRD FLOOR



SHEET LIST

DEFERRED SUBMITTALS:

- FIRE SUPPRESSION
- FIRE ALARM

SPECIAL INSPECTIONS:

- 1705.12.1 - STRUCTURAL STEEL
- 1705.12.6 - ELECTRICAL COMPONENTS CONNECTED TO THE EMERGENCY POWER SYSTEM
- 1705.12.6 - DUCTWORK, PIPING AND SUPPORTS FOR FIRE SUPPRESSION PIPING CLEARANCE
- 1705.17 - FIRE RESISTANT PENETRATIONS AND JOINTS

CODE INFORMATION:

TYPE OF CONSTRUCTION: RENOVATION OF EXISTING
ZONING: R-MF
FIRE SPRINKLERS: FULLY SPRINKLED
LOCAL FIRE DEPARTMENT: CITY OF COLUMBIA FIRE DEPARTMENT
AUTHORITY HAVING JURISDICTION: UM DIRECTOR OF FACILITIES PLANNING & DEVELOPMENT, UNIVERSITY OF MISSOURI SYSTEM
GENERAL INFORMATION:
USE GROUP: HEALTHCARE I-2
CONSTRUCTION TYPE: II-B
PROJECT AREA: 1,100 SF

ADOPTED CODES:

- INTERNATIONAL BUILDING CODE - 2018
- INTERNATIONAL PLUMBING CODE - 2018
- INTERNATIONAL MECHANICAL CODE - 2018
- INTERNATIONAL FIRE CODE - 2018
- INTERNATIONAL FUEL GAS CODE - 2018
- NATIONAL ELECTRIC CODE/NFPA 70 - 2011 & 2017
- NFPA 110 STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS - 2010 & 2016
- NFPA 101 LIFE SAFETY CODE - 2012
- NFPA 99 STANDARD FOR HEALTH CARE FACILITIES - 2012
- NFPA 96 STANDARD FOR VENTILATING CONTROL AND FIRE PROTECTION OF COMMERCIAL COOKING OPERATIONS - 2011 & 2017
- NFPA 90A INSTALLATION OF AIR CONDITIONING AND VENTILATING SYSTEMS - 2012 & 2018
- NFPA 72 NATIONAL FIRE ALARM CODE - 2010 & 2016
- NFPA 51B STANDARD FOR FIRE PREVENTION DURING WELDING, CUTTING, AND OTHER HOT WORK - 2014
- NFPA 45 STANDARD ON FIRE PROTECTION FOR LABORATORIES USING CHEMICALS - 2011 & 2015
- NFPA 20 STANDARD FOR THE INSTALLATION OF STATIONARY FIRE PUMPS FOR FIRE PROTECTION - 2016
- NFPA 14 STANDARD FOR THE INSTALLATION OF STANDPIPE, PRIVATE HYDRANTS AND HOSE SYSTEMS - 2010 & 2016
- NFPA 13 INSTALLATION OF FIRE SPRINKLER SYSTEMS - 2010 & 2016
- ASHRAE 90.1 - ENERGY STANDARD FOR BUILDINGS - 2016
- ASHRAE 170 - VENTILATION OF HEALTH CARE FACILITIES - 2017
- ASME A17.1 - SAFETY CODE FOR ELEVATORS AND ESCALATORS (PER STATE OF MISSOURI)
- AMERICANS WITH DISABILITIES ACT - STANDARDS FOR ACCESSIBLE DESIGN 2010
- FACILITY GUIDELINES INSTITUTE - 2018

CERTIFICATION:

McCLURE ENGINEERING

MECHANICAL , PLUMBING, FIRE PROTECTION:

"I HEREBY CERTIFY THESE DRAWINGS AND / OR SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE DRAWINGS AND / OR SPECIFICATIONS ARE AS REQUIRED BY AND IN COMPLIANCE WITH THE BUILDING CODES OF THE UNIVERSITY OF MISSOURI"

SIGNATURE: ____________________

STATE OF MISSOURI — ERIC A. REINKE — NUMBER PE-2013015792 — PROFESSIONAL ENGINEER — 10/14/21

McCLURE ENGINEERING

ELECTRICAL:

"I HEREBY CERTIFY THESE DRAWINGS AND / OR SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE DRAWINGS AND / OR SPECIFICATIONS ARE AS REQUIRED BY AND IN COMPLIANCE WITH THE BUILDING CODES OF THE UNIVERSITY OF MISSOURI"

SIGNATURE: ____________________

STATE OF MISSOURI — AUSTIN P. STRIKER — NUMBER PE-2014032649 — PROFESSIONAL ENGINEER

SOA ARCHITECTURE

ARCHITECTURAL:

"I HEREBY CERTIFY THESE DRAWINGS AND / OR SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE DRAWINGS AND / OR SPECIFICATIONS ARE AS REQUIRED BY AND IN COMPLIANCE WITH THE BUILDING CODES OF THE UNIVERSITY OF MISSOURI"

SIGNATURE: ____________________

STATE OF MISSOURI — Bradley John Angelbeck — Number A-2016015243 — ARCHITECT — 10/14/2021

CROCKETT ENGINEERING CONSULTANTS

STRUCTURAL:

"I HEREBY CERTIFY THESE DRAWINGS AND / OR SPECIFICATIONS HAVE BEEN PREPARED BY ME, OR UNDER MY SUPERVISION. I FURTHER CERTIFY THAT TO THE BEST OF MY KNOWLEDGE THESE DRAWINGS AND / OR SPECIFICATIONS ARE AS REQUIRED BY AND IN COMPLIANCE WITH THE BUILDING CODES OF THE UNIVERSITY OF MISSOURI"

SIGNATURE: ____________________

STATE OF MISSOURI — GREGORY L. LINEMAN — NUMBER PE-2005001013

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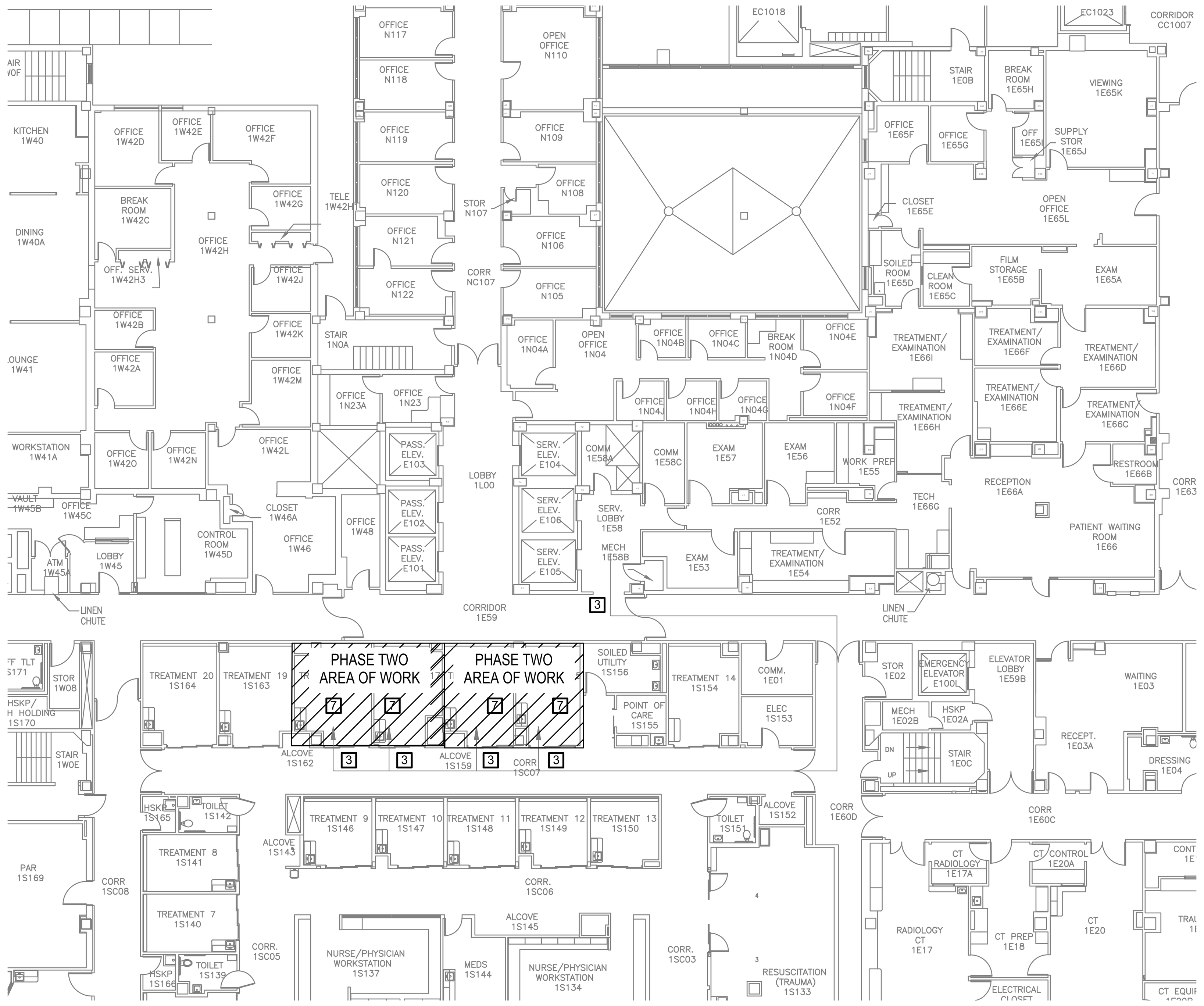
McClure Project No: 071631.000

ISSUE DATE: OCT. 14, 2021

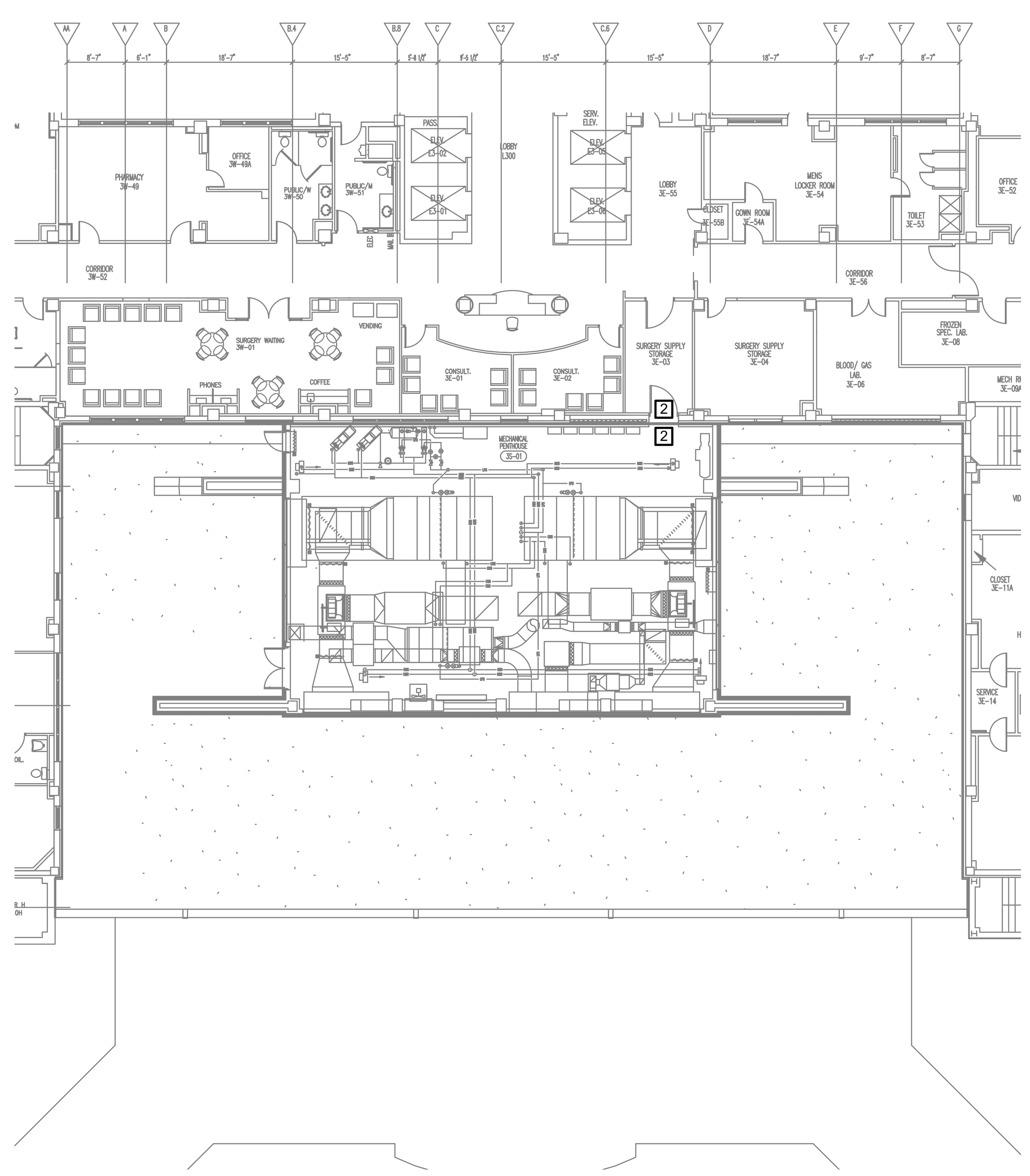
SHEET NO. CS1

BID SET



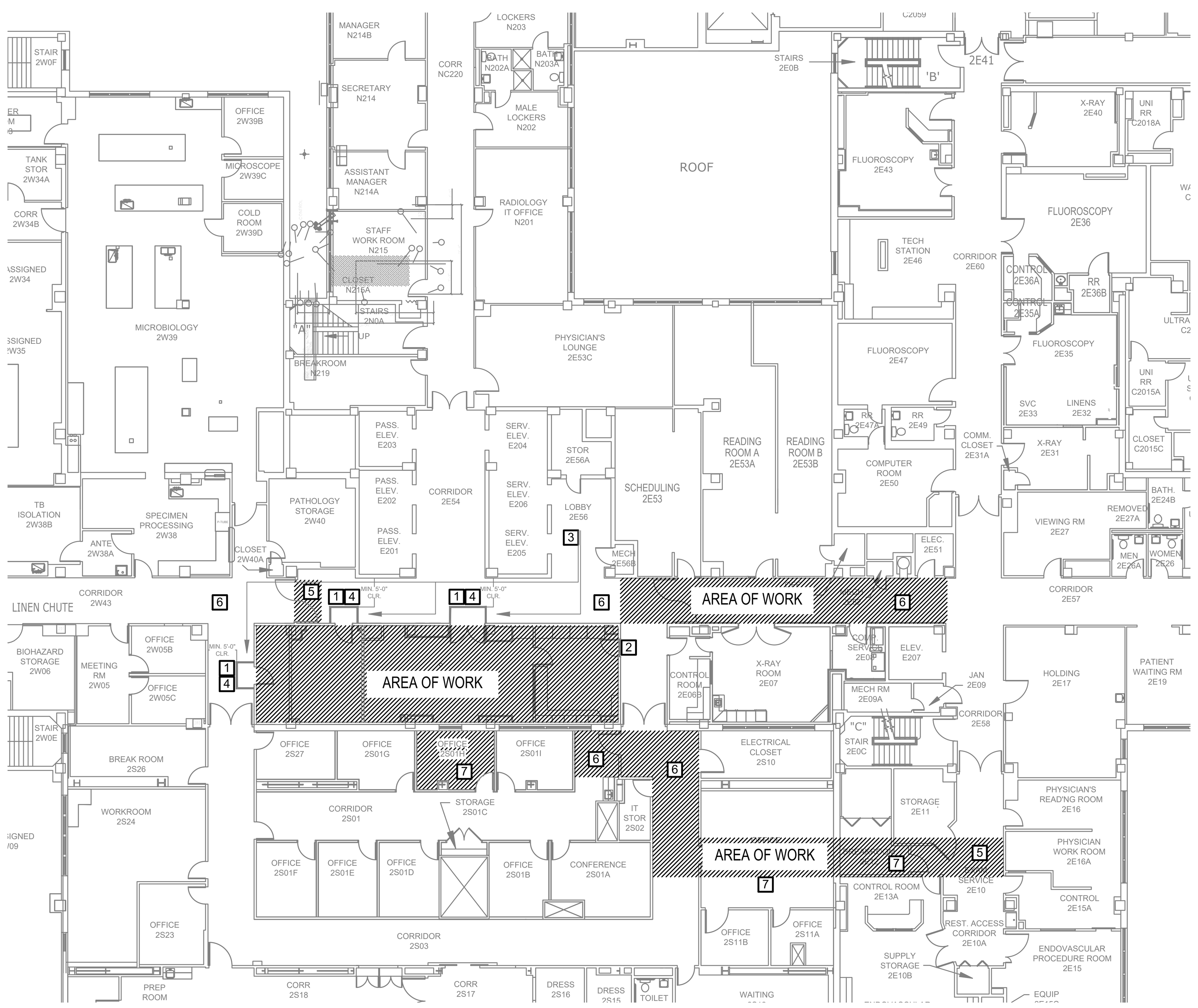
FIRST FLOOR - INFECTION CONTROL PLAN

1/16" = 1'-0"



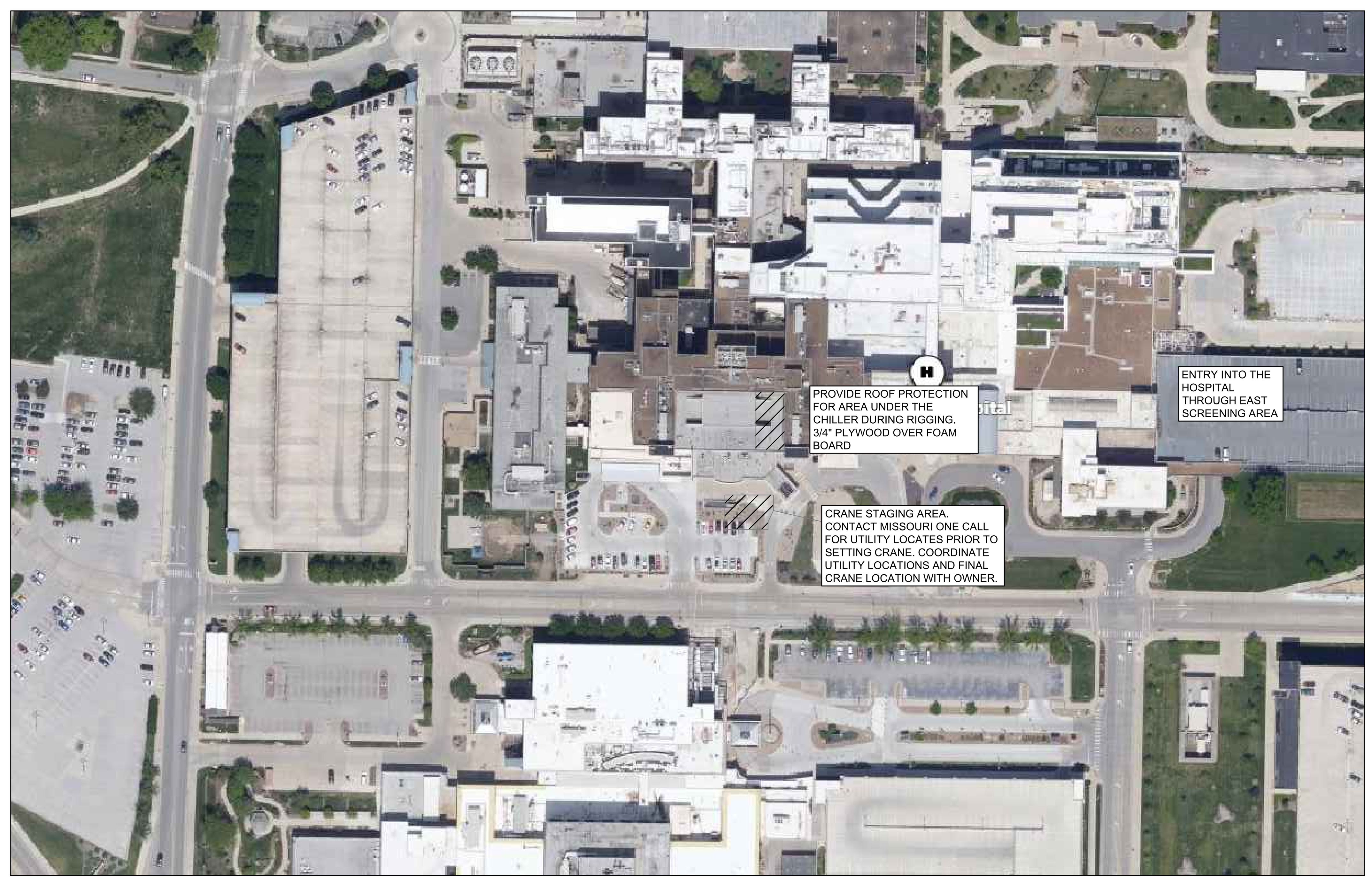
THIRD FLOOR - INFECTION CONTROL PLAN

1/16" = 1'-0"



SECOND FLOOR - INFECTION CONTROL PLAN

1/16" = 1'-0"



SITE PLAN - INFECTION CONTROL PLAN

NTS

KEYED NOTES

1. INFECTION CONTROL BARRIERS SHALL BE ACHIEVED UTILIZING A MODULAR BARRIER SYSTEM, EDGE GUARD OR RIGID DRYWALL BARRIER. 6-MIL FIRE-RESISTANT POLYETHYLENE SHALL EXTEND FROM ABOVE CEILING TO DECK FOR A CONTINUOUS BARRIER. THE SYSTEM SHALL BE COMPOSED OF FLOOR-TO-CEILING PARTITIONS OF NOT LESS THAN NOMINAL 1½" THICKNESS ALUMINUM FRAMING. SYSTEM JOINTS SHALL BE INTERLOCKING. THE PARTITIONS SHOULD HAVE SOUND ISOLATION PROPERTIES TO REDUCE THE TRANSFER OF SOUND TO OCCUPIED ADJACENT AREAS. THE SYSTEM SHALL BE EQUIPPED WITH AN INTEGRATED DOOR PANEL. THE DOOR SHALL BE EQUIPPED WITH A COMMERCIAL GRADE LEVER HANDLE WITH A REMOVABLE KEY THE HARDWARE MUST BE POSITIVE LATCHING AND ACCEPT A BEST 7-PIN CORE, WHICH WILL BE PROVIDED AND INSTALLED BY UNIVERSITY OF MISSOURI HEALTHCARE. THE SYSTEM SHALL BE EQUIPPED WITH AN INTEGRATED AIR MANAGEMENT PANEL TO ACCEPT A NEGATIVE AIR EXHAUST DISCHARGE HOSE AND BE EQUIPPED WITH A MAGNAHELIC NEGATIVE AIR INDICATOR.
2. THE BARRIER SHALL BE ACHIEVED UTILIZING AN EXISTING WALL ASSEMBLY AS AN INFECTION CONTROL BARRIER. THE ASSEMBLY MUST EXTEND TO THE DECK/FLOOR ABOVE. THE ASSEMBLY SHALL BE VISUALLY EXAMINED AND ALL PENETRATIONS/OPENINGS OBSERVED IN THE ASSEMBLY SHALL BE REPAIRED AND/OR ADEQUATELY SEALED AND MAINTAINED THROUGHOUT THE PROJECT TO PREVENT THE MIGRATION OF DUST FROM THE WORK AREA INTO ADJACENT OCCUPIED AREAS. DOOR OPENINGS IN THE ASSEMBLY, NOT BEING UTILIZED AS A CONTROLLED ACCESS POINT INTO THE PROJECT AREA, SHALL BE SEALED UTILIZING 6-MIL FIRE RESISTANT POLYETHYLENE. ALL EQUIPMENT AND ITEMS REMAINING IN THE WORK AREA SHALL BE WRAPPED WITH POLYETHYLENE.
3. CONSTRUCTION MATERIAL ACCESS TO THE SPACE SHALL BE PROVIDED THROUGH THIS ELEVATOR. USE OF ANY OTHER ELEVATOR WITHOUT PRIOR WRITTEN APPROVAL IS STRICTLY PROHIBITED.
4. PROPOSED NEGATIVE AIR MACHINE LOCATION WITH MANOMETER IN ICRA BARRIER. CONTRACTOR SHALL COORDINATE A TEST OF THE NEGATIVE AIR MACHINE LOCATIONS AND PROVIDE UNITS AS NEEDED TO ENSURE THE SPACE IS 0.01 WC NEGATIVE.
5. WORK IN THIS AREA SHALL BE COORDINATED WITH THE HOSPITAL STAFF. WORK SHALL BE PERFORMED THROUGH THE USE OF A CONTRACTOR SUPPLIED HEPA-CART OR TEMPORARY BARRIER. ALL WORK SHALL BE PERFORMED ON OFF-HOURS AND BE LIMITED TO ONLY ONE SIDE OF THE CORRIDOR AND MAINTAIN A 5'-0" CLEAR CORRIDOR AT ALL TIMES.
6. WORK IN THIS AREA SHALL BE PERFORMED ON OFF-HOURS AND BE LIMITED TO ONLY ONE SIDE OF THE CORRIDOR AT ALL TIMES.
7. WORK IN THIS AREA SHALL BE COORDINATED WITH THE HOSPITAL STAFF TO ENSURE THE DISRUPTIONS ARE KEPT TO A MINIMUM. THE DOOR SHALL BE USED AS THE BARRIER. AIR SCRUBBERS TO BE USED IN THESE ROOMS.

GENERAL NOTES

1. PROJECT AREA PERIMETER WALLS - WORKERS SHALL VISUALLY EXAMINE ALL EXISTING PERIMETER PROJECT WALLS FOR PENETRATIONS/OPENING. ALL BREACHES IN THE WALL ASSEMBLIES SHALL BE REPAIRED AND/OR ADEQUATELY SEALED TO PREVENT THE MIGRATION OF DUST FROM THE DESIGNATED WORK AREA TO PATIENT CARE AREAS.
2. THE INFECTION CONTROL DEPARTMENT SHALL EXAMINE THE PRIMARY INFECTION CONTROL BARRIER ASSEMBLIES PRIOR TO COMMENCEMENT OF ANY WORK AND DE-ENERGIZATION OF THE AIR HANDLING UNITS SERVING THE SPACE.
3. ESTABLISH A NEGATIVE AIR ENVIRONMENT INSIDE THE DESIGNATED PROJECT AREA UTILIZING HEPA-FILTERED AIR FILTRATION EQUIPMENT. A PRESSURE DIFFERENCE OF AT LEAST .01" OF WATER COLUMN SHALL BE MAINTAINED WITH THE ADJACENT PATIENT CARE AREAS AT ALL TIMES. A MANOMETER SHALL BE INSTALLED FOR MONITORING THE PRESSURE DIFFERENTIAL.
4. THE NEGATIVE-AIR ENVIRONMENT SHALL BE VERIFIED BY INFECTION CONTROL DEPARTMENT STAFF PRIOR TO IMPLEMENTATION OF ANY ADDITIONAL WORK.
5. WORK IN CORRIDORS MUST BE COORDINATED AT LEAST 3 WEEKS IN ADVANCE WITH THE MEDICAL STAFF AND CONSTRUCTION PROJECT MANAGER PRIOR TO COMMENCEMENT OF ACTIVITIES.
6. COORDINATE ALL NOISY ACTIVITIES WITH MEDICAL STAFF AND CONSTRUCTION PROJECT MANAGER PRIOR TO COMMENCEMENT OF WORK. ALL PENETRATIONS INTO THE DECK SHALL BE X-RAYED PRIOR TO WORK.
7. PRIOR TO COMMENCEMENT OF ACTIVITIES, THE CONTRACTOR SHALL COORDINATE WITH THE CLINICAL ENGINEERING STAFF TO ENSURE ADEQUATE SCHEDULE IS ALLOCATED TO CLEARING ALL ROOMS OF EXISTING MEDICAL EQUIPMENT.
8. ALL FIXED EQUIPMENT IN ALL SPACES SHALL BE PROPERLY COVERED AND SEALED WITH PLASTIC SHEETING / WRAPPING TO ENSURE DAMAGE DOES NOT OCCUR DURING CONSTRUCTION.
9. ALL SPACES SHALL BE BOTH "CONSTRUCTION CLEANED" AND "THOROUGH CLEANED".

   CONSTRUCTION CLEAN
   - REMOVE TOOLS & EQUIPMENT FROM THE WORK AREA.
   - REMOVE ALL BULK TRASH FROM THE WORK AREA.
   - THOROUGHLY SWEEP ALL FLOOR SURFACES IN THE WORK AREA UTILIZING A DUST COMPOUND (FLOOR SWEEP) MATERIAL.
   - DRY WIPE ALL HORIZONTAL & VERTICAL SURFACES IN THE WORK AREA. SURFACES TO INCLUDE BUT NOT LIMITED TO WALLS, WINDOW SILLS, DOORS & DOOR FRAMES, BASE TRIM, CASEWORK (INSIDE & OUT), FIXTURES, AND WALL-MOUNTED EQUIPMENT.
   - SWEEP ALL FLOOR SURFACES UTILIZING A DUST MOP.
   - WET MOP ALL FLOOR SURFACES.

   THOROUGH CLEAN
   - TO BE IMPLEMENTED ONLY AFTER CONSTRUCTION CLEAN PROCEDURES HAVE BEEN COMPLETED.
   - WET WIPE ALL HORIZONTAL AND VERTICAL SURFACES UTILIZING A MUHC - INFECTION CONTROL DEPARTMENT APPROVED GERMICIDAL DISINFECTANT. SURFACES TO INCLUDE BUT NOT LIMITED TO WALLS, WINDOW SILLS, DOORS & DOOR FRAMES, BASE TRIM, CASEWORK (INSIDE & OUT), ALL FIXTURES, AND WALL-MOUNTED EQUIPMENT.
   - WET MOP ALL FLOOR SURFACES UTILIZING A MUHC INFECTION CONTROL DEPARTMENT APPROVED GERMICIDAL DISINFECTANT.
   - THIS CLEAN SHALL BE PERFORMED BY AN OWNER PRE-APPROVED 3RD PARTY SERVICE.
10. ALL CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH THE "HEALTHCARE CONSTRUCTION GUIDE (DATED SEPTEMBER 2017)". CONTRACTOR SHALL HAVE A HARDCOPY OF THIS DOCUMENT ONSITE AT ALL TIMES.
11. ACCESS TO THE WORK SITE SHALL BE STRICTLY MANAGED BY THE CONTRACTOR. COORDINATE WITH THE OWNER FOR APPROPRIATE KEYING AND ACCESS CONTROL REQUIREMENTS. CONTRACTOR SHALL POST SIGNS ON ALL ENTRIES AND EXITS FROM THE SITE INDICATING THE AREA IS CLOSED TO CLINICAL STAFF.
12. IT IS THE INTENT OF THIS PROJECT TO ALLOW THE CONTRACTOR TO UTILIZE THE OWNER'S DUMPSTER. COORDINATE ALL ACTIVITIES WITH THE OWNER'S REPRESENTATIVE PRIOR TO USE.

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UMTH CT REPLACEMENT 2E-01
UNIVERSITY OF MISSOURI
CP211291

COLUMBIA, MO

1 HOSPITAL DRIVE

STATE OF MISSOURI — AUSTIN P. STRIEKER — NUMBER PE-2014032649 — PROFESSIONAL ENGINEER

AUSTIN P. STRIEKER
MO #PE-2014032649

REVISIONS		
NO	DATE	DESCRIPTION

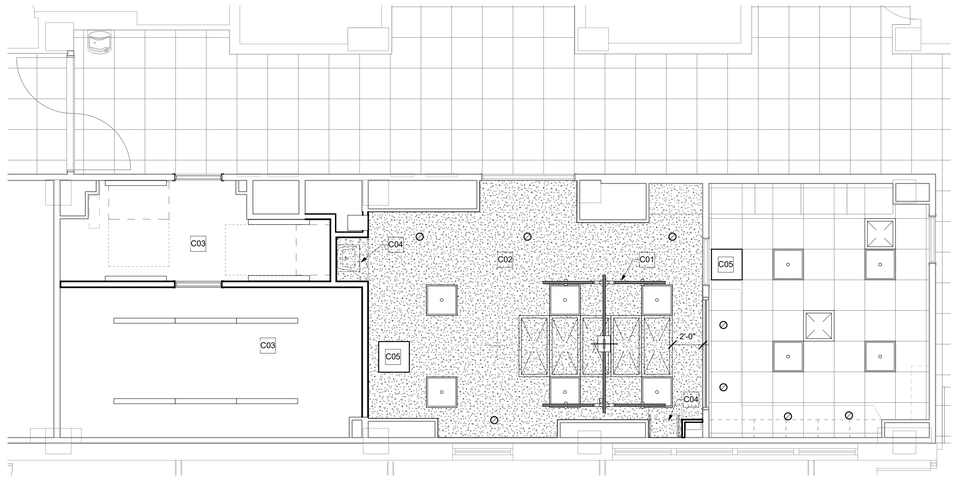
DATE:	10/14/2021
PROJECT #:	071631.000
DRAWN BY:	SED
CHECKED BY:	MJC

INFECTION CONTROL PLANS

IC100

BID DOCUMENTS - 10/14/2021

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH



04 PARTIAL SECOND FLOOR - REFLECTED CEILING PLAN

A201 1/4" = 1'-0"

GENERAL NOTES - CEILING

1. FOR SPECIFICATION OF LIGHT FIXTURES AND MECHANICAL SYSTEM COMPONENTS, REFER TO MEP
2. CEILING LEGEND IS SYMBOLIC TO ACTUAL FIXTURE - REFER TO MEP FIXTURE SCHEDULES
3. FOR LOCATIONS OF LIGHT FIXTURES - REFER MEP
5. SHIFT CEILING TILE TO AVOID SLIVERS AT WALLS - IF THIS REQUIRES A SIGNIFICANT SHIFT INFORM ARCHITECT AND MEP FOR DIRECTION

LEGEND - REFLECTED CEILING

- 2' X 2' LAY-IN ACOUSTICAL CEILING PANEL & GRID SYSTEM
- GWB CEILING
- 2 X 2 LIGHT FIXTURE - REF MEP
- CAN LIGHT FIXTURE - REF MEP
- SUPPLY AIR DIFFUSER - REF MEP
- RETURN AIR GRILLE

KEYNOTES - REFLECTED CEILING PLAN

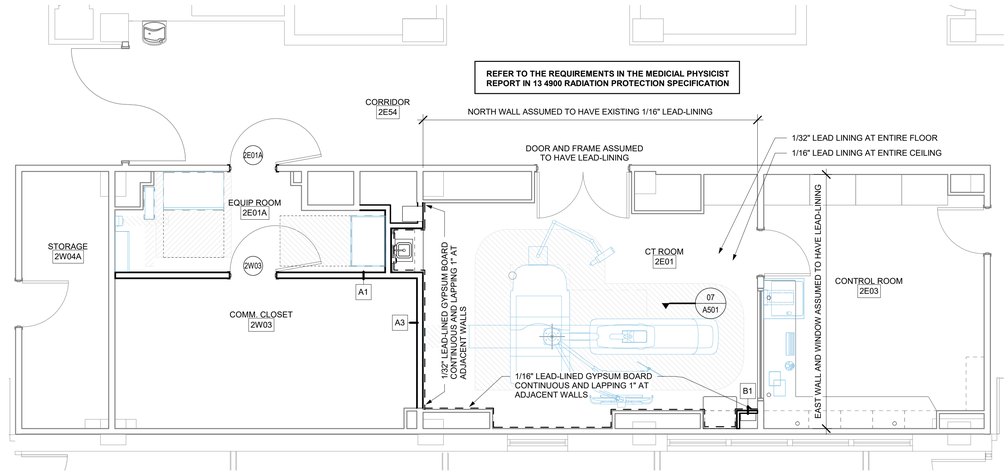
C01 PATIENT LIFT SYSTEM

C02 1/16" LEAD LINING CONTINUOUS ABOVE CEILING

C03 NO CEILING

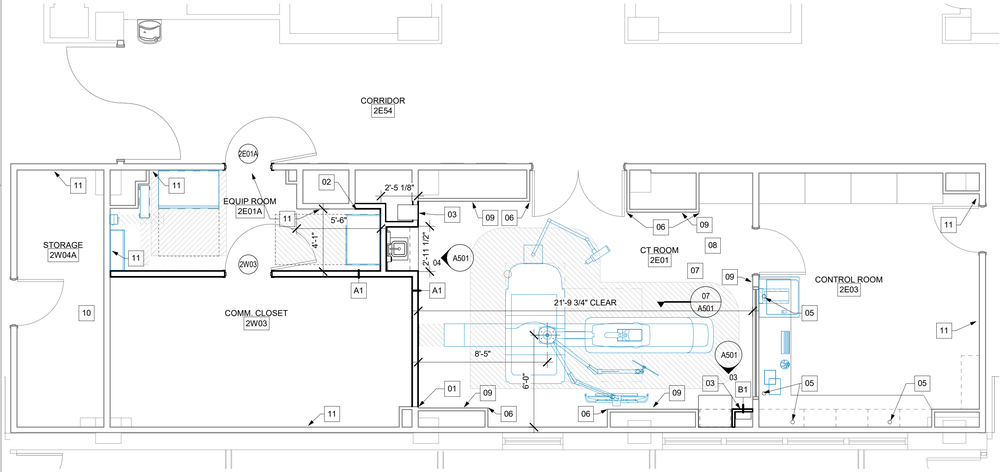
C04 PL FASCIA FROM UPPER CABINET TO CEILING

C05 LEAD LINED ACCESS PANEL



06 PARTIAL SECOND FLOOR - SHIELDING PLAN

A201 1/4" = 1'-0"



03 PARTIAL SECOND FLOOR - NEW WORK

A201 1/4" = 1'-0"

NEW WORK GENERAL NOTES

1. FIELD VERIFY ALL DIMENSIONS. IF DIMENSIONS VARY SIGNIFICANTLY NOTIFY THE ARCHITECT
2. ALL DIMENSIONS TO CENTERLINE OF COLUMN, FACE OF STEEL STUD, OR MASONRY UNLESS NOTED OTHERWISE
3. ALL NON STRUCTURAL METAL FRAMING (NSMF) 16" ON CENTER UNLESS NOTED OTHERWISE
4. GRAY WALLS & DOORS ARE EXISTING TO REMAIN - PROTECT DURING CONSTRUCTION
5. DASHED GRAY COMPONENTS ARE NOT IN CONTRACT
6. PRELIMINARY SITE INVESTIGATION DID NOT NOTICE CLAY TILE WALLS, BUT SHOULD THEY BE FOUND DURING CONSTRUCTION, THEY WILL NEED TO BE ENCLOSED WITH SHAFT WALL - REFER PARTITION TYPES

KEYNOTES - NEW WORK PLAN

01 ALIGN WITH LOCATION OF PREVIOUS (DEMOLISHED) WALL

02 ALIGN FACE OF NEW WALL WITH FACE OF EXISTING ADJACENT

03 VERTICAL RETURN - REFER MEP

04 NEW CHILLER - REFER MEP

05 INSERT GROMMET HOLE

06 CORNER GUARD

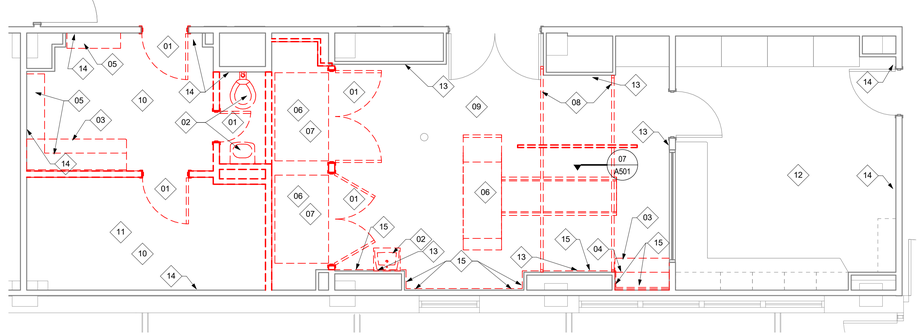
07 GYPSUM CEMENT UNDERLAYMENT AND 1/32" LEAD LINING AT ENTIRE FLOOR AREA

08 SKIM COAT ALL WALLS TO LEVEL 4 FINISH FOR FUTURE OWNER FURNISHED WALLCOVERING. PAINT AS SCHEDULED

09 PATCH DRYWALL FROM SIDEWALL SPRINKLER PIPING INSTALLATION

10 FLOOR DEMO AND PATCHING AS NEEDED FOR NEW FLOOR SINK - REFER MEP

11 PATCH DRYWALL FROM PLUMBING AND MED GAS INSTALLATION - REFER MEP



02 PARTIAL SECOND FLOOR - DEMOLITION

A201 1/4" = 1'-0"

GENERAL NOTES - DEMOLITION

1. REMOVE WALLS INDICATED BY THE FOLLOWING LINETYPE (UNLESS NOTED OTHERWISE):
2. PROTECT EXITING SURFACES & COMPONENTS SCHEDULED TO REMAIN
3. REFER TO STRUCTURAL & MEP DRAWINGS FOR ADDITIONAL DEMOLITION INFORMATION
4. BEFORE DEMOLITION PHASE, COORDINATE WITH OWNER REPRESENTATIVE
5. CONTRACTOR TO PREPARE FLOOR FOR NEW FINISHES AND LEVEL PER SIEMENS REQUIREMENTS

KEYNOTES - DEMOLITION PLAN

01 DOOR, FRAME, & HARDWARE - REMOVE

02 PLUMBING FIXTURE - REMOVE & CAP, REFER PLUMBING DWGS

03 COUNTERTOP & SUPPORTS - REMOVE

04 UPPER CABINET - REMOVE

05 WALL SHELVING - REMOVE

06 CT EQUIPMENT TO BE REMOVED BY OTHERS PRIOR TO CONSTRUCTION

07 RAISED WOOD PLATFORM - REMOVE

08 PATIENT LIFT - OWNER TO REMOVE & SALVAGE FOR OWNER USE

09 ACOUSTICAL CEILING TILE, SHEET VINYL FLOORING & RUBBER BASE - REMOVE AND PREP FLOORING FOR LEVELING / UNDERLAYMENT

10 VCT FLOORING & RUBBER BASE - REMOVE

11 COMMUNICATION EQUIPMENT - REMOVED BY OWNER

12 ACOUSTICAL CEILING TILE AS REQUIRED FOR WORK AND REINSTALL

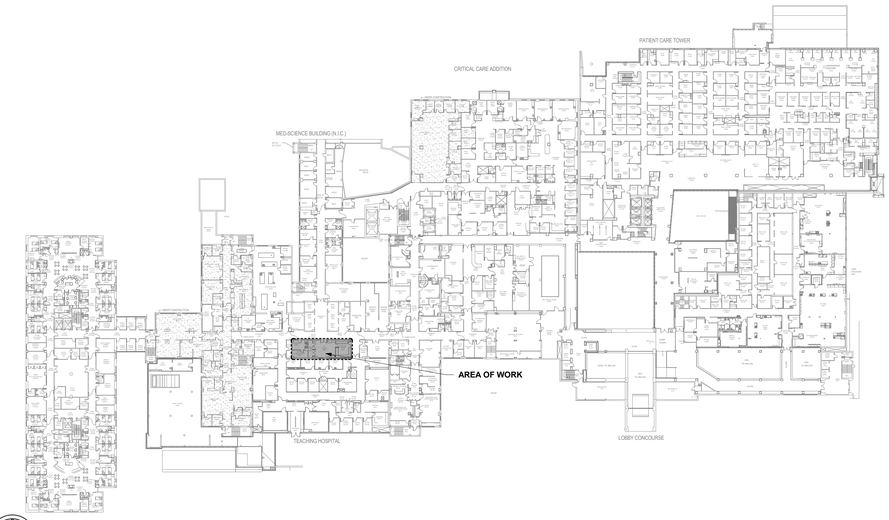
13 REMOVE GYPSUM BD AS REQUIRED FOR SIDEWALL SPRINKLER PIPING

14 REMOVE GYPSUM BD AS REQUIRED FOR MECHANICAL & MED GAS WORK - REFER MEP

15 REMOVE AND DISPOSE OF GYPSUM BOARD UP TO 7' AFF FOR INSTALLATION ON LEAD-LINED GYPSUM BOARD

5 PHOTO OF EXISTING LOOKING WEST

A201 1 1/2" = 1'-0"



01 SECOND FLOOR KEYPLAN

A201 1" = 60'-0"

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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Structural Engineers:
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Missouri State Certificate of Authority #2000151301

UMTH CT REPLACEMENT 2E-01
UNIVERSITY OF MISSOURI
CP211291

1 HOSPITAL DRIVE
COLUMBIA, MO

STATE OF MISSOURI
Bradley John Stegemann
Number A-2008015243
ARCHITECT

10/14/2021

BRADLEY J. STEGEMANN
MO A-2008015243

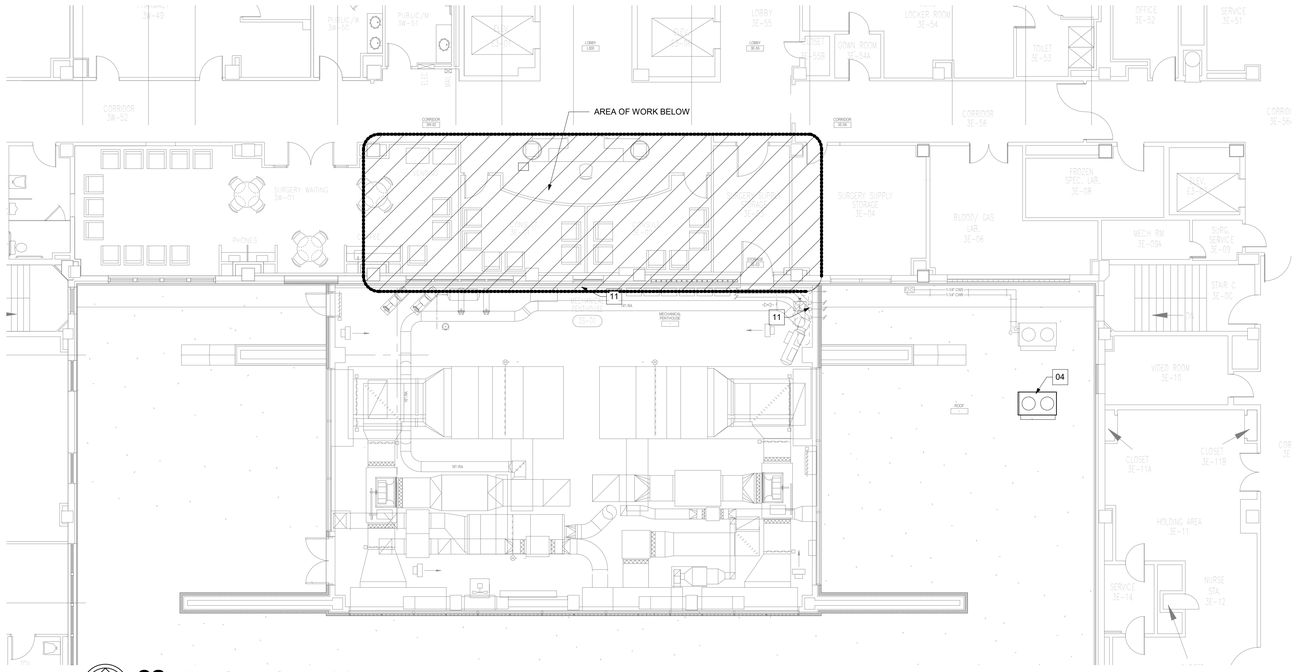
REVISIONS		
NO	DATE	DESCRIPTION

DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY:
CHECKED BY:

SECOND FLOOR ARCHITECTURAL PLANS

A201

BID DOCUMENTS - 10/14/2021



03 PARTIAL THIRD FLOOR PLAN

A202 1/8" = 1'-0"

NEW WORK GENERAL NOTES

1. FIELD VERIFY ALL DIMENSIONS. IF DIMENSIONS VARY SIGNIFICANTLY NOTIFY THE ARCHITECT
2. ALL DIMENSIONS TO CENTERLINE OF COLUMN, FACE OF STEEL STUD, OR MASONRY UNLESS NOTED OTHERWISE
3. ALL NON STRUCTURAL METAL FRAMING (NSMF) 16" ON CENTER UNLESS NOTED OTHERWISE
4. GRAY WALLS & DOORS ARE EXISTING TO REMAIN - PROTECT DURING CONSTRUCTION
5. DASHED GRAY COMPONENTS ARE NOT IN CONTRACT
6. PRELIMINARY SITE INVESTIGATION DID NOT NOTICE CLAY TILE WALLS, BUT SHOULD THEY BE FOUND DURING CONSTRUCTION, THEY WILL NEED TO BE ENCLOSED WITH SHAFT WALL - REFER PARTITION TYPES

KEYNOTES - NEW WORK PLAN

01 ALIGN WITH LOCATION OF PREVIOUS (DEMOLISHED) WALL

02 ALIGN FACE OF NEW WALL WITH FACE OF EXISTING ADJACENT

03 VERTICAL RETURN - REFER MEP

04 NEW CHILLER - REFER MEP

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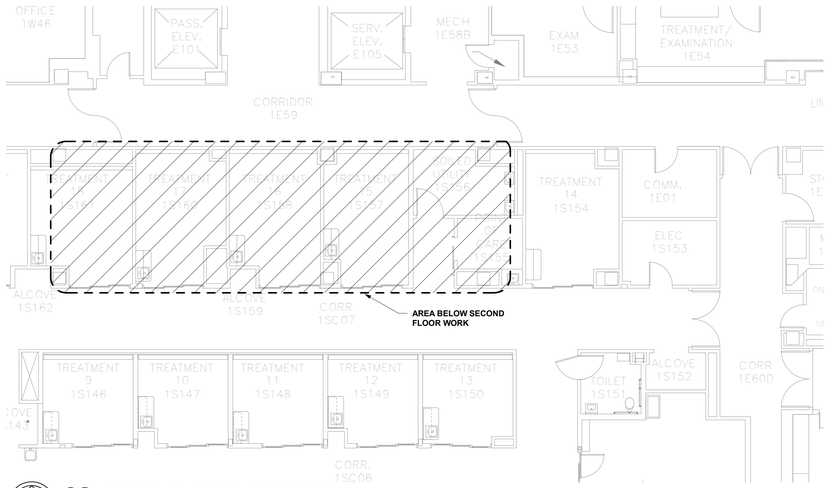
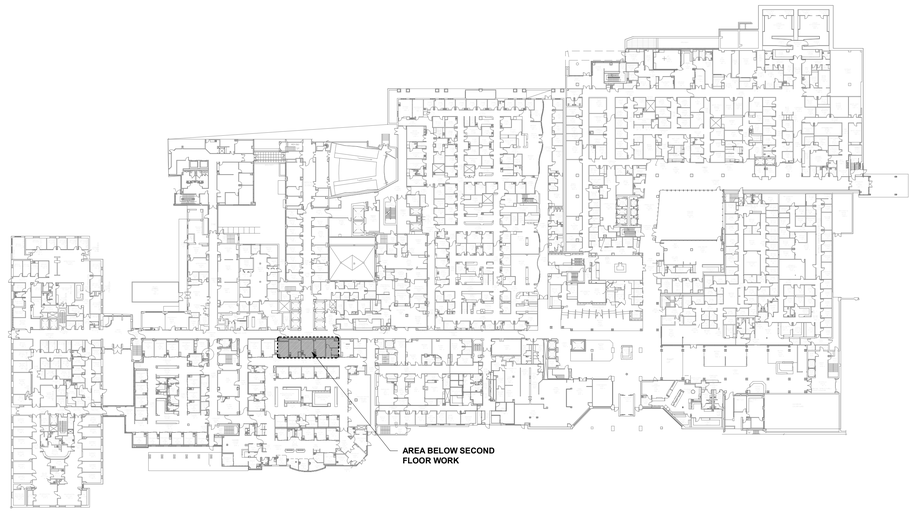
10 FLOOR DEMO AND PATCHING AS NEEDED FOR NEW FLOOR SINK - REFER MEP

11 PATCH DRYWALL FROM PLUMBING AND MED GAS INSTALLATION - REFER MEP



02 LEVEL 01 - TAGS & KEYNOTES

A202 1/8" = 1'-0"



01 FIRST FLOOR KEYPLAN

A202 1" = 60'-0"

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Columbia, Missouri 65203
T 573-447-0292
Structural Engineers:
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Missouri State Certificate of Authority
#2000151301

UMTH CT REPLACEMENT 2E-01
UNIVERSITY OF MISSOURI
CP211291

COLUMBIA, MO

1 HOSPITAL DRIVE

STATE OF MISSOURI
Bradley John Stegemann
Number A-2008015243
ARCHITECT

10/14/2021

BRADLEY J. STEGEMANN
MO A-2008015243

REVISIONS

NO	DESCRIPTION	DATE

DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY:
CHECKED BY:

FIRST AND THIRDFLOOR ARCHITECTURAL PLANS

A202

BID DOCUMENTS - 10/14/2021

10/14/2021 8:06:04 AM

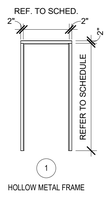
SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

DOOR AND FRAME SCHEDULE

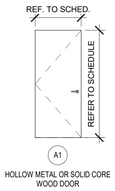
DOOR NO	DOOR SIZE W	DOOR SIZE H	DOOR SIZE THK	DOOR MATL	DOOR ELEV	FRAME MATL	FRAME ELEV	FRAME DETAIL HEAD	FRAME DETAIL JAMB	FIRE RATING LABEL	HARDWARE SET NO	NOTES
LEVEL 02												
2E01A	3'-0"	7'-0"	1 3/4"	SCWD	A1	HM	1	08/A501	08/A501		1	
2W03	3'-0"	7'-0"	1 3/4"	SCWD	A1	HM	1	08/A501	08/A501	45 MINUTES	1	

ROOM FINISH SCHEDULE

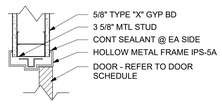
ROOM NO	ROOM NAME	FLOOR	BASE	WALLS NORTH	WALLS SOUTH	WALLS EAST	WALLS WEST	CEILING MATL	CEILING Height	NOTES
2E01	CT ROOM	SV-1	SVB-1	IPS-3A	IPS-3A	IPS-3A	IPS-3A	GYP (IPS-3C)		1,2
2E01A	EQUIP ROOM	SV-1	RB-1	IPS-3B	IPS-3B	IPS-3B	IPS-3B	-		1
2E03	CONTROL ROOM	SV-1	RB-1	IPS-3B	IPS-3B	IPS-3B	IPS-3B	EXISTING		1
2E54	CORRIDOR	SV-1	RB-1	IPS-3B	IPS-3B	IPS-3B	IPS-3B	EXISTING		1
2W03	COMM. CLOSET	SV-1	RB-1	IPS-3B	IPS-3B	IPS-3B	IPS-3B	-		1



FRAME TYPES
1/4" = 1'-0"



DOOR TYPES
1/4" = 1'-0"



08 INT STUD - DOOR HEAD/JAMB DETAIL, TYP
A501 1 1/2" = 1'-0"

GENERAL FINISH KEY:

FLOORS:
SV- SHEET VINYL

BASE:
RB- RUBBER WALL BASE
SVB- SHEET VINYL WALL BASE

WALLS:
IPS-3 SEMI GLOSS EPOXY ON GYP

CEILINGS:
ACT- ACOUSTICAL CEILING TILE
IPS-3 EGGSHELL EPOXY ON GYP

MISC:
IPS-5 SEMI-GLOSS ENAMEL ON METAL
PL- PLASTIC LAMINATE
SS- SOLID SURFACE
B- METAL SUPPORT BRACKET
CG- CORNER GUARD

FINISH SCHEDULE NOTES:

1. DOOR FRAMES ON 2E01 SIDE OF ROOM TO BE PAINTED IPS-5A. DOOR FRAMES ON 2E03, 2E57, 2E01A, 2W03 AND 2E54 SIDES OF ROOMS TO BE PAINTED IPS-5B.

2. INSTALL CEILINGS AS HIGH AS POSSIBLE

GENERAL FINISH NOTES:

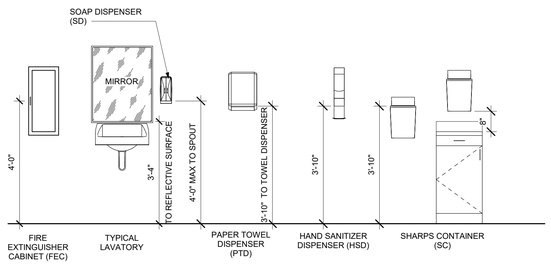
G-1. PAINT HORIZONTAL FACE OF SOFFITS SAME AS VERTICAL FACE OF SOFFIT UNLESS NOTED OTHERWISE.

G-2. TRANSITION ALL WALL AND/OR COLOR CHANGES AT INSIDE CORNER, UNLESS NOTED OTHERWISE. CONSULT ARCHITECT FOR CLARIFICATION IF NECESSARY.

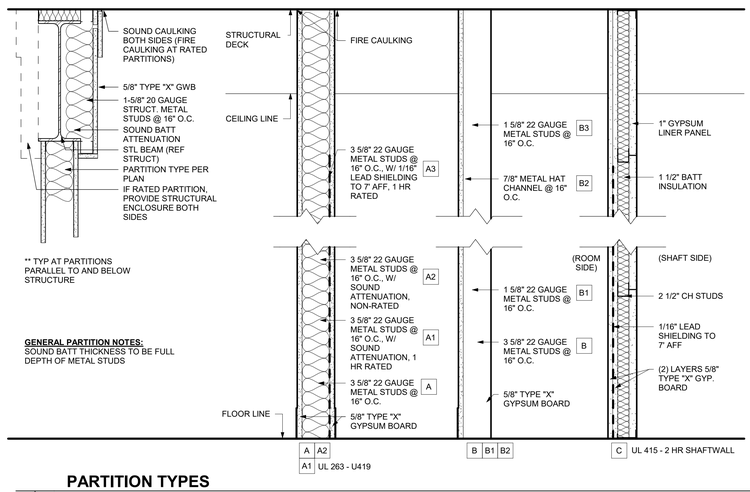
G-3. CONTINUE WALL FINISH AS SCHEDULED BEHIND ALL CASEWORK/MILLWORK.

G-4. CONTINUE WALL BASE AS SCHEDULED AT ALL WALLS. FURRED OUT COLUMNS AND COLUMN COVERS AND AT ALL CASEWORK TOE KICKS, SIDE PANELS AND UNDER OPEN COUNTER.

G-5. REFER TO A501 FOR CASEWORK SECTIONS AND TYPICAL MOUNTING HEIGHTS.



TYP. MOUNTING HEIGHTS
1/2" = 1'-0"



GENERAL PARTITION NOTES:
SOUND BATT THICKNESS TO BE FULL DEPTH OF METAL STUDS

PARTITION TYPES
1 1/2" = 1'-0"

FINISH KEY:

FLOORS:
Sheet Vinyl
SV-1 Sheet Vinyl Flooring, Teknoflor, Royal Oak, heat weld rod color to match

Base
RB-1 Rubber Wall Base, Tarkett, Millwork Reveal, #66 Either Ore, 4.25", Type TP, Group 1

SVB-1 Sheet Vinyl Wall Base, SV-1
Note: Use Schluter top cap or equal, Heat weld all seams including inside corners, Cove up wall 6", Heat weld rod color to match SV-1

WALLS:
Paint
IPS-3A Semi-Gloss Epoxy on Gyp. Bd, Sherwin Williams, SW 6487 Cloudburst with a Level 4 wall finish (CT Room)

IPS-3B Semi-Gloss Epoxy on Gyp. Bd, Sherwin Williams, SW 6106 Kilim Beige (Control & Equipment Rooms)

CEILINGS:
ACT-1 Acoustical Ceiling, Armstrong,Ultima #1910, 24"x24"x3/4", Square Lay-in, White Tile and White Grid

IPS-3C Eggshell Epoxy on Gyp. Bd, Sherwin Williams, SW7007 Ceiling Bright White

DOOR FRAMES:
IPS-5A Semi-gloss Enamel on Hollow Metal, Sherwin Williams, SW 6487 Cloudburst (Door frames on CT Room side of frames)

IPS-5B Semi-gloss Enamel on Hollow Metal, Sherwin Williams, SW 6106 Kilim Beige (Door frames on Control Room and Equipment Room side of frames)

MISC:
PL-1 Plastic Laminate, Wilsonart, Mambo (Vertical casework and Fascia enclosures above cabinet)

PL-2 Plastic Laminate, Wilsonart, Flax Linen 4990-38, 3mm PVC Edgebanding to match (Countertop non-wet location)

SS-1 Solid Surface, Corian, Color: Cottage Lane (Countertops wet location)

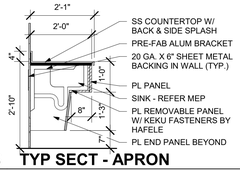
B-1 Metal Support Bracket, Rakks, Size: EH-1824 (18"x24"), Anodized Aluminum (Up to 30" deep countertop)

B-2 Metal Support Bracket, Rakks, Size: EH-1818 (18"x18"), Anodized Aluminum (Up to 24" deep countertop)

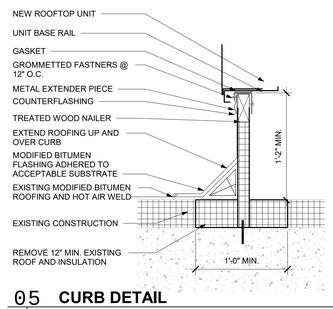
CG-1 Corner Guard, 2"x2"x6'-6", InPro, Taupe 0113

SCWD Equal to Marshfield Red Alder

07 DLT SECT - FLOORING
A501 3" = 1'-0"



06 TYP SECT - APRON
A501 1/2" = 1'-0"

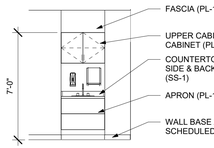


05 CURB DETAIL
A501 1 1/2" = 1'-0"

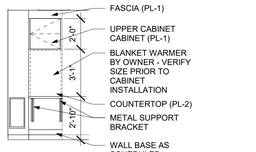
ACCESSORY LEGEND:

OFCI = OWNER FURNISHED, OWNER INSTALLED
OFCI = OWNER FURNISHED, CONTRACTOR INSTALLED

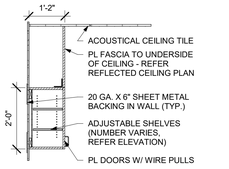
EBO EQUIPMENT BY OWNER - OFOI
PTD PAPER TOWEL DISPENSER - OFCI
SD SOAP DISPENSER - OFCI
HSD HAND SANITIZER DISPENSER - OFCI
GBH GLOVE BOX HOLDER - OFCI
SC SHARPS CONTAINER - OFCI
CH COAT HOOKS - OFCI



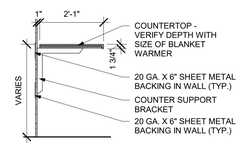
04 CT CASEWORK WEST
A501 1/4" = 1'-0"



03 CT CASEWORK SOUTH
A501 1/4" = 1'-0"



02 TYP SECT - UPPER
A501 1/2" = 1'-0"



01 TYP SECT - COUNTER
A501 1/2" = 1'-0"

CASEWORK GENERAL NOTES:

THE FOLLOWING OCCUR UNLESS NOTED OTHERWISE:

1. 14" DEEP UPPER CABINETS
2. 24" DEEP BASE CABINETS
3. 3/4" DEEP ADJUSTABLE SHELVES
4. 1" RADIUS AT EXPOSED CORNERS AND 1" OVERHANG ON EXPOSED SIDES AT ALL COUNTERTOPS
5. AT OPEN SHELVES, EXPOSED FACES TO BE PLASTIC LAMINATE TO MATCH CABINETS

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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UMTH CT REPLACEMENT 2E-01
UNIVERSITY OF MISSOURI
CP211291
COLUMBIA, MO
1 HOSPITAL DRIVE

STATE OF MISSOURI
Bradley John Stegemann
Number A-2008015243
ARCHITECT
10/14/2021

BRADLEY J. STEGEMANN
MO A-2008015243

REVISIONS

NO	DESCRIPTION	DATE

DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY:
CHECKED BY:

SCHEDULES, PARTITION TYPES AND DETAILS

A501

BID DOCUMENTS - 10/14/2021

GENERAL NOTES

DESIGN SPECIFICATIONS
2018 INTERNATIONAL BUILDING CODE

POST-INSTALLED ANCHORS

1. ALL POST-INSTALLED ANCHORS SHALL MEET THE REQUIREMENTS OF THE CODE-CITED EDITION OF ACI 318, APPENDIX "D", AND SHALL BE ACCEPTABLE FOR BOTH CRACKED AND UNCRACKED CONCRETE.
2. EXPANSION ANCHORS HAVE BEEN DESIGNED AS HILTI KWIK BOLT TZ ANCHORS, UNLESS NOTED OTHERWISE.
3. ADHESIVE ANCHORS HAVE BEEN DESIGNED TO USE HILTI HIT HY 200 ADHESIVE IN CONCRETE OR SOLID MASONRY, UNLESS NOTED OTHERWISE.
4. EQUIVALENT ANCHORS MAY BE SUBMITTED FOR THE ENGINEER'S APPROVAL. SUBMITTALS ARE THE CONTRACTOR'S RESPONSIBILITY AND MUST INCLUDE EVALUATION REPORTS FROM THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS (ICBO).
5. EMBEDMENT DEPTH IS DEFINED AS THE DISTANCE FROM THE SURFACE OF THE LOAD-BEARING BASE MATERIAL TO THE DEEPEST PART OF THE ANCHOR AFTER THE ANCHOR HAS BEEN DRIVEN INTO THE HOLE BUT NOT YET EXPANDED.
6. ADHESIVE ANCHORS SHALL BE ACCEPTABLE FOR LONG-TERM LOADING. WHEN BASE MATERIAL TEMPERATURES ARE BELOW 40 DEG F, ONLY NON-EPOXY-BASED ADHESIVES SHALL BE USED.
7. POST-INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ENGINEER PRIOR TO USING POST-INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST-IN-PLANE ANCHORS. CARE SHALL BE TAKEN TO AVOID CONFLICTS WITH EXISTING REINFORCING BARS. HOLES SHALL BE DRILLED AND CLEANED PER ANCHOR MANUFACTURER'S SPECIFICATIONS.
8. STAINLESS STEEL ANCHORS ARE REQUIRED AT ALL PERMANENTLY EXPOSED WEATHER CONDITIONS.

STRUCTURAL STEEL

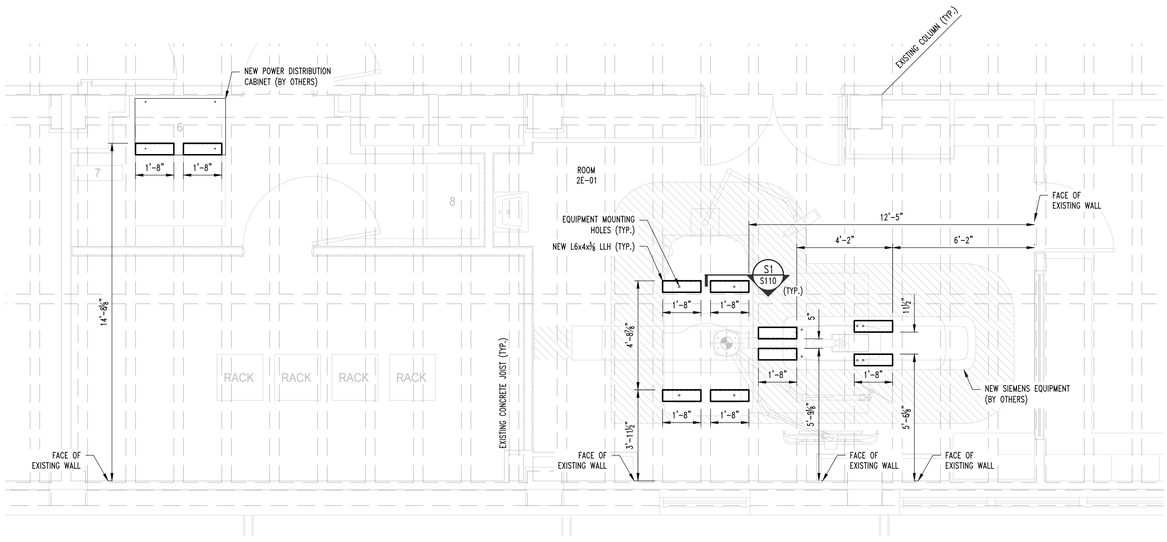
1. FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH THE CURRENT EDITION OF THE AISC SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS, THE AISC CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES AND CURRENT OSHA STANDARDS.
2. WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992. STRUCTURAL TUBES SHALL CONFORM TO ASTM A500 GRADE B. ALL OTHER STRUCTURAL STEEL SHALL CONFORM TO ASTM A36.
3. BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM A325-N, SIZE AS PER PLAN.
4. ANCHOR BOLTS, UNLESS OTHERWISE SHOWN, SHALL CONFORM TO ASTM F1554 GRADE 36.
5. SPLICING OF STRUCTURAL STEEL IS PROHIBITED EXCEPT AS DETAILED.
6. ALL STRUCTURAL AND MISCELLANEOUS STEEL ITEMS SHALL RECEIVE ONE COAT OF "IRONCLAD RETARDO RUST INHIBITIVE PAINT 163" (BENJAMIN MOORE) OR APPROVED EQUAL UNLESS OTHERWISE INDICATED IN THE SPECIFICATIONS. ALL STEEL SURFACES EMBEDDED IN CONCRETE SHALL NOT BE PAINTED. PREPARATION OF STEEL SURFACES SHALL MEET THE REQUIREMENTS OF THE STEEL STRUCTURES PAINTING COUNCIL (SSPC-SP1) AND THE REMOVAL OF GREASE AND OIL BY SOLVENT CLEANING (SSPC-SP1) AND THE REMOVAL OF MILL SCALE, RUST, WELD FLUX AND SLAG BY HAND TOOL CLEANING (SSPC-SP2). PRIMER SHALL BE APPLIED AT THE MANUFACTURER'S RECOMMENDED RATE BUT NOT LESS THAN ONE GALLON PER 400 SQ.FT. THEREBY DEPOSITING A DRY FILM THICKNESS OF NOT LESS THAN 1.5 MILS. ANY SCARRED AREAS SHALL BE TOUCHED UP WITH THE SAME PAINT AFTER ERECTION.
7. ALL WELDING SHALL BE DONE BY QUALIFIED WELDERS IN ACCORDANCE WITH THE CURRENT EDITION OF THE AWS STRUCTURAL WELDING CODE. WELDING ELECTRODES SHALL BE E70XX.

SPECIAL INSPECTIONS

THE FOLLOWING ITEMS REQUIRE SPECIAL INSPECTION IN ACCORDANCE WITH CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE.

a. BOLTS & ANCHORS EMBEDDED IN CONCRETE (PERIODIC)
b. STRUCTURAL STEEL FABRICATIONS (UNLESS AISC APPROVED) (PERIODIC)
c. STRUCTURAL STEEL BOLTING & WELDING (PERIODIC)
d. POST INSTALLED ANCHORS IN CONCRETE (CONTINUOUS)

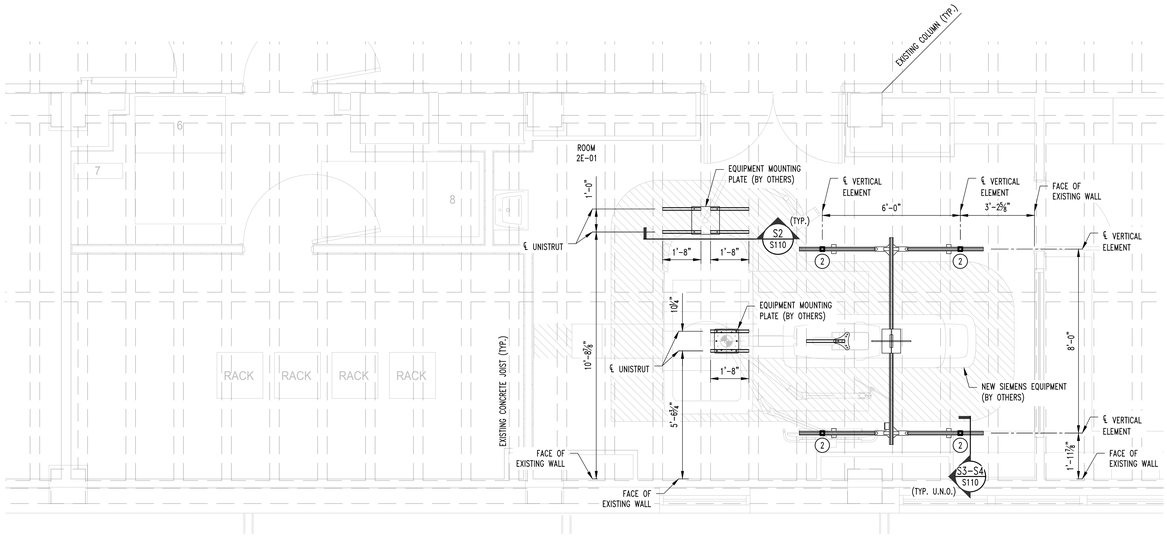
THE CONTRACTOR SHALL REQUEST SPECIAL INSPECTION OF THE ITEMS LISTED ABOVE PRIOR TO THOSE ITEMS BECOMING INACCESSIBLE AND UNOBSERVABLE DUE TO PROGRESSION OF THE WORK.



1 S100 **ROOM 2E-01 FLOOR FRAMING PLAN**

SCALE: ⅜" = 1'-0"

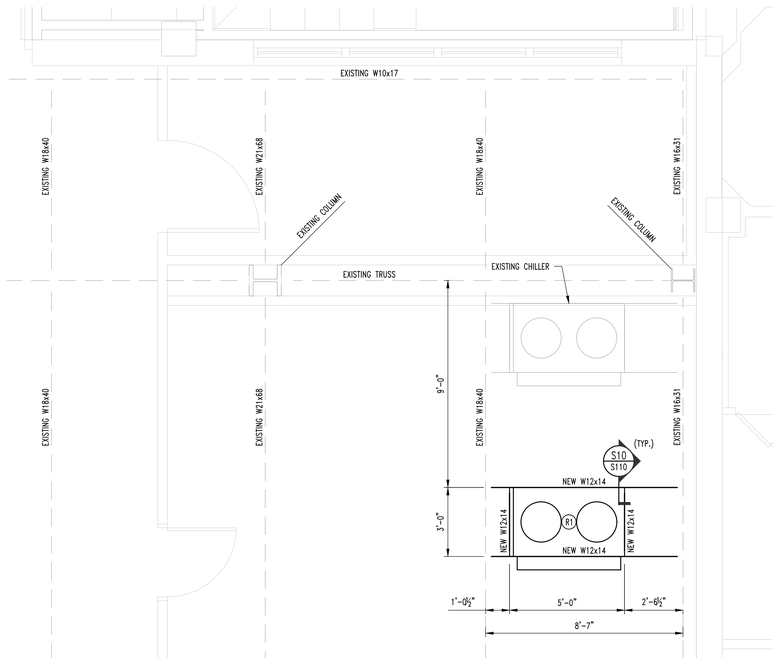
NOTE:
COORDINATE NEW SIEMENS EQUIPMENT w/ FLOOR ATTACHMENTS SHOWN.



2 S100 **ROOM 2E-01 CELING FRAMING PLAN**

SCALE: ⅜" = 1'-0"

NOTE:
COORDINATE NEW SIEMENS EQUIPMENT w/ CEILING ATTACHMENTS SHOWN.



3 S100 **ROOF FRAMING PLAN**

SCALE: ⅜" = 1'-0"

PATIENT LIFT FRAMING NOTES

1. LOCATIONS SHOWN FOR VERTICAL ELEMENTS ARE APPROXIMATE.
2. EACH VERTICAL ELEMENT IS TO BE BRACED EACH DIRECTION. SEE SHEET S110 FOR DETAILS.

PATIENT LIFT TYPICAL FRAMING NOTES

A DESIGN INTENT IS FOR EACH VERTICAL ELEMENT TO HAVE 1,200 lbs OF VERTICAL CAPACITY & EACH BRACE TO HAVE 300 lbs OF CAPACITY. ALTERNATE SLOTTED CHANNEL FRAMING COMPONENTS MAY BE ACCEPTED, BUT SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALL. ALL COMPONENTS SHALL BE CAPABLE OF ACCEPTING A LIKO PENDANT. LIKO PERSONNEL SHALL REVIEW & APPROVE OF SLOTTED CHANNEL FRAMING INSTALL ALONG WITH EOR PRIOR TO ACCEPTANCE.

ROOF FRAMING NOTES

R1 COORDINATE CHILLER DIMENSIONS WITH MEP DRAWINGS.

INDEX OF SHEETS

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UMTH CT REPLACEMENT 2E-01
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STATE OF MISSOURI
GREGORY L. LINNEMAN
NUMBER PE-2005001013
GREGORY L. LINNEMAN - PE
MO LICENSE - 2005001013

REVISIONS

NO	DESCRIPTION	DATE

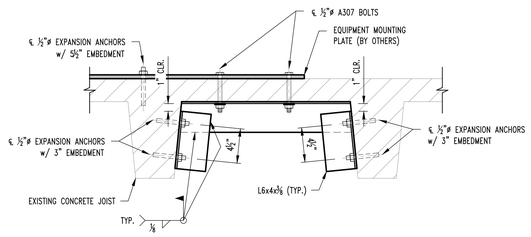
DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY: RCA
CHECKED BY: GLL

PARTIAL FRAMING PLAN

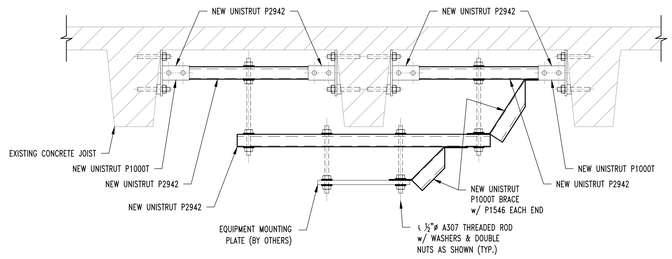
S100

BID DOCUMENTS - 10/14/2021

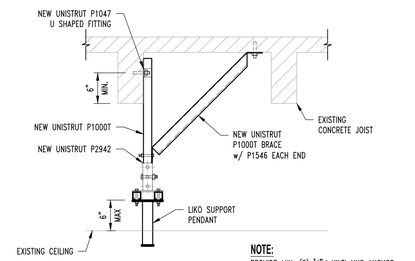
SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH



S1 S100 **EQUIPMENT MOUNTING SECTION**
SCALE: 1½" = 1'-0"

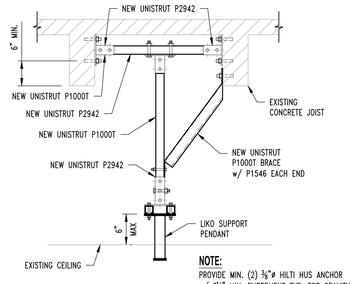


S2 S100 **EQUIPMENT TO CEILING CONNECTION**
SCALE: 1½" = 1'-0"



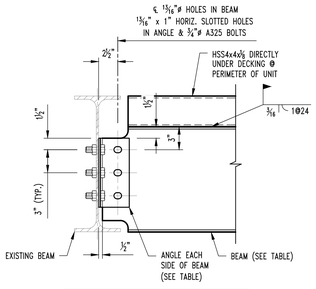
NOTE:
PROVIDE MIN. (2) ⅜"ø HILTI HUS ANCHOR w/ 2½" MIN. EMBEDMENT TYP. FOR GRAVITY SUPPORT. ONE ANCHOR REQUIRED PER BRACE.

S3 S100 **ATTACHMENT TO CONCRETE OPTION #1**
SCALE: 1" = 1'-0"



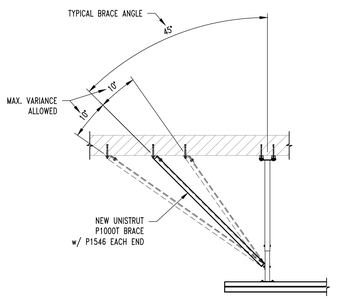
NOTE:
PROVIDE MIN. (2) ⅜"ø HILTI HUS ANCHOR w/ 2½" MIN. EMBEDMENT TYP. FOR GRAVITY SUPPORT. ONE ANCHOR REQUIRED PER BRACE.

S4 S100 **ATTACHMENT TO CONCRETE OPTION #2**
SCALE: 1" = 1'-0"

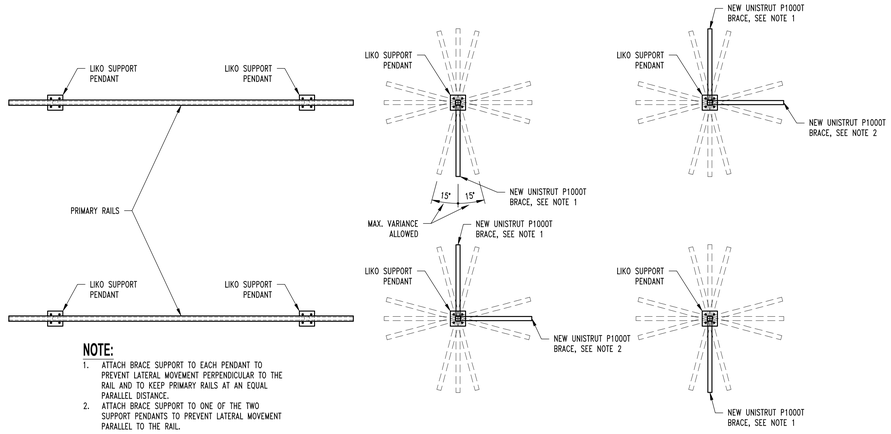


BEAM SIZE	No. OF BOLTS "N"	ANGLE SIZE
W12, W14	3	L4x4x⅜x0'-9"
W16, W18	4	L4x4x⅜x1'-0"
W21, W24	6	L4x4x⅜x1'-6"

S10 S100 **TYP. BEAM TO BEAM CONNECTION**
SCALE: 1½" = 1'-0"

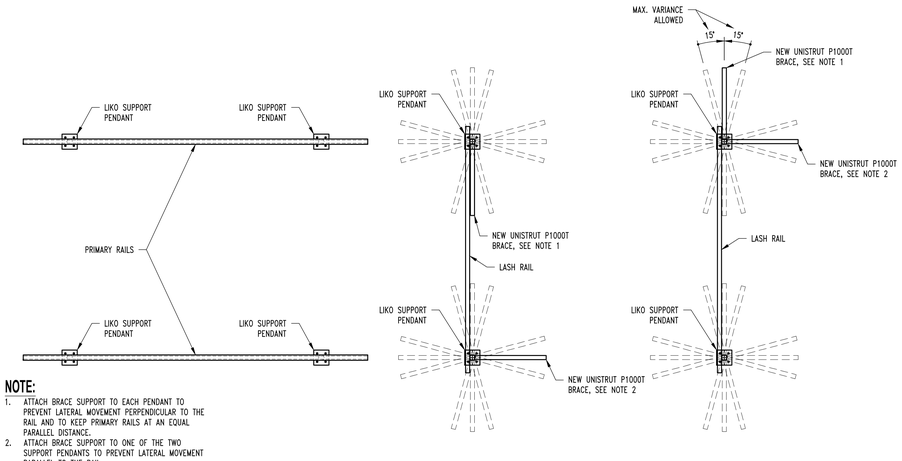


TYP. BRACING VARIANCE GUIDELINES (PATIENT LIFT)



NOTE:
1. ATTACH BRACE SUPPORT TO EACH PENDANT TO PREVENT LATERAL MOVEMENT PERPENDICULAR TO THE RAIL AND TO KEEP PRIMARY RAILS AT AN EQUAL PARALLEL DISTANCE.
2. ATTACH BRACE SUPPORT TO ONE OF THE TWO SUPPORT PENDANTS TO PREVENT LATERAL MOVEMENT PARALLEL TO THE RAIL.

TYP. BRACING LAYOUT & VARIANCE ALLOWANCE (PATIENT LIFT)



NOTE:
1. ATTACH BRACE SUPPORT TO EACH PENDANT TO PREVENT LATERAL MOVEMENT PERPENDICULAR TO THE RAIL AND TO KEEP PRIMARY RAILS AT AN EQUAL PARALLEL DISTANCE.
2. ATTACH BRACE SUPPORT TO ONE OF THE TWO SUPPORT PENDANTS TO PREVENT LATERAL MOVEMENT PARALLEL TO THE RAIL.
3. IF, DUE TO ISSUES REGARDING HVAC, CONDUIT, OR PLUMBING THE USE OF A BRACE SUPPORT AS DESCRIBED IN NOTE 1, A LASH RAIL (P1000T UNISTRUT) CAN BE ATTACHED BETWEEN PENDANTS

ALTERNATE BRACING LAYOUT & LASH BRACE w/ VARIANCE ALLOWANCE (PATIENT LIFT)

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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UMTH CT REPLACEMENT 2E-01
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COLUMBIA, MO

1 HOSPITAL DRIVE

STATE OF MISSOURI
GREGORY L. LINNEMAN
NUMBER PE-2005001013
GREGORY L. LINNEMAN - PE
MO LICENSE - 2005001013

REVISIONS

NO	DATE	DESCRIPTION

DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY: RCA
CHECKED BY: GLL

FRAMING DETAILS

S110

BID DOCUMENTS - 10/14/2021

MECHANICAL / PLUMBING / MEDICAL GAS

A	MEDICAL AIR
AD	ACCESS DOOR
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
AV	AIR VENT
BV	BALANCE VALVE
CHV	CHECK VALVE
CV	CONTROL VALVE
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
D	DAMPER
DCW	DOMESTIC COLD WATER
DISCH	DISCHARGE
DN	DOWN
DP	DIFFERENTIAL PRESSURE
DR	DRAIN LINE
DV	DRAIN VALVE
EX	EXISTING
FC	FLEXIBLE CONNECTION
FCU	FAN COIL UNIT
FRD	FIRE RATED DAMPER
GA	GAUGE
GC	GAUGE COCK
GCWS	GLYCOL CHILLED WATER SUPPLY
GCWR	GLYCOL CHILLED WATER RETURN
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
MBH	1000 BTU/HR
MC	MECHANICAL COUPLING
MVB	MEDICAL ZONE VALVE BOX
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
N2O	NITROUS OXIDE
O2	OXYGEN
OA	OUTSIDE AIR
P	PETE'S PLUG
PR	PRESSURE REGULATOR
PRV	PRESSURE REDUCING VALVE
PT	PNEUMATIC TUBING
RA	RETURN AIR
RF	RETURN FAN
RLA	RELIEF AIR
RLF	RELIEF FAN
RV	RELIEF VALVE
SA	SUPPLY AIR
SF	SUPPLY FAN
STR	STRAINER
SUC	SUCTION
SUD	SUCTION DIFFUSER
SV	SERVICE VALVE
TH	THERMOMETER
TW	THERMOMETER WELL
U	UNION
UH	UNIT HEATER
V	VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME UNIT
WAGD	WASTE GAS DISCHARGE
WH	WALL HYDRANT

A	MEDICAL AIR
CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
CW	COLD WATER
DR	DRAIN LINE
GCWS	GLYCOL CHILLED WATER SUPPLY
GCWR	GLYCOL CHILLED WATER RETURN
HWS	HEATING WATER SUPPLY
HWR	HEATING WATER RETURN
N2O	NITROUS OXIDE
O2	OXYGEN
VAC	VACUUM
UP	PIPE LINE, TURNED UP
DN	PIPE LINE, TURNED DOWN
BV	BALANCE VALVE
CV	2 WAY CONTROL VALVE
3CV	3 WAY CONTROL VALVE
CHV	CHECK VALVE
DV	DRAIN VALVE
GA / GC	GAUGE AND GAUGE COCK
MC	MECHANICAL COUPLING
P	PETE'S PLUG
PFC	PIPE FLEXIBLE CONNECTOR
PR	PRESSURE REGULATOR
PRV	PRESSURE REDUCING VALVE
RV	RELIEF VALVE
SV	SERVICE VALVE
STR	STRAINER
TH	THERMOMETER
TW	THERMOMETER WELL
U	UNION
M	METER
	CAP
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER (BOTTOM & TOP LEVEL)

	FLEXIBLE DUCTWORK
	SUPPLY AIR DUCT, DOWN
	SUPPLY AIR DUCT, UP
	RETURN, OUTSIDE, RELIEF OR EXH DUCT DN
	RETURN, OUTSIDE, RELIEF OR EXH DUCT UP
	DROP IN DIRECTION OF ARROW
D, M, FRD, BDD	DAMPER AUTOMATIC CONTROL DAMPER FIRE RATED DAMPER BACK DRAFT DAMPER
D, FB	FLEXIBLE DUCT BOOT CONNECTION WITH DAMPER (SEE DETAIL)
AP, AP X"XX"	ACCESS DOOR/PANEL
Ø	ROUND DUCTWORK
	TURNING VANES
	EXISTING PIPING OR EQUIPMENT TO REMAIN
	EXISTING PIPING OR EQUIPMENT TO BE REMOVED
	NEW PIPING OR EQUIPMENT
EF-1	TYPE OF EQUIPMENT EQUIPMENT DESIGNATION NUMBER OF EQUIPMENT
A, TBX	TYPE AIR DEVICE DESIGNATION CFM
A, M1.1	SECTION REFERENCE SECTION DESIGNATION SHEET WHERE SECTION IS SHOWN
	CONNECT TO EXISTING EQUIPMENT
3	KEYED NOTE DESIGNATION

FIRE PROTECTION

F	FIRE LINE
	SPRINKLER HEAD

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COLUMBIA, MO

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STATE OF MISSOURI
ERIC A. REUTHER
NUMBER PE-2011015792
PROFESSIONAL ENGINEER
10/14/21

ERIC A. REUTHER
MO # PE2011015792

REVISIONS

NO	DATE	DESCRIPTION

DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY: BA
CHECKED BY: MW

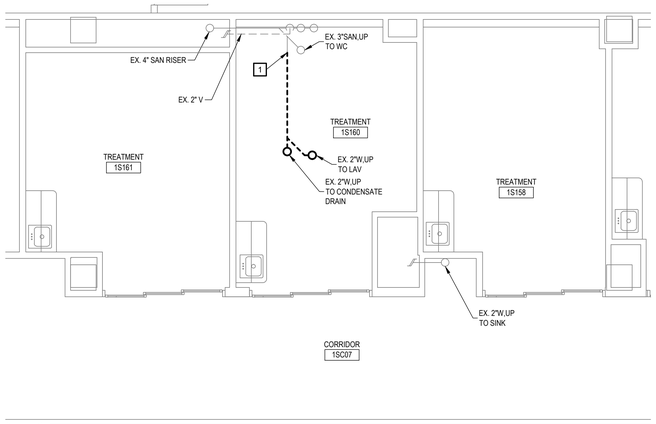
MECHANICAL SYMBOLS & ABBREVIATIONS

M001

BID DOCUMENTS - 10/14/2021

KEYED NOTES

1. DEMOLISH WASTE LINE BACK TO POINT SHOWN., PREPARE FOR NEW CONNECTION REFER TO NEW WORK.
2. DEMOLISH OXYGEN, MEDICAL AIR, AND VACUUM LINES BACK TO LOCATION SHOWN. PREPARE FOR NEW CONNECTION. REFER TO NEW WORK.
3. DEMOLISH CEILING MEDGAS OUTLETS.
4. DEMOLISH SINK & FAUCET. DEMOLISH WASTE BACK TO CHASE INTERIOR WALL AND CAP. WALL CUT AND PATCH COORDINATED WITH THE ARCHITECT. DEMOLISH VENT TO LOCATION SHOWN AND PREPARE FOR NEW CONNECTION. REFER TO NEW WORK. DEMOLISH DOMESTIC WATER LINES BACK TO VALVES, AND CAP.
5. DEMOLISH SINK, FAUCET AND HUB DRAIN. DEMOLISH WASTE LINES DOWN THRU FLOOR. SEE FIRST FLOOR PLAN THIS SHEET FOR CONTINUATION. DEMOLISH VENT AND DOMESTIC WATER LINES BACK TO LOCATION SHOWN WITHIN CHASE INTERIOR AND CAP. WALL CUT AND PATCH COORDINATED WITH THE ARCHITECT.
6. DEMOLISH WATER CLOSET. DEMOLISH WASTE AND DOMESTIC WATER LINE BACK TO CHASE INTERIOR AND CAP.



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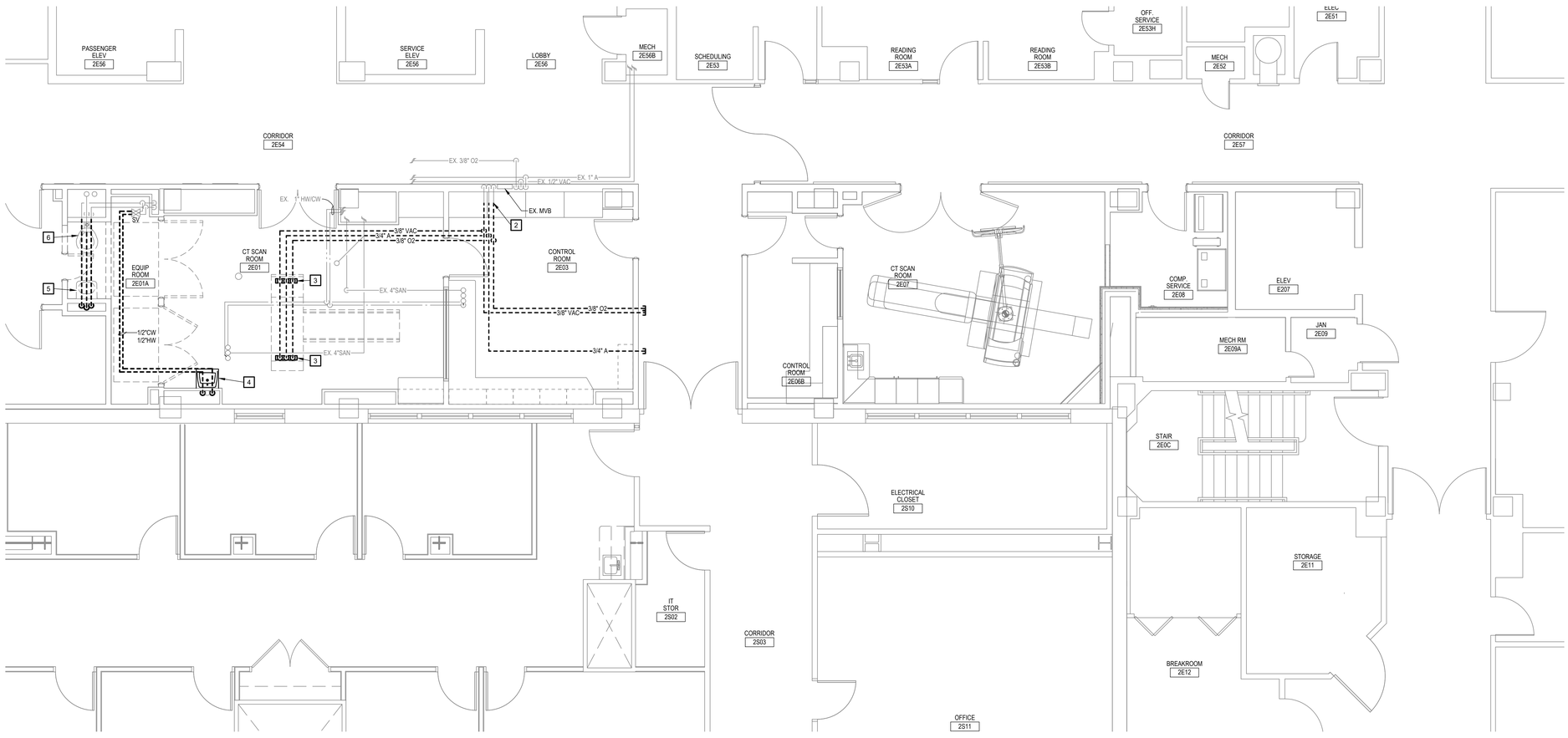
FIRST FLOOR PLAN - PLUMBING - DEMOLITION

1/4"=1'-0"



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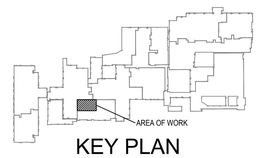
SECOND FLOOR PLAN - PLUMBING & MEDICAL GAS - DEMOLITION

1/4"=1'-0"



KEY PLAN

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10/14/21

ERIC A. REUTHER
MO # PE2011015792

REVISIONS

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CHECKED BY: MW

1ST & 2ND FLOOR PLANS
PLUMBING
DEMOLITION

MD201

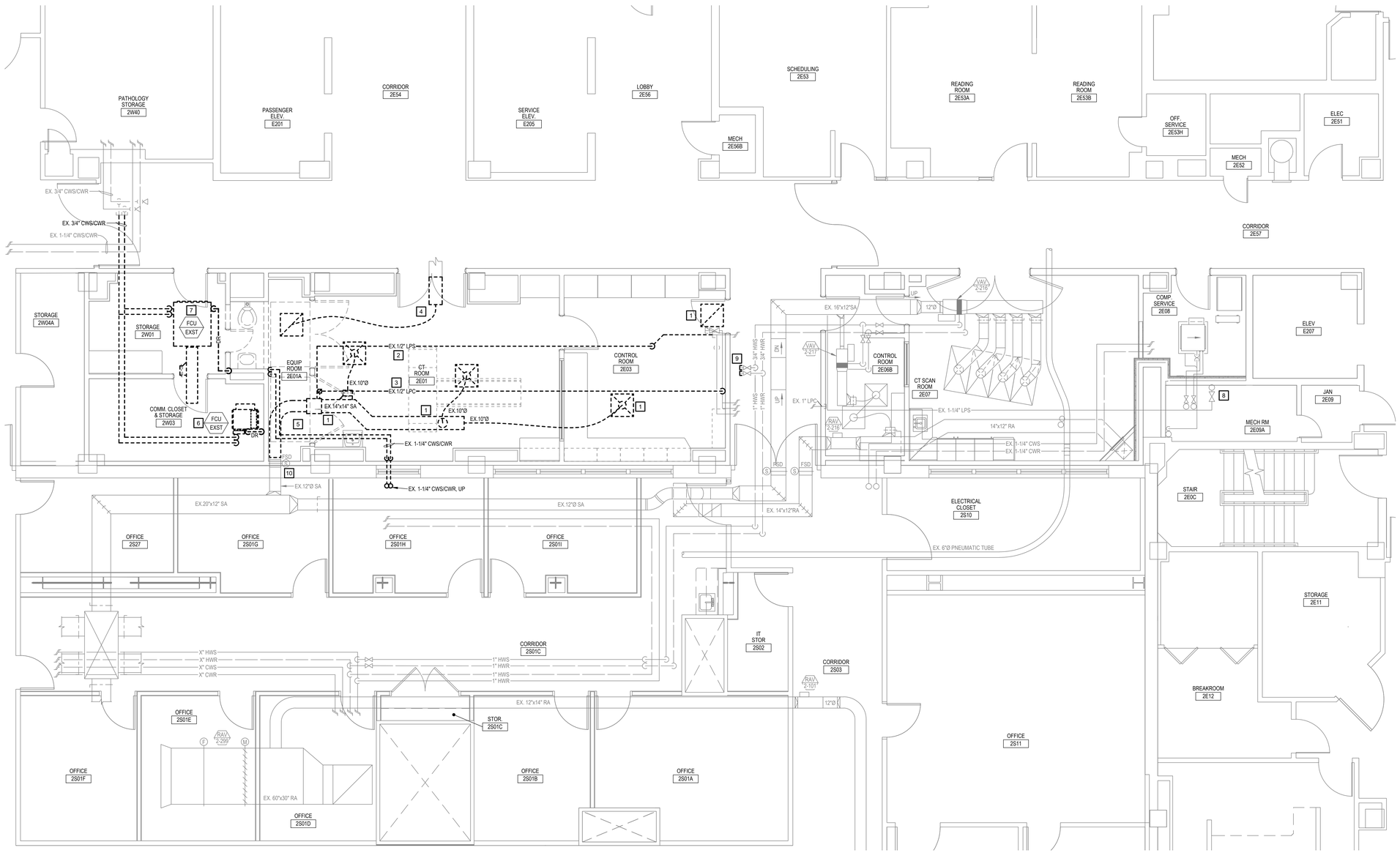
BID DOCUMENTS - 10/14/2021

GENERAL NOTES

1. ALL AIR DUCT COVERS AND HVAC EQUIPMENT SEALS ARE TO REMAIN INTACT THROUGHOUT DUST GENERATING CONSTRUCTION. IMMEDIATELY NOTIFY OWNER'S REPRESENTATIVE OF ANY OBSERVED PENETRATIONS IN THE DUST COVERS OR BREAKS IN HVAC EQUIPMENT SEALS.
2. SEAL ALL HVAC RETURN INLETS IN WORK AREAS WITH PLASTIC SHEETING AND TAPE TO PREVENT CONTAMINANTS FROM ENTERING THE BUILDING'S AIR SYSTEM. ANY EXISTING RETURN AND EXHAUST AIR SYSTEMS THAT MUST BE CUT AND CAPPED SHALL BE CAPPED OUTSIDE OF THE CONSTRUCTION AREA.
3. COORDINATE WITH OWNER'S REPRESENTATIVE BEFORE USING EXISTING HVAC SUPPLY AIR SYSTEMS FOR TEMPORARY HEATING AND COOLING. IN NO CASE SHALL SUPPLY AIR FANS SERVING OCCUPIED AREAS OF THE BUILDING BE SHUT DOWN WITHOUT OWNER'S WRITTEN APPROVAL. OPENINGS IN DUCTWORK REMAINING WITHIN THE CONSTRUCTION AREA SHALL BE SEALED. MEASURES FOR MAINTAINING PROPER BUILDING PRESSURIZATION IN ALL AREAS DURING CONSTRUCTION SHALL BE INCLUDED IN DESIGN.
4. HVAC SYSTEMS DESIGNATED WITH PARTICLE FILTERS SHALL NOT BE OPERATED WITHOUT FILTERS IN PLACE. TEMPORARY FILTERS MUST HAVE THE SAME FILTRATION AS THE PERMANENT FILTERS.
5. REMOVAL OF EXISTING CONTROLS SHALL BE DONE IN COORDINATION WITH THE OWNER. DEMOLITION OF CONTROLS AND ASSOCIATED EQUIPMENT CANNOT START WITH OUT TALKING TO MUHC PRIOR.

KEYED NOTES

1. DEMOLISH EXISTING EQUIPMENT ALONG WITH ASSOCIATED DUCTWORK, PIPING, HANGERS, AND CONTROLS.
2. DEMOLISH LOW PRESSURE STEAM BRANCH LINES BACK TO MAIN WITHIN SPACE, AND CAP.
3. DEMOLISH LOW PRESSURE STEAM CONDENSATE BACK TO MAIN WITHIN SPACE AND CAP.
4. DEMOLISH EXISTING AIR DEVICE AND PORTION OF RETURN DUCTWORK. CAP AND SEAL AIR TIGHT AT CORRIDOR WALL.
5. DEMOLISH EXISTING CHILLED WATER LINES SERVING CT EQUIPMENT. DEMOLISH BACK TO AND INCLUDING CONDENSING UNIT ON ROOF.
6. DEMOLISH FAN COIL UNIT, THERMOSTAT, AND DRAIN PIPING BACK TO MAIN. FIELD VERIFICATION REQUIRED FOR DRAIN PIPING.
7. DEMOLISH EXISTING FAN COIL UNIT AND ASSOCIATED DUCTWORK, CHILLED WATER PIPING, DRAIN PIPING, AND CONTROLS. CAP CHILLED WATER AND DRAIN PIPING AT MAINS.
8. LOCATION OF LOW PRESSURE STEAM SHUTOFF VALVE
9. DEMOLISH CAPS FOR CONNECTION UNDER NEW WORK.
10. FIRE SMOKE DAMPER SHALL BE CLOSED TO ISOLATE DOWNSTREAM DEMOLITION. DUCT SHALL BE FULLY COVERED AND MUST BE MAINTAINED AT ALL TIMES WHEN CONSTRUCTION OCCURS.



N

SECOND FLOOR PLAN - MECHANICAL - DEMOLITION

1/4"=1'-0"

KEY PLAN

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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1 HOSPITAL DRIVE
COLUMBIA, MO

STATE OF MISSOURI · ERIC A. REUTHER · NUMBER PE-2011015792 · PROFESSIONAL ENGINEER · 10/14/21

ERIC A. REUTHER
MO # PE2011015792

REVISIONS

NO	DATE	DESCRIPTION

DATE:	10/14/2021
PROJECT #:	071631.000
DRAWN BY:	BA
CHECKED BY:	MW

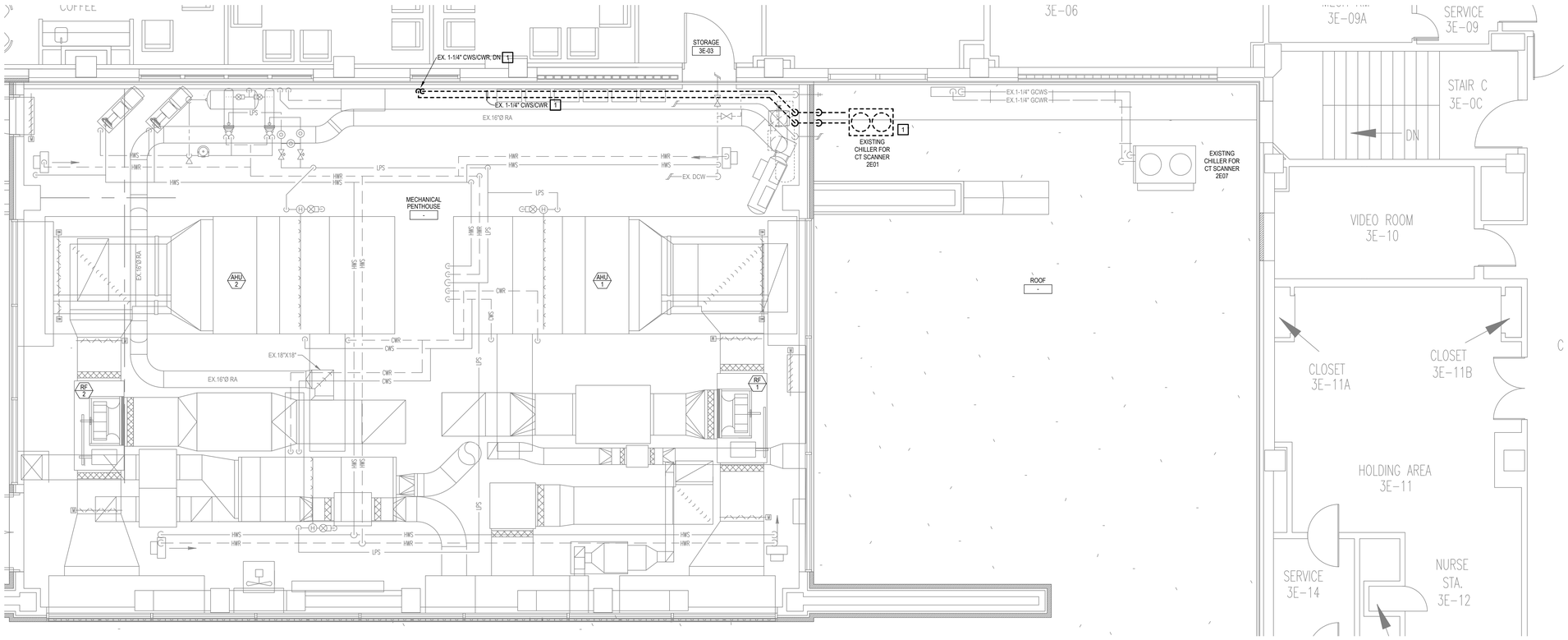
SECOND FLOOR PLAN MECHANICAL DEMOLITION

MD301

BID DOCUMENTS - 10/14/2021

KEYED NOTES

1 DEMOLISH EXISTING CHILLED WATER SUPPLY / RETURN LINES SERVING CT EQUIPMENT. DEMOLISH BACK TO AND INCLUDING CHILLER UNIT ON ROOF.



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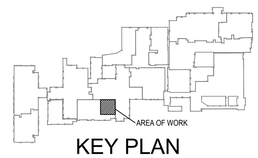
THIRD FLOOR PLAN - MECHANICAL - DEMOLITION

1/4"=1'-0"



KEY PLAN

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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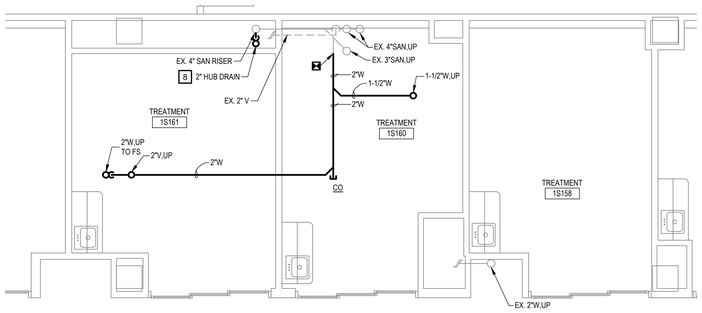
THIRD FLOOR PLAN
MECHANICAL
DEMOLITION

MD302

BID DOCUMENTS - 10/14/2021

KEYED NOTES

1. 1/2"CW, DN; 1/2"HW, DN; 2"V,DN; 2"W,DN
2. INSTALL NEW HUB DRAIN WITHIN CHASE FOR FAN COIL CONDENSATE LINE. TIE INTO EXISTING SANITARY AND VENT LINES. REFER TO DETAIL ON SHEET M601. PROVIDE AND INSTALL ACCESS PANEL IN CHASE WALL.
3. INSTALL AREA ALARM ABOVE MEDICAL ZONE VALVE BOXES. SINGLE AREA ALARM PANEL SHALL BE INSTALLED FOR ALL MEDICAL GASES SERVING THE SPACE. REFER TO ELECTRICAL FOR TRANSDUCER LOCATIONS.
4. INSTALL NEW MVB-1 FOR N2O GAS DIRECTLY BELOW EXISTING MVB FOR O2, VAC, & A SERVING 2E01.
5. INSTALL NEW CEILING MOUNTED HOSE REEL WITH MED GAS OUTLETS. REFER TO SPEC SECTION 23 23 10. MOUNT SO THAT HOSE REEL IS NOT ALLOWED TO SWAY.
6. INSTALL NEW WAGD OUTLET. TIE INTO VAC LINE ABOVE CEILING AT MINIMUM DISTANCE OF 5FT FROM OUTLET.
7. UPSTREAM N2O PIPING COULD NOT BE VERIFIED DURING FIELDWORK. CONTRACTOR SHALL OPEN WALL AND TIE INTO N2O PIPE UPSTREAM OF THE EXISTING ZONE VALVE BOX. NITROUS OXIDE SHUT OFF VALVE IS LOCATED IN GL17. CONTRACTOR SHALL COORDINATE SHUTDOWN WITH THE OWNER.
8. INSTALL NEW HUB DRAIN WITHIN CHASE FOR CT UNIT CONDENSATE LINE. TIE INTO EXISTING SANITARY RISER. REFER TO DETAIL ON SHEET M601. PROVIDE AND INSTALL ACCESS PANEL IN CHASE WALL.



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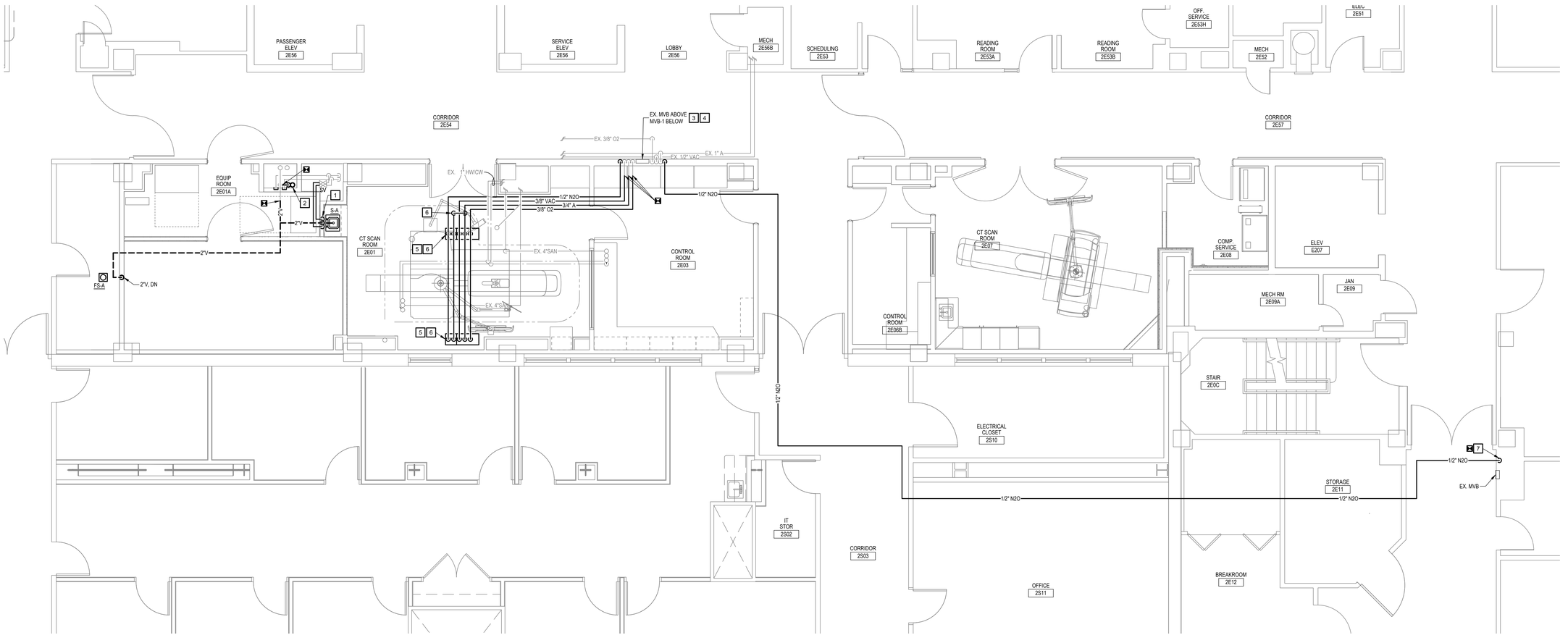
FIRST FLOOR PLAN - PLUMBING - NEW WORK

1/4"=1'-0"



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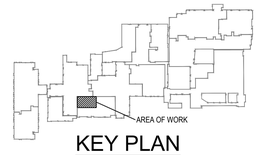
SECOND FLOOR PLAN - PLUMBING & MEDICAL GAS - NEW WORK

1/4"=1'-0"



KEY PLAN

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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10/14/21

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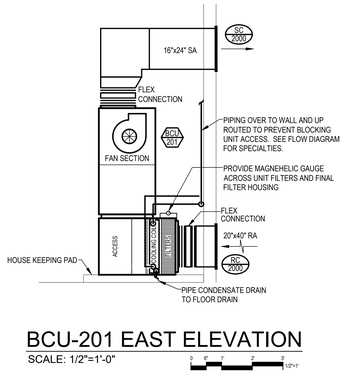
1ST & 2ND FLOOR PLANS
PLUMBING
NEW WORK

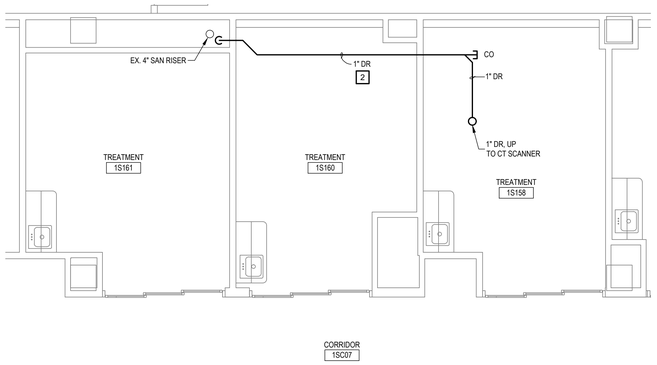
BID DOCUMENTS - 10/14/2021

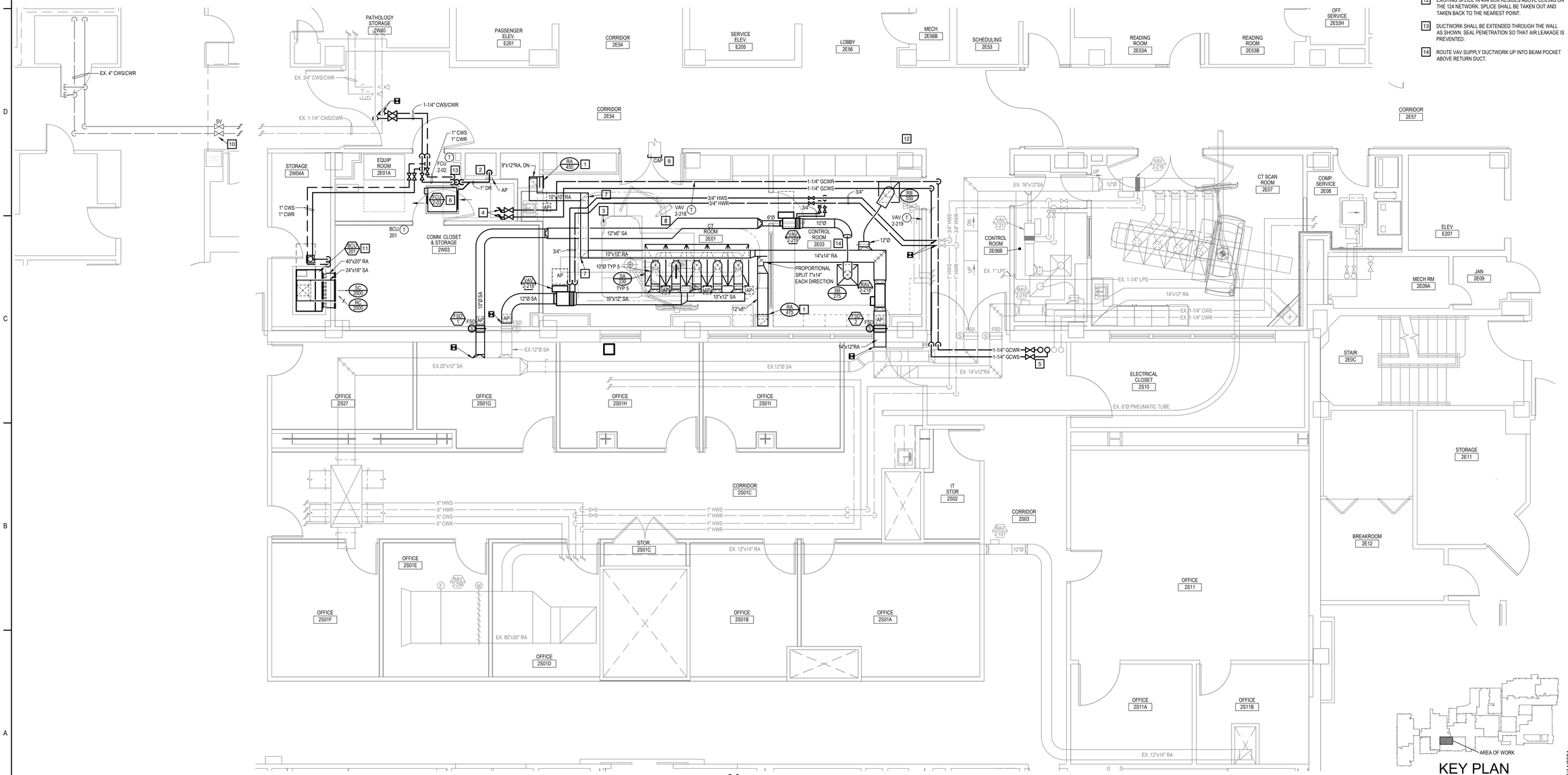
M201



BCU-201 EAST ELEVATION

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





FIRST FLOOR PLAN - MECHANICAL - NEW WORK

1/4"=1'-0"

SECOND FLOOR PLAN - MECHANICAL - NEW WORK

1/4"=1'-0"

KEY PLAN

KEYED NOTES

1. INSTALL BOTTOM EDGE OF GRILLE APPROX. 9" A.F.F. GRILLE SHALL BE FULLY DUCTED. SEAL DUCT, GRILLE AND WALL TO BE AIR TIGHT.
2. ROUTE CONDENSATE DRAIN TO NEW HUB DRAIN WITHIN CHASE. PROVIDE AND INSTALL NEW HUB DRAIN AND AIR GAP FITTING AT CONNECTION TO HUB DRAIN, REFER TO DETAIL ON SHEET M601. PROVIDE ACCESS PANEL TO ALLOW ACCESS TO AIR GAP FITTING.
3. INSTALL NEW CHILLED WATER PIPING IN CONDUIT ROUTED BETWEEN EQUIPMENT AND CT BELOW FLOOR WITHIN 1ST FLOOR CEILING SPACE. REFER TO ELECTRICAL PLANS FOR CONDUIT ROUTING.
4. CONNECT GLYCOL CHILLED WATER PIPING TO SEIMENS EQUIPMENT. REFER TO CHILLED WATER PIPING DETAIL ON M501.
5. UP TO ROOF, CONNECT TO AIR COOLED CHILLER (PROVIDED WITH SEIMENS EQUIPMENT PACKAGE), REFER TO M302. CONTRACTOR SHALL INSTALL LINES, FILL WITH GYLCOL, TERMINATE AND TURN OVER TO SIEMENS. IF GREATER THAN 132' OF PIPING, CONTRACTOR SHALL PROVIDE THE EXTRA GLYCOL. GLYKOSOL N ANTIFREEZE MIXTURE IS BEING USED. ESTIMATED ADDITIONAL QUANTITY NEED IS ROUGHLY 5 GALLONS OF FILL. CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF EXACT QUANTITIES AND REQUIREMENTS WITH EQUIPMENT VENDOR. REFER TO EQUIPMENT CUTSHEETS FOR ADDITIONAL INFORMATION.
6. PROVIDE AUXILIARY BUILT-UP DRAIN PAN UNDER FAN COIL UNIT. PIPE 1" CONDENSATE DRAIN TO FCU CONDENSATE DRAIN PIPING.
7. OFFSET RETURN DUCTWORK UP INTO BEAM POCKET
8. OFFSET SUPPLY DUCT AROUND EXISTING SANITARY PIPING.
9. CAP AND SEAL AIR TIGHT AT CORRIDOR WALL INSIDE THE CT ROOM.
10. CWS/CWR MAINS SERVICE VALVES LOCATED WEST DOWN CORRIDOR.
11. FURNISH AND INSTALL NEW VERTICAL BLOWER COIL UNIT WITH DUCTWORK AND PIPING. REFER TO ELEVATION DETAIL ON THIS SHEET FOR MORE INFORMATION.
12. EXISTING SPLICE IN 4X4 BOX RESIDES ABOVE CEILING ON THE 124 NETWORK. SPLICE SHALL BE TAKEN OUT AND TAKEN BACK TO THE NEAREST POINT.
13. DUCTWORK SHALL BE EXTENDED THROUGH THE WALL AS SHOWN. SEAL PENETRATION SO THAT AIR LEAKAGE IS PREVENTED.
14. ROUTE VAV SUPPLY DUCTWORK UP INTO BEAM POCKET ABOVE RETURN DUCT.

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UMTH CT REPLACEMENT 2E-01
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STATE OF MISSOURI ERIC A. REUTHER NUMBER PE-2011015792 PROFESSIONAL ENGINEER
10/14/21

ERIC A. REUTHER
MO # PE2011015792

REVISIONS		
NO	DATE	DESCRIPTION

DATE:	10/14/2021
PROJECT #:	071631.000
DRAWN BY:	BA
CHECKED BY:	MW

1ST & 2ND FLOOR PLANS MECHANICAL NEW WORK

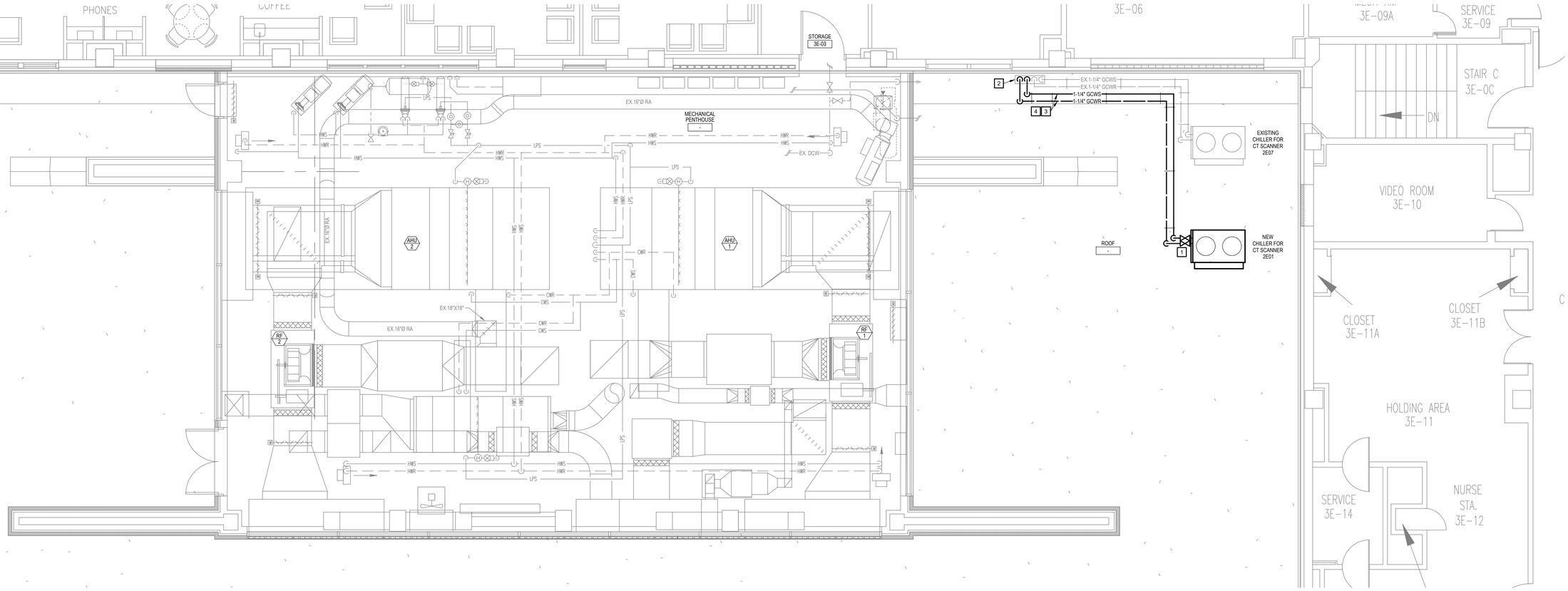
M301

BID DOCUMENTS - 10/14/2021

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

KEYED NOTES

1. AIR COOLED CHILLER BY OTHERS, INSTALL ON MANUFACTURED ROOF CURB. CONTRACTOR SHALL PROVIDE HIGH POINT AIR VENT AND FILL POINT. REFER TO FLOW DIAGRAM ON M502.
2. CHILLED WATER SUPPLY / RETURN DOWN THROUGH EXISTING PIPE CURB (INSTALLED UNDER 2E07 CT SCAN PROJECT). REFER TO DETAIL ON SHEET M601.
3. ROUTE CHILLED WATER SUPPLY / RETURN ALONG ROOF. INSTALL ON PIPE SUPPORTS. PIPING SHALL BE INSTALLED AND NOT INTERFERE WITH THE EXISTING WALKING PATH. REFER TO DETAIL ON SHEET M601.
4. PIPING SHALL BE HEAT TRACED AND SHALL HAVE ALUMINUM JACKETING ON OUTDOOR INSULATED PIPING.



N

THIRD FLOOR PLAN - MECHANICAL - NEW WORK

1/4"=1'-0"

KEY PLAN

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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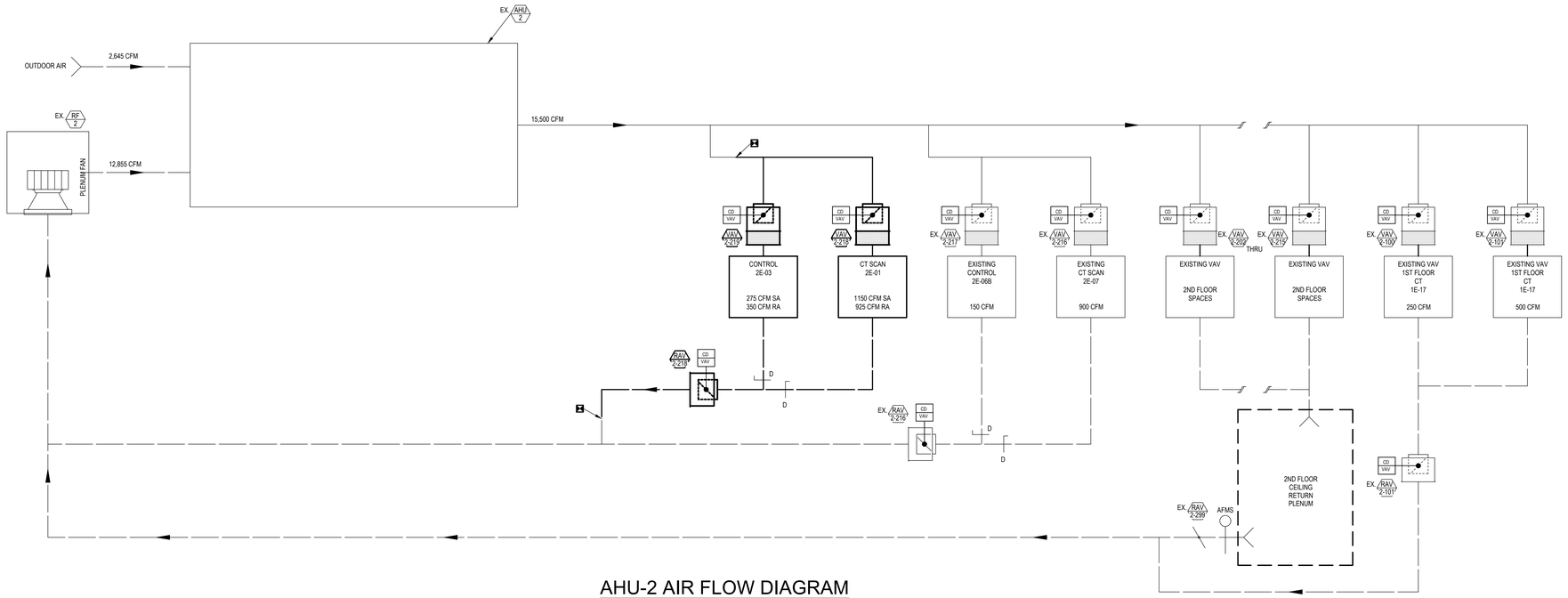
THIRD FLOOR PLAN
MECHANICAL
NEW WORK

M302

BID DOCUMENTS - 10/14/2021



AHU-2 AIR FLOW DIAGRAM

FAN COIL UNIT SEQUENCE OF OPERATIONS - FCU 2-03

A. OVERVIEW: THIS NEW FAN COIL UNIT SERVES THE CT EQUIPMENT ROOM 2E01. THE SYSTEM INCLUDES FILTERS, SUPPLY FAN, COOLING COIL, MODULATING CONTROL VALVE, AND A ROOM TEMPERATURE SENSOR. THE FAN SHALL BE ENABLED AND DISABLED BY THE BAS, AND THE UNIT SHALL MAINTAIN SPACE TEMPERATURE BY MODULATING THE COIL CONTROL VALVE.

B. ZONE TEMPERATURE CONTROL: A PID TYPE CONTROL LOOP SHALL BE USED TO CONTROL THE ZONE BASE TEMPERATURE SETPOINT OF 75°F (USER ADJUSTABLE). AN OWNER-PROVIDED SMART STAT/CONTROLLER SHALL ALLOW FOR ADJUSTMENT OF BASE TEMPERATURE SETPOINT BY NO MORE THAN ±3°F. THE INPUT TO THIS PID CONTROL LOOP SHALL BE THE SPACE TEMPERATURE, AND THE OUTPUT SHALL MODULATE THE COOLING COIL CONTROL VALVE. WHEN SPACE TEMPERATURE IS ABOVE SETPOINT, THE VALVE SHALL MODULATE OPEN. WHEN SPACE TEMPERATURE FALLS BELOW SETPOINT, THE VALVE SHALL MODULATE CLOSED.

C. SUPPLY FAN CONTROL: THE SUPPLY FAN SHALL BE COMMANDED ON/OFF BY THE BAS AND SHALL RUN CONTINUOUSLY 24/7/365.

D. ALARMS & SAFETIES: A WATER LEVEL DETECTION DEVICE SHALL CUT POWER TO THE NORMALLY (SPRING RETURN) CLOSED CHILLED WATER VALVE UPON DETECTION OF HIGH WATER LEVEL.

BLOWER COIL UNIT SEQUENCE OF OPERATION (BCU-201)

A. OVERVIEW: THIS SYSTEM CONSISTS OF AN INDOOR BLOWER COIL UNIT INCLUDING PREFILTERS, COOLING COIL, AND SUPPLY FAN. THIS UNIT PROVIDES COOLING FOR THE NEW/EXPANDED DATA 2W01.

B. SUPPLY FAN CONTROL: WHEN COMMANDED ON, THE SUPPLY FAN SHALL CONTROL TO A CONSTANT SPEED TO MAINTAIN AIRFLOW LISTED ON THE DRAWINGS.

C. SUPPLY AIR TEMPERATURE CONTROL: THE BCU SHALL MAINTAIN A SPACE TEMPERATURE OF 73°F (USER ADJUSTABLE) IN DATA 2W01. THE UNIT SHALL BE COOLING ONLY.

1. COOLING MODE:
   a. CONDITION: SPACE TEMPERATURE > SETPOINT
   b. CHILLED WATER CONTROL VALVE MODULATES TO MAINTAIN SPACE TEMPERATURE.
   i. COOLING PID: ZONE TEMPERATURE PROVIDES INPUT. AS TEMPERATURE RISES ABOVE SETPOINT, MODULATE CHILLED WATER VALVE FROM 0% OPEN TO 100% OPEN. REVERSE AS TEMPERATURE FALLS BELOW SETPOINT.

SUPPLY AIR VARIABLE VOLUME TERMINAL UNIT SEQUENCE OF OPERATION

A. DAMPER OPERATION: THE SUPPLY TERMINAL UNITS SHALL DELIVER AIRFLOW AS REQUIRED BY VARYING DAMPER POSITION TO MEET A FLOW SETPOINT OUTLINED IN THE MECHANICAL SCHEDULE.

B. REHEAT VALVE OPERATION: IF ZONE TEMPERATURE IS BELOW SETPOINT, THE REHEAT COIL VALVE SHALL MODULATE OPEN. THE REVERSE SHALL OCCUR AS ZONE TEMPERATURE INCREASES ABOVE SETPOINT.

C. ZONE TEMPERATURE CONTROL: EACH INDIVIDUAL ZONE SHALL HAVE A BASE TEMPERATURE SETPOINT OF 72°F (USER ADJUSTABLE), UNLESS OTHERWISE SPECIFIED. FOR ZONE DETERMINED TO HAVE ADJUSTABLE CONTROL, AN OCCUPANT-CONTROLLED PUSH BUTTON SHALL ADJUST THE BASE TEMPERATURE SETPOINT BY NO MORE THAN ±3°F.

RETURN AIR VARIABLE VOLUME TERMINAL UNIT (TRACKING) SEQUENCE OF OPERATION

A. DAMPER OPERATION: THE RETURN TERMINAL UNIT SHALL RETURN AIRFLOW AS REQUIRED MATCH THE ACTUAL SUPPLY AIRFLOW OF THE TERMINAL UNITS THAT THEY ARE TRACKING (AS SHOWN ON THE FLOW DIAGRAM). THE UNITS SHALL TRACK AS FOLLOWS:

RVAV2-218 = VAV2-218 + VAV2-219 - 150 CFM

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10/14/21

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REVISIONS

NO	DATE	DESCRIPTION

DATE: 10/14/2021
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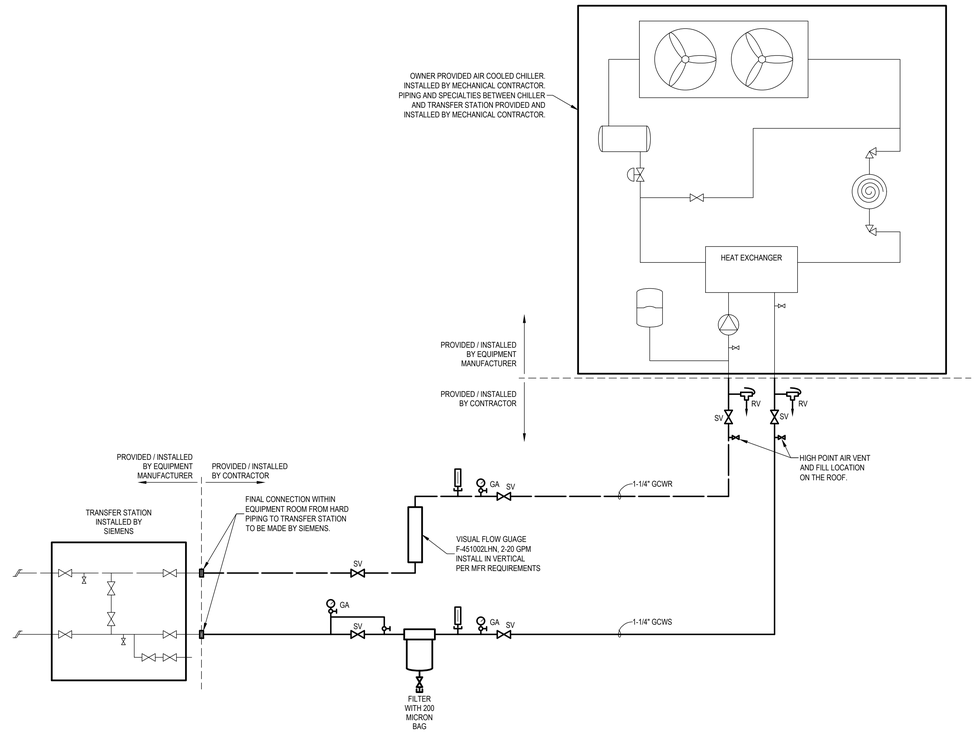
DRAWN BY: BA
CHECKED BY: MW

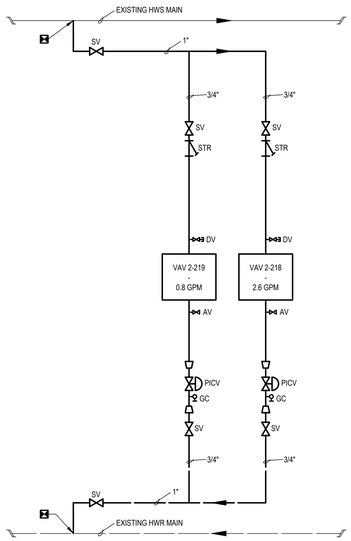
AHU-2
AIR FLOW
DIAGRAM

M501

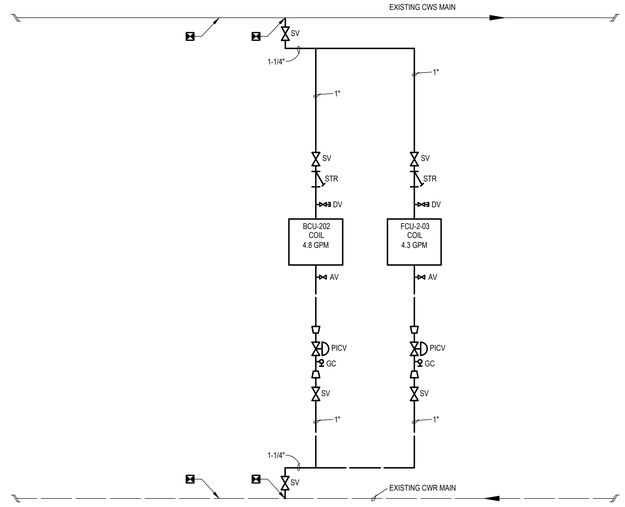
BID DOCUMENTS - 10/14/2021



AIR COOLED CHILLER FLOW DIAGRAM



PARTIAL HEATING WATER FLOW DIAGRAM



PARTIAL CHILLED WATER FLOW DIAGRAM

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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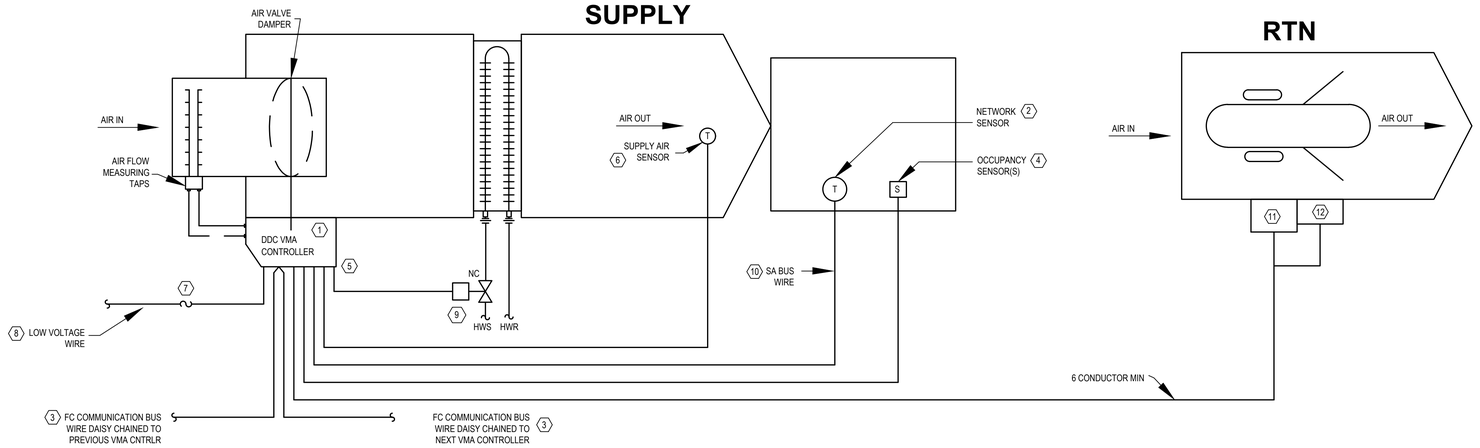
CHILLED & HEATING WATER FLOW DIAGRAMS

M502

BID DOCUMENTS - 10/14/2021



NOTES:

1. VMA TERMINAL INCLUDES CONSTANT VOLUME (CV) UNITS & VARIABLE AIR VOLUME (VAV) UNITS. UNLESS OTHERWISE NOTED, ALL CONTROL WORK SHALL BE BY CONTRACTOR.
2. CAPS FOR VAV DP TEST PORTS MUST BE 1/4" BRASS PLUGS.

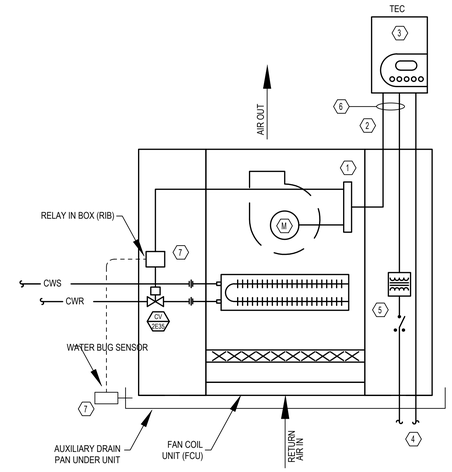
KEYED NOTES:

1. CONTROLLER WILL BE FURNISHED BY OWNER. CONTROLLER WILL BE JCI MODEL MS-VMA-16XX SERIES. PROGRAMMING WILL BE DONE BY OWNER.
2. NETWORK SENSOR WILL BE FURNISHED BY OWNER & INSTALLED BY CONTRACTOR. NETWORK SENSOR WILL BE JCI NS SERIES.
3. FC COMMUNICATION BUS WIRE SHALL BE 22 AWG, PLENUM RATED, TWISTED SHIELDED, 3 CONDUCTOR, WITH BLUE OUTER CASING, DESCRIPTED AS 22-03 OAS STR PLNM NEON BLU JK DISTRIBUTED BY WINDY CITY WIRE CONSTRUCTED BY CABLE-TEK, OR APPROVED EQUIVALENT.
4. INSTALLATION OF OCC SENSOR IS WORK OF DIVISION 26, SEE E-SERIES SHEETS FOR FINAL LOCATIONS. A CONTROL CIRCUIT SHALL BE CONNECTED TO ALL OCC SENSORS AS WORK OF DIVISION 23. A CONTROL SIGNAL SHALL BE RELAYED TO THE VAV TERMINAL UNIT THAT SERVES THAT SPACE. IN LOCATIONS WHERE MULTIPLE OCC SENSORS ARE PRESENT, ALL SENSORS SHALL BE MONITORED AND TRANSMIT A SIGNAL TO THE VAV TERMINAL UNIT WITHIN THAT SPACE. ALL SENSORS SHALL BE WIRED IN PARALLEL.
5. CONTROLLER MUST HAVE A MINIMUM OF 18 INCHES OF ACCESSIBLE CLEARANCE.
6. VAV SUPPLY TEMP SENSOR 1000 OHM PLATINUM RTD LOCATED APPROX. 8 FT. FROM VAV BOX DISCHARGE. PROVIDED, INSTALLED, & WIRED TO CONTROLLER BY CONTRACTOR.
7. FUSE LOCATED WITHIN 2 FEET OF VMA CONTROLLER.
8. LOW VOLTAGE WIRE BY DIVISION 23. SEE ELECTRICAL DRAWINGS FOR SOURCE.
9. VALVE WITH PROPORTIONAL 0-10 VOLT ACTUATOR OR EQUIVALENT.
10. SA BUS WIRE SHALL BE 22 AWG, PLENUM RATED, TWISTED SHIELDED, 4 CONDUCTOR.
11. FACTORY SUPPLIED ELECTRIC ACTUATOR. CONNECT DIRECTLY TO VMA CONTROLLER.
12. FACTORY SUPPLIED FLOW CONTROLLER. CONNECT FLOW AO TO VMA CONTROLLER

A VAV BOX CONTROL DIAGRAM WITH REHEAT AND RETURN
NO SCALE

GENERAL NOTE: (ALL DETAILS)

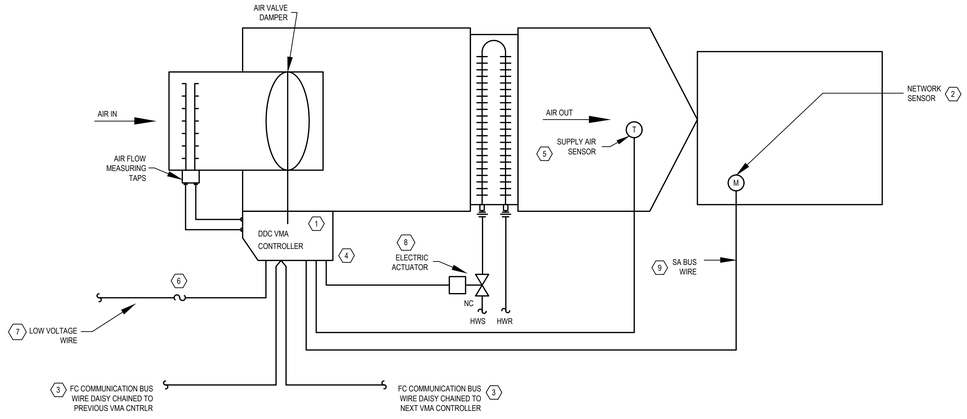
1. CONTRACTOR SHALL PERFORM FINAL TERMINATIONS AND CONTROLS CHECKOUT FOR ALL EQUIPMENT. MUHC WILL PROVIDE CONTROLLERS AND EM WILL PROVIDE PROGRAMS.



KEYED NOTES:

1. FAN RELAYS AND CONTROL VALVE PROVIDED SEPARATELY AND WIRED BY CONTRACTOR. WIRING SHALL BE CONNNECTED TO A TERMINAL STRIP IN THE FCU AT THE FACTORY.
2. ALL CONDUIT AND WIRING SHALL BE BY CONTRACTOR. WIRING SHALL BE PROVIDED FROM FCU TERMINAL STRIP TO THE THERMOSTAT LOCATION WITH AN EXTRA 3-FOOT LENGTH OF WIRE AT THE THERMOSTAT LOCATION.
3. THERMOSTAT CONTROLLER WILL BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. CONTROLLER WILL BE JCI MODEL TEC SERIES. CONTRACTOR SHALL ROUGH-IN CONDUIT AND BOX AND MAKE FINAL TERMINATIONS FOR MOUNTING REMOTELY LOCATED THERMOSTATS. PROGRAMS PROVIDED BY OWNER.
4. FC COMMUNICATION BUS WIRE SHALL BE 22 AWG PLENUM RATED, TWISTED SHIELDED, 3 CONDUCTOR, FC BUS TO BE PULLED BY CONTRACTOR AND SHALL BE CONTINUOUS DAISY CHAIN WITHOUT SPLICES. SEE FC LAYOUT DETAIL.
5. SERVICE DISCONNECT/SWITCH AND TRANSFORMER PROVIDED AND INSTALLED BY CONTRACTOR.
6. 8 CONDUCTOR 22 GAUGE TWISTED, SHIELDED, STRANDED WIRE.
7. PROVIDE WATER BUG IN SEPARATE AUXILIARY (OVERFLOW) DRAIN PAN. WIRE TO RELAY IN BOX TO CUT POWER TO NORMALLY CLOSED CONTROL VALVE UPON WATER DETECTION.

B FAN COIL / BLOWER COIL UNIT DETAIL
NO SCALE



NOTES:

1. VMA TERMINAL INCLUDES CONSTANT VOLUME (CV) UNITS & VARIABLE AIR VOLUME (VAV) UNITS. UNLESS OTHERWISE NOTED, ALL CONTROL WORK SHALL BE BY CONTRACTOR.
2. CAPS FOR VAV DP TEST PORTS MUST BE 1/4" BRASS PLUGS.

KEYED NOTES:

1. CONTRACTOR SHALL DO TERMINATIONS. CONTROLLER WILL BE FURNISHED AND INSTALLED BY OWNER. CONTROLLER WILL BE JCI MODEL MS-VMA-16XX SERIES. PROGRAMMING AND COMMISSIONING WILL BE DONE BY OWNER.
2. NETWORK SENSOR WILL BE FURNISHED BY OWNER & INSTALLED BY CONTRACTOR. NETWORK SENSOR WILL BE JCI NS SERIES.
3. FC COMMUNICATION BUS WIRE SHALL BE 22 AWG, PLENUM RATED, TWISTED SHIELDED, 3 CONDUCTOR, WITH BLUE OUTER CASING, DESCRIPTED AS 22-03 OAS STR PLNM NEON BLU JK DISTRIBUTED BY WINDY CITY WIRE CONSTRUCTED BY CABLE-TEK, OR APPROVED EQUIVALENT.
4. CONTROLLER MUST HAVE A MINIMUM OF 18 INCHES OF ACCESSIBLE CLEARANCE.
5. VAV SUPPLY TEMP SENSOR 1000 OHM PLATINUM RTD LOCATED APPROX. 8 FT. FROM VAV BOX DISCHARGE. PROVIDED, INSTALLED, & WIRED TO CONTROLLER BY CONTRACTOR.
6. FUSE LOCATED WITHIN 2 FT. OF VMA CONTROLLER.
7. LOW VOLTAGE WIRE BY DIVISION 23. SEE ELECTRICAL DRAWINGS FOR SOURCE.
8. VALVE WITH PROPORTIONAL 0-10 VOLT ACTUATOR OR EQUIVALENT.
9. SA BUS WIRE SHALL BE 22 AWG, PLENUM RATED, TWISTED SHIELDED, 4 CONDUCTOR.

D VAV BOX CONTROL DIAGRAM WITH REHEAT
NO SCALE

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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STATE OF MISSOURI · ERIC A. REUTHER · REGISTERED · NUMBER PE-2011015792 · PROFESSIONAL ENGINEER · 10/14/21

ERIC A. REUTHER
MO # PE2011015792

REVISIONS

NO	DESCRIPTION	DATE

DATE:	10/14/2021
PROJECT #:	071631.000
DRAWN BY:	BA
CHECKED BY:	MW

CONTROLS DIAGRAMS

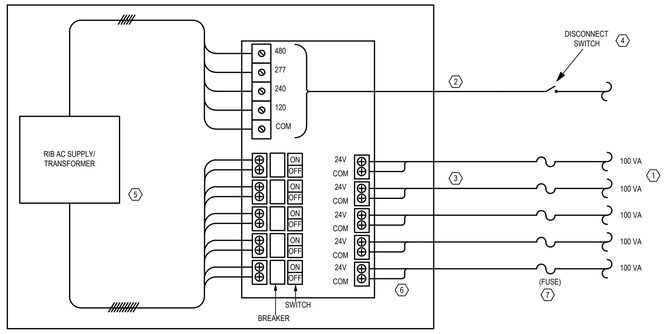
M503

BID DOCUMENTS - 10/14/2021

GENERAL NOTE: (ALL DETAILS)

1. CONTRACTOR SHALL PERFORM FINAL TERMINATIONS AND CONTROLS CHECKOUT FOR ALL EQUIPMENT. MUHC WILL PROVIDE CONTROLLERS AND EM WILL PROVIDE PROGRAMS.

PSH500A
ENCLOSED AC POWER SUPPLY



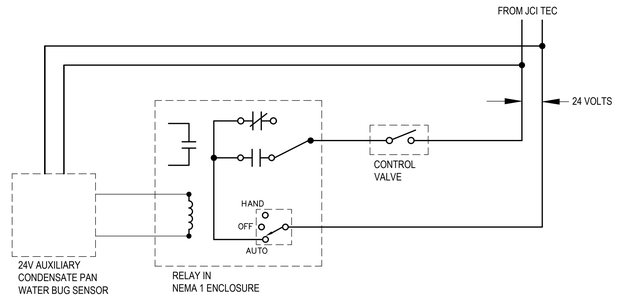
NOTES:

1. SECONDARY LINE CAN BE RAN IN SAME CONDUIT AS FC BUS
2. ENCLOSED POWER SUPPLY MUST BE LOCATED IN ELECTRICAL ROOM, MECHANICAL ROOM, OR JANITOR'S CLOSET AND BE ACCESSIBLE. ANY OTHER LOACAION MUST BE APPROVED BY THE OWNER'S REPRESENTATIVE

KEYED NOTES:

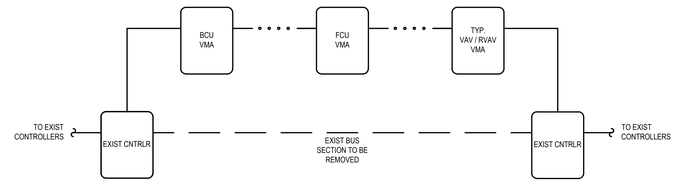
1. EACH SECONDARY OUTPUT LINE CAN POWER 3-5 VAV CONTROLLERS MAXIMUM. (100 VA)
2. PRIMARY LINE INFO: 480/277/240/120 Vac, #12 AWG MINIMUM
3. SECONDARY LINE INFO: 24 Vac, #12-26 AWG, 100 VA. MAX LENGTH 175 FEET USING #14 AWG
4. DISCONNECT SWITCH REQUIRED, EXTERNALLY MOUNTED WITHIN 12 INCHES OF RIB POWER SUPPLY
5. 500VA POWER SUPPLY - INCLUDED IN RIB MODEL# PSH500A OR APPROVED EQUIVALENT
6. ALL SECONDARY LINES MUST BE LABELED IN ENCLOSURE AS TO WHICH VAV'S THEY POWER PRIOR TO ENERGIZING POWER SUPPLY
7. A SEPARATE 3 AMP FUSE IS REQUIRED WITHIN 3 FEET OF EACH VAV

E VAV BOX POWER SUPPLY DIAGRAM
NO SCALE



RIB X24SBF OR EQUIVALENT
UPON ACTIVATION OF THE WATER BUG SENSOR, 24V SHALL BE DISCONNECT TO THE NORMALLY OPEN VALVE.

F FCU CONNECTION DIAGRAM
NO SCALE



TYP FLOOR

NOTES:

1. FC BUS TO BE CONTINUOUS DAISY CHAIN WITHOUT SPLICES. CONECTIONS CAN ONLY BE MADE AT CONTROLLERS. SEE PLANS FOR QUANTITY AND LOCATIONS OF VMA CONTROLLERS.
2. BREAK BUS BETWEEN TWO EXISTING CONNECTED VAV CONTROLLERS AND REROUTE AS SHOWN. BUS CAN BE REROUTED IN MULTIPLE LOCATIONS TO KEEP OVERALL BUS LENGTH SHORT. COORDINATE FC BUS ROUTING AND OUTAGES WITH OWNERS REP.
3. FC COMMUNICATION BUS WIRE SHALL BE 22 AWG, PLENUM RATED, TWISTED SHIELDED, 3 CONDUCTOR, WITH BLUE OUTER CASING, DESCRIPTED AS 22-03 OAS STR PLNM NEON BLU JK DISTRIBUTED BY WINDY CITY WIRE, CONSTRUCTED BY CABLE-TEK, OR APPROVED EQUIVALENT.

G FC BUS SCHEMATIC DIAGRAM
NO SCALE

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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UMTH CT REPLACEMENT 2E-01
UNIVERSITY OF MISSOURI
CP211291

COLUMBIA, MO

1 HOSPITAL DRIVE

STATE OF MISSOURI · ERIC A. REUTHER · NUMBER PE-2011015792 · PROFESSIONAL ENGINEER
10/14/21

ERIC A. REUTHER
MO # PE2011015792

REVISIONS

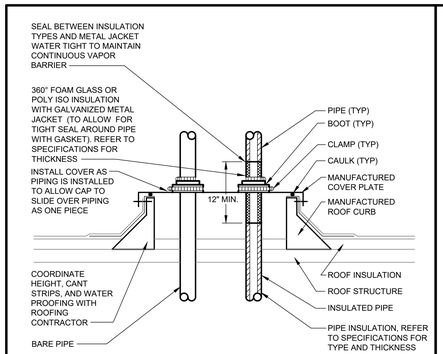
NO	DATE	DESCRIPTION

DATE:	10/14/2021
PROJECT #:	071631.000
DRAWN BY:	BA
CHECKED BY:	MW

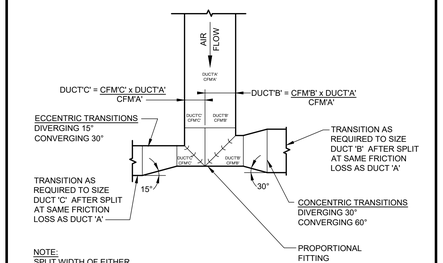
CONTROLS DIAGRAMS

M504

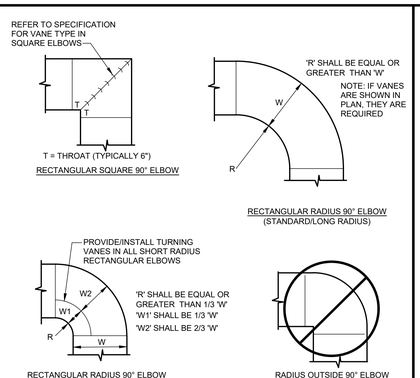
BID DOCUMENTS - 10/14/2021



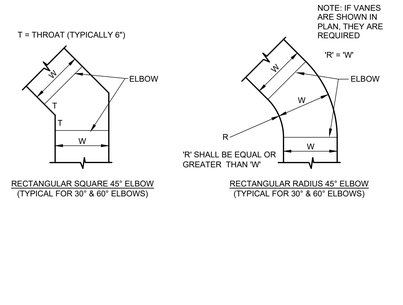
FILE NAME: M-0001	PIPES THRU ROOF 12" AND SMALLER
SCALE: NONE	



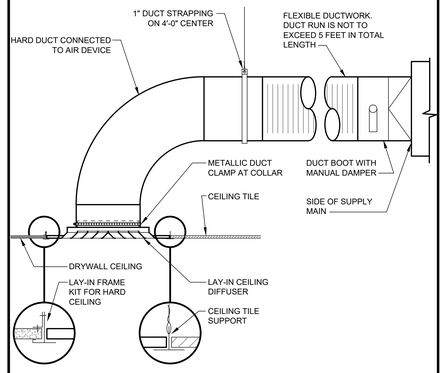
FILE NAME: M-0006A	DUCTWORK PROPORTIONAL FITTING & TRANSITIONS
SCALE: NONE	



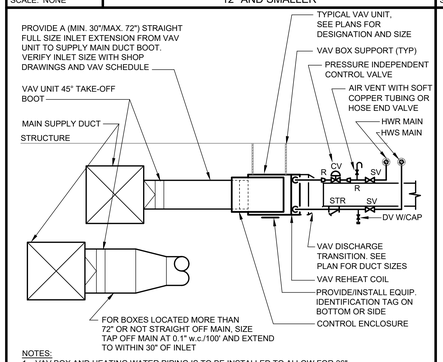
FILE NAME: M-0006B	DUCTWORK BRANCH RECTANGULAR 90° ELBOWS
SCALE: NONE	



FILE NAME: M-0006C	DUCTWORK RECTANGULAR 45° ELBOWS
SCALE: NONE	

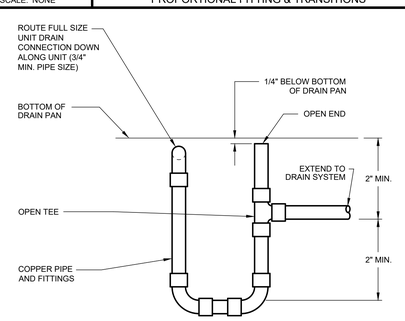


FILE NAME: M-0009X	LAY-IN DIFFUSER/GRILLE INSTALLATION
SCALE: NONE	

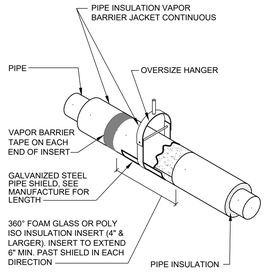


NOTES:
1. VAV BOX AND HEATING WATER PIPING IS TO BE INSTALLED TO ALLOW FOR 36" CLEARANCE IN FRONT OF CONTROL ENCLOSURE.
2. DROP RUNOUTS FROM HEATING WATER MAINS OFF THE BOTTOM OF THE PIPES.
3. BOTTOM OF BOX IS TO BE INSTALLED WITHIN 24" OF FINISHED CEILING, WHEN POSSIBLE.

FILE NAME: M-0010A	VAV BOX WITH REHEAT COIL (WITH RECTANGULAR SUPPLY MAIN)
SCALE: NONE	

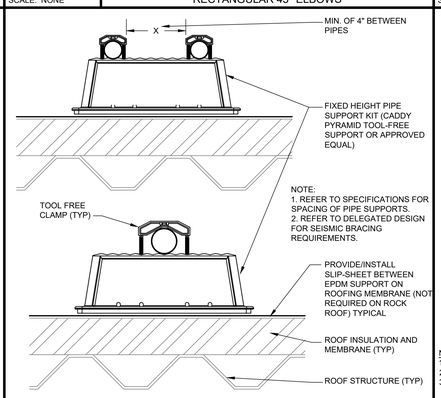


FILE NAME: M-0021	BLOW THROUGH FCU CONDENSATE DRAIN
SCALE: NONE	

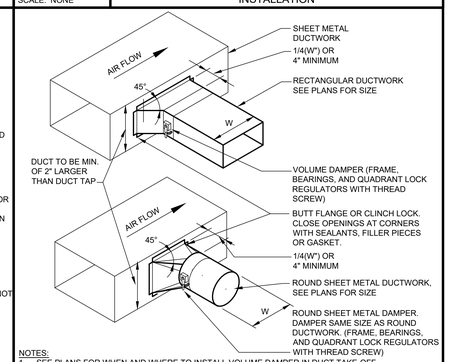


NOTE: SEE SPECIFICATION FOR APPLICABLE PIPE SIZES AND SERVICES

FILE NAME: M-0022A	PIPE HANGER SUPPORT WITH INSERT
SCALE: NONE	

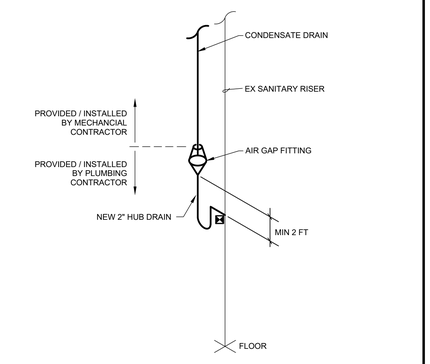


FILE NAME: M-0023B	FIXED HEIGHT SINGLE AND DUAL ROOF PIPE SUPPORT (PIPES 4" AND SMALLER)
SCALE: NONE	



NOTES:
1. SEE PLANS FOR WHEN AND WHERE TO INSTALL VOLUME DAMPER IN DUCT TAKE-OFF.
2. VOLUME DAMPERS ARE TO BE INSTALLED IN AN ACCESSIBLE LOCATION.
3. VOLUME DAMPERS ARE NOT TO BE INSTALLED IN FRONT OF VAV/FAN POWERED BOXES, UNLESS NOTED/ILLUSTRATED ON PLAN.
4. FOR DUCTS WITH EXTERNAL INSULATION, PROVIDE/INSTALL STANDOFFS FOR DAMPERS.

FILE NAME: M-0025A	45 DEGREE TAKE-OFF (RECTANGULAR DUCT MAIN)
SCALE: NONE	



FILE NAME:	CONDENSATE AIR GAP DETAIL
SCALE: NONE	

FIRE SMOKE DAMPER SCHEDULE

UNIT DESIGNATION	LOCATION	SERVICE	MANUFACTURER & MODEL NO.	NOMINAL SIZE (W X H) (IN.)	AIRFLOW (CFM)	TYPE	BLADE TYPE	MOUNTING	ACTUATOR TYPE	ACTUATOR ACTION	POWER (24V/120V)	NOTES
FSD-1	COMM CLOSET 2W03	AHU-2	RUSKIN FSD-60	10" DIA	275	OPPOSED	AIRFOIL	VERTICAL	TWO-POSITION	NC	120V	1
FSD-2	COMM CLOSET 2W03	AHU-2	RUSKIN FSD-60	14 X 12	1,275	OPPOSED	AIRFOIL	VERTICAL	TWO-POSITION	NC	120V	1

NOTES
1. FIRE SMOKE DAMPERS SHALL FAIL IN A CLOSED DIRECTION

BLADE TYPE: AIRFOIL, NON-AIRFOIL
DAMPER TYPE: PARALLEL, OPPOSED
ACTUATOR TYPE: PROPORTIONAL, TWO-POSITION
ACTION: NO - NORMALLY OPEN, NC - NORMALLY CLOSED, NONE

VARIABLE AIR VOLUME UNIT SCHEDULE

UNIT DESIG.	AHU NO.	AREA SERVED	MANUFACTURER & MODEL NO.	INLET SIZE (IN.)	DESIGN FLOW CONDITIONS: COOLING AIRFLOW (CFM)	MINIMUM AIRFLOW (CFM)	HEATING AIRFLOW (CFM)	MAX. APD (IN. W.C.)	MIN. CAPACITY (MBH)	EAT (°F)	LAT (°F)	EWT (°F)	MAX. FLOW (GPM)	MAX. WPD (FT.)	MIN. ROWS	ROOM TEMP. SENSOR TYPE	NOTES
VAV2-218	AHU-2	2E-01 CT ROOM	TITUS DESV	12	1,150	1,150	1,150	0.5	31	55	80	140	2.6	5	1	T1	1, 2
VAV2-219	AHU-2	2E-03 CONTROL ROOM	TITUS DESV	6	275	275	275	0.5	8	55	80	140	0.8	5	1	T1	1, 2
RAV2-218	AHU-2	2E-01 CT ROOM, 2E-03 CONTROL ROOM	ACCUTROL AVT4000	12	1,275	1,275	1,275	0.5	N/A								2

NOTES:
1. SEE SPECIFICATION FOR ROOM TEMPERATURE SENSOR TYPE.
2. MAXIMUM AIR PRESSURE DROP IS FOR THE ENTIRE ASSEMBLY.

FAN COIL UNIT SCHEDULE

UNIT DESIG.	LOCATION	SERVICE	MANUFACTURER & MODEL NO.	AIRFLOW (CFM)	UNIT CONFIGURATION	COOLING COIL: TOTAL CAPACITY (MBH)	SENS CAPACITY (MBH)	EAT DB/WB (°F)	EWT (°F)	MAX. FLOW (GPM)	MAX WPD (FT.)	FAN DATA: ESP (IN.)	FAN SPEED (RPM)	MOTOR POWER (WATTS)	VOLTS/PH	ELECTRICAL DATA: FLA	MCA	MOP	SCCR kA	UNIT CONTROL	RETURN INLET LOCATION	SUPPLY DISCHARGE LOCATION	PIPING CONNECTION	FILTER	NOTES
FCU2-03	2E-01A	CT EQUIP	TRANE BCHD024	750	HORIZONTAL CABINET	21.1	18.2	75	46	4.3	5	.25	1075	245	115/1	7.46	9.32	15		TST (BY DIV 26)	FRONT	BACK	LEFT SIDE	1" THROWAWAY	1, 2, 3, 4, 5

NOTES:
1. PROVIDE DUCT FLANGES FOR RETURN.
2. PROVIDE DUCT FLANGES FOR SUPPLY.
3. PROVIDE FACTORY MOUNTED DISCONNECT.
4. FAN SHALL BE ECM TYPE MOTOR.
5. DDC CONTROLS. REFER TO DETAIL ON M503 FOR ADDITIONAL INFORMATION.

SCCR: SHORT CIRCUIT CURRENT RATING

BLOWER COIL UNIT SCHEDULE

UNIT DESIG.	LOCATION	SERVICE	MANUFACTURER & MODEL NO.	AIRFLOW (CFM)	UNIT CONFIGURATION	TYPE	PRE FILTER	COOLING COIL: TOTAL CAPACITY (BTUH)	SENS CAPACITY (BTUH)	EAT DB/WB (°F)	EWT (°F)	MAX. FLOW (GPM)	MAX WPD (FT.)	FAN DATA: ESP (IN.)	FAN SPEED	MOTOR POWER (HP)	VOLTS/PH	ELECTRICAL DATA: FLA	MCA	MOP	UNIT CONTROL	RETURN INLET LOCATION	SUPPLY DISCHARGE LOCATION	PIPING CONNECTION	NOTES
BCU-201	STOR 2W04A	2W01 DATA	TRANE BCVD072	2000	VERTICAL	DRAW THROUGH	MERV 7	50,500	40,200	74/64	46	6.3	5	0.75	1020	1	208/3	2.5	3.13	15	TST (BY DIV 23)	BOTTOM	TOP	LH	1,2,3,4

NOTES:
1. PROVIDE DUCT FLANGES FOR SUPPLY.
2. PROVIDE FACTORY MOUNTED DISCONNECT.
3. DDC CONTROLS. REFER TO DETAIL ON M503 FOR ADDITIONAL INFORMATION.
4. LEAVING WATER TEMP OF 60°F IS PREFERRED.

GENERAL NOTE:
PIPING CONNECTION HAND IS LOOKING DOWN INTO AIRSTREAM FROM SUCTION SIDE OF UNIT

AIR DEVICE SCHEDULE

UNIT DESIG.	SERVICE	MANUFACTURER & MODEL NO.	TYPE	THROW	NECK SIZE (IN.)	FACE SIZE (IN.)	NOISE CRITERIA AT DESIGN FLOW (NC)	FINISH	NOTES
SA	SUPPLY	ANEMOSTAT MV-2	LAMINAR	30 FPM AT 6.5 FT BELOW PANEL	10	24 X 48	<35	WHITE	1,2
SB	SUPPLY	TITUS TDC	LOUVERED	4-WAY	10	24 X 24	<35	WHITE	3
SC	SUPPLY	TITUS 1700L	GRILLE	-	24 X 16	26 X 18	<35	WHITE	2
RA	RETURN	TITUS 350RS	GRILLE	-	12 X 12	14 X 14	<35	WHITE	1,2
RB	RETURN	TITUS TDC	LOUVERED	4-WAY	12	24 X 24	<35	WHITE	3
RC	RETURN	TITUS 350RL	GRILLE	-	40 X 20	42 X 22	<35	WHITE	2

NOTES:
1. ALUMINUM CONSTRUCTION
2. PROVIDE BORDER FOR DRYWALL INSTALLATION
3. PROVIDE BORDER FOR LAY-IN INSTALLATION

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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STATE OF MISSOURI — ERIC A. REUTHER — NUMBER PE-2011015792 — PROFESSIONAL ENGINEER — 10/14/21

ERIC A. REUTHER
MO # PE2011015792

REVISIONS

NO	DESCRIPTION	DATE

BID DOCUMENTS - 10/14/2021

DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY: BA
CHECKED BY: MW

MECHANICAL SCHEDULES & DETAILS

M601

FIRE SPRINKLER LEGEND:

- AREA TO BE PROTECTED AS LIGHT HAZARD
- AREA TO BE PROTECTED AS ORDINARY HAZARD, GROUP 1
- AREA OF WORK

GENERAL NOTES

1. EXISTING SPRINKLER PIPING AND HEADS SHOWN FOR REFERENCE ONLY. FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
2. PROVIDE TEMPORARY FIRE PROTECTION (UPRIGHT SPRINKLERS) IN CONSTRUCTION ZONES IN THE HOSPITAL. AREA MUST BE CONTINUOUSLY PROTECTED FOR THE DURATION OF CONSTRUCTION.

KEYED NOTES

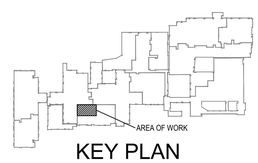
1. DEMOLISH EXISTING BRANCH PIPING AND SPRINKLER HEADS WITHIN SCOPE AREA. PROVIDE NEW PIPING LAYOUT TO COORDINATE WITH NEW HVAC AND OTHER TRADES.
2. PROVIDE NEW CONCEALED STYLE HEADS TO COORDINATE WITH NEW CEILING LAYOUT IN CONTROL ROOM.
3. PROVIDE NEW SIDEWALL STYLE HEADS TO COORDINATE WITH NEW LAYOUT IN SCAN ROOM.
4. PROVIDE NEW EXPOSED STYLE HEADS TO COORDINATE WITH OPEN CEILING IN EQUIPMENT ROOM.

STAIRS 2E0B
ZONE 5 VALVE
FLUOROSCOPY 2E47
TECH STATION 2E46
CORRIDOR 2E60
FLUOROSCOPY 2E47
RR 2E49
COMPUTER ROOM 2E50
OFF. SERVICE 2E53H
ELEC 2E51
MECH 2E52
CORRIDOR 2E57
LOBBY 2E56
SCHEDULING 2E53
READING ROOM 2E53A
READING ROOM 2E53B
MECH 2E56B
CORRIDOR 2E54
SCOPE OF WORK AREA 1
STORAGE 2W04A
EQUIP. ROOM 2E01A 4
CT ROOM 2E01 3
COMM. CLOSET & STORAGE 2W05 2
CONTROL ROOM 2E03
CONTROL ROOM 2E06B
CT SCAN ROOM 2E07
COMP. SERVICE 2E08
ELEV E207
MECH RM 2E09A
JAN 2E09
STAIR 2E0C
ELECTRICAL CLOSET 2S10

N

SECOND FLOOR PLAN - FIRE PROTECTION - NEW WORK

3/16"=1'-0"



KEY PLAN

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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CHECKED BY:	MW

SECOND FLOOR PLAN
FIRE PROTECTION
NEW WORK

M801

BID DOCUMENTS - 10/14/2021

ELECTRICAL SYMBOLS

LIGHTING FIXTURES

NOTE:
EMERGENCY FIXTURE DESIGNATIONS:

- LIFESAFETY/CRITICAL
- NL NIGHTLIGHT
- 1'x4' SURFACE MOUNTED
- 1'x4' RECESS MOUNTED
- 2'x2' SURFACE MOUNTED
- 2'x2' RECESSED MOUNTED
- 2'x4' SURFACE MOUNTED
- 2'x4' RECESSED MOUNTED
- DOWN LIGHT SURFACE MOUNTED
- DOWN LIGHT RECESSED MOUNTED
- EXIT SIGN DOUBLE FACE CEILING MOUNTED
- EXIT SIGN SINGLE FACE WALL MOUNTED (BACK)
- EXIT SIGN SINGLE FACE WALL MOUNTED (END)

EXIT SIGN NOTE:
SHADING INDICATES FACE
SEE FLOOR PLANS FOR ARROW DIRECTIONS

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AL	ALUMINUM
ARC	ALUMINUM RIGID CONDUIT
AUX	AUXILARY
BOF	BOTTOM OF FIXTURE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
COF	CENTER OF FIXTURE
EC	ELECTRICAL CONTRACTOR
EMT	ELECTRICAL METALLIC TUBING
EWC	ELECTRIC WATER COOLER
GRC	GALVANIZED RIGID CONDUIT
G	GROUND FAULT CIRCUIT INTERRUPTER
GRD	GROUND
IMC	INTERMEDIATE METAL CONDUIT
MCB	MAIN CIRCUIT BREAKER
MLO	MAIN LUG ONLY
NC	NORMALLY CLOSED
NF	NON FUSED
NO	NORMALLY OPEN
NTS	NOT TO SCALE
PVC	PVC CONDUIT
TOF	TOP OF FIXTURE
U	USB PORT
UCR	UNDER CABINET REFRIGERATOR
UNO	UNLESS NOTED OTHERWISE
WP	WEATHERPROOF COVER
WPI	WEATHERPROOF IN-USE COVER

MOUNTING HEIGHTS

ALL MOUNTING HEIGHTS ARE AS GIVEN UNLESS OTHERWISE NOTED ON PLANS
ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE/ LIGHT FIXTURE, UNLESS OTHERWISE NOTED

COMMUNICATION DEVICES

- `COMMUNICATIONS' OUTLET, RECESSED WALL MOUNTED +18" AFF, `UNO' ON FLOOR PLANS SEE FLOOR PLANS FOR DEVICE TYPE AND NUMBER
- `COMMUNICATIONS' OUTLET, RECESSED WALL MOUNTED +44" AFF (ABOVE COUNTER), `UNO' ON FLOOR PLANS SEE FLOOR PLANS FOR DEVICE TYPE AND NUMBER

COMMUNICATION DEVICE TYPE

* =	D	DATA
	I	INTERCOM
	ICS	INTERCOM CALL-IN STATION
	M	MICROPHONE
	T	TELEPHONE
	TV	TELEVISION
	WAP	WIRELESS ACCESS POINT

SWITCHES

- WALL SWITCH +48" AFF

LIGHTING CONTROL SUBSCRIPT TAGS

BLANK	SINGLE POLE TOGGLE SWITCH
3	3-WAY TOGGLE SWITCH
4	4-WAY TOGGLE SWITCH
CP	ROOM CONTROL PANEL
D	DIMMER SWITCH
3D	3-WAY DIMMER SWITCH
DT	DIGITAL TIMER
K	KEY OPERATED TOGGLE SWITCH
LTS	EMERGENCY RELAY
LV	LOW VOLTAGE MOMENTARY SWITCH
LVD	LOW VOLTAGE WITH DIMMING
OS	OCCUPANCY SENSOR
OSD	OCCUPANCY SENSOR WITH DIMMING
PL	PILOT LIGHTED TOGGLE SWITCH
R	SINGLE POLE DOUBLE THROW CENTER OFF MOMENTARY SWITCH
SC	SHADE CONTROLLER
T	MANUAL TIMER SWITCH
VS	VACANCY SENSOR
VSD	VACANCY SENSOR WITH DIMMER
CS#	DIGITAL LIGHTING CONTROL STATION # = NUMBER OF BUTTONS UP TO 8

- OS OCCUPANCY SENSOR CEILING MOUNTED
- DL DAY LIGHT SENSOR CEILING MOUNTED
- P PHOTOCELL
- LCZ 2 ZONE 0-10V LIGHTING CONTROLLER
- LTS EMERGENCY RELAY, FUNCTIONAL DEVICES #ESRN

RECEPTACLES

- SINGLE CONVENIENCE OUTLET, RECESSED WALL MOUNTED +18" AFF, `UNO' ON FLOOR PLANS
- DUPLEX CONVENIENCE OUTLET, RECESSED WALL MOUNTED +18" AFF, `UNO' ON FLOOR PLANS
- DUPLEX CONVENIENCE OUTLET, RECESSED WALL MOUNTED ABOVE COUNTER +44" AFF `UNO' ON FLOOR PLANS
- DOUBLE DUPLEX CONVENIENCE OUTLET, RECESSED WALL MOUNTED +18" AFF, `UNO' ON FLOOR PLANS
- DOUBLE DUPLEX CONVENIENCE OUTLET, RECESSED WALL MOUNTED ABOVE COUNTER +44" AFF, `UNO' ON FLOOR PLANS
- CEILING MOUNTED
- NEMA X-X SPECIAL PURPOSE OUTLET, RECESSED WALL MOUNTED +18", `UNO' ON FLOOR PLANS SEE FLOOR PLANS FOR SIZE
- DUPLEX RECEPTACLE, RECESSED FLOOR MOUNTED
- DOUBLE DUPLEX RECEPTACLE, RECESSED FLOOR MOUNTED
- DEAD FRONT / FACELESS `GFCI' DEVICE RECESSED WALL MOUNTED +48" AFF WITH ENGRAVED COVERPLATE AS NOTED ON FLOOR PLAN
- 4"x4"x2" JUNCTION BOX WITH FINISHED BLANK COVER RECESSED WALL MOUNTED +18" AFF `UNO' ON FLOOR PLANS
- 4"x4"x2" JUNCTION BOX WITH FINISHED BLANK COVER MOUNTED ABOVE ACCESSIBLE CEILING UNO
- PB PULL BOX WITH FINISHED BLANK COVER MOUNTING AND SIZE AS NOTED ON FLOOR PLAN

RECEPTACLE SUB SCRIPT

HG	HOSPITAL GRADE
TR	TAMPER RESISTANCE
IG	ISOLATED GROUND
G	GROUND FAULT CIRCUIT INTERRUPTER
E	EMERGENCY POWER
N	NORMAL POWER
WR	WEATHER RESISTANCE
WP	WEATHERPROOF COVER
WPI	WEATHERPROOF IN-USE COVER
U	USB PORT

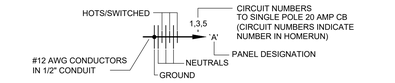
MISCELLANEOUS CONTROL DEVICES

- PUSH-BUTTON/PUSH PAD RECESSED WALL MOUNTED +48" AFF
- MUSHROOM HEAD/EMERGENCY PUSH BUTTON RECESSED WALL MOUNTED +48" AFF

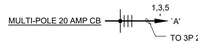
NURSE CALL SYMBOLS

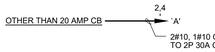
- F EMERGENCY TOILET STATION WALL MOUNTED +48" AFF
- CB CODE BLUE STATION WALL MOUNTED +48" AFF
- NURSE CALL DOME LIGHTING CEILING MOUNTED
- NURSE CALL DOME LIGHTING WALL MOUNTED +84" AFF

BRANCH CIRCUITNG LEGEND



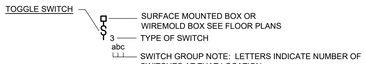
NOTE:
HASH MARKS INDICATE #12 AWG CONDUCTORS ONLY SEE FLOOR PLANS FOR OTHER FEEDER CONDUCTORS AND CONDUIT SIZES

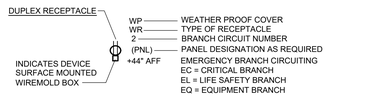


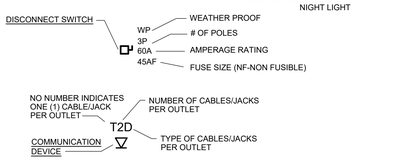


20A BRANCH CIRCUIT HOMERUNS SHALL BE SIZED AS FOLLOWS:
120V: 0-100 FEET SHALL BE #12AWG WIRE MINIMUM
101-200 FEET SHALL BE #10AWG WIRE MINIMUM
IN EXCESS OF 200 FEET SHALL BE #8AWG WIRE MINIMUM

277V: 0-250 FEET SHALL BE #12AWG WIRE MINIMUM
IN EXCESS OF 250 FEET SHALL BE #10AWG WIRE MINIMUM
INDICATES SWITCH IN







WIRING SYMBOLS

- CONDUIT DOWN
- CONDUIT UP
- CONDUIT CAPPED
- EXISTING
- DEMOLITION WORK
- NEW WORK
- CONDUIT CONCEALED IN SLAB OR IN ACCESSIBLE SPACE BELOW
- CONDUIT EXPOSED
- CONDUIT CONCEALED IN WALL OR ABOVE CEILING
- CONDUIT SLEEVE (SIZED TO 40% FILL, 2" MINIMUM) UNLESS NOTED OTHERWISE

FIRE ALARM

- S ALARM SPEAKER HORN WALL MOUNTED +80" AFF TO BOTTOM
- ALARM HORN WALL MOUNTED +80" AFF TO BOTTOM
- FIRE ALARM HORN CEILING MOUNTED
- V## COMBINATION ALARM SPEAKER AND VISUAL DEVICE ## INTENSITY OF STROBE (15/75 UNLESS OTHERWISE SPECIFIED) CEILING MOUNTED
- V## COMBINATION ALARM HORN AND VISUAL DEVICE ## INTENSITY OF STROBE (15/75 UNLESS OTHERWISE SPECIFIED) WALL MOUNTED +80" AFF TO BOTTOM
- V## COMBINATION ALARM SPEAKER AND VISUAL DEVICE ## INTENSITY OF STROBE (15/75 UNLESS OTHERWISE SPECIFIED) WALL MOUNTED +80" AFF TO BOTTOM
- V## VISUAL DEVICE ## INTENSITY OF STROBE (15/75 UNLESS OTHERWISE SPECIFIED) CEILING MOUNTED
- V## VISUAL DEVICE ## INTENSITY OF STROBE (15/75 UNLESS OTHERWISE SPECIFIED) WALL MOUNTED +80" AFF TO BOTTOM
- S ALARM SPEAKER CEILING MOUNTED

POWER EQUIPMENT

- LIGHTING PANELBOARD
- DISTRIBUTION PANEL
- MOTOR CONTROL CENTER
- SWITCHBOARD
- TRANSFORMER, SEE PLAN FOR TYPE AND SIZE

ELECTRICAL EQUIPMENT COMPONENTS EARTHQUAKE LOAD RESISTANCE

Seismic Design Category: C
Seismic Site Class: C
Occupany Category: IV

Listing of Equipment and System Components	Anchorage to Floors, Roofs, ETC.		Sway Bracing		Location of Professionally Sealed Anchorage and Sway Bracing Details			EXEMPTIONS	COMMENTS / NOTES
	Not Provided for Project	Provided for Project	Not Provided for Project	Provided for Project	On Const. Documents: Drawing No. or Spec. Section	Subsequent Submittal: Shop Drawings	Subsequent Submittal: Separate Permit & Plans		
EMERGENCY OR STANDBY EQUIPMENT AND SYSTEM COMPONENTS; IP = 1.5									
Conduit and Wiring < 2.5"	x			x		x			
OTHER GENERAL EQUIPMENT & SYSTEM COMPONENTS; IP = 1.0									
Wall/Ceiling/Floor mounted equipment:									
Lighting Fixtures	x			x		x			
Conduit and Wiring				x		x			
Communication Systems	x		x						

SEISMIC DESIGN REQUIREMENT EXEMPTIONS FOR MECHANICAL, ELECTRICAL, AND PLUMBING COMPONENTS

1 - General Exemptions	Seismic Design Category A, B. Seismic Design Category C and the component importance factor I_p = 1.0. Seismic Design Category D, E, or F, and the component importance factor I_p = 1.0, and components have approved flexible connections no less than 3 ft in length to the associated ductwork, piping, and conduit, and the components are either: A. Mounted 4 ft or less above the floor level and weigh 400 lbs or less[1]; or B. Weigh 20 lbs or less, or for distribution systems weighing 5lb/ft or less[2].
2 - Light Fixture, Sign and Ceiling Fan Exemptions	Not connected to ducts or piping, supported by chains or otherwise suspended from the structure, provided all of the following criteria are met: A. The design load for such items shall be equal to 1.4 times the operating weight acting down with a simultaneous horizontal load equal to 1.4 times the operating weight. The horizontal load shall be applied in the direction that results in the most critical loading for design. B. Seismic interaction effects shall be considered per Section 13.2.3 of ASCE 7-05. C. The connection to the structure shall allow a 360 degree range of motion in the horizontal plane.

[1] Flexible connections are not required for connections to appliances or electrical or plumbing fixtures that are mounted to walls or floors.
[2] Distribution systems would include the following code complying components:
a. The following sanitary, drain, waste and vent pipe: Schedule 40 PVC, 6" or less in diameter; Schedule 80 PVC, 4" or less in diameter; service weight and no hub cast iron, 2" or less in diameter.
b. The following storm drain pipe: Schedule 40 and 80 PVC, 3" or less in diameter; service weight and no hub cast iron, not applicable.
c. The following water pipe: Type L & M copper, 2-1/2" or less in diameter; Schedule 40 and 80 CPVC, 3" or less in diameter.
d. The following electrical conduit: Rigid steel and intermediate metal conduit (IMC), 1-1/2" and less in diameter; EMT conduit and rigid aluminum conduit 2" and less in diameter.
e. Flexible electrical wiring methods weighing 5 lbs/ft or less.
[3] High-deformability exception, above, would include interior and exterior gas piping such as gas piping serving RTUs.
[4] Seismic shut-off valves are not considered to be an acceptable alternative to seismic support/restraint of gas piping on the interior of buildings or gas piping under more than 2 psi of pressure.
[5] Elevator piping systems shall satisfy the requirements of Section 13.6.10 of ASCE 7-05

Low Voltage Systems Responsibility Matrix	OWNER RESPONSIBILITY	CONTRACTOR RESPONSIBILITY
TELECOMMUNICATIONS SYSTEMS		
Hardware (servers, switches, UPS, PDU, etc.)	F, I	
Conduit, Backboxes and Faceplates		F, I
Conduit Sleeves		F, I
Grounding and Bonding		F, I
Fire Rated Pathways		F, I
Cable	F	I
Equipment and Outlet Faceplates	F, I	
Terminations and Labeling	F, I	
IT Equipment Mounting Brackets	F, I	
V6 PC Station Mounting Brackets	F	I
Core Drilling		F, I
Paging Speaker Cabling	F	I
FIRE ALARM SYSTEMS		
Conduit and Backboxes		F, I
Wiring and Terminations		F, I
Hardware (control panels, devices, etc.)		F, I
120V Power		F, I
Testing, Commissioning and Certification		F, I
LIGHTING CONTROL SYSTEM		
Conduit and Backboxes		F, I
Wiring and Terminations		F, I
Programming		F, I
Hardware (room controllers, power packs, etc.)		F, I
120V Power		F, I
Testing, Commissioning and Certification		F, I
NURSE CALL SYSTEM		
Conduit and Backboxes		F, I
Wiring and Terminations	FI	
Programming	FI	
Hardware (Bed stations, Pull station, etc.)	FI	
Testing, Commissioning and Certification	FI	
ACCESS CONTROL SYSTEM		
Conduit and Backboxes		F, I
CCTV	F	I
Cameras	F	I
Wiring	F	I
Terminations	FI	
Programming	FI	
Hardware (room controllers, power packs, etc.)	FI	
120V Power		F, I
Testing, Commissioning and Certification	FI	

F = Furnished By
I = Installed By

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STATE OF MISSOURI
AUSTIN P. STRIEKER
NUMBER PE-2014032649
PROFESSIONAL ENGINEER

AUSTIN P. STRIEKER
MO #PE-2014032649

REVISIONS

NO	DATE	DESCRIPTION

DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY: SJF
CHECKED BY: ESW

ELECTRICAL SYMBOLS AND ABBREVIATIONS

E000

BID DOCUMENTS - 10/14/2021

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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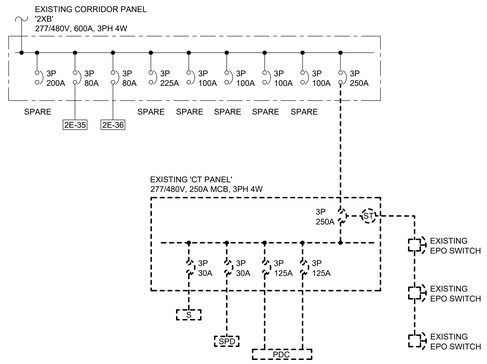
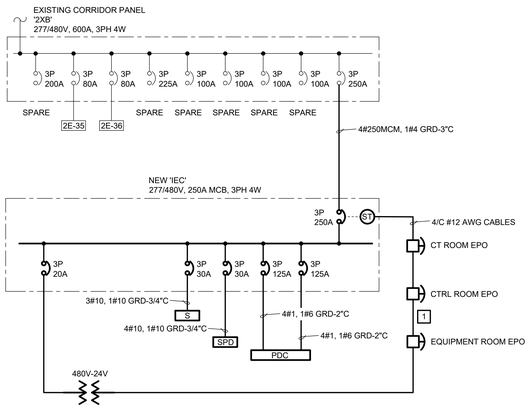


PARTIAL ONE - LINE - DEMOLITION



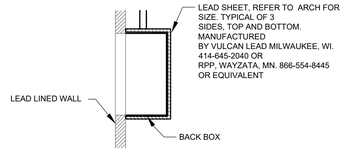
PARTIAL ONE - LINE - RENOVATION

KEYED NOTES

1 NEW EMERGENCY POWER OFF BUTTON PROVIDE WITH PROTECTIVE COVER, MECHANICAL LATCHING MECHANISM AND TWO (2) NORMALLY CLOSED CONTACTS. REFER TO SIEMENS DRAWINGS FOR MORE INFORMATION.

GENERAL NOTE:

REFER TO PHYSICIST'S REPORT FOR ALL LEAD LINED WALLS AND LEAD THICKNESS. ALL ELECTRICAL DEVICES WITHIN LEAD LINED WALLS SHALL BE INSTALLED WITH LEAD LINED BACK BOX AS SHOWN IN DETAIL BELOW.



TYPICAL LEAD LINED BACKBOX DETAIL

MECHANICAL-ELECTRICAL INTERFACE

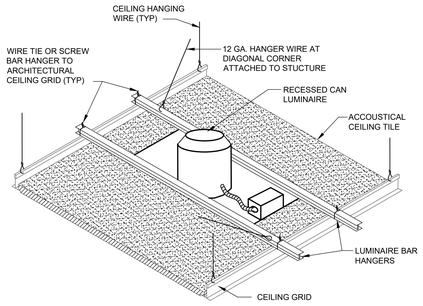
EQUIPMENT				MOTOR DATA		BRANCH CIRCUIT DATA	SOURCE DATA			UNIT CONTROLS					EQUIP. ID	EQUIPMENT DISCONNECT					REMARKS
EQUIP. ID	DESCRIPTION	REF. SHEET	LOCATION	HP / (kW) / (MCA)1	VOLTAGE / PHASE	FEEDER SIZE	SOURCE	OCP TYPE3 / POLES	OCP SWITCH/FUSE SIZE or CB TRIP	TYPE4	STARTER SIZE	OCP TYPE3	OCP SWITCH/FUSE or CB	NEMA RATING	F	I	C		SWITCH SIZE	POLE	OCP SIZE	NEMA RATING	F	I	C	
FCU2-03	FAN COIL UNIT	E200	2E-01A	1/2 HP	120	2#12, 1#12 GRD, 3/4"C	2L1'	CB	1	15A	PWCP	NA	NA	NA	NA	M	E	E	FCU2-03	NA	NA	NA	NA	N	N	N	
CT CHILLER	SEIMENS CT CHILLER	E200	ROOF	10kW	480	3#12, 1#12 GRD, 3/4"C	2XB'	CB	3	20A	PWCP	NA	NA	NA	NA	M	E	E	CT CHILLER	30A	3	20A	3R	E	E	E	CHILLER UNIT PROVIDED BY SEIMENS
BCU-201	BLOWER COIL UNIT	E200	2W04	5.75 MCA	208	3#12, 1#12 GRD, 3/4"C	W2NL'	CB	3	15A	RIB	NA	NA	NA	NA	E	E	E	BCU-201	30A	3	15A	1	E	E	E	

HP / (kW)1:
HORSEPOWER IS SHOWN UNLESS KILOWATTS (kW) OR MINIMUM CIRCUIT AMPACITY (MCA) IS CALLED OUT

TYPE3:
FS FUSED SWITCH
CB CIRCUIT BREAKER
NA NOT APPLICABLE

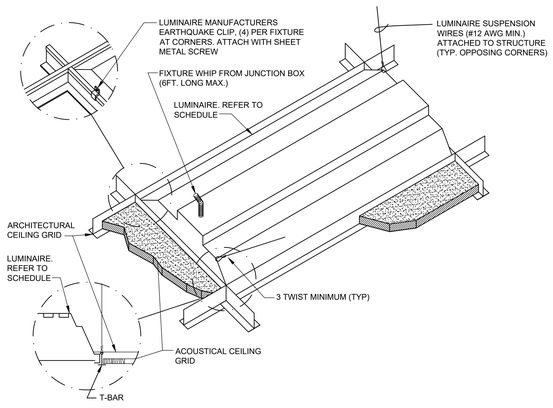
TYPE4:
COMB Combination Magnetic Starter
/ Disconnect Switch or Circuit Breaker
MAG Magnetic Starter
2S1W 2-speed 1-winding Magnetic Starter
2S2W 2-speed 2-winding Magnetic Starter
MAN Manual Motor Starter
PWCP Pre-wired Control Panel
VFD Variable Frequency Drive
TOG Toggle Switch (horsepower rated)
TST Thermostat
RIB Relay in a Box
NA Not Applicable

F I C'S: (Furnished, Installed, Connected)
M Mechanical, Plumbing, Fire Protection Contractor, or Factory
E Electrical Contractor
N Not Applicable



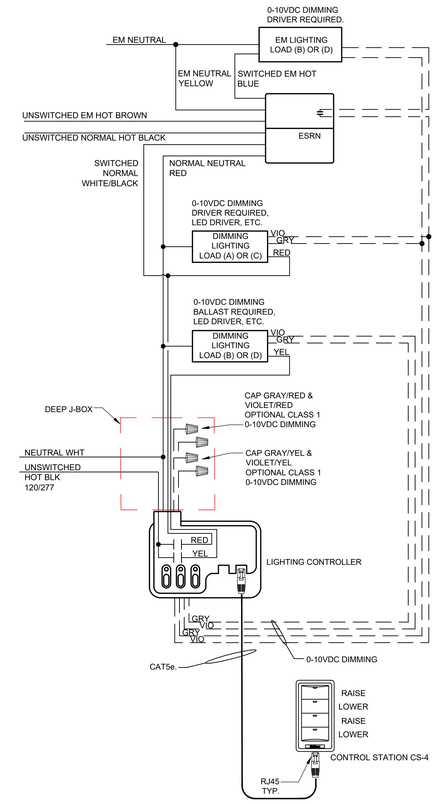
DOWNLIGHT MOUNTING - LAY-IN-CEILING

NO SCALE



LUMINAIRE MOUNTING - LAY-IN-CEILING

NO SCALE



TYPICAL ON/OFF/DIM LIGHTING CONTROL WIRING DIAGRAM

NOT TO SCALE, REFRENCE LIGHTING CONTROL MATRIX FOR FURTHER DETAIL
WIRING DIAGRAM IS BASED ON WATTSTOPPER LIGHTING CONTROLS

PANELBOARD: W2NL
VOLTAGE: 208 /120V
MAIN: 225 A MCB
POWER NORMAL BRANCH

LOAD	POLES	CKT BKR	CKT	Ph	CKT	CKT BKR	POLES	LOAD
EXISTING	1P	20	1	A	2	20	1P	EXISTING
EXISTING	1P	20	3	B	4	20	1P	EXISTING
3 DD RECPT RN 2W24	1P	20	5	C	6	20	1P	PRINTER 2W20
3 DD RECPT RN 2W24	1P	20	7	A	8	20	1P	8 GP RECPT
PRINTER RN 2W24	1P	20	9	B	10	20	1P	3 DD RECPT
3 DD RECPT RN 2W25	1P	20	11	C	12	20	1P	8 RECPT GP
3 DD RECPT RN 2W25	1P	20	13	A	14	20	1P	8 RECPT GP
PRINTER RN 2W25	1P	20	15	B	16	20	1P	4 RECPT GP
3 DD RECPT RN 2W26	1P	20	17	C	18	20	GFCI	1 FL RECPT
3 DD RECPT RN 2W26	1P	20	19	A	20	20	GFCI	1 FL RECPT
PRINTER RN 2W26	1P	20	21	B	22	20	GFCI	1 FL RECPT
3 DD RECPT RN 2W22	1P	20	23	C	24	20	GFCI	1 FL RECPT
3 DD RECPT RN 2W22	1P	20	25	A	26	20	GFCI	1 FL RECPT
PRINTER RN 2W22	1P	20	27	B	28	20	1P	ICE MACHINE
SPARE	1P	20	29	C	30	20	1P	SPARE
SPARE	1P	20	31	A	32	20	1P	SPARE
1 RECPT 2W27	1P	20	33	B	34	20	1P	SPARE
1 RECPT 2W27	1P	20	35	C	36	20	1P	6 GP RECPT
1 RECPT 2W27	1P	20	37	A	38	15	3P	BLOWER COIL UNIT 2W04
1 RECPT 2W27	1P	20	39	B	40	15	3P	BLOWER COIL UNIT 2W04
6 GP RECPT	1P	20	41	C	42	15	3P	BLOWER COIL UNIT 2W04

PROJECT NAME/NO.: UMTH CT Replacement 2E01
PANELBOARD: 2L1 (CRITICAL BRANCH)
VOLTAGE: 208 /120V
MAIN: 225 A Main MCB
SHORT CIRCUIT: 22 K AIC
LOCATION: CT 2E-01

LOAD	POLES	CKT BKR	CKT	Ph	CKT	CKT BKR	POLES	LOAD
EXISTING LOAD		20	1	A	2	20		EXISTING LOAD
EXISTING LOAD		20	3	B	4	20		RECEP 2E-05
EXISTING LOAD		20	5	C	6	20		EXISTING LOAD
EXISTING LOAD		20	7	A	8	20		NORTH & WEST RECEP 2E-05A
EXISTING LOAD		20	9	B	10	20		SOUTH & EAST RECEP 2E-01
EXISTING LOAD		20	11	C	12	20		EAST & WEST RECEP 2E-03
EXISTING LOAD		20	13	A	14	20		2x2 LIGHTING 2E-01
2E-07 TROG EYE' LIGHT		20	15	B	16	20		CAN LIGHTING 2E-01
2x4 LIGHTING 2E-01		20	17	C	18	20		A/C UNIT 2W01
LASER DUPLEX RECEP 2E-05 NORTH		20	19	A	20	20		EXISTING LOAD
QUAD RECEP WIREMOLD 2E-05		20	21	B	22	20		LIGHTING 2W01 & 2W03
A/C 2 POLE 2E-01A		20	23	C	24	20		2E-01 MEDICATION REFRIGERATOR
A/C 2 POLE 2E-01A		20	25	A	26	20		2E-01 BLANKET WARMER
CEILING RECEPS 2E-01 &2E-03 (CAMERA)		20	27	B	28	15		2E-01 FAN COIL UNIT
RECEP 2E-07 CTRL ROOM		20	29	C	30	20		FIRE SMOKE DAMPER 2E01 CONTROL ROOM
SPARE CKT TO 2E-07		20	31	A	32	20		SPARE
RECEP 2E-07 CTRL ROOM		20	33	B	34	20		SPARE
SPARE		15	35	C	36	30		FEED FOR LASER NORTH WALL 2E-05
EXISTING LOAD		20	37	A	38	30		FEED FOR LASER NORTH WALL 2E-05
EXISTING LOAD		30	39	B	40	20		2E-07 CAN LIGHTING
EXISTING LOAD		20	41	C	42	20		RECEPS 2E-07
SUBTOTALS								SUBTOTALS

PROJECT NAME/NO.: UMTH CT Replacement 2E01
PANELBOARD: 2XB (NORMAL BRANCH)
VOLTAGE: 480 /277V
MAIN: 600 A Main MLO
SHORT CIRCUIT: 65 K AIC
LOCATION: CORRIDOR 2E57

CKT	SW SIZE	LOAD	CONNECTED KVA LTG	RECP	OTHER	Ph
1	SPACE	SPARE				A
	SPACE					B
	SPACE					C
2	250	CT PANEL 'IEC' 2E-01				A
	250					B
	250					C
3	80	RADIOLOGY 2E-36				A
	80					B
	80					C
4	20	2E-01 CT CHILLER				A
	20					B
	20					C
5	225	SPARE				A
	225					B
	225					C
6	100	SPARE				A
	100					B
	100					C
7	200	SPARE				A
	200					B
	200					C
8	100	SPARE				A
	100					B
	100					C
9	60	2E-35 FLUOROSCOPY				A
	60					B
	60					C
		SUBTOTALS	0.00	0.00	0.00	

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AUSTIN P. STRIEKER
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PROFESSIONAL ENGINEER

AUSTIN P. STRIEKER
MO #PE-2014032649

REVISIONS

NO	DESCRIPTION	DATE

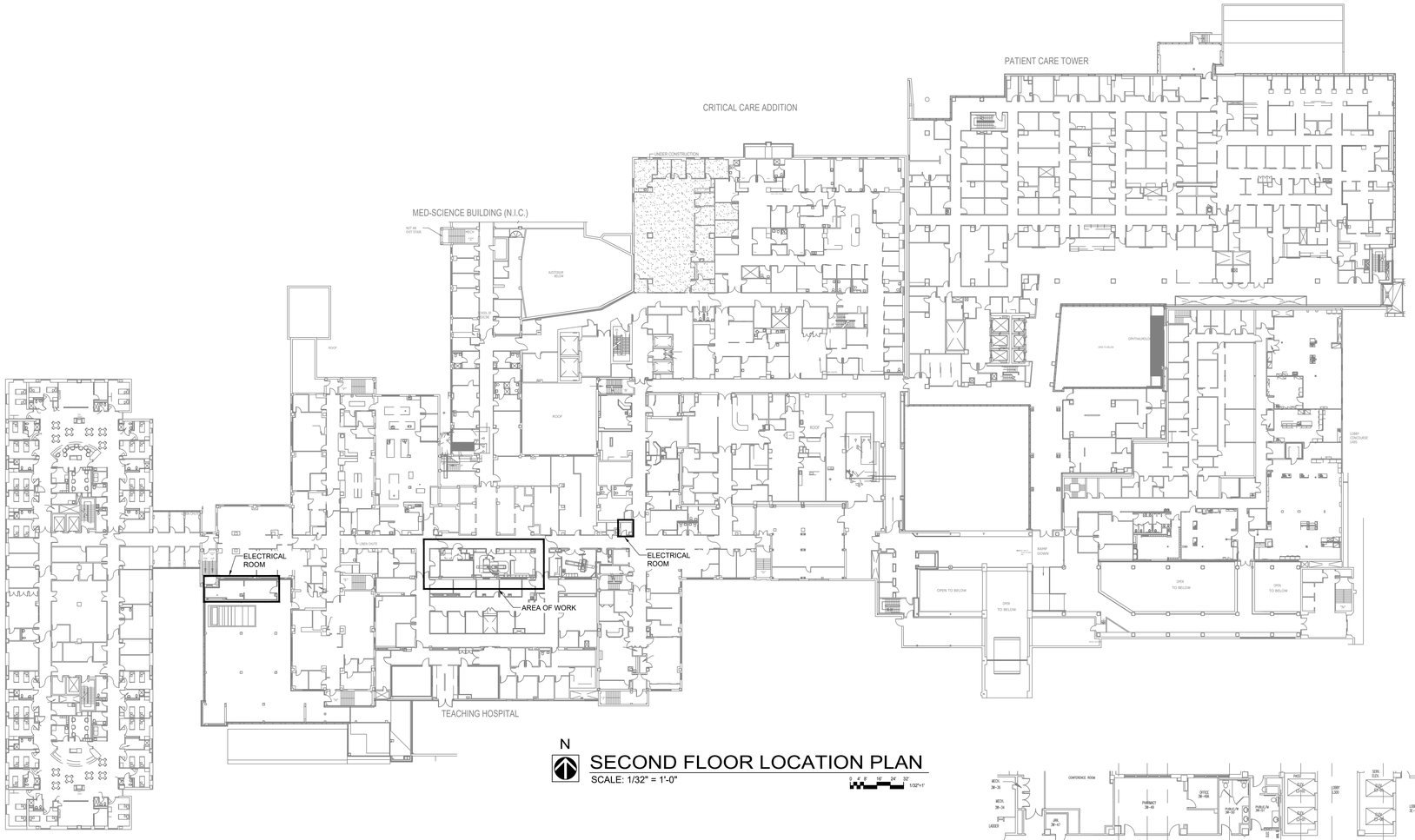
DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY: SJF
CHECKED BY: ESW

ELECTRICAL SCHEDULES DIAGRAMS AND DETAILS

E001

BID DOCUMENTS - 10/14/2021

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH



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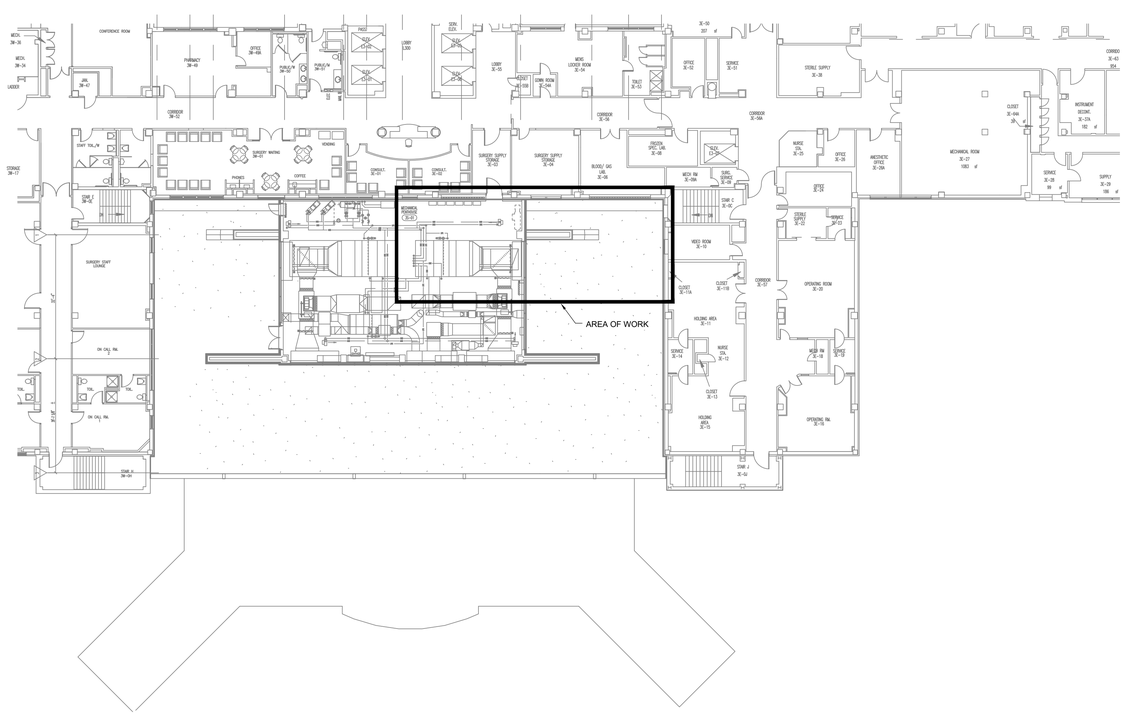
SECOND FLOOR LOCATION PLAN

SCALE: 1/32" = 1'-0"

0 8' 16' 24' 32'
1/32"=1'



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THIRD FLOOR LOCATION PLAN

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

0 4' 8' 12' 16'
1/16"=1'

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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NO	DATE	DESCRIPTION

DATE:	10/14/2021
PROJECT #:	071631.000
DRAWN BY:	CND
CHECKED BY:	ESW

OVERALL PLANS

E002

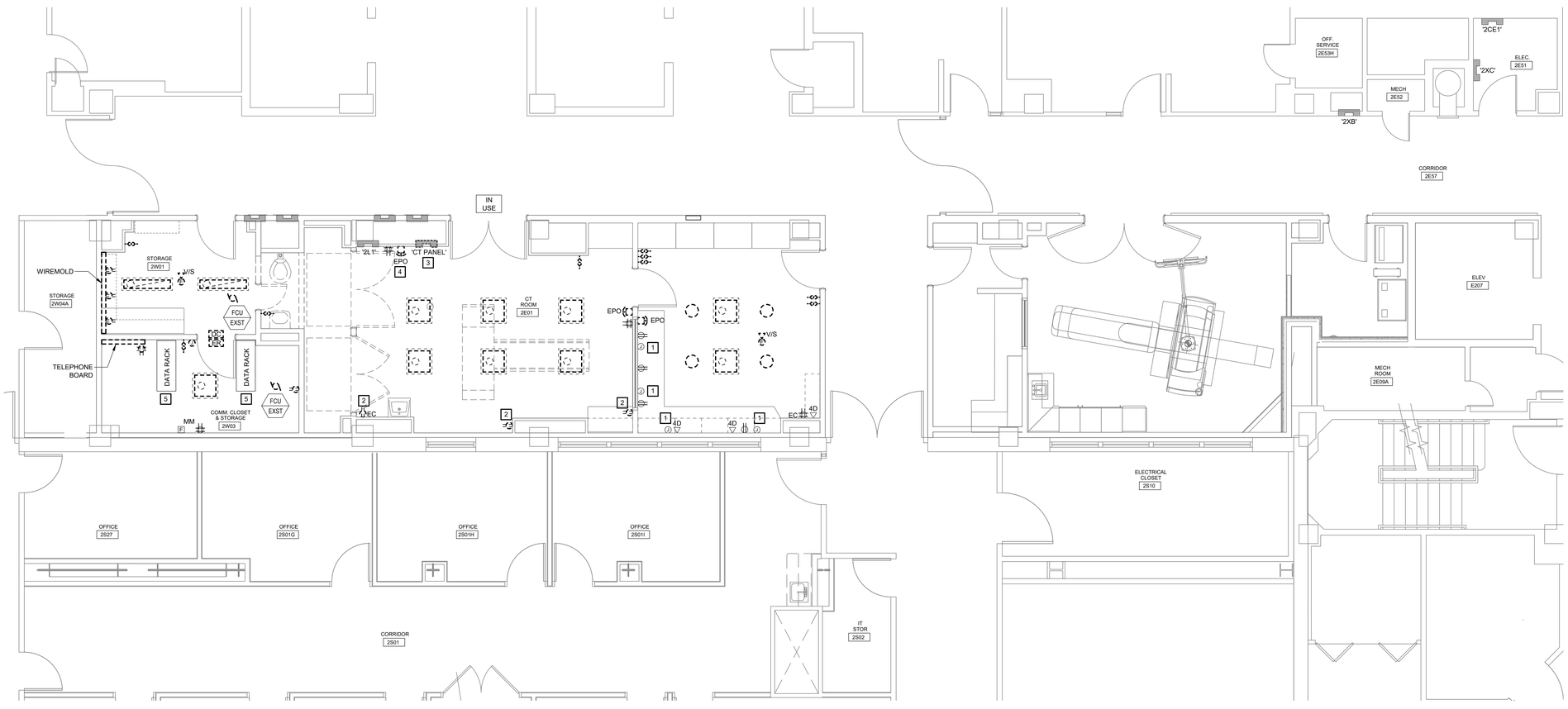
BID DOCUMENTS - 10/14/2021

GENERAL DEMOLITION NOTES

1. ALL SYMBOLS SHOWN DASHED ARE EXISTING ELECTRICAL DEVICES TO BE REMOVED OR AS NOTED. ALL SYMBOLS SHOWN SOLID LIGHT LINE ARE EXISTING ELECTRICAL DEVICES TO REMAIN. EXISTING ELECTRICAL DEVICES WHICH ARE TO REMAIN SHALL BE EXTENDED TO BE FLUSH WITH NEW FINISH ON EXISTING WALLS WHERE REQUIRED.
2. ALL EXISTING ELECTRICAL DEVICES IN A WALL THAT IS TO BE REMOVED; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, CUT OFF CONDUCTORS AND CAP CONDUIT IN FLOOR OR CEILING AS REQUIRED. DEVICES ARE TO BE REMOVED ALONG WITH WALL BY GENERAL CONTRACTOR UNLESS OTHERWISE NOTED.
3. ALL EXISTING ELECTRICAL DEVICES TO BE REMOVED FROM WALLS WHICH ARE TO REMAIN; ELECTRICAL CONTRACTOR SHALL DISCONNECT POWER, REMOVE CONDUCTORS, REMOVE DEVICE AND PROVIDE BLANK COVERPLATES AS REQUIRED. UNLESS OTHERWISE NOTED.
4. FOR A PORTION OF A CIRCUIT WHICH IS REMOVED OR ABANDONED, RE-ESTABLISH CIRCUIT CONTINUITY FOR THE PORTION OF THE CIRCUIT WHICH IS TO REMAIN.
5. ALL EXISTING CONDUITS, RACEWAYS AND WIRING ROUTED IN EXISTING WALLS AND CEILING SPACES (WHICH ARE TO BE DEMOLISHED) WHICH SERVE OTHER AREAS SHALL BE REROUTED AS REQUIRED.
6. ALL EXISTING LIGHTING FIXTURES THAT ARE TO BE REINSTALLED SHALL BE REPAIRED, (AS REQUIRED) CLEANED AND RELAMPED BEFORE REINSTALLATION.
7. ALL EXISTING LIGHTING FIXTURES THAT ARE NOTED TO BE REINSTALLED WHICH ARE NOT REINSTALLED SHALL BE RETURNED TO THE OWNER.
8. PROVIDE AND INSTALL SUPPORTS FOR EXISTING CABLES AND CONDUITS ABOVE CEILING THAT ARE CURRENTLY UNSUPPORTED IN ALL AREAS WHERE CEILING IS BEING REMOVED.
9. DISCONNECT AND REMOVE ALL EXISTING CONDUIT, RACEWAY AND BOXES SERVING THE EXISTING MEDICAL EQUIPMENT.

KEYED NOTES

1. EXISTING EMPTY WALL BOX WITHOUT COVER.
2. DEMOLISH DUPLEX RECEPTACLE. EXISTING CIRCUITRY TO REMAIN.
3. DEMOLISH EXISTING PANEL. PATCH AND PAINT WALL TO MATCH.
4. DEMOLISH EXISTING EPO BUTTON. PROVIDE COVER FOR JUNCTION BOX TO REMAIN.
5. DATA RACK TO REMAIN ONLINE DURING DEMOLITION WORK THIS AREA.



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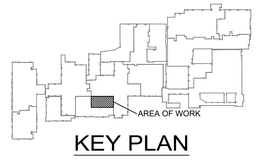
PARTIAL SECOND FLOOR PLAN - DEMOLITION

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



KEY PLAN

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH

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STATE OF MISSOURI
AUSTIN P. STRIEKER
NUMBER PE-2014032649
PROFESSIONAL ENGINEER

AUSTIN P. STRIEKER
MO #PE-2014032649

REVISIONS

NO	DESCRIPTION	DATE

DATE:	10/14/2021
PROJECT #:	071631.000
DRAWN BY:	SJF
CHECKED BY:	ESW

PARTIAL SECOND FLOOR PLAN - DEMOLITION

DE100

BID DOCUMENTS - 10/14/2021

LIGHTING CONTROL MATRIX

ROOM TYPE	MANUAL ON	AUTO ON	AUTO-OFF	WALL OCCUPANCY/VACANCY	CEILING OCCUPANCY/VACANCY	WALL SWITCH	DIMMER SWITCH	SCENE CONTROL	OVERRIDE SWITCH	DIGITAL TIMER	FULL RANGE	MULTI-ZONE	STEP DIMMING	NON-DIM	DAY LIGHT HARVESTING	CONTINUOUS DIMMING	ON/OFF	TIME ON	TIME OFF	ASTRONOMICAL	PLUG LOAD	STANDALONE	NETWORK	BAS INTEGRATION	ON	OFF	OVERRIDE	ADDITIONAL INFORMATION
	OCCUPANCY SENSOR					CONTROL INTERFACE					DIMMING TYPE				DAY LIGHT CTL			TIME CONTROL			SYSTEM				PHOTOCELL			
IMAGING ROOM	X	-	-	-	-	X	X	-	-	-	X	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	PROVIDE 4 BUTTON CONTROL STATIONS, BUTTONS SHALL BE ENGRAVED PER WIRING DIAGRAM NOTES. RAISE/LOWER/ON/OFF CONTROL FOR EACH ZONE.
STORAGE	X	-	10MIN	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	-	-	-	-	-	
EQUIPMENT	X	-	20 MIN	-	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	-	-	X	-	-	-	-	-	DIGITAL TIMER TO PROVIDE MANUAL CONTROL WHILE ENSURING LIGHTING IS TURNED OFF. ENABLE BLINK WARN FOR 2MIN AND 1MIN NOTIFICATIONS.
CONTROL ROOM	X	-	-	-	-	-	-	-	-	-	X	X	-	-	-	-	-	-	-	-	-	X	-	-	-	-	-	PROVIDE 4 BUTTON CONTROL STATIONS, BUTTONS SHALL BE ENGRAVED PER WIRING DIAGRAM NOTES. RAISE/LOWER/ON/OFF CONTROL FOR EACH ZONE.

CONTROL DEVICE QUANTITIES SHOULD BE SELECTED FROM THE ELECTRICAL DRAWINGS, NOT THIS SPREADSHEET.

UMC UMTH RENOVATE ROOM 2E 01 - LUMINAIRE SCHEDULE

TYPE	MANUFACTURER	DESCRIPTION	VOLTS	WATTAGE	SOURCE	CCT	CRI	DIMMING TYPE	MOUNTING	REMARKS
DA	PORTFOLIO - LD6B-15-D010-EU6B-1020-80-35-6LB-M-1-H	6IN LED DOWNLIGHT	UNV	15.5W	LED	3500K	80+	0-10V TO 1%	RECESSED	
DAE	SAME AS ABOVE, BUT CONNECTED TO EM LIGHTING INVERTER									
FA	METALUX - 22EN-L02-34-UNV-L835-CD-1-U	2X2 LED TROFFER	UNV	29W	LED	3500K	80+	0-10V TO 1%	RECESSED	
FAE	SAME AS ABOVE, BUT CONNECTED TO EM LIGHTING INVERTER									
GA	METALUX - 4SNLED-LD5-41SL-LW-UNV-L835-CD-1-U	4' LED STRIPLIGHT	UNV	35W	LED	3500K	80+	0-10V	CHAIN HUNG	MOUNT 8'-6" AFF UON
GAE	SAME AS ABOVE, EXCEPT CONNECTED TO EMERGENCY GENERATOR									

GENERAL NOTES:

LIGHT FIXTURE SUBSTITUTIONS TO THE BASIS OF DESIGN MUST BE EQUAL QUALITY, EQUAL PERFORMANCE, AND SUBMITTED 10 DAYS PRIOR TO BID DAY FOR PRE-APPROVAL. REFERENCE DIVISION 1000 OF THE CONTRACT SPECIFICATIONS FOR PROCESS REQUIRED FOR PRE-APPROVAL.

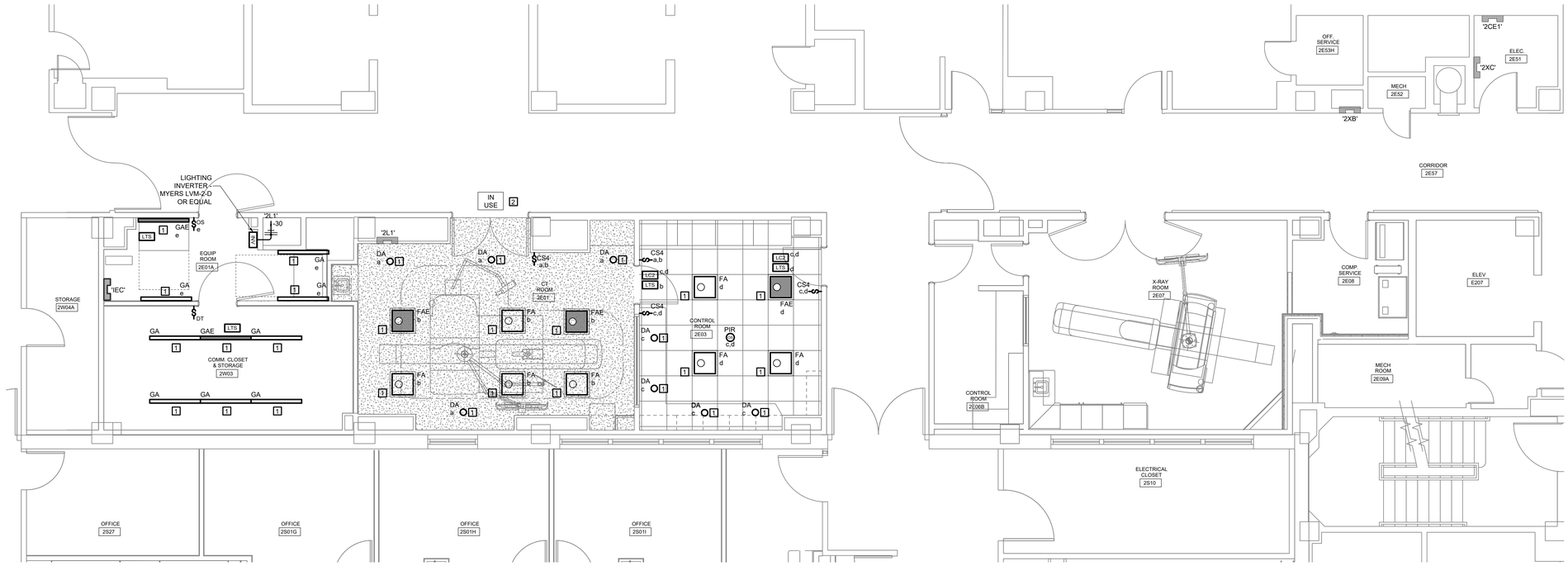
GENERAL NOTES:

1. REFER TO SIEMENS DRAWINGS FOR ADDITIONAL INFORMATION AND PROJECT REQUIREMENTS.
2. ALL BACKBOXES ON THIS SHEET SHALL BE LEAD LINED. REFER TO DETAIL ON SHEET E001.
3. REFER TO M-E INTERFACE ON SHEET E000 FOR MECHANICAL EQUIPMENT INFORMATION.

KEYED NOTES:

1 NEW LIGHT FIXTURE TO BE RE-FED FROM EXISTING CRITICAL POWER LIGHTING CIRCUIT IN THIS ROOM. EXTEND EXISTING BRANCH CIRCUIT AND SWITCH LEG AS REQUIRED.

2 RE-USE EXISTING IN-USE LIGHT. REFER TO SIEMENS DRAWINGS FOR CONTROLS CONNECTIONS.



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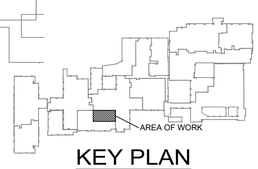
PARTIAL SECOND FLOOR PLAN - LIGHTING

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



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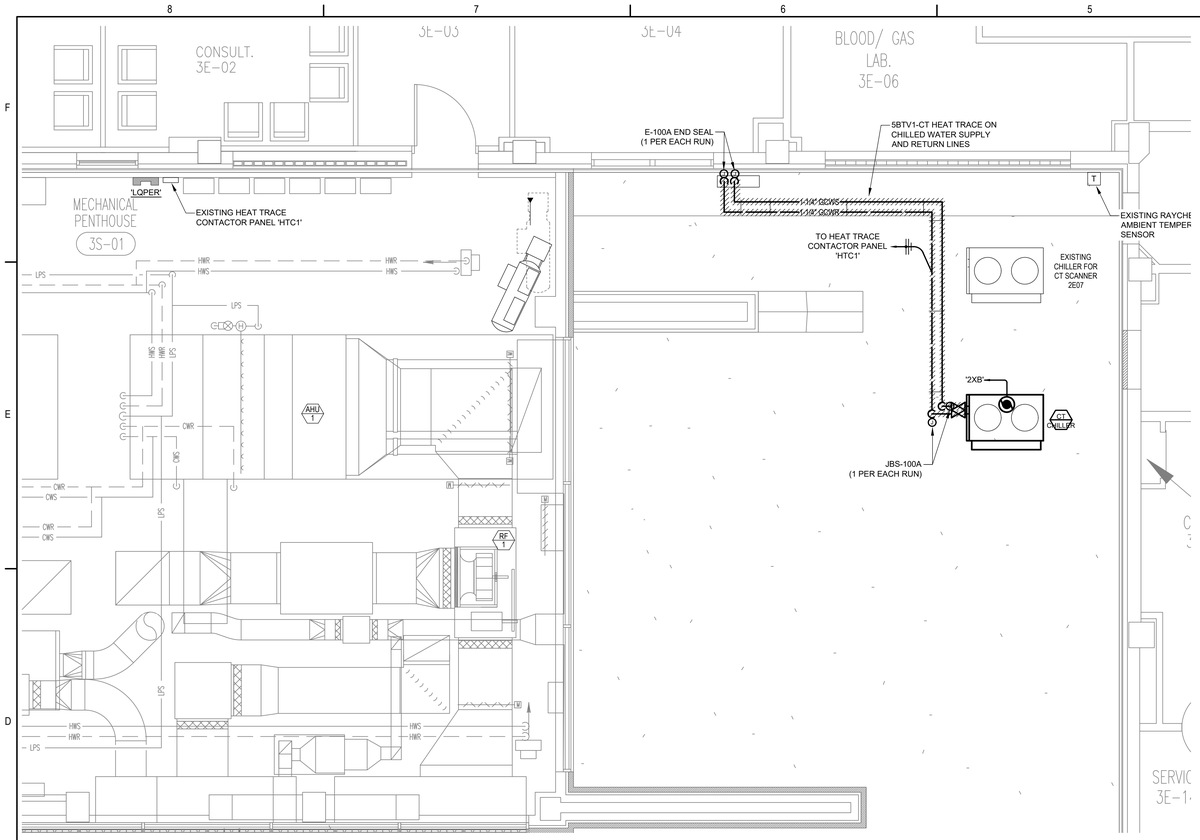
PARTIAL SECOND FLOOR PLAN - LIGHTING

E100

BID DOCUMENTS - 10/14/2021



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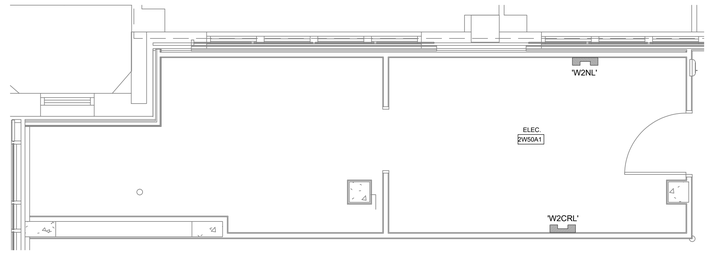
PARTIAL THIRD FLOOR PLAN - ELECTRICAL

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



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ENLARGED ELECTRICAL ROOM - 2W50A1

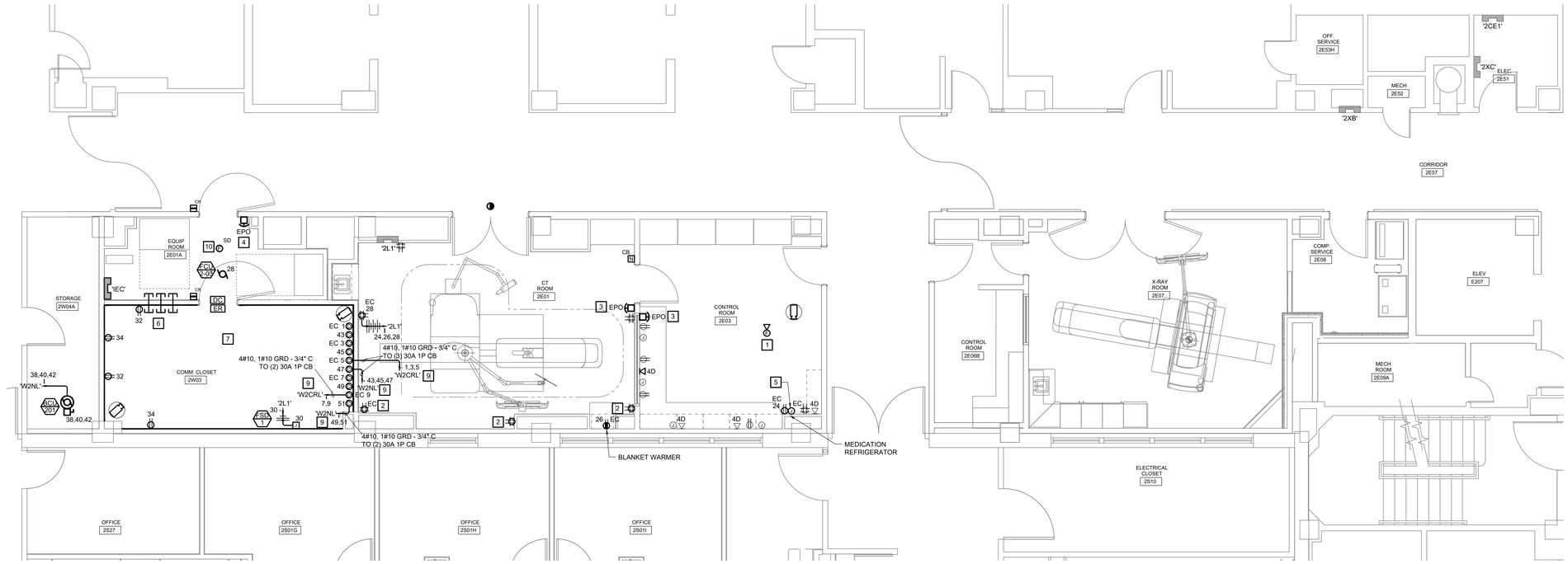
SCALE: 1/4" = 1'-0"

GENERAL NOTES:

1. REFER TO SIEMENS DRAWINGS FOR ADDITIONAL INFORMATION AND PROJECT REQUIREMENTS.
2. ALL BACKBOXES ON THIS SHEET SHALL BE LEAD LINED. REFER TO DETAIL ON SHEET E001.
3. REFER TO M-E INTERFACE ON SHEET E000 FOR MECHANICAL EQUIPMENT INFORMATION.
4. ALL VENDOR ITEMS SHALL BE IN EMT CONDUIT.

KEYED NOTES:

1. NEW LOCATION OF RELOCATED FIRE ALARM DEVICE, RE-CONNECT TO EXISTING FIRE ALARM 'SIGNAL CIRCUIT IN THIS AREA, EXTEND AS REQUIRED, MATCH EXISTING.
2. CONNECT NEW QUADRAPLEX RECEPTACLE TO EXISTING CIRCUITRY.
3. NEW EPO SWITCH IN EXISTING BACKBOX. PROVIDE WITH PROTECTIVE COVER, MECHANICAL LATCHING MECHANISM, AND TWO (2) NORMALLY CLOSED CONTACTS. EPO IS SEIMENS FURNISHED CONTRACTOR INSTALLED. REFER TO SHEET E300 FOR MORE INFORMATION.
4. NEW EPO SWITCH MOUNTED IN NEW BACKBOX. PROVIDE WITH PROTECTIVE COVER, MECHANICAL LATCHING MECHANISM, AND TWO (2) NORMALLY CLOSED CONTACTS. EPO IS SEIMENS FURNISHED CONTRACTOR INSTALLED. REFER TO SHEET E300 FOR MORE INFORMATION.
5. JUNCTION BOX FOR CONNECTION TO THE BUILDING AUTOMATION SYSTEM. PROVIDE 3/4"C TO ABOVE CEILING.
6. PROVIDE AN 'STI EZ' PATH RATED PATHWAY ABOVE DOOR.
7. FURNISH AND INSTALL 3/4" LIGHT COLOR PAINTED AC GRADE PLYWOOD TO PERIMETER WALLS UP TO 8'-0" AFF, DO NOT PAINT OVER FIRE RATING LABELS.
8. FURNISH AND INSTALL NEMA L5-30 RECEPTACLES.
9. FURNISH AND INSTALL NEW CIRCUIT BREAKER (TYPE AS INDICATED) IN EXISTING PANEL AS INDICATED.
10. SMOKE DETECTOR SHALL BE INSTALLED NO CLOSER THAN 36" TO ANY CEILING MOUNTED AIR DIFFUSERS.



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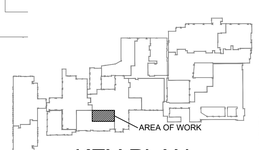
PARTIAL SECOND FLOOR PLAN - POWER AND SYSTEMS

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



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PARTIAL SECOND FLOOR PLAN - POWER AND SYSTEMS

BID DOCUMENTS - 10/14/2021

E200

ELECTRICAL LEGEND

SYM	SIZE	DESCRIPTION SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR	REMARKS
(A2)	AS REQUIRED	PULL BOX MOUNTED FLUSH WITH FINISHED WALL AT FLOOR LINE IN SHOWN LOCATION.	
(B)	AS REQUIRED	PULL BOX MOUNTED BELOW FLOOR SLAB WITH A 4"ø CONDUIT RUNNING THROUGH THE FLOOR SLAB ENDING FLUSH WITH THE FINISHED FLOOR IN SHOWN LOCATION.	GANTRY CABLE ACCESS
(B1)	AS REQUIRED	PULL BOX MOUNTED BELOW FLOOR SLAB WITH A 6"ø CONDUIT RUNNING THROUGH THE FLOOR SLAB ENDING FLUSH WITH THE FINISHED FLOOR IN SHOWN LOCATION.	GANTRY HOSE ACCESS
(B2)	---	DISCONNECT SWITCH MOUNTED NEAR OUTDOOR UNIT TO DISCONNECT POWER SUPPLY FROM INDOOR UNIT. SUPPLIED BY SIEMENS, INSTALLED BY CUSTOMER/CONTRACTOR IN ACCORDANCE WITH LOCAL CODES.	OUTDOOR UNIT-WATER/AIR SPLIT
(EPO)	---	EMERGENCY POWER OFF BUTTON. EXACT LOCATIONS TO BE DETERMINED BY CUSTOMER/CONTRACTOR.	SEE POWER SCHEDULE
(F1)	AS REQUIRED	PULL BOX MOUNTED ABOVE FINISHED CEILING.	CARE VISION MONITOR CEILING MOUNT
(IGS)	AS REQUIRED	PULL BOX MOUNTED BELOW FLOOR SLAB WITH A 4"ø CONDUIT RUNNING THROUGH THE FLOOR SLAB ENDING FLUSH WITH THE FINISHED FLOOR IN SHOWN LOCATION.	IMAGE CONSTRUCTION SYS.
(IN2)	AS REQUIRED	PULL BOX MOUNTED FLUSH WITH FINISHED WALL AT FLOORLINE. THERE SHOULD ALSO BE AN ETHERNET CONNECTION AND (2) OUTLETS LOCATED NEAR THE PULL BOX TO SUPPLY 110/220 VAC.	INJECTOR ELECTRONICS
(IN3)	AS REQUIRED	PULL BOX MOUNTED ABOVE FINISHED CEILING IN SHOWN LOCATION.	CEILING MTD. INJECTOR
(IRS)	AS REQUIRED	PULL BOX MOUNTED BELOW FLOOR SLAB WITH A 4"ø CONDUIT RUNNING THROUGH THE FLOOR SLAB ENDING FLUSH WITH THE FINISHED FLOOR IN SHOWN LOCATION.	IMAGE RECONSTRUCTION CAB.
(MP)	3-PHASE	MAIN PANEL WITH MAIN BREAKER. EXACT LOCATION DETERMINED BY CUSTOMER/CONTRACTOR.	SEE POWER SCHEDULE.
(PDC)	AS REQUIRED	PULL BOX MOUNTED BELOW FLOOR SLAB WITH A 5"ø CONDUIT RUNNING THROUGH THE FLOOR SLAB ENDING FLUSH WITH THE FINISHED FLOOR IN SHOWN LOCATION.	POWER DISTRIBUTION CAB.
(S)	AS REQUIRED	TWO PULL BOXES MOUNTED BELOW FLOOR SLAB WITH TWO 5"ø CONDUITS RUNNING THROUGH THE FLOOR SLAB ENDING FLUSH WITH THE FINISHED FLOOR IN SHOWN LOCATION.	HEAT EXCHANGER CABINET-WATER/AIR SPLIT
(S1)	AS REQUIRED	PULL BOX THAT IS PROVIDED ON THE OUTDOOR COOLING UNIT.	OUTDOOR COOLING UNIT-WATER/AIR SPLIT
(S2)	AS REQUIRED	PULL BOX MOUNTED ADJACENT TO OUTDOOR COOLING UNIT PROVIDED WITH FLEX-TITE CONDUIT FROM PULL BOX TO WATER HOSE CONNECTIONS ON OUTDOOR COOLING UNIT.	OUTDOOR COOLING UNIT-WATER/AIR SPLIT
(SPD)	AS REQUIRED	PULL BOX MOUNTED FLUSH WITH FINISHED WALL PROVIDED WITH 2"ø OPENING IN FINISHED COVER. THE SURGE PROTECTIVE DEVICE MUST BE LOCATED WITHIN 3 FEET CABLE RUN FROM CIRCUIT BREAKER, AT HEIGHT DETERMINED BY CUSTOMER/ CONTRACTOR.	SEE DETAIL S-101
(3D)	AS REQUIRED	PULL BOX MOUNTED ABOVE FINISHED CEILING TO COORDINATE WITH THE LOCATION OF THE 3D CAMERA.	3D CAMERA
(W2)	10" x 3 1/2"	ELECTRICAL DUCT RUN HORIZONTALLY ON THE WALL AT THE FLOOR LINE AND SURFACE MOUNTED ON FINISHED WALL AS SHOWN FOR EXCESS CABLE STORAGE.	RACEWAY
(W3)	10" x 3 1/2"	ELECTRICAL DUCT MOUNTED FLUSH WITH FINISHED WALL IN SHOWN LOCATION PROVIDED WITH FINISHED, REMOVABLE COVERS. TO EXTEND FROM FLOOR LINE TO END ABOVE FINISHED CEILING. DUCT TO BE DIVIDED INTO TWO SECTIONS WITH METAL DIVIDERS.	RACEWAY
(1)	3"ø	CONDUIT FROM POWER SOURCE TO "MP" SIZED BY ELECTRICAL ENGINEER OF RECORD.	SEE POWER SCHEDULE
(2)	3/4"ø	CONDUIT FROM "MP" TO "EPO" SIZED BY ELECTRICAL ENGINEER OF RECORD.	SEE POWER SCHEDULE
(3)	3/4"ø	CONDUIT FROM "EPO" TO "EPO" SIZED BY ELECTRICAL ENGINEER OF RECORD.	SEE POWER SCHEDULE
(4)	2"ø	CONDUIT FROM "EPO" TO "VD1" (PDC), SIZED BY ELECTRICAL ENGINEER OF RECORD.	SEE POWER SCHEDULE
(5)	3/4"ø	CONDUIT FROM "MP" TO "SPD" SIZED BY ELECTRICAL ENGINEER OF RECORD.	SEE POWER SCHEDULE
(6)	2"ø	CONDUIT FROM "MP" TO "VD1" (PDC), SIZED BY ELECTRICAL ENGINEER OF RECORD.	FOR PDCA PART. SEE POWER SCHEDULE
(7)	2"ø	CONDUIT FROM "MP" TO "VD1" (PDC), SIZED BY ELECTRICAL ENGINEER OF RECORD.	FOR PDCB PART. SEE POWER SCHEDULE
(8)	3/4"ø	CONDUIT FROM "VD1" (PDC) TO "WARNING LIGHT".	
(9)	3/4"ø	CONDUIT FROM "VD1" (PDC) TO "DS".	
(10)	2-1/2"ø	CONDUIT FROM "PDC" TO "ICS".	MAX. CONDUIT LENGTH 76'-0"
(11)	2"ø	CONDUIT FROM "PDC" TO "IRS".	MAX. CONDUIT LENGTH 76'-0"
(12)	(3) 3"ø	CONDUITS FROM "PDC" TO "B" WITH A MINIMUM 6" BENDING RADIUS.	MAX. CONDUIT LENGTH 76'-0"
(13)	3"ø	CONDUIT FROM "B" TO "ICS".	MAX. CONDUIT LENGTH 76'-0"
(14)	1-1/2"ø	CONDUIT FROM "B" TO "IRS".	MAX. CONDUIT LENGTH 76'-0"
(15)	(2) 3"ø	CONDUITS, IF REQUIRED PER LOCAL CODE, FROM "S" TO "B1". TO CONTAIN SIEMENS COOLING WATER HOSES WITH A MINIMUM 6" BENDING RADIUS.	MAX. CONDUIT LENGTH 90'-0" SEE SHEET M-101
(16)	1"ø	CONDUIT, IF REQUIRED PER LOCAL CODE, FOR CONDENSATION HOSE FROM "B1" TO SELECTED DRAIN TYPE. THE MINIMUM BENDING RADIUS IS 1 3/16".	MAX. CONDUIT LENGTH 32'-9"
(17)	2-1/2"ø	CONDUIT FROM "IN2" TO "IN3".	MAX. CONDUIT LENGTH 75'-0"
(18)	2-1/2"ø	CONDUIT FROM "ICS" TO "F1".	MAX. CONDUIT LENGTH 104'-0"
(19)	2-1/2"ø	CONDUIT FROM "VD1" (PDC) TO "F1".	MAX. CONDUIT LENGTH 58'-0"
(20)	3/4"ø	CONDUIT FROM "MP" TO "A2" (S), SIZED BY ELECTRICAL ENGINEER OF RECORD.	SEE POWER SCHEDULE
(21)	1-1/2"ø	CONDUIT FROM "A2" (S) TO "DC" AND "DC" TO "S1".	MAX. CONDUIT LENGTH 131'-0"
(22)	1-1/2"ø	CONDUIT FROM "S" TO "B".	MAX. CONDUIT LENGTH 98'-0"
(23)	(2) 3"ø	CONDUITS, IF REQUIRED PER LOCAL CODE, FROM "S" TO "S2". THE MINIMUM BENDING RADIUS IS 12.5".	MAX. CONDUIT LENGTH 131'-0" SEE SHEET M-101
(24)	2-1/2"ø	CONDUIT FROM "VD1" (PDC) TO "3DC".	MAX. CONDUIT LENGTH 78'-0"

CONTRACTOR SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
POWER SOURCE	1	MP	4#250 MCM, 1#4 GRD	SEE POWER SCHEDULE
MP	2	EPO	4/C #12 AWG CABLE	SEE POWER SCHEDULE
EPO	3	EPO	4/C #12 AWG CABLE	SEE POWER SCHEDULE
EPO	4,VD1	PDC	4#1 AWG, 1#6 GRD	SEE POWER SCHEDULE
MP	5	SPD	4#10 AWG, 1#10 GRD	SEE POWER SCHEDULE
MP	6,VD1	PDC	4#1 AWG, 1#6 GRD	SEE POWER SCHEDULE
MP	7,VD1	PDC	4#1 AWG, 1#6 GRD	SEE POWER SCHEDULE
PDC	VD1,8	WARNING LIGHT	2#12 AWG, 1#12 GRD	
PDC	VD1,9	DS	2#12 AWG, 1#12 GRD	
MP	20,A2	S	3#10 AWG, 1#10 GRD	SEE POWER SCHEDULE

SIEMENS SUPPLIED CABLES

FROM	VIA	TO	DESCRIPTION	REMARKS
PDC	10	ICS	POWER CABLE; W8:300V, W34:600V DATA CABLE; W61:CAT5 ,W63:CAT 5	MAXIMUM LENGTH 82'-0"
PDC	11	IRS	POWER CABLE; W7:300V, W33:600V DATA CABLE; W57:CAT5, W65:CAT5	MAXIMUM LENGTH 82'-0"
PDC	12	B	POWER CABLE; W1:600V, W2:600V, W3:300V, W4:2000V, W9:300V, W54:300V PE CABLE & CONTROL CABLE; W30:600V, W59:600V DATA CABLE; W53:CAT5, W74:FIBER	MAXIMUM LENGTH 82'-0"
B	13	ICS	CONTROL CABLE; W51:300V	MAXIMUM LENGTH 82'-0"
B	14	IRS	DATA CABLE; W70:FIBER, W78:FIBER, W98:FIBER	MAXIMUM LENGTH 82'-0"
S	15	B1	WATER HOSES	MAXIMUM LENGTH 96'-0"
B1	16	DRAIN	CONDENSATION HOSE	MAXIMUM LENGTH 32'-9"
IN2	17	IN3	INJECTOR CABLE	MAXIMUM LENGTH 75'-0"
ICS	18	F1	CONTROL CABLE	MAXIMUM LENGTH 104'-0"
PDC	VD1,19	F1	POWER CABLE	MAXIMUM LENGTH 68'-0"
S	A2,21,DC,21	S1	POWER CABLE AND CONTROL CABLE; W820:600V	MAXIMUM LENGTH 131'-0" SUPPLIED BY SIEMENS, INSTALLED BY CUSTOMER/CONTRACTOR
S	22	B	DATA CABLE; W821:30V	MAXIMUM LENGTH 98'-0"
S	23	S2	WATER HOSES	MAXIMUM LENGTH 131'-0"
PDC	VD1,24	3DC	POWER CABLE:230V, GRD, ETH:24V	MAXIMUM LENGTH 88'-0"

CONDUIT LENGTH CALCULATIONS

IF SITE SPECIFIC CONDITIONS EXCEED THE FOLLOWING ASSUMED VALUES THEN ADDITIONAL LENGTH MUST BE SUBTRACTED BY THE ELECTRICAL CONTRACTOR FROM THE MAXIMUM CONDUIT LENGTHS LISTED.

IF DUCT LOCATIONS ARE ALTERED FROM THE SHOWN LAYOUT IT IS THE ELECTRICAL CONTRACTORS RESPONSIBILITY TO RECALCULATE THE MAXIMUM CONDUIT LENGTHS.

ASSUMED VALUES USED IN CALCULATING STATED MAXIMUM CONDUIT LENGTHS:
VERTICAL DUCTS - 10'-0"
FLOOR PENETRATIONS - 3'-0"

GROUNDING NOTES

EQUIPMENT GROUND CONDUCTOR TO COMPLY WITH THE FOLLOWING:

1) SIZE GROUNDING WIRE TO SIEMENS EQUIPMENT PER POWER SCHEDULE REQUIREMENTS.
2) DERIVED FROM THE ELECTRICAL SERVICE, TRANSFORMER OR MAIN DISTRIBUTION PANEL FEEDING THE SIEMENS EQUIPMENT.
3) RUN IN THE SAME CONDUIT, TROUGH OR RACEWAY AS THE PHASE CONDUCTORS.
4) CONTINUOUS, WITH NO BREAKS OR USE OF CONDUIT, CHASSIS OR EARTH AS THE SOLE GROUNDING PATH.
5) BONDED TO CHASSIS AND/OR CONDUIT IN ACCORDANCE WITH THE NEC REQUIREMENTS.
6) MINIMIZE CONNECTIONS OR TERMINALS TO ENSURE CONTINUITY OVER THE LIFE OF THE INSTALLATION.
7) AS A NORM, THERE SHOULD NOT BE ANY CURRENT PRESENCE ON THE GROUND CONDUCTOR, BUT IT IS ACCEPTABLE TO HAVE <500mA DURING OPERATION OF THE IMAGING EQUIPMENT.

POWER QUALITY

POOR POWER WILL ALTER EQUIPMENT PERFORMANCE

IT IS IN THE CUSTOMER'S INTEREST THAT THE ELECTRICAL CONTRACTOR BE RESPONSIBLE FOR TESTING AND VERIFYING THAT THE EQUIPMENT POWER SUPPLY COMPLIES WITH THE SIEMENS SPECIFICATIONS.

POWER REQUIREMENTS

SYSTEM	SUPPLY VOLTAGE (VOLTS)	POWER CONSUMPTION (kVA)	SUPPLY IMPEDANCE (mΩ)	MAIN CIRCUIT BREAKER (AMPS)
SOMATOM FORCE	3ø 480±10%	SEE BELOW	≤ 105	250

POWER CONSUMPTION (WITH OPTIONAL WATER/AIR SPLIT COOLING SYSTEM)
CT OPERATING FOR 2 SEC - 350 kVA
CT OPERATING AT 35 SEC - 130 kVA
CT OPERATING AT 100 SEC - 87 kVA
CT SYSTEM ON (STAND-BY) - 9 kVA
CT SYSTEM ON (COMP ON) - 4 kVA
CT GANTRY OFF (EVA ON) - 0 kVA
COOLING SYSTEM - 10kVA

IF AN ON-SITE TRANSFORMER IS REQUIRED TO OBTAIN CT OPERATING VOLTAGE, IT MUST BE OF SUFFICIENT CAPACITY AND CHARACTERISTICS TO MAINTAIN SUPPLY VOLTAGE AND IMPEDENCE REQUIREMENTS (TRANSFORMER AND CONDUCTORS).

ALL STANDARD COMPONENTS AND ADD-ONS ARE SUPPLIED VIA THE POWER DISTRIBUTION SYSTEM.

DO NOT CONNECT NON-SIEMENS COMPONENTS SUCH AS LASER CAMERAS OR FILM PROCESSORS TO THE SIEMENS POWER DISTRIBUTION SYSTEM (PDS).

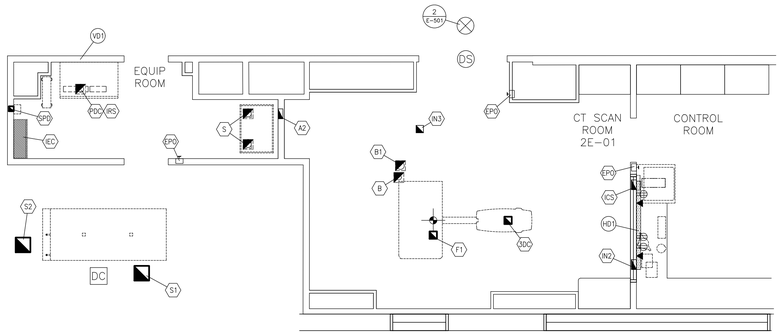
THE EXAMINATION ROOM SHOULD BE EQUIPPED WITH AT LEAST ONE EMERGENCY POWER OFF (PANIC) BUTTON.

TO ENSURE SATISFACTORY SYSTEM OPERATION THE PDS MUST HAVE A DEDICATED PROTECTIVE GROUND CONDUCTOR.

SYMBOLS

ALL MAY NOT APPLY

	MAIN PANEL OR ENCLOSURE BY CUSTOMER/CONTRACTOR
	OPENING IN RACEWAY OR TRENCHDUCT
	PULLBOX IN (FLOOR/WALL/CEILING)
	OPENING IN ACCESS FLOORING
(X)	WARNING LIGHT (X-RAY ON)
(DS)	DOOR SAFETY SWITCH
EPO	(EPO) EMERGENCY POWER OFF BUTTON
	TRENCHDUCT
	CEILING DUCT
	UNDER FLOOR DUCT
	SURFACE DUCT
	VERTICAL DUCT
	ETHERNET CONNECTION TO CUSTOMER'S INFORMATION SYSTEMS NETWORK (VERIFY WITH SMS PROJECT MANAGER).
	110 VOLT, 20 AMP, HOSPITAL GRADE DUPLEX OUTLET UNLESS OTHERWISE STATED.
	110 VOLT, 20 AMP, HOSPITAL GRADE QUAD OUTLET
L6-30R	SPECIAL PURPOSE RECEPTACLE



N

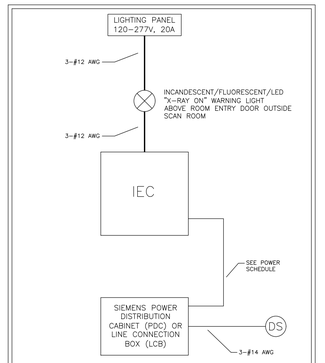
LEVEL 02 - ELECTRICAL RACEWAY PLAN

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

0 1" 2" 4" (1/4"=1')

GENERAL NOTE

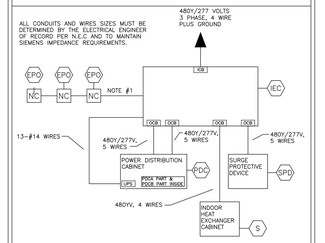
DETAILS FROM SIEMENS DRAWINGS. REFER TO SIEMENS DRAWINGS FOR ADDITIONAL REQUIREMENTS.



X-RAY WARNING LIGHTS AND DOOR SWITCH SCHEMATIC

AUXILIARY WIRING WITH IEC | SCALE: NONE

POWER SCHEDULE



ITEM	QTY	DESCRIPTION
IEC	1	INTEGRATED ELECTRICAL CABINET PROVIDED BY SIEMENS, INSTALLED SURFACE MOUNTED BY ELECTRICAL CONTRACTOR. SEE INSTALLATION MANUAL FOR COMPONENT DETAIL.
		IEC INPUT CIRCUIT BREAKER (ICB) AMPS: SEE POWER REQUIREMENTS
		IEC OUPUT CIRCUIT BREAKER FOR PDC FOR PDCA PART (OCB) AMPS: 125
		IEC OUPUT CIRCUIT BREAKER FOR PDC FOR PDCB PART (OCB) AMPS: 125
		IEC OUPUT CIRCUIT BREAKER FOR S (OCB) AMPS: 30
		IEC OUPUT CIRCUIT BREAKER FOR SPD (OCB) AMPS: 30

PHASE AND NEUTRAL WIRES TO BE THE SAME SIZE, GROUND PER NEC. UNLESS OTHERWISE NOTED ALL BREAKERS WILL BE 80% RATED. MAIN AND FEEDER CIRCUIT BREAKERS SHALL BE SELECTIVELY COORDINATED ABOVE 0.10 SECONDS IN ACCORDANCE WITH NEC ARTICLES 517.3(C)(G), 700.28 AND 701.27.

EPO	VARIES	ALL EPOs SUPPLIED BY SIEMENS WITH THE INTEGRATED ELECTRICAL CABINET. EPOs INSTALLED AND WIRED BY CUSTOMER/CONTRACTOR. NOTE 1 - EPO CONTACTS TO BE NORMALLY CLOSED, WIRED IN SERIES, CONNECTED TO IEC CABINET ONLY WITH 5-#14 AWG. THE EPOs MUST BE INSTALLED BY A QUALIFIED ELECTRICAL CONTRACTOR ACCORDING TO NATIONAL ELECTRICAL CODE, STATE AND LOCAL REGULATIONS. THE CUSTOMER IS SOLELY RESPONSIBLE FOR THE IMPLEMENTATION OF THE EPOs AND THEIR ASSOCIATED CIRCUITS AND MUST MAKE THE FINAL DETERMINATION CONSIDERING ALL SITE CONDITIONS AND REGULATORY FACTORS.

UNLESS OTHERWISE NOTED, ALL ITEMS LISTED IN THIS SCHEDULE SHALL BE SUPPLIED AND INSTALLED BY CUSTOMER/CONTRACTOR.

REV 5

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STATE OF MISSOURI
AUSTIN P. STRIEKER
NUMBER PE-2014032649
PROFESSIONAL ENGINEER

AUSTIN P. STRIEKER
MO #PE-2014032649

REVISIONS

NO	DESCRIPTION	DATE

DATE: 10/14/2021
PROJECT #: 071631.000
DRAWN BY: SJF
CHECKED BY: ESW

ELECTRICAL RACEWAY PLANS

E300

BID DOCUMENTS - 10/14/2021

SHEET IS PLOTTED TO SCALE IF ADJACENT LINE MEASURES 1 INCH