RELEASED FOR CONSTRUCTION
Development Services Department
Lee's Summit, Missouri
11/15/2023

*RENDERING FOR ILLUSTRATIVE PURPOSES ONLY

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1950 SE Shenandoah Drive
Lee's Summit, MO 64063

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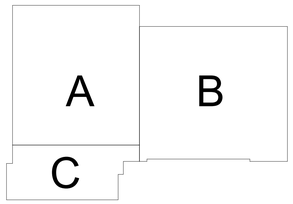
ABBREVIATIONS

AC.	ACOUSTIC/ACOUSTICAL
ADD.	ADDENDUM
ADD'N.	ADDITION
ABC	AGGREGATE BASE COURSE
AFF	ABOVE FINISH FLOOR
AGG.	AGGREGATE
A/C	AIR CONDITIONING
AL.	ALUMINUM
ALT.	ALTERNATE
A.B.	ANCHOR BOLT
&	AND
ARCH.	ARCHITECT
ASP.	ASPHALT
@	AT
ACT	ACOUSTIC CEILING TILE/PANEL
∠	ANGLE
BLKG.	BLOCKING
BSMT.	BASEMENT
BM.	BEAM
B.M.	BENCHMARK
BD.	BOARD
B.O.	BOTTOM OF
BLDG.	BUILDING
CABT.	CABINET
C.I.P.	CAST IN PLACE
C.B.	CATCH BASIN
CLG.	CEILING
CEM.	CEMENT/CEMENTITIOUS
CG.	CENTIGRAM
CM	CENTIMETER
CL.	CENTER LINE
CER.	CERAMIC
C.T.	CERAMIC TILE
CHAN.	CHANNEL
C	CHANNEL
CLR.	CLEAR
C.O.	CLEAN OUT
CLOS.	CLOSET
COL.	COLUMN
CONC.	CONCRETE
CONN.	CONNECTION
CONST.	CONSTRUCTION
C.J.	CONTROL JOINT
	CONSTRUCTION JOINT
CONT.	CONTINUOUS
CONTR.	CONTRACTOR
CORRG.	CORRUGATED
CTR.	COUNTER
CTSK.	COUNTERSUNK
C.M.U.	CONCRETE MASONRY UNIT
D.P.	DAMP PROOFING
DB.	DECIBEL
DIAG.	DIAGONAL
DIAM.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DWL.	DOWEL
DN.	DOWN
D.S.	DOWNSPOUT
DWG.	DRAWING
EA.	EACH
ELEC	ELECTRIC
E.W.C.	ELECTRIC WATER COOLER
EL.	ELEVATION
ELEV.	ELEVATOR
EQ.	EQUAL
EQUIP.	EQUIPMENT
EXH.	EXHAUST
EXPAN.	EXPANSION
E.J.	EXPANSION JOINT
EXIST.	EXISTING
EXT.	EXTERIOR
FT.	FEET / FOOT
FIN.	FINISH
FIXT.	FIXTURE
FL.	FLASHING
FLR.	FLOOR
F.D.	FLOOR DRAIN
FLOR.	FLUORESCENT
FTG.	FOOTING
FND.	FOUNDATION
FR.	FRAME
F.H.C.	FIRE HOSE CAB.
F.V.	FIELD VERIFY
GA.	GAUGE
GL.	GLASS / GLAZING
GD.	GRADE
G	GRAM
GRL.	GRILLE
GRD.	GRID
GND.	GROUND
G.S.	GALVANIZED STEEL
GYP.	GYPSUM
GWB/G.B.	GYPSUM BOARD
H.R.	HAND RAIL
HDN.	HARDENER
HDW.	HARDWARE
HDWD.	HARDWOOD
HTR.	HEATER
HT.	HEIGHT
H.P.	HIGH POINT
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
H.B.	HOSE BIB
H.W.	HOT WATER
IN.	INCH / INCHES
I.D.	INSIDE DIAMETER
INSUL.	INSULATION
INT.	INTERIOR
INV.	INVERT
JAN.	JANITOR
JT.	JOINT
JST.	JOIST
K.P.	KICK PLATE
LAM.	LAMINATED
LB.	POUND
LDG.	LANDING
LTH.	LATH
LAV.	LAVATORY
LG.	LENGTH
LOC.	LOCATION
LT.	LIGHT
L.W.C.	LIGHT WEIGHT CONCRETE
LVR.	LOUVER
LOC.	LOCATION
M.O.	MASONRY OPENING
MAT'L..	MATERIAL
MFR.	MANUFACTURER
MB.	MARKER BOARD
MAX.	MAXIMUM
MECH.	MECHANICAL
MTL.	METAL
M.L.	METAL LATH
M.	METER
MIN.	MINIMUM
MLDG.	MOLDING
MULL.	MULLION
N.G.	NATURAL GRADE
NOM.	NOMINAL
N.I.C.	NOT IN CONTRACT
N.T.S.	NOT TO SCALE
NO. / #	NUMBER
OBS.	OBSCURE
O.C.	ON CENTER
OPN'G.	OPENING
O.A.	OVERALL
O.D.	OUTSIDE DIAMETER
O.F.S.	OVERFLOW SCUPPER
O.F.D.	OVERFLOW DRAIN
O.H.D.	OVERHEAD DOOR
PTD.	PAINTED
PG.	PAGE
PLAM.	PLASTIC LAMINATE
PR.	PAIR
PNL.	PANEL
PTN.	PARTITION
¢	PENNY
PL.	PLATE
PLBG.	PLUMBING
PLYWD.	PLYWOOD
PT.	POINT
P.S.I.	POUNDS PER SQ. IN.
P.S.F.	POUNDS PER SQ. FT.
P.C.	PRECAST
P.L.	PROPERTY LINE
R.	RISER, RISERS
RAD.	RADIUS
R.D.	ROOF DRAIN
RB.	RESILIENT BASE
RE.	REFER TO
REG.	REGISTER
REQ'D.	REQUIRED
REV.	REVISION
RFG.	ROOFING
RGH.	ROUGH
RM.	ROOM
RND.	ROUND
R.O.	ROUGH OPENING
SCHED.	SCHEDULE
S.C.	SEALED CONCRETE
SCR.	SCREW
SECT.	SECTION
SEL.	SELECT
SHG.	SHEATHING
SHT.	SHEET
SDG.	SIDING
SIM.	SIMILAR
SLDG.	SLIDING
SM.	SMOOTH
SPEC.	SPECIFICATION
SQ.	SQUARE
ST.	STAINED
STD.	STANDARD
S.S. / ST.STL.	STAINLESS STEEL
STRUC.	STRUCTURE
SUSP.	SUSPENDED
SW.BD.	SWITCHBOARD
SYS.	SYSTEM
T.	TREAD
T.C.	TOP OF CURB
T.G.	TEMPERED GLASS
T.O.	TOP OF
T.S.D.	TOP OF STEEL DECK
T.W.	TEACHERS WARDROBE
TYP.	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
V.	VENT
VERT.	VERTICAL
V.G.	VERTICAL GRAIN
VEST.	VESTIBULE
V.C.T.	VINYL COMPOSITION TILE
VCP	VITREOUS CLAY PIPE
W.W.M.	WELDED WIRE MESH
W.C.	WATER CLOSET
W.H.	WATER HEATER
W.F.	WIDE FLANGE
W/	WITH
W/O	WITHOUT
WD.	WOOD
WDW.	WINDOW
W.W.	WINDOW WALL

LOCATION PLAN

KEY PLAN



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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	RN
Checked By	Checker

Revision

Number	Date	Description
1	2/14/23	Addendum #1

A0.1

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COVER SHEET

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OCCUPANT LOAD

NUMBER	ROOM NAME	AREA	OCC LOAD FACTOR	OCCUPANTS
100	WAITING	1004 SF	7	144
100B	REFRESHMENT	79 SF	7	12
102	RECEPTION	273 SF	150	2
103	CHECK-IN	58 SF	150	1
104	CHECK-IN	65 SF	150	1
105	ADMINISTRATION	410 SF	150	3
108	COMMS	75 SF	300	1
109	EXAM	105 SF	100	2
111	CONSULT	81 SF	100	1
115	PR 2	105 SF	100	2
116	PR 1	99 SF	100	1
117	PR 3	105 SF	100	2
118	NURSE STATION	239 SF	100	3
119	ALCOVE	29 SF	100	1
121	PR 4 - 23 HR	121 SF	100	2
122	MEDS.	85 SF	100	1
124	PR 7	99 SF	100	1
125	PR 5 - 23 HR	121 SF	100	2
126	PR 8	99 SF	100	1
127	PR 6	105 SF	100	2
128	PR 9	99 SF	100	1
129	OFFICE 4	123 SF	150	1
131	NOURISH.	48 SF	100	1
132	PR 1	102 SF	100	2
133	PR 4	99 SF	100	1
134	PR 2	97 SF	100	1
135	CLEAN	119 SF	100	2
136	PR 3	97 SF	100	1
137	STORAGE	174 SF	300	1
138	PR 5	97 SF	100	1
142	PR 6	97 SF	100	1
144	PR 7	97 SF	100	1
146	PR 8	97 SF	100	1
151	DICTATION	23 SF	100	1
152	GI PROCEDURE	340 SF	100	4
153	SCOPE DECON.	172 SF	100	2
154	SCOPE STORAGE	73 SF	300	1
155	SCOPE REPROCESSING	111 SF	100	2
156	GI PROCEDURE	304 SF	100	4

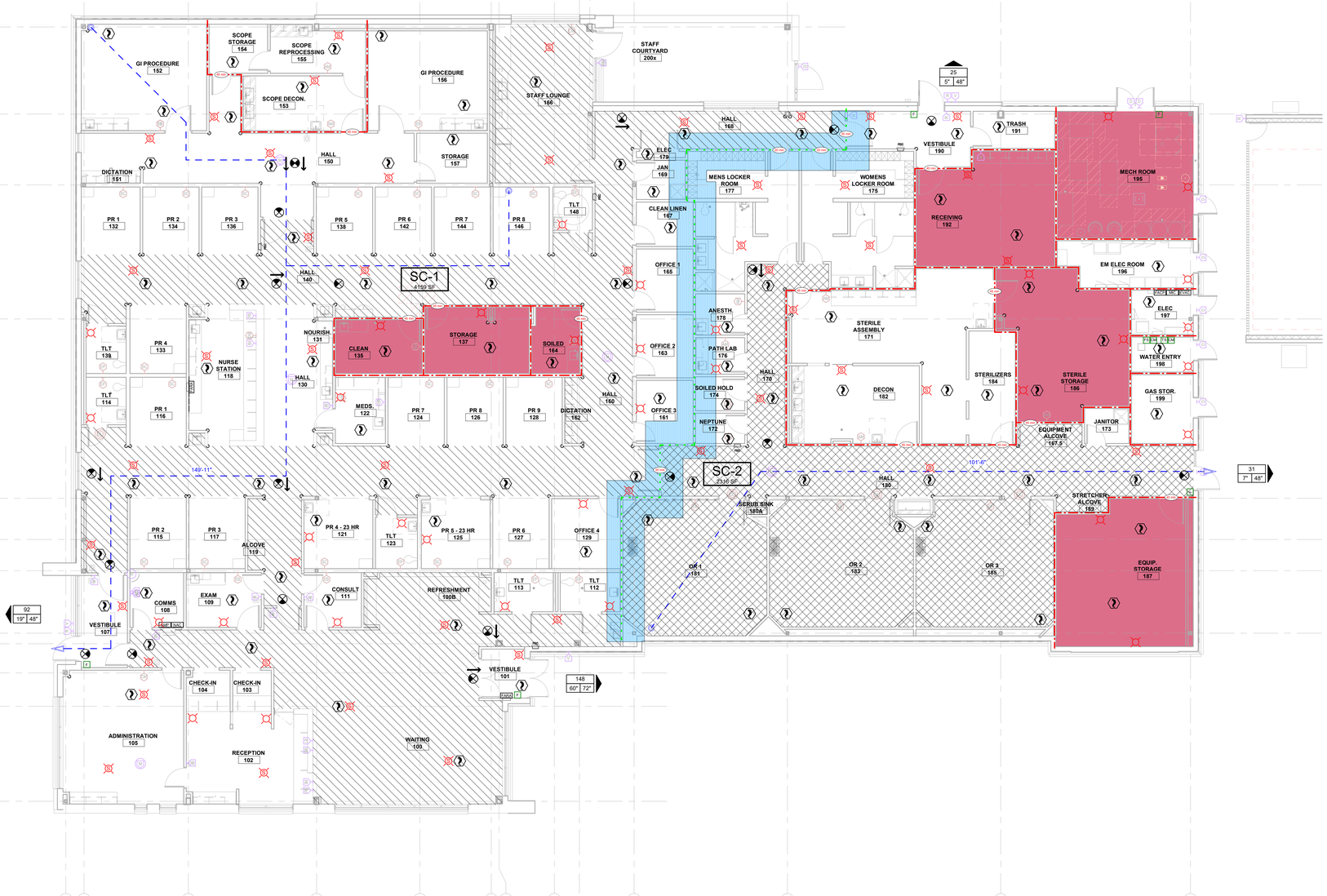
OCCUPANT LOAD

NUMBER	ROOM NAME	AREA	OCC LOAD FACTOR	OCCUPANTS
157	STORAGE	90 SF	300	1
161	OFFICE 3	92 SF	150	1
162	DICTATION	30 SF	100	1
163	OFFICE 2	92 SF	150	1
164	SOILED	80 SF	300	1
165	OFFICE 1	92 SF	150	1
166	STAFF LOUNGE	397 SF	150	3
167	CLEAN LINEN	64 SF	300	1
167.5	EQUIPMENT ALCOVE	36 SF	100	1
169	JAN	49 SF	300	1
171	STERILE ASSEMBLY	489 SF	100	5
172	NEPTUNE	38 SF	300	1
173	JANITOR	40 SF	300	1
174	SOILED HOLD	43 SF	300	1
175	WOMENS LOCKER ROOM	356 SF	50	8
176	PATH LAB	46 SF	100	1
177	MENS LOCKER ROOM	323 SF	50	7
178	ANESTH.	52 SF	100	1
179	ELEC.	8 SF	300	1
180A	SCRUB SINK	8 SF	100	1
180B	SCRUB SINK	18 SF	100	1
181	OR 1	473 SF	100	5
182	DECON	252 SF	100	3
183	OR 2	445 SF	100	5
184	STERILIZERS	135 SF	300	1
185	OR 3	428 SF	100	5
186	STERILE STORAGE	418 SF	300	2
187	EQUIP. STORAGE	468 SF	300	2
189	STRETCHER ALCOVE	13 SF	100	1
191	TRASH	76 SF	300	1
192	RECEIVING	380 SF	300	2
195	MECH ROOM	441 SF	300	2
196	EM ELEC ROOM	151 SF	300	1
197	ELEC	79 SF	300	1
198	WATER ENTRY	55 SF	300	1
199	GAS STOR.	109 SF	300	1
Grand total				287

AREA OF REFUGE CALCULATION

SMOKE COMPARTMENT #1		SMOKE COMPARTMENT #2	
22 PATIENTS X 30 SF= (TOTAL REQUIRED AREA)		15 PATIENTS X 30 SF= (TOTAL REQUIRED AREA)	
"DEFEND IN PLACE" (REMAIN IN SC#1) AREA PROVIDED FOR SC#1	4,159 SF	"DEFEND IN PLACE" (REMAIN IN SC#2) AREA PROVIDED FOR SC#2	2,316 SF
MOVE COMPARTMENTS, (TO COMPARTMENT #2) AREA PROVIDED FOR SC#2	2,316 SF	MOVE COMPARTMENTS, (TO COMPARTMENT #1) AREA PROVIDED FOR SC#1	4,159 SF

*PER 2018 IBC, SECTION 422.3.2



A1 CODE FOOTPRINT PLAN
1/8" = 1'-0"

NORTH

*THIS DRAWING IS INTENDED TO BE PRINTED IN COLOR. USE BLACK AND WHITE COPIES AT YOUR OWN RISK.

CODE SUMMARY

PROJECT CONSTRUCTION PURPOSE: New Construction of an Ambulatory Surgery Center

OWNER:
Hammes Partners Headquarters
1400 N. Water Street, Suite 500
Milwaukee, Wisconsin 53202

DESIGNER:
ACI Boland Architects
1710 Wyandotte St.
Kansas City, MO 64108
Phone: (816) 763-9600

LOCAL AUTHORITY:
RESPONDING FIRE SERVICE: Lee's Summit Fire Department
LOCAL BUILDING INSPECTION: Lee's Summit, Missouri - Codes Administration Department

CODE INFORMATION:
2018 INTERNATIONAL BUILDING CODE
2018 INTERNATIONAL PLUMBING CODE
2018 INTERNATIONAL MECHANICAL CODE
2018 INTERNATIONAL FIRE CODE
2018 INTERNATIONAL RESIDENTIAL CODE
2018 INTERNATIONAL FUEL GAS CODE
2017 NATIONAL ELECTRIC CODE (NFPA 70)
2022 MISSOURI 19 CSR 30-30

2010 ADA STANDARDS FOR ACCESSIBLE DESIGN / AMERICANS WITH DISABILITIES ACT OF 1990
2009 ICC/ANSI A11.71

NOTE: IF CODE REQUIREMENTS OVERLAP, THE MOST STRINGENT SHALL APPLY.

TYPE OF CONSTRUCTION: IBC II (000) NFPA

Allowable Area

2018 IBC Table 506.2	Allowable	Actual
Allowable Area (Type II-B Sprinklered One Story)	92,000	+/- 17,920

Allowable Height

2018 IBC Table 504.3	Allowable	Actual
Building Height (Type II-B Sprinklered)	75'	30'-9"
2012 NFPA 5000 Table 7.4.1	Allowable	Actual
Building Height (Type II-B Sprinklered)	75'	30'-9"

OCCUPANCY GROUP: B (Ambulatory Care Facility) — 3

OCCUPANT LOAD:
TOTAL SQUARE FOOTAGE: SF / = 17,920 SF
TOTAL NUMBER OF OCCUPANTS = 284

DEAD END CORRIDOR LENGTH LIMIT: 50'

EXIT ACCESS TRAVEL DISTANCE: 300' MAXIMUM

COMMON PATH OF TRAVEL: 149'-11"

AREA OF CONSTRUCTION:
+/- 17,920 SF

REQUIRED FIRE RESISTANCE RATINGS (IN HOURS) PER NFPA 101 A.8.2.1.2:

EXTERIOR BEARING WALLS	0 HR
INTERIOR BEARING WALLS	0 HR
PRIMARY STRUCTURAL FRAME	0 HR
FLOOR CONSTRUCTION	0 HR
ROOF CONSTRUCTION	0 HR
INTERIOR NON-BEARING WALLS	0 HR

ACTIVE FIRE SAFETY FEATURES:
- FIRE ALARM SYSTEM - THE FIRE ALARM SYSTEM IS SPECIFIED AS AN ADDRESSABLE TYPE SYSTEM. THE DEVICE TYPE AND LOCATIONS ARE PER THE APPLICABLE CODES AS WELL AS ADA REQUIREMENTS.

- SMOKE CONTROL SYSTEM - ALL DUCTWORK PENETRATING SMOKE RATED WALLS WILL HAVE A SMOKE OR COMBINATION FIRE/SMOKE DAMPER AS INDICATED ON CONSTRUCTION DOCUMENTS. THESE DAMPERS WILL CLOSE UPON DETECTION OF SMOKE BY THE AREA SMOKE DETECTORS OR DUCT SMOKE DETECTORS IN THE AIR HANDLING UNITS.

- FIRE SPRINKLER SYSTEM - SPECIFIED TO BE PER NFPA 13. THE SPRINKLER HEADS ARE SPECIFIED TO BE QUICK RESPONSE TYPE.

- EMERGENCY LIGHTING AND POWER - EMERGENCY LIGHTING, LIFE SAFETY AND CRITICAL LOADS WILL RECEIVE POWER FROM A BACKUP GENERATOR LOCATED OUTSIDE THE MAIN ELECTRICAL ROOM.

- ILLUMINATED EXIT SIGNS

PASSIVE FIRE SAFETY FEATURES:

- SMOKE COMPARTMENTS NO GREATER THAN 22,500 SF

CODE FOOTPRINT LEGEND

PARTITION TYPES

- 0 HR SMOKE PARTITION (SMOKE RESISTIVE)
- 1 HR SMOKE BARRIER
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR FIRE SMOKE BARRIER
- 3 HR FIRE BARRIER

AREA DESIGNATIONS

- CORRIDOR
- EXIT ENCLOSURE
- HAZARDOUS ROOM
- SHAFT

BOUNDARY DESIGNATIONS

- SMOKE COMPARTMENT 1 HR SMOKE BARRIER
- REFUGE AREA - SMOKE COMPARTMENT #1
- NOT IN ARCHITECTURAL SCOPE
- REFUGE AREA - SMOKE COMPARTMENT #2

SYMBOLS

- SC-1 / SIZE SF — SMOKE COMPARTMENT DESIGNATION
- S1 / NON-SLEEP / SIZE SF — SUITE DESIGNATION
- FIRE EXIT
- 50 / 12" / 36" — OCCUPANT LOAD / EXIT WIDTH PROVIDED / EXIT WIDTH REQUIRED
- NEW FIRE EXTINGUISHER CABINET
- EXISTING FIRE EXTINGUISHER CABINET
- EXIT SIGN
- FIRE DOOR RATING
- 124' — TRAVEL DISTANCE
- FIRE/SMOKE DAMPER
- SMOKE DETECTOR
- HEAT DETECTOR
- STROBE
- STROBE/SPEAKER
- HORN/STROBE
- HORN
- F — FIRE PULL STATION
- FIRE SPRINKLER ZONE VALVE

RELEASED FOR CONSTRUCTION
As noted on plans
Development Services Department
Lee's Summit, Missouri
11/15/2023

STATE OF MISSOURI — SAMUEL K. BECKMAN — NUMBER A-2011012130 — ARCHITECT
2/8/2023

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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Kansas City, MO 64108
T: 816.763.9600

ACI/Boland, Inc.
Kansas City | St. Louis
Licensee's Certificate of Authority Number:

CIVIL CONSULTANT

BHC
7101 College Blvd. Ste. 400
Overland Park, KS 66210
913.663.1900

STRUCTURAL CONSULTANT

Bob D. Campbell & Co.
4338 Belleview
Kansas City, MO 64111
816.531.4144

MEP CONSULTANT

Branch Pattern
1508 Grand Boulevard
Kansas City, MO 64108
913.951.8311

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
3	3/9/23	Addendum #3

A0.2

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CODE FOOTPRINT PLAN

BIM 360://3-22030 HCA LSMC ASC/3-22030 HCA LSMC_Arch_R21.rvt

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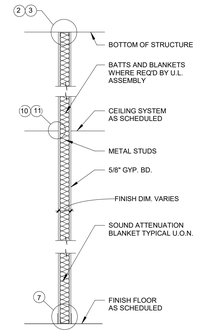
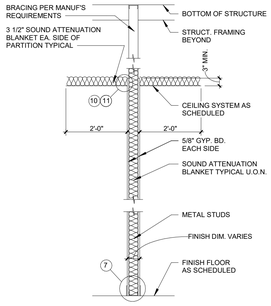
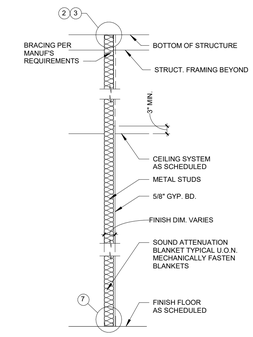


A GYPSUM BOARD BOTH SIDES
NON-RATED - TYPICAL
1/2" = 1'-0"

U.L. DESIGNATIONS AT RATED WALLS AS INDICATED ON LIFE SAFETY PLAN
1 HOUR FIRE SEPARATION U.L. U465 FOR 3 5/8" STUDS U.L. U451 FOR 2 1/2" STUDS

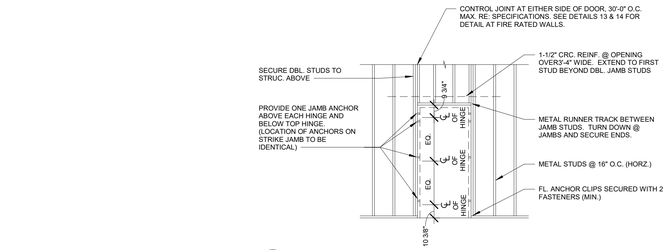


G GYPSUM BOARD CEILING HEIGHT
1/2" = 1'-0"

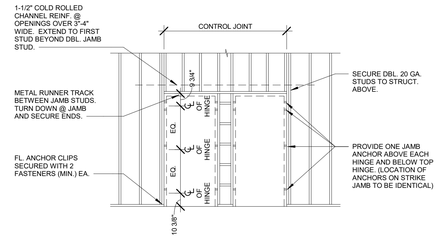


K GYPSUM BOARD ONE SIDE ONLY, CEILING HEIGHT
1/2" = 1'-0"

L GYPSUM BOARD ONE SIDE ONLY, FULL HEIGHT
1/2" = 1'-0"



18 SINGLE DOOR FRAMING DETAILS
1/4" = 1'-0"



19 ADJACENT DOORS FRAMING DETAILS
1/4" = 1'-0"

PARTITION GENERAL NOTES

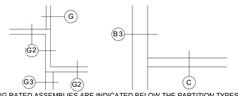
1. UNLESS NOTED OTHERWISE, ALL INTERIOR METAL STUDS ARE 3 5/8" THICK. REFER TO SUFFIX SCHEDULE BELOW FOR LOCATIONS OF METAL STUDS OTHER THAN 3-5/8" THICK. NOTE: STUD THICKNESS (GAUGE) MUST CONFORM TO MANUFACTURER'S RECOMMENDATIONS FOR SPAN (HEIGHT OF STUD)
2. WHERE THE PARTITION TYPE INDICATION IS SHOWN WITH A NUMERICAL SUFFIX, THE METAL STUD THICKNESS SHALL BE AS SCHEDULED BELOW:

SUFFIX	MTL. STUD THICKNESS
1	1-5/8" MTL. STUDS
2	2-1/2" MTL. STUDS
3	6" MTL. STUDS

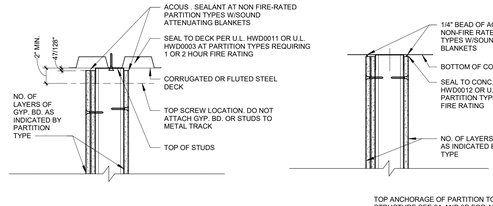
3. UNLESS NOTED OTHERWISE, ALL INTERIOR DRYWALL PARTITIONS INDICATED ON THE FLOOR PLAN DRAWING ARE TYPE 'A' PARTITIONS. WHERE OCCURS, RATINGS ARE AS INDICATED ON THE LIFE SAFETY PLANS.
4. UNLESS NOTED OTHERWISE, ALL CMU PARTITIONS ARE 7-5/8", 8" NOMINAL. REFER TO SUFFIX SCHEDULE BELOW FOR LOCATIONS OF CMU PARTITIONS OTHER THAN 8" NOMINAL.
5. WHERE THE PARTITION TYPE INDICATION IS SHOWN WITH A NUMERICAL SUFFIX, THE CMU THICKNESS SHALL BE AS SCHEDULED BELOW:

SUFFIX	CMU THICKNESS
1	ACTUAL 3-5/8", 4" NOMINAL
2	ACTUAL 5-5/8", 6" NOMINAL
3	ACTUAL 11-5/8", 12" NOMINAL

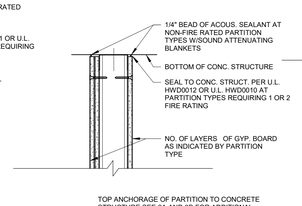
6. UNLESS NOTED OTHERWISE, ALL INTERIOR MASONRY PARTITIONS INDICATED ON THE FLOOR PLAN DRAWING ARE TYPE 'B' PARTITIONS. WHERE OCCURS, RATINGS ARE AS INDICATED ON THE LIFE SAFETY PLANS.
7. ALL STUDS ARE CONTINUOUS FROM FLOOR STRUCTURE TO CEILING STRUCTURE UNLESS NOTED OTHERWISE.
8. METAL STUDS ARE SPACED @ 16" O.C. MAX., UNLESS NOTED OTHERWISE.
9. UNLESS NOTED OTHERWISE, ALL GYPSUM BOARD IS TO BE 5/8" THICK "FIRECODE".
10. THE LOCATION OF A CHANGE IN THE PARTITION TYPE IS INDICATED BY A WALL TAG.



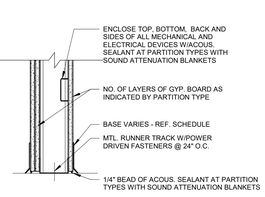
11. THE CORRESPONDING RATED ASSEMBLIES ARE INDICATED BELOW THE PARTITION TYPES.
12. PARTITION TYPE DESIGNATIONS ARE INDICATED ON THE FLOOR PLAN DRAWINGS.
13. PARTITION TYPES DO NOT INCLUDE APPLIED FINISHES CALLED FOR IN THE ROOM FINISH SCHEDULE.
14. AT PARTITION TYPES WHERE MTL. STUDS ARE EXPOSED ON ONE OR BOTH SIDES, CUT STUD 1/4" SHORT AND SCREW BOTH SIDES TO MTL. RUNNER TRACK.



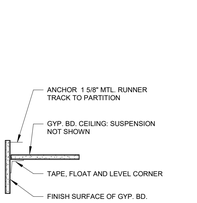
2 TOP ANCHORAGE OF PARTITION TO METAL DECK
1-1/2" = 1'-0"



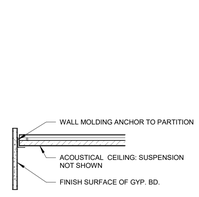
3 TOP ANCHORAGE OF PARTITION TO CONCRETE STRUCTURE SEE 3A AND 3B FOR ADDITIONAL INFORMATION
1-1/2" = 1'-0"



7 FLOOR ANCHORAGE OF PARTITION
1-1/2" = 1'-0"



10 SUSPENDED GYP. BD. CEILING
1-1/4" = 1'-0"



11 CEILING DETAILS FOR GYP. BD. VERTICAL SURFACES
1-1/4" = 1'-0"

RELEASED FOR CONSTRUCTION
As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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Kansas City, MO 64108
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Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

A0.3

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PARTITION TYPES AND DETAILS

BIM 360://3-22030 HCA LSMC ASC/3-22030 HCA LSMC_Arch_R21.rvt

2/9/2023 10:06:05 AM

ONLINE CERTIFICATIONS DIRECTORY

Design No. U465
BXUV.U465
Fire-resistance Ratings - ANSI/UL 263

Page Bottom

Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

BXUV - Fire Resistance Ratings - ANSI/UL 263

BXUV7 - Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

See General Information for Fire-resistance Ratings - ANSI/UL 263

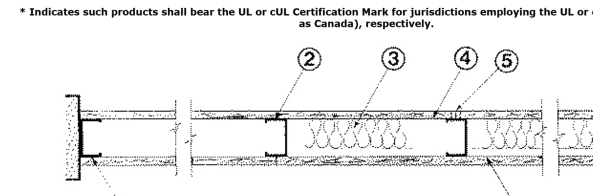
See General Information for Fire Resistance Ratings - CAN/ULC-S101 Certified for Canada

Design No. U465

August 25, 2016

Nonbearing Wall Rating — 1 HR.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**



1. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped runners, 3-5/8 in. deep (min), 1-1/4 in. legs, formed from min No. 25 MSG galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

1A. **Framing Members* — Floor and Ceiling Runners —** (Not Shown) — As an alternate to Item 1 — Channel shaped, min 3-5/8 in. deep, attached to floor and ceiling with fasteners 24 in. OC. max.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

1B. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2B, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™ Track

CRACO MFG INC — SmartTrack20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track

1C. **Floor and Ceiling Runners —** (Not Shown) — For use with Item 2C — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, min depth to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners spaced max 24 in. OC.

1D. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1C — For use with Item 2D and 4G only, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

CLARKDIETRICH BUILDING SYSTEMS — CD ProTRAK

DMFCWBS L L C — ProTRAK

MBA METAL FRAMING — ProTRAK

RAM SALES L L C — Ram ProTRAK

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProTRAK

1E. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1D — For use with Item 2E and 4I only, proprietary channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — TRUE-TRACK™

1F. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1E — For use with Item 2, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide fabricated from min 25 MSG steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

KIRII (HONG KONG) LTD — Type KIRII

1G. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Items 1 through 1F — For use with Item 2, channel shaped runners, 1-1/4 in. deep by min 3-5/8 in. wide, attached to floor and ceiling with fasteners spaced 24 in. OC max.

STUDCO BUILDING SYSTEMS — CROCSTUD Track

1H. **Floor and Ceiling Runners —** (Not Shown) — Channel shaped, fabricated from min 0.02 in. galv steel, min width to accommodate stud size, with min 1 in. long legs, for use with studs specified below and fabricated from min 0.02 in. galv steel or thicker, attached to floor and ceiling with fasteners spaced max 24 in. OC.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™ Track VT100

1I. **Framing Members* — Floor and Ceiling Runners —** Not Shown — In lieu of Item 1 — For use with Item 2H, proprietary channel shaped runners, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel, attached to floor and ceiling with fasteners spaced 24 in. OC max.

TELLING INDUSTRIES L L C — Viper20™ Track

2. **Steel Studs —** Channel shaped, 3-5/8 in. deep (min), formed from min No. 25 MSG galv steel spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

2A. **Framing Members* — Steel Studs —** As an alternate to Item 2 — Channel shaped studs, min 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/4 in. less than assembly height.

ALLSTEEL & GYPSUM PRODUCTS INC — Type SUPREME Framing System

CONSOLIDATED FABRICATORS CORP, BUILDING PRODUCTS DIV — Type SUPREME Framing System

QUAIL RUN BUILDING MATERIALS INC — Type SUPREME Framing System

SCAFCO STEEL STUD MANUFACTURING CO — Type SUPREME Framing System

STEEL CONSTRUCTION SYSTEMS INC — Type SUPREME Framing System

UNITED METAL PRODUCTS INC — Type SUPREME Framing System

2B. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1B, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.

CALIFORNIA EXPANDED METAL PRODUCTS CO — Viper20™

CRACO MFG INC — SmartStud20™

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Viper20™

2C. **Steel Studs —** (As an alternate to Item 2, For use with Item 4E) — Channel shaped, fabricated from min 20 MSG corrosion-protected or galv steel, 3-1/2 in. min depth, spaced a max of 16 in. OC. Studs friction-fit into floor and ceiling runners. Studs to be cut 5/8 to 3/4 in. less than assembly height.

2D. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2C — For use with Item 1D and 4G only, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

CLARKDIETRICH BUILDING SYSTEMS — CD ProSTUD

DMFCWBS L L C — ProSTUD

MBA METAL FRAMING — ProSTUD

RAM SALES L L C — Ram ProSTUD

STEEL STRUCTURAL PRODUCTS L L C — Tri-S ProSTUD

2E. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2D — For use with Item 1E and 4I only, channel shaped studs, min 3-5/8 in. wide fabricated from min 0.018 in. thick galv steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

TELLING INDUSTRIES L L C — TRUE-STUD™

2F. **Framing Members* — Steel Studs —** As an alternate to Items 2 through 2E — For use with Item 1F, channel shaped studs, min 3-5/8 in. wide fabricated from min 25 MSG steel, spaced a max of 24 in. OC. Studs to be cut 1/2 in. less than assembly height.

KIRII (HONG KONG) LTD — Type KIRII

2G. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 through 2F — For use with Item 1G. Proprietary channel shaped studs, minimum 3-5/8 in. wide, Studs to be cut 1/2 in. less than the assembly height.

STUDCO BUILDING SYSTEMS — CROCSTUD

2H. **Framing Members* — Steel Studs —** Not Shown — In lieu of Item 2 — For use with Item 1I, proprietary channel shaped steel studs, 1-1/4 in. wide by min 3-5/8 in. deep fabricated from min 0.020 in. thick galv steel. Studs cut 3/4 in. less in length than assembly height.

TELLING INDUSTRIES L L C — Viper20™

2I. **Framing Members* — Steel Studs —** In lieu of Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 3-5/8 in. deep (min), spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

EB MéTAL INC — EB Stud

2J. **Framing Members* — Steel Studs —** In lieu of Item 2 — For use with Item 1, channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 3-5/8 in. deep (min), spaced 24 in. OC max. Studs to be cut 3/4 in. less than assembly height.

OLMAR SUPPLY INC — PRIMESTUD

2K. **Framing Members* — Steel Studs —** As an alternate to Item 2 — For use with Item 1B (3-5/8 in. wide track), channel shaped studs, fabricated from min 25 MSG corrosion-protected steel, 1-1/4 in. wide by 3-5/8 in. deep, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height.

MARINO/WARE, DIV OF WARE INDUSTRIES INC — StudRite™

3. **Batts and Blankets* —** (Optional) — Mineral wool or glass fiber batts partially or completely filling stud cavity.

See **Batts and Blankets** (BZJZ) category for names of Classified companies.

3A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) — (100% Borate Formulation) — Spray applied cellulose material. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product with a nominal dry density of 2.7 lb/ft^3. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft^3, in accordance with the application instructions supplied with the product.

U S GREENFIBER L L C — INS735& INS745 for use with wet or dry application. INS765LD and INS770LD are to be used for dry application only

3B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) and Item 3A — Spray applied cellulose insulation material. The fiber is applied with water to interior surfaces in accordance with the application instructions supplied with the product. Applied to completely fill the enclosed cavity. Minimum dry density of 4.3 pounds per cubic ft.

NU-WOOL CO INC — Cellulose Insulation

3C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 3) — Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. The minimum dry density shall be 4.30 lbs/ft^3.

INTERNATIONAL CELLULOSE CORP — Celbar-RL

3D. **Batts and Blankets* —** For use with Item 8. Nom 3 in. thick, minimum 3.4 pcf mineral wool batts, friction fit between the studs and floor and ceiling runners.

See **Batts and Blankets** (BZJZ) category for names of manufacturers.

3E. **Batts and Blankets* —** For use with Item 4P. Placed in stud cavities, any min. 3-1/2 in. thick glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance.

See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4. **Gypsum Board* —** 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to Items 6 (resilient channels) or 6A, 6B or 6C (furring channels), gypsum board is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.

ACADIA DRYWALL SUPPLIES LTD — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

AMERICAN GYPSUM CO — Types AG-C, AGX-1, M-Glass

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

CERTAINTEED GYPSUM INC — Types 1, EGRG, GlasRoc, Type X, Type X-1, Type C, SilentFX, 5/8" Easi-Lite Type X

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD, LGLLX

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPFS6, LS, Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, TG-C, GreenGlass Type X, Type X ComfortGuard Sound Deadening Gypsum Board, Type LWX, Veneer Plaster Base-Type LWX, Water Rated-Type LWX, Sheathing Type-LWX, Soffit-Type LWX, Type DGLW, Water Rated-Type DGLW, Sheathing Type- DGLW, Soffit-Type DGLW, Type LW2X, Veneer Plaster Base - Type LW2X, Water Rated - Type LW2X, Sheathing - Type LW2X, Soffit - Type LW2X, Type DGL2W, Water Rated - Type DGL2W, Sheathing - Type DGL2W

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSMR-C, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSL

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-C, PG-9, PG-11, PGS-WRS

PANEL REY S A — Types GREX, PRC, PRC2, PRX, RHX, MDX, ETX

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1

THAI GYPSUM PRODUCTS PCL — Type X, Type C

UNITED STATES GYPSUM CO — Type AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

USG BORAL ZAWAWI DRYWALL L L C SFZ — Types C, SCX

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

4A. **Gypsum Board* —** (As alternate to Item 4) — Nom 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Panels attached to steel studs and floor runner with 1 in. long Type S steel screws spaced 8 in. OC when applied horizontally, or 8 in. OC along vertical and bottom edges and 12 in. OC in the field when panels are applied vertically. When used in widths other than 48 in., gypsum panels to be installed horizontally.

CERTAINTEED GYPSUM INC — Type X, Type X-1, Type C, Type EGRG/ GlasRoc

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD

GEORGIA-PACIFIC GYPSUM L L C — Types DAP, DAPC, DGG, DS

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type X, Type C

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, WRC, WRX, USGX (Joint tape and compound, Item 5, optional for use with Type USGX)

USG BORAL ZAWAWI DRYWALL L L C SFZ — Types C, SCX

USG MEXICO S A DE C V — Type AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, USGX, WRC or WRX (Joint tape and compound, Item 5, optional for use with Type USGX)

4B. **Gypsum Board* —** (As an alternate to Items 4 or 4A) — Nom 3/4 in. thick, 4 ft wide, installed as described in Item 4A with screw length increased to 1-1/4 in.

CGC INC — Types AR, IP-AR

UNITED STATES GYPSUM CO — Types AR, IP-AR

USG MEXICO S A DE C V — Types AR, IP-AR

4C. **Gypsum Board* —** As an alternate to Items 4, 4A, and 4B — Nom. 5/8 in. thick gypsum panels, with square edges, applied horizontally. Gypsum panels fastened to framing with 1 in. long bugle head steel screws spaced a max 8 in. OC, with last 2 screws 3/4 in. and 4 in. from each edge of board. Horizontal joints need not be backed by steel framing. Horizontal edge joints and horizontal butt joints on opposite sides of studs on interior walls need not be staggered or backed by steel framing.

GEORGIA-PACIFIC GYPSUM L L C — Type DGG, GreenGlass Type X

4D. **Gypsum Board* —** As an alternate to Items 4, 4A, 4B, and 4C — Nom. 5/8 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Gypsum panels fastened to framing with 1 in. long Type S steel screws 8 in. OC along vertical edges and 12 in. OC in the field when panels are applied vertically. When gypsum panels applied horizontally, fasten to framing with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges and in the field. Screws spaced a max 12 in. along the top and bottom edges of the wall for both vertical and horizontal applications.

NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSL, FSW-C, FSW-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSMR-C

4E. **Gypsum Board* —** (As an alternate to Items 4 through 4D) — Installed as described in Item 4. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 1 in. long, Type S steel screws spaced, 8 in. OC. Not to be used with item 6.

NATIONAL GYPSUM CO — SoundBreak XP Type X Gypsum Board

4F. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) - Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field.

RAY-BAR ENGINEERING CORP — Type RB-LBG

4G. **Gypsum Board* —** (As an alternate to Items 4 through 4F) — For use with Items 1D and 2D only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A, LGFC-C/A

NATIONAL GYPSUM CO — Types FSW

UNITED STATES GYPSUM CO — Type SCX

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type SCX

4H. **Gypsum Board* —** (As an alternate to Items 4 through 4G) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES

4I. **Gypsum Board* —** (As an alternate to Items 4 through 4F) — For use with Items 1E and 2E only, 5/8 in. thick, 4 ft wide, attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly.

UNITED STATES GYPSUM CO — Type SCX

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type SCX

4J. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C) — Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Gypsum board secured to studs with 1-1/4 in. long Type S-12 steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. To be used with Lead Batten Strips (see Item 9A) or Lead Discs (see Item 10A).

MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4K. **Gypsum Board* —** (As an alternate to Item 4 and 4A, not for use with Items 1D, 1E, 2D and 2E) — Nom. 5/8 in. thick gypsum panels with beveled, square or tapered edges installed as described in Item 4 and 4A.

CGC INC — Type ULX

UNITED STATES GYPSUM CO — Type ULX

USG MEXICO S A DE C V — Type ULX

4L. **Gypsum Board* —** (Not Shown) — (As an alternate to Item 4 when used as the base layer on one or both sides of wall. For direct attachment only to steel studs Item 2C). Nom 5/8 in. thick lead backed gypsum panels with beveled, square or tapered edges, applied vertically. Vertical joints centered over studs and staggered min 1 stud cavity on opposite sides of studs. Wallboard secured to studs with 1-1/4 in. long Type S-12 steel screws gypsum panel steel screws spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 2 in. wide, max 8 ft long with a max thickness of 0.14 in. placed on the face of studs and attached to the stud with construction adhesive and two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, nominal 3/8 in. diam by max 0.085 in. thick. Compression fitted or adhered over the screw heads. Lead batten strips and discs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4M. **Gypsum Board* —** (For use with Item 8) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 8) with vertical joints located anywhere over stud cavities. Secured to mineral and fiber boards with 1-1/2 in. Type G Screws spaced 8 in. OC along edges of each vertical joint and 12 in. OC in intermediate field of the Mineral and Fiber Board (Item 8). Secured to outermost studs and floor and ceiling runners with 2 in. long Type S screws spaced 8 in. OC. Gypsum Board joints covered with paper tape and joint compound. Screw heads covered with joint compound.

AMERICAN GYPSUM CO — Type AG-C

CERTAINTEED GYPSUM INC — Type FRPC, Type C

CGC INC — Types C, IP-X2, IPC-AR

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC-C/A

GEORGIA-PACIFIC GYPSUM L L C — Types 5, DAPC, TG-C

NATIONAL GYPSUM CO — Types eXP-C, FSK-C, FSW-C

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-C

PANEL REY S A — Types PRC, PRC2

SAINT-GOBAIN GYPROC MIDDLE EAST FZE — Type Gyproc FireStop, Gyproc FireStop MR, Gyproc FireStop M2TECH, Gyproc FireStop ACTIV'Air, Gyproc FireStop MR ACTIV'Air, Gyproc FireStop M2TECH ACTIV'Air, Gyproc DuraLine, Gyproc DuraLine MR, Gyproc DuraLine M2TECH, Gyproc DuraLine ACTIV'Air, Gyproc DuraLine MR ACTIV'Air, Gyproc DuraLine M2TECH ACTIV'Air

THAI GYPSUM PRODUCTS PCL — Type C

UNITED STATES GYPSUM CO — Types C, IP-X2, IPC-AR

USG BORAL ZAWAWI DRYWALL L L C SFZ — Type C

USG MEXICO S A DE C V — Types C, IP-X2, IPC-AR

4N. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 4) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically and secured as described in Item 4.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527

4O. **Gypsum Board* —** As an alternate to Items 4, 4A, 4B, and 4C — Two layers Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Horizontal edge joints and horizontal butt joints on opposite sides of studs need not be staggered or backed by steel framing. Horizontal joints on the same side need not be staggered. When applied horizontally, both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC and staggered 4 in. OC between layers. When applied vertically, both layers of gypsum board fastened to each side of framing with 1 in. long Type S steel screws spaced 8 in. OC along vertical edges and 12 in. OC in the field, staggered 4 in. OC between layers. Screws spaced a max 12 in. along the top and bottom edges of the wall.

NATIONAL GYPSUM CO — Type FSW

4P. **Gypsum Board* —** As an alternate to Item 4. For use with Item 3E, **Batts and Blankets*** — 5/8 in. thick, 4 ft wide attached to steel studs and floor and ceiling track with 1 in. long, Type S steel screws spaced 8 in. OC. along edges of board and 12 in. OC in the field of the board. Joints oriented vertically and staggered on opposite sides of the assembly. When attached to item 6 (resilient channels) or 6A, 6B or 6C (furring channels), gypsum board is screw attached to furring channels with 1 in. long, Type S steel screws spaced 12 in. OC.

UNITED STATES GYPSUM CO — Types ULIX

5. **Joint Tape and Compound —** Vinyl, dry or premixed joint compound, applied in two coats to joints and screw heads; paper tape, 2 in. wide, embedded in first layer of compound over all joints. As an alternate, nominal 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges.

6. **Resilient Channel —** (Optional — Not Shown) — 25 MSG galv steel resilient channels spaced vertically max 24 in. OC flange portion attached to each intersecting stud with 1/2 in. long type S-12 pan head steel screws. May not be used with Item 4F or 4J.

6A. **Steel Framing Members* —** (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Member as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-9/16 in. or 2-23/32 in. wide by 7/8 in. deep, spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item

b. Ends of adjoining channels are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. As an alternate, ends of adjoining channels may be overlapped 6 in. and secured together with two self-tapping No. 6 framing screws, min 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

b. **Framing Members* —** Used to attach furring channels (Item a) to studs (Item 2). Clips spaced 48 in. OC., and secured to studs with 1-5/8 in. wafer or hex head Type S steel screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clip for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clip for use with 2-23/32 in. wide furring channels.

PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75)

6B. **Framing Members* —** (Not Shown) — (Optional on one or both sides) — As an alternate to Item 6, furring channel and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. 2-3/8 in. wide by 7/8 in. deep, spaced max. 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Gypsum board attached to furring channels as described in Item 4.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs (Item 2). Clips spaced max. 48 in. OC. GENIECLIPS secured to studs with No. 8 x 1-1/2 in. minimum self-drilling, S-12 steel screw through the center grommet. Furring channels are friction fitted into clips.

PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members as described below:

a. **Furring Channels —** Formed of No. 25 MSG galv steel. Spaced 24 in. OC perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured together with four self-tapping No. 8x1/2 Self Drilling screws (2 per side 1 in. and 4 in. from overlap edge). Gypsum board attached to furring channels as described in Item 4. Side joint furring channels shall be attached to studs with RESILMOUNT Sound Isolation Clips - Type A237R located approximately 2 in. from each end of length of channel. Both Gypsum Boards at side joints fastened into channel with screws spaced 8 in. OC, approximately 1/2 in. from joint edge.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 24 in. OC., and secured to studs with No. 10 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.

STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

7. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — Nominal 1/2 in. thick, 4 ft wide panels, for optional use as an additional layer on one or both sides of the assembly. Panels attached in accordance with manufacturer's recommendations. When the QR-500 or QR-510 panel is installed between the steel framing and the UL Classified gypsum board, the required UL Classified gypsum board layer(s) is/are to be installed as indicated as to fastener type and spacing, except that the required fastener length shall be increased by a minimum of 1/2 in. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock QR-500 and QR-510

8. **Mineral and Fiber Board* —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall. Nom 1/2 in. thick, 4 ft wide with long dimension parallel and centered over studs. Attached to studs and floor and ceiling runners with 1-5/8 in. long Type S steel screws, spaced 12 in. OC and 24 in. OC along all intermediate framing. The required UL Classified gypsum board layer (Item 4M) is to be installed over the Mineral and Fiber Boards. Batts and Blankets, Item 3D, and Adhesive, Item 11, are required.

HOMASOTE CO — Homasote Type 440-32

9. **Lead Batten Strips —** (Not Shown, For Use With Item 4E) — Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. Strips placed on the interior face of studs and attached from the exterior face of the stud with two 1 in. long Type S-12 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Lead batten strips required behind vertical joints of lead backed gypsum board (Item 4E) and optional at remaining stud locations. Required behind vertical joints.

9A. **Lead Batten Strips —** (Not Shown, for use with Item 4J) — Lead batten strips, 2 in. wide, max 10 ft long with a max thickness of 0.140 in. Strips placed on the face of studs and attached to the stud with two min. 1 in. long min. Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip or with one min. 1 in. long min. Type S-8 pan head steel screw at the top of the strip. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D". Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4J) and optional at remaining stud locations.

10. **Lead Discs or Tabs —** (Not Shown, For Use With Item 4E) — Used in lieu of or in addition to the lead batten strips (Item 8) or optional at other locations - Max 3/4 in. diam by max 0.125 in. thick lead discs compression fitted or adhered over steel screw heads or max 1/2 in. by 1-1/4 in. by max 0.125 in. thick lead tabs placed on gypsum boards (Item 4E) underneath screw locations prior to the installation of the screws. Lead discs or tabs to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".

10A. **Lead Discs —** (Not Shown, for use with Item 4J) — Max 5/16 in. diam by max 0.140 in. thick lead discs compression fitted or adhered over steel screw heads. Lead discs to have a purity of 99.5% meeting the Federal Specification QQ-L-201f, Grades "B, C or D".

11. **Adhesive —** Not Shown — (For use with Item 8) — Construction grade adhesive applied in vertical, serpentine, nominal 3/8 in. wide beads down the length of both vertical edges of Mineral and Fiber Board (Item 8).

12. **Wall and Partition Facings and Accessories* —** (Optional, Not Shown) — For use with Items 1 to 1I, Items 2 to 2J, Item 3, Items 4 to 4I, Item 5 and Item 6. For maximum fire rating of 1 hour. On one side of the wall, over the first layer of Gypsum Board (Item 4 to Item 4I), install RefleXor membrane with the gold side facing outwards. Membrane installed with T50 staples spaced 12 inches on center in both directions as per manufacturer's instructions, seams in membrane to be overlapped by 2 inches. When RefleXor membrane is used an additional layer of Gypsum Board that is identical to the one used in the first layer and as specified in Item 4 to Item 4I shall be installed over the membrane. The additional layer of Gypsum Board to be installed through the membrane to the stud as specified in Item 4 to Item 4I except the fastener length shall be increased by a minimum of 5/8 inch. Install Batts and Blankets in the stud cavity as per Item 3. On the other side of the wall, prior to the installation of the Gypsum Board, install Resilient Channels as per Item 6. Over the Resilient Channels install 3/4 inch thick SONOpan panel secured to the Resilient Channels with drywall screws and washers spaced at 16 in. OC on the perimeter of the panel and 8 in. OC in the field of the panel. Over the SONOpan panel install the same Gypsum Board as specified in Item 4 to Item 4I with the fastener length increased by minimum 3/4 inch. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.

MSL — RefleXor membrane, SONOpan panel

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2016-08-25

ONLINE CERTIFICATIONS DIRECTORY

System No. BW-S-0003
XHBN.BW-S-0003
Joint Systems

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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBN - Joint Systems

See General Information for Joint Systems

System No. BW-S-0003

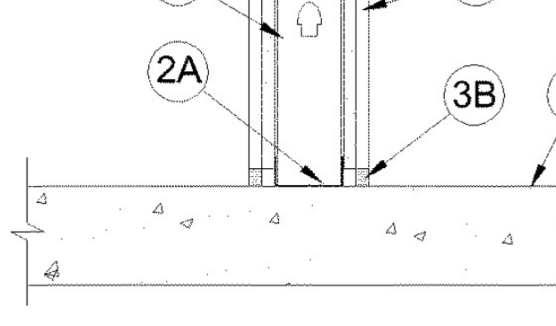
November 18, 2008

Assembly Ratings — 1 and 2 Hr (See Item 2)

L Rating At Ambient — Less Than 1 CFM/Lin Ft (See Item 3B)

L Rating At 400°F — Less Than 1 CFM/Lin Ft (See Item 3B)

Joint Width — 3/4 In. Max



1. **Floor Assembly —** Min 4-1/2 in. (114 mm) thick reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) structural concrete. Floor may also be constructed of any 6 in. (152 mm) thick UL Classified hollow-core **Precast Concrete Units*.**

See **Precast Concrete Units** category in the Fire Resistance Directory for names of manufactures.

2. **Wall Assembly —** The 1 or 2 h fire-rated gypsum board/steel stud wall assembly shall be constructed of the materials and in the manner specified in the individual U400 or V400 Series Wall or Partition Design in the UL Fire Resistance Directory. In addition, the wall may incorporate a head-of-wall joint system constructed as specified in the HW Series Joint Systems in the UL Fire Resistance Directory. The wall shall include the following construction features:

A. **Steel Floor Runner —** Floor runners of wall assembly shall consist of min No. 25 gauge galv steel channels sized to accommodate steel studs (Item 2B). Floor runners to be provided with min 1-1/4 in. (32 mm) flanges. Runners secured with steel fasteners spaced 12 in. (305 mm) OC.

B. **Studs —** Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 to 3/4 in. (13 to 19 mm) less in length than assembly height with bottom nesting in, resting on and fastened to floor runner with sheet metal screws. Stud spacing not to exceed 24 in. (610 mm) OC.

C. **Gypsum Board* —** Gypsum board installed to a min total thickness of 5/8 in. (16 mm) or 1-1/4 in. (32 mm) on each side of wall for a 1 or 2 hr fire rated wall, respectively. Wall to be constructed as specified in the individual U400 or V400 Series Design in the UL Fire Resistance Directory except that a max 3/4 in. (19 mm) gap shall be maintained between the bottom of the gypsum board and the top of the concrete floor.

The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. **Joint System — Max separation between top of floor and bottom of gypsum board is 3/4 in. (19 mm).** The joint system consists of a packing material and a fill material, as follows:

A. **Packing Material —** (Optional, Not Shown) - Mineral wool batt insulation, polyethylene backer rod or glass fiber insulation firmly packed into the gap between the bottom of the gypsum board and the top of the concrete floor and recessed from each surface of the wall to accommodate the required thickness of fill material.

B. **Fill, Void or Cavity Material*-Sealant —** Min 1/2 in. (13 mm) thickness of fill material installed on each side of the wall between the bottom of the gypsum board and the top of the concrete floor, flush with each surface of the wall. When mineral wool batt insulation is used as a packing material, min thickness of fill material on each side of the wall is 1/4 in. (6 mm).

SPECIFIED TECHNOLOGIES INC — SpecSeal ES Sealant, SpecSeal LCI Sealant, SpecSeal LC150 Sealant, Pensil 300 Sealant or SpecSeal Series SIL300.

Note: L Ratings apply when SpecSeal ES Sealant is used.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2008-11-18

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System No. HW-D-0044
XHBN.HW-D-0044
Joint Systems

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- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHBN - Joint Systems

XHBN7 - Joint Systems Certified for Canada

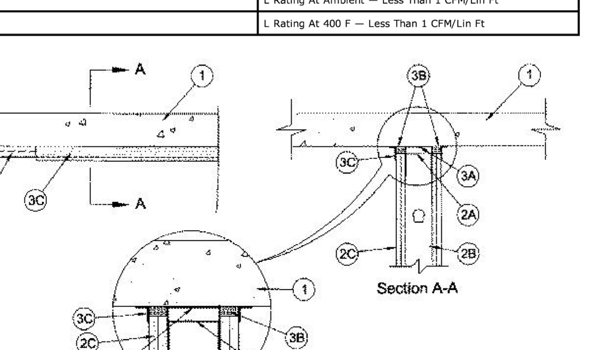
e General Information for Joint Systems

e General Information for Joint Systems Certified for Canada

System No. HW-D-0044

December 08, 2015

ANSI/UL2079	CAN/ULC S115
ssembly Ratings — 1, 2, 3 and 4 Hr (See Item 2)	F Ratings — 1, 2, 3, and 4 Hr (See Item 2)
ominal Joint Widths — 1-1/2 and 2-1/2 In. (See Item 3)	FT Ratings — 1, 2, 3, and 4 Hr (See Item 2)
lass II Movement Capabilities — 40 or 50% Compression or xtension (See Item 3)	FH Ratings — 1, 2, 3, and 4 Hr (See Item 2)
Rating At Ambient — Less Than 1 CFM/Lin Ft	FTH Ratings — 1, 2, 3, and 4 Hr (See Item 2)
Rating At 400 F — Less Than 1 CFM/Lin Ft	Nominal Joint Widths — 1-1/2 and 2-1/2 In. (See Item 3)
	Class II Movement Capabilities — 40 or 50% Compression or Extension (See Item 3)
	L Rating At Ambient — Less Than 1 CFM/Lin Ft
	L Rating At 400 F — Less Than 1 CFM/Lin Ft



1. **Floor Assembly —** Min 4-1/2 in. (114 mm) thick steel-reinforced lightweight or normal weight (100-150 pcf or 1600-2400 kg/m^3) structural concrete.

2. **Wall Assembly —** 1, 2, 3 or 4 hr fire-rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U400, V400 or W400 Series Wall and Partition Design in the UL Fire Resistance Directory and shall include the following construction features:

A. **Steel Floor and Ceiling Runners —** Floor and ceiling runners of wall assembly shall consist of galv steel channels sized to accommodate steel studs (Item 2B). When deflection channel (Item 3A) is used, flange height of ceiling runner is to be equal to or greater than flange height of deflection channel and the ceiling runner is to nest within the deflection channel with a 3/4 to 1 in. (19 to 25 mm) gap maintained between the top of the ceiling runner and the top of the deflection channel. When deflection channel is not used, flange height of ceiling runner shall be min 3/4 in. (19 mm) greater than nom joint width. Ceiling runner is secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC.

A1. **Light Gauge Framing* - Slotted Ceiling Runner —** When nom joint width is less than or equal to 1-3/4 in. (45 mm), slotted ceiling runner may be used as an alternate to the ceiling runner in Item 2A. Slotted ceiling runner to consist of galv steel channel with slotted flanges sized to accommodate steel studs (Item 2B). Ceiling runner secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC. When slotted ceiling runner is used, deflection channel (Item 3A) shall not be used.

BRADY CONSTRUCTION INNOVATIONS INC, DBA SLIPTRACK SYSTEMS — SLP-TRK

CALIFORNIA EXPANDED METAL PRODUCTS CO — CST

CLARKDIETRICH BUILDING SYSTEMS — Type SLT, SLT-H

MARINO/WARE, DIV OF WARE INDUSTRIES INC — Type SLT

METAL-LITE INC — The System

SCAFCO STEEL STUD MANUFACTURING CO

TELLING INDUSTRIES L L C — True-Action Deflection Track

THE STEEL NETWORK INC — VertiTrack VT series, 250VT, 362VT, 400VT, 600VT and 800VT

A2. **Light Gauge Framing* - Vertical Deflection Ceiling Runner —** When nom joint width is less than or equal to 1 in. (25 mm), vertical deflection ceiling runner may be used as an alternate to the ceiling runner in Items 3A and 3A1., Vertical deflection ceiling runner to consist of galv steel channel with slotted vertical deflection clips mechanically fastened within runner. Slotted clips, provided with step bushings, for permanent fastening of steel studs. Vertical deflection ceiling runner secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC. When vertical deflection ceiling runner is used, deflection channel (Item 4A) shall not be used.

THE STEEL NETWORK INC — VertiTrack VTD362, VTD400, VTD600 and VTD800

A3. **Light Gauge Framing*- Notched Ceiling Runner —** As an alternate to the ceiling runners in Items 2A through 2A3, notched ceiling runners to consist of C-shaped galv steel channel with notched return flanges sized to accommodate steel studs (Item 2B). Notched ceiling runner secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC. When notched ceiling runner is used, deflection channel (Item 3A) shall not be used.

OLMAR SUPPLY INC — Type SCR

A4. **Light Gauge Framing* —Vertical Deflection Clip* —** (Optional) Steel clips can be used in conjunction with steel studs (Item 2B), ceiling runner (Item 2A) or deflection channel (Item 3A). Clips installed over the top of studs and inserted within the ceiling runner or deflection channel. Clip shall be secured to the ceiling runner or deflection channel with No. 8 self drilling, self tapping steel fasteners through holes provided within the clip. Clip may be secured to the stud with No. 6 pan head steel screw through holes provided within the clip. As an alternate, the legs of the clip may be installed over the top of the stud without attachment in accordance with manufacturer's installation instructions.

FLEX-ABILITY CONCEPTS L L C — Three Legged Dog Deflection Clip

A5. **Steel Framing Members* — Sound Isolation Clips —** (Not Shown, For Max 2 Hr Rating) - As an alternate attachment means for the ceiling runner to the underside of the floor when no deflection channel (Item 3A) is used, sound isolation clips installed in accordance with the accompanying installation instructions. Sound isolation clip installed through nom 1 in. (25 mm) diam hole in ceiling runner and attached to top of ceiling runner using four min No. 8 by 1/2 in. (13 mm) long self-tapping galv steel screws. Sound isolation clips to be installed adjacent to every stud location but not more than 24 in. (610 mm) OC and attached to the underside of floor assembly using min 3/16 in. (5 mm) diam by 2-1/2 in. (64 mm) long steel masonry anchors.

PAC INTERNATIONAL L L C — Type RSIC-U-HD

B. **Studs —** Steel studs to be min 3-1/2 in. (89 mm) wide. Studs cut 1/2 to 1 in. (13 to 25 mm) less in length than assembly height with bottom nesting in and secured to floor runner. When deflection channel (Item 3A) is used, steel studs attached to ceiling runner (Item 2A) with sheet metal screws located 1/2 in. (13 mm) below the bottom to the deflection channel. When deflection channel is not used, studs to nest in ceiling runner without attachment. When slotted ceiling runner (Item 2A1) is used, steel studs secured to slotted ceiling runner with No. 8 by 1/2 in. (13 mm) long wafer head steel screws at mid-height of slot on each side of wall. When vertical deflection ceiling runner (Item 2A2) is used, steel studs secured to slotted vertical deflection clips, through the bushings, with steel screws at mid-height of each slot. Stud spacing not to exceed 24 in. (610 mm) OC.

C. **Gypsum Board* —** Gypsum board sheets installed to a min total 5/8 in., 1-1/4 in., 1-1/2 in. or 2 in. (16, 32, 38 or 51 mm) thickness on each side of wall for 1, 2, 3 or 4 hr rated assemblies, respectively. Wall to be constructed as specified in the individual U400, V400 or W400 Series Design in the UL Fire Resistance Directory, except that a max 1 or 2-1/2 in. (25 or 64 mm) gap (See Item 3) shall be maintained between the top of the gypsum board and the lower surface of the floor . The screws attaching the gypsum board to the studs along the top of the wall shall be located 1 in. (25 mm) below the bottom of the ceiling runner. No gypsum board attachment screws shall be driven into the ceiling runner or into the optional deflection channel.

The hourly fire rating of the joint system is equal to the hourly fire rating of the wall.

3. **Joint System — Max separation between bottom of floor and top of gypsum board (at time of installation of joint system) is 2-1/2 in. (64 mm) for 1 and 2 hr ratings and 1 in. (25 mm) for 3 and 4 hr ratings. The joint system is designed to accommodate a max 50 percent compression or extension from its installed width for max 1-1/2 in. (38 mm) wide joints and a max 40 percent compression or extension from its installed width for max 2-1/2 in. (64 mm) wide joints.** The joint system shall consist of forming and fill materials, with or without a deflection channel (Item 3A), as follows:

A. **Deflection Channel —** (Optional) - Max 3 in. (76 mm) deep min 24 gauge galv steel channel sized to accommodate ceiling runner (Item 2A). Deflection channel secured to concrete floor slab with steel masonry anchors spaced max 24 in. (610 mm) OC. The ceiling runner (Item 2A) is installed within the deflection channel to maintain a 1/2 to 3/4 in. (13 to 19 mm) gap

between the top of the ceiling runner and the top of the deflection channel. The ceiling runner nests inside the deflection channel without attachment.

B. **Forming Material* —** Sections of min 4 pcf (64 kg/m^3) density mineral wool batt compressed 50 percent in thickness and installed cut edge first to completely fill the gap between the top of the gypsum board and the bottom of the concrete floor. When sound isolation clips (Item 2A6) are used, the space between the top of the ceiling runner and the underside of the floor shall be tightly packed with mineral wool batt insulation. The forming material shall be installed flush with both surfaces of wall.

INDUSTRIAL INSULATION GROUP L L C — MinWool-1200 Safing

ROCK WOOL MANUFACTURING CO — Delta Board

ROCKWOOL MALAYSIA SDN BHD — Safe

ROXUL INC — Safe

THERMAFIBER INC — SAF

C. **Fill, Void or Cavity Material* — Sealant —** Min 1/16 in. (1.6 mm) dry thickness (1/8 in. or 3.2 mm wet thickness) of fill material spray applied on each side of the wall between the top of the wall and the bottom of the floor, and overlap a min 1/2 in. (13 mm) onto gypsum board on both sides of wall. Additional 1/16 in. (1.6 mm) dry thickness (1/8 in. or 3.2 mm wet thickness) of fill material shall overlap a min 1/2 in. (13 mm) onto the floor on both sides of wall.

SPECIFIED TECHNOLOGIES INC — SpecSeal AS200 Elastomeric Spray

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2015-12-08

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
11/15/2023

STATE OF MISSOURI
SAMUEL K. BECKMAN
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ARCHITECT

2/8/2023

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Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

A0.4

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U.L. DESIGN ASSEMBLIES

BIM 360://3-22030 HCA LSMC ASC/3-22030 HCA LSMC_Arch_R21.rvt

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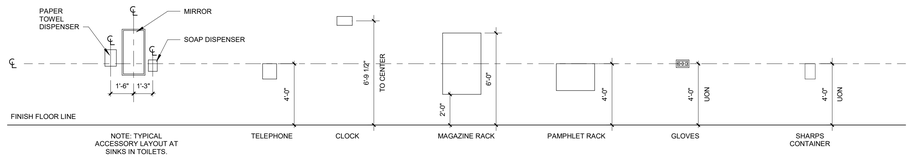
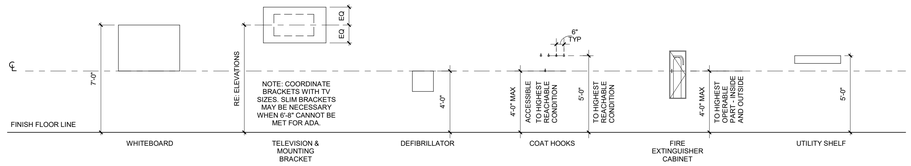
GENERAL NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING CODES AND REGULATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING PERMITS.
3. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ARCHITECT OF ANY INCONSISTENCIES OR DISCREPANCIES WITH THE PROJECT DOCUMENTS. ACCESS TO THE SITE AND/OR SPACE UNDER CONSTRUCTION DURING BIDDING AND CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER.
4. DO NOT SCALE DRAWINGS.
5. THE WORD "ALIGN" AND "EQUAL" AS USED IN THESE DOCUMENTS SHALL SUPERSEDE ANY DIMENSIONAL INFORMATION GIVEN.
6. TYPICAL DIMENSIONS ARE TO FACE OF CONCRETE, DRYWALL, CURTAIN WALL, ETC., OR TO COLUMN CENTERLINE. DIMENSIONS AT WINDOWS ARE TYPICALLY TO FACE OF FRAME. REFER TO PLAN DETAILS FOR ADDITIONAL INFORMATION.
7. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. THE SUBSTRATE SHALL BE SMOOTH AND FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISHED MATERIAL MANUFACTURERS RECOMMENDATIONS.
8. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP.
9. THE GENERAL CONTRACTOR SHALL INSPECT AND CHECK THE ADEQUACY AND INSTALLATION OF THROUGH-WALL FLASHING PRIOR TO COVERING WITH FINISH MATERIALS. THIS SHALL INCLUDE, BUT IS NOT LIMITED TO INSPECTION AGAINST HOLES OR PENETRATIONS, APPROPRIATE LAPPING AND SEALING, AND OVERALL WORKMANSHIP IN CONFORMANCE WITH THE SPECIFICATIONS.

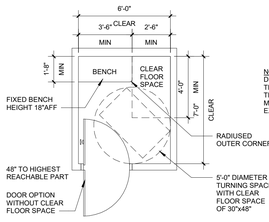




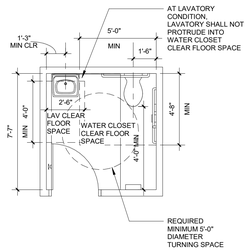
GENERAL NOTES:

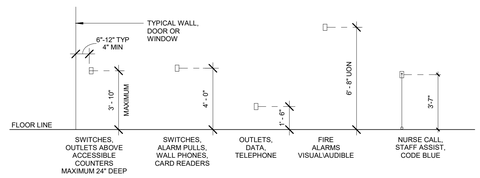
1. ANY OBJECTS PROJECTING MORE THAN 4 INCHES FROM THE FINISHED FACE OF WALL INTO A CIRCULATION PATH SHALL NOT HAVE A HEAD CLEARANCE OF LESS THAN 80" (6'-8").
2. GENERAL CONTRACTOR TO INSTALL FIRE RETARDANT WOOD BLOCKING FOR ALL EQUIPMENT OVER 50LBS AND FIRE RETARDANT PLYWOOD FOR EQUIPMENT UNDER 50 LBS, AS REQUIRED FOR THE MOUNTING OF ALL EQUIPMENT.

EQUIPMENT MOUNTING HEIGHTS
1/4" = 1'-0"



NOTE:
DIMENSIONS AND LAYOUTS SHOWN IN THESE DETAILS ARE INTENDED TO SHOW THE MINIMUM DIMENSIONS AND MAY NOT MATCH FLOOR PLAN CONFIGURATIONS EXACTLY.





(C) ACCESSIBLE DRESSING ROOM

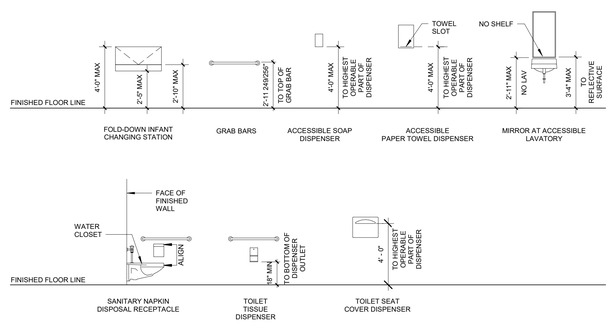
(B) ACCESSIBLE TOILET

GENERAL ADA TOILET DIMENSIONS
1/4" = 1'-0"

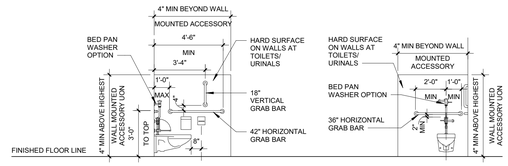
NOTE: INFANT CHANGING STATION SHALL NOT PROTRUDE FROM WALL MORE THAN 4". IF INFANT CHANGING STATION PROTRUDES MORE THAN 4" FROM WALL, BOTTOM OF INFANT CHANGING STATION SHALL BE LESS THAN 27" ABOVE FINISH FLOOR.

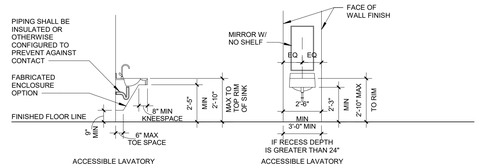
NOTE: OPERABLE PARTS SHALL NOT BE LOCATED MORE THAN 48" A.F.F. WHEN IN THE CLOSED POSITION.

NOTE: PROVIDE 1-1/2" MIN. CLEARANCE FROM BOTTOM OF GRAB BAR TO TOP OF SANITARY NAPKIN DISPOSAL RECEPTACLE.



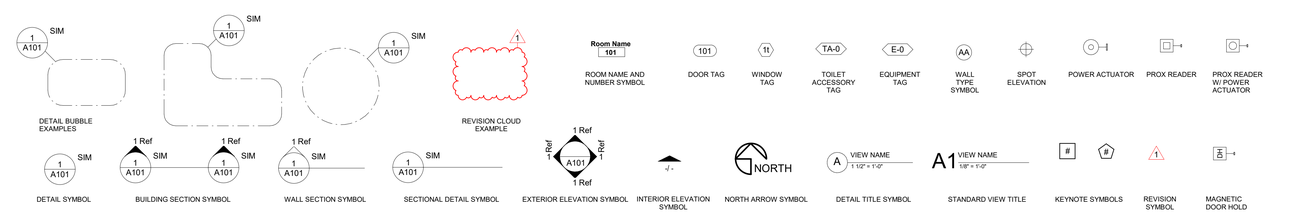
ELECTRICAL DEVICE MOUNTING HEIGHTS
1/4" = 1'-0"





TOILET ACCESSORY MOUNTING HEIGHTS
1/4" = 1'-0"

TYPICAL FIXTURE ELEVATION
1/4" = 1'-0"



SYMBOLS
1/4" = 1'-0"

RELEASED FOR CONSTRUCTION
As noted on this sheet
Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

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Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

A0.5

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GENERAL NOTES, LEGENDS & SYMBOLS

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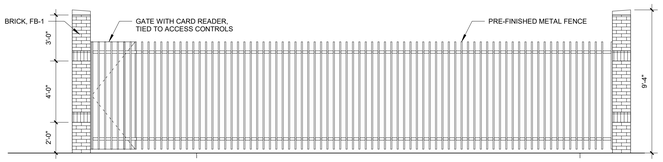
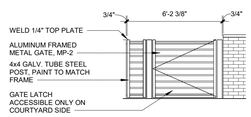
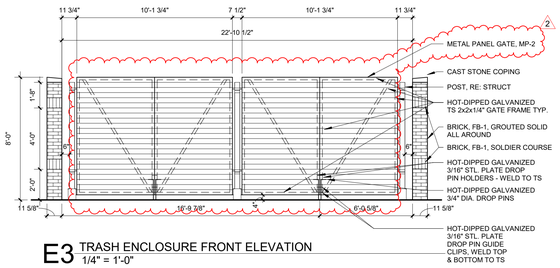


E6 MECHANICAL YARD WEST ELEVATION
1/4" = 1'-0"



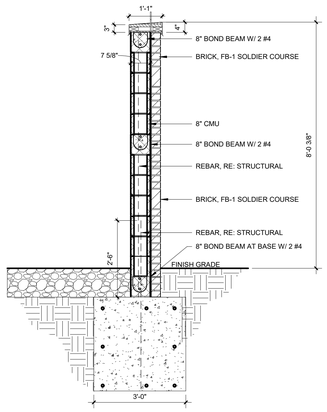
E4 STAFF PATIO GATE
1/4" = 1'-0"



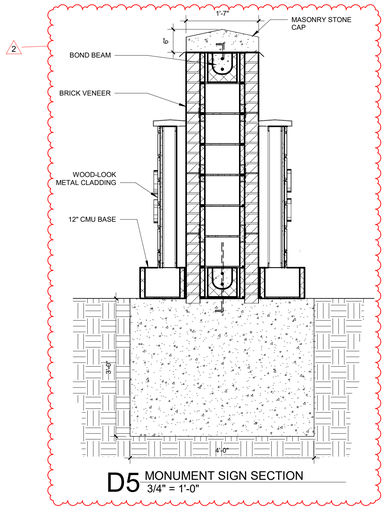
E3 TRASH ENCLOSURE FRONT ELEVATION
1/4" = 1'-0"

KEYNOTE LEGEND - C&S

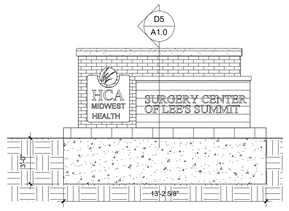
Key Value	Keynote Text
P-1	ROOF ACCESS HATCH AND LADDER
P-4	FLOOR MOUNTED MECHANICAL EQUIPMENT, RE: MEP
P-5	MANUFACTURED METAL BOLLARDS
P-6	EXTENTS OF CANOPY ABOVE
P-7	KNOX BOX



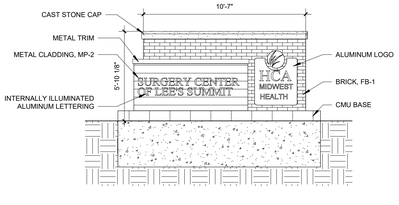
D6 TRASH ENCLOSURE WALL SECTION
1/2" = 1'-0"



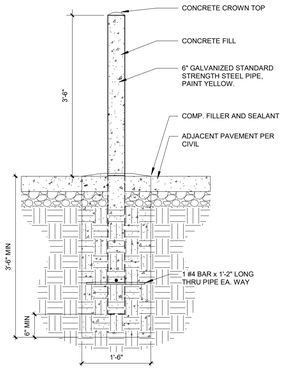
D5 MONUMENT SIGN SECTION
3/4" = 1'-0"



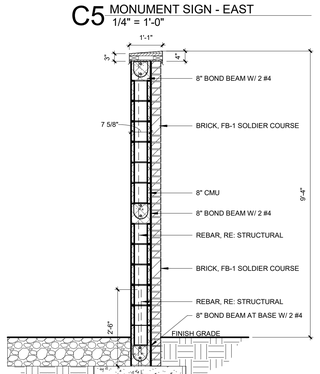
C6 MONUMENT SIGN WEST
1/4" = 1'-0"



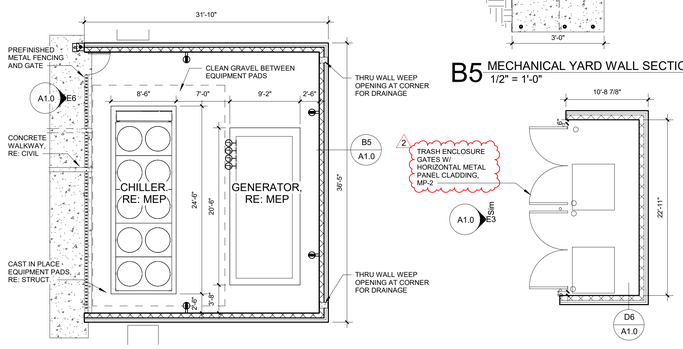
C5 MONUMENT SIGN - EAST
1/4" = 1'-0"



B6 BOLLARD DETAIL
3/4" = 1'-0"

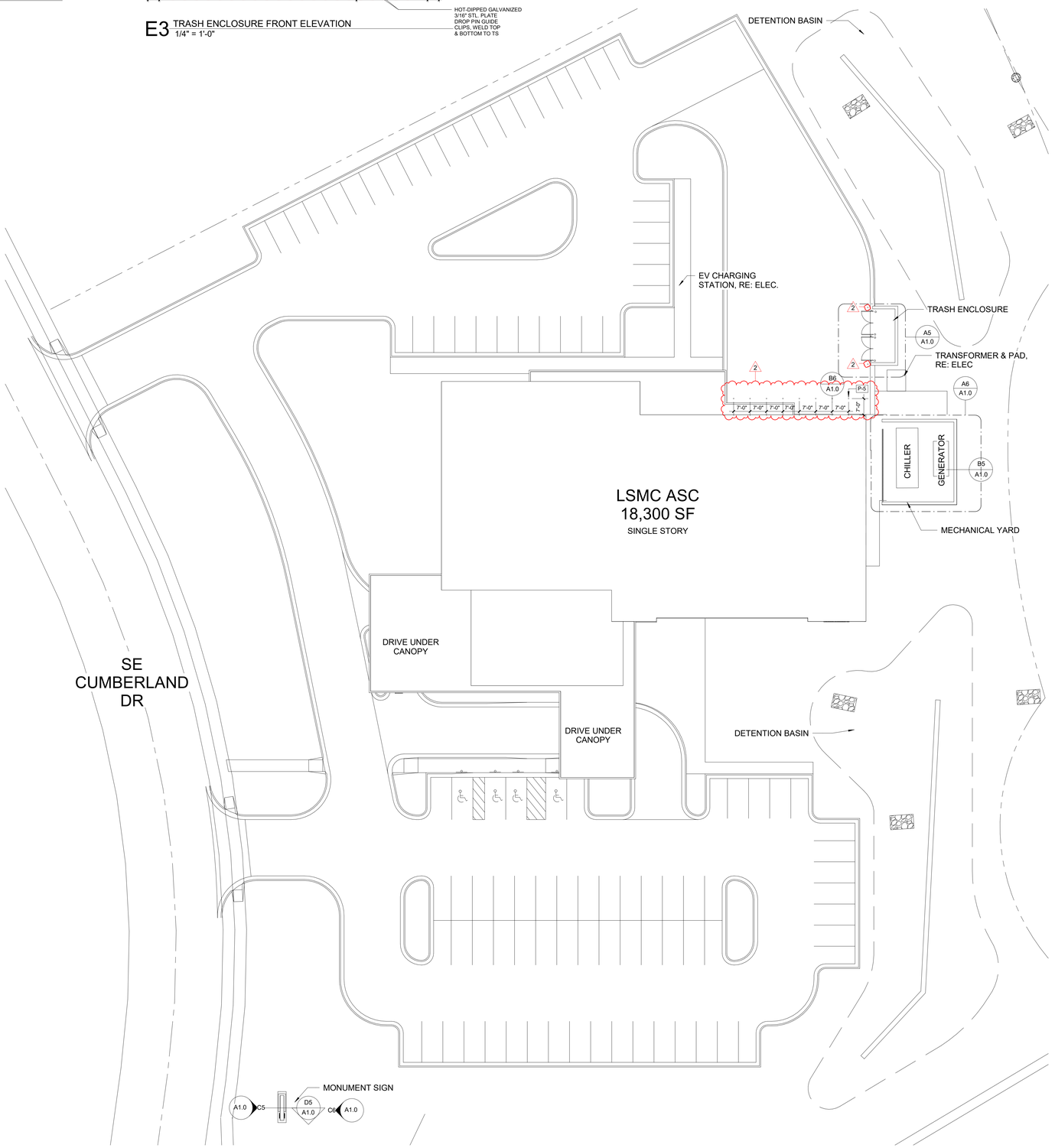


B5 MECHANICAL YARD WALL SECTION
1/2" = 1'-0"



A6 MECH YARD
1/8" = 1'-0"

A5 DUMPSTER ENCLOSURE
1/8" = 1'-0"



A1 ARCHITECTURAL SITE PLAN
1" = 20'-0"

NORTH

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Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

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Date	02/08/23
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Checked By	Checker

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2	2/20/23	Addendum #2

A1.0

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ARCHITECTURAL SITE PLAN & DETAILS

BIM 360://3-22030 HCA LSMC ASC/3-22030 HCA LSMC_Arch_R21.rvt

3/9/2023 9:06:21 AM

KEYNOTE LEGEND - C&S

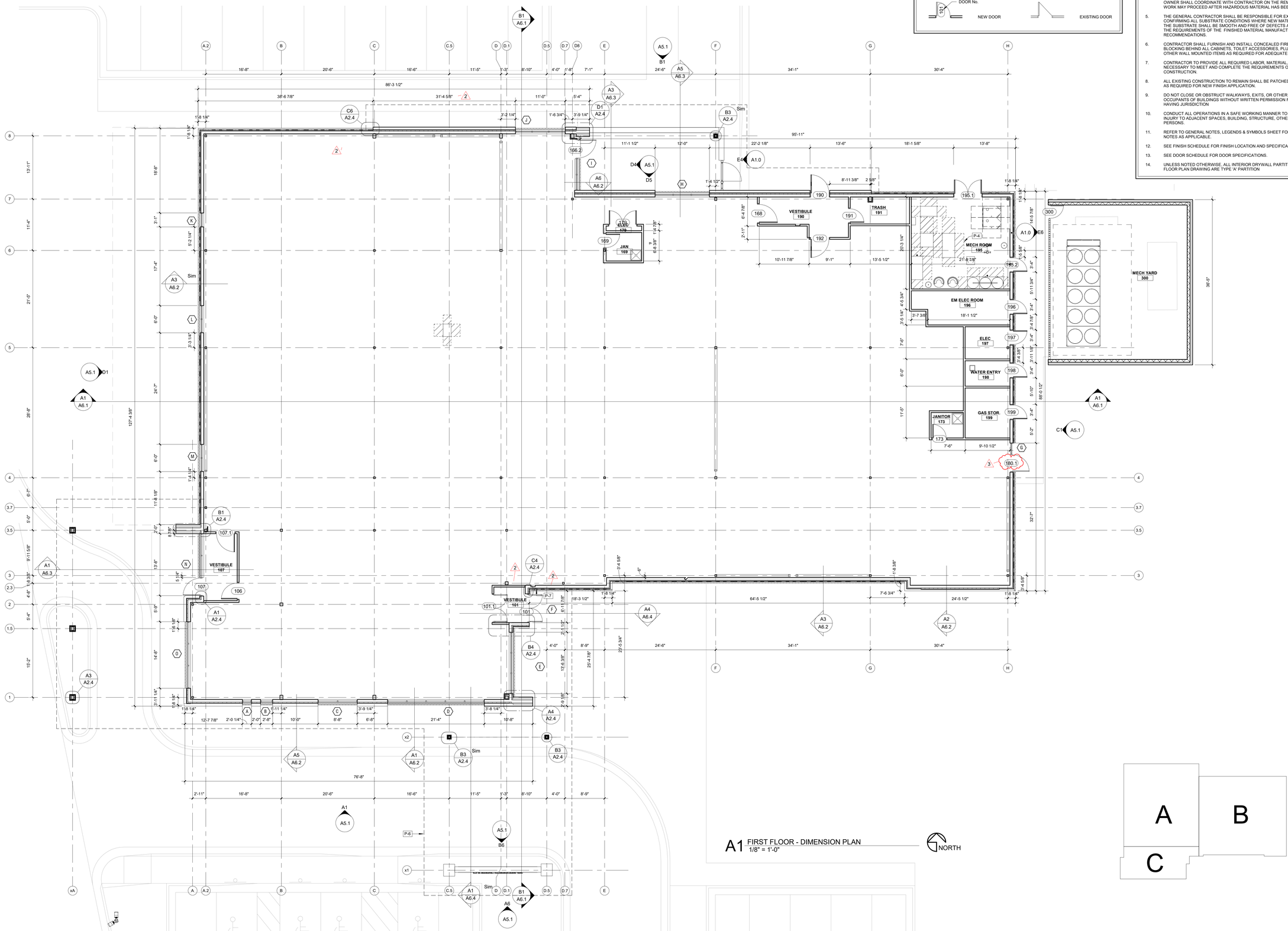
Key Value	Keynote Text
P-1	ROOF ACCESS HATCH AND LADDER.
P-4	FLOOR MOUNTED MECHANICAL EQUIPMENT, RE: MEP
P-5	MANUFACTURED METAL BOLLARDS
P-6	EXTENTS OF CANOPY ABOVE
P-7	KNOX BOX

FLOOR PLAN LEGEND

- NOT IN SCOPE
- NOT IN ARCHITECTURAL SCOPE
- CONCRETE SLAB INFILL
- NEW WALL
- EXISTING WALL
- EXPANSION JOINT
- EXISTING EXPANSION JOINT
- DOOR No.
- NEW DOOR
- EXISTING DOOR

GENERAL PLAN NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING CODES AND REGULATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING PERMITS.
3. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ARCHITECT OF ANY INCONSISTENCIES OR DISCREPANCIES WITH THE PROJECT DOCUMENTS. ACCESS TO THE SITE AND/OR SPACE UNDER CONSTRUCTION DURING BIDDING AND CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER.
4. IF MATERIAL SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB. IMMEDIATELY NOTIFY ARCHITECT AND OWNER. OWNER SHALL COORDINATE WITH CONTRACTOR ON THE REMOVAL OF SUCH ITEMS. WORK MAY PROCEED AFTER HAZARDOUS MATERIAL HAS BEEN REMOVED.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. THE SUBSTRATE SHALL BE SMOOTH AND FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISHED MATERIAL MANUFACTURERS RECOMMENDATIONS.
6. CONTRACTOR SHALL FURNISH AND INSTALL CONCEALED FIRE-TREATED WOOD BLOCKING BEHIND ALL CABINETS, TOILET ACCESSORIES, PLUMBING FIXTURES, AND OTHER WALL MOUNTED ITEMS AS REQUIRED FOR ADEQUATE SUPPORT.
7. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO MEET AND COMPLETE THE REQUIREMENTS OF THE NEW CONSTRUCTION.
8. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE PATCHED, REPAIRED, AND PREP AS REQUIRED FOR NEW FINISH APPLICATION.
9. DO NOT CLOSE OR OBSTRUCT WALKWAYS, EXITS, OR OTHER FACILITIES USED BY OCCUPANTS OF BUILDINGS WITHOUT WRITTEN PERMISSION FROM AUTHORITIES HAVING JURISDICTION
10. CONDUCT ALL OPERATIONS IN A SAFE WORKING MANNER TO PREVENT DAMAGE OR INJURY TO ADJACENT SPACES, BUILDING, STRUCTURE, OTHER FACILITIES, AND PERSONS.
11. REFER TO GENERAL NOTES, LEGENDS & SYMBOLS SHEET FOR ADDITIONAL GENERAL NOTES AS APPLICABLE.
12. SEE FINISH SCHEDULE FOR FINISH LOCATION AND SPECIFICATIONS.
13. SEE DOOR SCHEDULE FOR DOOR SPECIFICATIONS.
14. UNLESS NOTED OTHERWISE, ALL INTERIOR DRYWALL PARTITIONS INDICATED ON THE FLOOR PLAN DRAWING ARE TYPE 'A' PARTITION



A1 FIRST FLOOR - DIMENSION PLAN
1/8" = 1'-0"

NORTH

RELEASED FOR CONSTRUCTION
As noted on this sheet
Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

Samuel K. Beckman - Architect
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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
2	2/20/23	Addendum #2
3	3/9/23	Addendum #3

A | B | C

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FIRST FLOOR DIMENSION PLAN

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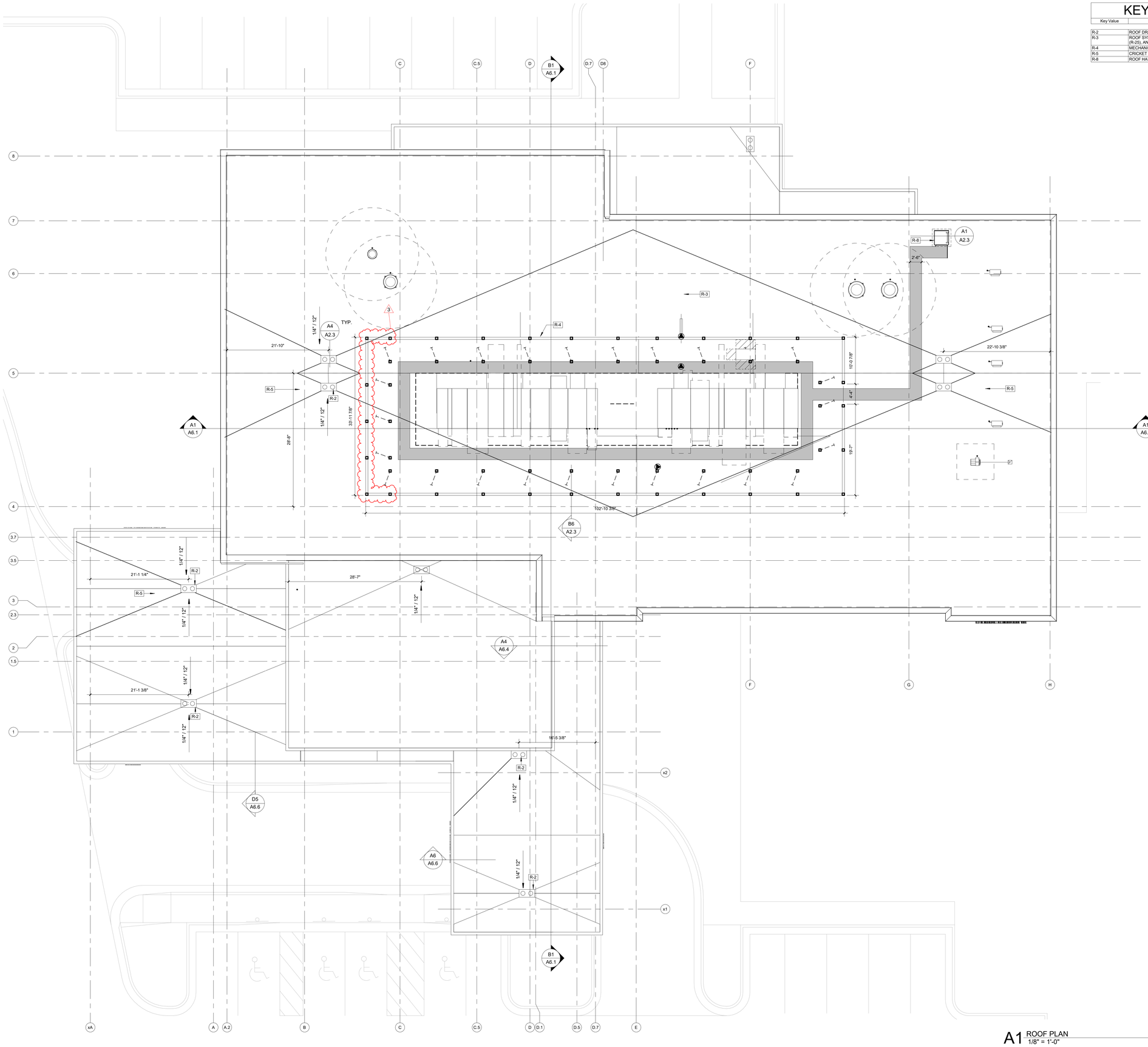
KEYNOTE LEGEND - ROOF PLAN

Key Value	Keynote Text
R-2	ROOF DRAIN AND OVERFLOW, TYP.
R-3	ROOF SYSTEM: SINGLE PLY TPO ROOFING MEMBRANE, 5/8" COVER BOARD, POLYISO ROOF DECK INSULATION (R-25), AND AIR/VAPOR BARRIER ON METAL DECK. PROVIDE TAPERED INSULATION AT CRICKETS, TYP.
R-4	MECHANICAL ROOF SCREEN.
R-5	CRICKET TO SLOPE 1/4" PER FOOT TO ROOF DRAIN, TYP.
R-8	ROOF HATCH AND LADDER, RE: SPEC.



A1 ROOF PLAN
1/8" = 1'-0"

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ROOF PLAN

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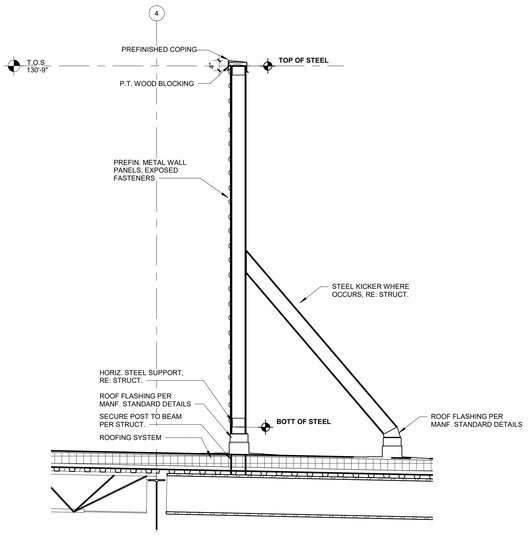
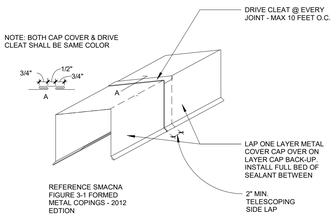
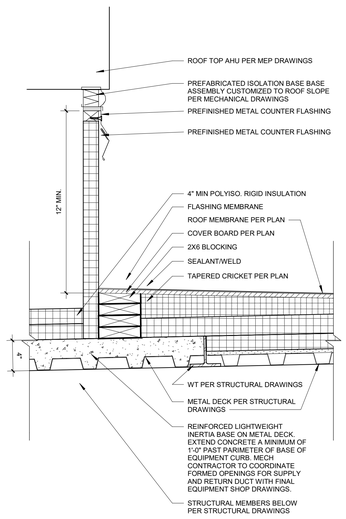


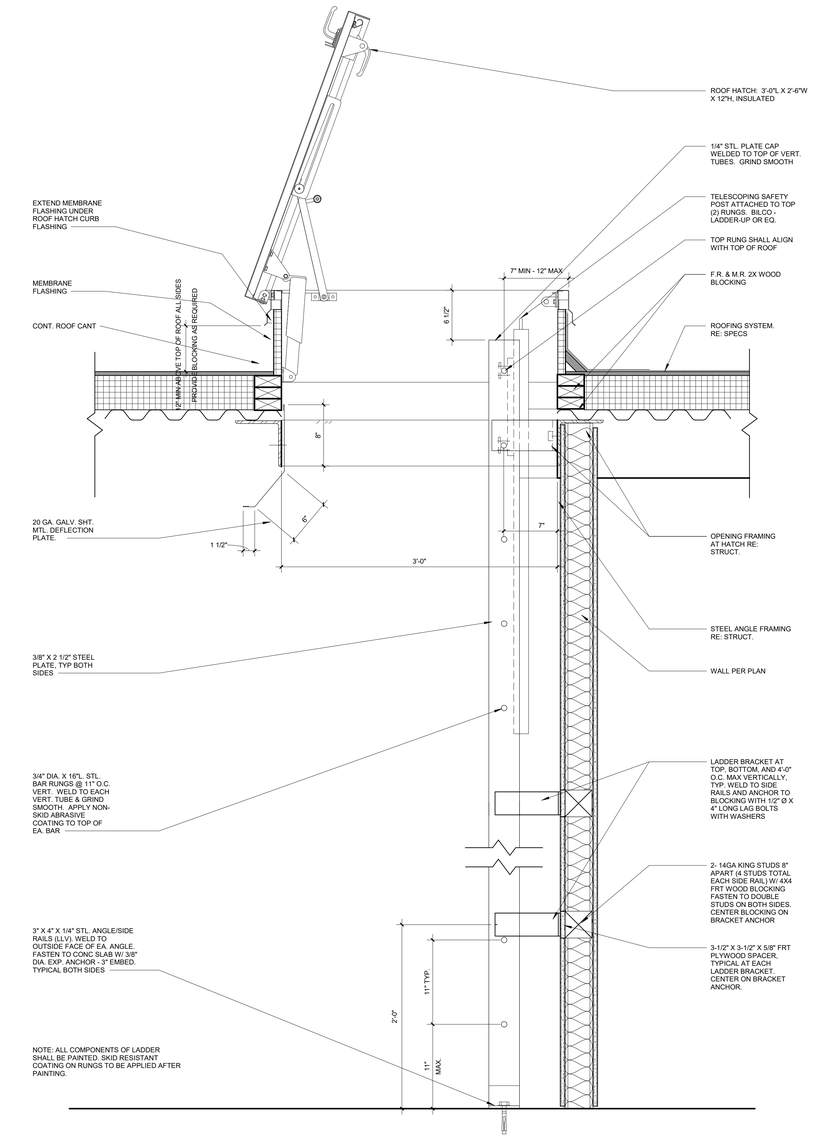
B6 DETAIL AT MECHANICAL ROOFTOP SCREEN
1/2" = 1'-0"



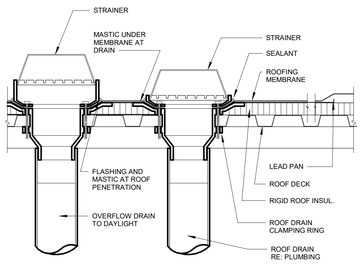
B3 COPING DRIVE CLEAT
3/4" = 1'-0"



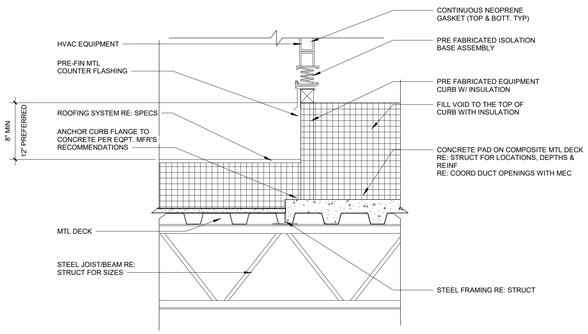
B2 ROOF CURB DETAIL
1 1/2" = 1'-0"



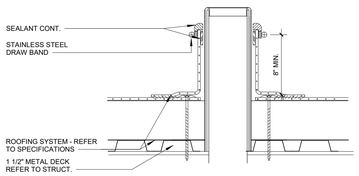
A1 ROOF HATCH AND LADDER
1 1/2" = 1'-0"



A4 ROOF DRAIN
1 1/2" = 1'-0"



A3 ISOLATION BASE FOR HVAC EQPT
1 1/2" = 1'-0"



A2 VENT FLASHING DETAIL
1 1/2" = 1'-0"

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ROOF DETAILS

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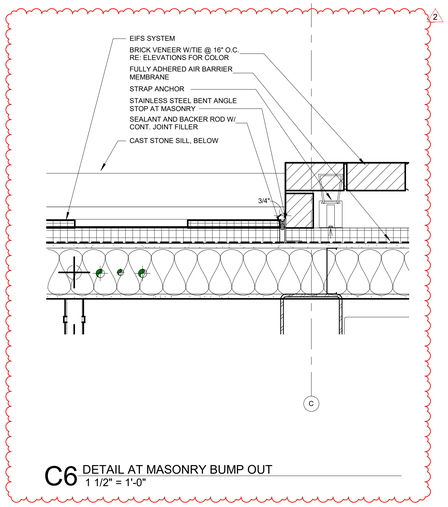
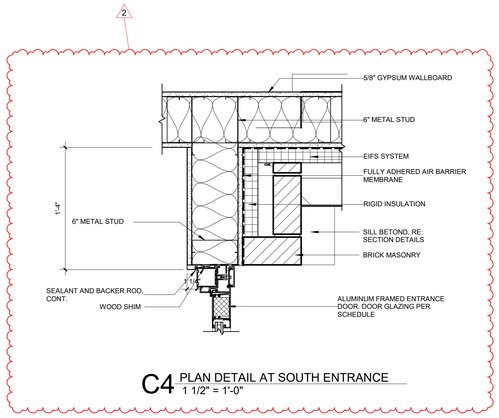
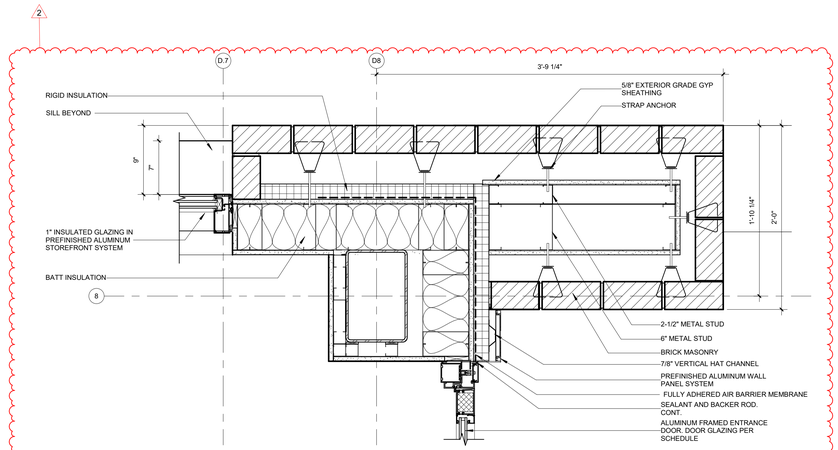


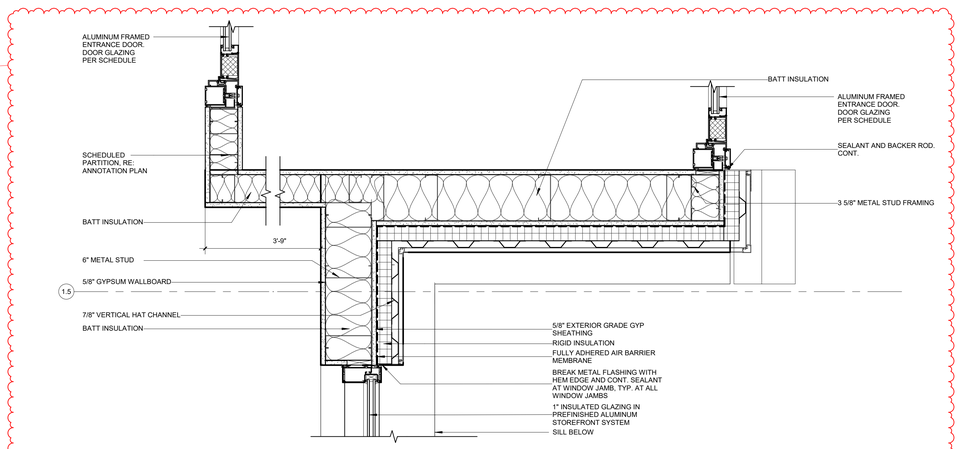
C6 DETAIL AT MASONRY BUMP OUT
1 1/2" = 1'-0"



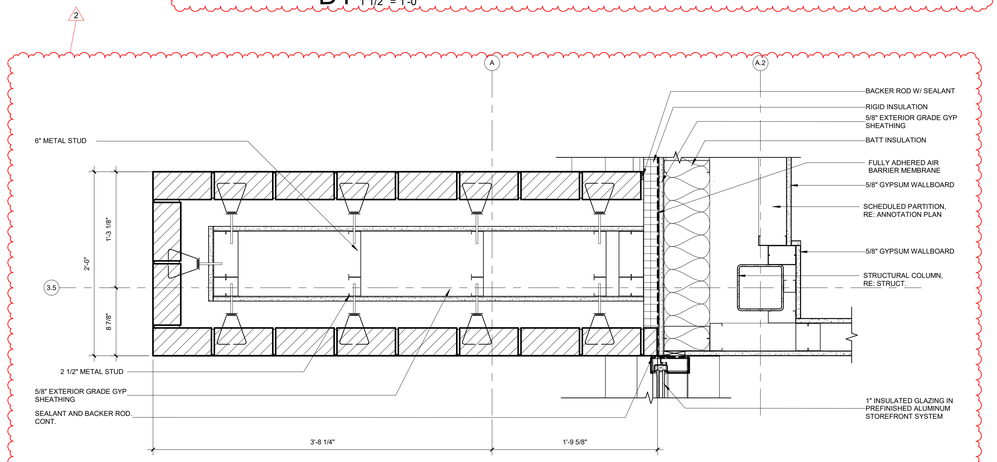
C4 PLAN DETAIL AT SOUTH ENTRANCE
1 1/2" = 1'-0"



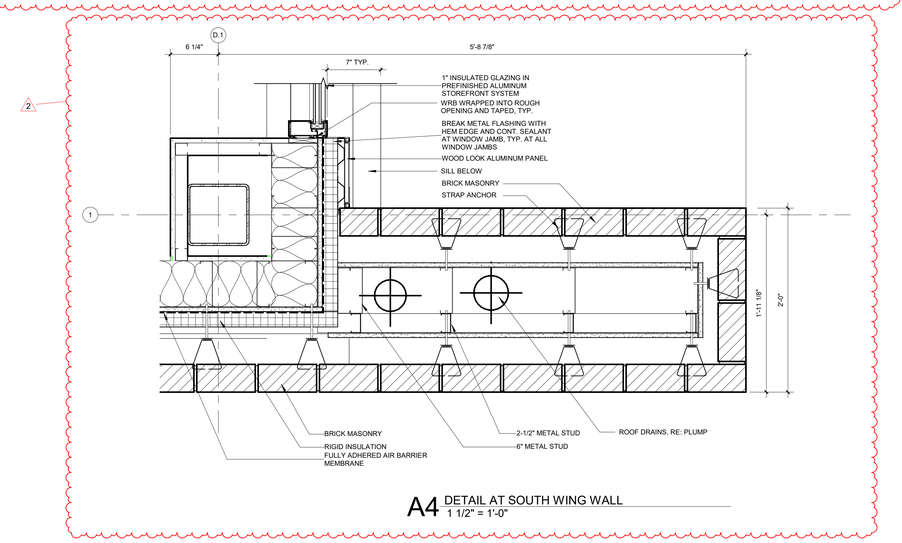
D1 PLAN DETAIL AT WING WALL AT EMPLOYEE PATIO
1 1/2" = 1'-0"



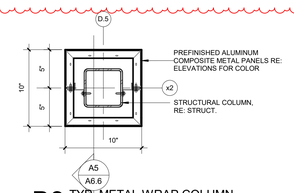
B4 PLAN DETAIL AT SOUTH ENTRANCE
1 1/2" = 1'-0"



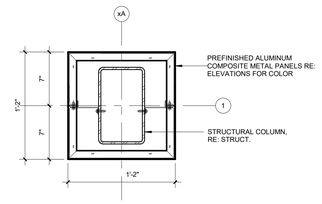
B1 PLAN DETAIL AT WEST WING WALL
1 1/2" = 1'-0"



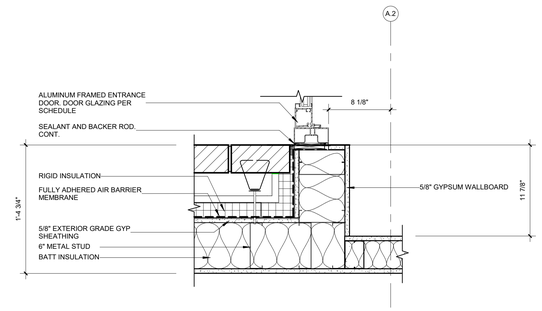
A4 DETAIL AT SOUTH WING WALL
1 1/2" = 1'-0"



B3 TYP. METAL WRAP COLUMN
1 1/2" = 1'-0"



A3 TYP. METAL WRAP COLUMN
1 1/2" = 1'-0"



A1 PLAN DETAIL AT WEST ENTRANCE
1 1/2" = 1'-0"

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2	2/20/23	Addendum #2

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PLAN DETAILS

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CEILING LEGEND

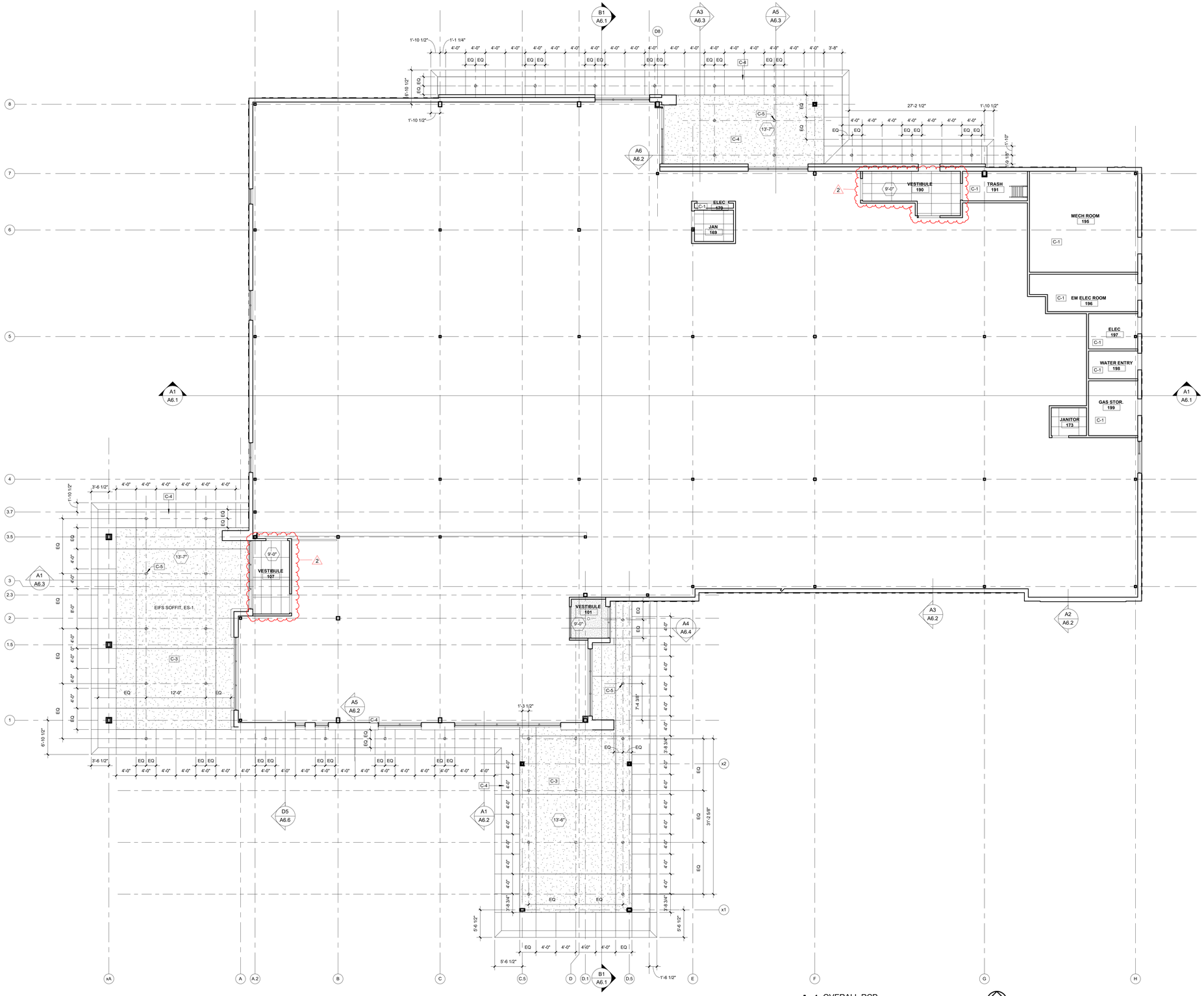
- RECESSED CAN LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- 2X2 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- SURFACE-MOUNTED LIGHT FIXTURE RE: ELECT
- PENDANT LIGHT FIXTURE RE: ELECT
- WALL SCONCE LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE W/ PARA-CUBE LENS RE: ELECT
- 2X4 RECESSED/SURFACE PSYCHIATRIC LIGHT FIXTURE RE: ELECT
- GYP BOARD CEILING - PAINTED W/ CONTROL JOINTS PER SPECS
- EIFS
- 2X2/2x4 LAY-IN ACOUSTICAL CEILING
- EXIT LIGHT WITH FIXTURE MARK CEILING MOUNTED RE: ELECT
- EXIT LIGHT WITH FIXTURE MARK WALL BRACKET RE: ELECT
- SUPPLY AIR GRILLE RE: MECH
- RETURN AIR OR EXHAUST GRILLE RE: MECH
- SOFFIT HEIGHT
- CEILING HEIGHT

REFLECTED CEILING NOTES

1. EXISTING MEPFP DEVICES SHOWN ARE BASED ON EXISTING DRAWINGS AND/OR FIELD OBSERVATIONS. THE OWNER/ARCHITECT DOES NOT GUARANTEE THE ACCURACY/LOCATION OR QUANTITY OF EXISTING DEVICES.
2. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO MEET AND COMPLETE THE REQUIREMENTS OF THE NEW CONSTRUCTION.
3. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE PATCHED, REPAIRED, AND PREP AS REQUIRED FOR NEW FINISH APPLICATION.
4. PAINT THE UNDERSIDE OF ALL GYPSUM BOARD CEILINGS, BULKHEADS AND SOFFITS (PT-4) UNLESS NOTED OTHERWISE.
5. THIS PLAN SHALL BE USED TO COORDINATE THE CEILING LAYOUT WITH MECHANICAL AND ELECTRICAL WORK. VERIFY THE EXACT QUANTITY REQUIRED.
6. CONTRACTOR TO REFER TO THE ELECTRICAL PLANS FOR ACTUAL LIGHTING SIZES AND FIXTURE TYPES.
7. SEE SPECIFICATIONS AND FINISH SCHEDULE FOR CEILING TYPES.
8. REFER TO FINISH FLOOR PLANS FOR MATERIAL LEGEND OF ALL TYPES.
9. ALL CEILINGS SHALL BE 9'-0 AFF UNLESS OTHERWISE NOTED.

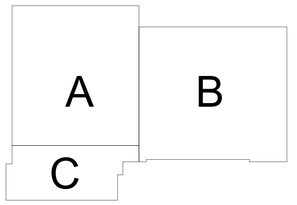
KEYNOTE LEGEND - RCP

Key Value	Keynote Text
C-1	EXPOSED TO STRUCTURE ABOVE.
C-2	DESIGNFLEX PATTERN ACT-3 CEILING. RE: SCHEDULE.
C-3	EIFS SOFFIT, ES-1.
C-4	METAL PANEL SOFFIT, MP-1.
C-5	EXTERIOR LIGHTING FIXTURE. RE: ELECTRICAL



A1 OVERALL RCP
1/8" = 1'-0"

NORTH



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REFLECTED CEILING PLAN

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3/9/2023 9:06:28 AM

DOOR SCHEDULE - CS

DOOR #	ROOM NAME	DOOR INFORMATION WIDTH	HEIGHT	NO. OF LEAVES	UNEQUAL LEAF WIDTH	ELEV.	MATL.	FRAME INFORMATION ELEV.	MATL.	GLAZING	LABEL (MIN)	HARDWARE SET	OPENING DETAIL HEAD	JAMB	REMARKS	REV #
101	VESTIBULE	3'-0"	8'-6"	2		FGS	ALUM	--	ALUM	--	--	26	--	--	CS; AUTO OPERATOR	
101.1	WAITING	3'-0"	8'-6"	2		FGS	ALUM	--	ALUM	--	--	25	--	--	CS; AUTO OPERATOR	
106	VESTIBULE	3'-6"	7'-0"	1		F	WD	1	HM	--	--	17	A5/TI-A4.1	A6/TI-A4.1	CS	
107	VESTIBULE	4'-0"	8'-0"	1		FGN	ALUM	--	ALUM	GL-1	--	22	--	--	CS; CARD READER & AUTO OPERATOR, AIPHONE	
107.1	VESTIBULE	4'-0"	7'-0"	1		F	WD	1	HM	--	--	19	A5/TI-A4.1	A6/TI-A4.1	CS; CARD READER & AUTO OPERATOR	
166.2	STAFF LOUNGE	4'-0"	8'-0"	1		FGN	ALUM	--	ALUM	IGU	--	21	--	--	CS; CARD READER	
168	VESTIBULE	4'-0"	7'-0"	1		F	WD	1	HM	--	20 min	10	--	--	CS; CARD READER	
169	JAN	3'-0"	7'-0"	1		F	WD	1	HM	--	--	07	A5/TI-A4.1	A6/TI-A4.1	CS	
173	JANITOR	3'-0"	7'-0"	1		F	WD	1	HM	--	--	07	A5/TI-A4.1	A6/TI-A4.1	CS	
179	HALL	3'-0"	7'-0"	2		F	WD	2	HM	--	--	13	--	--	CS	
180.1	HALL	4'-0"	8'-6"	1		FGN	ALUM	--	ALUM		--	23	--	--	CS	
190	VESTIBULE	4'-0"	7'-0"	1		V	HM	1	HM	IGU	--	16	A3/TI-A4.1	A4/TI-A4.1	CS; CARD READER	
191	TRASH	3'-0"	7'-0"	1		F	WD	1	HM	--	20 min	03	--	--	CS	
192	VESTIBULE	4'-0"	7'-0"	1		V	WD	1	HM	--	45 min	03	A5/TI-A4.1	B6/TI-A4.1	CS;4x4 Plate, SST Edge Protection	
195.1	MECH ROOM	3'-0"	7'-0"	2		F	HM	2	HM	--	--	20	C3/TI-A4.1		CS	
195.2	MECH ROOM	3'-0"	7'-0"	1		F	HM	1	HM	--	--	14	C3/TI-A4.1	B4/TI-A4.1	CS	
196	EM ELEC ROOM	3'-0"	7'-0"	1		F	HM	1	HM	--	--	15	C3/TI-A4.1	B4/TI-A4.1	CS	
197	ELEC	3'-0"	7'-0"	1		F	HM	1	HM	--	--	15	C3/TI-A4.1	B4/TI-A4.1	CS	
198	WATER ENTRY	3'-0"	7'-0"	1		F	HM	1	HM	--	--	14	C3/TI-A4.1	B4/TI-A4.1	CS	
199	GAS STOR.	3'-0"	7'-0"	1		F	HM	1	HM	--	--	14	C3/TI-A4.1	B4/TI-A4.1	CS	
300	MECH YARD	3'-0"	7'-0"	1		--	STEEL	--	STEEL	--	--	28	--	--	CS; GATE TO MECH YARD; CARD READER	

DOOR AND HARDWARE NOTES

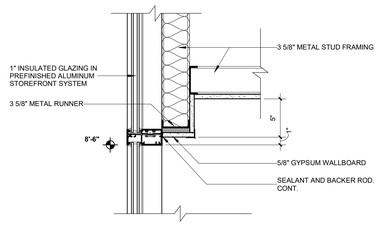
1. ALL MEANS OF EGRESS DOORS SHALL BE READILY OPENABLE FROM THE SIDE FROM WHICH EGRESS IS TO BE MADE WITHOUT THE USE OF SPECIAL TOOLS, A KEY, SPECIAL KNOWLEDGE OR EFFORT. DOUBLE KEYED DEAD BOLTS ARE PROHIBITED.
2. ALL HARDWARE SHALL BE IN COMPLIANCE WITH ADA GUIDELINES AND NATIONAL BUILDERS HARDWARE ASSOCIATION STANDARDS.
3. HARDWARE TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

DOOR & FRAME MAT'L LEGEND

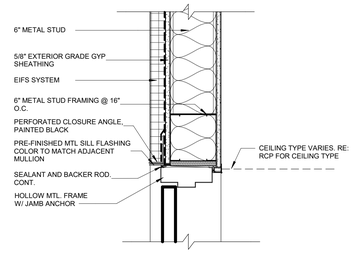
ALUM	ALUMINUM
HM	HOLLOW METAL
WD	SOLID CORE WOOD
FRP	FIBER REINFORCED PANEL
T	TEMPERED

GLAZING LEGEND

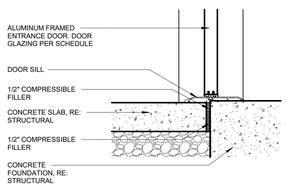
GL-1	TEMPERED GLASS
GL-2	LAMINATED GLASS
GL-3	FIRE PROTECTION RATED GLASS
GL-4	FIRE RESISTANT RATED GLASS
GL-5	BUTT-GLAZED GLASS PANELS
IGU-1	DOUBLE-GLAZED INSULATING GLASS UNIT
IGU-2	DOUBE-GLAZED INSULATING GLASS UNIT (TEMPERED)
IGU-3	DOUBE-GLAZED INSULATING GLASS UNIT (LAMINATED)
IGU-4	DOUBE-GLAZED INSULATING GLASS UNIT (SPANDREL)



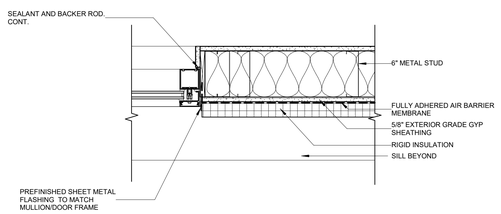
E3 TYP. BULKHEAD DETAIL AT STOREFRONT MULLION
1 1/2" = 1'-0"



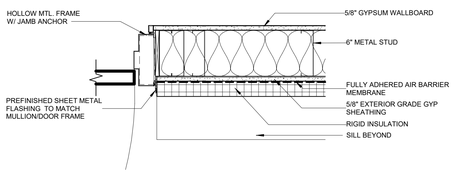
C3 TYP. HEAD DETAIL AT DOOR AND EIFS
1 1/2" = 1'-0"



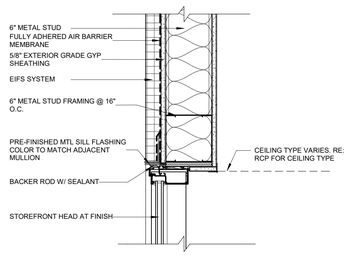
C5 TYP. EXTERIOR DOOR SILL
1 1/2" = 1'-0"



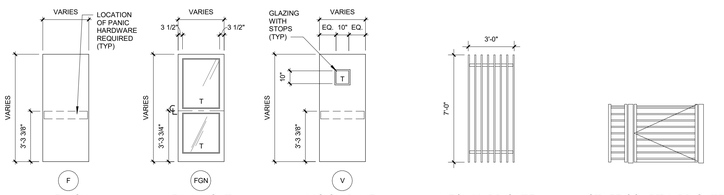
B5 PLAN DETAIL - TYP. STOREFRONT AT EIFS
1 1/2" = 1'-0"



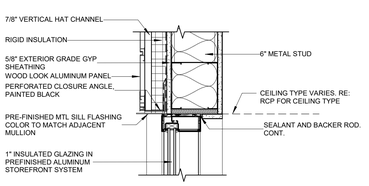
B4 TYP. DOOR JAMP AT EIFS
1 1/2" = 1'-0"



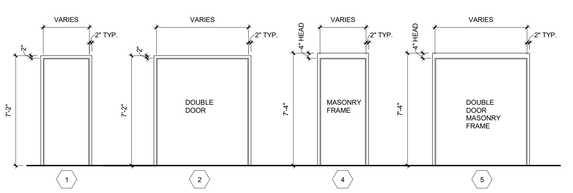
B3 TYP. HEAD DETAIL AT STOREFRONT AND EIFS
1 1/2" = 1'-0"



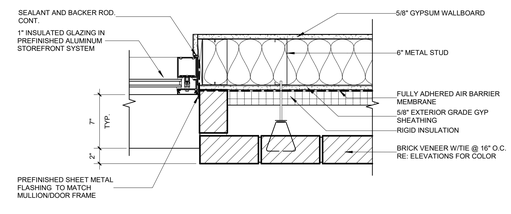
DOOR ELEVATIONS:



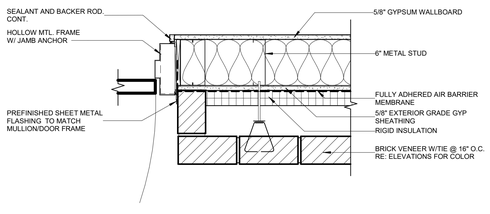
A3 TYP. HEAD DETAIL AT STOREFRONT AND WOOD LOOK METAL PANEL
1 1/2" = 1'-0"



FRAME ELEVATIONS:



A5 PLAN DETAIL - TYP. STOREFRONT AT BRICK
1 1/2" = 1'-0"



A4 TYP. DOOR JAMP AT BRICK
1 1/2" = 1'-0"

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Surgery Center of Lee's Summit
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Checked By	Checker

Revision

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3	3/9/23	Addendum #3

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DOOR AND FRAME SCHEDULE AND DETAILS

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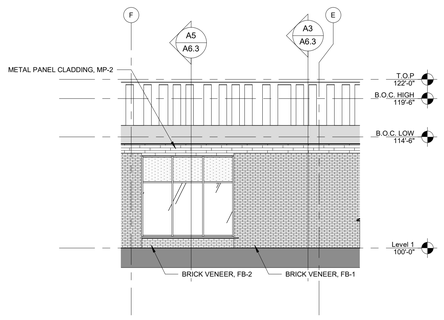
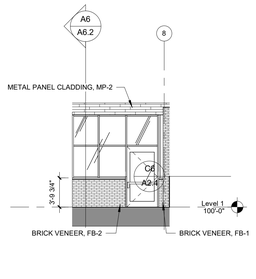
EXTERIOR FINISH LEGEND

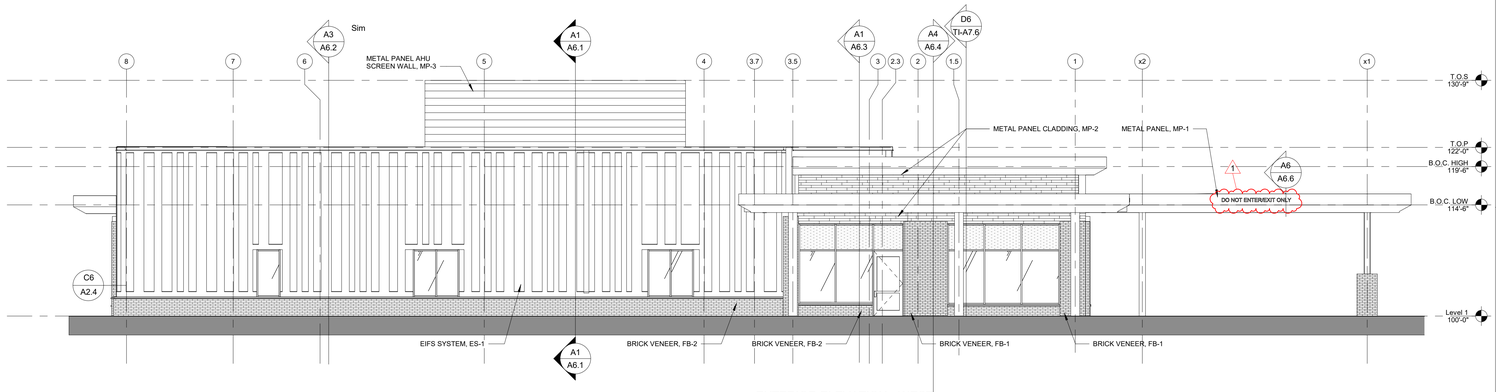
MARK	MATERIAL	MANUFACTURER	COLOR/PATTERN	DIMENSION
ES-1	EIFS SYSTEM	AS SPECIFIED	TBD	2" & 3"
FB-1	TAN BRICK	GLEN GERY	PEARL RIVER IRONSPOT	2 1/4" x 7 5/8" x 3 5/8"
FB-2	DARK BRICK	ENDICOTT	MANGANESE IRONSPOT, SMOOTH	2 1/4" x 7 5/8" x 3 5/8"
MP-1	METAL PANEL	FIRESTONE	CITYSCAPE	VARIES
MP-2	METAL PANEL	KNOTWOOD	WALNUT	VARIES
MP-3	METAL PANEL	BERRIDGE	HR-16, GRAY ZINC	VARIES



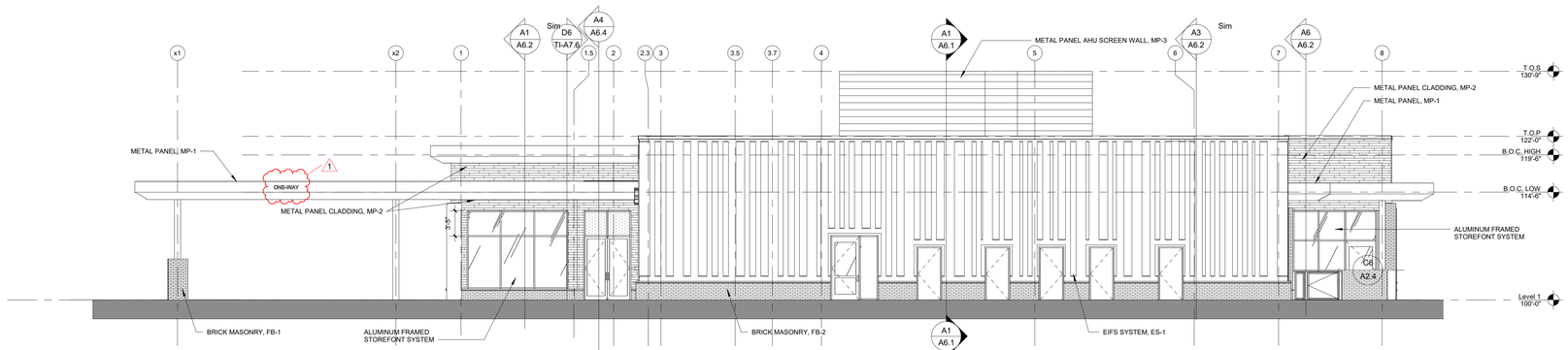
D5 STAFF COURTYARD SOUTH
1/8" = 1'-0"



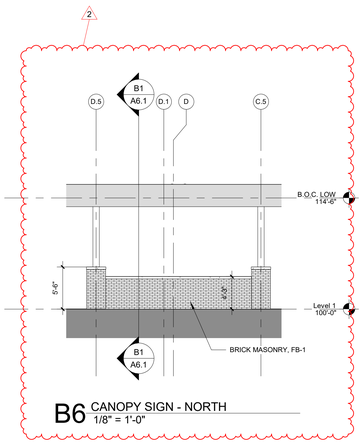
D4 STAFF COURTYARD - WEST
1/8" = 1'-0"



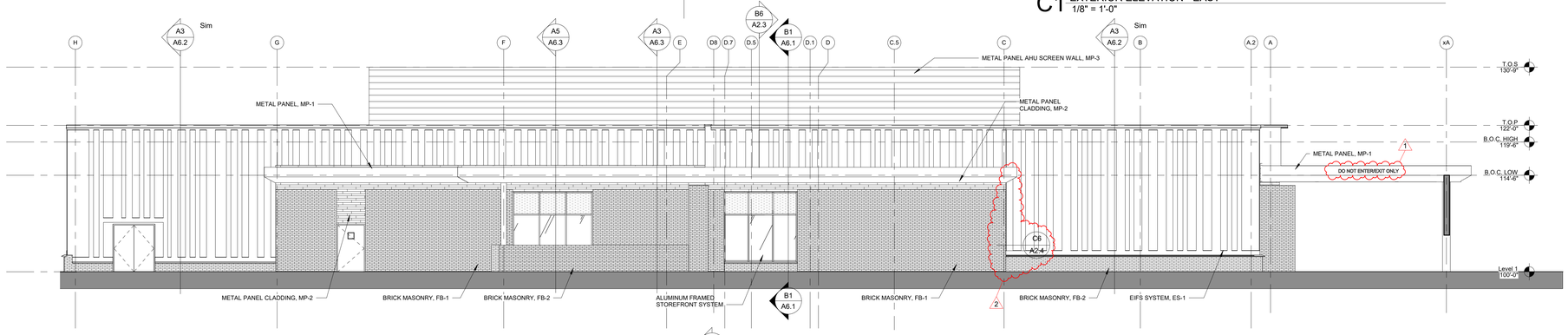
D1 EXTERIOR ELEVATION - WEST
1/8" = 1'-0"



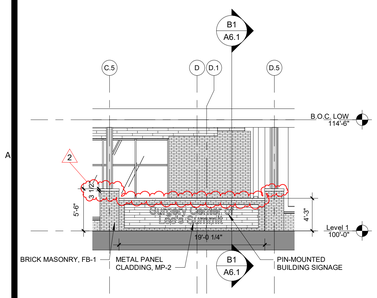
C1 EXTERIOR ELEVATION - EAST
1/8" = 1'-0"



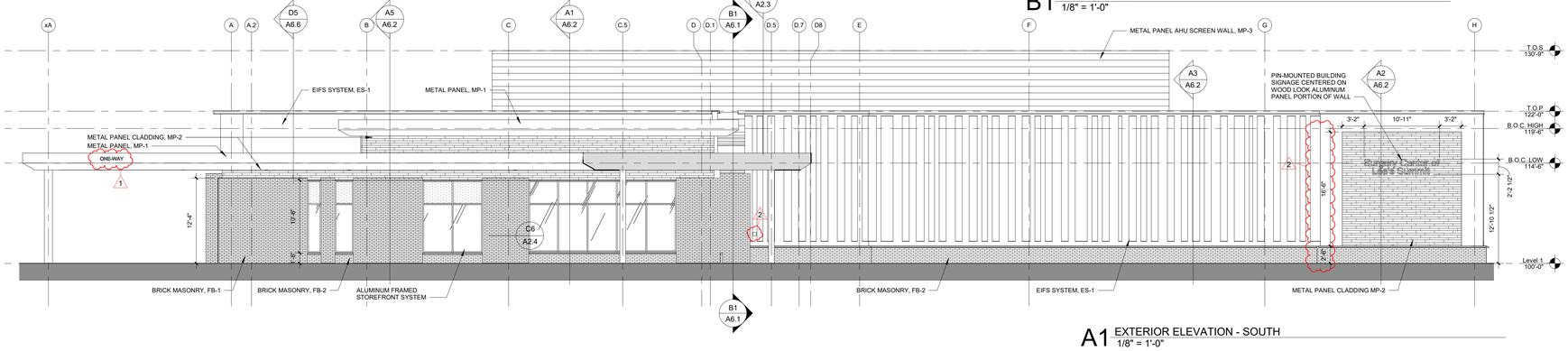
B6 CANOPY SIGN - NORTH
1/8" = 1'-0"



B1 EXTERIOR ELEVATION - NORTH
1/8" = 1'-0"



A6 CANOPY SIGN ELEVATION
1/8" = 1'-0"



A1 EXTERIOR ELEVATION - SOUTH
1/8" = 1'-0"

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
1	2/14/23	Addendum #1
2	2/20/23	Addendum #2

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EXTERIOR ELEVATIONS

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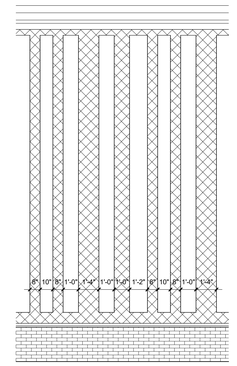
GENERAL EIFS NOTES

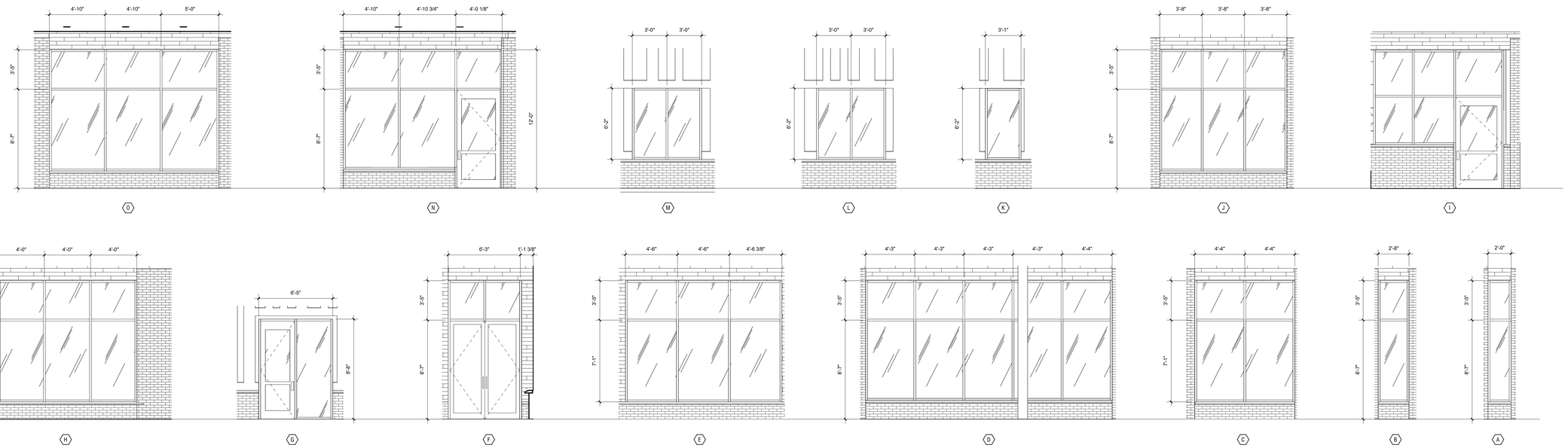
1. GENERAL EIFS NOTES APPLY TO ALL EXTERIOR ELEVATIONS.
2. ALL WALL MOUNTED FIXTURES AND EXTERIOR PENETRATIONS ARE TO BE COORDINATED TO BE LOCATED ON 3" DEPTH FACES OF EIFS.
3. ALL EXTERIOR DOORS, WINDOW FRAMES, AND STOREFRONT FRAMES ARE TO BE PLACED ON 2" EIFS DEPTH AS INDICATED IN EXTERIOR ELEVATIONS
4. EIFS PATTERN TO FOLLOW TYPICAL ELEVATION. PATTERN MAY VARY IN INDICATED LOCATIONS.
5. PROVIDE SLOPED SURFACE TRANSITION AT ALL HORIZONTAL FEATURE BANDS, PER MANUFACTURERS DETAILS.

EIFS LEGEND

	2" DEPTH
	3" DEPTH



C2 TYPICAL EIFS PATTERN
1/4" = 1'-0"



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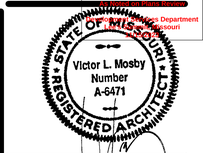

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GLAZING ELEVATIONS

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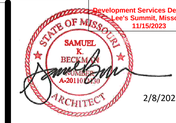

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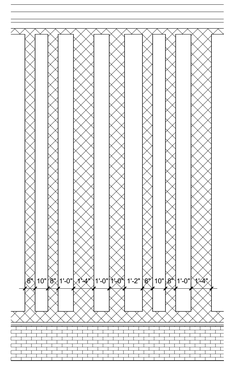
EIFS LEGEND

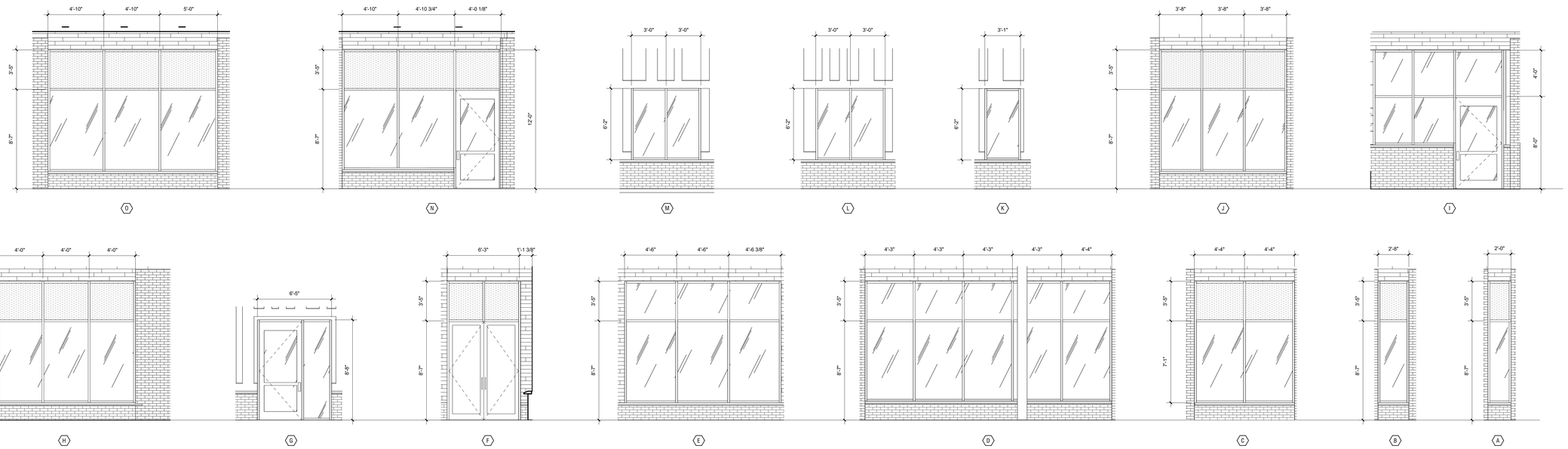
	2" DEPTH
	3" DEPTH



C2 TYPICAL EIFS PATTERN
1/4" = 1'-0"

GLAZING LEGEND

	GLASS
	SPANDREL GLASS



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GLAZING ELEVATIONS

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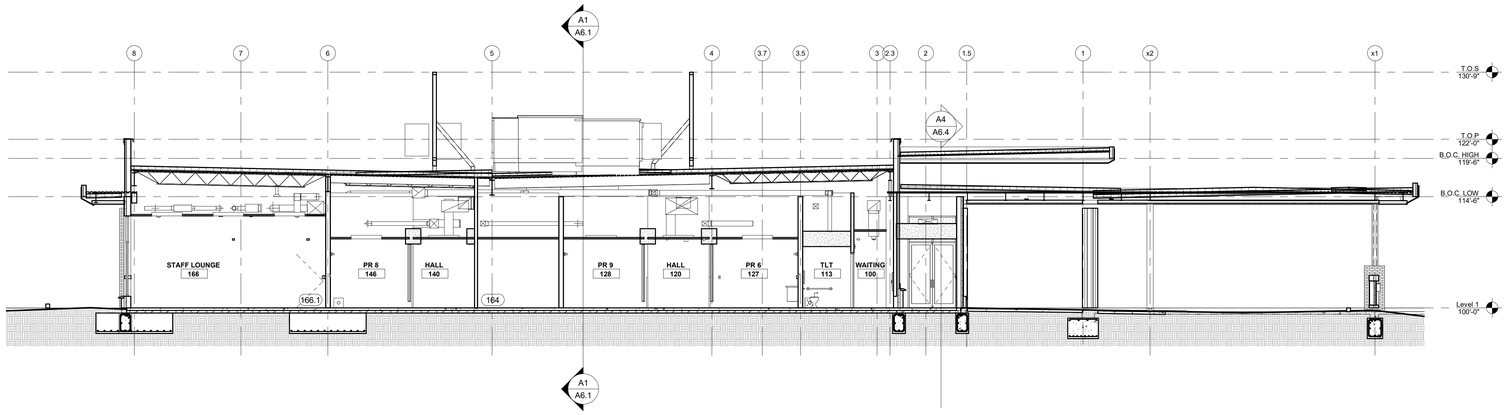
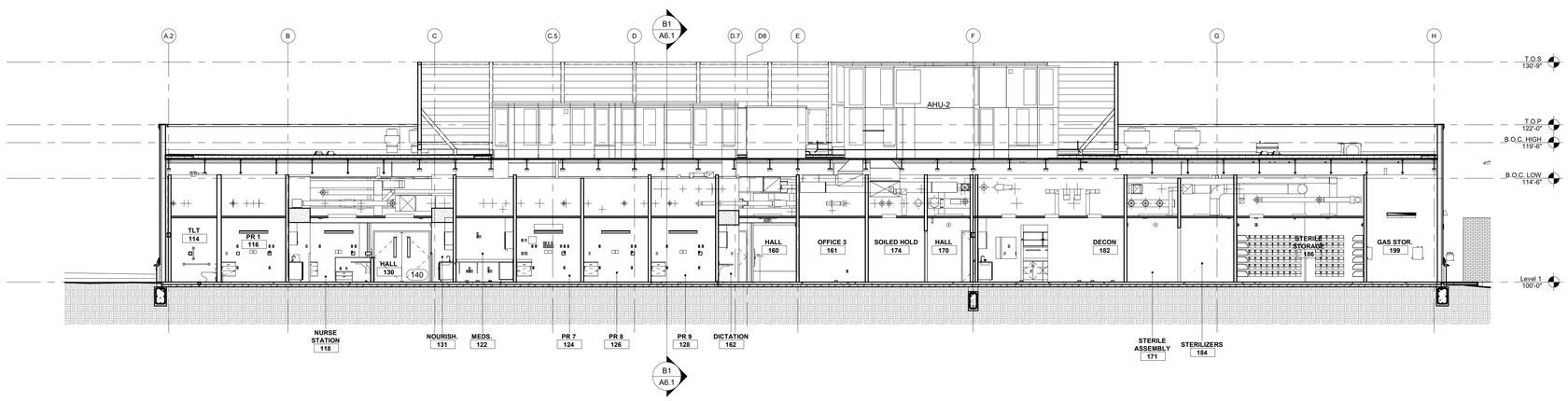


B1 BUILDING SECTION NS - THRU GI & PACU
1/8" = 1'-0"



A1 BUILDING SECTION EW - THRU SPD & PACU
1/8" = 1'-0"

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BUILDING SECTIONS

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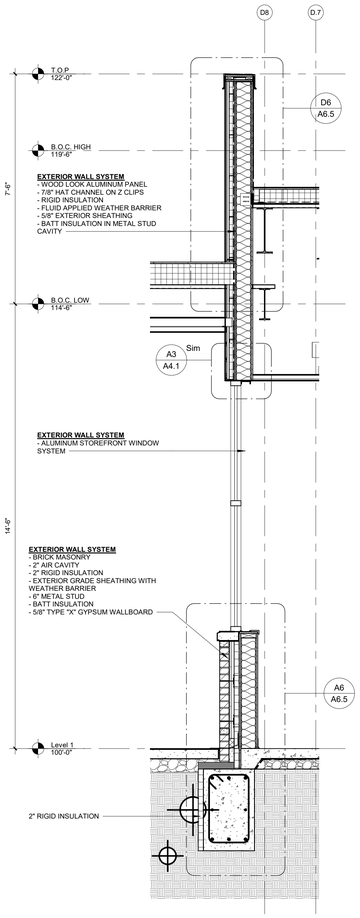
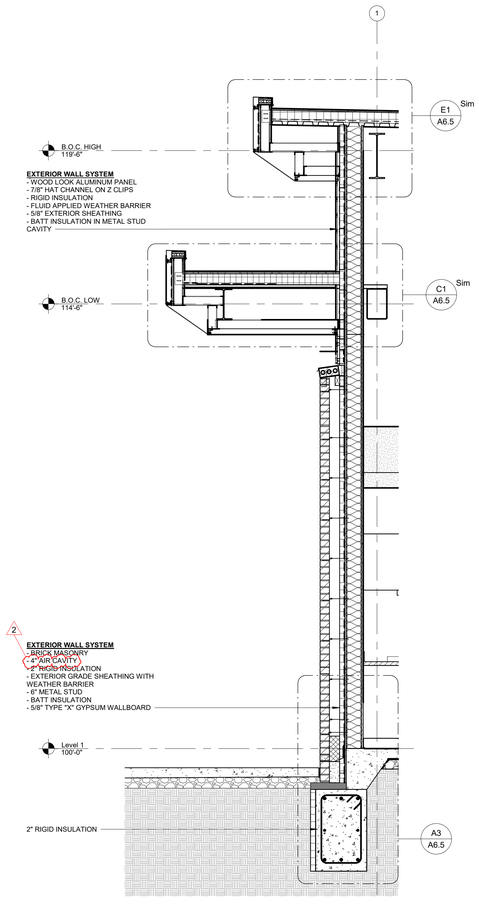


A6 WALL SECTION 1/2" = 1'-0"



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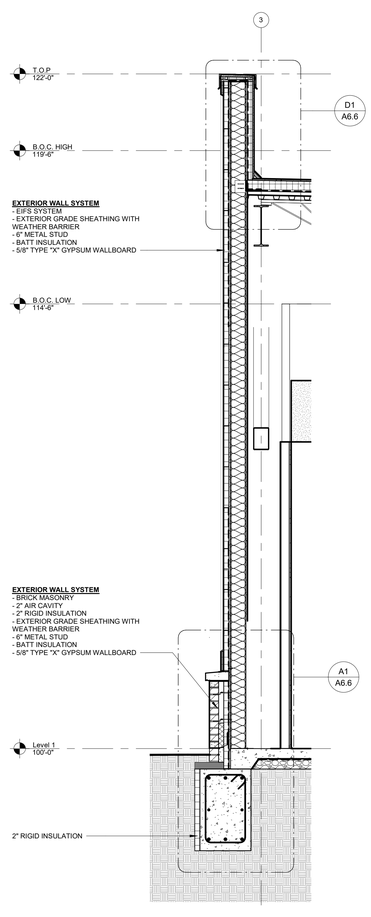
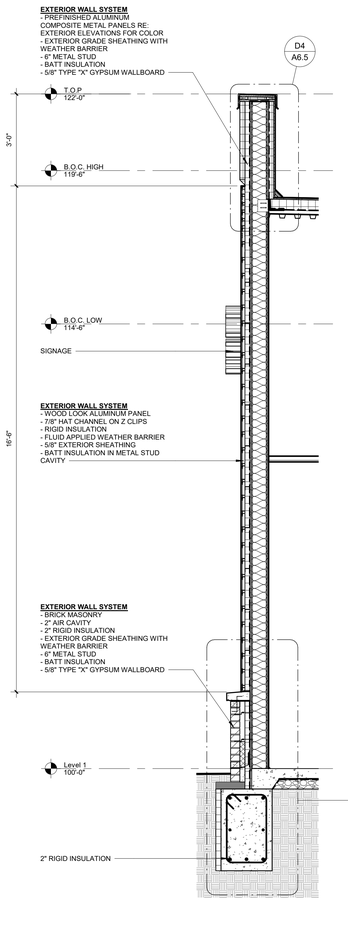


A3 WALL SECTION 1/2" = 1'-0"



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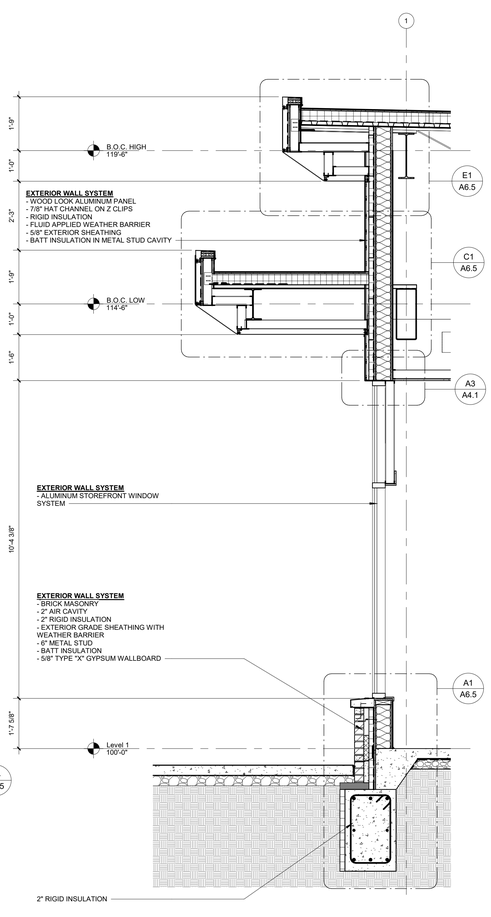

A1 WS_S_STOREFRONT 1/2" = 1'-0"

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WALL SECTIONS

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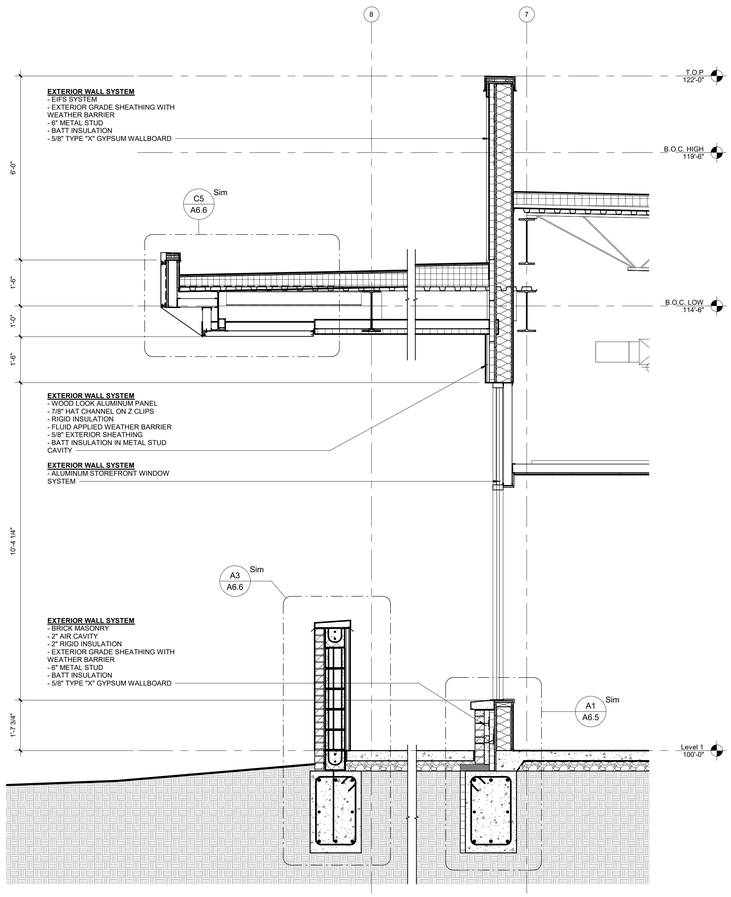

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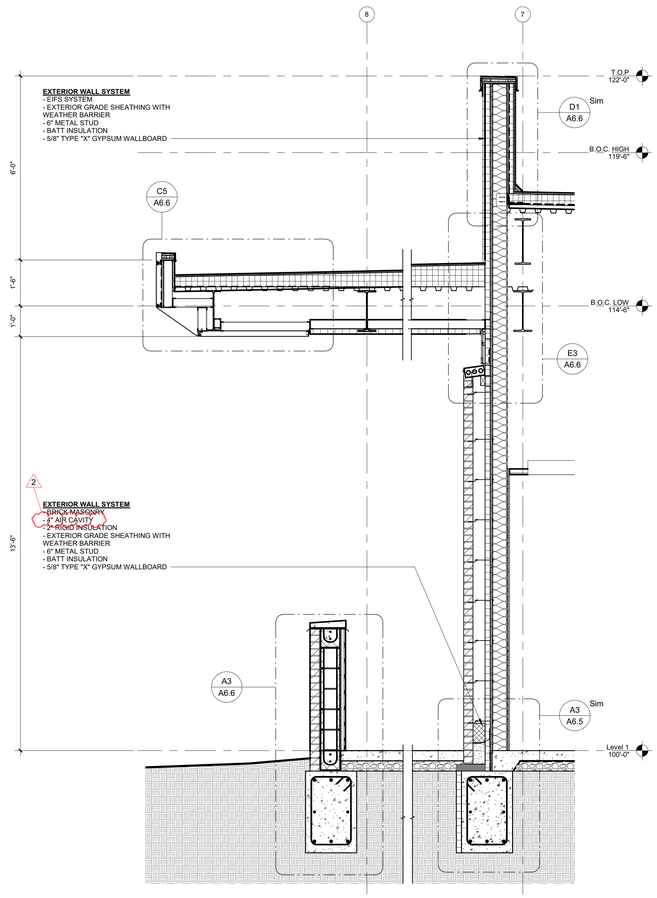
1/2" = 1'-0"



A3 WALL SECTION
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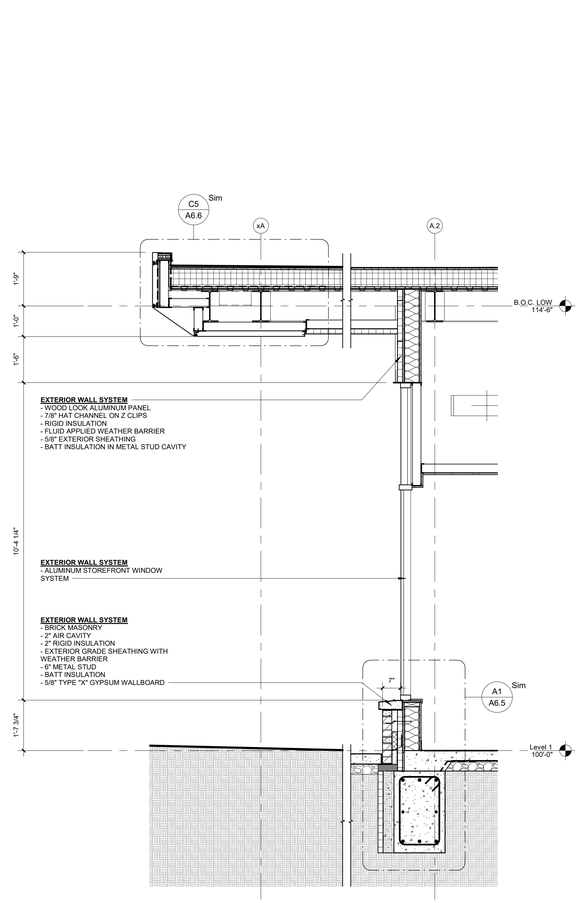

A1 WALL SECTION
1/2" = 1'-0"

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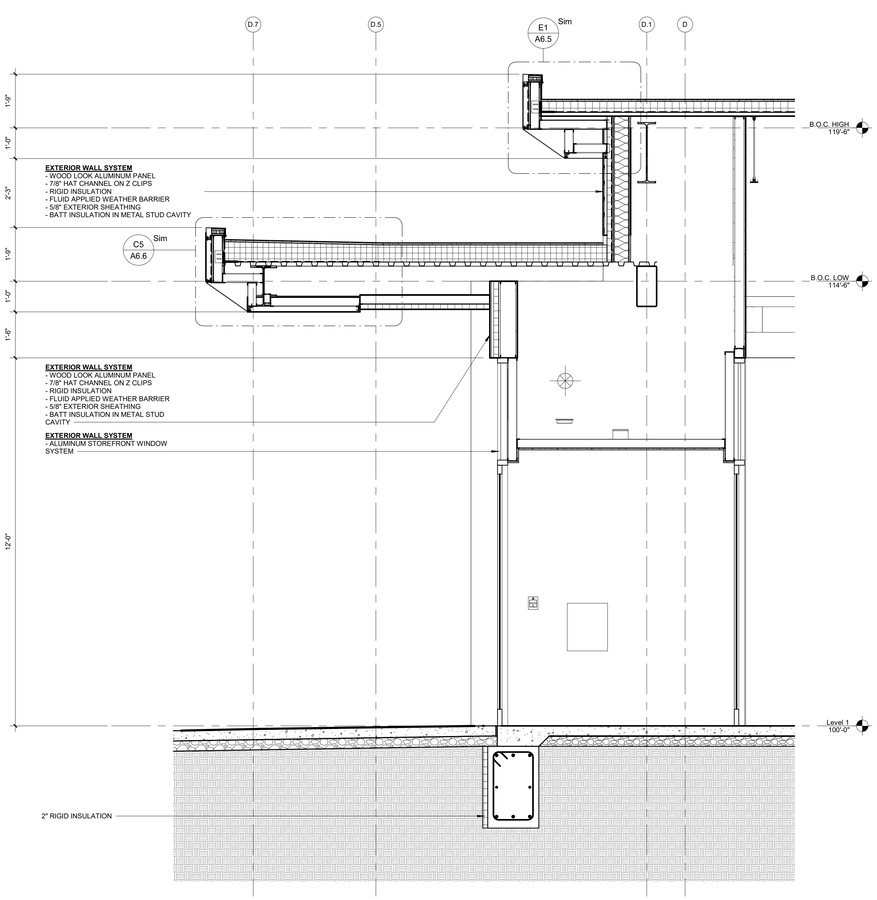
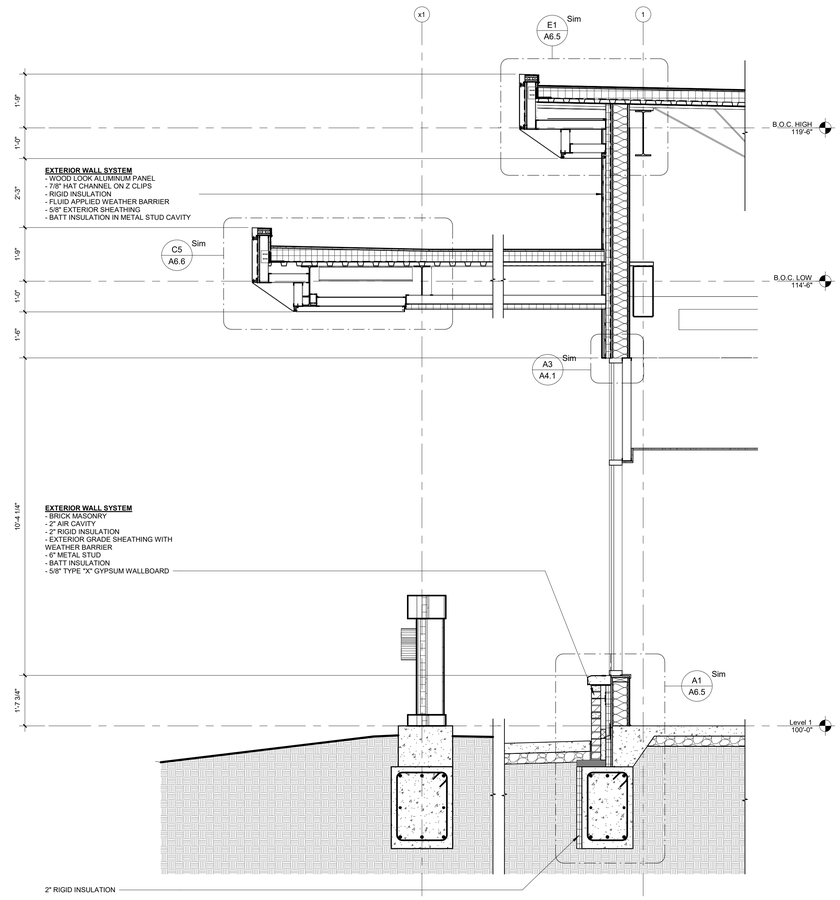


A4 WALL SECTION AT EAST ENTRANCE
1/2" = 1'-0"



A1 WALL SECTION AT FRONT CANOPY
1/2" = 1'-0"

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WALL SECTIONS

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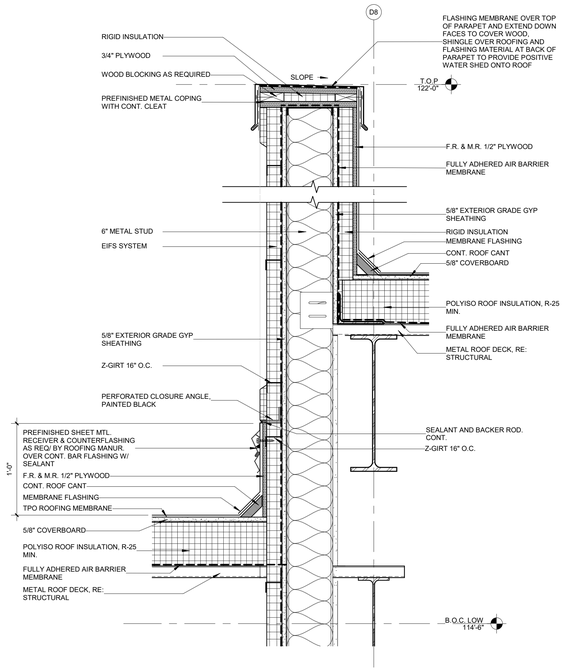
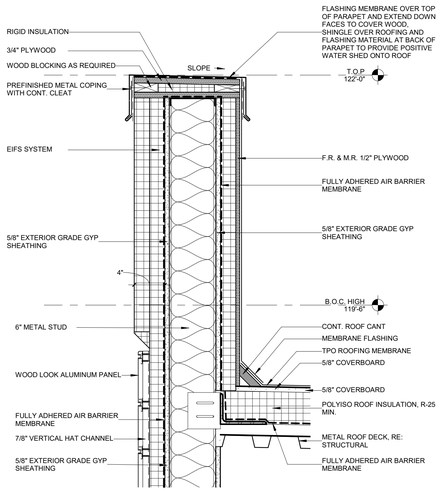
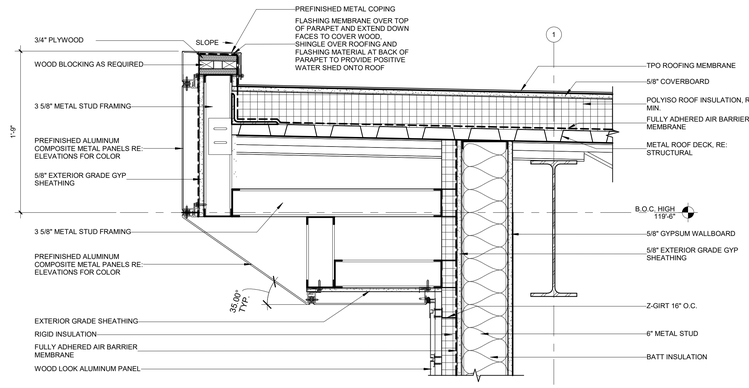


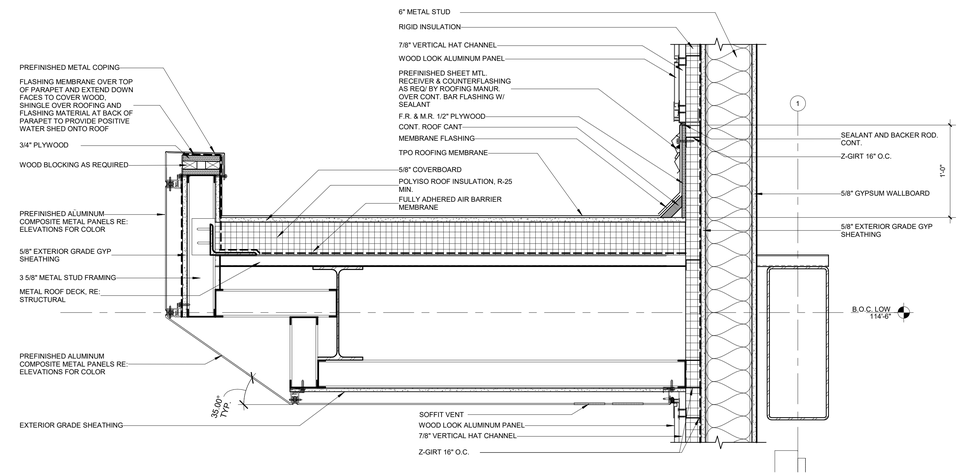
D6 WALL SECTION AT PARAPET AT WOOD LOOK ALUMINUM PANELS
1 1/2" = 1'-0"



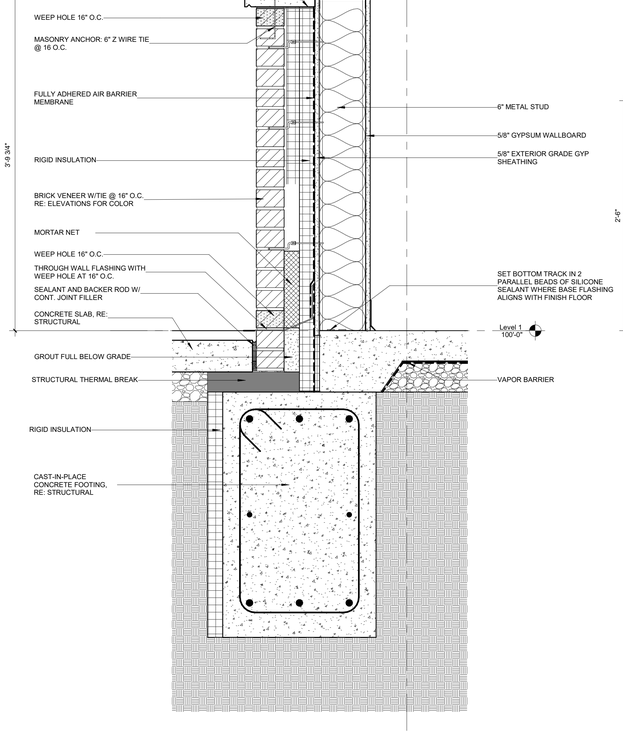
D4 WALL SECTION AT PARAPET WITH EXTENDED EIFS
1 1/2" = 1'-0"



E1 SECTION DETAIL AT UPPER ROOF
1 1/2" = 1'-0"

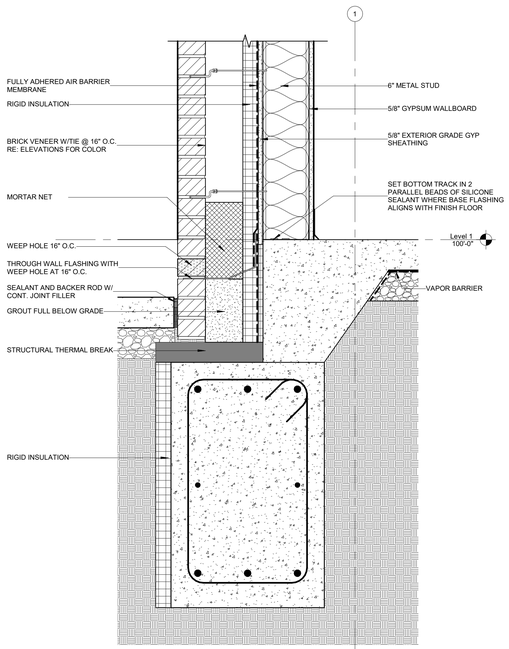


C1 SECTION DETAIL AT CANOPY
1 1/2" = 1'-0"

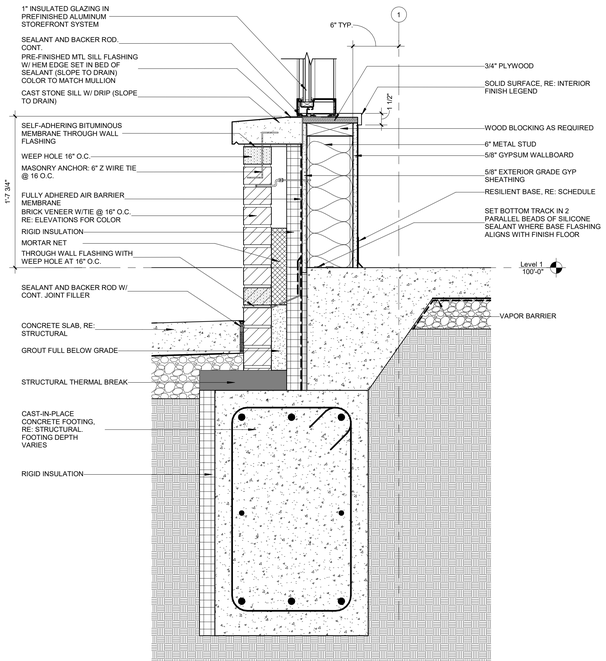


A6 SECTION DETAIL AT BASE STOREFRONT AND BRICK
1 1/2" = 1'-0"

A4 SECTION DETAIL AT BASE BRICK AND WOOD-LOOK EXTERIOR PANEL
1 1/2" = 1'-0"



A3 SECTION DETAIL AT BASE BRICK BUMP OUT
1 1/2" = 1'-0"



A1 SECTION DETAIL AT BASE STOREFRONT AND BRICK
1 1/2" = 1'-0"

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Lee's Summit, Missouri
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SECTION DETAILS

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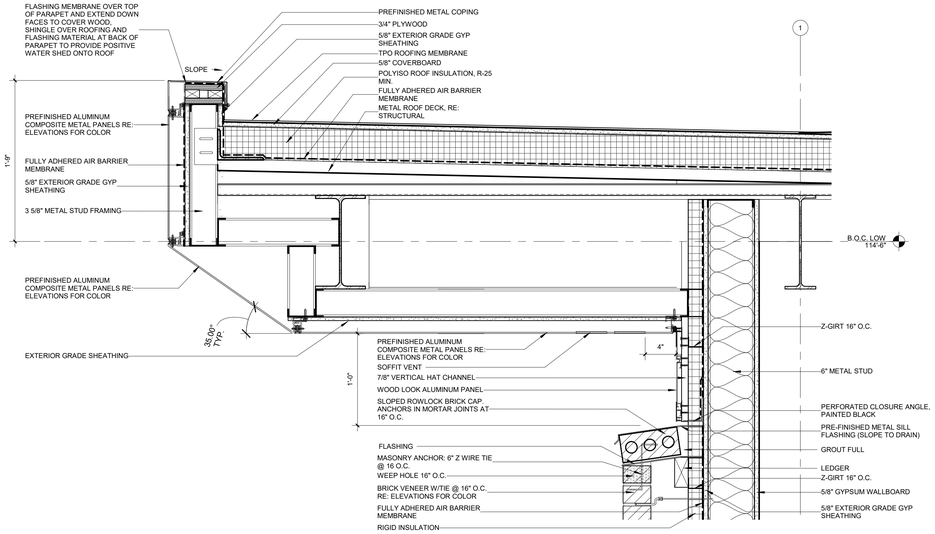
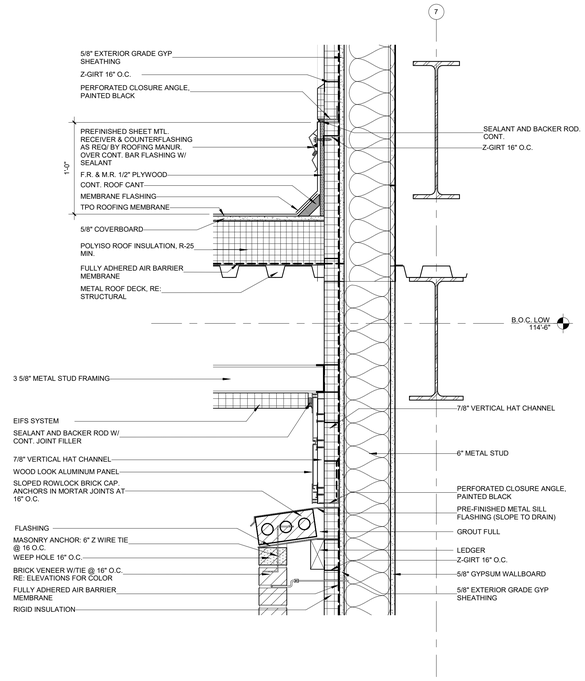
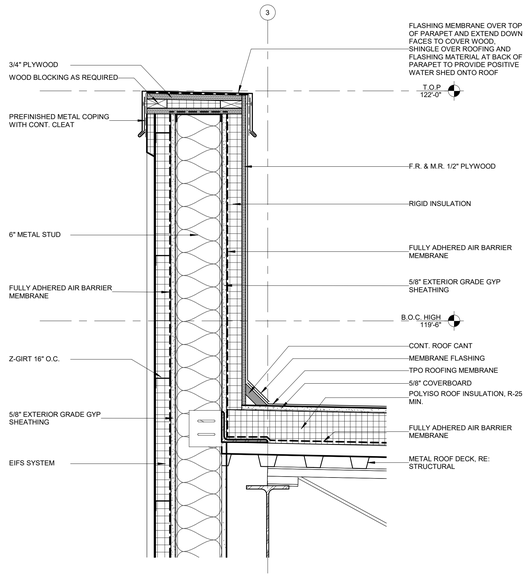


D5 SECTION DETAIL AT CANOPY AND TOP OF BRICK WALL
1 1/2" = 1'-0"



E3 WALL SECTION AT TOP OF BRICK WALL
1 1/2" = 1'-0"



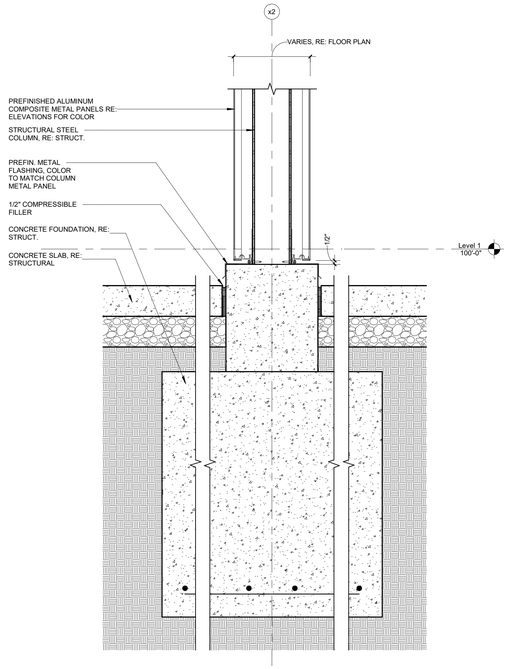
D1 WALL SECTION AT PARAPET WITH EIFS
1 1/2" = 1'-0"

C5 SECTION DETAIL AT CANOPY
1 1/2" = 1'-0"

A3 DETAIL AT STAFF COURTYARD
1 1/2" = 1'-0"

A1 SECTION DETAIL AT SOUTH WALL
1 1/2" = 1'-0"

A6 SECTION DETAIL AT EDGE OF ENTRANCE CANOPY
1 1/2" = 1'-0"



A5 TYP. BASE DETAIL AT METAL WRAPPED COLUMN
1 1/2" = 1'-0"

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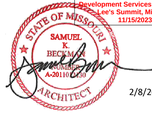

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SECTION DETAILS

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GENERAL NOTES - STRUCTURAL

1. General Information

A. The contractor shall verify dimensions and conditions before construction and notify the engineer of any discrepancies, inconsistencies, or difficulties affecting the work before proceeding.
B. The contractor shall coordinate all disciplines, verifying size and location of all openings, whether shown on structural drawings or not, as called for on architectural, mechanical, or electrical drawings. In the case of work in an existing building the contractor shall scan existing structure to locate all rebar in the area of the new core/opening using ground penetrating radar and notify the engineer of record for review prior to coring/cutting. Conflicts, inconsistencies, or other difficulties affecting structural work shall be called to the architect or engineer's attention for direction before proceeding.
C. All design and construction work for this project shall conform to the requirements of the following governing design codes:
   1. International Building Code (IBC 2018) as amended by the city of Lee's Summit, Missouri.
   2. Minimum Design Loads for Buildings and Other Structures (ASCE7-16)
   3. Specification for Structural Steel Buildings (AISC 360-16)
      Member Design Basis is Allowable Stress Design (ASD)
      Connection Design Basis is Allowable Stress Design (ASD)
   4. Structural Welding Code (AWS D1.1 and D1.3)
   5. Building Code Requirements for Structural Concrete (ACI 318-14)
   6. Building Code Requirements for Masonry Structures (TMS 402-16)
   7. North American Specification for the Design of Cold-Formed Steel Structural Members (AISI S100-16)
D. These drawings are for this specific project and no other use is authorized.

2. Structural Load Design Criteria

A. Roof Live = 20 psf; Roof Collateral Dead = 25 psf (+ Mech Unit Wt)
B. Snow: Pg=20psf, Pf=14psf, Pfmin=20psf; Is=1.0, Ce=1.0, Ct=1.0, Drift per ASCE/SEI 7
C. Lateral Loads:
   1.) Wind: V = 109 mph, Exposure C
       Occupancy [Risk] Category II, Iw=1.0 GCpi=+/-0.18
       Design wind pressures to be used for the design of exterior component and cladding materials on the designated zones of wall and roof surfaces shall be per section 30.7 and Table 30.7-2 of ASCE/SEI 7. Tabulated pressures shall be multiplied by effective area reduction factors, exposure adjustment factors, and topographic factors where applicable
   2.) Seismic: Ss = .101, S1 = .069
       Occupancy [Risk] Category II, Ie=1.0,
       Site Classification C; Sds = .087; Sd1 = .069
       Seismic Design Category B
       Basic Seismic Force-resisting System:
       Ord. Concent. Braced Steel Frames Not Spec. Det. for Seismic Resist.
       Equivalent Lateral Force Procedure
       R = 3.0; V = .029W; Omega = 3.0; Cd=3.0
D. This project is designed to resist the most critical effects resulting from the load combinations of section 1605.3 of the International Building Code.

3. Concrete

A. All concrete for foundations (walls, grade beams, footings and piers) shall develop minimum ultimate compressive design strength of 3500 psi in 28 days, but not less than 500 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 6 gallons of water per 100 pounds of cement and not over 4 inches of slump.
B. All concrete for interior flatwork (without floor covering) shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 525 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.75 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method only).
C. All concrete for interior flatwork (with floor covering) shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 550 pounds of cement shall be used per cubic yard of concrete regardless of strengths obtained, not over 5.50 gallons of water per 100 pounds of cement and not over 4 inches of slump. Concrete mix shop drawing shall contain testing data proving concrete design mix shrinkage is less than 0.034% at 28 days when tested according to ASTM C157 (air drying method only).
D. All concrete for exterior flatwork shall have a minimum design compressive strength of 4500 psi in 28 days, with not less than 560 pounds of cement per cubic yard of concrete, not over 5 gallons of water per 100 pounds of cement, with 6% +/- 1% air entrainment, and a maximum of 4 inches of slump.
E. Concrete for elevated rooftop RTU slabs shall be lightweight concrete with a maximum dry density of 115 +/- 3 pounds per cubic foot. Lightweight concrete shall develop minimum ultimate compressive design strength of 4000 psi in 28 days, but not less than 660 pounds of cement shall be used per cubic yard of concrete, regardless of strength obtained, not over 5 gallons of water per 100 pounds of cement with 5.5% +/- 0.5% air-entrainment and not over 5 inches of slump.
F. The preceding minimum mix requirements may have water-reducing admixtures conforming to ASTM C494 added to the mix at manufacturer's dosage rates for improved workability.
G. The preceding minimum mix requirements may have up to 15% maximum of the cement content replaced with an approved ASTM C618 Class C fly ash, provided the total minimum cementitious content is not reduced.
H. Combined aggregate (coarse plus fine) for all concrete shall be well graded from coarsest to finest with no more than 18 percent and not less than 8 percent retained on an individual sieve, except that less than 8 percent may be retained on coarsest sieve and on No. 50 and finer sieves. Submit this gradation report with the concrete mix design shop drawings.
I. All interior concrete slabs on grade shall be placed over 15 mil, Class A Vapor Barrier per ASTM E1745 with less than 0.01 perms, tested after mandatory conditioning. All joints shall be lapped and sealed per manufacturer's recommendations. All penetrations, as well as damaged vapor barrier material shall also be sealed per manufacturer's recommendation prior to concrete placement. Install barrier per manufacturer recommended details at all discontinuous edges (at interior columns, exterior edge of slab, etc.) to ensure terms of warranty are followed. The vapor barrier shall be placed over free-draining granular material as prescribed by the project soils report.
J. Basement foundation walls shall be braced at the base and top of wall by the contractor until the slab on grade at the base and the floor framing/slab at the top of wall is complete and the concrete has achieved 75% of the design strength. The contractor is responsible for engineering and design of the wall bracing, if required.
K. All concrete is reinforced concrete unless specifically called out as unreinforced. Reinforce all concrete not otherwise shown with same steel as in similar sections or areas. Any details not shown shall be detailed per ACI 315 and meet requirements of ACI 318, current editions.
L. Control joints in dirt formed slab to be as shown on plans. Where not shown, limit controlled areas to not more than 144 square feet, or 12 feet on any side. Slab panel side ratio shall not exceed 1 1/2 to 1. Submit Saw Joint/Control Joint Layout Plan for review and approval by the design team.
M. Contractor shall verify that all concrete inserts, reinforcing and embedded items are correctly located and rigidly secured prior to concrete placement.
N. Construction joints in beams, slabs, and grade beams shall occur at midspan (middle third) unless noted otherwise. Provide 2 x 4 horizontal keys at construction joints for shear transfer.
O. No aluminum items shall be embedded in any concrete.

4. Reinforcing Steel

A. All reinforcing steel shall conform to the requirements of ASTM A615 or A706 grade 60 steel. Welded plain wire fabric shall be supplied in sheets and conform to the requirements of ASTM A185.
B. Clear coverage of concrete over reinforcing steel shall be as follows:
   1. Concrete placed against earth: 3"
   2. Formed concrete against earth: 2"
   3. Slabs: 1"
   4. Beams or Columns: 1-1/2"
   5. Other 2"
   All coverage shall be nominal bar diameter minimum.
C. All dowels shall be the same size and spacing as adjoining main bars (splice lap 48 bar diameters or 24" minimum unless noted otherwise).
D. At corners of all walls, beams, and grade beams supply corner bars (minimum 2'-0" in each direction or 48 bar diameters) in outside face of wall, matching size and spacing of horizontal bars. Where there are no vertical bars in outside face of wall, supply 3 - #4 vertical support bars for corner bars (RE: Detail F/S0.1).
E. Bars marked continuous and all vertical steel shall be lapped 48 bar diameters (2'-0" minimum) at splices and embedments, unless shown otherwise. Splice top bars near midspan and splice bottom bars over supports, unless noted otherwise.
F. At all holes in concrete walls and slabs, add 2 - #5 bars (opening dimension plus 96 diameters long) at each of four sides and add 2 - #5 x 5'-0" diagonally at each of four corners of hole. Openings in 8" thick walls are reinforced similar, but with 1 - # 5 instead of 2 - #5, respectively.
G. Unless otherwise covered on architectural plans or specifications, vertical control joints in concrete wall shall be spaced at a maximum of 20'-0" on center and coordinated with the architect. Every other horizontal wall reinforcing bar shall be discontinuous at control joints except heavy top and bottom bars unless noted otherwise (RE: Detail G/S0.1). Provide base seal waterstop style number 772 (by Greenstreak Inc. or approved equal) on dirt face side of wall at all walls below grade.
H. Accessories shall be as specified in latest edition of the ACI Detailing Handbook and the concrete Reinforcing Steel Institute Design Handbook. Maximum accessory spacing shall be 4'-0" on center, and all accessories on exposed surfaces are to have plastic coated feet.
I. All slabs and stairs not shown otherwise shall be 6" thick with #4 bars at 12" on center each way. All exterior porches and stoops not otherwise detailed may be constructed in any standard manner, solid or hollow, but must be reinforced with #4 bars at 12" on center each way minimum. Porches shall be doweled to adjacent walls or grade beams with #4 bars at 12" on center, hooked or embedded 48 diameters into both members. Slope porches 1/8" per foot for drainage unless noted otherwise.
J. Allow 1/2 ton of reinforcing bars #4 or larger to be used as directed in the field for special conditions by the engineer of record (labor for placing same to be included).

5. Structural Steel

A. All structural steel beams and columns shall be ASTM A992, grade 50 steel and all miscellaneous steel shall be ASTM A36 grade steel (except at moment connections where plates shall be ASTM A572, grade 50). Hollow Structural Sections (HSS) shall be ASTM A500, grade C. Fabrication and erection shall be in accordance with AISC 303-16 "Code of Standard Practice for Steel Buildings and Bridges" in the 15th Edition of the AISC Steel Construction Manual.
B. All welding shall conform to the recommendations of the AWS.
C. All exterior steel and connections, and brick relief angles shall be hot-dip galvanized.
D. All bolts not otherwise specified shall be 3/4" diameter high strength (ASTM A325-N). All bolts shall be fully pretensioned. All beam connections shall be designed per the AISC Manual of Steel Construction "Framed Beam Connections" for the indicated reactions or at least 0.4 x beam total shear capacity, Vn/Omega, shown in the maximum total uniform load tables, whichever is greater; and, shall account for eccentricity when the bolt line is more than 2" from the center of the support. All connections must be two bolt minimum. Additional connection elements may not be specifically shown in the conceptual details in this set but may be required by the final connection design, such as stiffener plates, doubler plates, supplement/reinforcing plates or other connection material. Connection design and shop drawing preparation shall be completed under the direct supervision of a professional engineer licensed in the state the project is located and shop drawings and connection calculations shall bear his/her seal.
E. All anchor bolts shall be 3/4" diameter, ASTM F1554, Grade 36 unless noted otherwise. Washers of minimum size and thickness for the given anchor diameter in Table 14-2 of the AISC Steel Construction Manual shall be provided at every column anchor bolt. Washers shall have a standard size hole for the anchor bolt. At braced frames washers shall be welded all around to the column base plate with 3/16" fillet weld.
F. Design, fabrication and erection of all open-web bar joists shall comply with the recommendations of the Steel Joist Institute (SJI). Joists shall be designed to support loads given in the standard load tables of SJI Specs and Tables plus an additional point load of 200 lbs. on the top or bottom chord at any location without additional web reinforcing.
G. All K-series joists shall bear 2-1/2" minimum on structural steel beams and be welded to the beams with 2 1/2" of 1/8" fillet weld each side (minimum).
H. All steel joists shall have horizontal bar or angle bridging per Steel Joist Institute Specifications. Provide rigid x-bridging in addition to and matching horizontal bridging where joists are discontinuous unless horizontal bridging is anchored to wall top and bottom. Joist sweep allowance shall comply with AISC Standard Practice.
I. All openings in steel joist roof to have 3x3x1/4 angle frame set between joists per sections 5 and 5A on sheet S4.0. Support mechanical equipment per section 1/S4.0 or underneath deck with 4x4x5/16 angles laid between joists framed to 4x4x5/16 angles (length equals mechanical unit dimension plus distance each end to next panel point) laid parallel to and welded to top and/or bottom cord of joists to distribute load to joist panel points.
J. All steel joists shall have a midspan camber approximately equal to that recommended by the Steel Joist Institute Specifications.
K. Design and installation of steel decking shall comply with the recommendations of the Steel Deck Institute (SDI). All decking shall be galvanized unless noted otherwise.
L. Allow 3.0 tons structural steel to be used as directed in field for special conditions by the engineer of record. Cost for shop drawings, fabrication, delivery, detailing, and erection to be included. 50% of structural steel allowance shall be bid as miscellaneous galvanized angle and plate.

6. Post Installed Anchors

A. Post-installed anchors shall be used only where specified on the drawings unless approved in writing by the engineer of record. See drawings for anchor diameter, spacing and embedment. Performance values of the anchors shall be obtained for specified products using appropriate design procedures and/or standards as required by the governing building code. Anchors installed in concrete shall have an ICC-ES Evaluation Service Report. Special inspection is required for all post installed anchors. The contractor shall coordinate an on-site meeting with the post installed anchor manufacturer field representative to educate the construction team on the anchor installation guidelines and requirements.
B. Mechanical anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ACI 355.2 and ICC-ES AC193. All anchors shall be installed per the anchor manufacturer's written instructions.
C. Adhesive anchors used in cracked and uncracked concrete shall have been tested and qualified for use in accordance with ICC-ES AC308. All anchors shall be installed per the anchor manufacturer's written instructions.
D. Mechanical anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC01. All anchors shall be installed per the anchor manufacturer's written instructions.
E. Adhesive anchors used in solid grouted masonry shall have been tested and qualified for use in accordance with ICC-ES AC58. All anchors shall be installed per the anchor manufacturer's written instructions.
F. Anchors used in hollow concrete masonry shall have been tested and qualified in accordance with ICC-ES AC106 or ICC-ES AC58 as appropriate. All anchors shall be installed per the anchor manufacturer's written instructions with appropriate screen tubes used for adhesives.

7. Foundations

A. The soil investigation was prepared by Alpha-Omega Geotech, the report number is AOG-22-44OE and the telephone number is 913.371.0000.
B. Spread footings, grade beams, and retaining walls are designed to bear on engineered fill or undisturbed soil capable of safely sustaining 2500 psf.
C. Retaining walls are designed for an active (unrestrained conditions) lateral load of 40 pcf equivalent fluid pressure.
D. Basement walls are designed for an at rest (restrained conditions) lateral load of 60 pcf equivalent fluid pressure.
E. Contractor shall provide for dewatering at excavations from either surface water or seepage.
F. All foundation excavations shall be inspected by a qualified soil engineer, approved by the architect and/or structural engineer, prior to placement of steel or concrete. This inspection shall be at the owner's expense.
G. All concrete in the structural portion retaining the backfill shall have attained its design strength prior to being backfilled.
H. Moisture content in soils beneath building locations should not be allowed to change after footing excavations and after grading for slabs on grade are completed. If subgrade materials become desiccated or softened by water or other conditions, recompact materials to the density and water content specified for engineered fill. Do not place concrete on frozen ground.

8. Concrete Masonry Units

A. Concrete block used in exterior walls or load bearing walls shall meet the requirements of ASTM C90 and have a minimum net compressive strength of 3050 psi and laid up using type N mortar such that f'm equals 2000 psi. Mortar shall be volume proportion based cement lime mortar. Proportioning shall be completed by box measure. Any block in contact with earth shall be normal weight units, laid using type "S" mortar and grouted solid.
B. The contractor shall provide adequate temporary bracing for all masonry walls during construction.
C. All concrete block shall have 9 gage (or larger) horizontal joint reinforcing (ladder or truss) per architectural drawings and specifications (16" maximum vertical spacing).
D. Cavity wall construction shall be reinforced as designed for specific concrete block used. The horizontal joint reinforcing shall be of the ladder or truss style per specification and continuous between brick and block, as prescribed by the architectural drawings.
E. Concrete block shall be reinforced as follows in 6", 8", 10", and 12" walls:
   1. Vertical reinforcing shall be a minimum of 1 - #5 bar in 6" and 8" walls and 2 - #5 bars in 10" and 12" walls per note "A" (on this sheet), at each corner, at each door and window jamb, each side of control joints and in the end void of each length of wall. Lap splices for masonry vertical reinforcing shall be 48 bar diameters, 24" minimum.
   2. Horizontal reinforcing:
      A. Horizontal joint reinforcing as noted above.
      B. Continuous horizontal bars shall be included per section or detail in bond beam or optional running bond beam where noted. Where bond beams are continuous at corners of walls, supply corner bars matching size of horizontal bars (minimum 2'-0" or 48 bar diameters in each direction).
F. Grout, where noted above, shall have a minimum design ultimate compressive strength of 2500 psi at 28 day test and 3/8" maximum aggregate size.
G. Non-load bearing concrete block walls shall be isolated from adjacent structural elements with vertical 3/8" control joints and at the top of the wall with 1" air space or compressible material and support per architectural detail.
H. Unless otherwise covered on architectural plans or specifications, vertical control joints in masonry construction shall be 3/8" wide, full height of wall. Joints shall be spaced at a maximum of 24'-0" on center and coordinated with the architect. All horizontal joint reinforcing shall be discontinuous at control joints in masonry. All bond beam horizontal reinforcing shall be continuous through control joints.
I. Lintels over all openings up to 8'-0" wide in new and existing masonry walls not otherwise covered shall be one 6x4x5/16 angle (LLV) for each 4" width of masonry with 8" bearing (min.) on supporting masonry each end. All exterior lintels to be galvanized.
J. Walls shall be anchored top and bottom by dowels matching wall vertical reinforcing(unless noted otherwise) from floor slab bottom and bracing angles at the top, per details on the drawings.

9. Light Gage Metal Structural Framing

A. All load bearing, light gage structural studs, track, and bridging shall be of the type, size, gage, and spacing as shown on the plans, minimum.
B. All materials shall be 33,000 psi minimum yield, except studs of 16 gage or heavier shall have a minimum yield of 50,000 psi.
C. All properties, fabrication, and erection shall be in accordance with latest editions of the AISI "Specifications for the Design of Cold-Formed Structural Members."
D. All framing components shall be cut squarely or at an angle to fit squarely against abutting members. Splicing of axially loaded members is not permitted. Members shall be held firmly in place until properly fastened. Attachments of similar components shall be by welding, screw attachment, or bolting. Wire tying of components is not permitted.
E. Tracks shall be securely anchored to floor and overhead members. Special anchorage requirements required for wind bracing shall be as shown on the plans.
F. Prior to fabrication and/or erection, the contractor shall submit shop drawings complete with detail of erection, fabrication, attachments, anchorages, lintels, etc., for review by the architect/engineer.

10. Deferred Submittal and Shop Drawing

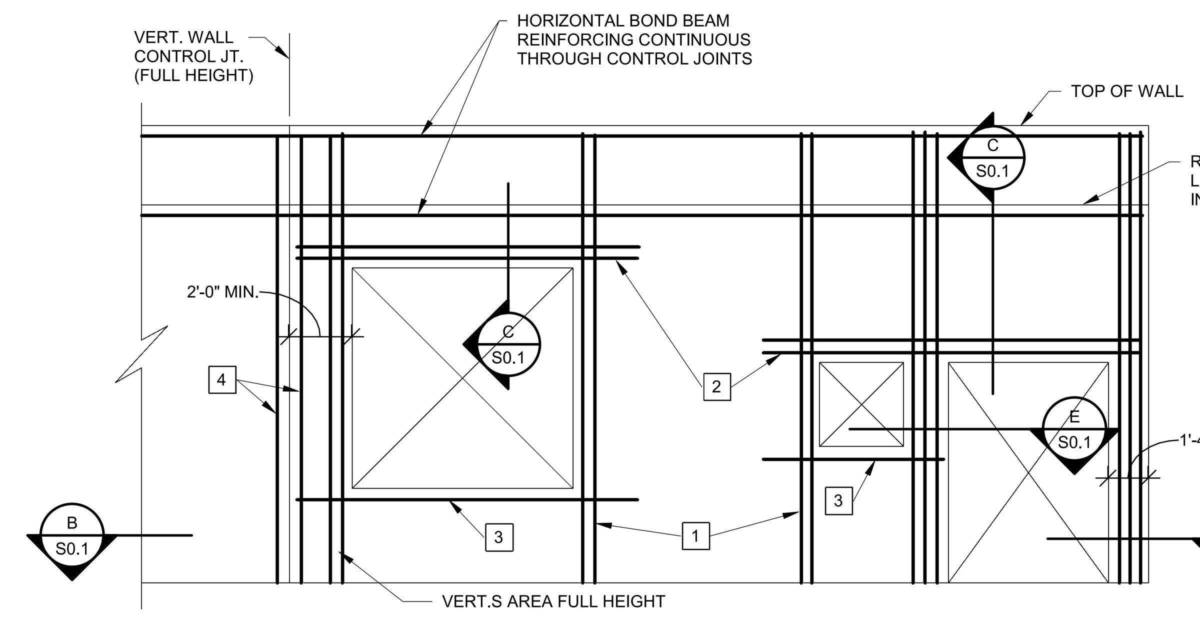
A. Bob D. Campbell and Company, Inc. will review the General Contractor's (GC) shop drawings and related submittals (as indicated below) with respect to the ability of the detailed work, when complete, to be a properly functioning integral element of the overall structural system designed by Bob D. Campbell and Company, Inc.
B. Deferred submittals shall be submitted to the architect of record for review who shall forward to the building official for review and approval. Design calculations for deferred sub mittals shall be submitted at the same time as the shop drawings for review. Design calculations shall be prepared and sealed by a Professional Engineer licensed in the state of the project. The deferred submittal items shall not be installed until the deferred submittal documents have been approved by the building official.
C. Prior to submittal of a shop drawing or any related material to Bob D. Campbell and Company, Inc., the GC shall:
   1. Review each submission for conformance with the means, methods, techniques, sequences and operations of construction and safety precautions and programs incidental thereto, all of which are the sole responsibility of the GC.
   2. Review and approve each submission.
   3. Stamp each submission as approved.
D. Bob D. Campbell and Company, Inc. shall assume that no submission comprises a variation unless the GC advises Bob D. Campbell and Company, Inc. with written documentation.
E. Bob D. Campbell and Company, Inc. shall review shop drawings and related materials with comments provided that each submission has met the above requirements. Bob D. Campbell and Company, Inc. shall return without comment unrequired material or submissions without GC approval stamp.
F. Shop drawings and related material (if any) required are indicated below. Should Bob D. Campbell and Company, Inc. require more than ten (10) working days to perform the review, Bob D. Campbell and Company, Inc. shall so notify the GC.
   1. Concrete mix designs and material certificates including admixtures and compounds applied to the concrete after placement.
   2. Reinforcing steel shop drawings including erection drawings and bending details.Bar list will not be reviewed for correct quantities.
   3. Rammed Aggregate Pier design calculations and shop drawings
   4. Elevations of all reinforced concrete masonry walls at a scale no smaller than 3/8" = 1'-0" showing all required reinforcing.
   5. Grout mix designs (for CMU).
   6. Construction and control joint plans and/or elevations.
   7. Structural steel shop drawings including erection drawings and piece details. Include joist, decking and connector submittals. Include miscellaneous framing specified on the structural drawings, but do not submit framing specified on non-structural drawings for Bob D. Campbell and Company, Inc. review.
   8. Deferred Submittal: Structural steel connections (including braced frames) and connection design calculations submitted concurrently with the structural steel shop drawings.
   9. Deferred Submittal: Structural steel joists
   10. Deferred Submittal: Railings and guardrails
   11. Deferred Submittal: Exterior cold-formed metal framing
   12. Deferred Submittal: Exterior curtain wall
   13. Miscellaneous anchors shown on the structural drawings.
   14. Standard details and bridging information for light gage metal framing. Erection plans and details for light gage metal joists and lintels spanning more than 6'-0" shall be submitted. Standard interior wall framing need not be submitted.

11. Statement of Structural Special Inspections

A. The structural design for this project is based on completion of special inspections during construction in accordance with section 1704 of the International Building Code. The owner shall employ one or more qualified special inspectors to provide the required special inspections.
B. The special inspector shall furnish inspection reports to the building official, owner, architect and structural engineer, and any other designated person.
C. All discrepancies shall be brought to the immediate attention of the contractor for correction, then, if uncorrected, to the proper design authority, building official and structural engineer.
D. The special inspector shall submit a final signed report stating that the work requiring special inspection was, to the best of the inspector's knowledge, in conformance with the approved plans and specifications and the applicable workmanship provisions of the building code.
E. The following inspections and tests are required with the frequency (continuous or periodic) as defined within the referenced section or standard listed below. The General Contractor shall provide notification to the inspector when items requiring inspection are ready to be inspected and provide access for those inspections.
   1. Shop Fabrication – structural steel and steel bar joist per Section 1704.2.5 unless AISC certified shop
   2. Steel Construction per Section 1705.2 and the quality assurance requirements of AISC 341 Chapter J (as referenced by AISC 360)
   3. Cold-Formed Steel Deck per Section 1705.2.2 and the quality assurance requirements of SDI QA/QC.
   4. Concrete Construction per Section 1705.3 and Table 1705.3
      a. Reinforcing Steel Placement
      b. Reinforcing Steel Welding
      c. Cast in Place Anchors
      d. Post Installed Anchors
      e. Design Mix Verification
      f. Concrete Sampling and Testing
      g. Concrete Placement
      h. Concrete Curing
      i. Formwork Shape, Location and Dimensions
   5. Masonry Construction per Section 1705.4 and the quality assurance requirements of TMS 402/ACI530/ASCE5 and TMS602/A530.1/ASCE6 Level B
   6. Verification of Soils per Table 1705.6

12. Copyright and Disclaimer

A. All drawings in the structural set (S-series drawings) are the copyrighted work of Bob D. Campbell and company, Inc. These drawings may not be photographed, traced, or copies in any manner without the written permission of Bob D. Campbell and Company, Inc. Exception: Original drawings may be printed for distribution to the owner, architect, and general contractor for coordination, bidding, and construction. Subcontractors may not reproduce these drawings for any purpose or in any manner.
B. I, Jeffrey L. Wright, P.E., registered engineer and a representative of Bob D. Campbell and Company, Inc., do hereby accept professional responsibility as required by the professional registration laws of this state for the structural design drawings consisting of S-series drawings. I hereby disclaim responsibility for all other drawings in the construction document package, they being the responsibility of other design professionals whose seals and signed statements may appear elsewhere in the construction document package.



TYPICAL CMU WALL REINFORCING AT OPENINGS

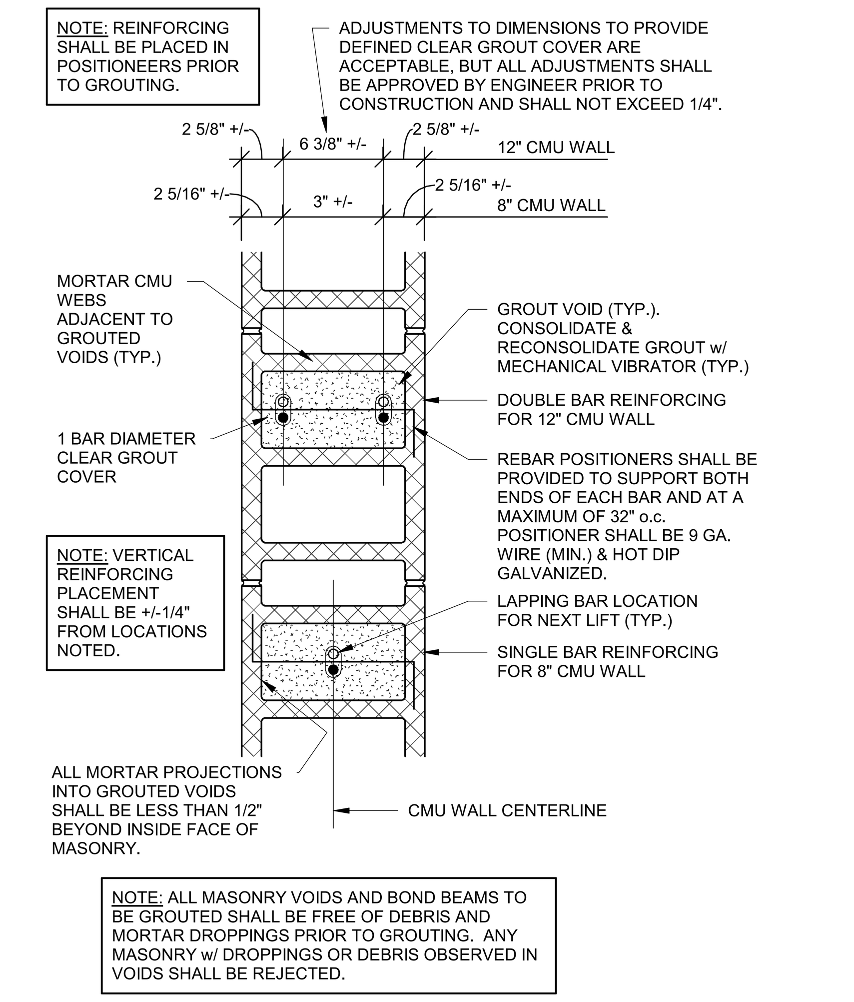
LEGEND:

1. FULL HEIGHT VERTICAL BARS AS JAMB REINFORCING IN FIRST 2 CELLS ADJACENT TO OPENING. REINFORCE EACH CELL WITH SIZE & QUANTITY OF BAR TO MATCH WALL REINFORCING (1 BAR TYPICAL IN 8" WALLS AND 2 BARS TYPICAL IN 12" WALLS).
2. LINTEL REINFORCING PER SECTION C/S0.1. EXTEND 2'-0" PAST EDGE OF OPENING ON EACH SIDE (TYPICAL).
3. 2-#5 CONTINUOUS HORIZONTAL BARS AS SILL REINFORCING IN 8" COURSE BELOW OPENING (U.N.O.). EXTEND 2'-0" PAST EDGE OF OPENING ON EACH SIDE (TYPICAL).
4. FULL HEIGHT VERTICAL BARS PER MASONRY VERTICAL REINFORCING SCHEDULE LOCATED IN END CELL AT EACH SIDE OF VERTICAL WALL CONTROL JOINTS.

GENERAL CRITERIA: (SECTION A/S0.1 CONTINUED):

1. VERTICAL REINF. BARS SHALL BE DOWELED TO FOUNDATION WITH A DOWEL OF MATCHING SIZE AND SPACING.
2. CONTRACTOR SHALL COORDINATE AND VERIFY OPENINGS IN MASONRY WALLS. OPENINGS SHALL BE DETAILED ON REINFORCING STEEL SHOP DRAWING ELEVATIONS.
3. VERTICAL CONTROL JOINTS IN MASONRY WALLS SHALL BE 3/8" WIDE, FULL HEIGHT OF WALL. JOINTS SHALL BE SPACED AT A MAXIMUM OF 24'-0" ON CENTER AND NOT LESS THAN 2'-0" FROM THE EDGE OF ANY OPENING. ALL HORIZONTAL JOINT REINFORCING SHALL BE DISCONTINUOUS AT CONTROL JOINTS. ALL BOND BEAM HORIZONTAL REINFORCING SHALL BE CONTINUOUS THROUGH CONTROL JOINTS. CONTRACTOR SHALL COORDINATE AND VERIFY ALL CONTROL JOINT LOCATIONS.

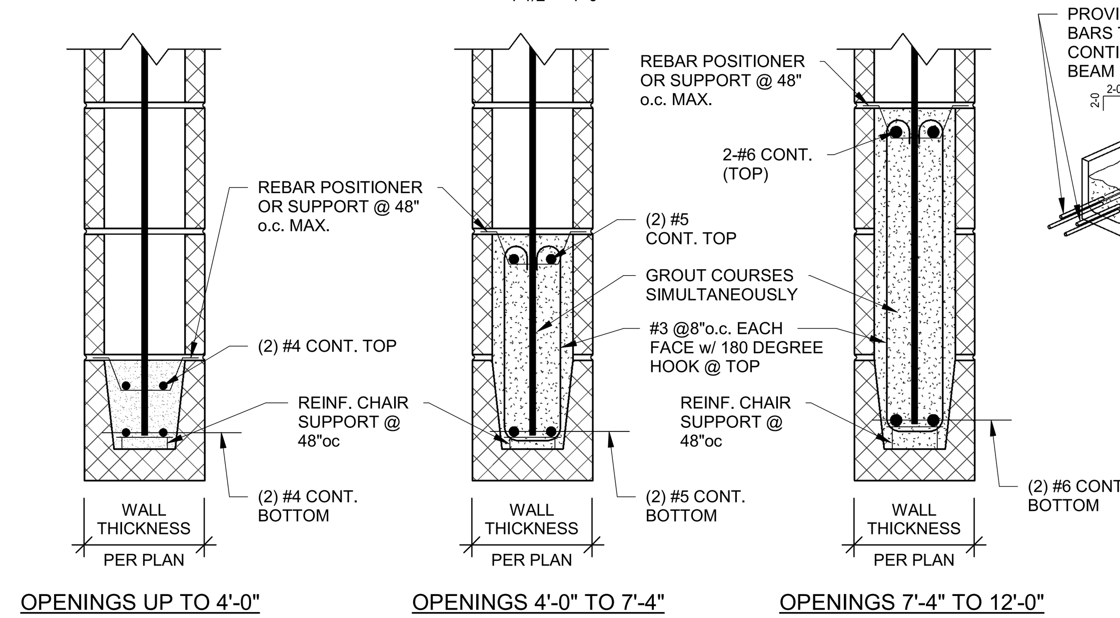
A CMU WALL ELEV.
1 1/2" = 1'-0"



NOTE: ALL MASONRY VOIDS AND BOND BEAMS TO BE GROUTED SHALL BE FREE OF DEBRIS AND MORTAR DROPPINGS PRIOR TO GROUTING. ANY MASONRY w/ DROPPINGS OR DEBRIS OBSERVED IN VOIDS SHALL BE REJECTED.

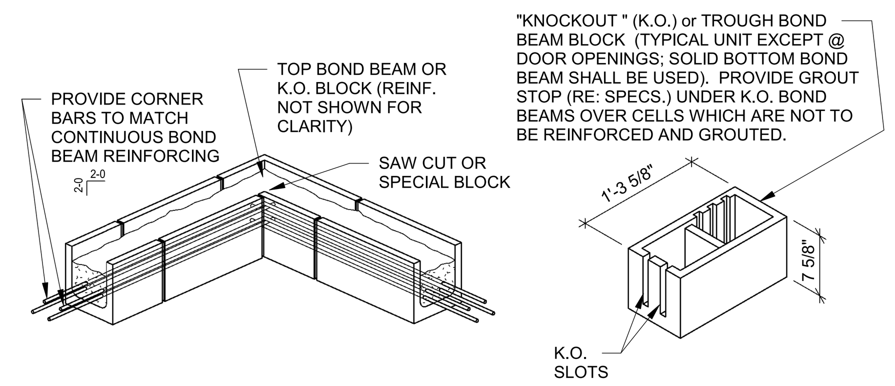
TYPICAL REBAR POSITIONING DETAIL

B VERTICAL WALL CONTROL JOINT
1 1/2" = 1'-0"



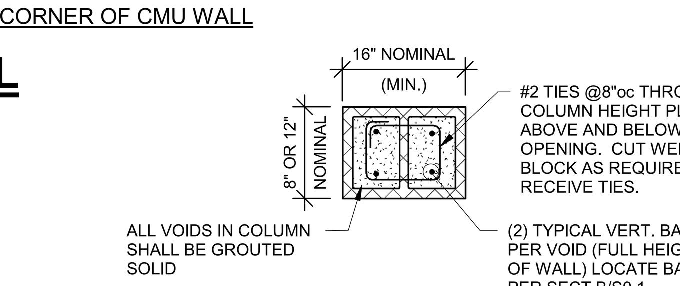
TYPICAL LINTELS AT ALL CMU WALLS

C SECTION
1 1/2" = 1'-0"



TYPICAL BOND BEAM DETAIL AT CORNER OF CMU WALL

D DETAIL
3/4" = 1'-0"



TYPICAL MASONRY COLUMN

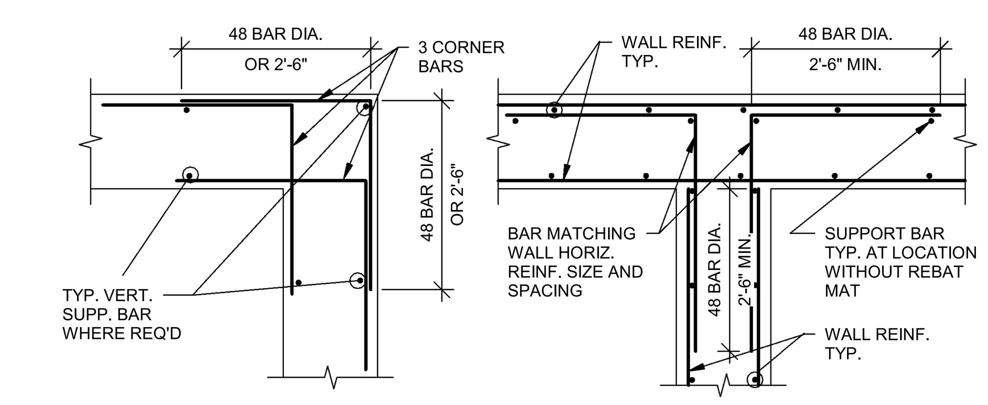
E SECTION
3/4" = 1'-0"

NOTE "A"

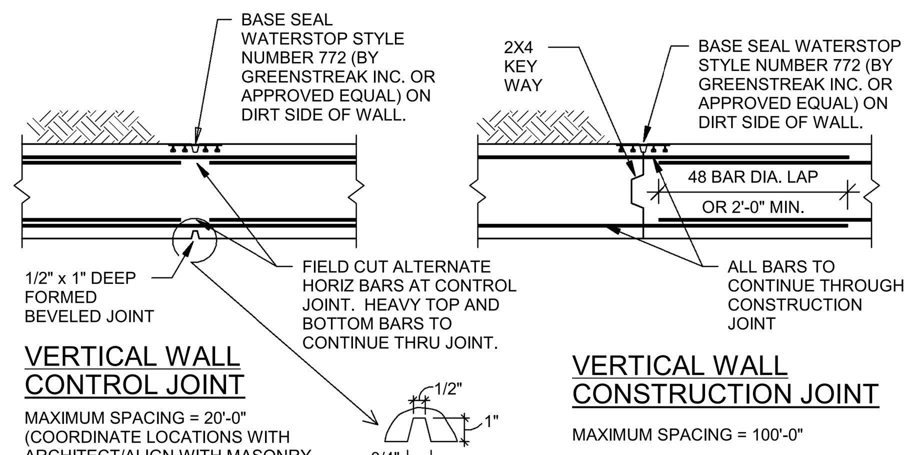
TYPICAL MASONRY REINFORCING NOTE:

ALL INTERIOR & EXTERIOR MSRY WALLS SHOWN ON ARCHITECTURAL AND STRUCTURAL DRAWINGS ARE TO BE REINFORCED HORIZONTALLY WITH BOND BEAMS (2 - #5 BOTTOM) AT TOP AND BOTTOM COURSE AND AT 8'-0" MAXIMUM O.C. THERE AFTER AND VERTICALLY PER THE WALL SECTIONS. THESE WALLS ARE TO BE ANCHORED TOP AND BOTTOM TO THE FOUNDATION, FLOOR, OR ROOF PER TYPICAL DETAILS. THE VERTICAL REINFORCING IS CONTINUOUS (IN 6'-6" MAXIMUM LENGTHS, LAPPED 2'-6" MINIMUM). PROVIDE VERTICAL BARS AT EACH SIDE OF ALL OPENINGS AND CONTROL JOINTS. FILL BLOCK CELLS AND BOND BEAMS WITH 2,500psi GROUT. RE: DETAILS "A" THROUGH "E" ON SHEET S0.1.

" [hatch] " ..... INDICATES 8"x16" OR 12"x16" MASONRY COLUMN REINFORCED w/ (4) #5 VERT. (2 EACH CELL) & #2 TIES @ 16"o.c. GROUT SOLID w/ 2500 PSI GROUT EA. CELL (RE: DTL E/S0.1) (RE:PLAN FOR LOCATIONS)



F SECTION
3/4" = 1'-0"



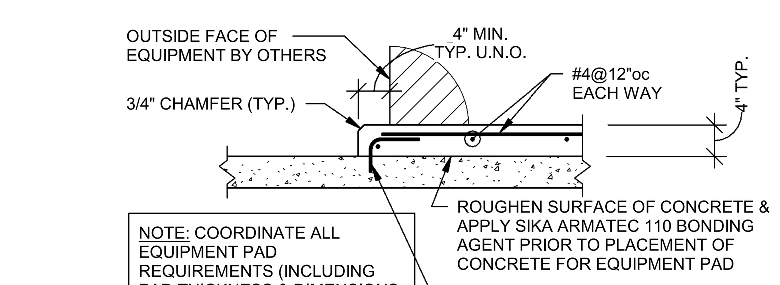
VERTICAL WALL CONTROL JOINT

MAXIMUM SPACING = 20'-0" (COORDINATE LOCATIONS WITH ARCHITECT/ALIGN WITH MASONRY CONTROL/EXPANSION JOINTS ABOVE)

VERTICAL WALL CONSTRUCTION JOINT

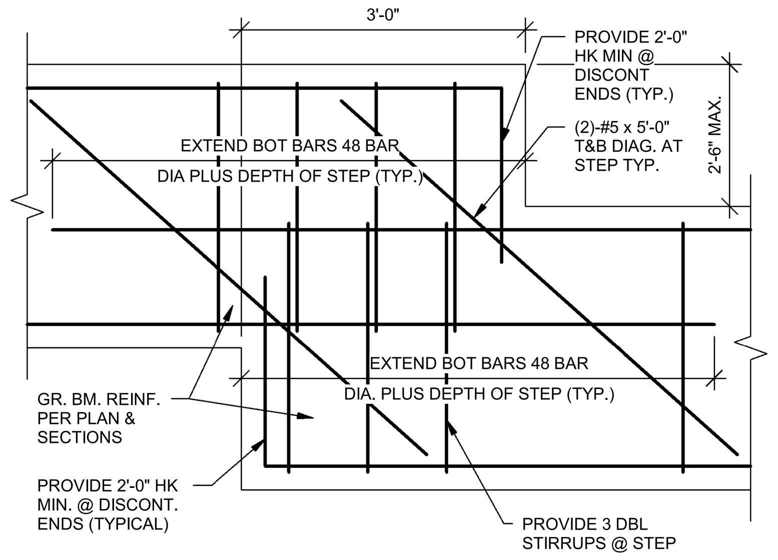
MAXIMUM SPACING = 100'-0"

G VERTICAL WALL CONTROL JOINT
3/4" = 1'-0"

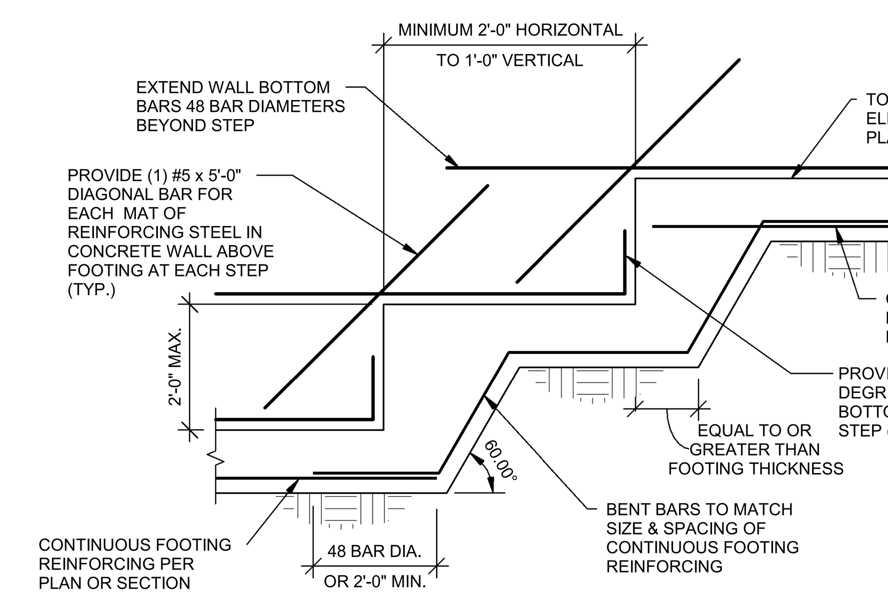


NOTE: COORDINATE ALL EQUIPMENT PAD REQUIREMENTS (INCLUDING PAD THICKNESS & DIMENSIONS & EQUIPMENT ANCHORS) w/ EQUIPMENT SUPPLIER.

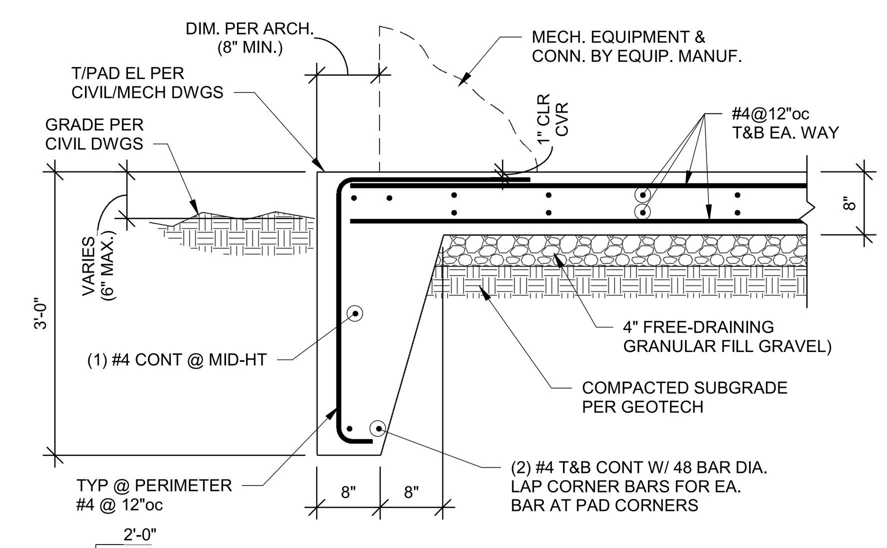
H TYPICAL EQUIPMENT PAD
3/4" = 1'-0"



J TYPICAL GRADE BEAM STEP
3/4" = 1'-0"



K TYPICAL FOOTING STEP
1/2" = 1'-0"



TYPICAL PAD FOR:
CHILLER AND GENERATOR, G.C. VERIFY EQUIPMENT SIZE & WT WITH THAT LISTED ON PLAN PRIOR TO SLAB EXCAVATION & INSTALLATION.

L SECTION
3/4" = 1'-0"

RELEASED FOR CONSTRUCTION
~~As Noted on Plans Review~~
Development Services Department
Lee's Summit, Missouri
02/15/2023

ACI BOLAND ARCHITECTS

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Kansas City, MO 64108
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Kansas City | St. Louis
Licensee's Certificate of Authority Number:

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BHC
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913.663.1900

STRUCTURAL CONSULTANT
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Kansas City, MO 64111
816.531.4144

MEP CONSULTANT
Branch Pattern
1508 Grand Boulevard
Kansas City, MO 64108
913.951.8311

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	JPG
Checked By	JLW

Revision

Number	Date	Description

S0.1

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GENERAL NOTES

BIM 360://3-22030 HCA LSMC ASC/ACI2208 - S21 - HCA LS Med Ctr - ASC.rvt

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
City of Lee's Summit, Missouri
Development Services Department
02/28/2023

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S1.0

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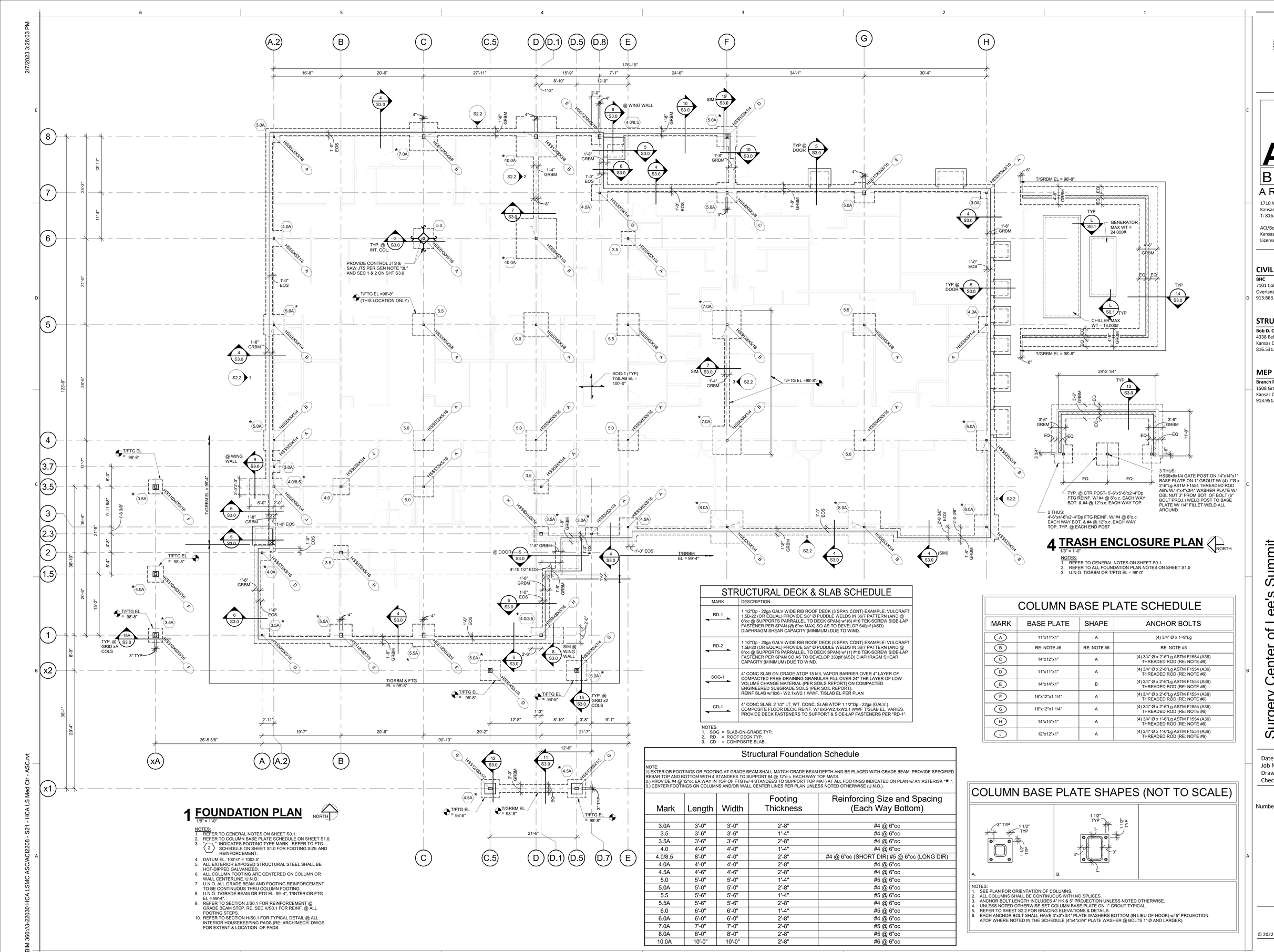
FOUNDATION PLAN



1 FOUNDATION PLAN
1/8" = 1'-0"

NOTES:
1. REFER TO GENERAL NOTES ON SHEET S0.1.
2. REFER TO COLUMN BASE PLATE SCHEDULE ON SHEET S1.0.
3. "★" INDICATES FOOTING TYPE MARK. REFER TO FTG-SCHEDULE ON SHEET S1.0 FOR FOOTING SIZE AND REINFORCEMENT.
4. DATUM EL. 100'-0" = 1003.5'
5. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT-DIPPED GALVANIZED.
6. ALL COLUMN FOOTING ARE CENTERED ON COLUMN OR WALL CENTERLINE. U.N.O.
7. U.N.O. ALL GRADE BEAM AND FOOTING REINFORCEMENT TO BE CONTINUOUS THRU COLUMN FOOTING.
8. U.N.O. T/GRADE BEAM OR FTG EL. 99'-4", T/INTERIOR FTG EL = 99'-4".
9. REFER TO SECTION J/S0.1 FOR REINFORCEMENT @ GRADE BEAM STEP. RE. SEC K/S0.1 FOR REINF. @ ALL FOOTING STEPS.
10. REFER TO SECTION H/S0.1 FOR TYPICAL DETAIL @ ALL INTERIOR HOUSEKEEPING PADS (RE: ARCH/MECH. DWGS FOR EXTENT & LOCATION OF PADS.

4 TRASH ENCLOSURE PLAN
1/8" = 1'-0"

NOTES:
1. REFER TO GENERAL NOTES ON SHEET S0.1
2. REFER TO ALL FOUNDATION PLAN NOTES ON SHEET S1.0
3. U.N.O. T/GRBM OR T/FTG EL = 98'-0"

STRUCTURAL DECK & SLAB SCHEDULE

MARK	DESCRIPTION
RD-1	1 1/2"Dp - 22ga GALV WIDE RIB ROOF DECK (3 SPAN CONT) EXAMPLE: VULCRAFT 1.5B-22 (OR EQUAL) PROVIDE 5/8" Ø PUDDLE WELDS IN 36/7 PATTERN (AND @ 6"oc @ SUPPORTS PARRALLEL TO DECK SPAN) w/ (6) #10 TEK-SCREW SIDE-LAP FASTENER PER SPAN (@ 6"oc MAX) SO AS TO DEVELOP 540plf (ASD) DIAPHRAGM SHEAR CAPACITY (MINIMUM) DUE TO WIND.
RD-2	1 1/2"Dp - 20ga GALV WIDE RIB ROOF DECK (3 SPAN CONT) EXAMPLE: VULCRAFT 1.5B-20 (OR EQUAL) PROVIDE 5/8" Ø PUDDLE WELDS IN 36/7 PATTERN (AND @ 6"oc @ SUPPORTS PARRALLEL TO DECK SPAN) w/ (1) #10 TEK-SCREW SIDE-LAP FASTENER PER SPAN SO AS TO DEVELOP 350plf (ASD) DIAPHRAGM SHEAR CAPACITY (MINIMUM) DUE TO WIND.
SOG-1	4" CONC SLAB ON GRADE ATOP 15 MIL VAPOR BARRIER OVER 4" LAYER OF COMPACTED FREE-DRAINING GRANULAR FILL OVER 24" THK LAYER OF LOW-VOLUME CHANGE MATERIAL (PER SOILS REPORT) ON COMPACTED ENGINEERED SUBGRADE SOILS (PER SOIL REPORT). REINF SLAB w/ 6x6 - W2.1xW2.1 WWF. T/SLAB EL PER PLAN
CD-1	4" CONC SLAB: 2 1/2" LT. WT. CONC. SLAB ATOP 1 1/2"Dp - 22ga (GALV.) COMPOSITE FLOOR DECK. REINF. W/ 6x6-W2.1xW2.1 WWF T/SLAB EL. VARIES. PROVIDE DECK FASTENERS TO SUPPORT & SIDE-LAP FASTENERS PER "RD-1".

NOTES:
1. SOG = SLAB-ON-GRADE TYP.
2. RD = ROOF DECK TYP.
3. CD = COMPOSITE SLAB.

COLUMN BASE PLATE SCHEDULE

MARK	BASE PLATE	SHAPE	ANCHOR BOLTS
A	11"x11"x1"	A	(4) 3/4" Ø x 1'-9"Lg
B	RE: NOTE #5	RE: NOTE #5	RE: NOTE #5
C	14"x12"x1"	A	(4) 3/4" Ø x 2'-6"Lg ASTM F1554 (A36) THREADED ROD (RE: NOTE #6)
D	11"x11"x1"	A	(4) 3/4" Ø x 2'-6"Lg ASTM F1554 (A36) THREADED ROD (RE: NOTE #6)
E	14"x14"x1"	B	(4) 3/4" Ø x 2'-6"Lg ASTM F1554 (A36) THREADED ROD (RE: NOTE #6)
F	16"x12"x1 1/4"	A	(4) 3/4" Ø x 2'-6"Lg ASTM F1554 (A36) THREADED ROD (RE: NOTE #6)
G	18"x12"x1 1/4"	A	(4) 3/4" Ø x 2'-6"Lg ASTM F1554 (A36) THREADED ROD (RE: NOTE #6)
H	14"x14"x1"	A	(4) 3/4" Ø x 1'-6"Lg ASTM F1554 (A36) THREADED ROD (RE: NOTE #6)
J	12"x12"x1"	A	(4) 3/4" Ø x 1'-6"Lg ASTM F1554 (A36) THREADED ROD (RE: NOTE #6)

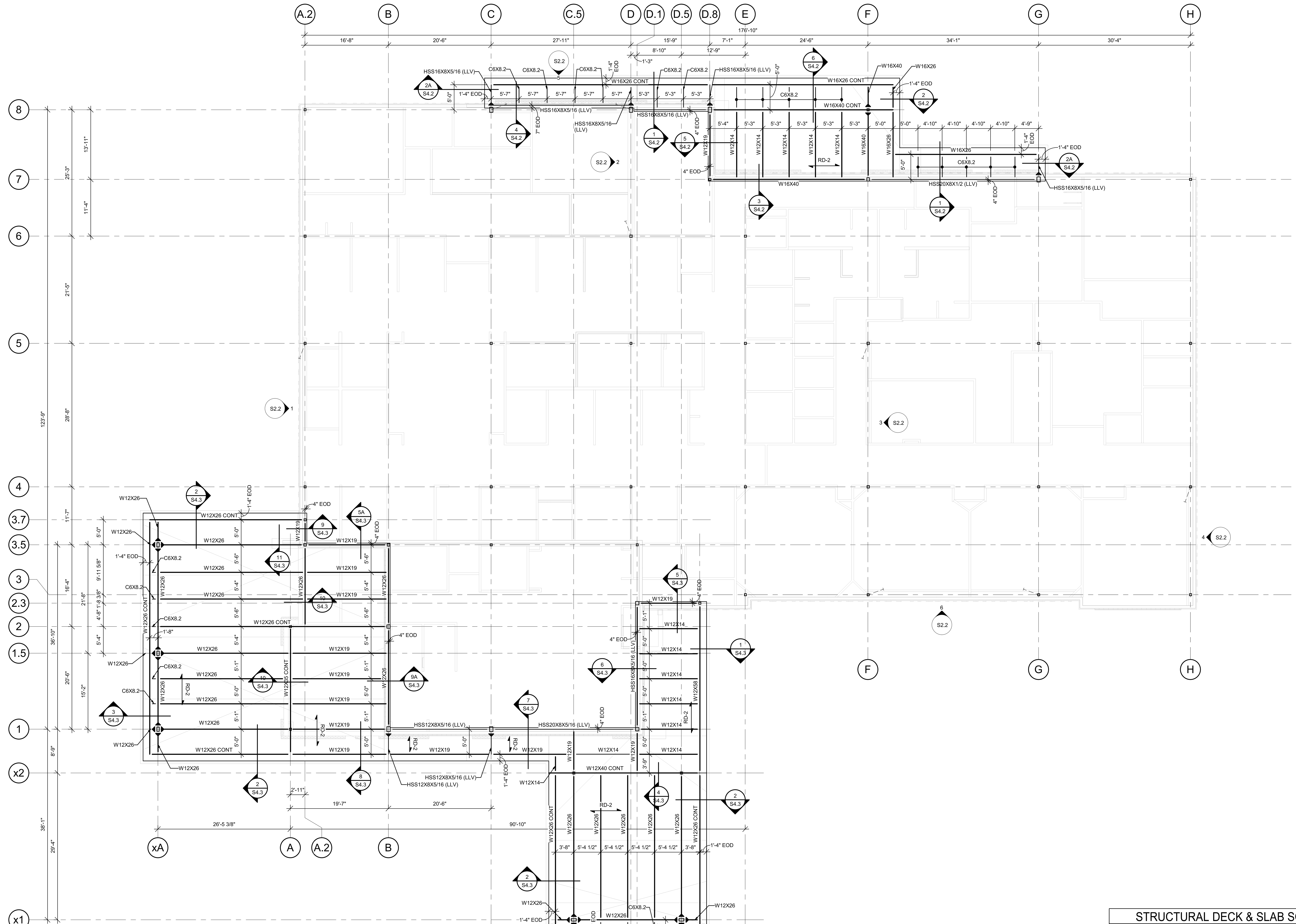
Structural Foundation Schedule

NOTE:
1) EXTERIOR FOOTINGS OR FOOTING AT GRADE BEAM SHALL MATCH GRADE BEAM DEPTH AND BE PLACED WITH GRADE BEAM. PROVIDE SPECIFIED REBAR TOP AND BOTTOM WITH 4 STANDEES TO SUPPORT #4 @ 12"o.c. EACH WAY TOP MATS.
2.) PROVIDE #4 @ 12"oc EA WAY IN TOP OF FTG (w/ 4 STANDEES TO SUPPORT TOP MAT) AT ALL FOOTINGS INDICATED ON PLAN w/ ANY ASTERISK "★ ".
3.) CENTER FOOTINGS ON COLUMNS AND/OR WALL CENTER LINES PER PLAN UNLESS NOTED OTHERWISE (U.N.O.).

Mark	Length	Width	Footing Thickness	Reinforcing Size and Spacing (Each Way Bottom)
3.0A	3'-0"	3'-0"	2'-8"	#4 @ 6"oc
3.5	3'-6"	3'-6"	1'-4"	#4 @ 6"oc
3.5A	3'-6"	3'-6"	2'-8"	#4 @ 6"oc
4.0	4'-0"	4'-0"	1'-4"	#4 @ 6"oc
4.0/8.5	8'-0"	4'-0"	2'-8"	#4 @ 6"oc (SHORT DIR) #5 @ 6"oc (LONG DIR)
4.0A	4'-0"	4'-0"	2'-8"	#4 @ 6"oc
4.5A	4'-6"	4'-6"	2'-8"	#4 @ 6"oc
5.0	5'-0"	5'-0"	1'-4"	#5 @ 6"oc
5.0A	5'-0"	5'-0"	2'-8"	#4 @ 6"oc
5.5	5'-6"	5'-6"	1'-4"	#5 @ 6"oc
5.5A	5'-6"	5'-6"	2'-8"	#4 @ 6"oc
6.0	6'-0"	6'-0"	1'-4"	#5 @ 6"oc
6.0A	6'-0"	6'-0"	2'-8"	#4 @ 6"oc
7.0A	7'-0"	7'-0"	2'-8"	#5 @ 6"oc
8.0A	8'-0"	8'-0"	2'-8"	#5 @ 6"oc
10.0A	10'-0"	10'-0"	2'-8"	#6 @ 6"oc

COLUMN BASE PLATE SHAPES (NOT TO SCALE)

NOTES:
1. SEE PLAN FOR ORIENTATION OF COLUMNS.
2. ALL COLUMNS SHALL BE CONTINUOUS WITH NO SPLICES.
3. ANCHOR BOLT LENGTH INCLUDES 4" HK & 5" PROJECTION UNLESS NOTED OTHERWISE.
4. UNLESS NOTED OTHERWISE SET COLUMN BASE PLATE ON 1" GROUT TYPICAL.
5. REFER TO SHEET S2.2 FOR BRACING ELEVATIONS & DETAILS.
6. EACH ANCHOR BOLT SHALL HAVE 3"x3"x3/4" PLATE WASHERS BOTTOM (IN LIEU OF HOOK) w/ 5" PROJECTION ATOP WHERE NOTED IN THE SCHEDULE (4"x4"x3/4" PLATE WASHER @ BOLTS 1" Ø AND LARGER).



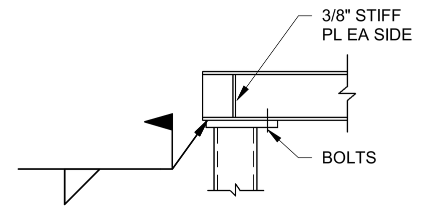
1 LOW ROOF & CANOPY FRAMING PLAN

1/8" = 1'-0"

NORTH

NOTES:

1. REFER TO GENERAL NOTES ON SHEET S0.1.
2. NUMBER w/ "T" PREFIX INDICATES T/BM ELEVATION. UNLESS NOTED OTHERWISE (U.N.O.) TOP OF BEAM ELEVATION = 115'-0".
3. G.C. SHALL VERIFY LOCATIONS OF ALL RTU EQUIP. SUPPORT & OPNG FRAMING BEAMS w/ EQUIP. MANUFACTURER. (PROVIDE RTU CURB MECH. UNIT SUPPORT FRAMING PER DETAIL 1/S4.0). ANY CONCENTRATED LOAD SUPPORTED AND/OR SUSPENDED BY BAR JOISTS SHALL BE IN CONFORMANCE WITH SAME DETAIL.
4. ELEV. = 100'-0" = DATUM ELEV. = 1003.5'.
5. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT DIPPED GALV.
6. ALL BAR JOIST SHALL BE DESIGNED FOR A NET UPLIFT (UNFACTORED FORCE DUE TO WIND) OF 20psf.
7. PROVIDE ANGLE FRAME OR DECK REINF. PL AT ALL OPENINGS THROUGH METAL DECK ROOF PER DETAIL 5 & 5A ON SHEET S4.0.
8. REFER TO DETAIL 6/S4.0 FOR WALL OPENING LINTEL FRAMING REQUIREMENTS AT EXTERIOR METAL STUD WALLS.
9. STEEL SUPPLIER NOTE: WHEREVER POSSIBLE WF BEAM TO COLUMN CONN. SHALL BE FRAMED SUCH THAT WF BEAMS BEARS ATOP COLUMN w/ 1/2" THK CAP PLATE & (4) 3/4" Ø BOLTS WHERE (4) BOLT CONN NOT POSSIBLE PROVIDE (2) 3/4" Ø BOLTS & WELD BASE PLATE AS SHOWN.
10. " ―►― " INDICATES MOMENT CONNECTION DETAIL PER DETAIL 7/S4.0 PROVIDE FULL PENETRATION WELD AT ALL HSS TO HSS CONNECTIONS INDICATED AS SUCH. U.N.O.
11. SPLICE ALL CONTINUOUS ROOF DECK EDGE ANGLES/BENT PLATES PER DETAIL 8/S4.0



(RE: PLAN NOTE #9)

STRUCTURAL DECK & SLAB SCHEDULE

MARK	DESCRIPTION
RD-1	1 1/2"Dp - 22ga GALV WIDE RIB ROOF DECK (3 SPAN CONT) EXAMPLE: VULCRAFT 1.5B-22 (OR EQUAL) PROVIDE 5/8" Ø PUDDLE WELDS IN 36/7 PATTERN (AND @ 6"oc @ SUPPORTS PARRALLEL TO DECK SPAN) w/ (6) #10 TEK-SCREW SIDE-LAP FASTENER PER SPAN (@ 6"oc MAX) SO AS TO DEVELOP 540plf (ASD) DIAPHRAGM SHEAR CAPACITY (MINIMUM) DUE TO WIND.
RD-2	1 1/2"Dp - 20ga GALV WIDE RIB ROOF DECK (3 SPAN CONT) EXAMPLE: VULCRAFT 1.5B-20 (OR EQUAL) PROVIDE 5/8" Ø PUDDLE WELDS IN 36/7 PATTERN (AND @ 6"oc @ SUPPORTS PARRALLEL TO DECK SPAN) w/ (1) #10 TEK-SCREW SIDE-LAP FASTENER PER SPAN SO AS TO DEVELOP 350plf (ASD) DIAPHRAGM SHEAR CAPACITY (MINIMUM) DUE TO WIND.
SOG-1	4" CONC SLAB ON GRADE ATOP 15 MIL VAPOR BARRIER OVER 4" LAYER OF COMPACTED FREE-DRAINING GRANULAR FILL OVER 24" THK LAYER OF LOW-VOLUME CHANGE MATERIAL (PER SOILS REPORT) ON COMPACTED ENGINEERED SUBGRADE SOILS (PER SOIL REPORT). REINF SLAB w/ 6x6 - W2.1xW2.1 WWF. T/SLAB EL PER PLAN
CD-1	4" CONC SLAB: 2 1/2" LT. WT. CONC. SLAB ATOP 1 1/2"Dp - 22ga (GALV.) COMPOSITE FLOOR DECK. REINF. W/ 6x6-W2.1xW2.1 WWF T/SLAB EL. VARIES. PROVIDE DECK FASTENERS TO SUPPORT & SIDE-LAP FASTENERS PER "RD-1".

NOTES:
1. SOG = SLAB-ON-GRADE TYP.
2. RD = ROOF DECK TYP.
3. CD = COMPOSITE SLAB.

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As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
02/15/2023

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Date	02/08/23
Job Number	3-22030
Drawn By	JPG
Checked By	JLW

Revision

Number	Date	Description

S2.0

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LOW ROOF & CANOPY FRAMING PLAN

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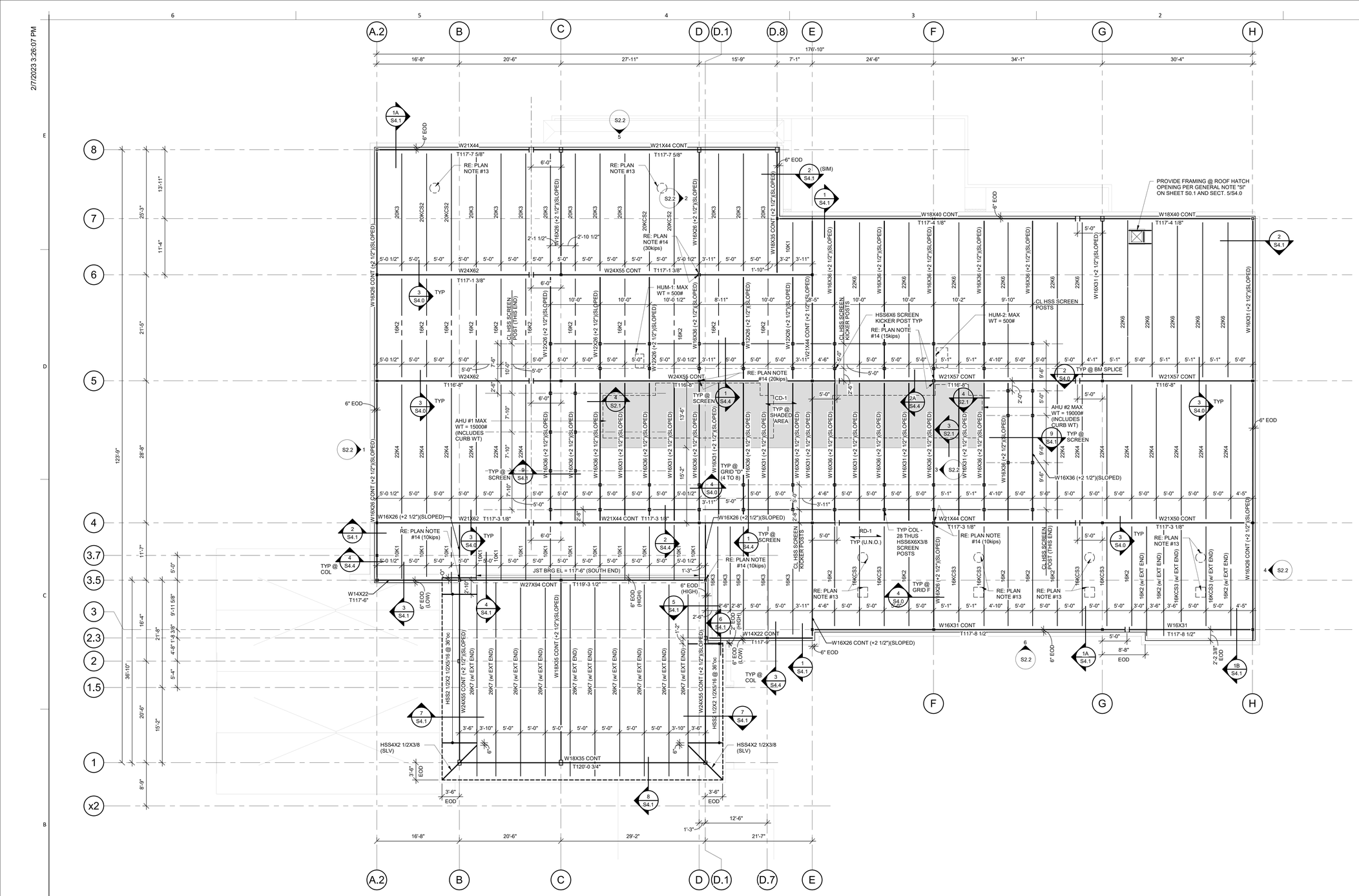
Lee's Summit, Missouri
2/15/2023



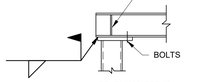
1 ROOF FRAMING PLAN

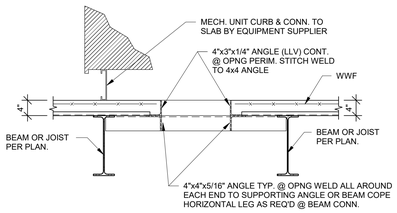
1/8" = 1'-0"

NORTH

NOTES:

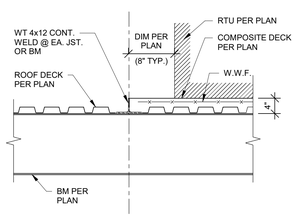
1. REFER TO GENERAL NOTES ON SHEET S0.1.
2. NUMBER w/ "I" PREFIX INDICATES T/BM ELEVATION.
3. G.C. SHALL VERIFY LOCATIONS OF ALL RTU EQUIP. SUPPORT & OPNG FRAMING BEAMS w/ EQUIP. MANUFACTURER. (PROVIDE RTU CURB MECH. UNIT SUPPORT FRAMING PER DETAIL 1/S4.0). ANY CONCENTRATED LOAD SUPPORTED AND/OR SUSPENDED BY BAR JOISTS SHALL BE IN CONFORMANCE WITH SAME DETAIL.
4. ELEV. = 100'-0" = DATUM ELEV. = 1003.5'.
5. ALL EXTERIOR EXPOSED STRUCTURAL STEEL SHALL BE HOT DIPPED GALV.
6. ALL BAR JOIST SHALL BE DESIGNED FOR A NET UPLIFT (UNFACTORED FORCE DUE TO WIND) OF 20psf. (10K1 JOIST DESIGN FOR 30psf NET UPLIFT)
7. PROVIDE ANGLE FRAME OR DECK REINF. PL AT ALL OPENINGS THROUGH METAL DECK ROOF PER DETAIL 5 & 5A ON SHEET S4.0.
8. REFER TO DETAIL 6/S4.0 FOR WALL OPENING LINTEL FRAMING REQUIREMENTS AT EXTERIOR METAL STUD WALLS.
9. STEEL SUPPLIER NOTE: WHEREVER POSSIBLE WF BEAM TO COLUMN CONN. SHALL BE FRAMED SUCH THAT WF BEAMS BEARS ATOP COLUMN w/ 1/2" THK CAP PLATE & (4) 3/4" Ø BOLTS WHERE (4) BOLT CONN NOT POSSIBLE PROVIDE (2) 3/4" Ø BOLTS & WELD BASE PLATE AS SHOWN.
10. " ►— " INDICATES MOMENT CONNECTION DETAIL PER DETAIL 7/S4.0 PROVIDE FULL PENETRATION WELD AT ALL HSS TO HSS CONNECTIONS INDICATED AS SUCH. U.N.O.
11. SPLICE ALL CONTINUOUS ROOF DECK EDGE ANGLES/BENT PLATES PER DETAIL 8/S4.0
12. AT ROOFTOP RTU CONCRETE SLABS PROVIDE FRAMING AT ROOF OPENINGS PER SECTION 2/S2.1.
13. REFER TO SECTION 5/S4.4 FOR SUPPORT OF EQUIPMENT BOOMS & SURGICAL LIGHTS IN OPERATING ROOMS & PROCEDURE ROOMS. RE: ARCHITECTURAL DRAWINGS FOR EXTENT & LOCATION OF LIGHTS/BOOMS. GENERAL CONTRACTOR VERIFY ALL INSTALLATIONS w/ EQUIPMENT SPECS.
14. STEAL SUPPLIER DESIGN NORTH-SOUTH SPANNING BM END CONNECTIONS FOR UNFACTORED (ASD) AXIAL LOAD SHOWN IN PLAN (TENSION OR COMPRESSION).





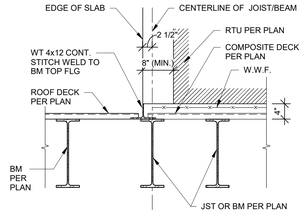
2 SECTION

3/4" = 1'-0"



3 SECTION

3/4" = 1'-0"



4 SECTION

3/4" = 1'-0"

STRUCTURAL DECK & SLAB SCHEDULE

MARK	DESCRIPTION
RD-1	1 1/2"Dp - 22ga GALV WIDE RIB ROOF DECK (3 SPAN CONT) EXAMPLE: VULCRAFT 1.5B-22 (OR EQUAL) PROVIDE 5/8" Ø PUDDLE WELDS IN 36/7 PATTERN (AND @ 6"oc @ SUPPORTS PARRALLEL TO DECK SPAN) w/ (6) #10 TEK-SCREW SIDE-LAP FASTENER PER SPAN (@ 6"oc MAX) SO AS TO DEVELOP 540plf (ASD) DIAPHRAGM SHEAR CAPACITY (MINIMUM) DUE TO WIND.
RD-2	1 1/2"Dp - 20ga GALV WIDE RIB ROOF DECK (3 SPAN CONT) EXAMPLE: VULCRAFT 1.5B-20 (OR EQUAL) PROVIDE 5/8" Ø PUDDLE WELDS IN 36/7 PATTERN (AND @ 6"oc @ SUPPORTS PARRALLEL TO DECK SPAN) w/ (1) #10 TEK-SCREW SIDE-LAP FASTENER PER SPAN SO AS TO DEVELOP 350plf (ASD) DIAPHRAGM SHEAR CAPACITY (MINIMUM) DUE TO WIND.
SOG-1	4" CONC SLAB ON GRADE ATOP 15 MIL VAPOR BARRIER OVER 4" LAYER OF COMPACTED FREE-DRAINING GRANULAR FILL OVER 24" THK LAYER OF LOW-VOLUME CHANGE MATERIAL (PER SOILS REPORT) ON COMPACTED ENGINEERED SUBGRADE SOILS (PER SOIL REPORT). REINF SLAB w/ 6x6 - W2.1xW2.1 WWF. T/SLAB EL PER PLAN
CD-1	4" CONC SLAB: 2 1/2" LT. WT. CONC. SLAB ATOP 1 1/2"Dp - 22ga (GALV.) COMPOSITE FLOOR DECK. REINF. W/ 6x6-W2.1xW2.1 WWF T/SLAB EL. VARIES. PROVIDE DECK FASTENERS TO SUPPORT & SIDE-LAP FASTENERS PER "RD-1".

NOTES:
1. SOG = SLAB-ON-GRADE TYP.
2. RD = ROOF DECK TYP.
3. CD = COMPOSITE SLAB.

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Date	02/08/23
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Drawn By	JPG
Checked By	JLW

Revision

Number	Date	Description

S2.1

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HIGH (MAIN) ROOF FRAMING PLAN

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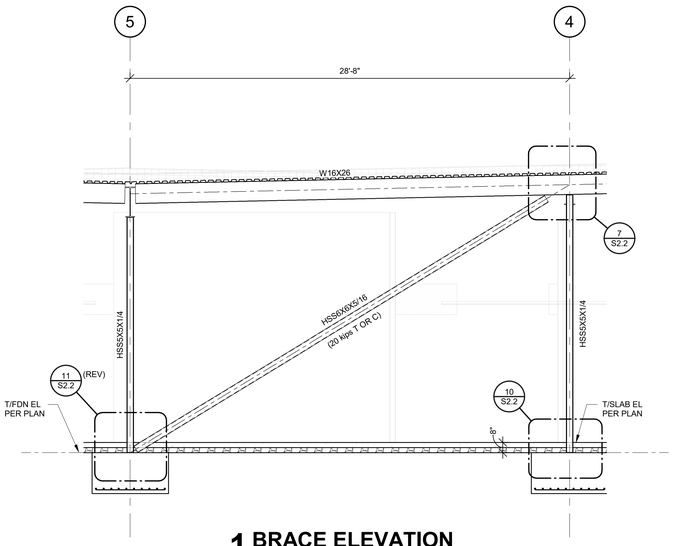
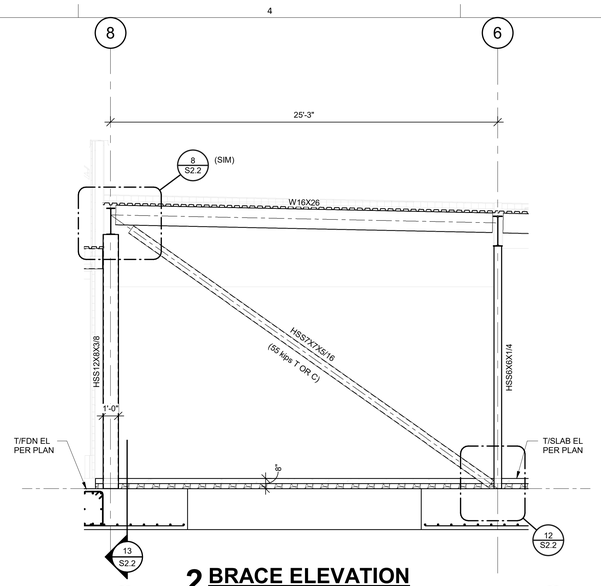
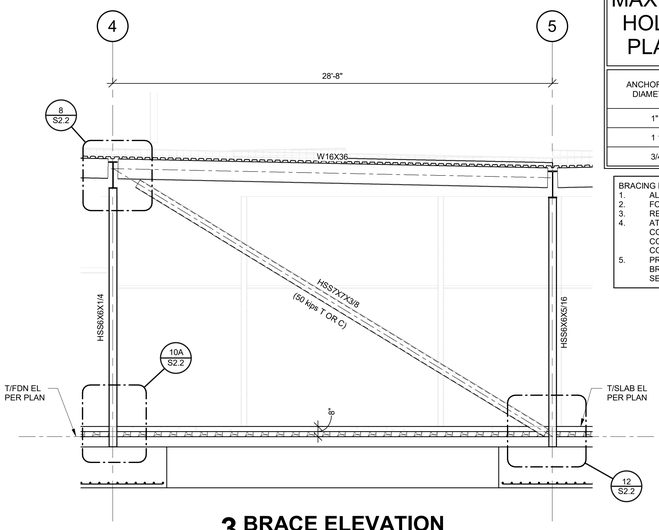


1 BRACE ELEVATION
1/4" = 1'-0"



2 BRACE ELEVATION
1/4" = 1'-0"



3 BRACE ELEVATION
1/4" = 1'-0"

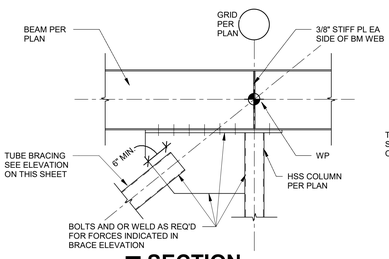
MAXIMUM SIZES FOR ANCHOR-ROD HOLES IN BASE PLATES/MINIMUM PLATE WASHER SIZE SCHEDULE			
ANCHOR-ROD DIAMETER.	MAX. HOLE DIAMETER. IN BASE PLATE	MIN. WASHER SIZE.	MIN. WASHER THICKNESS
1"	1 7/8"	3"	3/8"
1 1/4"	2 1/8"	3 1/2"	1/2"
3/4"	1 5/16"	2"	1/4"

BRACING NOTES:
1. ALL FORCES SHOWN ARE UNFACTORED (ASD) FORCES. (DUE TO WINDS LOADS)
2. FORCES SHOWN (IN PARENTHESIS) ARE TENSION OR COMPRESSION
3. REFER TO BRACING DETAILS THIS SHEET.
4. AT ALL CHEVRON ("K") BRACE, DO NOT COMPLETE WELDED BRACE CONNECTIONS UNTIL ROOF DECK SYSTEM IS INSTALLED. TEMPORARY BRACE CONNECTION SHALL ALLOW FOR DEFLECTIONS OF BEAMS BRACES ARE CONNECTED TO.
5. PROVIDE 1/4" THK STIFF PLATES @ 8'-0"o.c. TYP. EACH SIDE @ ALL WF BEAMS IN BRACED FRAMES (SHOWN IN ELEVATIONS THIS SHEET) & PROVIDE KICKERS PER SECT. 4/S4.0

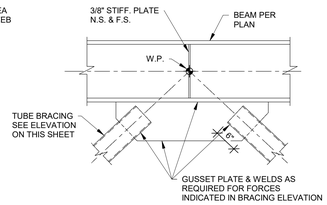
4 BRACE ELEVATION
1/4" = 1'-0"

5 BRACE ELEVATION
1/4" = 1'-0"

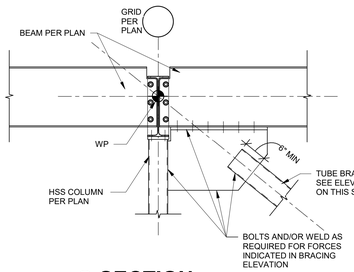
6 BRACE ELEVATION
1/4" = 1'-0"



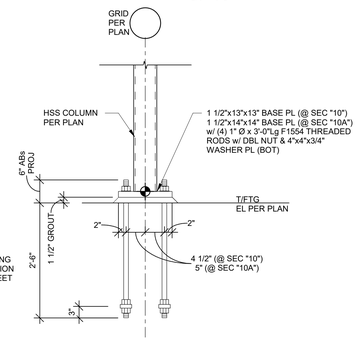
7 SECTION
3/4" = 1'-0"



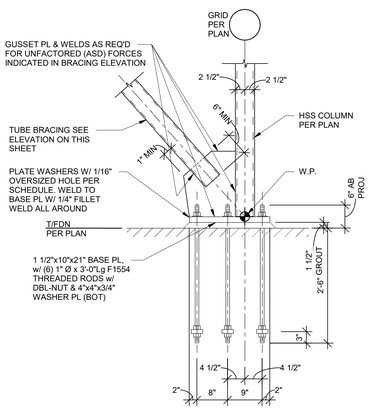
9 SECTION
3/4" = 1'-0"



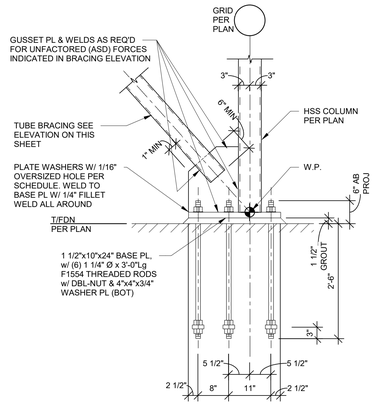
8 SECTION
3/4" = 1'-0"



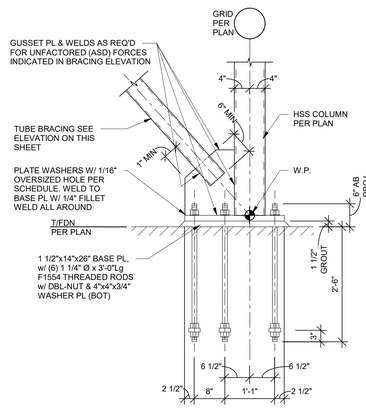
10A, 10 SECTION
3/4" = 1'-0"



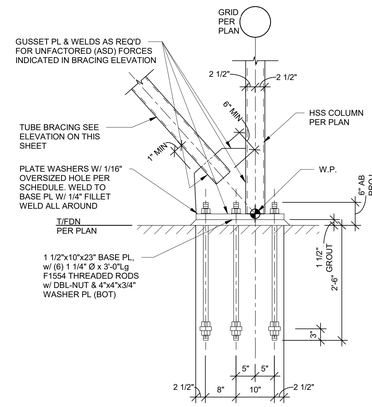
11 SECTION
3/4" = 1'-0"



12 SECTION
3/4" = 1'-0"



13 SECTION
3/4" = 1'-0"



14 SECTION
3/4" = 1'-0"

RELEASED FOR CONSTRUCTION
As noted on Plans Review
Planning & Zoning Services Department
Lee's Summit, Missouri
02/15/2023

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	JPG
Checked By	JLW

Revision

Number	Date	Description

S2.2

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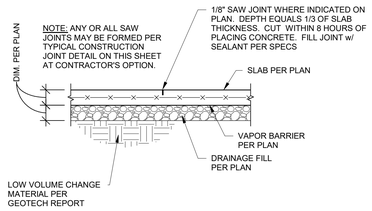
BRACING ELEVATIONS

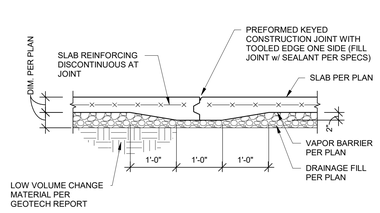
BIM 360://3-22030 HCA LSMC ASC/ACI2208 - S21 - HCA LS Med Ctr - ASC.rvt

RELEASED FOR CONSTRUCTION
As Noted on Plans/Review
Community Services Department
Lee's Summit, Missouri
02/28/2023



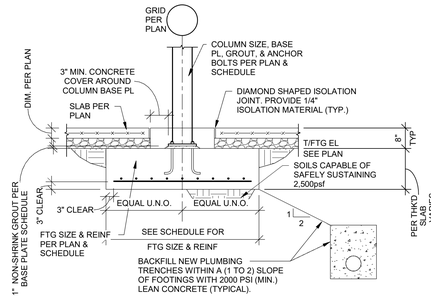
TYPICAL SAW JOINT
NOTED "SJ" ON PLAN

1 SECTION
3/4" = 1'-0"



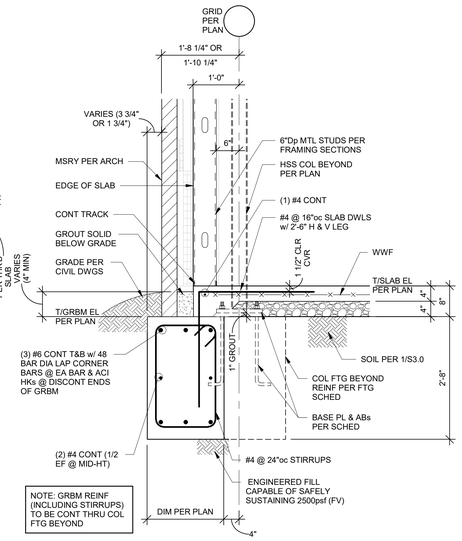
TYPICAL CONSTRUCTION JOINT
NOTED "CJ" ON PLAN

2 SECTION
3/4" = 1'-0"

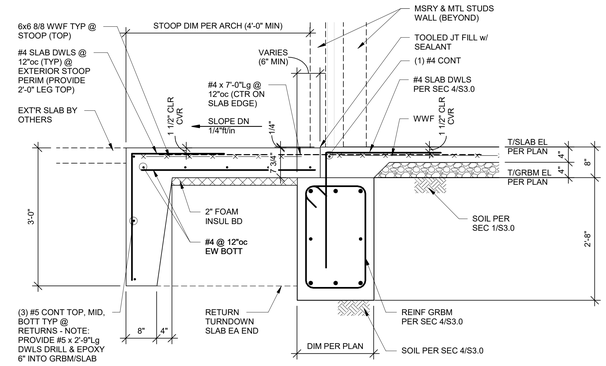


TYPICAL INTERIOR COLUMN FOOTING

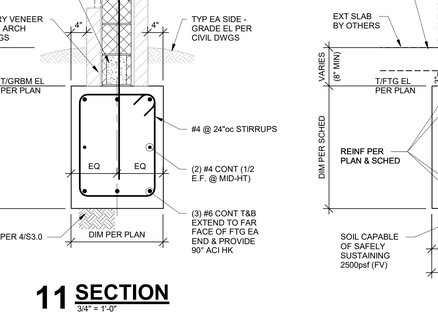
3 SECTION
1/2" = 1'-0"



4 SECTION
3/4" = 1'-0"



5 SECTION
3/4" = 1'-0"

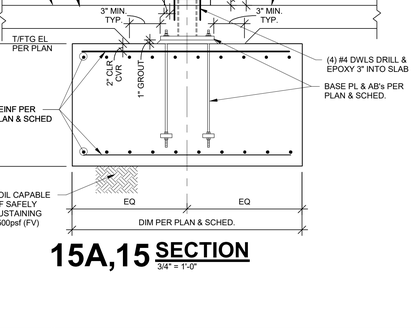


6 SECTION
3/4" = 1'-0"

7 SECTION
3/4" = 1'-0"

8 SECTION
3/4" = 1'-0"

9 SECTION
3/4" = 1'-0"



10 SECTION
3/4" = 1'-0"

11 SECTION
3/4" = 1'-0"

12 SECTION
3/4" = 1'-0"

13 SECTION
3/4" = 1'-0"

14 SECTION
3/4" = 1'-0"

15A,15 SECTION
3/4" = 1'-0"

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Checked By	JLW

Revision

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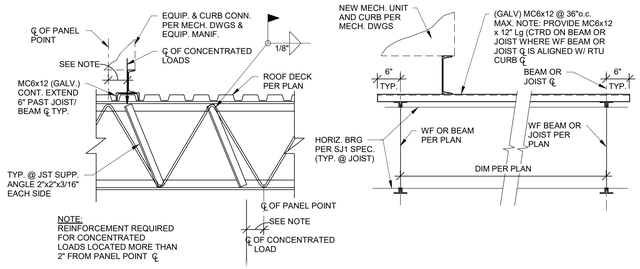
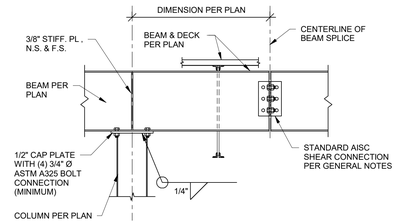
FOUNDATION SECTIONS



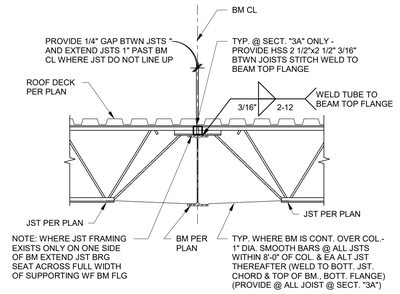
TYPICAL RTU CURB SUPPORT FRAMING

1 SECTION
3/4" = 1'-0"



TYPICAL BEAM SPLICE

2 SECTION
3/4" = 1'-0"



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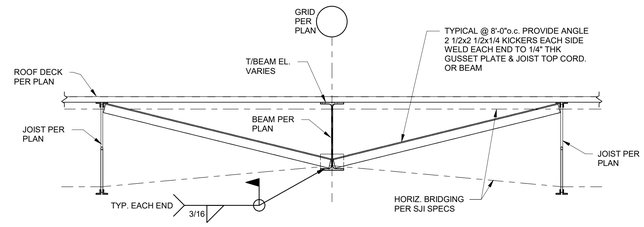
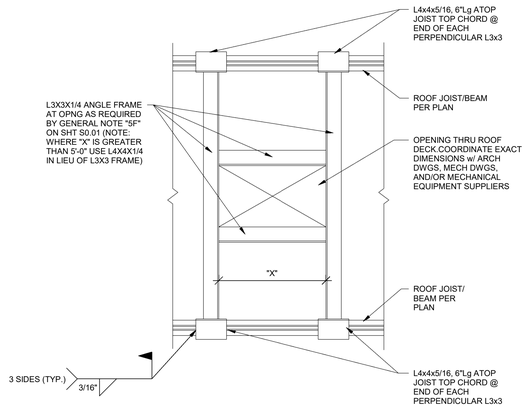
3/4" = 1'-0"

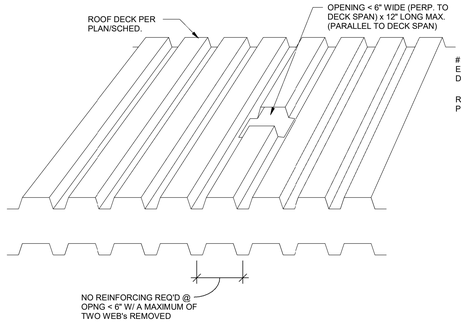


4 SECTION
3/4" = 1'-0"



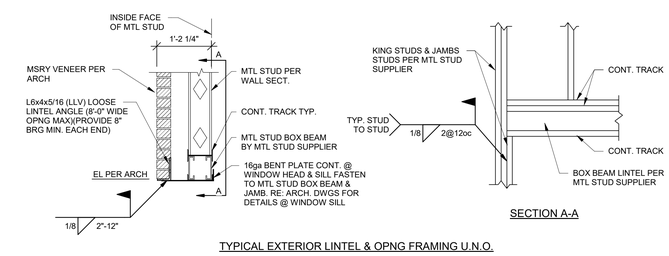
TYPICAL ANGLE FRAME AT
OPENINGS > 12" WIDE IN ROOF DECK

5 SECTION
1" = 1'-0"



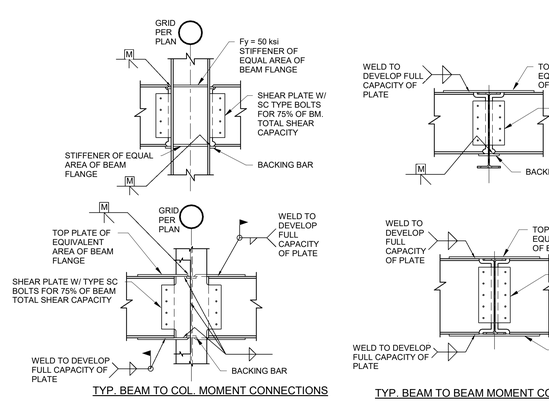
TYPICAL DECK REINFORCING AT SMALL OPENINGS IN ROOF DECK

5A SECTION
1 1/2" = 1'-0"

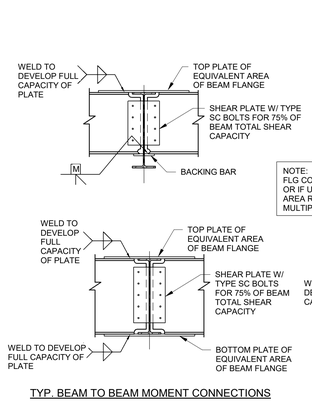


TYPICAL EXTERIOR LINTEL & OPNG FRAMING U.N.O.

6 SECTION
3/4" = 1'-0"



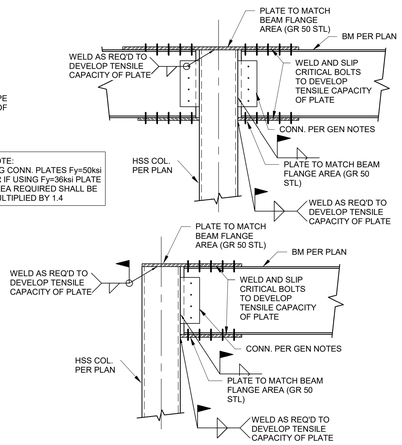
TYP. BEAM TO COL. MOMENT CONNECTIONS



TYP. BEAM TO BEAM MOMENT CONNECTIONS

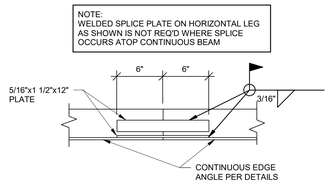
7 SECTION
3/4" = 1'-0"

NOTE:
FLG CONN. PLATES Fy=50ksi OR IF USING Fy=36ksi PLATE AREA REQUIRED SHALL BE MULTIPLIED BY 1.4



TYPICAL BEAM TO HSS COLUMN MOMENT CONNECTIONS

NOTE:
WELDED SPLICE PLATE ON HORIZONTAL LEG AS SHOWN IS NOT REQ'D WHERE SPLICE OCCURS ATOP CONTINUOUS BEAM



TYPICAL ROOF DECK ANGLE SPLICE

8 SECTION
1 1/2" = 1'-0"

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As Noted on Plans/Review
Jackson County Services Department
Kansas City, Missouri
02/15/2023

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	JPG
Checked By	JLW

Revision

Number	Date	Description

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ROOF FRAMING SECTIONS

RELEASED FOR CONSTRUCTION
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Planning & Zoning Services Department
Lee's Summit, Missouri
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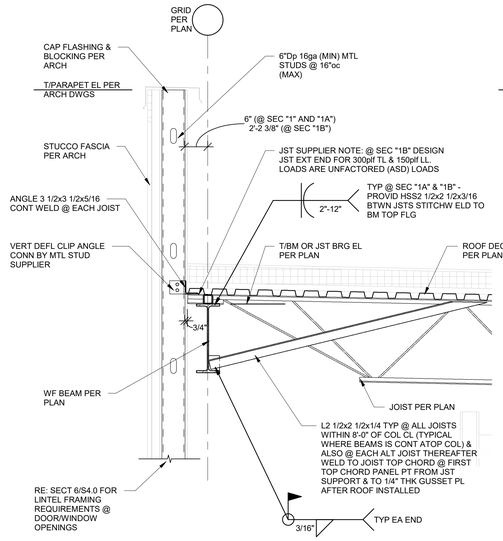
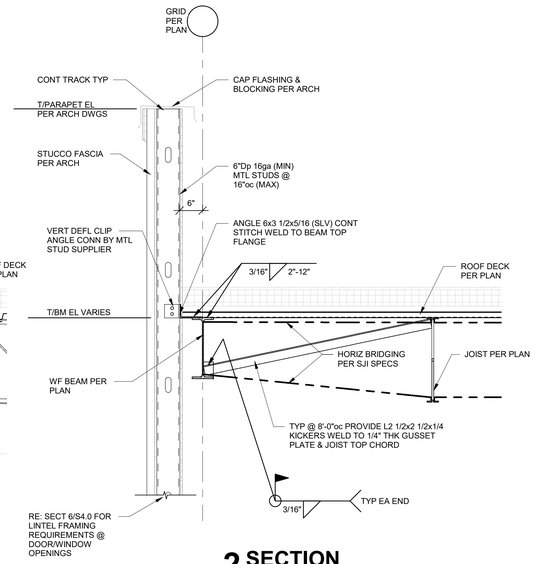
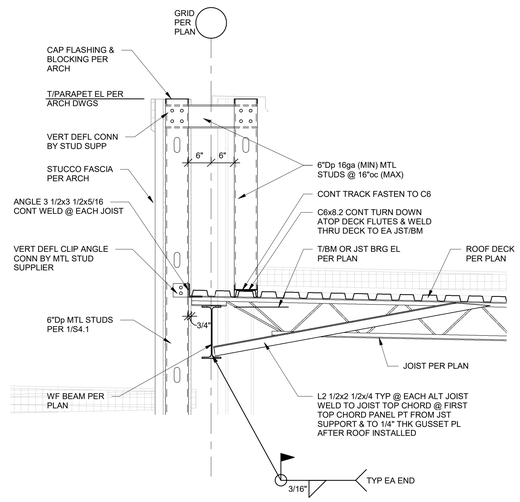


1A,1B, 1 SECTION
3/4" = 1'-0"



2 SECTION
3/4" = 1'-0"



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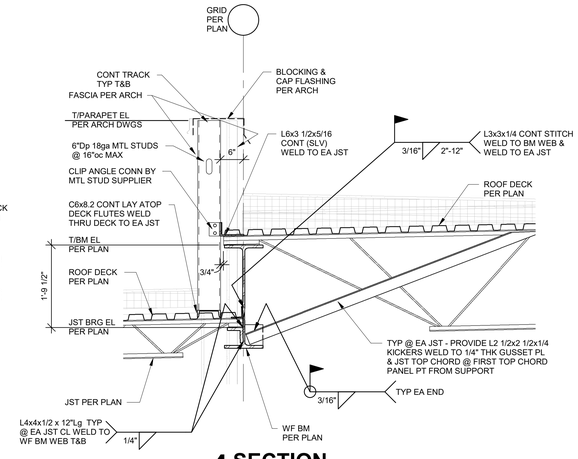
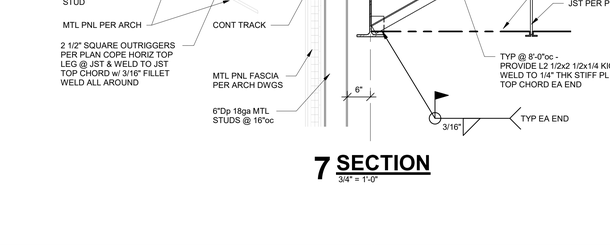
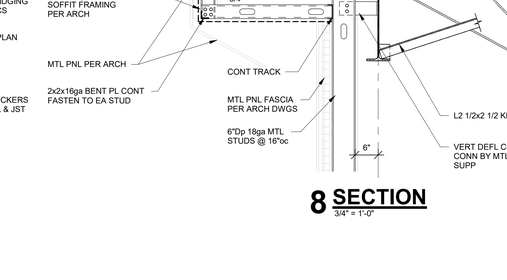
3/4" = 1'-0"



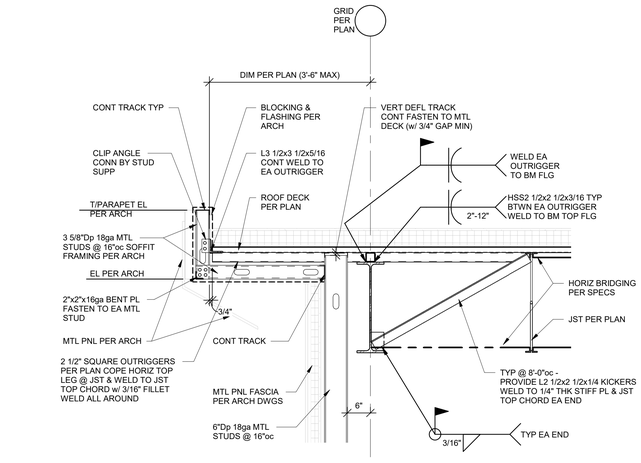
4 SECTION
3/4" = 1'-0"



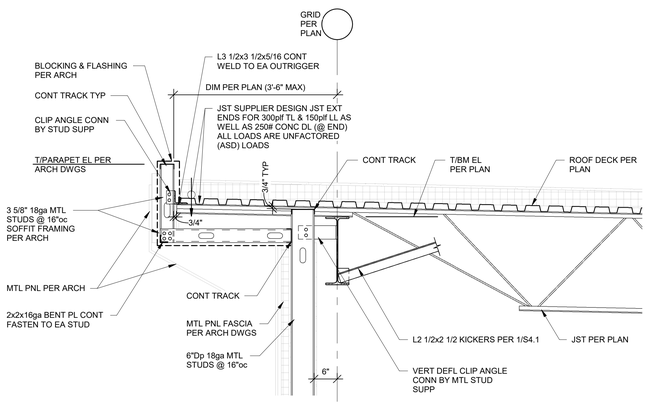
5 SECTION
3/4" = 1'-0"



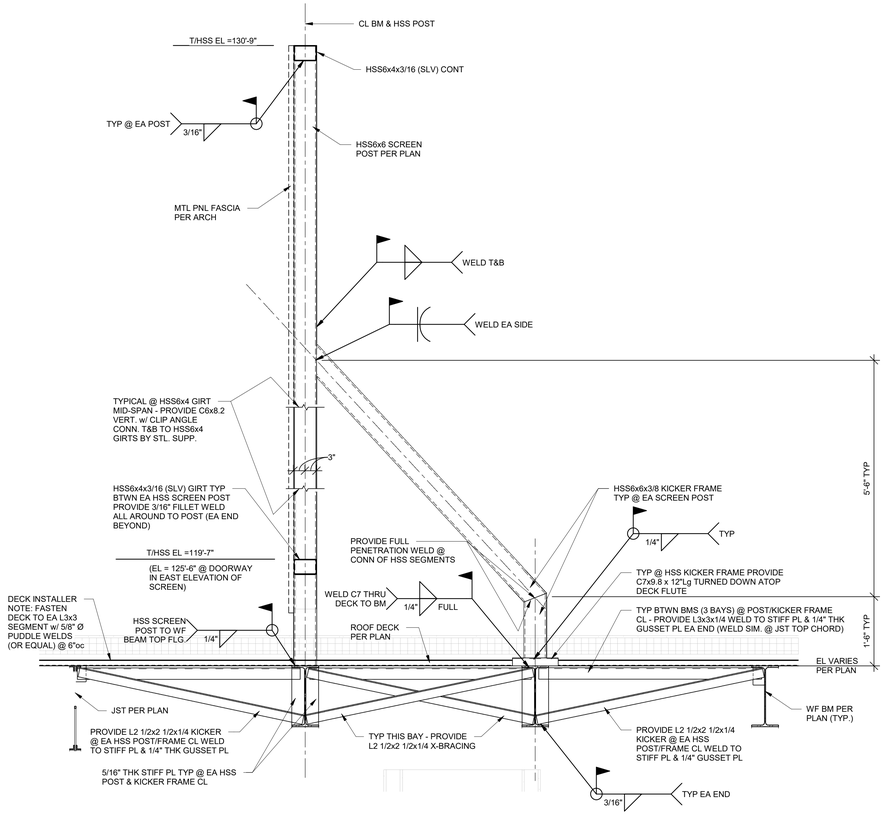
6 SECTION
3/4" = 1'-0"



7 SECTION
3/4" = 1'-0"



8 SECTION
3/4" = 1'-0"



9 SECTION
3/4" = 1'-0"

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

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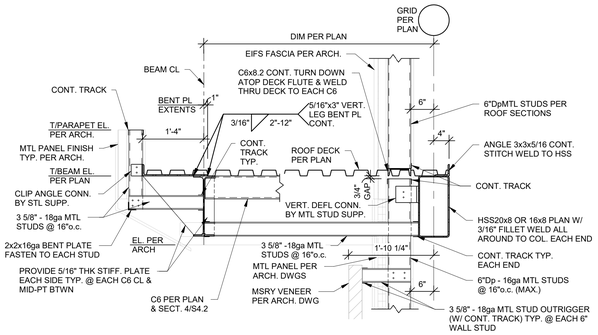
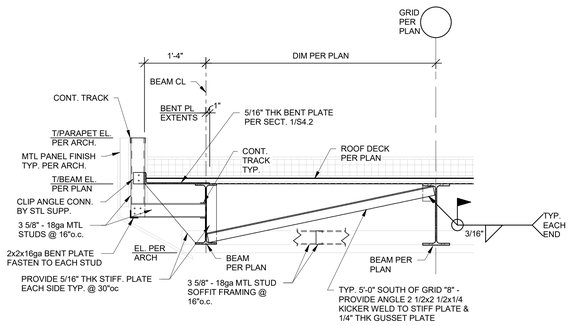
ROOF FRAMING SECTIONS

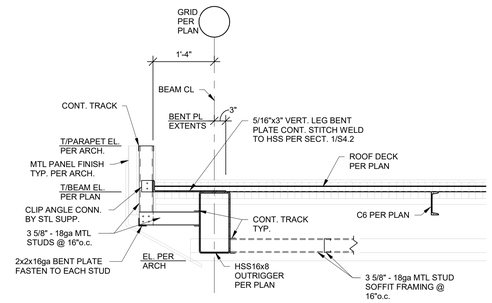
2/7/2023 3:26:22 PM



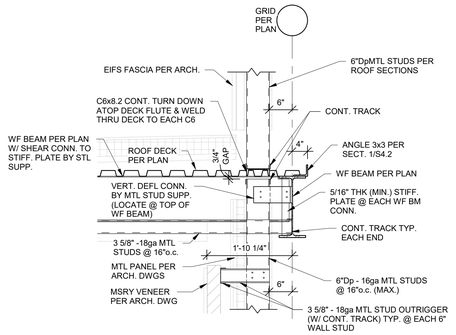
1 SECTION
3/4" = 1'-0"



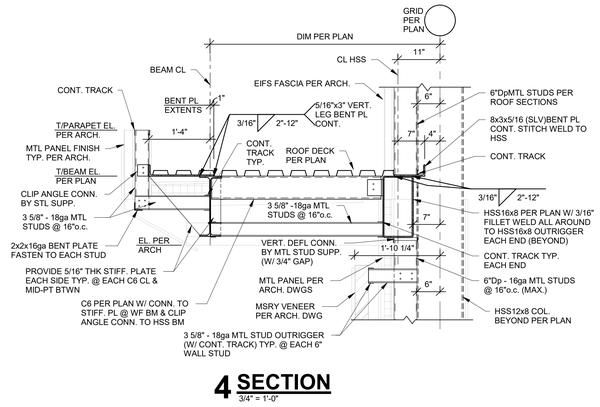
2 SECTION
3/4" = 1'-0"



2A SECTION
3/4" = 1'-0"



3 SECTION
3/4" = 1'-0"



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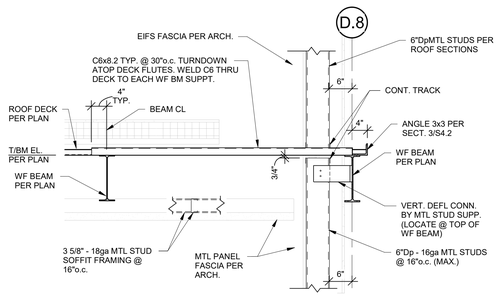
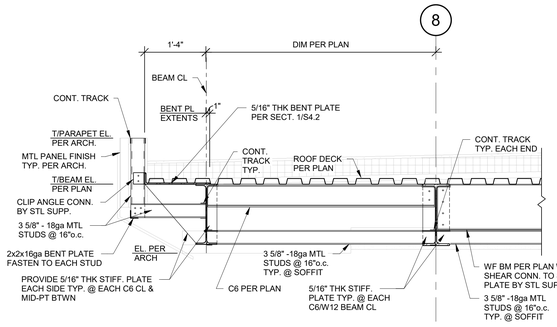
3/4" = 1'-0"



5 SECTION
3/4" = 1'-0"



6 SECTION
3/4" = 1'-0"

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Building Services Department
Kingdom City, Missouri
02/15/2023

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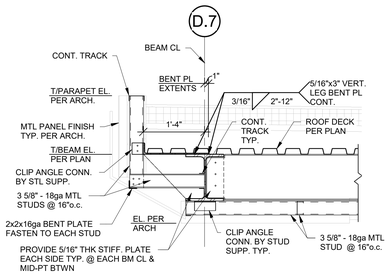
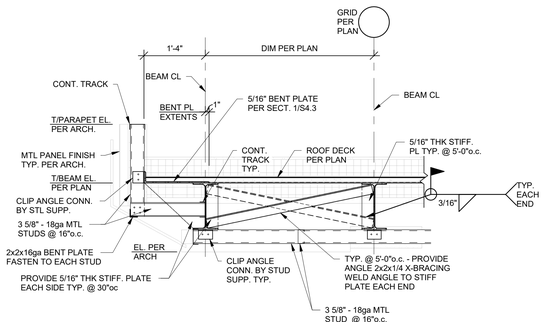
CANOPY FRAMING SECTIONS

BIM 360://3-22030 HCA LSMC ASC/ACI2208 - S21 - HCA LS Med Ctr - ASC.rvt



1 SECTION
3/4" = 1'-0"



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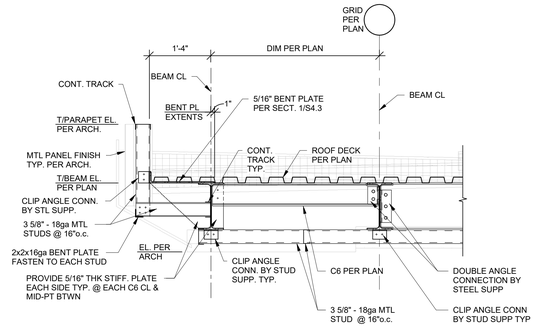

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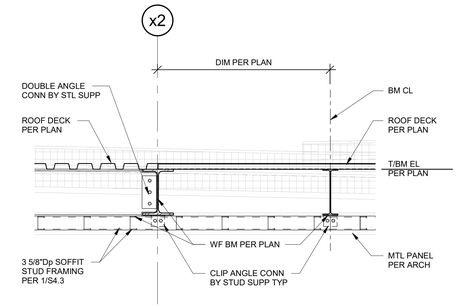

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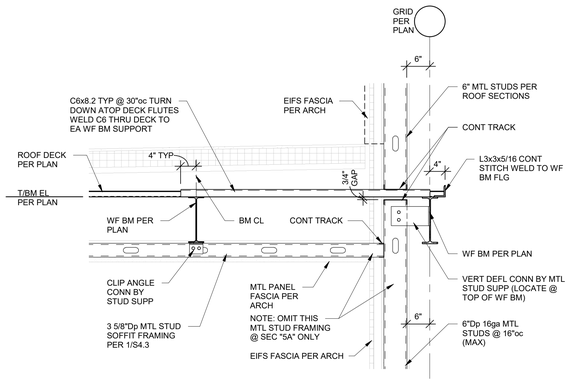
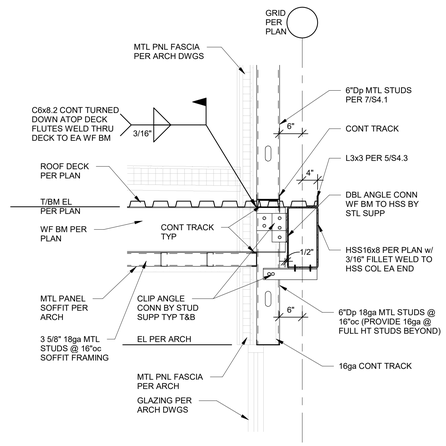


5A, 5 SECTION
3/4" = 1'-0"



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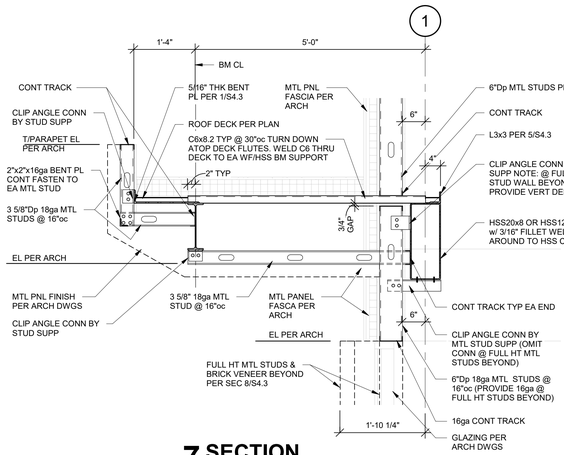

7 SECTION
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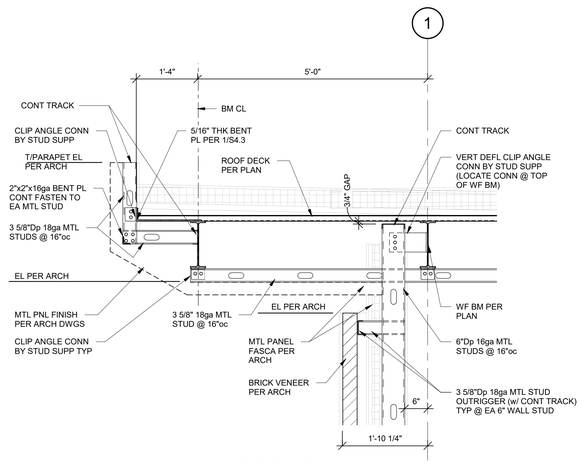
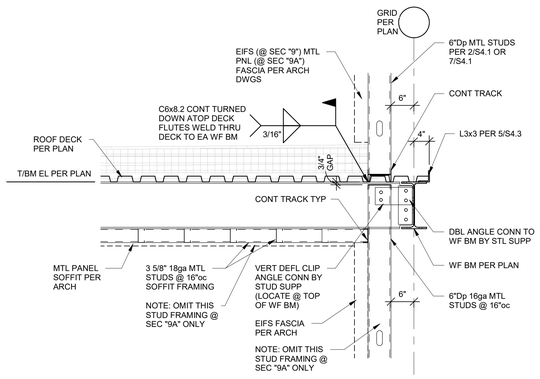
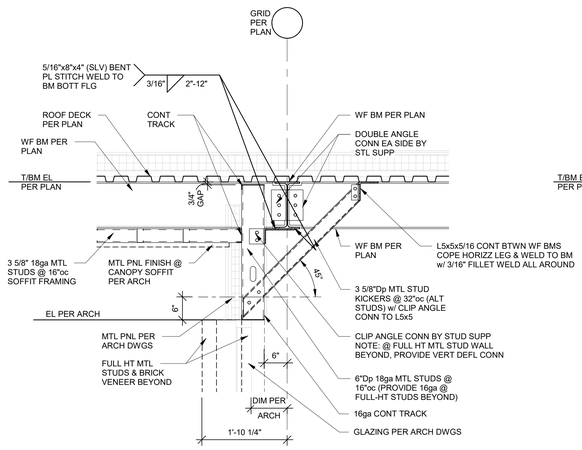


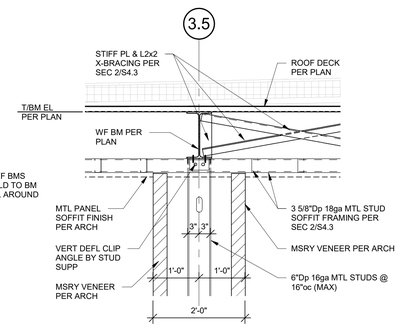
8 SECTION
3/4" = 1'-0"



9A, 9 SECTION
3/4" = 1'-0"



10 SECTION
3/4" = 1'-0"



11 SECTION
3/4" = 1'-0"

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ROOF FRAMING SECTIONS

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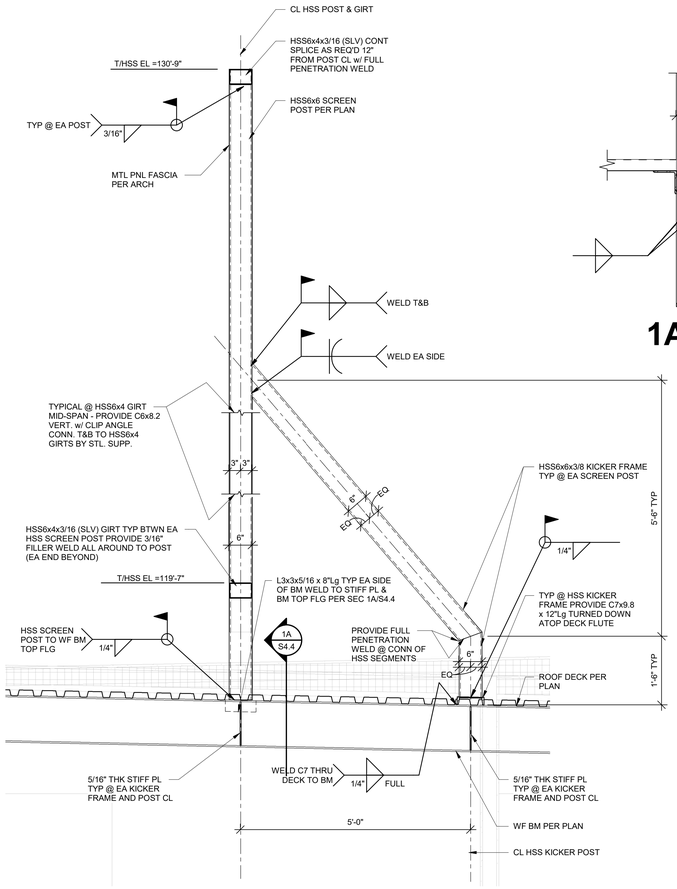

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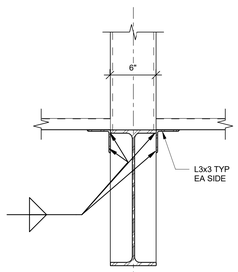
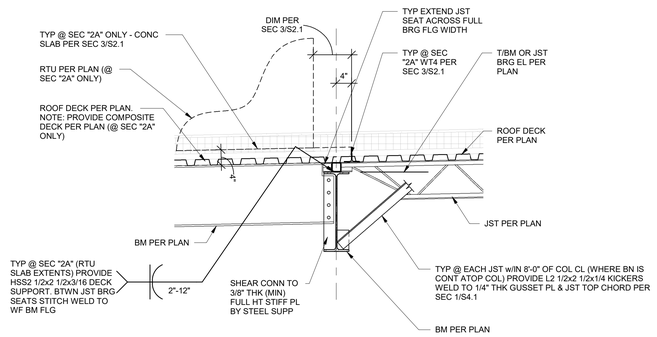
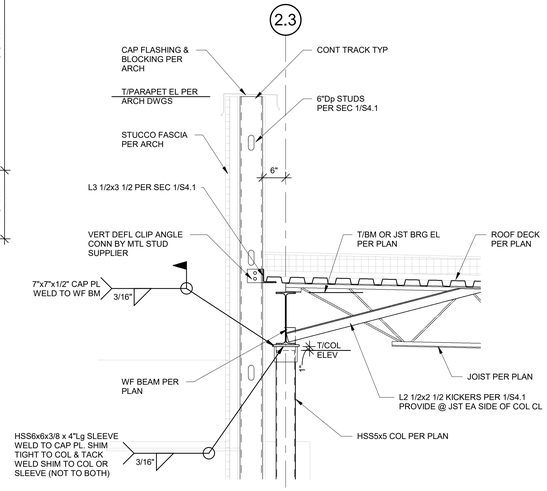
3/4" = 1'-0"



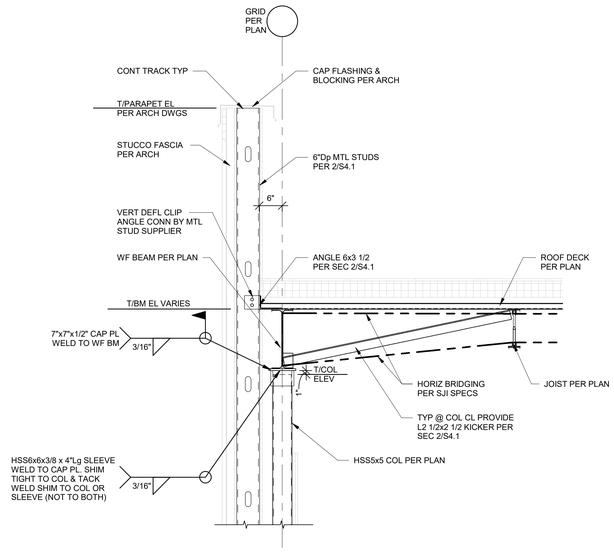
1A SECTION
1 1/2" = 1'-0"



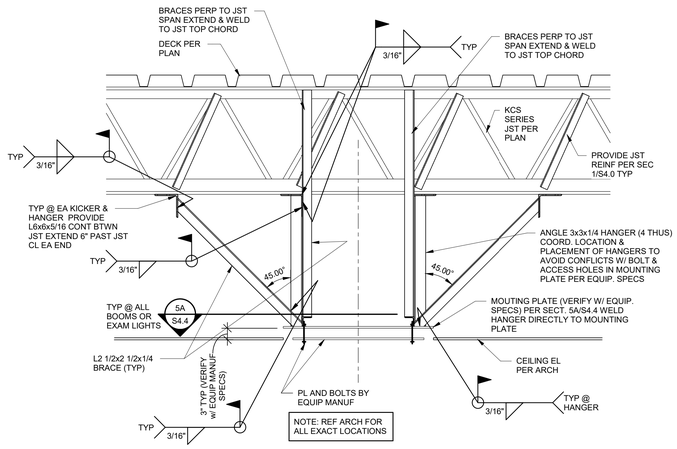
2A,2 SECTION
3/4" = 1'-0"



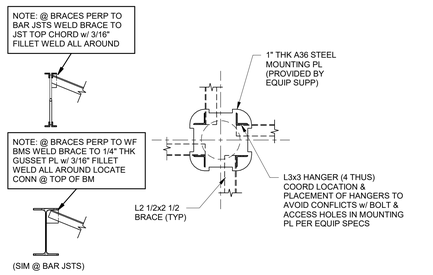
3 SECTION
3/4" = 1'-0"



4 SECTION
3/4" = 1'-0"



5 SECTION
3/4" = 1'-0"



TYPICAL AT STRYKER SINGLE COMMON PLATE MOUNT
(MAX WEIGHT = 1100#; MAX MOMENT = 5.65kip*ft)

5A SECTION
3/4" = 1'-0"

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ROOF FRAMING SECTIONS

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3/9/2023 9:06:33 AM

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11/15/2023

STATE OF MISSOURI
SAMUEL K. BECKMAN
NUMBER A-2011012130
ARCHITECT

2/8/2023

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

GENERAL PLAN NOTES

1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH A.D.A. REQUIREMENTS AND ALL APPLICABLE LOCAL, STATE, AND FEDERAL BUILDING CODES AND REGULATIONS.
2. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING ALL NECESSARY BUILDING PERMITS.
3. THE GENERAL CONTRACTOR AND SUBCONTRACTORS SHALL FIELD VERIFY EXISTING CONDITIONS AND NOTIFY THE ARCHITECT OF ANY INCONSISTENCIES OR DISCREPANCIES WITH THE PROJECT DOCUMENTS. ACCESS TO THE SITE AND/OR SPACE UNDER CONSTRUCTION DURING BIDDING AND CONSTRUCTION SHALL BE COORDINATED WITH THE OWNER.
4. IF MATERIAL SUSPECTED OF CONTAINING HAZARDOUS MATERIALS ARE ENCOUNTERED, DO NOT DISTURB. IMMEDIATELY NOTIFY ARCHITECT AND OWNER. OWNER SHALL COORDINATE WITH CONTRACTOR ON THE REMOVAL OF SUCH ITEMS. WORK MAY PROCEED AFTER HAZARDOUS MATERIAL HAS BEEN REMOVED.
5. THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. THE SUBSTRATE SHALL BE SMOOTH AND FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISHED MATERIAL MANUFACTURERS RECOMMENDATIONS.
6. CONTRACTOR SHALL FURNISH AND INSTALL CONCEALED FIRE-TREATED WOOD BLOCKING BEHIND ALL CABINETS, TOILET ACCESSORIES, PLUMBING FIXTURES, AND OTHER WALL MOUNTED ITEMS AS REQUIRED FOR ADEQUATE SUPPORT.
7. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO MEET AND COMPLETE THE REQUIREMENTS OF THE NEW CONSTRUCTION.
8. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE PATCHED, REPAIRED, AND PREP AS REQUIRED FOR NEW FINISH APPLICATION.
9. DO NOT CLOSE OR OBSTRUCT WALKWAYS, EXITS, OR OTHER FACILITIES USED BY OCCUPANTS OF BUILDINGS WITHOUT WRITTEN PERMISSION FROM AUTHORITIES HAVING JURISDICTION
10. CONDUCT ALL OPERATIONS IN A SAFE WORKING MANNER TO PREVENT DAMAGE OR INJURY TO ADJACENT SPACES, BUILDING, STRUCTURE, OTHER FACILITIES, AND PERSONS.
11. REFER TO GENERAL NOTES, LEGENDS & SYMBOLS SHEET FOR ADDITIONAL GENERAL NOTES AS APPLICABLE.
12. SEE FINISH SCHEDULE FOR FINISH LOCATION AND SPECIFICATIONS.
13. SEE DOOR SCHEDULE FOR DOOR SPECIFICATIONS.
14. UNLESS NOTED OTHERWISE, ALL INTERIOR DRYWALL PARTITIONS INDICATED ON THE FLOOR PLAN DRAWING ARE TYPE 'A' PARTITION

KEYNOTES - FLOOR PLAN TI

Key Value	Keynote Text
F-1	BUILT IN MILLWORK FIN-TUBE ENCLOSURE.
F-5	CONSULT BAY GLASS
F-7	BUILT-IN MEDIA CENTER SURROUND COLUMN WRAP

AREA A
A1 / TI-A2.2

AREA B
A1 / TI-A2.3

AREA C
A1 / TI-A2.4

CARD READER TO BE CONNECTED TO BOTH DOORS

A1 FIRST FLOOR DIMENSION PLAN
1/8" = 1'-0"

NORTH

A | B | C

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Number	Date	Description
2	2/20/23	Addendum #2
3	3/9/23	Addendum #3

TI-A2.1

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TI - FIRST FLOOR PLAN

BIM 360://3-22030 HCA LSMC ASC/3-22030 HCA LSMC_Arch_R21.rvt

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KEYNOTES - FLOOR PLAN TI

Key Value	Keynote Text
F-1	BUILT IN MILLWORK F/N-TUBE ENCLOSURE.
F-5	CONSULT BAY GLASS
F-7	BUILT-IN MEDIA CENTER SURROUND COLUMN WRAP

STATE OF MISSOURI
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ARCHITECT
2/8/2023
Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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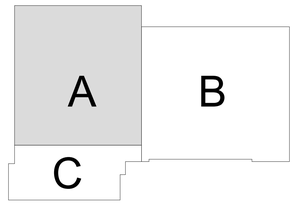
3	3/9/23	Addendum #3



TI-A2.2

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ENLARGED ANNOTATION PLAN - AREA A

A1 FIRST FLOOR ENLARGED PLAN - AREA A
1/4" = 1'-0"

NORTH

AREA C
A1 / TI-A2.4

AREA B
A1 / TI-A2.3

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2	2/20/23	Addendum #2

A1 FIRST FLOOR ENLARGED PLAN - AREA B
1/4" = 1'-0"

NORTH

A | B
C

TI-A2.3

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ENLARGED ANNOTATION PLAN - AREA B

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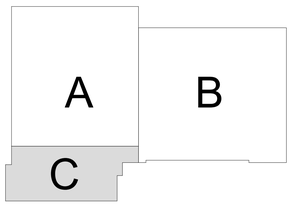
2/9/2023 10:07:00 AM

A1 FIRST FLOOR ENLARGED PLAN - AREA C
1/4" = 1'-0"

NORTH



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ENLARGED ANNOTATION PLAN - AREA C

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2/8/2023

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FIRST FLOOR REFLECTED CEILING PLAN

REFLECTED CEILING NOTES

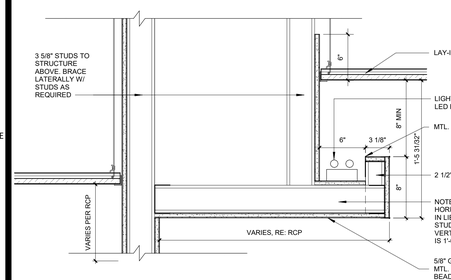
1. EXISTING MEPFP DEVICES SHOWN ARE BASED ON EXISTING DRAWINGS AND/OR FIELD OBSERVATIONS. THE OWNER/ARCHITECT DOES NOT GUARANTEE THE ACCURACY/LOCATION OR QUANTITY OF EXISTING DEVICES.
2. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO MEET AND COMPLETE THE REQUIREMENTS OF THE NEW CONSTRUCTION.
3. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE PATCHED, REPAIRED, AND PREP AS REQUIRED FOR NEW FINISH APPLICATION.
4. PAINT THE UNDERSIDE OF ALL GYPSUM BOARD CEILINGS, BULKHEADS AND SOFFITS (PT-4) UNLESS NOTED OTHERWISE.
5. THIS PLAN SHALL BE USED TO COORDINATE THE CEILING LAYOUT WITH MECHANICAL AND ELECTRICAL WORK. VERIFY THE EXACT QUANTITY REQUIRED.
6. CONTRACTOR TO REFER TO THE ELECTRICAL PLANS FOR ACTUAL LIGHTING SIZES AND FIXTURE TYPES.
7. SEE SPECIFICATIONS AND FINISH SCHEDULE FOR CEILING TYPES.
8. REFER TO FINISH FLOOR PLANS FOR MATERIAL LEGEND OF ALL TYPES.
9. ALL CEILINGS SHALL BE 9'-0 AFF UNLESS OTHERWISE NOTED.

CEILING LEGEND

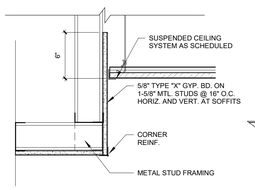
- RECESSED CAN LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- 2X2 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- SURFACE-MOUNTED LIGHT FIXTURE RE: ELECT
- PENDANT LIGHT FIXTURE RE: ELECT
- WALL SCONCE LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE W/ PARA-CUBE LENS RE: ELECT
- 2X4 RECESSED/SURFACE PSYCHIATRIC LIGHT FIXTURE RE: ELECT
- GYP BOARD CEILING - PAINTED W/ CONTROL JOINTS PER SPECS
- EIFS
- 2X2/2X4 LAY-IN ACOUSTICAL CEILING
- EXIT LIGHT WITH FIXTURE MARK CEILING MOUNTED RE: ELECT
- EXIT LIGHT WITH FIXTURE MARK WALL BRACKET RE: ELECT
- SUPPLY AIR GRILLE RE: MECH
- RETURN AIR OR EXHAUST GRILLE RE: MECH
- 9'-0" SOFFIT HEIGHT
- 9'-0" CEILING HEIGHT

KEYNOTE LEGEND - RCP

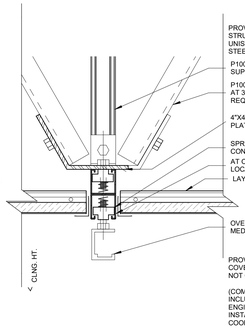
Key Value	Keynote Text
C-1	EXPOSED TO STRUCTURE ABOVE
C-2	DESIGNFLEX PATTERN ACT-3 CEILING, RE: SCHEDULE
C-3	CFS SOFFIT, PT-1
C-4	METAL PANEL SOFFIT, MP-1,
C-5	EXTERIOR LIGHTING FIXTURE, RE: ELECTRICAL



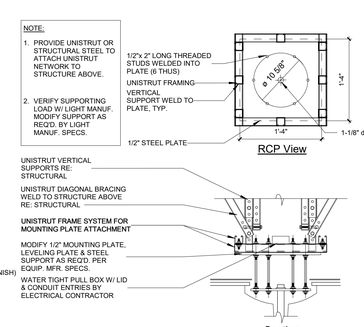
E6 LIGHT COVE DETAIL
1 1/2" = 1'-0"



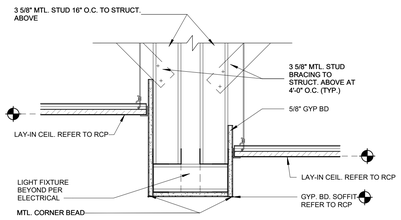
E5 GYPSUM BOARD SOFFIT
1 1/2" = 1'-0"



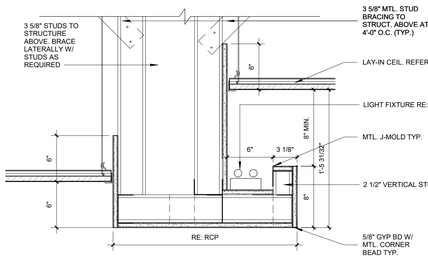
E4 CEILING DETAIL
3" = 1'-0"



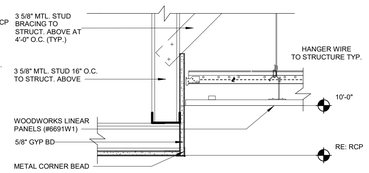
E3 LIGHT SUPPORT
1" = 1'-0"



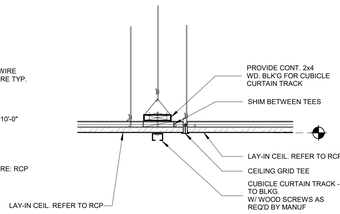
E2 SOFFIT DTL.
1 1/2" = 1'-0"



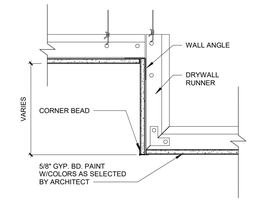
D6 COVE LIGHTING DETAIL AT PREP RECOVERY BAYS
1 1/2" = 1'-0"



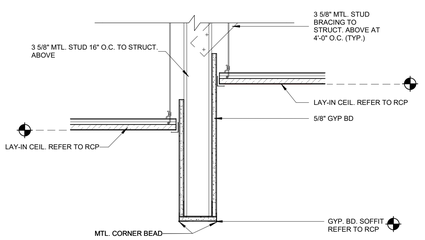
D5 WOOD CEILING DETAIL
1 1/2" = 1'-0"



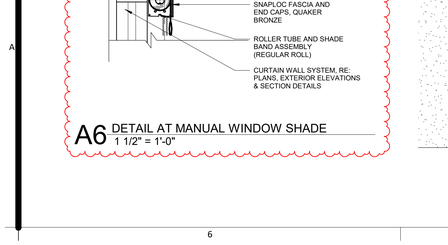
D4 CUBICLE CURTAIN TRACK DTL.
1 1/2" = 1'-0"



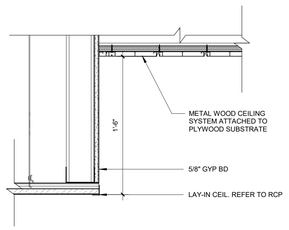
D3 GYPSUM BOARD CEILING DROP
1 1/2" = 1'-0"



D2 BULKHEAD DETAIL
1 1/2" = 1'-0"

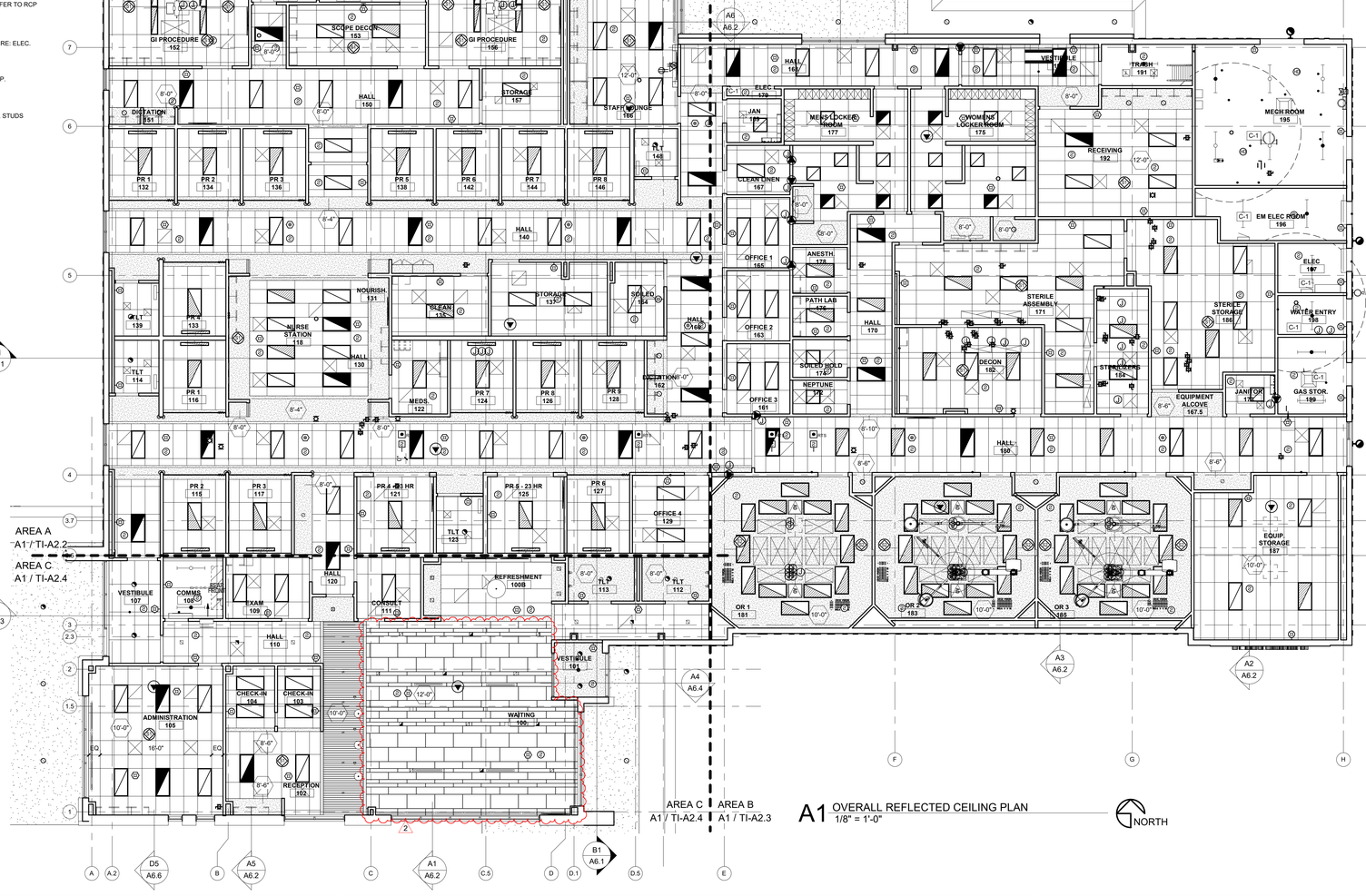


C6 LIGHT COVE DETAIL AT NURSE STATION
1 1/2" = 1'-0"

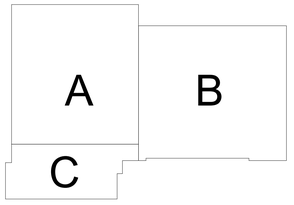


B6 WOOD CEILING DETAIL 2
1 1/2" = 1'-0"

A6 DETAIL AT MANUAL WINDOW SHADE
1 1/2" = 1'-0"



A1 OVERALL REFLECTED CEILING PLAN
1/8" = 1'-0"



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2/27/2023 11:50:49 PM

A1 ENLARGED RCP - AREA A
1/4" = 1'-0"

NORTH

CEILING LEGEND

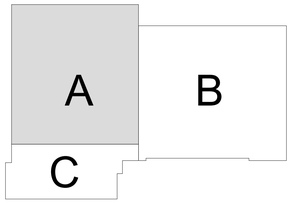
- RECESSED CAN LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- 2X2 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- SURFACE-MOUNTED LIGHT FIXTURE RE: ELECT
- PENDANT LIGHT FIXTURE RE: ELECT
- WALL SCONCE LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE W/ PARA-CUBE LENS RE: ELECT
- 2X4 RECESSED/SURFACE PSYCHIATRIC LIGHT FIXTURE RE: ELECT
- GYP BOARD CEILING - PAINTED W/ CONTROL JOINTS PER SPECS
- EIFS
- 2X2/2X4 LAY-IN ACOUSTICAL CEILING
- EXIT LIGHT WITH FIXTURE MARK CEILING MOUNTED RE: ELECT
- EXIT LIGHT WITH FIXTURE MARK WALL BRACKET RE: ELECT
- SUPPLY AIR GRILLE RE: MECH
- RETURN AIR OR EXHAUST GRILLE RE: MECH
- 9'-6" SOFFIT HEIGHT
- 9'-0" CEILING HEIGHT

REFLECTED CEILING NOTES

1. EXISTING MEPFP DEVICES SHOWN ARE BASED ON EXISTING DRAWINGS AND/OR FIELD OBSERVATIONS. THE OWNER/ARCHITECT DOES NOT GUARANTEE THE ACCURACY/LOCATION OR QUANTITY OF EXISTING DEVICES.
2. CONTRACTOR TO PROVIDE ALL REQUIRED LABOR, MATERIAL, AND EQUIPMENT NECESSARY TO MEET AND COMPLETE THE REQUIREMENTS OF THE NEW CONSTRUCTION.
3. ALL EXISTING CONSTRUCTION TO REMAIN SHALL BE PATCHED, REPAIRED, AND PREP AS REQUIRED FOR NEW FINISH APPLICATION.
4. PAINT THE UNDERSIDE OF ALL GYPSUM BOARD CEILINGS, BULKHEADS AND SOFFITS (PT-4) UNLESS NOTED OTHERWISE.
5. THIS PLAN SHALL BE USED TO COORDINATE THE CEILING LAYOUT WITH MECHANICAL AND ELECTRICAL WORK. VERIFY THE EXACT QUANTITY REQUIRED.
6. CONTRACTOR TO REFER TO THE ELECTRICAL PLANS FOR ACTUAL LIGHTING SIZES AND FIXTURE TYPES.
7. SEE SPECIFICATIONS AND FINISH SCHEDULE FOR CEILING TYPES.
8. REFER TO FINISH FLOOR PLANS FOR MATERIAL LEGEND OF ALL TYPES.
9. ALL CEILINGS SHALL BE 9'-0 AFF UNLESS OTHERWISE NOTED.

KEYNOTE LEGEND - RCP

Key Value	Keynote Text
C-1	EXPOSED TO STRUCTURE ABOVE.
C-2	DESIGNFLEX PATTERN ACT-3 CEILING. RE: SCHEDULE.
C-3	EIFS SOFFIT, ES-1.
C-4	METAL PANEL SOFFIT, MP-1.
C-5	EXTERIOR LIGHTING FIXTURE, RE: ELECTRICAL



RELEASED FOR CONSTRUCTION
As Noted on Plans
Development Services Department
Lee's Summit, Missouri
11/15/2023

STATE OF MISSOURI
SAMUEL K. BECKMAN
NUMBER A-2011012130
ARCHITECT
2/8/2023

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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Licensee's Certificate of Authority Number:

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MEP CONSULTANT
Branch Pattern
1508 Grand Boulevard
Kansas City, MO 64108
913.951.8311

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
2	2/20/23	Addendum #2

TI-A3.2

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ENLARGED RCP - AREA A

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As noted on this sheet
Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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816.531.4144

MEP CONSULTANT

Branch Pattern
1508 Grand Boulevard
Kansas City, MO 64108
913.951.8311

CEILING LEGEND

- RECESSED CAN LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- 2X2 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- SURFACE-MOUNTED LIGHT FIXTURE RE: ELECT
- PENDANT LIGHT FIXTURE RE: ELECT
- WALL SCONCE LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE W/ PARA-CUBE LENS RE: ELECT
- 2X4 RECESSED/SURFACE PSYCHIATRIC LIGHT FIXTURE RE: ELECT
- GYP BOARD CEILING - PAINTED W/ CONTROL JOINTS PER SPECS
- 2X2/2x4 LAY-IN ACOUSTICAL CEILING
- EXIT LIGHT WITH FIXTURE MARK CEILING MOUNTED RE: ELECT
- EXIT LIGHT WITH FIXTURE MARK WALL BRACKET RE: ELECT
- SUPPLY AIR GRILLE RE: MECH
- RETURN AIR OR EXHAUST GRILLE RE: MECH
- 9'-0" SOFFIT HEIGHT
- 9'-0" CEILING HEIGHT

REFLECTED CEILING NOTES

1. EXISTING MEPFP DEVICES SHOWN ARE BASED ON EXISTING DRAWINGS AND/OR FIELD OBSERVATIONS. THE OWNER/ARCHITECT DOES NOT GUARANTEE THE ACCURACY/LOCATION OR QUANTITY OF EXISTING DEVICES.
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KEYNOTE LEGEND - RCP

Key Value	Keynote Text
C-1	EXPOSED TO STRUCTURE ABOVE.
C-2	SPECIALTY CEILING SPC-1, RE: SCHEDULE.
C-3	EIFS SOFFIT, ES-1.
C-4	METAL PANEL SOFFIT, MP-1.
C-5	EXTERIOR LIGHTING FIXTURE, RE: ELECTRICAL

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

TI-A3.3

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ENLARGED RCP - AREA B

A1 ENLARGED RCP - AREA B
1/4" = 1'-0"

NORTH

AREA A
A1 / TI-A3.2

A1 / A6.1 — A3 / A6.3 — A5 / A6.3 — A6 / A6.1 — A3 / A6.2 — A2 / A6.2

A | B | C

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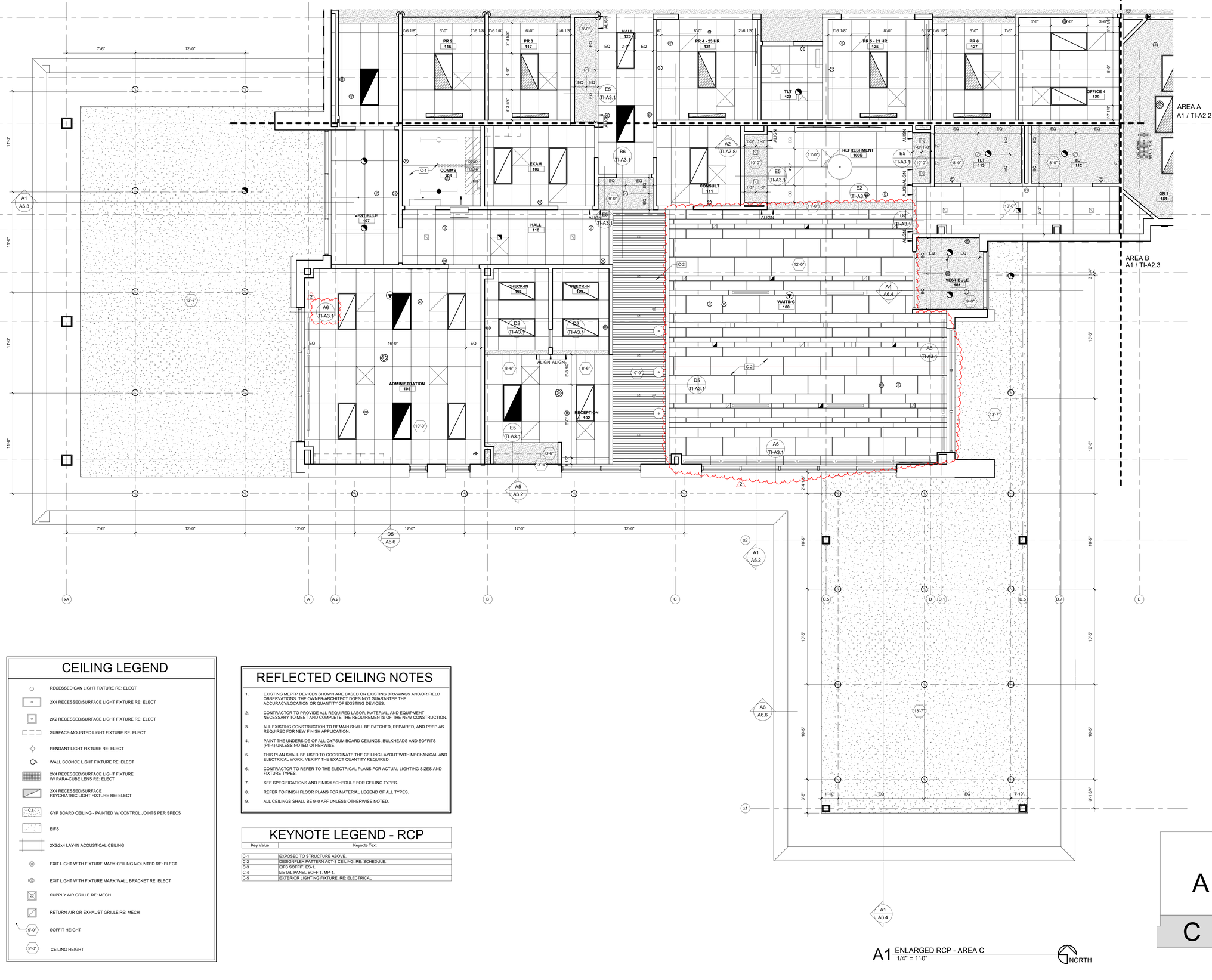

CEILING LEGEND

- RECESSED CAN LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- 2X2 RECESSED/SURFACE LIGHT FIXTURE RE: ELECT
- SURFACE-MOUNTED LIGHT FIXTURE RE: ELECT
- PENDANT LIGHT FIXTURE RE: ELECT
- WALL SCONCE LIGHT FIXTURE RE: ELECT
- 2X4 RECESSED/SURFACE LIGHT FIXTURE W/ PARA-CUBE LENS RE: ELECT
- 2X4 RECESSED/SURFACE PSYCHIATRIC LIGHT FIXTURE RE: ELECT
- C-1 GYP BOARD CEILING - PAINTED W/ CONTROL JOINTS PER SPECS
- EIFS
- 2X2/2x4 LAY-IN ACOUSTICAL CEILING
- EXIT LIGHT WITH FIXTURE MARK CEILING MOUNTED RE: ELECT
- EXIT LIGHT WITH FIXTURE MARK WALL BRACKET RE: ELECT
- SUPPLY AIR GRILLE RE: MECH
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- 9'-0" CEILING HEIGHT

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KEYNOTE LEGEND - RCP

Key Value	Keynote Text
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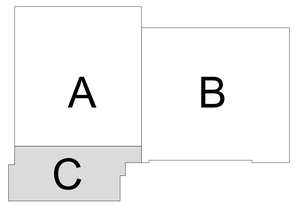
C-2	DESIGNFLEX PATTERN ACT-3 CEILING. RE: SCHEDULE.
C-3	EIFS SOFFIT, ES-1.
C-4	METAL PANEL SOFFIT, MP-1.
C-5	EXTERIOR LIGHTING FIXTURE, RE: ELECTRICAL

A1 ENLARGED RCP - AREA C
1/4" = 1'-0"

NORTH



RELEASED FOR CONSTRUCTION
As noted on drawings

Development Services Department
Lee's Summit, Missouri
11/15/2023

STATE OF MISSOURI
SAMUEL K. BECKMAN
NUMBER A-2011012130
ARCHITECT

2/8/2023

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
2	2/20/23	Addendum #2

TI-A3.4

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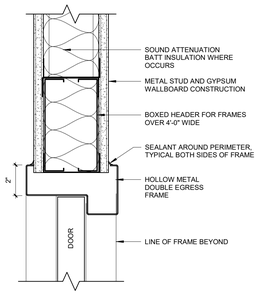
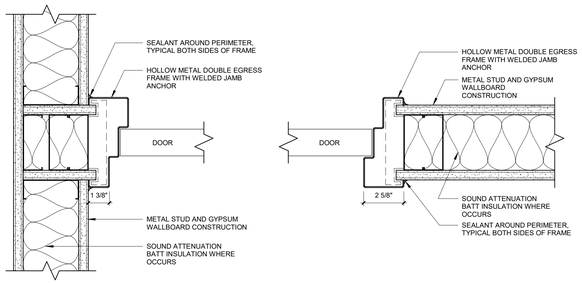
ENLARGED RCP - AREA C

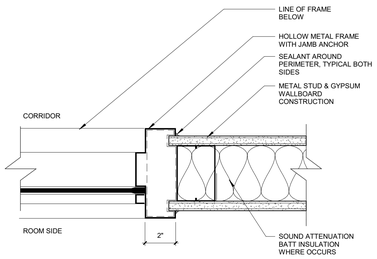
3/9/2023 9:06:35 AM



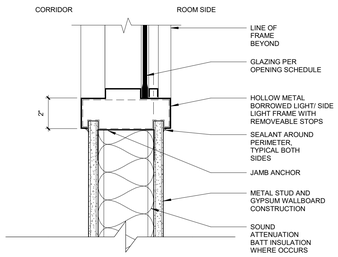
D6 HEAD - HM DOUBLE EGRESS FRAME
3" = 1'-0"



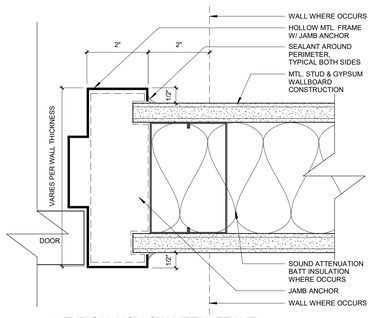
C6 JAMB - HM DOUBLE EGRESS FRAME
3" = 1'-0"



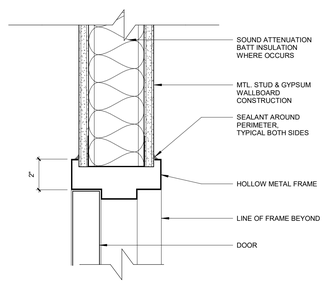
JAMB- HOLLOW MTL. SIDELIGHT/ BORROWED LIGHT FRAME
B6 3" = 1'-0"



SILL- HOLLOW MTL. SIDELIGHT/ BORROWED LIGHT FRAME
B5 3" = 1'-0"



A6 TYPICAL HOLLOW METAL FRAME
6" = 1'-0"



A5 TYPICAL HEAD- HOLLOW METAL DOOR FRAME
3" = 1'-0"

DOOR SCHEDULE - TI

DOOR #	ROOM NAME	DOOR INFORMATION WIDTH	HEIGHT	NO. OF LEAVES	UNEQUAL LEAF WIDTH	FRAME INFORMATION ELEV.	MATL.	ELEV.	MATL.	GLAZING	LABEL (MIN)	HARDWARE SET	OPENING DETAIL HEAD	JAMB	REMARKS	REV #
102	RECEPTION	3'-0"	7'-0"	1		F	WD	1	HM	--	--	10	--	--	TI; CARD READER	
2 103	CHECK-IN	4'-0"	7'-0"			--		7	HM				--	--	TI	
104	CHECK-IN	4'-0"	7'-0"			--		7	HM				--	--	TI	
105	ADMINISTRATION	3'-0"	7'-0"	1		F	WD	1	HM	--	--	10	--	--	TI; CARD READER	
108	COMMS	3'-0"	7'-0"	1		F	WD	1	HM	--	--	10	--	--	TI; CARD READER	
109	EXAM	3'-6"	7'-0"	1		F	WD	1	HM	--	--	09			TI	
109.1	EXAM	3'-0"	7'-0"	1		F	WD	1	HM	--	--	10	--	--	TI; CARD READER	
111	CONSULT	3'-6"	7'-0"	1		F	WD	1	HM	--	--	01	--	--	TI	
111.1	CONSULT	3'-0"	7'-0"	1		F	WD	1	HM	--	--	10	--	--	TI; CARD READER	
112	TLT	3'-0"	7'-0"	1		F	WD	1	HM	-- 3	--	05	--	--	TI	
113	TLT	3'-0"	7'-0"	1		F	WD	1	HM	-- 3	--	05	--	--	TI	
114	TLT	3'-0"	7'-0"	1		F	WD	1	HM	-- 3	--	04	--	--	TI	
117	HALL	3'-6"	7'-0"	1		N	WD	1	HM	GL-1	--	18			TI; CARD READER	
121	PR 4 - 23 HR	8'-0"	7'-8"	3		R	ALUM	--		GL-1	--	27	--	--	TI; INTEGRAL BLINDS	
122	MEDS.	3'-0"	7'-0"	1		V	WD	1	HM	GL-1	--	10	--	--	TI; CARD READER	
123	TLT	3'-0"	7'-0"	1		F	WD	1	HM	--	--	04	--	--	TI	
125	PR 5 - 23 HR	8'-0"	7'-8"	3	3	R	ALUM	--		GL-1	--	27	--	--	TI; INTEGRAL BLINDS	
129	OFFICE 4	3'-0"	7'-0"	1		N	WD	1	HM	--	--	01	--	--	TI	
135	CLEAN	3'-6"	7'-0"	1		F	WD	1	HM	-- 3	45 min	02	--	--	TI	
137	STORAGE	3'-6"	7'-0"	1		F	WD	1	HM	--	45 min	07			TI	
139	TLT	3'-0"	7'-0"	1		F	WD	1	HM	--	--	04	--	--	TI	
140	HALL	3'-10"	7'-0"	2		N	WD	2	HM	GL-1	--	12			TI; AUTO OPERATOR	
148	TLT	3'-0"	7'-0"	1		F	WD	1	HM	--	--	04			TI	
152	GI PROCEDURE	4'-0"	7'-0"	1		F	WD	1	HM	-- 3	--	24			TI; Delayed Retentions Hold Open; 4x4 Plate, SST Edge Protection	
153	SCOPE DECON.	3'-6"	7'-0"	1		F	WD	1	HM	--	45 min	02			TI	
154	SCOPE STORAGE	3'-0"	7'-0"	1		F	WD	1	HM	--	45 min	07	--	--	TI	
154.1	SCOPE STORAGE	3'-0"	7'-0"	1		F	WD	1	HM	--	--	02	--	--	TI	
155	SCOPE DECON.	3'-6"	7'-0"	1		F	WD	1	HM	--	--	02	--	--	TI	
156	GI PROCEDURE	4'-0"	7'-0"	1		F	WD	1	HM	--	--	24			TI; Delayed Retentions Hold Open; 4x4 Plate, SST Edge Protection	
157	STORAGE	3'-0"	7'-0"	1	3	F	WD	1	HM	--	--	07	--	--	TI	
161	OFFICE 3	3'-0"	7'-0"	1	3	N	WD	1	HM	--	--	01	--	--	TI	
161B	OFFICE 3	2'-0"	3'-0"		3			BL-1	HM	GL-4	20 min				TI; INTEGRAL BLINDS	
163	OFFICE 2	3'-0"	7'-0"	1	3	N	WD	1	HM	--	--	01	--	--	TI	
164	SOILED	3'-0"	7'-0"	1	3	F	WD	1	HM	--	45 min	07	--	--	TI	
165	OFFICE 1	3'-0"	7'-0"	1		N	WD	1	HM	--	--	01	--	--	TI	
166.1	STAFF LOUNGE	3'-6"	7'-0"	1		F 2	WD	1	HM	--	--	02			TI	
167	CLEAN LINEN	3'-0"	7'-0"	1		F 2	WD	1	HM	--	--	02	--	--	TI	
171.1	STERILE ASSEMBLY	3'-0"	7'-0"	1		F	WD	1	HM	--	45 min	02	--	--	TI	
171.2	STERILE ASSEMBLY	3'-6"	7'-0"	1		F	WD	1	HM	--	45 min	07	--	--	TI	
172	NEPTUNE	3'-0"	7'-0"	1		F	WD	1	HM	--	--	07	--	--	TI; No Closure On Door	
174	SOILED HOLD	3'-6"	7'-0"	1		F	WD	1	HM	--	--	07	--	--	TI	
175.1	WOMENS LOCKER ROOM	3'-0"	7'-0"	1		F	WD	1	HM	--	20 min	06			TI	
175.2	WOMENS LOCKER ROOM	3'-0"	7'-0"	1		F	WD	1	HM	--	--	06			TI	
176	PATH LAB	3'-0"	7'-0"	1		F	WD	1	HM	--	--	01	--	--	TI	
177.1	MENS LOCKER ROOM	3'-0"	7'-0"	1		F	WD	1	HM	--	20 min	06			TI	
177.2	MENS LOCKER ROOM	3'-0"	7'-0"	1		F 2	WD	1	HM	-- 3	--	06			TI	
178	ANESTH.	3'-0"	7'-0"	1		F	WD	1	HM	--	--	01	--	--	TI	
180	HALL	3'-4"	7'-0"	2		N	WD	2	HM	GL-4	20 min	11			TI; AUTO OPERATOR	
181	OR 1	4'-0"	7'-0"	1		N	WD	1	HM	GL-1	--	24	--	--	TI; Delayed Retentions Hold Open; 4x4 Plate, SST Edge Protection	
181B	OR 1	2'-0"	3'-0"					BL-1	HM	3	--				TI; INTEGRAL BLINDS	
182	DECON	3'-6"	7'-0"	1		F	WD	1	HM	--	45 min	02	--	--	TI	
183	OR 2	4'-0"	7'-0"	1		N	WD	1	HM	GL-1	--	24	--	--	TI; Delayed Retentions Hold Open; 4x4 Plate, SST Edge Protection	
183.1	OR 2	2'-0"	3'-0"					BL-1	HM	3	--				TI; INTEGRAL BLINDS	
184	STERILIZERS	3'-6"	7'-0"	1		F	WD	1	HM	--	45 min	02	--	--	TI	
185	OR 3	4'-0"	7'-0"	1		N	WD	1	HM	GL-1	--	24	--	--	TI; Delayed Retentions Hold Open; 4x4 Plate, SST Edge Protection	
185.1	OR 3	2'-0"	3'-0"					BL-1	HM	3	--				TI; INTEGRAL BLINDS	
186	STERILE STORAGE	3'-6"	7'-0"	1		F	WD	1	HM	--	45 min	07	--	--	TI	
187	EQUIP. STORAGE	4'-0"	7'-0"	1		N	WD	1	HM	GL-5	45 min	08	--	--	TI; Delayed Retentions Hold Open; 4x4 Plate, SST Edge Protection	

DOOR AND HARDWARE NOTES

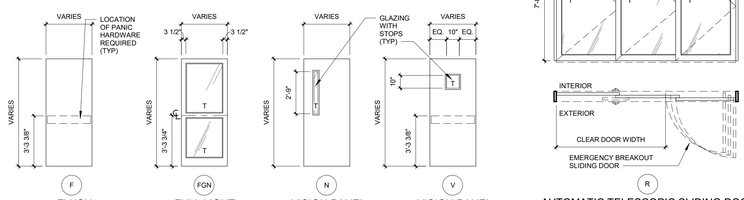
1. ALL MEANS OF EGRESS DOORS SHALL BE READILY OPENABLE FROM THE SIDE FROM WHICH EGRESS IS TO BE MADE WITHOUT THE USE OF SPECIAL TOOLS, A KEY, SPECIAL KNOWLEDGE OR EFFORT. DOUBLE KEYED DEAD BOLTS ARE PROHIBITED.
2. ALL HARDWARE SHALL BE IN COMPLIANCE WITH ADA GUIDELINES AND NATIONAL BUILDERS HARDWARE ASSOCIATION STANDARDS.
3. HARDWARE TO BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

DOOR & FRAME MAT'L LEGEND

ALUM	ALUMINUM
HM	HOLLOW METAL
WD	SOLID CORE WOOD
FRP	FIBER REINFORCED PANEL
T	TEMPERED

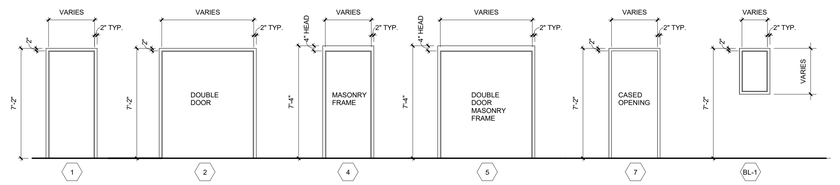
GLAZING LEGEND

GL-1	TEMPERED GLASS
GL-2	LAMINATED GLASS
GL-3	FIRE PROTECTION RATED GLASS
GL-4	FIRE RESISTANT RATED GLASS
GL-5	BUTT-GLAZED GLASS PANELS
IGU-1	DOUBLE-GLAZED INSULATING GLASS UNIT
IGU-2	DOUBE-GLAZED INSULATING GLASS UNIT (TEMPERED)
IGU-3	DOUBE-GLAZED INSULATING GLASS UNIT (LAMINATED)
IGU-4	DOUBE-GLAZED INSULATING GLASS UNIT (SPANDREL)



FLUSH | FULL LIGHT | VISION PANEL | VISION PANEL | AUTOMATIC TELESCOPIC SLIDING DOOR 3 PANEL

DOOR ELEVATIONS:



FRAME ELEVATIONS:

RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

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Date	02/08/23
Job Number	3-22030
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Number	Date	Description
2	2/20/23	Addendum #2
3	3/9/23	Addendum #3

TI-A4.1

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DOOR AND FRAME SCHEDULE AND DETAILS

BIM 360://3-22030 HCA LSMC ASC/3-22030 HCA LSMC_Arch_R21.rvt

GENERAL ROOM FINISH SCHEDULE NOTES

22	
A	REFER TO FINISH PLAN AND INTERIOR ELEVATIONS FOR WALL FINISHES, WALL PROTECTION, CORNER GUARDS, WINDOW TREATMENTS, FLOOR FINISH APPLICATION AND LOCATIONS
B	ALL SOLID WOOD, WOOD VENEER, AND PLASTIC LAMINATE GRAIN SHALL BE VERTICALLY ORIENTED UNLESS OTHERWISE NOTED
C	DOOR FRAMES, HOLLOW METAL WINDOW FRAMES TO BE PT-3 UNLESS OTHERWISE NOTED
D	ALL FACES AND UNDERSIDES OF SOFFITS AND HEADERS TO BE PT-1 UNLESS OTHERWISE NOTED
E	WALL EXPANSION JOINTS TO BE PT-1 UNLESS OTHERWISE NOTED
F	ALL ELECTRICAL PANELS AND METAL GRILLES SHALL BE PTD TO MATCH ADJACENT WALL SURFACE UNLESS OTHERWISE NOTED
G	ALL COLUMN SURROUND FINISHES TO MATCH ADJACENT WALL SURFACE UNLESS OTHERWISE NOTED
H	WHERE A WALL IS INDICATED TO HAVE PARTIAL OR FULL HT WALL PROTECTION, THE ENTIRE WALL IS TO BE PTD PRIOR TO WALL PROTECTION INSTALLATION
I	EXTEND ALL FINISHES BENEATH, BEHIND, AROUND ALL CASEWORK, EQUIPMENT, SIGNAGE, ETC
J	ALL WINDOW SILLS TO BE SSF-1
K	~~ALL SST SINKS, RE: MEP~~
L	~~WOOD DOORS TO BE CLAD AND FINISHED IN PLAM-1~~
M	SUBMIT SAMPLES OF ALL FINISHES TO ARCHITECT FOR REVIEW PRIOR TO THE ORDERING OF MATERIAL.
N	NO IRREGULARITIES OR IMPERFECTIONS SHALL BE PRESENT IN ANY OF THE MATERILA BEING INSTALLED. IF SUCH ITEMS ARE IDENTIFIED DURING APPLICATION, WORK SHALL BE STOPPED AND THE ARCHITECT NOTIFIED.
O	PROVIDE ALL MAINTENANCE MANUALS AND WARRANTY INFORMATION FOR EACH FINISH MATERIAL TO OWNER AT COMPLETION OF PROJECT.
P	FURNISH ALL LABOR, MATERIALS, AND EQUIPMENT NECESSARY TO COMPLETE WORK OF FINISH APPLICATIONS.
Q	ALL FINISHES SHALL BE INSTALLED AND MAINTAINED PER MANUFACTURER'S RECOMMENDATION AND INDUSTRY STANDARDS
R	THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR EXAMINING AND CONFIRMING ALL SUBSTRATE CONDITIONS WHERE NEW MATERIALS ARE APPLIED. SUBSTRATE SHALL BE SMOOTH, FREE OF DEFECTS AND SHALL CONFORM TO THE REQUIREMENTS OF THE FINISHED MATERIAL MANUFACTURERS RECOMMENDATIONS..
S	ALL MATERIAL TO COMPLY WITH FLAME STREAD CLASSIFICATION EITHER CLASS (1) ONE OR CLASS A DEPENDING ON GOVERNING CODE IN EFFECT.
T	SMOKE DEVELOPMENT RATING < 450 FOR ALL FINISHES.
U	REFER TO TYPICAL WALL PROTECTION ELEVATION FOR INFORMATION ON WALL PROTECTION, CORNER GUARDS, CRASH RAILS, AND BUMPER RAILS. REFER TO FINISH SCHEDULE, FINISH PLAN, AND INTERIOR ELEVATIONS FOR LOCATIONS.

SPECIFIC ROOM FINISH SCHEDULE NOTES

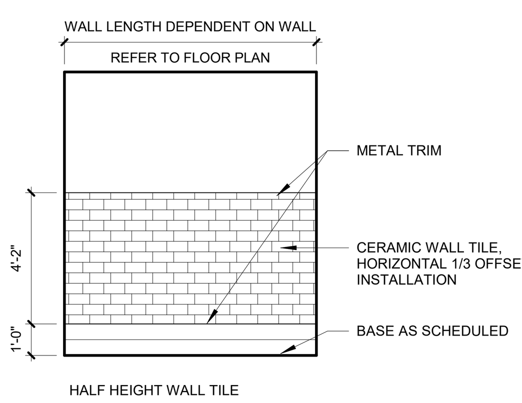
1	QTZ-1 TO BE USED ON TRASACTION TOP, SSF-1 TO BE USED ON WORKSURFACE TOP.
2	FULL HEIGHT WALL PROTECTION.
3	REFER TO TYPICAL PORCELAIN WALL TILE PATTERN ELEVATIONS, RE: A4.2.
4	INSTALL PLYWOOD BLOCKING ON ALL WALLS FOR EQUIPMENT MOUNTING.
5	FINISHES IN THIS ROOM SHALL BE PART OF THE CORE/SHELL PACKAGE.
6	REFER TO CERAMIC WALL TILE PATTERN ELEVATIONS, RE: A4.2.
7	CENTER RSF-2 UNDER OR TABLE.
8	

INTERIOR FINISH LEGEND

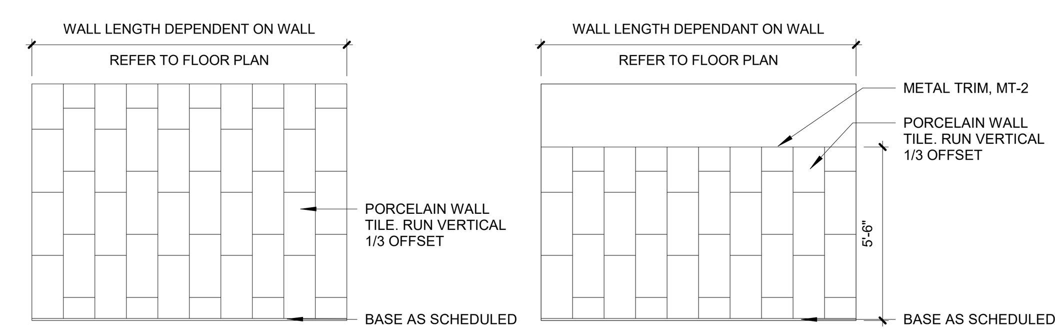
MARK	ITEM	MANUFACTURER	MODEL/ PATTERN	COLOR	SIZE	REMARKS
FLOOR						
CPT-1	CARPET	SHAW CONTRACT	SUBTEXT 5T409	LISTEN 05100	9" X 36"	ASHLAR INSTALLATION
CS-1	CONCRETE SEALER					
LVT-1	LUXURY VINYL TILE	MANNINGTON	AMTICO WOOD	MANOR OAK AROW7970	7.25" X 48"	STAGGERED INSTALLATION
LVT-2	LUXURY VINYL TILE	MANNINGTON	SPACIA ABSTRACT	SOFTLINE PEBBLE SS5A3802	18" X 18"	ASHLAR INSTALLATION
PFT-1	PORCELAIN FLOOR TILE	DALTILE	ARTICULO AR09, MATTE FINISH	COLUMN GRAY	12" X 24"	1/3 OFFSET INSTALLATION
RSF-1	SHEET VINYL	MANNINGTON	BIOSPEC ARMOR	HUSH OR111	SHEET	USE MATCHING HEAT WELD ROD
RSF-2	SHEET VINYL	MANNINGTON	BIOSPEC ARMOR	PISTACHIO OR110	SHEET	USE MATCHING HEAT WELD ROD
RSF-3	SHEET VINYL	MANNINGTON	ASSURANCE III	TRAIL 16352	SHEET	USE MATCHING HEAT WELD ROD
TRS-1	TRANSITION STRIP	MANNINGTON	633 TILE REDUCER	701 BLACK	-	RE: TRANSITION DETAILS
TRS-2	TRANSITION STRIP	SCHLUTER	RENO-U	SATIN ANODIZED ALUMINUM	-	RE: TRANSITION DETAILS
TRS-3	TRANSITION STRIP	SCHLUTER	SCHIENE	SATIN ANODIZED ALUMINUM	-	RE: TRANSITION DETAILS
WOC-1	WALK OFF CARPET	SHAW CONTRACT	PORTAL TILE 5T035	STERLING 34557	24" X 24"	ASHLAR INSTALLATION
BASE						
IB-1	INTEGRAL BASE	MANNINGTON	BIOSPEC ARMOR	HUSH OR111	6" COVE	TO BE USED WITH RSF-1. METAL COVE BASE CAP W/ 45 DEGREE SEALANT AT THE TOP W/ 45 DEGREE SEALANT AT THE TOP
IB-2	INTEGRAL BASE	MANNINGTON	ASSURANCE III	TRAIL 16352	6" COVE	TO BE USED WITH RSF-3. METAL COVE BASE CAP W/ 45 DEGREE SEALANT AT THE TOP
MT-1	METAL BASE	SCHLUTER	DILEX-AHK	SATIN ANODIZED ALUMINUM	-	COVE SHAPE PROFILE
RB-1	RESILIENT BASE	MANNINGTON	BURKEBASE, TYPE TP	CLAY 527	4" COVE WITH TOE	ROLLED GOODS
RB-2	RESILIENT BASE	MANNINGTON	EDGE EFFECTS, ETCHED	CLAY 527	4"	MITER CORNERS
WALL						
BR-1	BUMPER RAIL	INPRO CORPORATION	1300 WALL GUARD	WHITE SAND 0103	4-1/16"	RE: FINISH SCHEDULE, FINISH PLAN AND INTERIOR ELEVATIONS FOR LOCATIONS
CG-1	CORNER GUARD	INPRO CORPORATION	160BN BLUNOSE SURFACE MOUNT	WHITE SAND 0103	2" WING, FULL HEIGHT	90 DEGREE
CG-2	CORNER GUARD	INPRO CORPORATION	160BN BLUNOSE HIGH IMPACT END WALL PROTECTOR	WHITE SAND 0103	2" WING, FULL HEIGHT	90 DEGREE
CR-1	CRASH RAIL	INPRO CORPORATION	1600 WALL GUARD	WHITE SAND 0103	6"	-
~~CWT-1~~	~~CERAMIC WALL TILE~~	~~GARDEN STATE TILE~~	~~DISTRICT BOERUM HILL, ADWICK~~	~~SKY~~	~~12" X 16" PICKET~~	~~PATTERN TO RUN HORIZONTALLY WHEN INSTALLED. STACKED BOND.~~
CWT-2	CERAMIC WALL TILE	PLATFORM SURFACES	MLW MAYFAIR	WHITE	2.5" X 5"	PATTERN TO RUN HORIZONTALLY WHEN INSTALLED. 1/3 OFFSET.
~~MT-2~~	~~METAL TRIM~~	~~SCHLUTER~~	~~JOLLY~~	~~SATIN ANODIZED ALUMINUM~~	~~-~~	~~TO BE USED AT ALL EXPOSED EDGES OF WALL TILE~~
PT-1	PAINT	SHERWIN-WILLIAMS	EGGSHELL FINISH	AESTHETIC WHITE SW7035		OVERALL COLOR
PT-1A	PAINT	SHERWIN-WILLIAMS	EPOXY FINISH	AESTHETIC WHITE SW7035		OVERALL COLOR
PT-1B	PAINT	SHERWIN-WILLIAMS	FLAT FINISH	AESTHETIC WHITE SW7035		OVERALL CEILING COLOR
PT-2	PAINT	SHERWIN-WILLIAMS	EGGSHELL FINISH	COLONNADE GRAY SW7641		ACCENT COLOR
PT-3	PAINT	SHERWIN-WILLIAMS	SEMI-GLOSS FINISH	KEYSTONE GRAY SW7504		ALL HOLLOW METAL DOOR AND WINDOW FRAMES
PT-4	PAINT	SHERWIN-WILLIAMS	EGGSHELL FINISH	RAINWASHED SW6211		ACCENT COLOR
PT-4A	PAINT	SHERWIN-WILLIAMS	EPOXY FINISH	RAINWASHED SW6211		ACCENT COLOR
PT-5	PAINT	SHERWIN-WILLIAMS	RE: SPECS	IRON ORE SW7069		STAFF COURTYARD GATE POSTS
PWT-1	PORCELAIN WALL TILE	DALTILE	ARTICULO AR06, MATTE FINISH	EDITORIAL WHITE	12" X 24"	1/3 OFFSET INSTALLATION
WP-1	WALL PORTECTION	INPRO CORPORATION	RIGID SHEET	WHITE SAND 0103	4' X 8' SHEET, .060" THICK	USE WITH MATCHING TRIM PIECES
CASEWORK						
IS-1	INTEGRAL SINK	WILSONART	AV1513 RECTANGULAR ADA RAMP VANITY	CALM WHITE	17-1/2" X 15-3/8" X 5-1/4"	RE: ROOM FINISH SCHEDULE
IS-2	INTEGRAL SINK	WILSONART	AD1630 EQUAL DOUBLE BOWL	CALM WHITE	32-1/16" X 16-5/8" X 9-1/8"	RE: ROOM FINISH SCHEDULE
IS-3	INTEGRAL SINK	WILSONART	AV1812 RECTANGULAR VANITY	CALM WHITE	19-5/8' X 14-3/4" X 6-7/8"	RE: ROOM FINISH SCHEDULE
PLAM-1	PLASTIC LAMINATE	WILSONART	7987-38	PALISADES OAK	4' X 8' SHEET	USE MATCHING 3MM EDGE BANDING
QTZ-1	QUARTZ	WILSONART	Q4057	CALACATTA VOLEGNO	3CM THICK	EASED EDGES
SSF-1	SOLID SURFACE	WILSONART	9196RS	YUKON RIVERSTONE	1/2" THICK	EASED EDGES
~~SST-1~~	~~STAINLESS STEEL~~				-	
TB-1	TACK BOARD	GUILFORD OF MAINE	ANCHORAGE 2335	QUARRY BLUE 2026	-	RE: INTERIOR ELEVATIONS AND PLANS FOR LOCATIONS.
CEILING						
ACT-1	ACOUSTIC CEILING TILE	ARMSTRONG CEILINGS	FINE FISSURED 1755	WHITE	24" X 48"	15/16" SQUARE LAY-IN & 15/16" PRELUDE SUSPENSION SYSTEM
~~ACT-2~~	~~ACOUSTIC CEILING TILE~~	~~ARMSTRONG CEILINGS~~	~~CLEAN ROOM VL UNPERFORATED 970~~	~~WHITE~~	~~24" X 48"~~	~~15/16" SQUARE LAY-IN & ALUMINUM CLEAN ROOM SUSPENSION SYSTEM,~~ GASKETED GRID
ACT-3	ACOUSTIC CEILING TILE	ARMSTRONG CEILINGS	DESIGNFLEX SQUARES AND RECTANGLES; ULTIMA TEGULAR 1422	WHITE	6" X 48", 12" X 48", 24" X 48"	9/16" BEVELED TEGULAR W/ 9/16" SUPRAFINE SUSPENSION SYSTEM, BLIZZARD WHITE
~~WDC-1~~	~~WOOD CEILING~~	~~ARMSTRONG CEILINGS~~	~~WOODWORKS VENEER~~	~~6690W1 IN NATURAL VARIATIONS~~ WALNUT (NWN)	~~24" X 96"~~	~~NOMINAL 4" WIDE PLANKS WITH 3/4" REVEAL 15/16 EDGE~~
MISC.						
AP-1	ACRYLIC PANEL	LUMICOR	WALDEN	DAWN	RE: INTERIOR ELEVATIONS	SATIN FINISH. SANDED & MATTE EASED EDGE
CC-1	CUBICLE CURTAIN	PHOENIX TEXTILE	AQUIFER-X	CARIBBEAN #6	RE: FLOOR PLANS & RCP	USE WITH WHITE MESH.
CCT-1	CUBICLE CURTAIN TRACK	INPRO CORPORATION	WHISPER CUBE	WHITE	RE: RCP	
GT-1	GROUT	MAPEI	KERAPOXY			
SB-1	SHOWER BASE	INPRO CORPORATION	BIOPRISM SOLID SURFACE SHOWER RECEPTOR - STANDARD ADA	BONE	36" X36"	-
SC-1	SHOWER CURTAIN	INPRO CORPORATION	CHALET	SNOW	RE: FLOOR PLANS & RCP	USE WITH WHITE MESH
SCR-1	SHOWER CURTAIN ROD	INPRO CORPORATION	STATIONARY ROD	SATIN CHROME	-	-
~~TP-1~~	~~TOILET PARTITION~~	~~WILSONART~~	~~COMPACT LAMINATE~~	~~PALISADES OAK~~	~~-~~	~~RE: SPEC~~
UP-1	UPHOLSTERY	WOLF GORDAN	GOH 32505921 EDEN	TAUPE	-	USED AT SEAT CUSHION OF REFRESHMENT BOOTH
UP-2	UPHOLSTERY	LUUM TEXTILES	META TEXTURE	PALE SHADOW 4063-03	-	USED AT SEAT BACK OF REFRESHMENT BOOTH
~~WT-1~~	~~WINDOW TREATMENT~~	~~MECHOSHADE~~	~~MECHO 5 STANDARD BRACKET, MANUAL SINGLE REGULAR ROLL SHADE W/ FASCIA, CEILING~~ MOUNT	~~FASCIA: QUAKER BRONZE,~~ SHADECLOTH:THERMOVEIL 1700 GRAY 1% OPENNESS	~~LOCATED AT ALL WINDOWS~~ ALONG EXTERIOR WALL. RE: RCP	~~-~~

ROOM FINISH SCHEDULE

				WALLS				CASEWORK					
ROOM NUMBER	ROOM NAME	FLOOR FINISH	BASE FINISH	NORTH	EAST	SOUTH	WEST	BASE CABINETS	WALL CABINETS	COUNTERTOPS	SINKS	CEILING	NOTES
100	WAITING	LVT-1, CPT-1	RB-2	PT-1	PT-1	PT-1	PT-4	PLAM- 1	-	SSF-1 QTZ-1	-	ACT-3	
100B	REFRESHMENT	CPT-1	RB-2	PT-1	CWT-1	PT-1	PT-4	PLAM- 1	-	SSF-1	-	ACT-1/PT-1B	
101	VESTIBULE	WOC-1	RB-2	PT-1	PT-1	PT-1	PT-1	-	-	-	-	PT-1B	
102	RECEPTION	LVT-1	RB-2	PT-1	PT-1	PT-1	PT-1	PLAM- 1	PLAM- 1	SSF-1/ QTZ-1	-	ACT-1/WDC-1/PT-1B	1
103	CHECK-IN	LVT-1	RB-2	PT-1	PT-1	PT-1	PT-1	PLAM- 1	-	SSF-1	-	ACT-1	
104	CHECK-IN	LVT-1	RB-2	PT-1	PT-1	PT-1	PT-1	PLAM-1	-	SSF-1	-	ACT-1	
105	ADMINISTRATION	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	PLAM- 1	PLAM- 1	SSF-1	-	ACT-1	
107	VESTIBULE	WOC-1	RB-2	PT-1	PT-1	PT-1	PT-1	-	-	-	-	PT-1B	
108	COMMS	CS-1	-	PT-1	PT-1	PT-1	PT-1	-	-	-	-	EXPOSED	4
109	EXAM	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	PLAM- 1	PLAM- 1	SSF-1	IS-3	ACT-1	
110	HALL	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	ACT-1	
111	CONSULT	LVT-1	RB-1	PT-1	PT-1	PT-1	PT-1	PLAM- 1	PLAM-1	SSF-1	IS-3	ACT-1	
112	TLT	PFT-1	MT-1	PT-1A/PWT-1	PT-1A/CWT-1	PT-1A/PWT-1	PT-1A/PWT-1	PLAM- 1	-	SSF-1	IS-1	GPT	3
113	TLT	PFT-1	MT-1	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/CWT-1	PLAM- 1	-	SSF-1	IS- 1	GPT	3
114	TLT	RSF-3	IB-2	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	PLAM- 1	-	SSF-1	IS-1	ACT-1	3
115	PR 2	LVT-2	RB-1	-	PT-1/ WP-1	PT-4/WP-1	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
116	PR 1	LVT-2	RB-1	PT-4/WP-1	PT-1/WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
117	PR 3	LVT-2	RB-1	-	PT-1/WP-1	PT-4/WP-1	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
118	NURSE STATION	LVT-2	RB-1	PT-1	PT-1	PT-1	PT-4	PLAM- 1	PLAM- 1	SSF-1	IS-3	ACT-1	
119	ALCOVE	LVT-2	RB-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	-	-	-	-	PT-1B	
120	HALL	LVT-2	RB-1	PT-1/WP-1/BR-1/CR-1	PT-1	PT-1/WP-1/BR-1/CR-1	PT-1	PLAM- 1	PLAM-1	SSF-1	IS-3	ACT-1	
121	PR 4 - 23 HR	LVT-2	RB-1	PT-1/WP-1	PT-1/ WP-1	PT-4/WP-1	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
122	MEDS.	RSF-1	IB-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PLAM- 1	PLAM-1	SSF-1	IS-3	ACT-2	
123	TLT	RSF-3	IB-2	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	-	-	-		ACT-1	3
124	PR 7	LVT-2	RB-1	PT-4/WP-1	PT-1/WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
125	PR 5 - 23 HR	LVT-2	RB-1	PT-1/WP-1	PT-1/ WP-1	PT-4/WP-1	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
126	PR 8	LVT-2	RB-1	PT-4/WP-1	PT-1/ WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
127	PR 6	LVT-2	RB-1	-	PT-1/ WP-1	PT-4/WP-1	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
128	PR 9	LVT-2	RB-1	PT-4/WP-1	PT-1/WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
129	OFFICE 4	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	ACT-1	
130	HALL	LVT-2	RB-1	PT-1	PT-1	PT-1	PT-1	PLAM-1	PLAM-1	SSF-1	IS-3	ACT-1	
131	NOURISH.	LVT-2	RB-1	PT-1	PT-1	PT-1	-	PLAM- 1	PLAM- 1	SSF- 1	IS-3	ACT-1	
132	PR 1	LVT-2	RB-1	PT-4/WP-1	PT-1/ WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
133	PR 4	LVT-2	RB-1	-	PT-1/ WP-1	PT-4/WP-1	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
134	PR 2	LVT-2	RB-1	PT-4/WP-1	PT-1/ WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
135	CLEAN	LVT-2	RB-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PLAM- 1	PLAM- 1	SSF- 1	IS- 3	ACT-1	
136	PR 3	LVT-2	RB-1	PT-4/WP-1	PT-1/WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
137	STORAGE	LVT-2	RB-1	PT-1/WP-1	PT-1/ WP-1	PT-1/WP-1	PT-1/WP-1	-	-	-	-	ACT-1	
138	PR 5	LVT-2	RB-1	PT-4/WP-1	PT-1/WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
139	TLT	RSF-3	IB-2	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	-	-	-		ACT-1	3
140	HALL	LVT-2	RB-1	PT-1	PT-1	PT-1	PT-1	PLAM- 1	PLAM-1	SSF-1	IS-3	ACT-1	
142	PR 6	LVT-2	RB-1	PT-4/WP-1	PT-1/ WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
144	PR 7	LVT-2	RB-1	PT-4/WP-1	PT-1/ WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
146	PR 8	LVT-2	RB-1	PT-4/WP-1	PT-1/ WP-1	-	PT-1/WP-1	PLAM- 1	-	SSF-1	-	ACT-1	
148	TLT	RSF-3	IB-2	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1	-	-	-	-	ACT-1	3
150	HALL	RSF-1	RB-1	PT-1/WP-1/BR-1/CR-1	PT-1/ WP-1/BR-1 /CR-1	PT-1/WP-1/BR-1/CR-1	PT-1	-	-	-	-	ACT-2	
151	DICTATION	RSF-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	PLAM-1	SSF-1	-	PT-1A	
152	GI PROCEDURE	RSF-1	IB-1	PT-4A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PLAM- 1	PLAM- 1	SSF- 1	IS- 3	ACT-2	
153	SCOPE DECON.	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	SST	SST	SST	SST	ACT-2	
154	SCOPE STORAGE	RSF-1	IB-1	WP-1	WP-1	WP-1	WP-1	-	-	-	-	ACT-2	
155	SCOPE REPROCESSING	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	SST	SST	SST	SST	ACT-2	
156	GI PROCEDURE	RSF-1	IB-1	PT-4A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PLAM- 1	PLAM-1	SSF-1	IS-3	ACT-2	
157	STORAGE	RSF-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-		ACT-2	
160	HALL	LVT-2	RB-1	PT-1/WP-1/BR-1/CR-1	PT-1/ WP-1/BR-1 /CR-1	PT-1/WP-1/BR-1/CR-1	PT-1/WP-1/BR-1/CR-1	-	-	-		ACT-1	
161	OFFICE 3	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	ACT-1	
162	DICTATION	LVT-2	RB-1	PT-1	PT-1	PT-1	-	-	PLAM-1	SSF-1	-	PT-1B	
163	OFFICE 2	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	ACT-1	
164	SOILED	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PLAM- 1	-	SSF- 1	IS- 3	ACT-2	
165	OFFICE 1	CPT-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	ACT-1	
166	STAFF LOUNGE	LVT-2	RB-1	PT-1	PT-1	PT-1	PT-1/CWT-1	PLAM- 1	PLAM- 1	SSF- 1	IS- 2	ACT-1/PT-1B	
167	CLEAN LINEN	RSF-1	RB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	-	-	-	-	ACT-1	
167.5	EQUIPMENT ALCOVE	RSF-1	RB-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	-	-	-	-	PT-1A	
168	HALL	LVT-2	RB-1	PT-1/BR-1/CR-1	PT-1/ WP-1/BR-1 /CR-1	PT-1/WP-1/BR-1/CR-1	PT-1/WP-1/BR-1/CR-1	-	-	-	-	ACT-1	
169	JAN	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	-	-	-	-	ACT-2	2
170	HALL	RSF-1	IB-1	PT-1/WP-1	PT-1/ WP-1	PT-1/WP-1	PT-1/WP-1	-	-	-	-	ACT-2	
171	STERILE ASSEMBLY	RSF-1	IB-1	WP-1	WP-1	WP-1	WP-1	SST	SST	SST	SST	ACT-2	
172	NEPTUNE	RSF-1	IB-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	-	-	-	-	ACT-2	2
173	JANITOR	RSF-1	IB-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	-	-	-	-	ACT-2	2
174	SOILED HOLD	RSF-1	IB-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	-	-	-	-	ACT-2	2
175	WOMENS LOCKER ROOM	PFT-1	MT-1,PFT-1	PT-1A/PWT-1	PT-1A/PWT-1	PT-1A/PWT-1/CWT-1	PT-1A, PWT-1	PLAM- 1	-	SSF-1	IS-1	ACT-1/PT-1B	
176	PATH LAB	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PLAM- 1	PLAM- 1	SSF- 1	IS- 3	ACT-2	
177	MENS LOCKER ROOM	PFT-1	MT-1,PFT-1	PT-1A/PWT-1	PT-1A/PWT-1	PT-1, PWT-1	PT-1A/CWT-1/PWT-1	PLAM- 1	-	SSF-1	IS-1	ACT-1/PT-1B	
178	ANESTH.	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PLAM- 1	PLAM- 1	SSF- 1	IS- 3	ACT-2	
179	ELEC	CS-1	-	PT-1	PT-1	PT-1	PT-1	-	-	-	-	EXPOSED	
180	HALL	RSF-1, RSF-2	IB-1,2	PT-1A/WP-1/CR-1	-	PT-1A/WP-1/CR-1	-	-	-	-	-	ACT-2	
180A	SCRUB SINK	RSF-2	MT-1	-	PT-1A/WP-1	PT-1A/CWT-2	PT-1A/WP-1	-	-	-	-	PT-1A	6
180B	SCRUB SINK	RSF-2	MT-1	-	PT-1A/WP-1	PT-1A/CWT-2	PT-1A/WP-1	-	-	-	-	PT-1A	6
181	OR 1	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	-	-	-	-	PT-1A	7
182	DECON	RSF-1	IB-1	WP-1	WP-1	WP-1	WP-1	SST	SST	SST	SST	ACT-2	
183	OR 2	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	-	-	-	-	PT-1A	7
184	STERILIZERS	RSF-1	IB-1	WP-1	WP-1	WP-1	WP-1	-	-	-	-	ACT-2	
185	OR 3	RSF-1	IB-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	-	-	-	-	PT-1A	7
186	STERILE STORAGE	RSF-1	IB-1	PT-1A/WP-1	PT-1/WP-1	PT-1A/WP-1	PT-1A/WP-1	-	-	-	-	ACT-2	
187	EQUIP. STORAGE	RSF-1	IB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	ACT-2	
189	STRETCHER ALCOVE	RSF-1	RB-1	-	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	-	-	-	-	PT-1A	
190	VESTIBULE	WOC-1	RB-1	PT-1	PT-1/ WP-1	PT-1/WP-1	PT-1/WP-1	-	-	-	-	ACT-1	
191	TRASH	RSF-1	IB-1	PT-1A	PT-1A/WP-1	PT-1A/WP-1	PT-1A/WP-1	-	-	-	-	EXPOSED	2
192	RECEIVING	LVT-1	RB-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	PT-1/WP-1	-	PLAM- 1	SSF-1	-	ACT-1	
195	MECH ROOM	CS-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	EXPOSED	
196	EM ELEC ROOM	CS-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	EXPOSED	
197	ELEC	CS-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	EXPOSED	
198	WATER ENTRY	CS-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	EXPOSED	
199	GAS STOR.	CS-1	RB-1	PT-1	PT-1	PT-1	PT-1	-	-	-	-	EXPOSED	



B6 TYPICAL SCRUB ALCOVE TILE PATTERN
1/4" = 1'-0"



A6 Typical Toilet Restroom Wall Tile Pattern
1/4" = 1'-0"

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
11/15/2023

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2/8/2023

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Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
2	2/20/23	Addendum #2

TI-A4.2

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ROOM FINISH SCHEDULE & FINISH LEGEND

RELEASED FOR CONSTRUCTION
As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
11/15/2023

FFE SCHEDULE

TYPE MARK	DESCRIPTION	RESPONSIBILITY	COMMENTS
A1000	FIRE EXTINGUISHER CABINET	CFCI	BLOCKING AS REQUIRED
A1015	PHONE	OFOI	POWER AND DATA REQUIRED
A1066	MIRROR	CFCI	
A1122	EQUIPMENT BOOM	VFVI	POWER REQUIRED
A4015	CLOCK, ELECTRIC	CFCI	
A4995	TABLE, DIAPER CHANGING, WALL MOUNTED	CFCI	BLOCKING AS REQUIRED
A5030	FOLDING SHOWER SEAT	CFCI	BLOCKING AS REQUIRED
A5065	NARCOTICS BOX	OFCI	
A5075	SOAP	OFOI	
A5077	HAND SANITIZER	OFCI	
A5082	PAPER TOWEL	CFCI	RECESSED MOUNT, RE: SPECS
A5090	DISPOSAL, SANITARY NAPKIN	CFCI	
A5107	GLOVE DVE DISPENSER	OFCI	
A5108	SHARPS	OFOI	
A5109a	GRAB BAR, HORIZONTAL 36"	CFCI	BLOCKING AS REQUIRED
A5109b	GRAB BAR, HORIZONTAL, 42"	CFCI	BLOCKING AS REQUIRED
A5109c	GRAB BAR, VERTICAL, 18"	CFCI	BLOCKING AS REQUIRED
A5109d	GRAB BAR, HORIZONTAL, L SHAPED, 18" X 33"	CFCI	BLOCKING AS REQUIRED
A5135	UTILITY SHELF	CFCI	BLOCKING AS REQUIRED
A5145a	GARMENT HOOK	CFCI	BLOCKING AS REQUIRED
A5145b	COAT HOOK	CFCI	BLOCKING AS REQUIRED
A5160	MOP SHELF	CFCI	
A5170	ROD, SHOWER CURTAIN	CFCI	BLOCKING AS REQUIRED
A5180	CUBICLE CURTAIN W/ TRACK	CFCI	
A5181	DIVISION PANEL	OFOI	
A5200	DISPENSER, TOILET PAPER, 2 ROLL	CFCI	
A5210a	TV WALL BRACKET, ADJUST ARM	CFCI	BLOCKING AS REQUIRED
A5210b	TV WALL BRACKET	CFCI	BLOCKING AS REQUIRED
A6010	BUMPER GUARD	OFOI	
E0090	DESKING SYSTEM	OFOI	
E0645	SHELVING, BIN STORAGE, SLAT WALL	VFCI	BLOCKING AS REQUIRED
E0945	MOBILE WORKSTATION	OFOI	
E0948	GENERAL STORAGE CART	OFOI	
E0963	CART STORAGE	OFOI	
F0205	SIDE CHAIR, W/ ARMS	OFOI	
F0250	CHAIR, LOUNGE	OFOI	
F0265	CHAIR, RECLINER	OFOI	
F0300	CHAIR, TASK, SWIVEL, W/ ARMS	OFOI	
F0306	CHAIR, WAITING ROOM, BARIATRIC	OFOI	
F0355	FOOTSTOOL	OFOI	
F0415	LATERAL FILE	OFOI	
F0430	BBF	OFOI	
F0735	TABLE, COFFEE	OFOI	
F0740	TABLE	OFOI	
F0740a	TABLE	OFOI	
F0740c	TABLE	OFOI	
F0796b	TABLE, DINING, BAR HT.	OFOI	INTEGRATED POWER
F2010	STEP TRASHCAN	OFOI	
F7040b	TABLE, BAR HT.	OFOI	
K1552	COFFEE MAKER	OFOI	POWER REQUIRED
K2020	DETERGENT DOSING SYSTEM	VFVI	
K2515	DISHWASHER	OFCI	WATER AND POWER REQUIRED, RE:MEP
K4665	MICROWAVE	OFOI	POWER REQUIRED
L0100	MICROSCOPE	OFOI	
L1350	CENTRIFUGE	OFOI	
L3430	CRYOSTAT	OFOI	POWER REQUIRED
M0506a	TELEVISION, 55"	OFCI	POWER AND DATA REQUIRED
M0506b	TELEVISION, 65"	OFCI	POWER AND DATA REQUIRED
M1801	COMPUTER	OFOI	
M1803	WORKSTATION, WALL MOUNTED	OFCI	PROVIDE BLOCKING FOR WALL BRACKET, POWER & DATA REQ'D RE: ELEC.
M1820	CREDIT CARD	OFOI	POWER AND DATA REQUIRED
M1825	PRINTER	OFOI	POWER REQUIRED
M1840	PRINTER/COPIER/FAX COMBINATION	OFOI	POWER AND DATA REQUIRED
M2055	WIRE SHELVING, 48"Wx18"Dx74"H	OFOI	
M2100	CART	OFOI	
M3070	LINEN HAMPER	OFOI	
M3072	INFECTIOUS WASTE BIN	OFOI	
M3073	INFECTIOUS WASTE BIN, STEP-ON	OFOI	
M3110	BLANKET WARMER	OFOI	POWER REQUIRED
M3160	SCOPE DRYING CABINET	OFOI	POWER REQUIRED
M4100	SPHYG	OFOI	
M4255	STAND, IV, ADJUSTABLE	OFOI	
M4266	INFUSION VOLUMETRIC PUMP	OFOI	
M4655	STRETCHER	OFOI	
M4665	STRETCHER, RECOVERY, SURGICAL	OFOI	
M4705	WHEELCHAIR	OFOI	
M5030	STOOL	OFOI	
M7780	COUNTERTOP SCANNER	OFOI	
M7845	VITALS SIGN MONITOR	OFOI	PROVIDE BLOCKING, POWER & DATA REQ'D RE: ELEC.
M8560a	SURGEON CONSOLE	VFVI	
M8560b	PATIENT CART, ROBOT	VFVI	
M8560c	VISION CART, ROBOT	VFVI	
M8806	ENDOSCOPY CART	OFOI	
M8800	ANESTHESIA CART	OFOI	
M8810	MAYO STAND	OFOI	
M8900	CARRIAGE, PAIL	OFOI	
M8905	PAIL, UTILITY	OFOI	
M8940	STOOL	OFOI	
M9110	OPERATING TABLE	OFOI	
P6990a	SCRUB SINK, DOUBLE	CFCI	
P6990b	SCRUB SINK, SINGLE	CFCI	
R4000a	ICE MACHINE	OFCI	PLUMBING AND POWER REQUIRED, RE:MEP
R4000b	ICE MAKER, 90LB STORAGE	OFOI	PLUMBING AND POWER REQUIRED, RE:MEP
R4400	COUNTERTOP ICE/WATER MACHINE	OFCI	PLUMBING AND POWER REQUIRED, RE:MEP
R6200	UC REF. MED GRADE	OFCI	POWER REQUIRED
R7250	REF/FR, 20 CU FT	OFOI	POWER REQUIRED
S0125	MED. STERILIZER	VFCI	POWER, DATA, PLUMBING REQUIRED. RE: VENDOR DRAWINGS & MEP
S0125b	MED. STERILIZER (FUTURE)	VFCI	POWER, DATA, PLUMBING REQUIRED. RE: VENDOR DRAWINGS & MEP
S0237	SMALL. STERILIZER	VFCI	POWER, DATA, PLUMBING REQUIRED. RE: VENDOR DRAWINGS & MEP
S0295	LOADING CART	OFOI	
S0960	DISINFECTOR	VFCI	
S0960f	DISINFECTOR	VFCI	
S1900	PASS THRU WINDOW	VFCI	POWER REQUIRED. RE: VENDOR DRAWINGS & MEP
S2635	ULTRASONIC	VFVI	POWER & PLUBMING REQUIRED. RE: VENDOR DRAWINGS & MEP
S2635f	SONIC CLEANER (FUTURE)		POWER & PLUMBING REQUIRED. RE: VENDOR DRAWINGS & MEP.
S2640	MEDIVATOR	OFCI	POWER, WATER, DRAIN, COMPRESSED AIR
S5505	STERILIZER	OFOI	PLUMBING AND POWER REQUIRED, RE:MEP
S5505f	STERILIZER	OFOI	PLUMBING AND POWER REQUIRED, RE:MEP
S9755	NEPTUNE	OFOI	
S9756	NEPTUNE ROVER	OFOI	PLUMBING AND POWER REQUIRED, RE:MEP
TB018	BACKTABLE	OFOI	
U1001	LOGO	CFCI	
U1007	SCOPE BUDDY	OFOI	POWER REQUIRED
U1008	SURGICAL BOOM	VFVI	POWER AND DATA REQUIRED, RE: ELECTRICAL
U1009	SURGICAL BOOM	VFVI	POWER AND DATA REQUIRED, RE: ELECTRICAL
U1011	MARKER BOARD PANEL	CFCI	
U1012	SHREDDER	OFCI	POWER REQUIRED
U1024	MOBILE ADA PHONE	OFOI	POWER AND DATA REQUIRED
U1026	ENDOSCOPY BOOM	VFVI	POWER REQUIRED
U1027	SURGICAL LIGHT BOOM, STERIS	VFVI	POWER REQUIRED
U1028	LIGHT ISOLATION PANEL	VFVI	POWER REQUIRED
U1030	VERTICAL POWER CONTROL PANEL	VFVI	POWER REQUIRED
U1031	HARMONY EQUIP BOOM	VFVI	CO2 Controller on Boom
U1032	WRAPPING STATION RODS	OFOI	
U1033	ULTRALOAD FREEZER	OFOI	PLUMBING AND POWER REQUIRED, RE:MEP
U1034	CACTUS SINK	OFOI	
U1035	NURSE CALL DOME LIGHT	OFOI	POWER REQUIRED
U1036	SCOPE FILTER MOUNT	OFCI	
U1037	KNOX BOX	OFOI	FLUSH MOUNT, COORDINATE FINAL LOCATION WITH FIRE DEPARTMENT.

STATE OF MISSOURI
SAMUEL K. BECKMAN
NUMBER A-2011012130
ARCHITECT
2/8/2023
Samuel K. Beckman - Architect
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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
2	2/20/23	Addendum #2
3	3/9/23	Addendum #3

TI-A4.3

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FFE SCHEDULE

3/9/2023 4:37:51 PM
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2/27/2023 11:51:45 PM

RELEASED FOR CONSTRUCTION
As Noted on Plans
Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

Samuel K. Beckman - Architect
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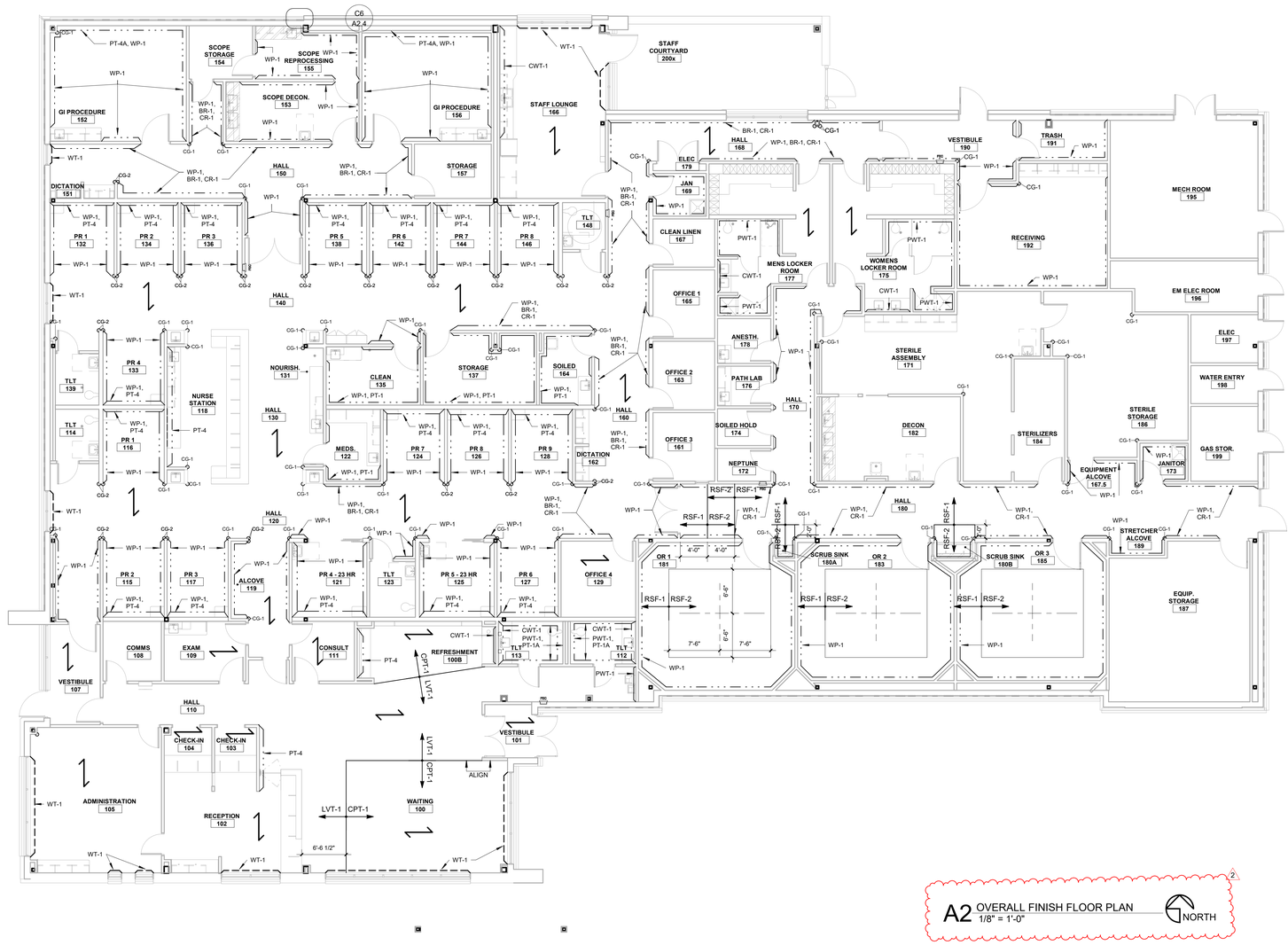

A2 OVERALL FINISH FLOOR PLAN
1/8" = 1'-0"
NORTH

FINISH FLOOR PLAN LEGEND	
	WALL TREATMENT
	FLOOR TRANSITION
	CORNER GUARD
	FLOOR FINISH DIRECTION

1. FOR ALL FLOORING TRANSITIONS, REFER TO TYPICAL FLOORING TRANSITION DETAILS ON TI-A7.5, UNLESS OTHERWISE NOTED ON THIS PLAN

2. THIS FINISH PLAN IS TO BE USED FOR ADDITIONAL LOCATION CLARIFICATION OF FINISHES NOTED IN FINISH SCHEDULE

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
2	2/20/23	Addendum #2

TI-A7.1

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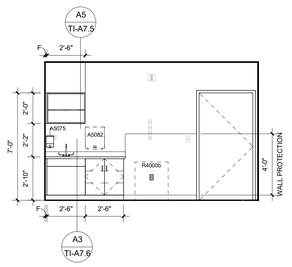
OVERALL FLOOR FINISH PLANS

BIM 360://3-22030 HCA LSMC ASC/3-22030 HCA LSMC_Arch_R21.rvt

RELEASED FOR CONSTRUCTION
As Noted on Plans
Development Services Department
Lee's Summit, Missouri
11/15/2023

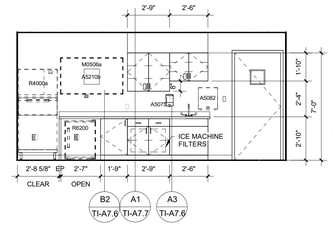
GENERAL CASEWORK NOTES

1. GENERAL CASEWORK NOTES APPLY TO ALL INTERIOR ELEVATIONS.
2. PROVIDE 3 MM PVC EDGE BANDING ON COUNTERTOP EDGE AND (.018 MIN.) VINYL EDGING ON DRAWER, AND DOOR EDGES UNLESS NOTED OTHERWISE. EDGE BANDING TO MATCH ADJACENT P. LAM. SURFACE.
3. ALL EXPOSED FACES AND SHELVES TO BE WRAPPED WITH P. LAM. UNLESS NOTED OTHERWISE.
4. ALL INTERIOR SURFACES TO BE WHITE MELAMINE U.N.O.
5. PROVIDE WOOD BLOCKING OR 12" HIGH X 16 GA. CONTINUOUS SHEET METAL BRIDGING IN WALL AS REQUIRED FOR ADEQUATE SUPPORT OF ALL CASEWORK.
6. WALL BASE TO BE INSTALLED ON ALL CASEWORK UNLESS NOTED OTHERWISE. REFER TO FINISH SCHEDULE FOR TYPE.
7. ALL CASEWORK PULL HANDLES TO BE HAFELE 103.84.004 BRUSHED NICKEL (5") UNLESS NOTED OTHERWISE.
8. ALL CASEWORK HINGES TO BE BLUM #73T558 CONCEALED 125 DEGREE OPEN UNLESS NOTED OTHERWISE.
9. "F" INDICATES FILLER PANEL, 1-1/2" MIN.
10. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK.
11. ALL ELECTRICAL, MECHANICAL, AND PLUMBING ITEMS SHOWN IN ELEVATION ARE FOR REFERENCE AND LOCATION ONLY. REFER TO MEP DRAWINGS FOR SIZES, TYPES AND QUANTITIES.
12. ALL SOFFITS ABOVE CASEWORK TO BE P. LAM. UNLESS NOTES OTHERWISE.
13. PROVIDE METAL DRIP TRAY WHERE UNDER CABINET WATER FILTERS OR PLUMBING CONNECTIONS OCCUR.



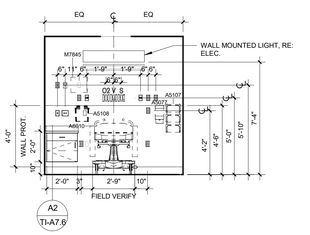
E6 135 - CLEAN ROOM, SOUTH
1/4" = 1'-0"

135	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF- 1
SINKS	IS- 3



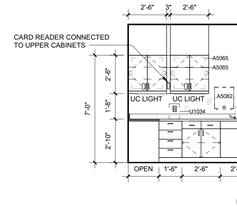
E5 132 - NOURISHMENT, EAST
1/4" = 1'-0"

131	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF- 1
SINKS	IS-3



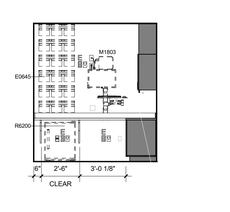
E4 124 - PR BAY, HEADWALL
1/4" = 1'-0"

134	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	-



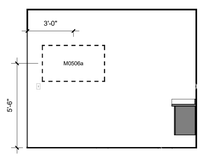
E3 122 - MEDS EAST
1/4" = 1'-0"

122	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	IS-3



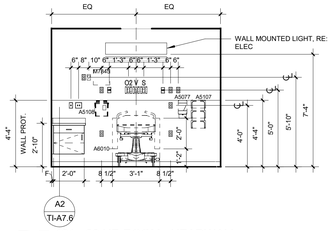
E2 122 - MEDS NORTH
1/4" = 1'-0"

122	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	IS-3



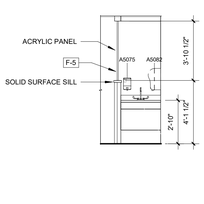
D6 121 - 23 HR BAY EAST
1/4" = 1'-0"

121	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	-



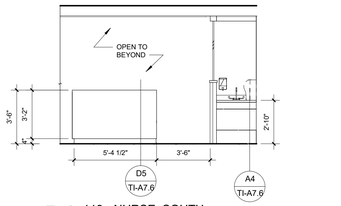
D5 121 - 23 HR ROOM - HEADWALL
1/4" = 1'-0"

121	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	-



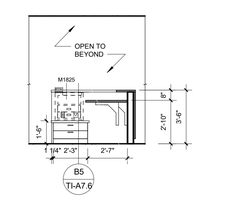
D4 120 - NURSE STATION - HANDWASH
1/4" = 1'-0"

120	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	IS-3



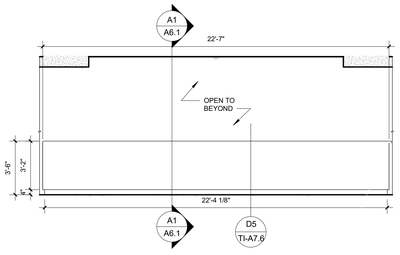
D3 118 - NURSE, SOUTH
1/4" = 1'-0"

140	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	IS-3



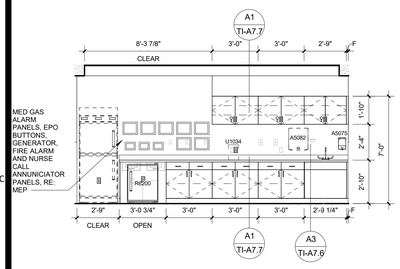
D2 118 - NURSE STATION PRINTER
1/4" = 1'-0"

118	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	IS-3



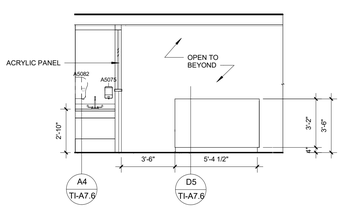
D1 118 - NURSE STATION, WEST
1/4" = 1'-0"

130	
BASE CABINETS	PLAM-1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	IS-3



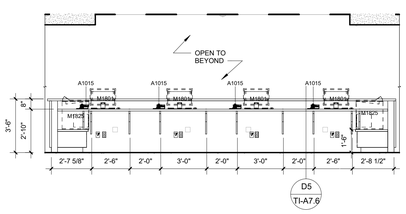
C6 118 - NURSE STATION, WEST
1/4" = 1'-0"

118	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1
SINKS	IS-3



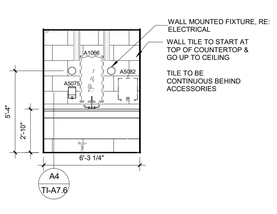
C5 118 - NURSE STATION, NORTH
1/4" = 1'-0"

120	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	IS-3



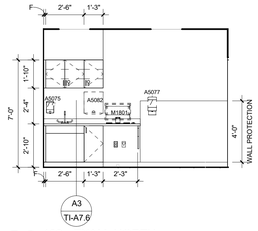
C4 118 - NURSE STATION, EAST
1/4" = 1'-0"

118	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1
SINKS	IS-3



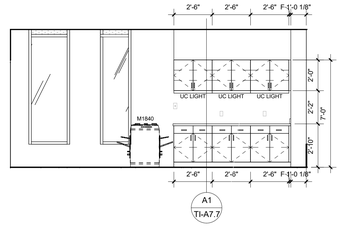
C3 113 - TOILET, WEST
1/4" = 1'-0"

113	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	IS- 1



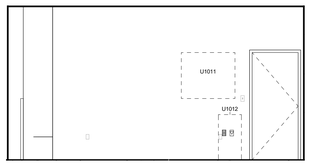
C2 109 - EXAM, NORTH
1/4" = 1'-0"

109	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1
SINKS	IS-3



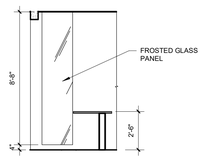
C1 105 - ADMINISTRATION, SOUTH
1/4" = 1'-0"

105	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1
SINKS	-

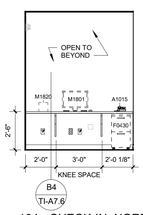


B6 105 - ADMINISTRATION, NORTH
1/4" = 1'-0"

105	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1
SINKS	-

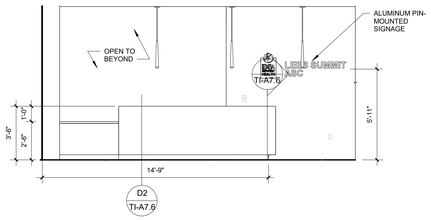


B5 104 - CHECK-IN VISION PANEL
1/4" = 1'-0"



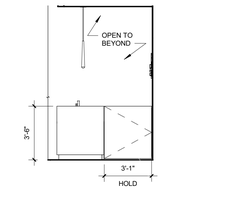
B4 104 - CHECK-IN, NORTH
1/4" = 1'-0"

104	
BASE CABINETS	PLAM-1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	-



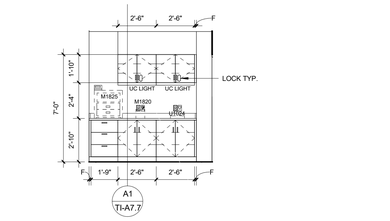
B3 102 - RECEPTION, WEST
1/4" = 1'-0"

100	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1" -QTZ-1-
SINKS	-



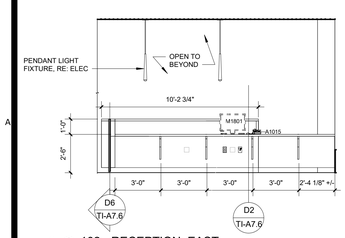
B2 102 - RECEPTION DESK NORTH
1/4" = 1'-0"

102	
BASE CABINETS	PLAM-1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1 -QTZ-1-
SINKS	-



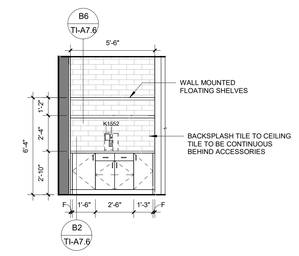
B1 102 - RECEPTION, SOUTH
1/4" = 1'-0"

102	
BASE CABINETS	PLAM-1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	-QTZ-1



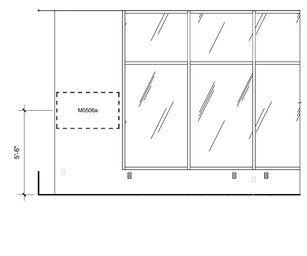
A6 102 - RECEPTION, EAST
1/4" = 1'-0"

102	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1" -QTZ-1-
SINKS	-



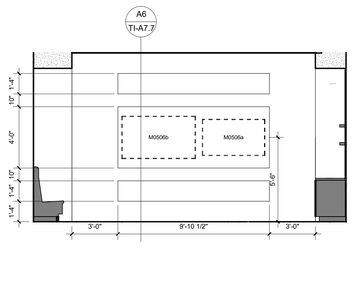
A5 100B - REFRESHMENT, EAST
1/4" = 1'-0"

100B	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	-



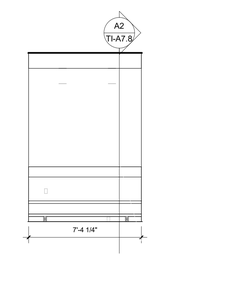
A4 100 - WAITING, SOUTH
1/4" = 1'-0"

100	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1 -QTZ-1-
SINKS	-



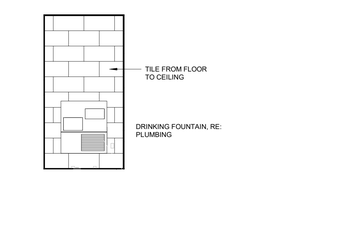
A3 100 - WAITING, NORTH
1/4" = 1'-0"

100B	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	-



A2 100 - WAITING ROOM BENCH
1/4" = 1'-0"

100	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1 -QTZ-1-
SINKS	-



A1 DRINKING FOUNTAIN EAST
1/4" = 1'-0"

100	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1 -QTZ-1-
SINKS	-

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2/8/2023

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

TI-A7.2

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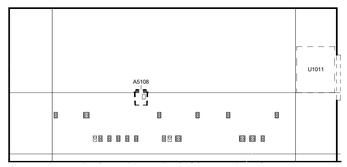
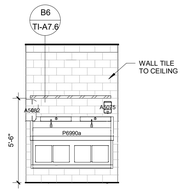
INTERIOR ELEVATIONS



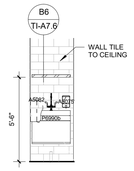
E6 181 - OR, ROBOT, WEST
1/4" = 1'-0"

181	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



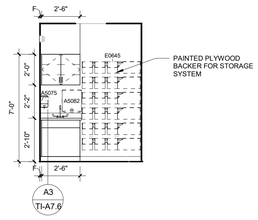
E5 180 - DBL SCRUB SINK
1/4" = 1'-0"

180	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



E4 180 - SINGLE SCRUB SINK
1/4" = 1'-0"

180	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-

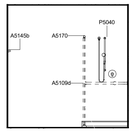


E3 178 - ANESTH. WORKROOM, WEST
1/4" = 1'-0"

178	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF- 1
SINKS	IS- 3

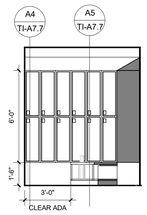
E2 177 - MENS SHOWER, WEST
1/4" = 1'-0"

177	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	IS-1



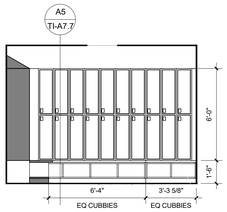
E1 177 - MENS SHOWER, SOUTH
1/4" = 1'-0"

177	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	IS-1



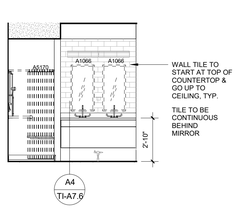
D6 177 - MENS LOCKER, WEST
1/4" = 1'-0"

177	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	IS-1



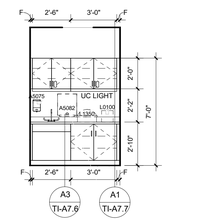
D5 177 - MENS LOCKER, NORTH
1/4" = 1'-0"

177	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	IS-1



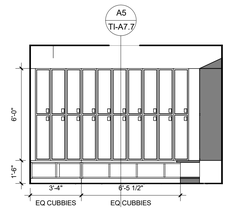
D4 177 - MENS LOCKER SINK
1/4" = 1'-0"

177	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	IS-1



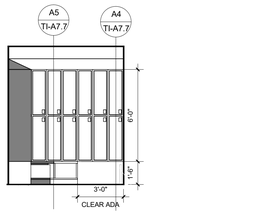
D3 176 - PATH LAB, WEST
1/4" = 1'-0"

176	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF- 1
SINKS	IS- 3



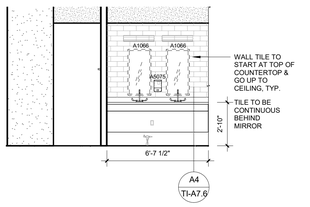
D2 175 - WOMENS LOCKER, NORTH
1/4" = 1'-0"

175	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	IS-1



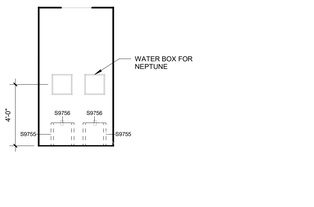
D1 175 - WOMENS LOCKER, EAST
1/4" = 1'-0"

175	
BASE CABINETS	PLAM- 1
WALL CABINETS	
COUNTERTOPS	SSF-1
SINKS	IS-1



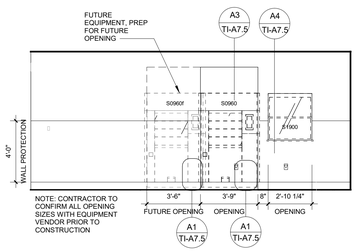
C6 175 - WOMENS LOCKER ROOM SINK
1/4" = 1'-0"

175	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF-1
SINKS	IS-1



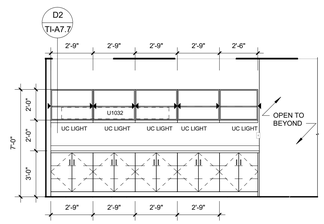
C5 172 - NEPTUNE WEST
1/4" = 1'-0"

172	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



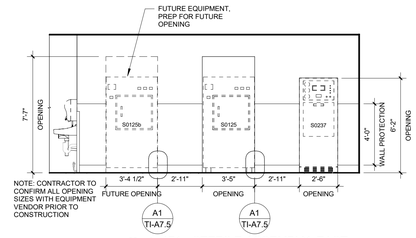
C4 171 - STERILE ASSEMBLY, SOUTH
1/4" = 1'-0"

171	
BASE CABINETS	SST
WALL CABINETS	SST
COUNTERTOPS	SST
SINKS	SST



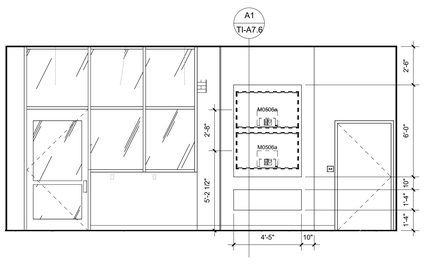
C3 171 - STERILE ASSEMBLY, NORTH
1/4" = 1'-0"

171	
BASE CABINETS	SST
WALL CABINETS	SST
COUNTERTOPS	SST
SINKS	SST



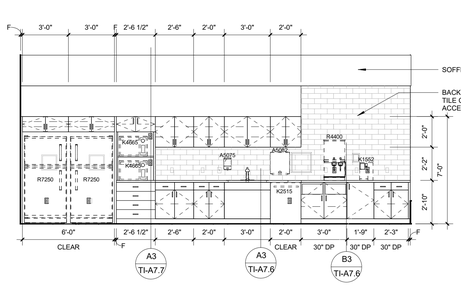
C1 171 - STERILE ASSEMBLY, EAST
1/4" = 1'-0"

171	
BASE CABINETS	SST
WALL CABINETS	SST
COUNTERTOPS	SST
SINKS	SST



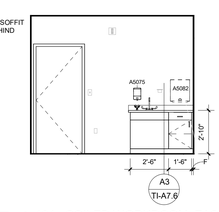
B6 166 - STAFF LOUNGE, EAST
1/4" = 1'-0"

166	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1
SINKS	IS- 2



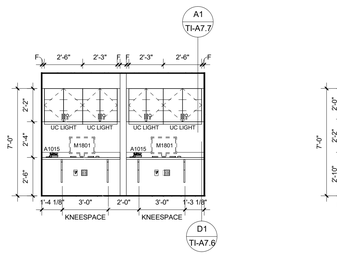
B5 166 - STAFF LOUNGE, WEST
1/4" = 1'-0"

166	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1
SINKS	IS- 2



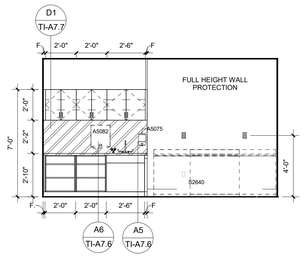
B4 164 - SOILED WORKROOM, EAST
1/4" = 1'-0"

164	
BASE CABINETS	PLAM- 1
WALL CABINETS	-
COUNTERTOPS	SSF- 1
SINKS	IS- 3



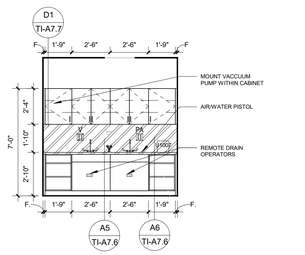
B3 162 - DICTATION, WEST
1/4" = 1'-0"

162	
BASE CABINETS	-
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	-



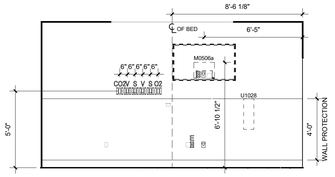
B2 155 - SCOPE REPROCESSING, SOUTH
1/4" = 1'-0"

155	
BASE CABINETS	SST
WALL CABINETS	SST
COUNTERTOPS	SST
SINKS	SST



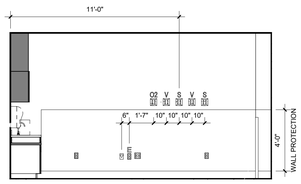
B1 153 - SCOPE DECON, SOUTH
1/4" = 1'-0"

153	
BASE CABINETS	SST
WALL CABINETS	SST
COUNTERTOPS	SST
SINKS	SST



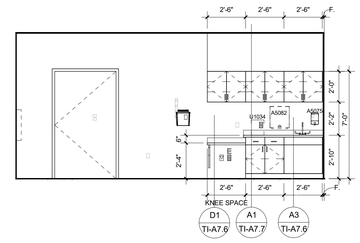
A6 152 - GI PROCEDURE, EAST
1/4" = 1'-0"

152	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF- 1
SINKS	IS- 3



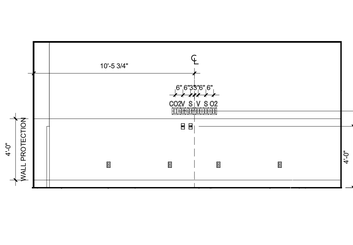
A5 152 - GI PROCEDURE, WEST
1/4" = 1'-0"

152	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF- 1
SINKS	IS- 3



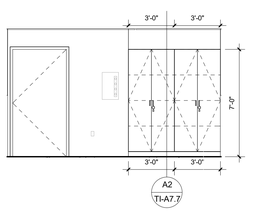
A4 152 - GI PROCEDURE, SOUTH
1/4" = 1'-0"

152	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF- 1
SINKS	IS- 3



A3 152 - GI PROCEDURE, NORTH
1/4" = 1'-0"

152	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF- 1
SINKS	IS- 3



A2 151 - DICT., SOUTH
1/4" = 1'-0"

150	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-

A1 140 - ALCOVE, SOUTH
1/4" = 1'-0"

140	
BASE CABINETS	PLAM- 1
WALL CABINETS	PLAM-1
COUNTERTOPS	SSF-1
SINKS	IS-3

RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

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Revision

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TI-A7.3

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INTERIOR ELEVATIONS

2/27/2023 11:52:09 PM

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As noted on drawings
Development Services Department
Lee's Summit, Missouri
11/15/2023

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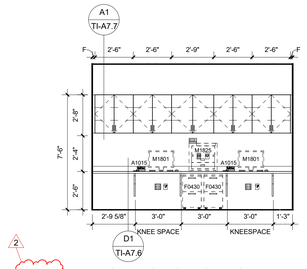
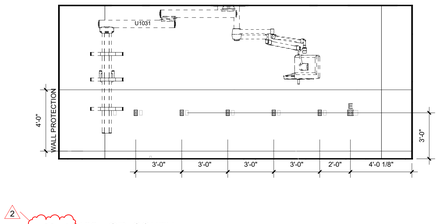


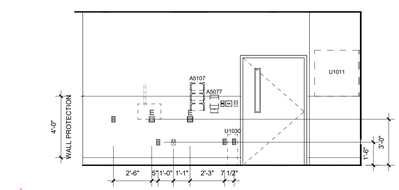
C2 192 - RECEIVING WORK STATION
1/4" = 1'-0"

192	
BASE CABINETS	-
WALL CABINETS	PLAM- 1
COUNTERTOPS	SSF-1
SINKS	-



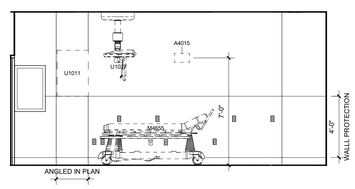
C1 183 - OR, SOUTH
1/4" = 1'-0"

183	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



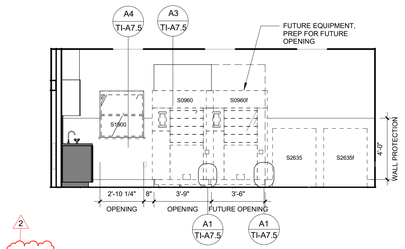
B5 183 - OR, NORTH
1/4" = 1'-0"

183	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



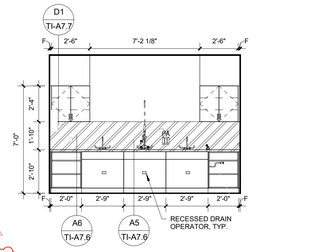
B4 183 - OR, EAST
1/4" = 1'-0"

183	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



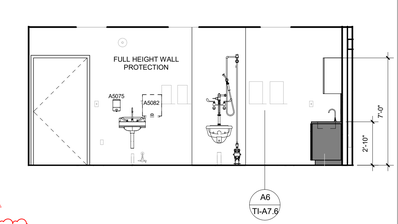
B3 182 - SPD DECON, NORTH
1/4" = 1'-0"

182	
BASE CABINETS	SST
WALL CABINETS	SST
COUNTERTOPS	SST
SINKS	SST



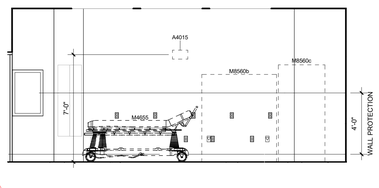
B2 182 - SPD DECON, WEST
1/4" = 1'-0"

182	
BASE CABINETS	SST
WALL CABINETS	SST
COUNTERTOPS	SST
SINKS	SST



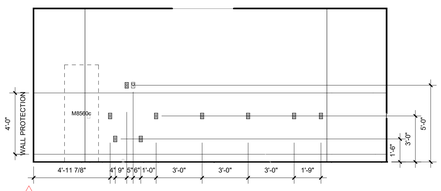
B1 182 - SPD DECON, SOUTH
1/4" = 1'-0"

182	
BASE CABINETS	SST
WALL CABINETS	SST
COUNTERTOPS	SST
SINKS	SST



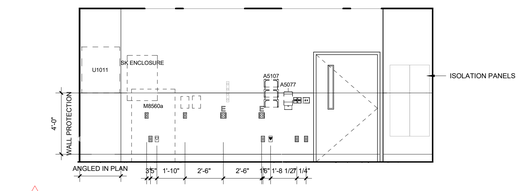
A5 181 - OR, ROBOT, EAST
1/4" = 1'-0"

181	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



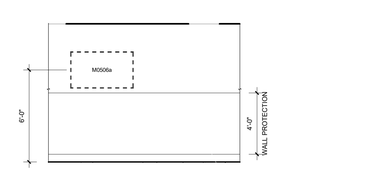
A4 181 - OR, ROBOT, SOUTH
1/4" = 1'-0"

181	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



A3 181 - OR, ROBOT, NORTH
1/4" = 1'-0"

181	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-



A1 180 - HALL, NORTH
1/4" = 1'-0"

180	
BASE CABINETS	-
WALL CABINETS	-
COUNTERTOPS	-
SINKS	-

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
2	2/20/23	Addendum #2

TI-A7.4

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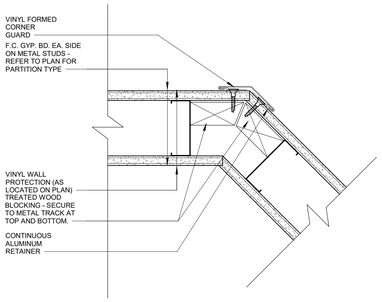
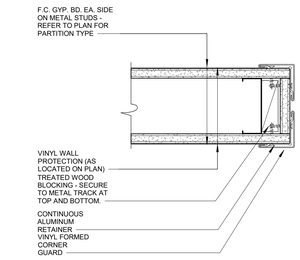
INTERIOR ELEVATIONS

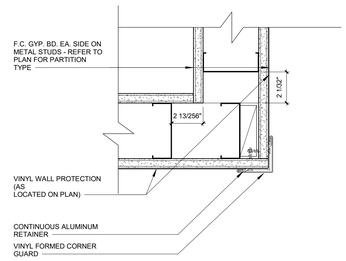
BIM 360://3-22030 HCA LSMC ASC/3-22030 HCA LSMC_Arch_R21.rvt



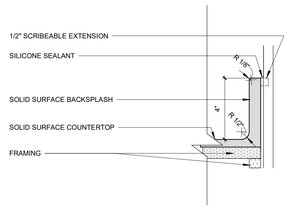
E6 TYPICAL ANGLED VINYL CORNER GUARD
3" = 1'-0"



E5 TYPICAL DOUBLE VINYL CORNER GUARD
3" = 1'-0"



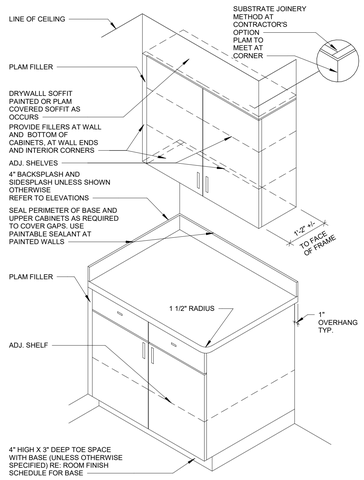
E4 TYPICAL SINGLE VINYL CORNER GUARD
3" = 1'-0"



E3 SECTION DETAIL AT SOLID SURFACE BACKSPLASH
3" = 1'-0"

GENERAL CASEWORK NOTES

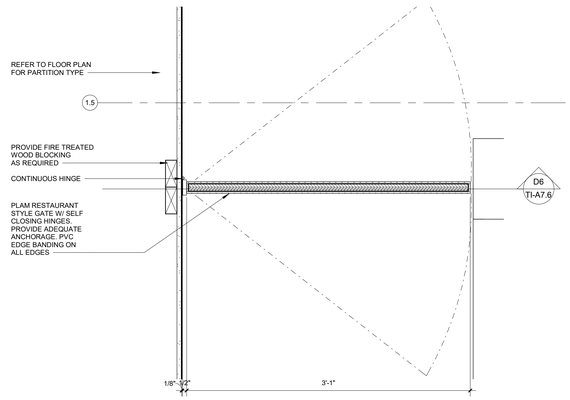
1. GENERAL CASEWORK NOTES APPLY TO ALL INTERIOR ELEVATIONS.
2. PROVIDE 3 MM PVC EDGE BANDING ON COUNTERTOP EDGE AND (.018 MIN.) VINYL EDGING ON DRAWER, AND DOOR EDGES UNLESS NOTED OTHERWISE. EDGE BANDING TO MATCH ADJACENT P. LAM. SURFACE.
3. ALL EXPOSED FACES AND SHELVES TO BE WRAPPED WITH P. LAM. UNLESS NOTED OTHERWISE.
4. ALL INTERIOR SURFACES TO BE WHITE MELAMINE U.N.O.
5. PROVIDE WOOD BLOCKING OR 12" HIGH X 16 GA. CONTINUOUS SHEET METAL BRIDGING IN WALL AS REQUIRED FOR ADEQUATE SUPPORT OF ALL CASEWORK..
6. WALL BASE TO BE INSTALLED ON ALL CASEWORK UNLESS NOTED OTHERWISE. REFER TO FINISH SCHEDULE FOR TYPE.
7. ALL CASEWORK PULL HANDLES TO BE HAFELE 103.84.004 BRUSHED NICKEL (5") UNLESS NOTED OTHERWISE.
8. ALL CASEWORK HINGES TO BE BLUM #737558 CONCEALED 125 DEGREE OPEN UNLESS NOTED OTHERWISE.
9. "F" INDICATES FILLER PANEL, 1-1/2" MIN.
10. PROVIDE FINISHED ENDS AT ALL EXPOSED ENDS OF CASEWORK.
11. ALL ELECTRICAL, MECHANICAL, AND PLUMBING ITEMS SHOWN IN ELEVATION ARE FOR REFERENCE AND LOCATION ONLY. REFER TO MEP DRAWINGS FOR SIZES, TYPES AND QUANTITIES.
12. ALL SOFFITS ABOVE CASEWORK TO BE P. LAM. UNLESS NOTES OTHERWISE.
13. PROVIDE METAL DRIP TRAY WHERE UNDER CABINET WATER FILTERS OR PLUMBING CONNECTIONS OCCUR.



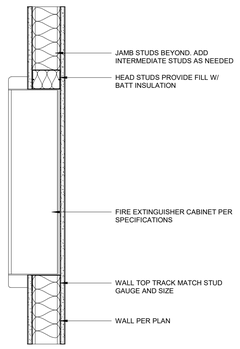
TYP. CABINET NOTES:

1. PROVIDE PLAM FILLER WHERE CABINETS BUTT UP TO WALLS.
2. ALL COUNTERTOPS HAVE A 4" BACKSPLASH (MATERIAL TO MATCH COUNTERTOP) AND OUTSIDE CORNERS HAVE 1 1/2" RADIUS EXCEPT WHERE NOTED OTHERWISE.
3. CASEWORK MFR. TO SUPPLY (2) - 2" [GROMMETS PER KNEESPACE. GROMMETS TO BE INSTALLED IN FIELD AS DIRECTED BY OWNER. COLOR TO BE SELECTED BY ARCHITECT.
4. PLASTIC LAMINATE COUNTERTOP EDGES SHALL BE 3 MM PLASTIC. COLOR AS SELECTED BY ARCHITECT)

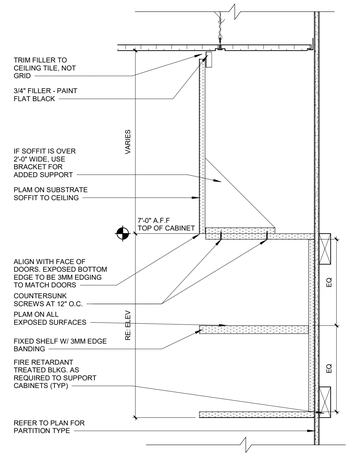
D1 CASEWORK ISOMETRIC
1 1/2" = 1'-0"



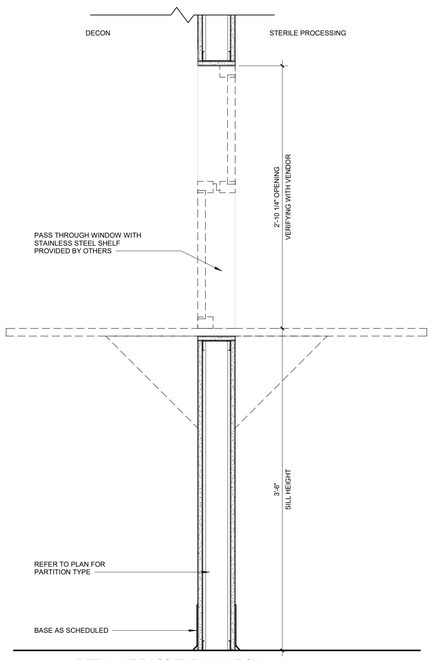
C6 RECPTION DESK DOOR DETAIL
1 1/2" = 1'-0"



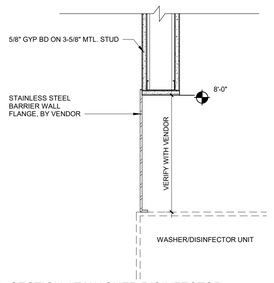
A6 DETAIL AT FIRE EXTINGUISHER
1 1/2" = 1'-0"



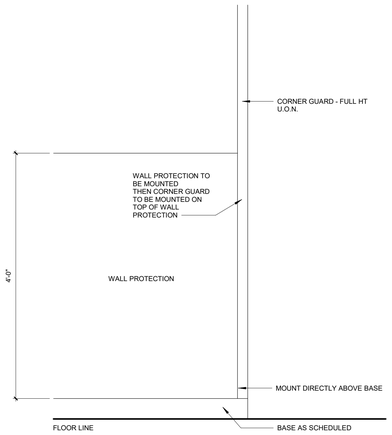
A5 DETAIL AT OPEN UPPER CABINET
1 1/2" = 1'-0"



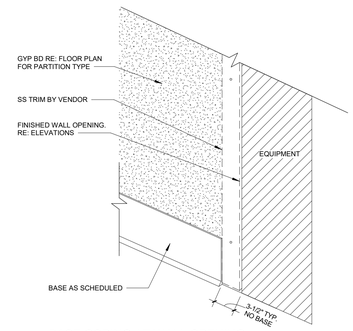
A4 DETAIL AT PASS THRU WINDOW
1 1/2" = 1'-0"



A3 SECTION AT WASHER DISINFECTOR
1 1/2" = 1'-0"



A2 TYP. ELEV. OF WALL PROTECTION/CORNER GUARD
1" = 1'-0"



A1 BASE COPING AT WALL OPENING
1 1/2" = 1'-0"

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Development Services Department
Lee's Summit, Missouri
11/15/2023

2/8/2023

Samuel K. Beckman - Architect
License - Missouri #A-2011012130

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1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
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INTERIOR DETAILS

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2/8/2023

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Lee's Summit, MO 64063

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Job Number	3-22030
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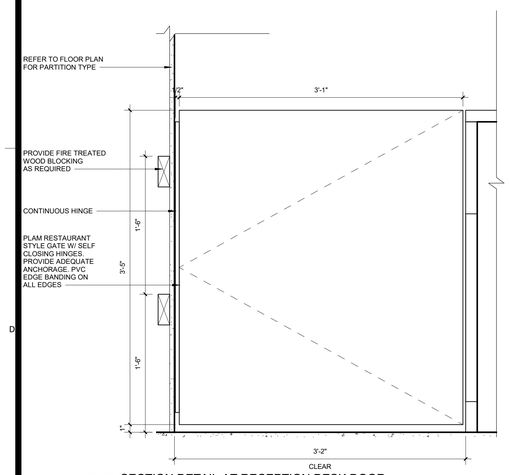
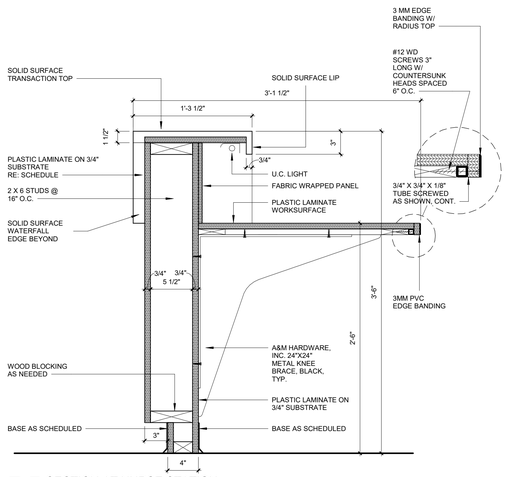
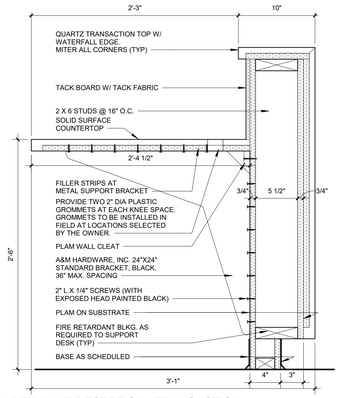
INTERIOR DETAILS



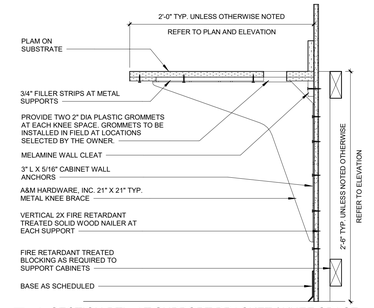
D6 SECTION DETAIL AT RECEPTION DESK DOOR
1 1/2" = 1'-0"



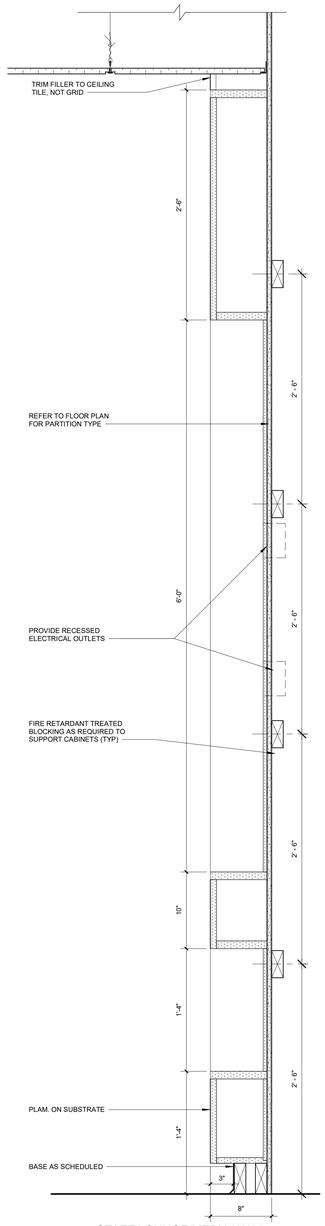
D5 SECTION AT NURSE STATION
1 1/2" = 1'-0"



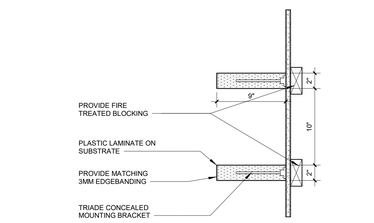
D2 DETAIL AT RECEPTION - TRANSACTION
1 1/2" = 1'-0"



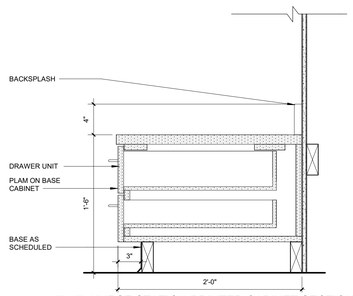
D1 SECTION DTL. AT SUPPORT BRACKET / KNEE SPACE
1 1/2" = 1'-0"



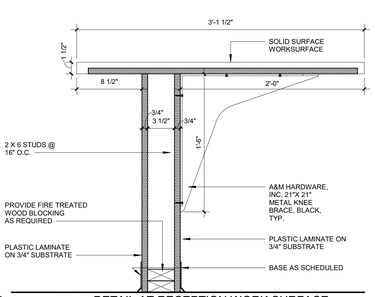
A1 STAFF LOUNGE MEDIA WALL
1 1/2" = 1'-0"



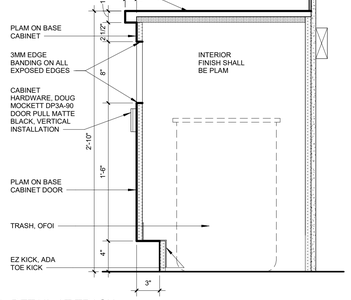
B6 DETAIL AT WALL MOUNTED FLOATING SHELVES
1 1/2" = 1'-0"



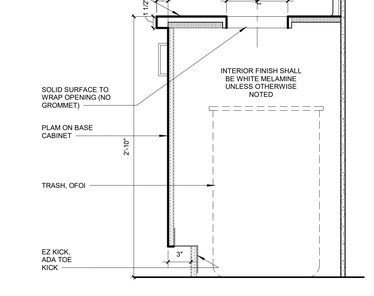
B5 NURSE STATION PRINTER CABINET SECTION
1 1/2" = 1'-0"



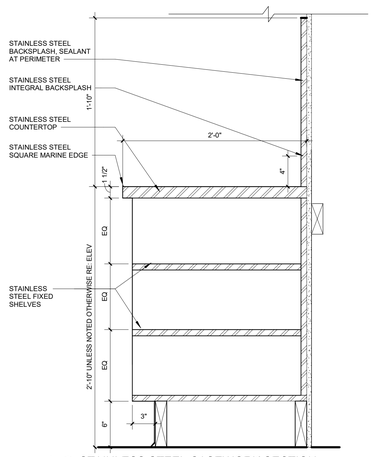
B4 DETAIL AT RECEPTION WORK SURFACE
1 1/2" = 1'-0"



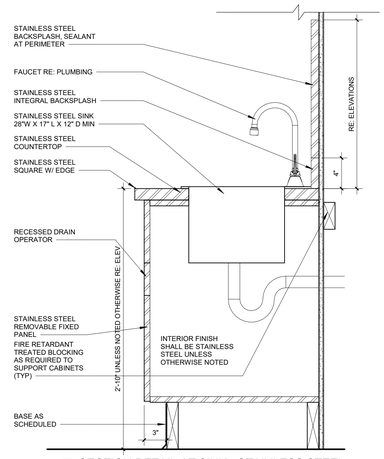
B3 DETAIL AT TRASH
1 1/2" = 1'-0"



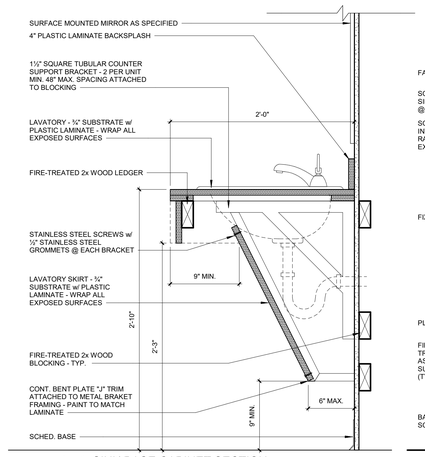
B2 DETAIL AT TRASH - COUNTERTOP
1 1/2" = 1'-0"



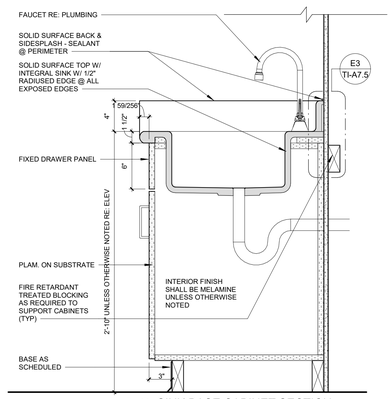
A6 STAINLESS STEEL CASEWORK SECTION
1 1/2" = 1'-0"



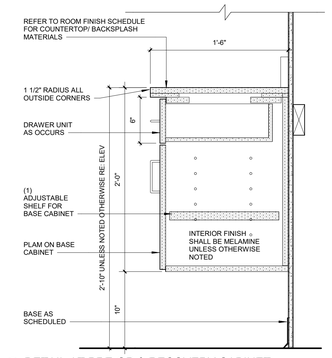
A5 SECTION DETAIL AT SINK - STAINLESS STEEL
1 1/2" = 1'-0"



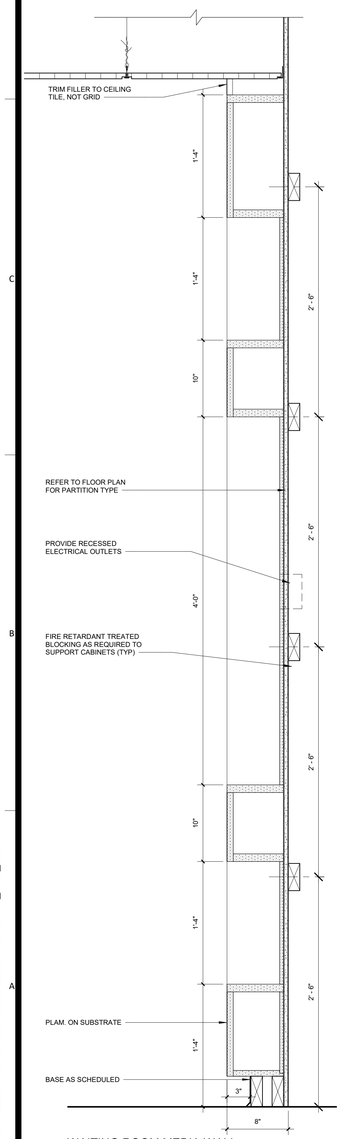
A4 SINK BASE CABINET SECTION
1 1/2" = 1'-0"



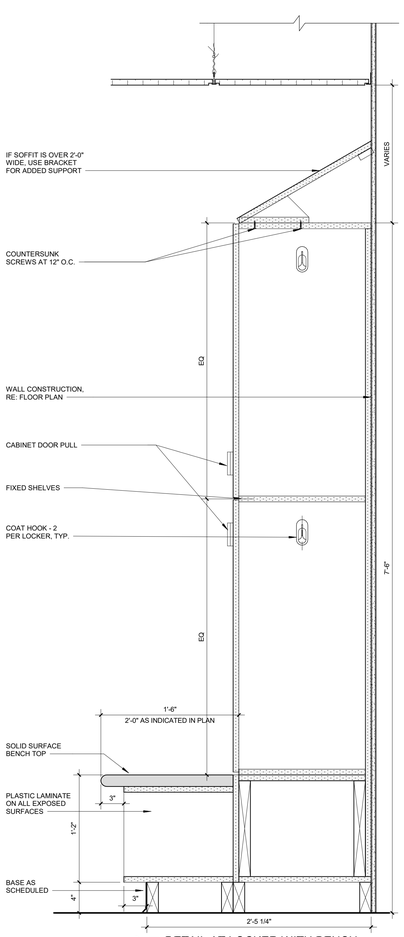
A3 SINK BASE CABINET SECTION
1 1/2" = 1'-0"



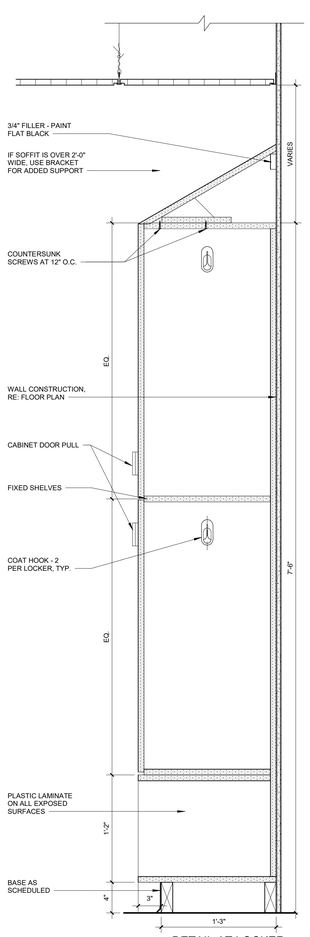
A2 DETAIL AT PRE-OP & RECOVERY CABINET
1 1/2" = 1'-0"



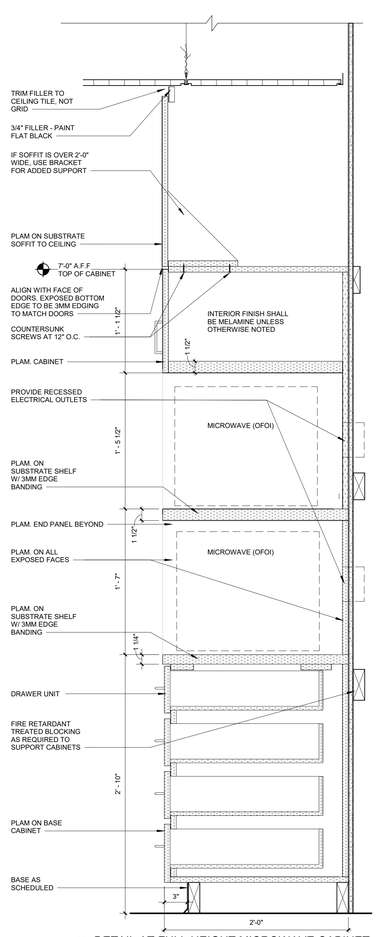
A6 WAITING ROOM MEDIA WALL
1 1/2" = 1'-0"



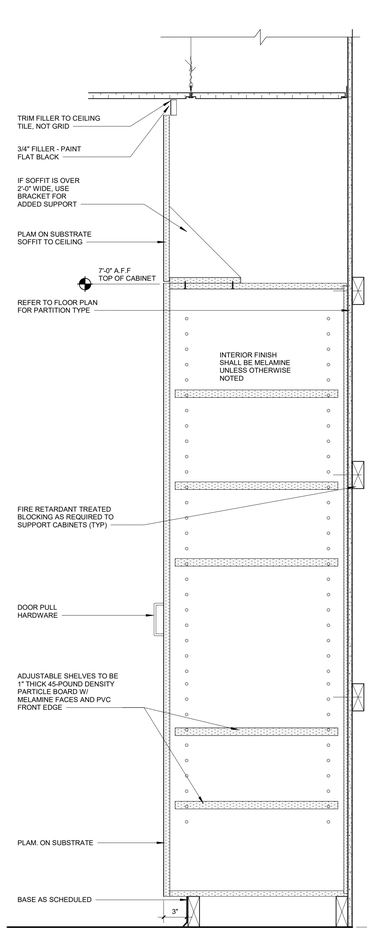
A5 DETAIL AT LOCKER WITH BENCH
1 1/2" = 1'-0"



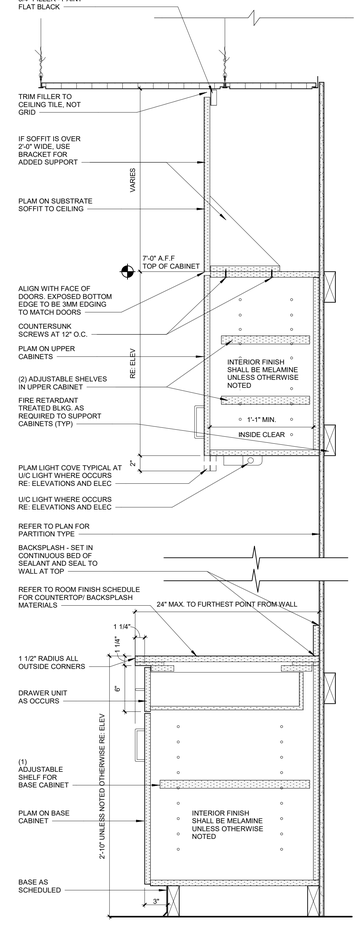
A4 DETAIL AT LOCKER
1 1/2" = 1'-0"



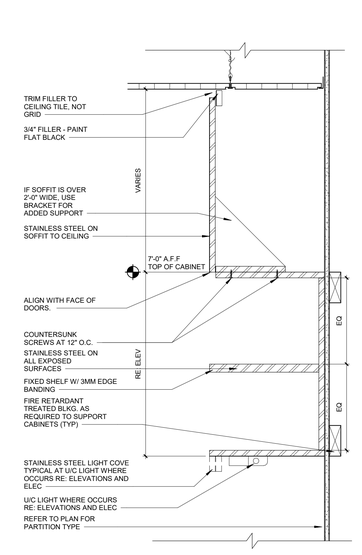
A3 DETAIL AT FULL HEIGHT MICROWAVE CABINET
1 1/2" = 1'-0"

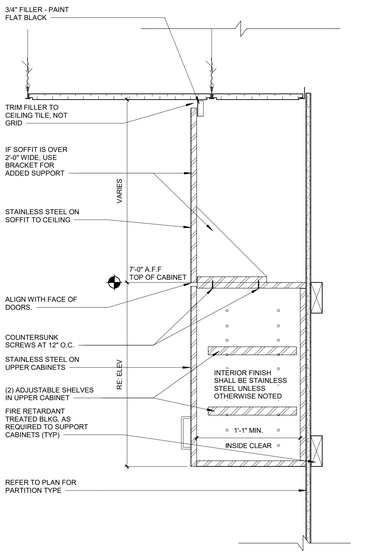


A2 FULL CABINET SECTION
1 1/2" = 1'-0"



A1 CASEWORK SECTION
1 1/2" = 1'-0"





D2 DETAIL AT STAINLESS STEEL OPEN UPPER CABINET
1 1/2" = 1'-0"

D1 DETAIL AT STAINLESS STEEL UPPER CASEWORK
1 1/2" = 1'-0"

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As noted on drawings
Development Services Department
Lee's Summit, Missouri
11/15/2023

STATE OF MISSOURI
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ARCHITECT

2/8/2023

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	02/08/23
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

TI-A7.7

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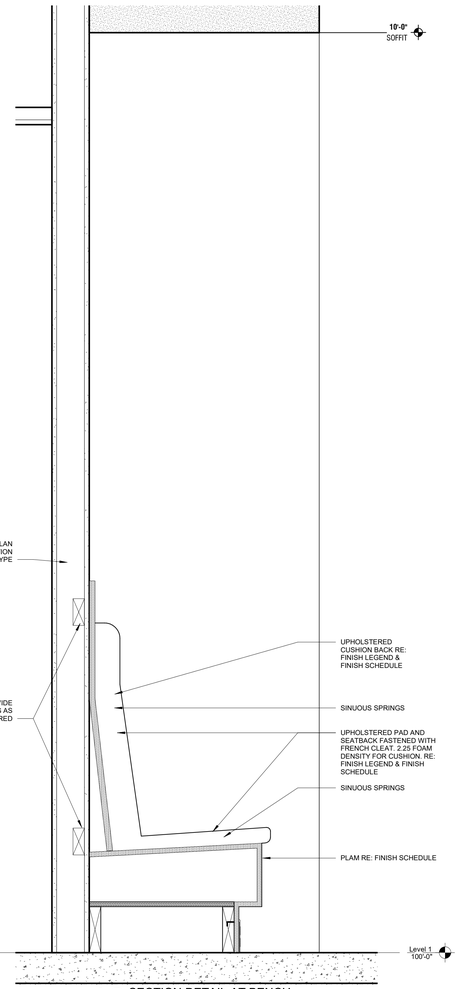
INTERIOR DETAILS

2/9/2023 10:07:41 AM



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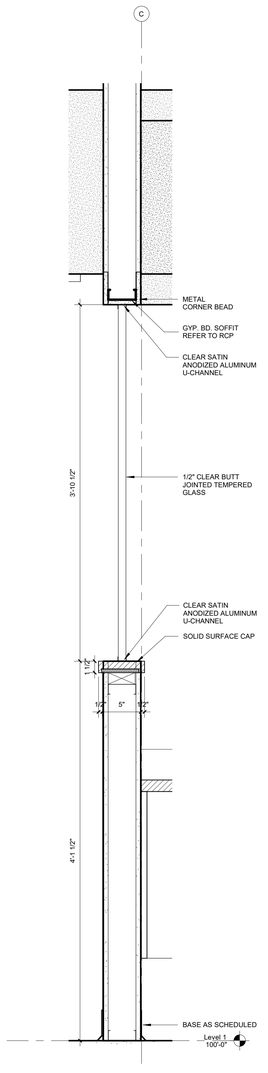
1 1/2" = 1'-0"



A1 SECTION DETAIL AT ACRYLIC PANEL
1 1/2" = 1'-0"

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Lee's Summit, Missouri
01/15/2023

BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

MECHANICAL LEGEND

NOTE: THIS IS A MASTER SYMBOLS LIST. ALL SYMBOLS, ABBREVIATIONS, ETC. MAY NOT NECESSARILY BE USED ON ALL DRAWINGS

PIPING

HYDRONIC

- HWS — HEATING HOT WATER SUPPLY PIPING
- HWR — HEATING HOT WATER RETURN PIPING
- CWS — CHILLED WATER SUPPLY PIPING
- CWR — CHILLED WATER RETURN PIPING
- HCS — HOT/CHILLED WATER SUPPLY PIPING
- HCR — HOT/CHILLED WATER RETURN PIPING
- CS — CONDENSER WATER SUPPLY PIPING
- CR — CONDENSER WATER RETURN PIPING
- HPWS — HEAT PUMP WATER SUPPLY PIPING
- HPWR — HEAT PUMP WATER RETURN PIPING
- CD — CONDENSATE DRAIN PIPING
- RL — REFRIGERANT LIQUID PIPING
- RG — REFRIGERANT HOT GAS PIPING
- RS — REFRIGERANT SUCTION PIPING

STEAM

- HPS — HIGH PRESSURE STEAM PIPING
- HPC — HIGH PRESSURE CONDENSATE PIPING
- MPS — MEDIUM PRESSURE STEAM PIPING
- MPC — MEDIUM PRESSURE CONDENSATE PIPING
- LPS — LOW PRESSURE STEAM PIPING
- LPC — LOW PRESSURE CONDENSATE PIPING
- PCR — PUMPED CONDENSATE RETURN

MISCELLANEOUS

- SMS — SNOW MELT WATER SUPPLY PIPING
- SMR — SNOW MELT WATER RETURN PIPING
- FOS — FUEL OIL SUPPLY PIPING
- FOR — FUEL OIL RETURN PIPING
- FOV — FUEL OIL VENT PIPING
- LPG — LIQUEFIED PETROLEUM GAS PIPING
- G — NATURAL GAS PIPING

DIRECT DIGITAL CONTROLS

- T — TEMPERATURE SENSOR WITH THERMOWELL
- T — DUCT MOUNTED TEMPERATURE SENSOR
- LLT — LOW LIMIT TEMPERATURE SENSOR
- DPS — DIFFERENTIAL PRESSURE SENSOR
- DPT — DIFFERENTIAL PRESSURE TRANSMITTER
- HI/LO DPT — HI/LO DIFFERENTIAL PRESSURE TRANSMITTER
- AFS — AIR FLOW STATION
- C/C — CHILLED WATER COOLING COIL
- H/C — HOT WATER HEATING COIL
- DX/C — DX COOLING COIL

VALVES / SYMBOLS

- DIRECTION OF FLOW IN PIPING
- TWO WAY CONTROL VALVE
- THREE WAY CONTROL VALVE
- BUTTERFLY VALVE
- GLOBE VALVE
- BALANCING VALVE
- SOLENOID VALVE
- CONTROL VALVE
- THERMOSTATIC MIXING VALVE
- TRIPLE DUTY VALVE WITH PRESSURE PORTS
- CHECK VALVE
- STRAINER
- STRAINER WITH BLOWOFF
- RELIEF/SAFETY VALVE
- PRESSURE REDUCING VALVE
- VACUUM BREAKER
- VENTURI
- GAS COCK
- SIGHT GLASS
- BALL VALVE
- HI — 3/4" BALL DRAIN VALVE WITH 3/4" HOSE CONNECTION AND CAP ON CHAIN
- THERMOSTATIC TRAP
- F&T TRAP
- GATE VALVE
- PRESSURE GAUGE
- PRESSURE GAUGE WITH PIGTAIL
- THERMOMETER, THERMOMETER W/ TEST WELL
- PRESSURE/TEMPERATURE PORT
- UNION
- FLANGE CONNECTION
- PIPING ELBOW UP
- PIPING ELBOW DOWN
- PIPING TEE UP
- PIPING TEE DOWN
- PIPING CAP
- GAUGE COCK
- WATER HAMMER ARRESTOR
- PIPING REDUCER
- PRESSURE REGULATING VALVE
- FLEXIBLE CONNECTOR
- AUTOMATIC AIR VENT
- MANUAL AIR VENT
- PIPE ANCHOR / ROOF PIPING SUPPORT
- EXPANSION JOINT
- PIPE GUIDE
- S — PRESSURE SWITCH
- T — TEMPERATURE SENSOR
- DP — DIFFERENTIAL PRESSURE SENSOR

NOTE: ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS.

HVAC

- LINEAR SLOT DIFFUSER
- INSULATED FLEXIBLE DUCT (MAXIMUM 6'-0" LONG)
- BRANCH DUCT WITH 45° TAP AND MANUAL VOLUME DAMPER
- BRANCH DUCT WITH CONICAL FITTING AND MANUAL VOLUME DAMPER
- ELBOW WITH TURNING VANES
- SUPPLY OR OUTSIDE AIR DUCT UP
- SUPPLY OR OUTSIDE AIR DUCT DOWN
- RETURN OR TRANSFER AIR DUCT UP
- RETURN OR TRANSFER AIR DUCT DOWN
- EXHAUST AIR DUCT UP
- EXHAUST AIR DUCT DOWN
- SD-1 10"ø 250 — TYPE, NECK SIZE, CFM AT SUPPLY DIFFUSER OR REGISTER
- RG-1 10x10 250 — TYPE, THROAT SIZE, CFM AT RETURN GRILLE OR REGISTER
- ER-1 10x10 — TYPE, SIZE AT EXHAUST GRILLE OR REGISTER
- MANUAL VOLUME DAMPER
- SQUARE TO ROUND TRANSITION
- XX — SENSORS:
  T = TEMPERATURE; H = HUMIDISTAT
  T/H = COMBINATION TEMPERATURE/HUMIDISTAT
  T/C = COMBINATION TEMPERATURE/CARBON DIOXIDE
  CO^2 = CARBON DIOXIDE; CO = CARBON MONOXIDE
  DP = DIFFERENTIAL PRESSURE; NO^x = NITROGEN OXIDE
- FD — FIRE DAMPER
- RD — RADIATION DAMPER
- FSD — FIRE/SMOKE DAMPER
- SD — SMOKE DAMPER
- M — MOTORIZED DAMPER
- ROUND/OVAL DUCT RISER
- 12x6 — RECTANGULAR DUCT (PLAN DIMENSION SHOWN FIRST)
- 12ø — ROUND DUCT
- 30/24 — FLAT OVAL DUCT (PLAN DIMENSION SHOWN FIRST)
- FLEXIBLE DUCT
- TRANSITION IN DUCT SIZE
- OPPOSED BLADE DAMPER
- PARALLEL BLADE DAMPER

MISCELLANEOUS

- 1 / M1 — SECTION CUT: UPPER NUMBER INDICATED DRAWING NUMBER; LOWER NUMBER INDICATES SHEET NUMBER
- CONNECTION POINT OF NEW WORK TO EXISTING
- CONNECTION POINT OF DEMOLITION TO EXISTING
- 1 / M1 — DETAIL REFERENCE: UPPER NUMBER INDICATES DETAIL NUMBER; LOWER NUMBER INDICATES SHEET NUMBER
- # — RISER DESIGNATION
- X — NOTE REFERENCE SYMBOL
- EXISTING LINEWORK
- DEMOLITION LINEWORK
- NEW LINEWORK

ABBREVIATIONS

A/C	AIR CONDITIONING
AFF	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
BOD	BOTTOM OF DUCT
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CH	CHILLER
CFM	CUBIC FEET PER MINUTE
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CRCU	COMPUTER ROOM CONDENSING UNIT
CT	COOLING TOWER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
(D)	DEMOLISHED
DB	DRY BULB
DDC	DIRECT DIGITAL CONTROL
DN	DOWN DX DIRECT EXPANSION
(E)	EXISTING TO REMAIN
EAT	ENTERING AIR TEMPERATURE
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
ERV	ENERGY RECOVERY VENTILATOR
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
FCU	FAN COIL UNIT
FD	FIRE DAMPER
FSD	FIRE/SMOKE DAMPER
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSEPOWER, HEAT PUMP
HOA	HAND OFF AUTOMATIC
HRV	HEAT RECOVERY VENTILATOR
HSTAT	HUMIDISTAT
HTG	HEATING
IN WC	INCHES OF WATER COLUMN
LAT	LEAVING AIR TEMPERATURE
LRA	LOCKED ROTOR AMPS
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE UP AIR UNIT
MBH	1000 BTU PER HOUR
MCA	MINIMUM CIRCUIT AMPACITY
MFR	MANUFACTURER
MMBH	1,000,000 BTU PER HOUR
(N)	NEW
N/A	NOT APPLICABLE
NC	NOISE CRITERIA; NORMALLY CLOSED
NO	NORMALLY OPEN
OA	OUTSIDE AIR
PH Ø	PHASE
PRV	PRESSURE REDUCING VALVE
(R)	RELOCATED EXISTING
RA	RETURN AIR
RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
RTU	ROOF TOP UNIT
SA	SUPPLY AIR
SD	SMOKE DAMPER
SF	SQUARE FEET, SUPPLY FAN
SP	STATIC PRESSURE
SS	STAINLESS STEEL
ST	SOUND TRAP, STEAM TRAP
STM	STEAM
TA	TRANSFER AIR OPENING
TD	TRANSFER DUCT
TDH	TOTAL DYNAMIC HEAD
TSTAT	THERMOSTAT
TYP	TYPICAL
UH	UNIT HEATER
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
W	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN
WPD	WATER PRESSURE DROP

MTG. HEIGHTS U.N.O.

THERMOSTATS (USER ADJ.)	48" AFF
CONTROLS (CENTERLINE)	48" AFF

MECHANICAL GENERAL NOTES

1. THE PLANS ARE, TO A GREAT EXTENT, DIAGRAMMATIC IN NATURE. DRAWING SCALES SHOULD BE VERIFIED FROM DIMENSIONS ON ARCH. PLANS. THE INFORMATION PRESENTED IS AS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATION, MEASUREMENTS LEVELS, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THE WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE.
2. CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING A BID TO COVER THE CONDITIONS AT THE SITE INFORMING THEMSELVES OF ALL DETAILS.
3. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ORDINANCES, AND ALL AUTHORITIES HAVING JURISDICTION.
4. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL ENGINEERING REQUIREMENTS, THE OWNER'S DESIGN CRITERIA, UTILITY COMPANY REQUIREMENTS, APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY, AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.
5. RECORD DRAWINGS - PREPARE AND SUBMIT TO THE OWNER RECORD DRAWINGS INDICATING THE EXACT LOCATION OF ALL EQUIPMENT INCLUDING THE EQUIPMENT'S "AS INSTALLED" SIZE(S). MANUFACTURER, MODEL NUMBERS, AND PERFORMANCE RATINGS.
6. SUPPORTS - EQUIPMENT, PIPING, DUCTWORK OR ANY OTHER ACCESSORY SHALL NOT BE SUPPORTED FROM OTHER PIPING, DUCTWORK, METAL ROOF DECK, LATERAL BRACING BRIDGING, OR CONDUIT. ITEMS SHALL ONLY BE SUPPORTED FROM BUILDING STRUCTURE.
7. COORDINATE EXACT LOCATION OF ALL DUCTWORK, AIR TERMINAL UNITS, PIPING, ETC., WITH STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND OTHER MECHANICAL SYSTEMS.
8. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL MECHANICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
9. ALL DUCTWORK, PIPING, AND TEMPERATURE CONTROL CONDUIT TO VIBRATING EQUIPMENT SHALL HAVE FLEXIBLE CONNECTORS.
10. COORDINATE ALL ROOF AND CHASE PENETRATIONS WITH STRUCTURAL DRAWINGS AND ROOF INSTALLER.
11. THE LOCATION OF EXISTING UNDERGROUND UTILITIES IS SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
12. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
13. CONCRETE HOUSEKEEPING PADS TO SUIT MECHANICAL EQUIPMENT SHALL BE SIZED AND LOCATED BY THE MECHANICAL CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALL BE 4 INCHES. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 4 INCHES ON EACH SIDE. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE SIZE AND LOCATION OF CONCRETE HOUSEKEEPING PADS WITH GENERAL CONTRACTOR.
14. PROVIDE MINIMUM 36" ACCESS CLEARANCE TO ALL FAN POWERED BOX AND VAV BOX MAINTENANCE PANELS.
15. CONTRACTOR TO COORDINATE DUCTWORK WITH FIRE RATED WALLS AND FLOORS SHOWN ON ARCHITECTURAL DRAWINGS, MAINTAINING NECESSARY RATING OF WALLS. CONTRACTOR IS RESPONSIBLE FOR ALL CONNECTIONS TO SMOKE-FIRE DAMPERS.
16. ALL SA DUCT BRANCH TAKE-OFFS TO DIFFUSER SHALL BE ONE STANDARD DUCT SIZE LARGER THAN DIFFUSER NEXK UNLESS OTHERWISE NOTED.
17. ALL INLET DUCT SIZES OF VARIABLE AIR VOLUME OR FAN-POWERED BOX UNITS SHALL BE AS PER BOX SCHEDULE ON MECHANICAL SCHEDULE.
18. ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.
19. PROVIDE MIN. OF 5'-0" OF DUCT FROM ROOM TERMINAL UNITS TO FIRST DIFFUSER TAKE-OFFS.
20. CONTRACTOR SHALL COORDINATE LOCATION OF ALL DIFFUSERS AND GRILLES WITH STRUCTURAL, ELECTRICAL, AND ARCHITECTURAL REFLECTED CEILING PLANS.
21. PROVIDE SIZES AND NUMBER OF REFRIGERANT LINES ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.
22. BEFORE INSTALLATION, EQUIPMENT CONTRACTOR SHALL VERIFY THAT COILS CAN BE REMOVED WITHOUT INTERFERENCE. CONTRACTOR SHALL PROVIDE ADEQUATE ACCESS AND COIL REMOVAL SPACE FOR ALL EQUIPMENT.
23. ACCESS PANELS ARE REQUIRED (MIN. 18"X18") FOR ACCESS TO EVERY VALVE, DAMPER, AIR TERMINAL UNIT, AND CONTROL SENSOR IF NOT OTHERWISE ACCESSIBLE.
24. ALL PIPING BRANCH TAKE-OFFS TO REHEAT COIL, CABINET HEATERS, AND UNIT HEATERS SHALL BE INSTALLED WITH A MINIMUM OF THREE (3) PIPE DIRECTION CHANGES.
25. ALL HWS/HWR TAKE-OFFS TO REHEAT COILS TO BE A MINIMUM OF 3/4" PIPE SIZE.

HVAC PIPE INSULATION SCHEDULE

1. PROVIDE REFERENCED INSULATION ON BOTH PIPING AND FLEXIBLE TUBING.

SERVICE	SIZE	LOCATION	INSULATION MATERIAL	INSULATION THICKNESS	NOTES
HEATING-HOT-WATER SUPPLY AND RETURN	NPS 1-1/4 AND SMALLER	INTERIOR ABOVE GROUND	MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I	1-1/2 INCH	
HEATING-HOT-WATER SUPPLY AND RETURN	NPS 1-1/2 AND LARGER	INTERIOR ABOVE GROUND	MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I	2 INCH	
CHILLED WATER	NPS 1-1/4 AND SMALLER	INTERIOR ABOVE GROUND	CELLULAR GLASS	CELLULAR GLASS: 1-1/2 INCH	
CHILLED WATER	NPS 1-1/2 AND LARGER	INTERIOR ABOVE GROUND	CELLULAR GLASS	CELLULAR GLASS: 1-1/2 INCH	
REFRIGERANT SUCTION AND HOT-GAS	ALL SIZES	INTERIOR ABOVE GROUND	FLEXIBLE ELASTOMERIC	1 INCH	1
HOT SERVICE DRAINS AND VENTS	ALL SIZES	INTERIOR ABOVE GROUND	MINERAL-FIBER, PREFORMED PIPE INSULATION, TYPE I OR II	1 INCH	
STEAM & STEAM CONDENSATE PIPING	LESS THAN NPS 3	OUTDOOR	MINERAL-FIBER, PREFORMED PIPE INSULATION	3 INCH	

MECHANICAL SHEET INDEX

M1.1	FIRST FLOOR HVAC PLAN - OVERALL
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M6.4	ENLARGED MECHANICAL PLANS
M0.1	MECHANICAL LEGEND & NOTES
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M1.1B	FIRST FLOOR HVAC PLAN - AREA B
M1.1C	FIRST FLOOR HVAC PLAN - AREA C
M1.2	FIRST FLOOR HVAC ROOM PRESSURIZATION PLAN - OVERALL
M2.1A	FIRST FLOOR HYDRONIC PLAN - AREA A
M2.1B	FIRST FLOOR HYDRONIC PLAN - AREA B
M2.1C	FIRST FLOOR HYDRONIC PLAN - AREA C
M3.1	ROOF MECHANICAL PLAN
M4.1	MECHANICAL DETAILS
M4.2	MECHANICAL DETAILS
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M7.1	MECHANICAL CONTROLS
M7.2	MECHANICAL CONTROLS
M7.3	MECHANICAL CONTROLS

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MECHANICAL LEGEND & NOTES

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2/7/2023 4:40:32 PM

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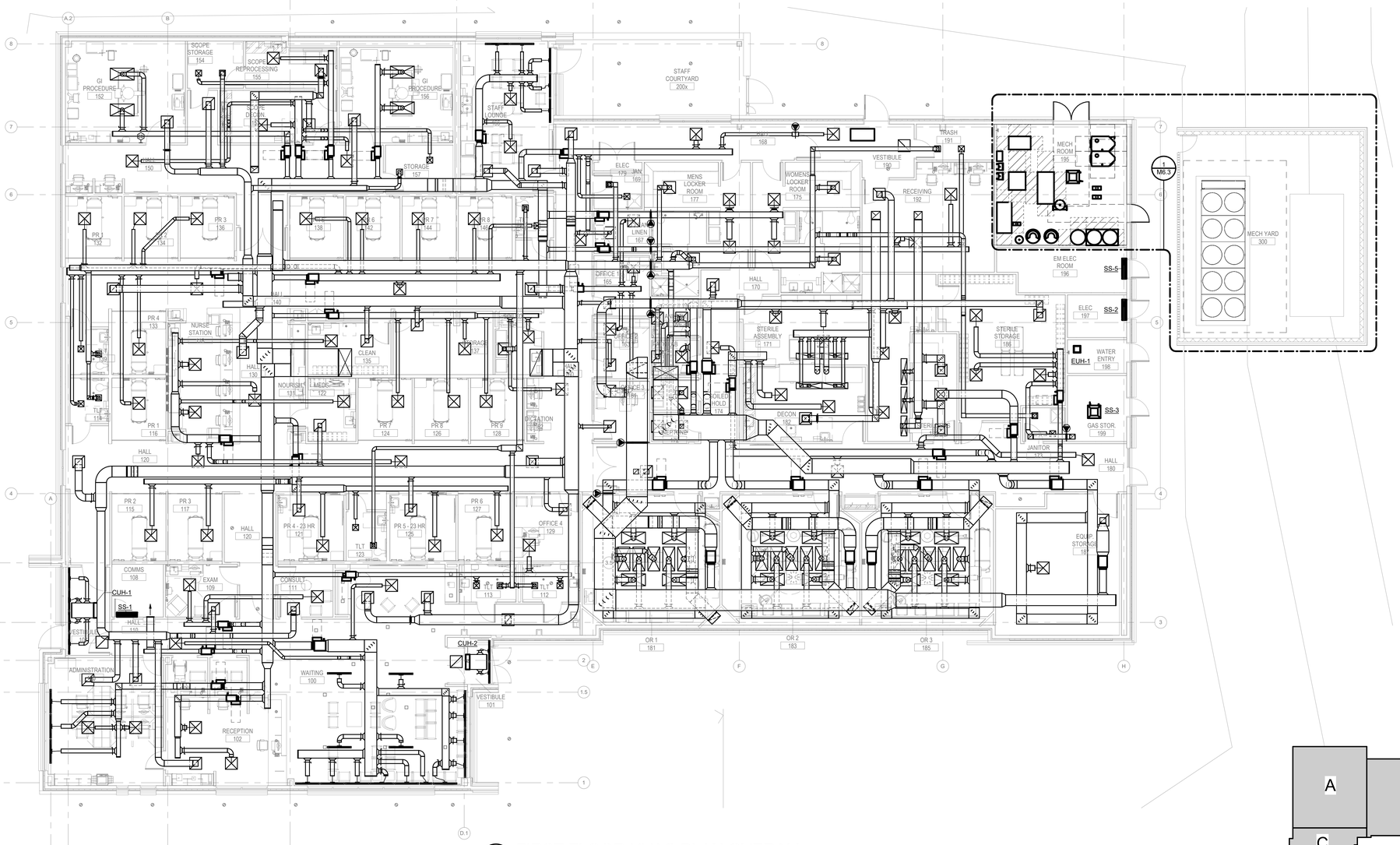
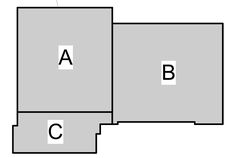
GENERAL NOTES (THIS SHEET)

1. SEE SHEET M0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.



1 FIRST FLOOR HVAC PLAN OVERALL
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'



KEYPLAN

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FIRST FLOOR HVAC PLAN - OVERALL

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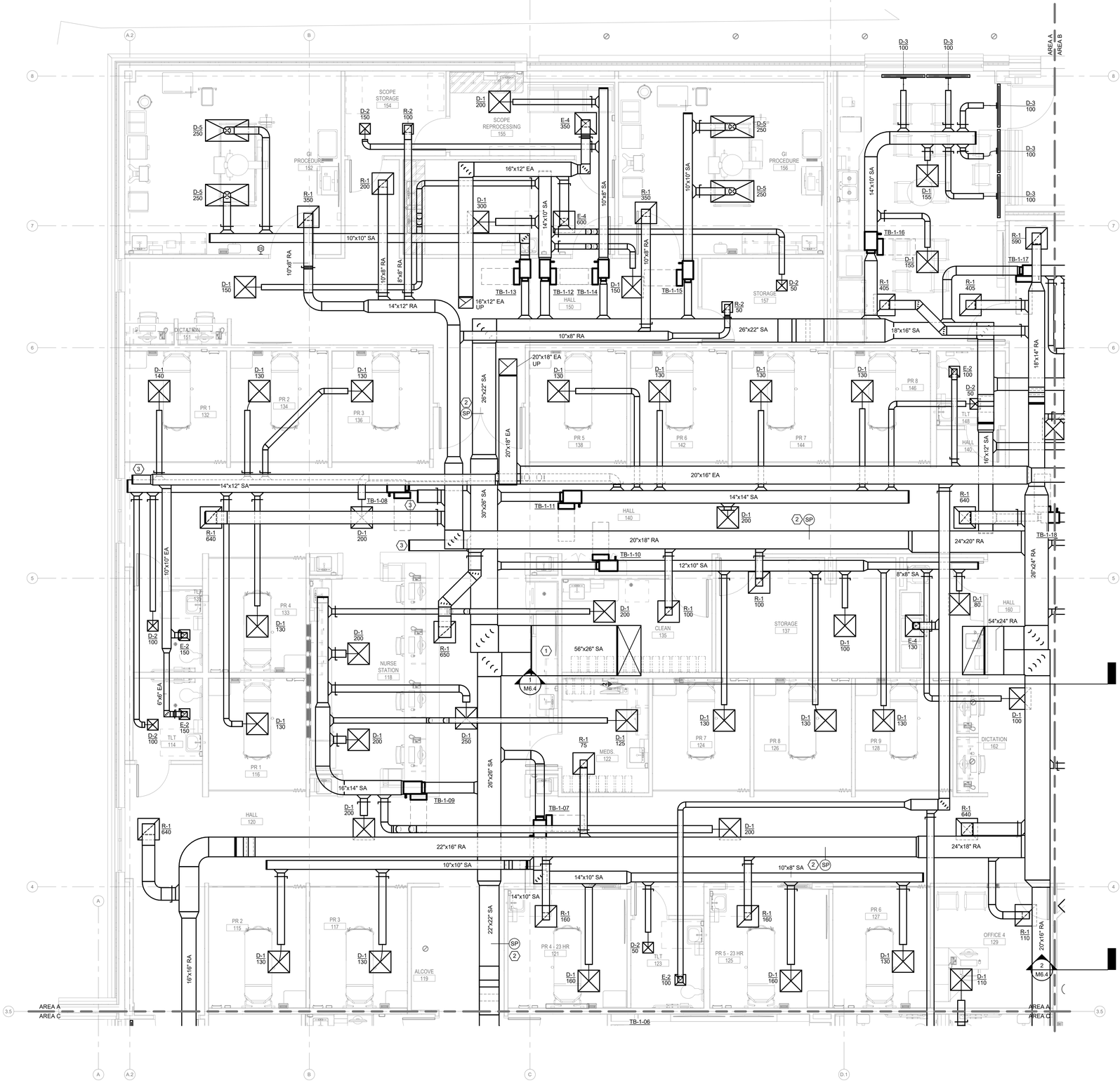
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

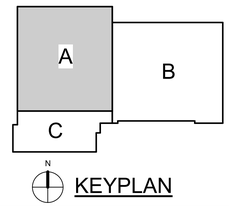
1. SEE SHEET M0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.

KEY NOTES (X) (THIS SHEET)

1. WRAP FIRST 20 FT OF DUCT DOWNSTREAM OF AHU WITH 2 PSF VINYL LAGGING WITH 1" INTEGRAL FIBERGLASS. PRODUCT EQUAL TO SOUND SEAL B-20 LAG.
2. PLACE DUCT STATIC PRESSURE SENSOR 2/3s DOWN THE SYSTEM.
3. TAP OFF MAIN AND CAP FOR FUTURE USE.



1 FIRST FLOOR HVAC PLAN - AREA A
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



KEYPLAN

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	Author
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Number	Date	Description

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FIRST FLOOR HVAC PLAN - AREA A

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Development Services Department
Lee's Summit, Missouri
03/15/2023

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PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009/000026
PROFESSIONAL ENGINEER
03/07/2023

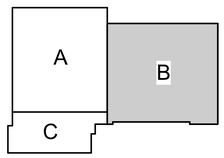
GENERAL NOTES (THIS SHEET)

1. SEE SHEET M0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.

KEY NOTES (X) (THIS SHEET)

1. PROVIDE (2) 8x12 EXHAUST GRILLES. INSTALL ONE GRILLE 6" AFF AND ONE WITHIN 12" OF CEILING.
2. ALL EXHAUST DUCTWORK, FITTINGS, AND FASTENERS SERVING STERILE PROCESSING DEPARTMENT SHALL BE WATER TIGHT AND CONSTRUCTED OF CORROSION PROOF ALUMINUM. SLOPE DUCTWORK DOWNWARDS TOWARDS CANOPIES.
3. ROUTE 6" ROUND DUCT DOWN TO DISINFECTOR/WASHER EXHAUST CONNECTION AND BALANCE TO 60 CFM.
4. PROVIDE 50x12 STAINLESS STEEL EXHAUST CANOPY OVER WASHER/DISINFECTORS TO CAPTURE STEAM DISCHARGE. CONNECT TO EXHAUST SYSTEM EF-4. BALANCE TO 210 CFM. TYP 4.
5. PROVIDE 52x12 STAINLESS STEEL EXHAUST CANOPY OVER STERILIZER DOOR TO CAPTURE STEAM DISCHARGE. CONNECT TO EXHAUST SYSTEM EF-3. PROVIDE 8x8 EXHAUST DUCT CONNECTIONS (OR 8" ROUND) EACH BALANCED TO 220 CFM.
6. PROVIDE 40x12 STAINLESS STEEL EXHAUST CANOPY OVER STERILIZER DOOR TO CAPTURE STEAM DISCHARGE. CONNECT TO EXHAUST SYSTEM EF-3. PROVIDE 8x8 EXHAUST DUCT CONNECTIONS (OR 8" ROUND) EACH BALANCED TO 170 CFM.
7. PROVIDE A LOUVERED EXTERIOR DOOR TO MED GAS ROOM WITH 2SQ FT. OF FREE AREA.
8. PLACE DUCT STATIC PRESSURE SENSOR 2/3s DOWN THE SYSTEM.
9. INSTALL SUPPLY DUCTWORK MAIN LOOP. DUCT TO CEILING RETURN AND SUPPLY. CLOSE OFF RETURN AIR VALVE TB-R-05.
10. INSTALL SIDEWALL RETURN AIR GRILLE 10" AFF. TYP ALL.

1 FIRST FLOOR HVAC PLAN - AREA B
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



KEYPLAN

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3	3/7/23	ADDENDUM #3

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FIRST FLOOR HVAC PLAN - AREA B

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PROJECT NUMBER: 1201002
BETTER BUILT ENVIRONMENTS

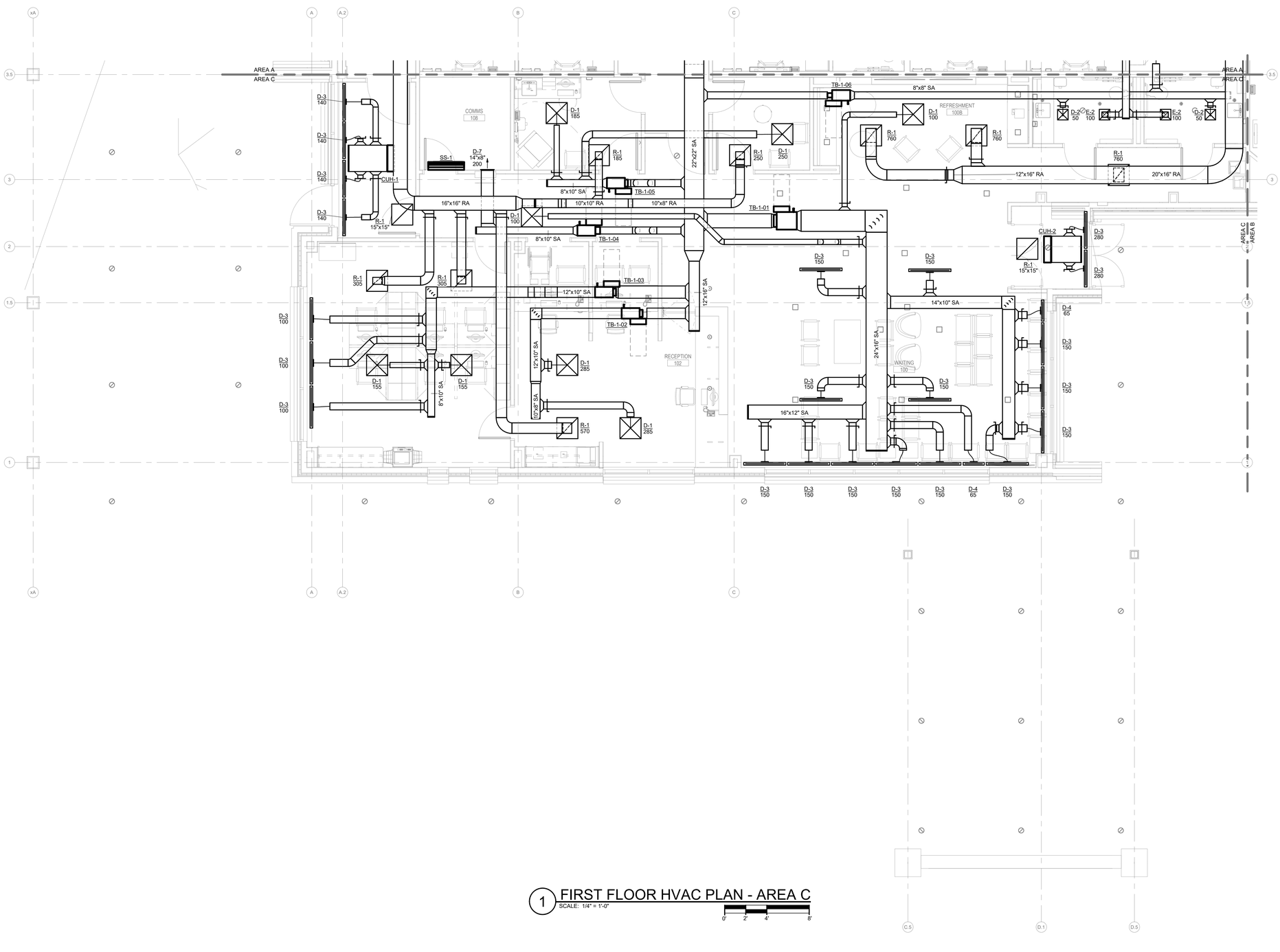
STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-#009700026
PROFESSIONAL ENGINEER
02/07/2023

GENERAL NOTES (THIS SHEET)

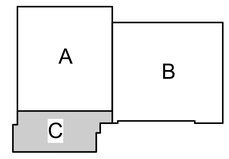
1. SEE SHEET M0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.

KEY NOTES ⓧ (THIS SHEET)

1. NOT USED.



1 FIRST FLOOR HVAC PLAN - AREA C
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



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Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
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Revision

Number	Date	Description

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FIRST FLOOR HVAC PLAN - AREA C

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02/15/2023

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PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009020026
PROFESSIONAL ENGINEER
02/07/2023

KEY NOTES (X) (THIS SHEET)

1. ALL TOILET ROOMS SHALL BE BALANCED TO (-50) CFM NEGATIVE.
2. PROVIDE ROOM PRESSURE MONITORING STATION. SIGNALS TO BE TIED INTO BAS. COORDINATE LOCATION & ELEVATION WITH ARCHITECT.
3. BALANCE CONTRACTOR TO BALANCE THIS SPACE TO POSITIVE RELATIVE TO CORRIDOR AND DECONTAMINATION ROOM. SUPPLY SYSTEM HAS BEEN SIZED TO HANDLE UP TO 2100 CFM. INCREASE SUPPLY AIR AS NECESSARY TO ACHIEVE POSITIVE SPACE PRESSURE. FINAL CFM SHALL NOT BE BALANCED LOWER THAN LISTED MINIMUM SUPPLY CFM.
4. BALANCE CONTRACTOR TO BALANCE THIS SPACE NEGATIVE RELATIVE TO CORRIDOR AND STERILE PROCESSING. EXHAUST SYSTEM HAS BEEN SIZED TO HANDLE UP TO 2200 CFM. INCREASE EXHAUST AIR AS NECESSARY TO ACHIEVE NEGATIVE SPACE PRESSURE. FINAL CFM SHALL NOT BE BALANCED LOWER THAN LISTED MINIMUM EXHAUST CFM.
5. BALANCE CONTRACTOR TO BALANCE SCOPE DECONTAMINATION ROOM NEGATIVE RELATIVE TO ENDOSCOPY PROCEDURE ROOMS AND SCOPE REPROCESSING ROOM. EXHAUST SYSTEM HAS BEEN SIZED TO HANDLE UP TO 1100 CFM. INCREASE EXHAUST AIR AS NECESSARY TO ACHIEVE NEGATIVE SPACE PRESSURE. FINAL CFM SHALL NOT BE BALANCED LOWER THAN LISTED MINIMUM EXHAUST CFM.
6. RETURN AIR IN STERILE CORRIDOR SHALL BE BALANCED TO MAINTAIN POSITIVE PRESSURE RELATIONSHIP TO PACU CORRIDORS.
7. BALANCE CONTRACTOR IS ABLE TO MODIFY RETURN CFM LISTED IN ORDER TO ACHIEVE POSITIVE PRESSURE RELATIONSHIP TO ADJACENT SPACES. NOTE: STERILE CORRIDOR MUST BE POSITIVE RELATIVE TO PACU CORRIDOR.

PATIENT CORRIDOR AIR BALANCE

SUPPLY MAX: 3,350 CFM
RETURN MAX: 3,150 CFM
DIFFERENTIAL: (+200 CFM)
ROOM PRESSURE: POS.

SCOPE DECON 153 AIR BALANCE (5)

SUPPLY MAX: 300 CFM
EXHAUST MAX: -750 CFM

SUPPLY MIN: 300 CFM
EXHAUST MIN: -600 CFM

TRANSFER TO
SCOPE DECON 175: -50 CFM

DIFFERENTIAL: (-300 CFM)
ROOM PRESSURE: NEG.

SCOPE PROCESSING 155 AIR BALANCE

SUPPLY MAX: 250 CFM
EXHAUST MAX: -350 CFM

SUPPLY MIN: 200 CFM
EXHAUST MIN: -350 CFM

TRANSFER TO
SCOPE DECON 175: -150 CFM
TRANSFER FROM
SCOPE STORAGE 154: +100 CFM

DIFFERENTIAL: (-150 CFM)
ROOM PRESSURE: NEG.

CLEAN LINEN 167 AIR BALANCE

SUPPLY MAX: 110 CFM
RETURN MAX: 60 CFM
DIFFERENTIAL: (+100 CFM)
ROOM PRESSURE: POS.

ANEST. WORKROOM 178 AIR BALANCE

SUPPLY MAX: 100 CFM
EXHAUST MAX: 150 CFM
DIFFERENTIAL: (-50 CFM)
ROOM PRESSURE: NEG.

JAN 169 AIR BALANCE

SUPPLY MAX: 60 CFM
EXHAUST MAX: 110 CFM
DIFFERENTIAL: (-50 CFM)
ROOM PRESSURE: NEG.

LOCKER ROOMS (TYP BOTH) AIR BALANCE

SUPPLY MAX: 300 CFM
EXHAUST MAX: 500 CFM
DIFFERENTIAL: (-200 CFM)
ROOM PRESSURE: NEG.

DECON 182 ROOM AIR BALANCE (4)

SUPPLY MAX: 710 CFM
EXHAUST MAX: -1210 CFM

SUPPLY MIN: 710 CFM
EXHAUST MIN: -1460 CFM

TRANSFER FROM
STERILE
ASSEMBLY 194: +400 CFM

DIFFERENTIAL: (-500 CFM)
ROOM PRESSURE: -0.01" (NEG.)

STERILE ASSEMBLY 171 ROOM AIR BALANCE (3)

SUPPLY MAX: 2100 CFM
EXHAUST MAX: -1030 CFM

SUPPLY MIN: 1690 CFM
EXHAUST MIN: -1030 CFM

TRANSFER TO
DECON 196: -400 CFM
TRANSFER TO
STERILIZERS 192: -100 CFM

DIFFERENTIAL: +660 CFM
ROOM PRESSURE: +0.01" (POS.)

TRASH 191 AIR BALANCE

SUPPLY MAX: 130 CFM
RETURN MAX: 180 CFM
DIFFERENTIAL: (-50 CFM)
ROOM PRESSURE: NEG.

SOILED 164 AIR BALANCE

SUPPLY MAX: 130 CFM
RETURN MAX: 180 CFM
DIFFERENTIAL: (-50 CFM)
ROOM PRESSURE: NEG.

STERILIZERS 184 ROOM AIR BALANCE

SUPPLY MAX: 750 CFM
EXHAUST MAX: -1000 CFM

SUPPLY MIN: 750 CFM
EXHAUST MIN: -1000 CFM

TRANSFER FROM
STERILIZERS 192: +100 CFM
TRANSFER FROM
HALLWAY: +100 CFM

DIFFERENTIAL: (-250 CFM)
ROOM PRESSURE: -0.01" (NEG.)

OR 1 181 ROOM AIR BALANCE

SUPPLY MAX: 2160 CFM
RETURN MAX: 1960 CFM
DIFFERENTIAL: +200 CFM
ROOM PRESSURE: +0.02"
(POS.)

UNOCCUPIED SETPOINTS
SUPPLY MIN: 1000 CFM
RETURN MIN: 800 CFM

OR 2 183 ROOM AIR BALANCE

SUPPLY MAX: 1980 CFM
RETURN MAX: 1780 CFM
DIFFERENTIAL: +200 CFM
ROOM PRESSURE: +0.02"
(POS.)

UNOCCUPIED SETPOINTS
SUPPLY MIN: 1000 CFM
RETURN MIN: 800 CFM

OR 3 185 ROOM AIR BALANCE

SUPPLY MAX: 1980 CFM
RETURN MAX: 1780 CFM
DIFFERENTIAL: +200 CFM
ROOM PRESSURE: +0.02"
(POS.)

UNOCCUPIED SETPOINTS
SUPPLY MIN: 1000 CFM
RETURN MIN: 800 CFM

CLEAN 135 AIR BALANCE

SUPPLY MAX: 200 CFM
RETURN MAX: 100 CFM
DIFFERENTIAL: (+100 CFM)
ROOM PRESSURE: POS.

MEDICATION 122 AIR BALANCE

SUPPLY MAX: 125 CFM
RETURN MAX: 75 CFM
DIFFERENTIAL: (+50 CFM)
ROOM PRESSURE: POS.

NEPTUNE 172 AIR BALANCE

SUPPLY MAX: 80 CFM
EXHAUST MAX: 130 CFM
DIFFERENTIAL: (-50 CFM)
ROOM PRESSURE: NEG.

SOILED 174 AIR BALANCE

SUPPLY MAX: 100 CFM
RETURN MAX: 150 CFM
DIFFERENTIAL: (-50 CFM)
ROOM PRESSURE: NEG.

JAN 173 AIR BALANCE

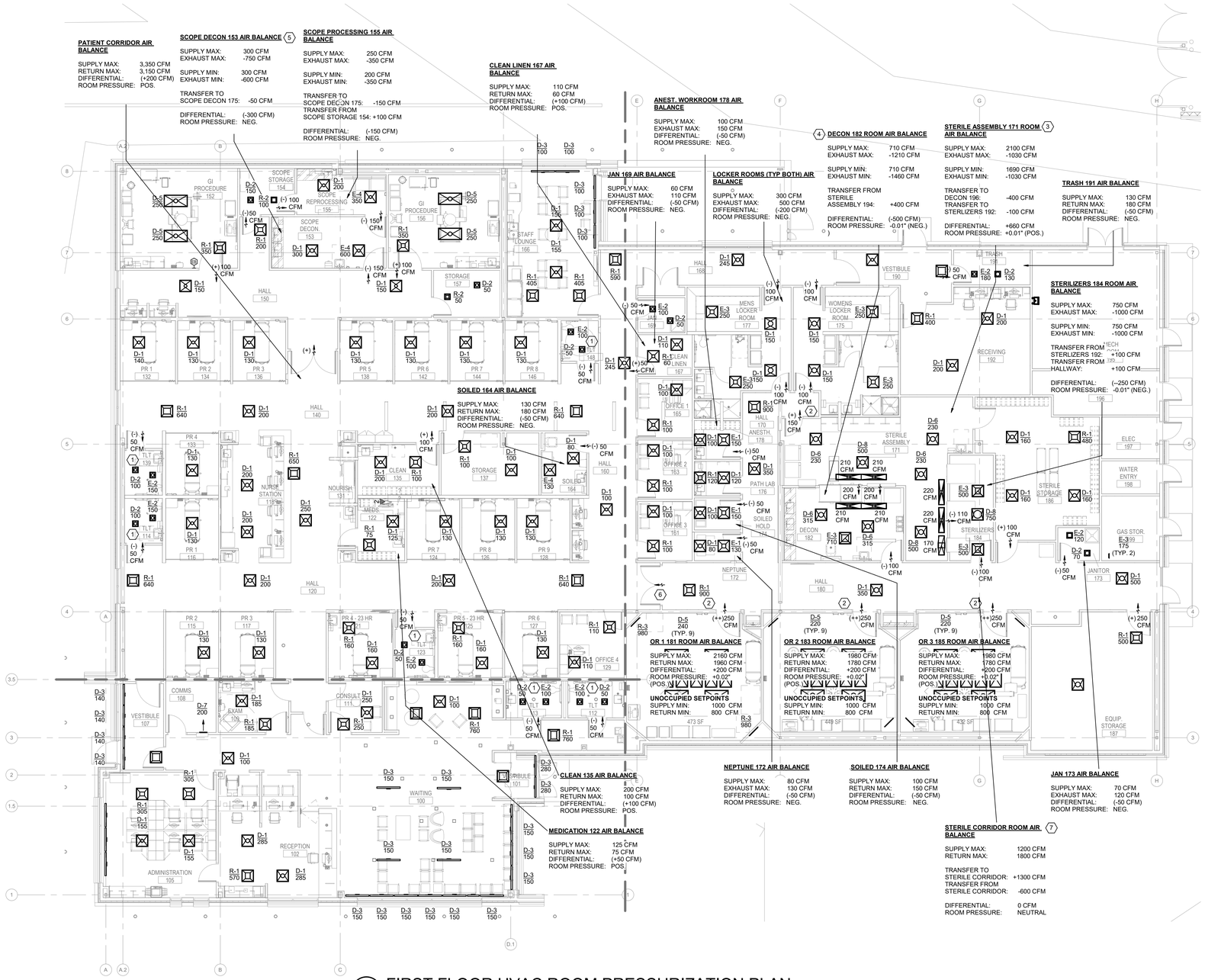
SUPPLY MAX: 70 CFM
EXHAUST MAX: 120 CFM
DIFFERENTIAL: (-50 CFM)
ROOM PRESSURE: NEG.

STERILE CORRIDOR ROOM AIR BALANCE (7)

SUPPLY MAX: 1200 CFM
RETURN MAX: 1800 CFM

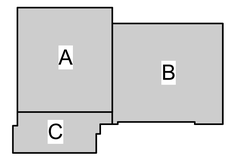
TRANSFER TO
STERILE CORRIDOR: +1300 CFM
TRANSFER FROM
STERILE CORRIDOR: -600 CFM

DIFFERENTIAL: 0 CFM
ROOM PRESSURE: NEUTRAL



1 FIRST FLOOR HVAC ROOM PRESSURIZATION PLAN
SCALE: 1/8" = 1'-0"

0' 4' 8' 16'



KEYPLAN

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Date	2/8/2023
Job Number	3-22030
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FIRST FLOOR HVAC ROOM PRESSURIZATION PLAN - OVERALL

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2/15/2023

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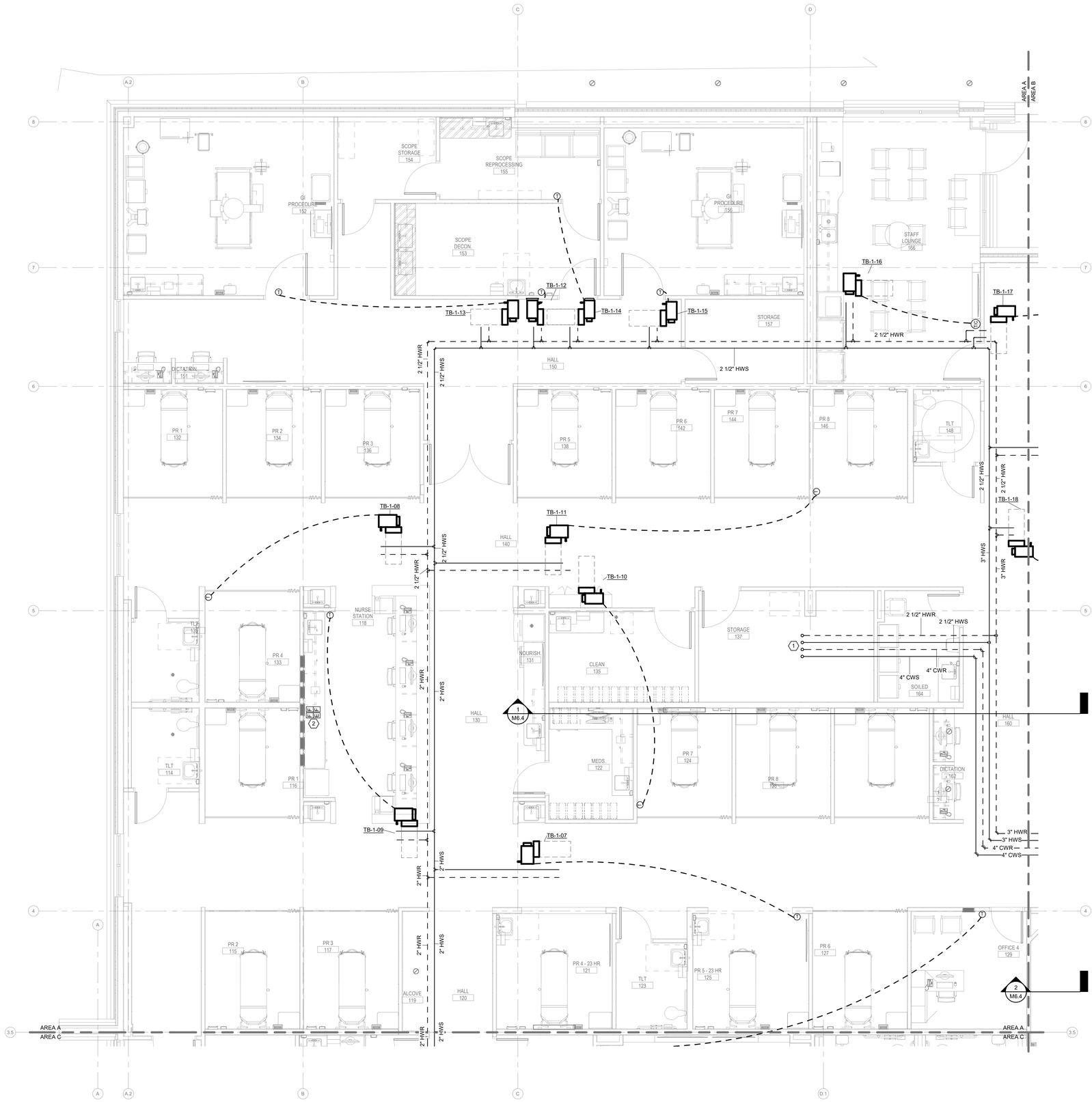
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

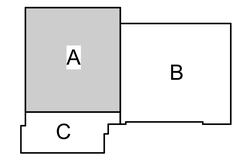
1. SEE SHEET M0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.

KEY NOTES (X) (THIS SHEET)

1. 2-1/2" HWS, 2-1/2" HWR, 4" CWS, 4" CWR UP TO AHU-1.
2. STATUS/ALARM PANEL FOR AIR HANDLING UNITS. SWITCHES TO BE IN DIRECT VIEW OF NURSE'S STATION. EPO SWITCH TO CUT POWER TO ASSOCIATED AHU FANS.



1 FIRST FLOOR HYDRONIC PLAN - AREA A
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



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STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-#009/000026
PROFESSIONAL ENGINEER
02/07/2023

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
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Revision

Number	Date	Description

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FIRST FLOOR HYDRONIC PLAN - AREA A

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Development Services Department
Lee's Summit, Missouri
02/15/2023

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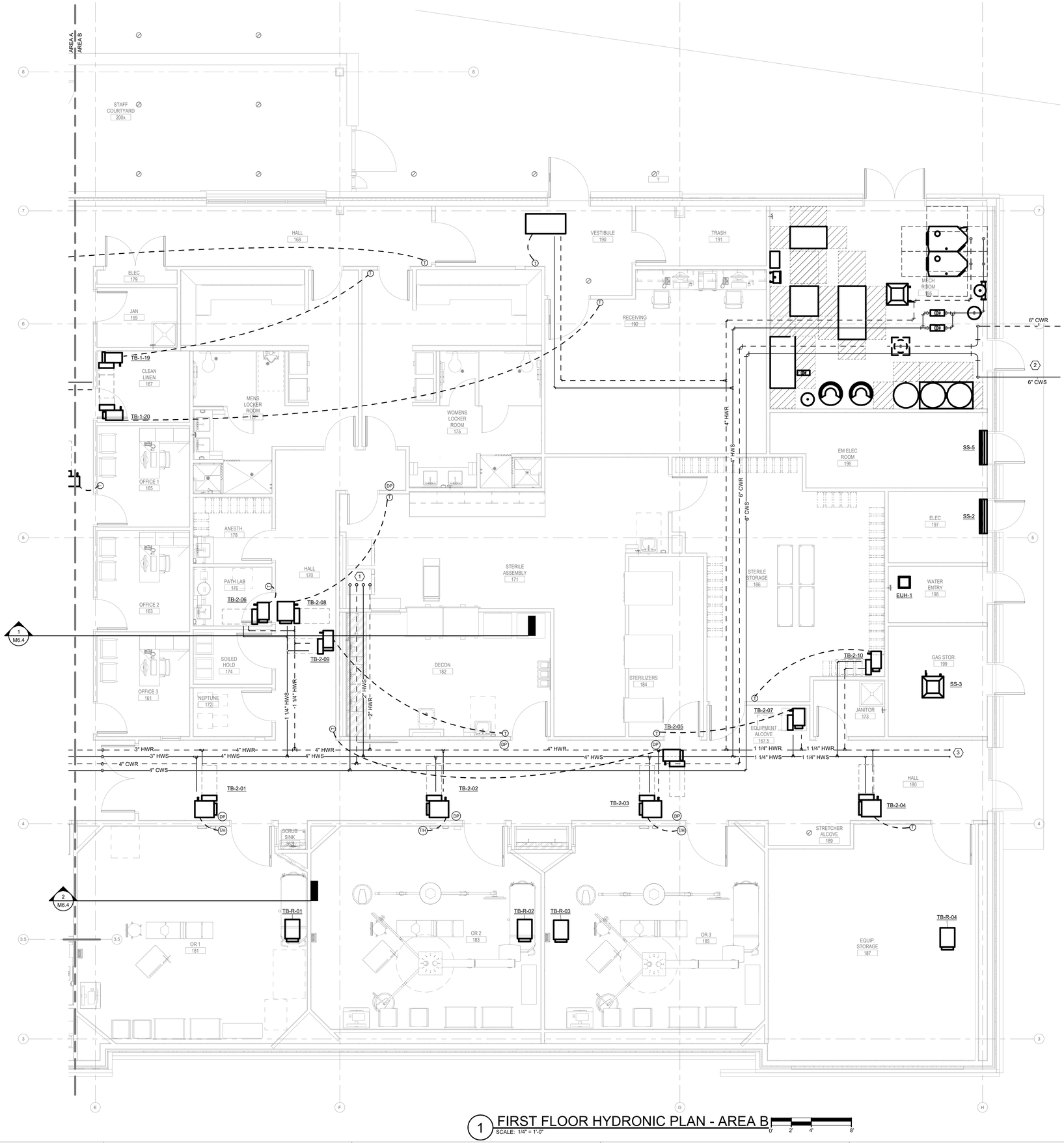
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

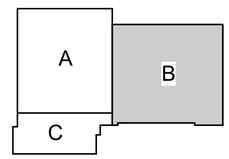
1. SEE SHEET M0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.

KEY NOTES (X) (THIS SHEET)

1. 2" HWS, 2" HWR, 4" CWS, 4" CWR UP TO AHU-2.
2. ROUTE 6" CWS/R UNDERGROUND FROM MECHANICAL ROOM TO CHILLER LOCATED IN MECHANICAL YARD. REFER TO MECHANICAL PIPING INSULATION SCHEDULE FOR UNDERGROUND PIPING REQUIREMENTS. PROVIDE HEAT TRACE ON OUTDOOR PIPING.
3. ROUTE RUN OUT AND CAP FOR FUTURE VAV.



1 FIRST FLOOR HYDRONIC PLAN - AREA B
SCALE: 1/4" = 1'-0"



KEYPLAN

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FIRST FLOOR HYDRONIC PLAN - AREA B

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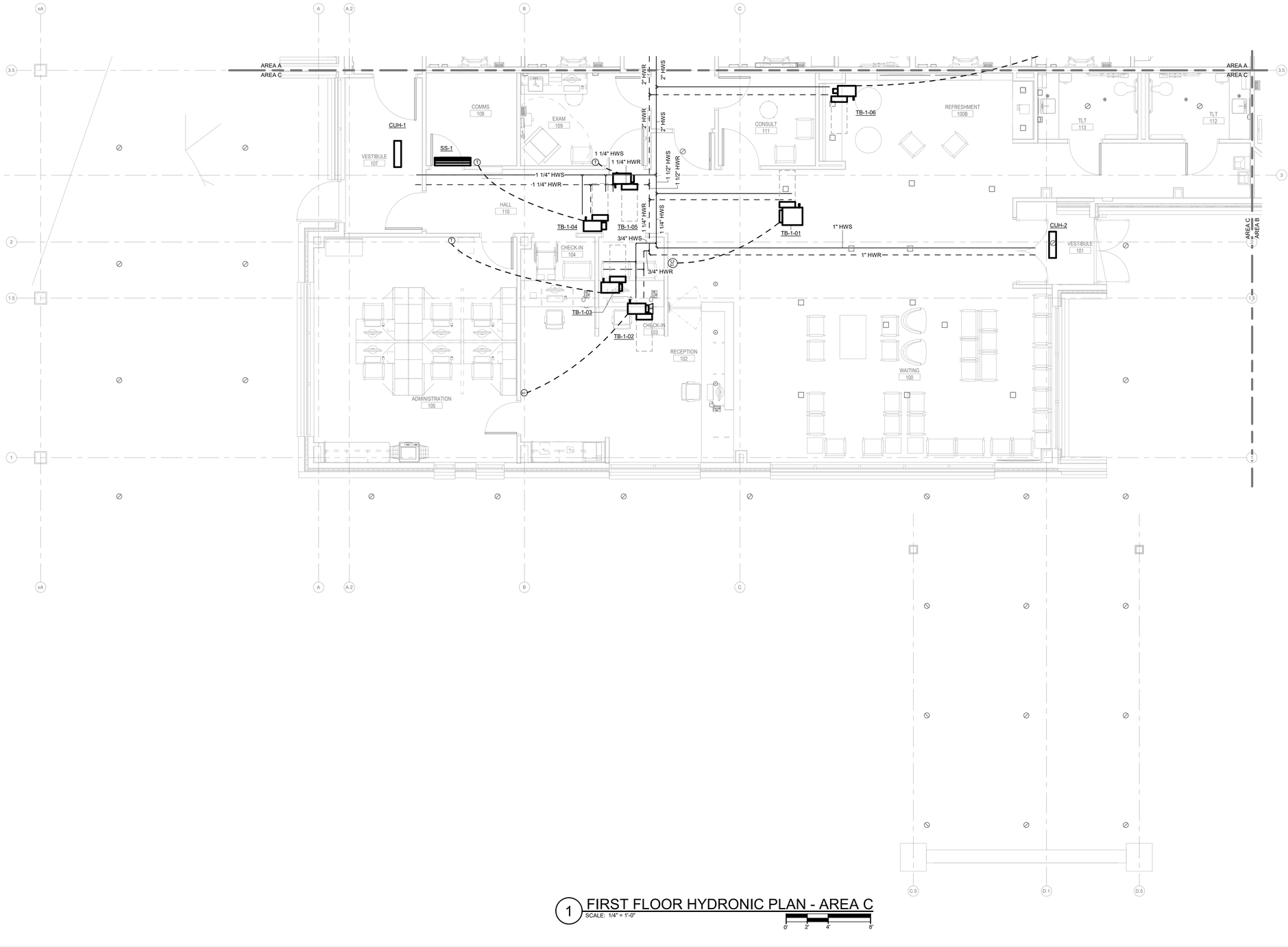
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

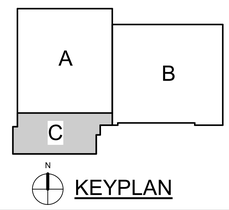
1. SEE SHEET M0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.

KEY NOTES ⓧ (THIS SHEET)

1. NOT USED.



1 FIRST FLOOR HYDRONIC PLAN - AREA C
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



KEYPLAN

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STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-#009700026
PROFESSIONAL ENGINEER
02/07/2023

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M2.1C

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FIRST FLOOR HYDRONIC PLAN - AREA C

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3/8/2023 3:52:31 PM

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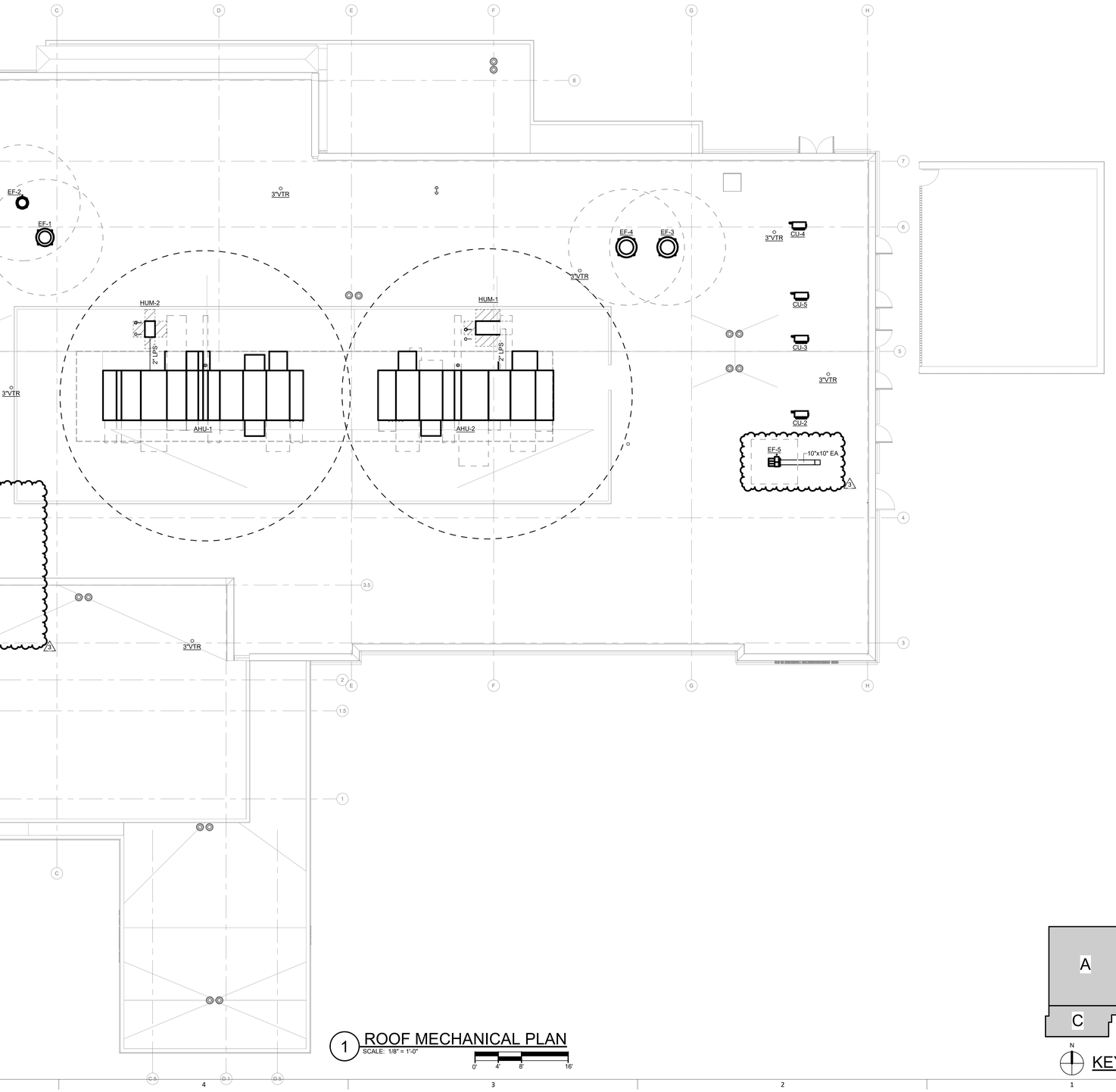
Development Services Department
Lee's Summit, Missouri
03/15/2023

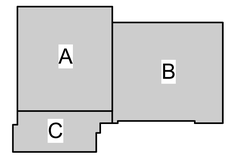
BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

1. SEE SHEET M0.1 AND P0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.



1 ROOF MECHANICAL PLAN
SCALE: 1/8" = 1'-0"
0' 4' 8' 16'



KEYPLAN

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009/000026
PROFESSIONAL ENGINEER
03/07/2023

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Licensee's Certificate of Authority Number:
Missouri: #000958

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
3	3/7/23	ADDENDUM #3

M3.1

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ROOF MECHANICAL PLAN

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

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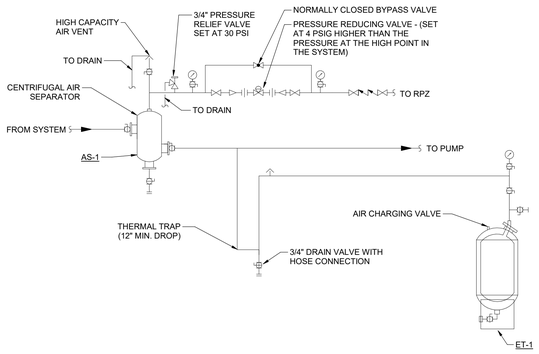
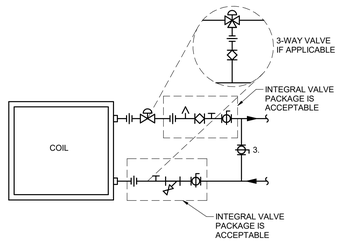
RELEASED FOR CONSTRUCTION
Development Services Department
Lee's Summit, Missouri
02/15/2023

BranchPattern | www.branchpattern.com
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

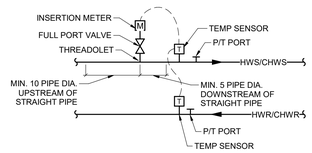


1 AIR SEPARATOR & EXPANSION TANK CONN.
SCALE: NONE



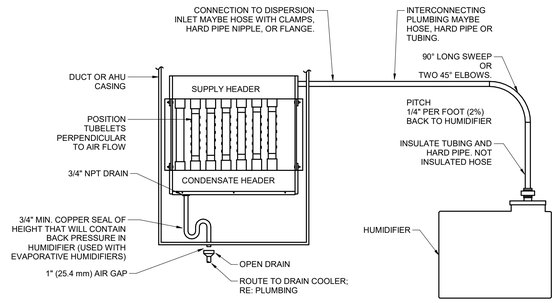
NOTE:
1. REFER TO AIR TERMINAL UNIT SCHEDULE FOR RUNOUT PIPE SIZE. MINIMUM PIPE SIZE SHALL BE 3/4".
2. FIELD INSULATE HWS/R HEADER AND CASING IF NOT FACTORY INSULATED.
3. CONTRACTOR TO PROVIDE FULL-SIZE SYSTEM FLUSH LOOP WITH BALL VALVE AND REMOVE HANDLE ONCE SYSTEM IS PROVEN CLEAN FROM FLUSHING.

2 AIR TERMINAL BOX COIL
SCALE: NONE

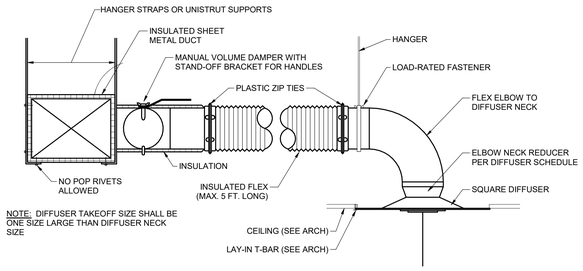


1. THE SPACE INDICATED FOR CLEARANCE UPSTREAM AND DOWNSTREAM OF THE FLOW METER SHALL BE FREE OF DEVICES SUCH AS THERMOMETERS, PETES PLUGS, ETC.
2. MOUNT FLOW METER ON THE TOP OF THE PIPE AND IN THE VERTICAL POSITION.
3. MECHANICAL CONTRACTOR AND CONTROLS SUBCONTRACTOR SHALL COORDINATE TO MAINTAIN SUFFICIENT CLEARANCE TO PERMIT REMOVAL OF DEVICE FROM HOT TAP.

3 BUILDING FLOW MEASURING INSTALLATION
SCALE: NONE

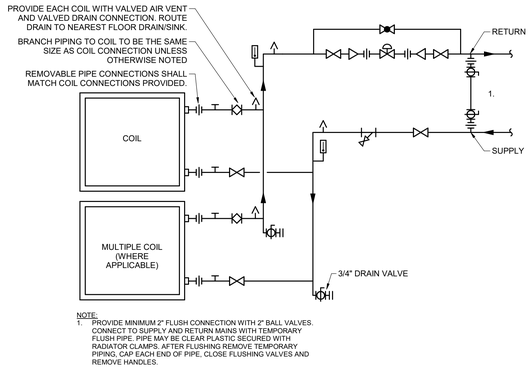


4 ELECTRIC STEAM HUMIDIFIER
SCALE: NONE



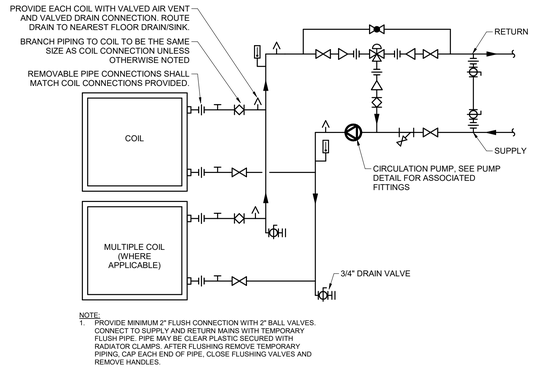
NOTE: DIFFUSER TAKEOFF SIZE SHALL BE ONE SIZE LARGE THAN DIFFUSER NECK SIZE

5 DIFFUSER/DUCT CONNECTION
SCALE: NONE



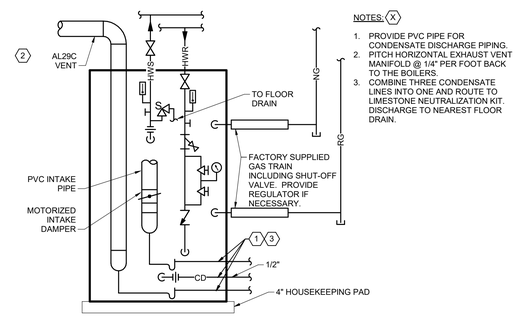
NOTE:
1. PROVIDE MINIMUM 2" FLUSH CONNECTION WITH 2" BALL VALVES. CONNECT TO SUPPLY AND RETURN MAINS WITH TEMPORARY FLUSH PIPE. PIPE MAY BE CLEAR PLASTIC SECURED WITH RADIATOR CLAMPS. AFTER FLUSHING REMOVE TEMPORARY PIPING, CAP EACH END OF PIPE. CLOSE FLUSHING VALVES AND REMOVE HANDLES.

6 DOUBLE COIL PIPING
SCALE: NONE



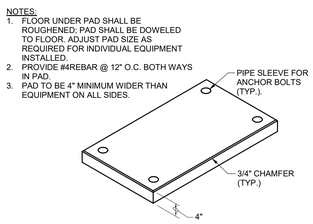
NOTE:
1. PROVIDE MINIMUM 2" FLUSH CONNECTION WITH 2" BALL VALVES. CONNECT TO SUPPLY AND RETURN MAINS WITH TEMPORARY FLUSH PIPE. PIPE MAY BE CLEAR PLASTIC SECURED WITH RADIATOR CLAMPS. AFTER FLUSHING REMOVE TEMPORARY PIPING, CAP EACH END OF PIPE. CLOSE FLUSHING VALVES AND REMOVE HANDLES.

7 DOUBLE PUMPED COIL PIPING
SCALE: NONE



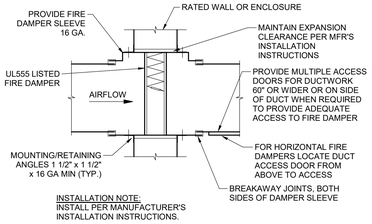
NOTES: (X)
1. PROVIDE PVC PIPE FOR CONDENSATE DISCHARGE PIPING.
2. PITCH HORIZONTAL EXHAUST VENT MANIFOLD @ 1/4" PER FOOT BACK TO THE BOILERS.
3. COMBINE THREE CONDENSATE LINES INTO ONE AND ROUTE TO LIMESTONE NEUTRALIZATION KIT. DISCHARGE TO NEAREST FLOOR DRAIN.

8 CONDENSING BOILER
SCALE: NONE



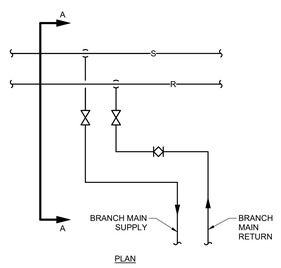
NOTES:
1. FLOOR UNDER PAD SHALL BE ROUGHENED, PAD SHALL BE DOWELED TO FLOOR. ADJUST PAD SIZE AS REQUIRED FOR INDIVIDUAL EQUIPMENT INSTALLED.
2. PROVIDE #4REBAR @ 12" O.C. BOTH WAYS IN PAD.
3. PAD TO BE 4" MINIMUM WIDER THAN EQUIPMENT ON ALL SIDES.

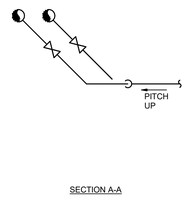
9 EQUIPMENT PAD
SCALE: NONE



INSTALLATION NOTE:
INSTALL PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.

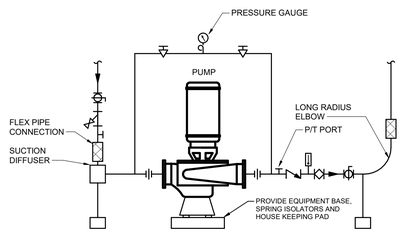
10 FIRE DAMPER INSTALLATION DETAIL
SCALE: NONE



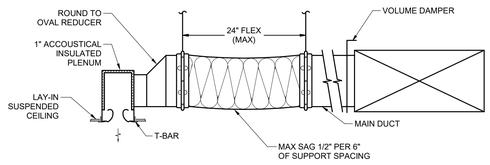


11 HYDRONIC BRANCH TAKE-OFF
SCALE: NONE

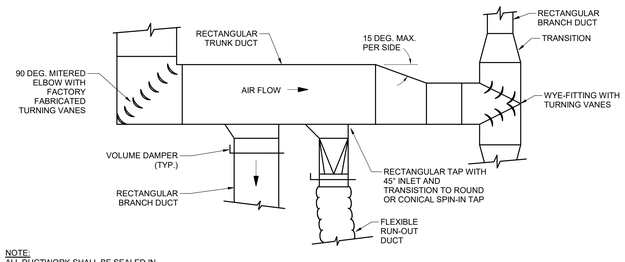
NOTE:
1. SUPPORT PUMP INDEPENDENT OF PIPING IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS REQUIREMENT



12 IN-LINE PUMP
SCALE: NONE

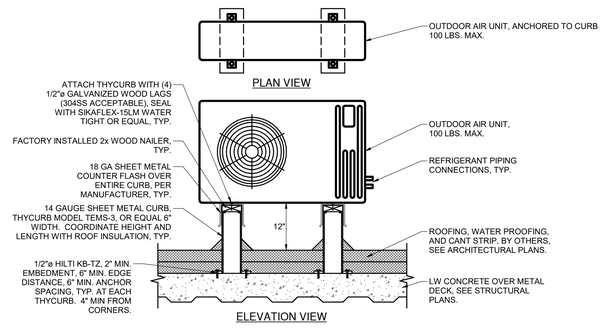


13 LINEAR SLOT DIFFUSER
SCALE: NONE



NOTE:
ALL DUCTWORK SHALL BE SEALED IN ACCORDANCE WITH SMACNA FOR SEAL CLASS A. SEE SPEC FOR INSULATION REQUIREMENTS

14 LOW PRESSURE DUCT CONNECTION
SCALE: NONE



15 OUTDOOR SPLIT SYSTEM MOUNTING
SCALE: NONE

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Revision

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MECHANICAL DETAILS

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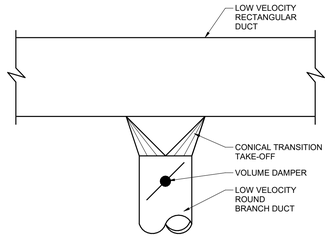
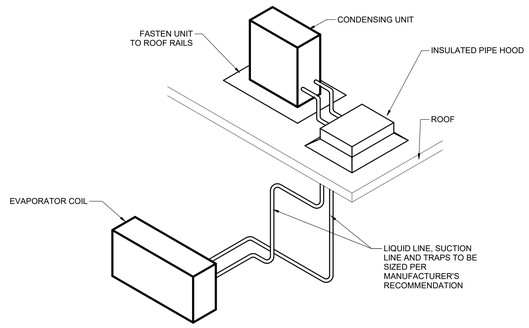
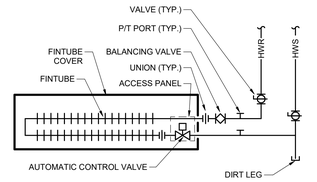


1 ROUND FROM RECTANGULAR TAKE-OFF
SCALE: NONE

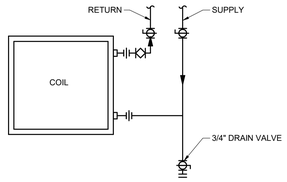


2 SPLIT SYSTEM - ROOF MOUNTED CONDENSER
SCALE: NONE

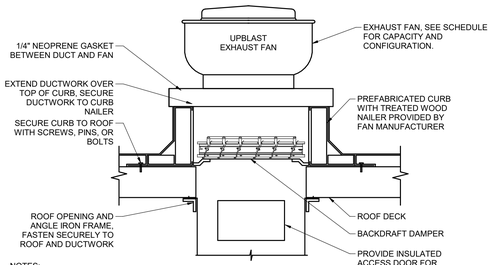


NOTES:
1. EXACT LOCATION OF FITTINGS ETC. TO BE FIELD COORDINATED.
2. CEILING ACCESS OF ISOLATION VALVES ACCEPTABLE.

3 TWO-ROW, DOWN-FEED FINTUBE CONNECTION
SCALE: NONE

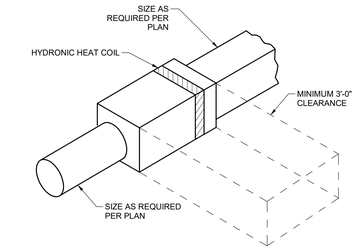


4 UNIT HEATER PIPING - HYDRONIC WATER
SCALE: NONE

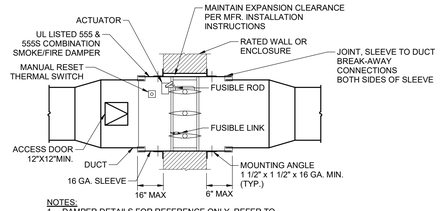


NOTES:
1. REFER TO INSULATION SCHEDULE

5 UPBLAST EXHAUST FAN
SCALE: NONE



6 VAV BOX CONNECTION
SCALE: NONE



NOTES:
1. DAMPER DETAILS FOR REFERENCE ONLY. REFER TO MANUFACTURER INSTALLATION MANUAL.
2. LABEL ACCESS DOOR "FIRE/SMOKE DAMPER".
3. COMBINATION FIRE/SMOKE DAMPERS SHALL COMPLY WITH THE REQUIREMENTS OF IBC.
4. MANUFACTURER'S INSTALLATION INSTRUCTIONS SHALL BE MADE AVAILABLE TO INSPECTING AUTHORITIES.
5. COORDINATE POWER REQUIREMENT AND LOCAL DISCONNECT SWITCH LOCATION WITH DIVISION 26.
6. PROVIDE COMBINATION FIRE/SMOKE DAMPER 4 INCHES LARGER MIN. UNLESS OTHERWISE NOTED, IN LENGTH AND IN WIDTH THAN THE CONNECTING DUCT. PROVIDE CONCENTRIC DUCT TRANSITION AS REQUIRED.

7 FIRE/SMOKE DAMPER
SCALE: 1/8" = 1'-0"

RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023

BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

02/07/2023

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MECHANICAL DETAILS

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RELEASED FOR CONSTRUCTION
As noted on submittal log
Development Services Department
City of Lee's Summit, Missouri
03/15/2023

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009120026
PROFESSIONAL ENGINEER
03/07/2023

AIR HANDLING UNIT SCHEDULE

PROJECT ALTITUDE: 1000 FEET ABOVE SEA LEVEL

BranchPattern | www.branchpattern.com PROJECT NUMBER: 120302 BETTER BUILT ENVIRONMENTS

MARK	MANUFACTURER	MODEL	LOCATION OF UNIT	TYPE OF AIRFLOW	SUPPLY FAN: MAX SYSTEM AIRFLOW (CFM)	EST EXT SP (IN. WG)	TOTAL STATIC PRESS. (IN. WG)	NUMBER OF FANS	FAN DIA	OPERATING SPEED (RPM)	FAN DRIVE	TOTAL BHP	NUMBER OF MOTORS	MAX MOTOR SIZE (HP EA.)	RETURN/RELIEF FAN: MAX SYSTEM AIRFLOW (CFM)	EST EXT SP (IN. WG)	TOTAL STATIC PRESS. (IN. WG)	NUMBER OF FANS	FAN DIA	TYPE	FAN SPEED (RPM)	FAN DRIVE	TOTAL BHP	NUMBER OF MOTORS	MAX MOTOR SIZE (HP EA.)	WATER COILS: TYPE	AIRFLOW (CFM)	FLUID TYPE	MIN NUMBER OF ROWS	MAX FINS PER FOOT	MIN TOTAL OUTPUT (MBH)	MIN. SENS OUTPUT (MBH)	EWT (°F)	LWT (°F)	EAT DB/WB (°F)	LAT DB/WB (°F)	MAX WATER FLOW (GPM)	MAX WATER PD (FT. H2O)	MAX AIR PD (IN. WG)
AHU-1	TRANE	CSAA035	ROOF	VAV	18,000	1.75"	6.1"	2	22.25	2,260	DIRECT	25.8	2	15.0	18,000	0.75"	2.00"	2	22.25	DD PLENUM	2,033	DIRECT	13.0	2	7.5	HOT	18,000	WATER	1	80	591	-	130.0	110.0	37.3	67.57	59.0	6.9	0.14
																										CHILLED	18,000	30% PG	6	109	840	581	40.0	52.0	81.3 / 67.0	52.0 / 51.47	151.5	36.3	0.77
AHU-2	TRANE	CSAA035	ROOF	VAV	15,000	2.50"	8.0"	2	22.25	2,532	DIRECT	29.5	2	20.0	15,000	1.50"	2.57"	2	22.25	DD PLENUM	1,863	DIRECT	10.9	2	7.5	HOT	15,000	WATER	1	106	325	-	130.0	100.0	45.0	65.0	21.7	1.0	0.08
																										CHILLED	16,000	30% PG	8	137	908	527	40.0	52.0	77.34 / 66.99	47.5 / 47.4	163.8	41.7	1.01

MARK	FILTERS: BANK NUMBER	MERV	MAX FACE VELOCITY (FPM)	DEPTH (IN.)	MAX AIR PD (IN. WG)	HUMIDIFIER: ISP = ATMOS. NUMBER OF INJECT	MAX ABSORP DIST (IN.)	LAT DB/WB (°F)	DESICCANT DEHUMIDIFICATION WHEEL SECTION PERFORMANCE: AIR CONDITIONS (REQUIRED PERFORMANCE) REGENERATION AIR ENTERING AIR (°F DB)	ENTERING AIR RH, %	LEAVING AIR (°F DB)	LEAVING AIR RH, %	SUPPLY AIR ENTERING AIR (°F DB)	ENTERING AIR RH, %	SUPPLY AIR HR, GR/LB	SUPPLY AIR LEAVING AIR (°F DB)	LEAVING AIR RH, %	LEAVING AIR HR, GR/LB	VENTILATION AIR: MIN AIRFLOW (CFM)	MAX AIRFLOW (CFM)	100% ECONO	ELECTRICAL: SERVICE V/PH/HZ	SERVICE DESCRIPTION	SCCR	FLA	MCA	MOP	MAX TOTAL DIMENSIONS L x W x H (inches)	MAX TOTAL WEIGHT (lbs)	NOTES
AHU-1	1	MERV 8	284	2	1.00				N/A										5,220		YES	480/3/60	RETURN FANS	SEE SCCR SCHEDULE	22.00	24.75	35.0	410.8 x 100.0 x 73.4	12,290	1-10, 12-16,18,19,20
	2	MERV 15	529	12	1.20																	480/3/60	SUPPLY FANS		42.00	47.25	60.0			
																						115/1/60	LIGHTS + SWITCH		2.61	3.26	15.0			
																						115/1/60	RECEPTACLE		8.00	10.00	15.0			
																						115/1/60	UV LIGHTS		2.60	3.25	15.0			
AHU-2	1	MERV 8	237	2	1.00				80.3	47.4%	76.1	62.8%	47.5	99.3%	48.3	51.7	64.5%	36.8	4,660		YES	480/3/60	RETURN FANS	SEE SCCR SCHEDULE	22.00	24.75	35.00	359.5 x 100.0 x 140.9	16,625	1-11,13-17,19, 20
	2	MERV 15	500	12	1.20																	480/3/60	SUPPLY FANS		42.00	47.25	60.00			
																						460/3/60	CDQ MOTOR		0.34	0.37	15.00			
																						115/1/60	UV LIGHTS		2.60	3.25	15.00			
																						115/1/60	LIGHTS + SWITCH		2.61	3.26	15.00			
																						115/1/60	RECEPTACLE		8.00	10.00	15.00			

NOTES:

1. BASIS OF DESIGN - TRANE
2. VALUES STATED ARE ADJUSTED FOR ALTITUDE SHOWN.
3. REFER TO AHU DETAILS FOR SECTION LAYOUT.
4. ESTIMATED EXTERNAL STATIC PRESSURE INCLUDES PRESSURE DROP FOR ALL OUTSIDE AIR INTAKE AND DISTRIBUTION COMPONENTS OUTSIDE OF THE UNIT.
5. MAXIMUM AIR PRESSURE DROPS FOR ALL COMPONENTS ARE AT MAXIMUM SYSTEM AIRFLOW.
6. FAN CLASS IN ACCORDANCE WITH AMCA 99-2408.
7. PROVIDE TIMER SWITCH FOR SERVICE LIGHTS.
8. MINIMUM OUTSIDE AIR IN COMPLIANCE WITH APPLICABLE CODE, ASHRAE 170 VENTILATION FOR HEALTHCARE FACILITIES.
9. PROVIDE HEAT TRACING ON ALL PIPING WITHIN PIPING VESTIBULE.
10. PROVIDE CIRCULATOR PUMP ON HEATING COIL. INSTALL WITHIN PIPING VESTIBULE.
11. PROVIDE AHU-2 WITH DESICCANT DEHUMIDIFICATION WHEEL EQUAL TO TRANE CDQ.
12. PROVIDE WITH 28" INSULATED ROOF CURB. AHU OUTDOOR AIR INTAKE MUST BE INSTALLED NO LESS THAN 36" ABOVE ROOF LINE.
13. PROVIDE FIELD INSTALLED HUMIDIFIER DISPERSION ARRAY FROM HUMIDIFIER GENERATOR MANUFACTURER. INSTALL HUMIDIFIER IN BLANK AHU SECTION UPSTREAM OF COOLING COIL.
14. DO NOT SELECT FAN MOTORS WITHIN 10% OF NAMEPLATE RATED HORSEPOWER.
15. FACTORY PROVIDED AND WIRED VFDs. PROVIDE ONE VFD PER FAN. ALL WIRING FROM VFDs TO FAN MOTORS SHALL BE IN CONDUIT.
16. FILTER PRESSURE DROP SHOULD BE SELECTED AT END OF LIFE.
17. AHU-2: PROVIDE TWO OUTSIDE AIR DAMPERS. ONE SHALL BE PROVIDED WITH INTEGRAL AIRFLOW MEASUREMENT TO MAINTAIN VENTILATION, THE OTHER DAMPER SHALL BE OPPOSED BLADE AIRFOIL FOR USE DURING ECONOMIZER OPERATION.
18. AHU-1: PROVIDE ONE OUTSIDE AIR DAMPER WITH INTEGRAL AIRFLOW MEASUREMENT TO MAINTAIN VENTILATION.
19. PROVIDE ALL COIL SECTIONS AND HUMIDIFIER SECTIONS WITH PIPE CABINETS. PIPE CABINETS SHALL EXTEND TO TOP LEVEL OF AHU AS NEEDED. PIPE CABINETS SHALL BE A DEPTH OF 36".
20. REFERENCE MECHANICAL ELECTRICAL COORDINATION SCHEDULE ON ELECTRICAL DRAWINGS FOR SHORT CIRCUIT CURRENT RATING

CABINET UNIT HEATER SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES	TYPE	FAN INFORMATION: CFM	E.S.P.	HEATING COIL: GPM	PRESSURE DROP	EWT / LWT	CAPACITY (MBH)	COIL ROWS	ELECTRICAL DATA: HP	VOLT/PH/HZ	NOTES
CUH-1	TRANE FFC060	VESTIBULE	RECESSED DUCTED	565	0.25	4.4	8.2	130/110	54	4	1/4	120/1/60	1-4
CUH-2	TRANE FFC060	VESTIBULE	RECESSED DUCTED	565	0.25	4.4	8.2	130/110	54	4	1/4	120/1/60	1-4

NOTES:

1. FRONT OUTLET, BACK INLET ORIENTATION.
3. PROVIDE WITH FILTER RACK AND FILTER, INTEGRAL THERMOSTAT.
4. RATED FOR 30% PROPYLENE GLYCOL.
5. REFERENCE MECHANICAL ELECTRICAL COORDINATION SCHEDULE ON ELECTRICAL DRAWINGS FOR SHORT CIRCUIT CURRENT RATING

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AIR CURTAIN SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES	TYPE	FAN...: CFM	MOTOR #	HEATING...: GPM	PRESSURE DROP	EWT / LWT	CAPACITY (MBH)	COIL ROWS	ELECTRICA...: HP	VOLT/PH/HZ	NOTES
AC-01	BERNER ARD12-2072W	RECEIVING	ARCHITECTURAL RECESSED	2520	2	9	2.7 FT	140 / 125	70	4	(2) 1/2	115/1/60	1,2

NOTES:

1. PROVIDE WITH FILTER RACK...
2. UNIT RATED FOR 30%...

ELECTRIC UNIT HEATER SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES	LOCATION	CAPACITY (KW)	CAPACITY (MBH)	MAX AMP RATING	SUPPLY (GA)	APPROX. AIR RISE (F)	FAN INFORMATION: MOTOR HP	CFM	VOLTS/PH/HZ	NOTES
EUH-1	TRANE UHEC-051A0C0	WATER ENTRY	WATER ENTRY	5	17.1	24.1	8	3.6	1/125	1550	208/1/60	1

NOTES:

1. PROVOIDE WITH INTEGRAL THERMOSTAT.

EXPANSION TANK SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	TANK ACCEPTANCE VOLUME (GALLONS)	ACTUAL TANK VOLUME (GALLONS)	DIMENSIONS (W X H)	WEIGHT (LBS)	NOTES
ET-1	B&G B-100LA	11	26	16X39	94	1,2
ET-2	B&G B-130LA	27	34	20X34-11/16	130	1

NOTES:

1. PROVIDE WITH DIAPHRAGM AND 4" HOUSEKEEPING PAD.
2. RATED FOR 30% PROPYLENE GLYCOL.

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AIR/DIRT SEPARATOR SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES	GPM	MAX P.D. (FT. HD)	OPENINGS (IN.)	NOTES
AS-1	SPIROTHERM VDN500	HEATING WATER	250	1	4	1
AS-2	SPIROTHERM VDN600	CHILLED WATER	380	1	6	1,2

NOTES:

1. PROVIDE WITH REMOVABLE STRAINER.
2. RATED FOR 30% PROPYLENE GLYCOL.

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ELECTRIC STEAM HUMIDIFIER SCHEDULE

MARK	MANUFACTURER	MODEL	SERVES	LOCATION	PERFORMANCE: INPUT (KW)	CAPACITY (LBS/HR)	REQ. CAP. (LBS/HR)	DESIGN CONDITIONS: MAX AIR VOLUME	OUTSIDE AIR (CFM)	0.4% OA HR (GR/LB)	DESIRED SPACE T (°F) / RH % / HR	ELECTRICAL DATA: VOLTS/PH/HZ	AMPS	MAX ABSOPTION DISTANCE (IN)	OPERATING WEIGHT (LBS)	NOTES
HUM-1	CONDAIR	RS OC 180	AHU-1	NEXT TO AHU	65.3	180	141.2	18500	5550	4.1	62 / 50 / 41.3	480/3/60	78.5	12	460	1-8,
HUM-2	CONDAIR	RS OC 180	AHU-2	NEXT TO AHU	65.3	180	147.3	18000	5400	4.1	70 / 40 / 44	480/3/60	78.5	12	460	1-8

NOTES:

1. EACH UNIT SHALL BE MONITORED BY BMS SYSTEM WITH MANUFACTURER PROVIDED COMMUNICATION CARD. PROVIDE HIGH LIMIT HUMIDITY CONTROL, AIR FLOW PROVING SWITCH, MERCURY CONTACTORS.
2. PROVIDE DRAIN COOLER FOR EACH HUMIDIFIER, PIPING SHALL BE INSTALLED PER MANUFACTURER'S INSTALLATION INSTRUCTIONS.
3. PROVIDE AND FIELD-INSTALL ULTRA-SORB DISPERSION ASSEMBLIES MOUNTED. CONNECT WITH ATMOSPHERIC STEAM HOSE-KITS. HUMIDIFIER GRID SIZES TO BE COORDINATED WITH AHU SELECTION.
4. SUPPLY UNIT WITH REVERSE OSMOSIS WATER FROM RO GENERATOR (SEE SEPARATE SCHEDULE).
5. UNIT SHALL INCUDE 316 STAINLESS-STEEL CONSTRUCTION, EVAPORATING CHAMBER INSULATION AND SOLID-STATE RELAY (SSR) CONTROL OPTIONS FOR + 1% RH CONTROL.
6. MAX AIR VOLUME IS BASED ON MAX AHU DESIGN AIR VOLUMES. DISPERSION GRID IS LOCATED IN AHU UPSTREAM OF THE COOLING COIL, DOWNSTREAM OF MIXING BOX.
7. PROVIDE UNIT WITH OUTDOOR RATED, WEATHERPROOF, WATER TIGHT CABINET.
8. REFERENCE MECHANICAL ELECTRICAL COORDINATION SCHEDULE ON ELECTRICAL DRAWINGS FOR SHORT CIRCUIT CURRENT RATING.

2/2/2023

FAN SCHEDULE

MARK	BASIS OF DESIGN Manufacturer "Model"	UNIT SERVED	LOCATION OF UNIT Room No.	TYPE	SERVICE	AIRFLOW TYPE	FAN: MAX. AIRFLOW (cfm)	EXT SP (in. wg)	BACKD... DAMPER SP in. wg	TOTAL SP (in. wg)	DRIVE	MAX SPEED (rpm)	BHP (hp)	MOTOR: MAX SIZE (hp)	ELEC. (v/ph/hz)	MAX INLET dBA (dB)	MAX SONES	WEIGHT (lbs)	NOTES
EF-1	GREENHECK CUE-140-VG	AHU-1	ROOF	CENTRIFUGAL UPBLAST	GENERAL EXHAUST	CAV	2100	0.75	0.09	0.84	DIRECT	1,495	0.62	3/4	120/1/60	64	12.1	70	1-4
EF-2	GREENHECK CUE-140-VG	AHU-1	ROOF	CENTRIFUGAL UPBLAST	SCOPE DECON	CAV	1100	0.3	0.06	0.36	DIRECT	900	0.13	1/4	120/1/60	53	6.8	61	1-4
EF-3	GREENHECK CUE-140-VG	AHU-1	ROOF	CENTRIFUGAL UPBLAST	STERILIZERS	CAV	2100	0.3	0.09	0.39	DIRECT	1,750	0.30	0.5	120/1/60	61	10.4	75	1-4
EF-4	GREENHECK CUE-160-VG	AHU-1	ROOF	CENTRIFUGAL UPBLAST	GENERAL DECON	CAV	2900	0.3	0.13	0.43	DIRECT	1,288	0.50	0.5	120/1/60	61	10.4	75	1-4
EF-5	GREENHECK USF-090-VG	AHU-1	ROOF	UTITLITY SET FAN	MED GAS RM	CAV	500	0.3	0.06	0.36	DIRECT	1170	0.06	1/4	120/1/60	52	6.0	100	1-4,6

NOTES:

1. ALL AIR VOLUMES STATED ARE ADJUSTED FOR ALTITUDE SHOWN.
2. ACTUAL TOTAL EFFICIENCY CANNOT BE LESS THAN 10% OF THE PEAK TOTAL EFFICIENCY.
3. PROVIDE WITH ADJUSTABLE ECM.
4. PROVIDE WITH MOTORIZED BACKDRAFT DAMPER.
5. EXHAUST FAN SHOWN ON PLAN TO BE SCHEDULED WITH 10% ADDITIONAL CAPACITY OVER CONNECTED CFM FOR BALANCING FLEXIBILITY.
6. PROVIDE FAN WITH TYPE A SPARK RESISTANCE.

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AIR-COOLED CHILLER

MARK	BASIS OF DESIGN Manufacturer "Model"	LOCATION OF UNIT	REQUIRED CAPACITY (tons)	NOMINAL CAPACITY (tons)	COMPRESSOR: REFRIG (type/pounds)	NUMB...	EVAPORATOR: FLOW (gpm)	EWT (°F)	LWT (°F)	MAX PD (ft. H2O)	UNIT MIN FLOW (gpm)	EFFICIENCY: MAX AT 100% LOAD BTU/W-H	RATED IPLV BTU/W-H	ELECTRICAL: V/PH/HZ	MCA	MOP	PUMP SIZING: MOTOR SIZE (hp)	PUMP FLA	EXT. PRESSURE DROP (ft)	NET POS. SUCTION HEAD (ft)	PHYSICAL DATA: WEIGHT (LBS)	H (IN.)	W (IN.)	L (IN.)	NOTES
CH-1	TRANE ACSA1802EUA	OUTDOORS	148.86	180	R410 / 73	6	304	52	40	11.06	238.6	10.096	16.844	480/3/60	399	500	25	34	75	12.13	12,781	98	88	282	1-8

NOTES:

1. USE AMBIENT AIR CONDITION OF 105 DEG F.
2. EVAPORATOR FOULING FACTOR = 0.0001, CONDENSER FOULING FACTOR = 0.00025.
3. EVAPORATOR FLUID: 30% PROPYLENE GLYCOL/WATER SOLUTION BY WEIGHT + CHEMICAL TREATMENT.
4. NPLV IN ACCORDANCE WITH TABLE 3 OF AHRI STANDARD 550/590-2011.
5. PROVIDE WITH SOUND ATTENUATION PACKAGE AND HEAT TRACING.
6. PROVIDE CHILLER WITH INTEGRAL PUMP PACKAGE WITH VFDS. PROVIDE (2) FULLY REDUNDANT PUMPS SIZED FOR FULL FLOW.
7. PUMP EXTERNAL STATIC PRESSURE INCLUDES ALL PRESSURE LOSSES OUTSIDE OF CHILLER. PUMP SELECTED FOR 30% GLYCOL.
8. REFERENCE MECHANICAL ELECTRICAL COORDINATION SCHEDULE ON ELECTRICAL DRAWINGS FOR SHORT CIRCUIT CURRENT RATING

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Revision

Number	Date	Description
3	3/7/23	ADDENDUM #3

M5.1

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MECHANICAL SCHEDULES

RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
City of Lee's Summit, Missouri
02/15/2023

BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

TERMINAL BOX SCHEDULE

MARK	BASIS OF DESIGN Manuacturer "Model"	SIZE UNIT	OUTLET SIZE in.	DESIGN MAX AIRFLOW cfm	HEATING AIRFLOW cfm	OCCUPIED MIN AIRFLOW cfm	UNOCCUPIED MIN AIRFLOW cfm	HOT WATER COIL MIN. NO. OF ROWS	HOT WATER COIL CALCULATED OUTPUT mbh	HOT WATER COIL MAX. WATER FLOW gpm	HOT WATER COIL MAX. WATER P.D. ft. H2O	ROOM CONDITION SETPOINTS MIN. TEMP. °F	ROOM CONDITION SETPOINTS MAX. TEMP. °F	ROOM CONDITION SETPOINTS MIN. HUMIDITY %RH	ROOM CONDITION SETPOINTS MAX. HUMIDITY %RH	NOTES
1-01	TITUS DESV	16	24X18	2290	2290	775	775	4	85.0	7.2	0.56	68	75	--	--	1-4
1-02	TITUS DESV	7	12X10	570	570	300	300	3	21.4	3.2	0.43	68	75	--	--	1-4
1-03	TITUS DESV	8E	14X12.5	610	610	185	185	3	22.9	2.2	0.21	68	75	--	--	1-4
1-04	TITUS DESV	5	12X8	200	200	60	60	2	6.4	0.9	0.08	--	78	--	--	1,2,4,5
1-05	TITUS DESV	6E	12X10	435	435	305	305	2	12.7	1.4	0.21	70	75	--	60%	1-4
1-06	TITUS DESV	4	12X8	210	210	150	150	2	6.6	0.9	0.15	70	75	--	60%	1-4
1-07	TITUS DESV	9	14X12.5	760	760	630	630	2	20.4	2.9	0.21	70	75	30%	60%	1-4
1-08	TITUS DESV	9	14X12.5	860	860	660	660	3	28.6	3.4	0.31	70	75	30%	60%	1-4
1-09	TITUS DESV	2E	20X17.5	1375	1375	735	735	3	60.9	6.4	0.32	70	75	--	60%	1-4
1-10	TITUS DESV	8E	14X12.5	570	570	420	420	2	15.3	1.7	0.13	70	75	30%	60%	1-4
1-11	TITUS DESV	9	14X12.5	970	970	635	635	3	28.6	3.4	0.31	70	75	30%	60%	1-4
1-12	TITUS DESV	8E	14X12.5	650	650	430	430	3	22.6	2.1	0.20	72	78	--	605	1-4
1-13	TITUS DESV	7	12X10	500	500	345	345	3	18.8	2.2	0.34	70	75	--	60%	1-4
1-14	TITUS DESV	6	12X8	350	350	365	365	3	13.2	1.4	0.33	72	78	--	60%	1-4
1-15	TITUS DESV	7	12X10	500	500	325	325	3	18.8	2.2	0.34	70	75	--	60%	1-4
1-16	TITUS DESV	9	14X12.5	810	810	500	500	3	30.5	4.1	0.36	68	75	--	--	1-4
1-17	TITUS DESV	8E	14X12.5	640	640	245	245	3	24.1	2.4	0.23	68	78	--	--	1-4
1-18	TITUS DESV	6	12X8	410	410	150	150	2	11.0	2.0	0.33	70	75	--	60%	1-4
1-19	TITUS DESV	8E	14X12.5	600	600	915	915	2	16.1	1.8	0.14	68	78	--	--	1-4
1-20	TITUS DESV	7E	14X12.5	530	530	275	275	3	20.2	1.8	0.24	72	78	--	--	1-4
2-01	TITUS DESV	16	24X18	2160	2160	2160	1000	4	81.2	6.8	0.52	62	62	30%	60%	1-4
2-02	TITUS DESV	14	20X17.5	1980	1980	1980	1000	4	74.4	6.1	0.61	62	62	30%	60%	1-4
2-03	TITUS DESV	14	20X17.5	1980	1980	1980	1000	4	74.4	6.1	0.61	62	62	30%	60%	1-4
2-04	TITUS DESV	14	20X17.5	1980	1980	1980	1000	4	74.4	6.1	0.61	62	62	30%	60%	1-4
2-05	TITUS DESV	2E	20X17.5	1200	1200	290	290	3	39.5	2.6	0.16	68	75	--	--	1-4
2-06	TITUS DESV	6	12X8	400	400	270	270	2	10.7	1.8	0.31	70	75	--	--	1-4
2-07	TITUS DESV	8	12X10	750	750	750	750	--	--	--	--	--	78	--	60%	1,2,4,5
2-08	TITUS DESV	16	24X18	2100	1600	1600	1600	3	64.5	4.8	0.47	72	78	--	60%	1-4
2-09	TITUS DESV	7E	14X12.5	630	630	630	630	2	16.9	1.9	0.27	72	75	--	--	1-4
2-10	TITUS DESV	7E	14X12.5	550	550	550	550	2	14.8	1.6	0.21	72	78	--	60%	1-4
TB-R-01	PRICE RDV	14	20X17.5	2160	--	2160	1000	--	--	--	--	--	--	--	--	1,2,4,6
TB-R-02	PRICE RDV	14	20X17.5	1980	--	1980	900	--	--	--	--	--	--	--	--	1,2,4,6
TB-R-03	PRICE RDV	14	20X17.5	1980	--	1980	900	--	--	--	--	--	--	--	--	1,2,4,6
TB-R-04	PRICE RDV	14	20X17.5	1980	--	1980	900	--	--	--	--	--	--	--	--	1,2,4,6

NOTES:
1. BOX SELECTIONS MADE WITH NO LINER AND 0.3" STATIC PRESSURE DOWNSTREAM OF THE BOX.
2. NC LEVELS DETERMINED USING AHRI 885-2005, APPENDIX E.
3. HOT WATER COILS SELECTED AT MAXIMUM AIRFLOW, 130°F EWT, 55°F EAT, 95°F LAT.
4. PROVIDE 8x8 INSULATED ACCESS PANEL.
5. COOLING ONLY UNIT.
6. RETURN VARIABLE AIR VALVE.

AIR OUTLET AND INLET SCHEDULE

MARK	MANUF. & MODEL	TYPE	MODULE SIZE, IN	NECK SIZE (W X H OR DIA), IN	MAX AIRFLOW CFM	MATERIAL	FINISH	OBD	BORDER	PERFORMANCE MAX. NC	PERFORMANCE MAX. SPD, IN	NOTES:
D-1	TITUS OMNI	PLAQUE FACE DIFFUSER	24 x 24	6	200	STEEL	WHITE	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	3
				8	350							
				10	500							
				12	630							
				14	855							
D-2	TITUS OMNI	PLAQUE FACE DIFFUSER	12 x 12	6	120	STEEL	WHITE	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	3
				8	170							
D-3	TITUS FL-15	LINEAR SLOT, (1) 1.5" SLOT, VERTICAL THROW, 8" INLET, TYPE 55 CONCEALED FRAME, COORDINATE FINISH WITH ARCHITECT	48"			STEEL	BLACK	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	1,2
D-4	TITUS FL-15	LINEAR SLOT, (1) 1.5" SLOT, VERTICAL THROW, 8" INLET, TYPE 55 CONCEALED FRAME, COORDINATE FINISH WITH ARCHITECT	24"			STEEL	BLACK	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	1,2
D-5	TITUS TLF	STAINLESS STEEL LAMINAR FLOW DIFFUSER WITH INTEGRAL HEPA FILTERS	48 x 24	10	250	STAINLESS STEEL	WHITE	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	1,3
D-6	TITUS OMNI-SS	PLAQUE FACE DIFFUSER STAINLESS STEEL CONSTRUCTION	24 x 24	4	80	STAINLESS STEEL	WHITE	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	3
				6	180							
				8	335							
D-7	TITUS 301FL	SUPPLY 3/4" BLADE SPACING, 0 DEG. DEFLECTION, BLADES PARALLEL TO THE LONG DIMENSION	SEE PLANS			STEEL	WHITE	NO	SIDEWALL	25	0.10	
D-8	TITUS PDR-AA	PERFORATED LAY-IN SUPPLY GRILLE ALL ALUMINUM CONSTRUCTION	24 x 24	12	500	ALUMINUM	WHITE	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	3
				16	1000							
R-1 E-1	TITUS PAR	PERFORATED LAY-IN	24 x 24 48 x 24	6 X 6	100	STEEL	WHITE	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	3
				8 X 8	200							
				10 X 10	300							
				12 X 12	450							
				15 X 15	650							
				18 X 18	1100							
				22 X 22	1500							
R-2 E-2	TITUS PAR	PERFORATED LAY-IN	12 x 12	6	100	STEEL	WHITE	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	3
				6 X 6	125							
				10 X 10	360							
E-3	TITUS PAR-SS	PERFORATED LAY-IN STAINLESS STEEL CONSTRUCTION	24 x 24	6 X 6	100	STAINLESS STEEL	WHITE	NO	LAY-IN OR SURFACE (REF: RCP)	25	0.10	3
				8 X 8	200							
				10 X 10	300							
				12 X 12	450							
				15 X 15	650							
				18 X 18	1100							
				22 X 22	1500							
R-3	TITUS 350RL-SS	RETURN / EXHAUST 3/4" BLADE SPACING, 35 DEG. DEFLECTION, BLADES PARALLEL TO THE LONG DIMENSION STAINLESS STEEL CONSTRUCTION	12 x 30			STAINLESS STEEL	WHITE	NO	SIDEWALL	25	0.10	1

NOT...
GEN BORDER TYPES SHALL BE COMPATIBLE WITH ARCHITECTURAL CEILING TYPE FOR THE ROOM IN WHICH THE AIR DEVICE IS LOCATED. CONTRACTOR TO CONFIRM BORDER TYPE PRIOR TO ORDERING.
GEN BRANCH DUCT RUNOUT FOR REGISTER/GRILLE TO BE SAME AS NECK SIZE UNLESS NOTED OTHERWISE.
GEN OR EQUAL
1. PROVIDE WITH INTEGRAL BALANCING DAMPER WITH REMOTE ACTUATOR.
2. PROVIDE WITH INSULATED SUPPLY PLENUM.
3. PROVIDE WITH INSULATED BACK PAN.

HOT WATER BOILER SCHEDULE - CONDENSING

MARK	BASIS OF DESIGN Manufacturer "Model"	SERVICE	LOCATION OF UNIT Room No.	HEAT OUTPUT mbh	DISCHARGE WATER TEMP °F	DESIGN WATER FLOW gpm	MAX WATER PD ft	BURNER - GAS TYPE	BURNER - GAS MAX INPUT mbh	BURNER - GAS MAX GAS PRES in. wc	BURNER - GAS MIN GAS PRES in. wc	BURNER - GAS MIN % EFF	BURNER - GAS TURNDOWN RATIO	CONNECTION SIZES FLUE in. Ø	CONNECTION SIZES COMB AIR in. Ø	CONNECTION SIZES WATER IN/OUT in. Ø	CONNECTION SIZES GAS in. Ø	ELECTRICAL POWER v/ph/hz	ELECTRICAL FLA amps	WEIGHT lbs	NOTES
B-1	LOCHINVAR FCB2500	HEATING	MECH ROOM	2400	130	138	8.4	NAT	2500	14	4.0	96	20:01	9"	8"	4"	2"	208/3/60	4.5	3555	1-7
B-2	LOCHINVAR FCB2500	HEATING	MECH ROOM	2400	130	138	8.4	NAT	2500	14	4.0	96	20:01	9"	8"	4"	2"	208/3/60	4.5	3555	1-7

NOTES:
1. ALL CAPACITIES STATED ARE FOR BELOW 2000 FT ALTITUDE.
2. MINIMUM HEAT OUTPUT FOR 110°F EWT, 20°F DELTA T, AND MINIMUM PERCENT EFFICIENCY AT 100% FIRING RATE.
3. MAXIMUM WATER FLOW BASED ON HEAT OUTPUT AND A 20 DEGF DELTA T.
4. MAXIMUM WATER PRESSURE DROP (MAX WATER PD) AT MAXIMUM WATER FLOW.
5. MINIMUM PERCENT EFFICIENCY (MIN. % EFF.) AT 100°F EWT, 40°F DELTA T, AND 60% FIRING RATE.
6. PROVIDE NEUTRALIZATION DRAIN KIT. BOILER PRESSURE RELIEF VALVE TO BE 80 PSI.
7. REFERENCE MECHANICAL ELECTRICAL COORDINATION SCHEDULE ON ELECTRICAL DRAWINGS FOR SHORT CIRCUIT CURRENT RATING.

1/20/2023 11:49

DUCTLESS SPLIT SYSTEM SCHEDULE

MARK	MANUFACTURER & MODEL	SERVES	LOCATION	FAN CFM MIN / MAX	COIL CAPACITY HEATING CAPACITY (MBH)	COIL CAPACITY COOLING CAPACITY (MBH)	SEER / EER	ELECTRICAL DATA FLA	ELECTRICAL DATA MCA	ELECTRICAL DATA VOLTS/PH/HZ	NOTES
SS-1	TRANE PKA-A36KA7	COMM 108	COMM 108	705 / 920	N/A	36.0	18.8 / 10.8	.57	1	208/1/60	1,2,3,4,5
SS-2	TRANE PKA-A12LA	ELEC 197	ELEC 197	265 / 455	N/A	12.0	21 / 13.3	.19	1	208/1/60	1,2,3,4,5
SS-3	TRANE PLA-A24EA7	GAS STOR. 199	GAS STOR. 199	265 / 455	29.0	24.0	24.2 / 14.3	.49	1	208/1/60	1,2,3,4,5
SS-4	TRANE PLA-A42EA7	MECH 195	MECH 195	740 / 1200	48.0	42.0	21 / 11.6	.95	2	208/1/60	1,2,3,4,5
SS-5	TRANE PKA-A12LA	EM ELEC 196	EM ELEC 196	265 / 455	N/A	12.0	21 / 13.3	.19	1	208/1/60	1,2,3,4,5

NOTES
1. PROVIDE WALL MOUNTED THERMOSTAT.
2. PROVIDE REFRIGERANT PIPING TO CONDSENING UNIT PER MANUFACTURERS REQUIREMENTS.
3. UNIT POWER SUPPLIED FROM OUTDOOR UNIT.
   IF REQUIRED, PROVIDE MODEL SI-30 CONDENSATE PUMP WIRED FROM INDOOR UNIT PER PUMP MANUFATURER'S INSTRUCTIONS OR FACTORY INSTALLED PUMP.
4. INTERLOCK FLOAT SWITCH TO DISABLE EVAPORATOR UNIT ON HIGH WATER.
5. RUN ALL PIPING CONCEALED.

DUCTLESS SPLIT SYSTEM HEAT PUMP SCHEDULE

MARK	MANUFACTURER & MODEL	SERVES	LOCATION	FULL LOAD CAP. (MBH)	OPERATING TEMPS HEATING (F) MIN / MAX	OPERATING TEMPS COOLING (F) MIN / MAX	HSPF	ELECTRICAL DATA MCA	ELECTRICAL DATA MOPD	ELECTRICAL DATA VOLTS/PH/HZ	NOTES:
CU-1	TRANE PUY-A36NKA7	SS-1	COMM 108	36.0	N/A	-40 / 115	N/A	25.0	31	208/1/60	1,2,3,4,5
CU-2	TRANE PUY-A12NKA7	SS-2	ELEC 197	12.0	N/A	-40 / 115	N/A	11.0	28	208/1/60	1,2,3,4,5
CU-3	TRANE PUZ-A24NHA7	SS-3	GAS STOR. 199	24.0	-4 /70	0 / 115	11.2	19.0	26	208/1/60	1,2,3,4,5
CU-4	TRANE PUZ-A42NKA7	SS-4	MECH 195	42.0	-4 /70	0 / 115	0.3	25.0	31	208/1/60	1,2,3,4,5
CU-5	TRANE PUY-A12NKA7	SS-5	EM ELEC 196	12.0	N/A	-40 / 115	N/A	11.0	28	208/1/60	1,2,3,4,5

NOTES:
1. PROVIDE REFRIGERANT AND REFRIGERANT PIPING TO INDOOR UNIT PER MANUFACTURERS REQUIREMENT.
2. PROVIDE WITH WIND GUARD AND ALL ACCESSORIES FOR LOW AMBIENT OPERATION.
3. INSTALL OUTDOOR UNIT ON EQUIPMENT PAD WITH ELEVATED PREFAB EQUIPMENT STAND OR WALL BRACKET AS INDICATED ON DRAWINGS.
4. ACCEPTABLE MANUFACTURERS: CARRIER OR EQUAL.
5. REFERENCE MECHANICAL ELECTRICAL COORDINATION SCHEDULE ON ELECTRICAL DRAWINGS FOR SHORT CIRCUIT CURRENT RATING.

PUMP SCHEDULE

MARK	BASIS OF DESIGN Manuacturer "Model"	SERVICE	LOCATION OF UNIT Room No.	TYPE OF FLOW	PUMP TYPE	PUMP MIN FLOW gpm	PUMP MIN HEAD ft. H2O	PUMP FLUID TEMP. (°F)	PUMP MAX NPSH ft. H2O	PUMP MAX BHP	PUMP MIN EFF %	MOTOR MAX SIZE hp	MOTOR MAX SPEED rpm	MOTOR ELEC v/ph/hz	NOTES
HWP-01	B&G E-80 2.5x2.5x7B	HEATING HOT WATER	MECH	VARIABLE	VERTICAL INLINE	165	65	130	6.8	4.1	67%	7.5	3600	208/3/60	1,2
HWP-02	B&G E-80 2.5x2.5x7B	HEATING HOT WATER	MECH	VARIABLE	VERTICAL INLINE	165	65	130	6.8	4.1	67%	7.5	3600	208/3/60	1,2

NOTES:
GEN REFER TO CHILLER SCHEDULE FOR CHILLED WATER PUMP INFORMATION. CHILLER SHALL COME WITH (2) INTEGRAL CHILLED WATER PUMPS.
1. IMPELLOR FOR VARIABLE FLOW PUMPS SHALL BE TRIMMED FOR MAXIMUM DIAMETER THAT WILL NOT EXCEED THE CAPACITY OF THE PUMP MOTOR.
2. REFERENCE MECHANICAL ELECTRICAL COORDINATION SCHEDULE ON ELECTRICAL DRAWINGS FOR SHORT CIRCUIT CURRENT RATING.

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GLYCOL FEED TANK

MARK	MANUFACTURER	SERVES	TANK SIZE (GAL)	MOTOR HP	MOTOR VOLT/PH/HZ	NOTES
GT-1	NEPTUNE	CHILLED WATER	50	1/3	120/1/60	1

NOTES:
1. 50 GALLON POLYETHYLENE TANK WITH 1/3" HINGED PE COVER, CARBON STEEL BOTTOM MOUNT STAND, NEMA 4X CONTROL PANEL W/ 115V CORD. LOW LEVEL SWITCH, 1/3 HP GEAR PUMP, PUMP CONTROLLED BY BMS, "PUMP" UNDER TANK WITH AGITATOR.

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MECHANICAL SCHEDULES

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AIR BALANCE SCHEDULE

ROOM	AREA (SQ.FT)	CEILING HEIGHT (FT)	ROOM VOLUME (CU. FT.)	ROOM TYPE	REQUIRED AIR CHANGE RATE OA	REQUIRED AIR CHANGE RATE MIN	REQUIRED AIRFLOW (CFM)	DESIGN SUPPLY AIRFLOW (CFM)	RETURN AIRFLOW (CFM)	EXHAUST AIRFLOW (CFM)	ROOM PRESSURE (CFM)
100 - Waiting	995	12	11,940	General Waiting Room	0	0	775	2,290	2,290	--	0
102 - Reception	275	9	2,475	Reception	0	0	300	570	570	--	0
105 - Administration	410	9	3,690	Office	0	0	185	610	610	--	0
109 - Exam	105	9	945	Exam Room	2	6	120	185	185	--	0
111 - Consult	80	9	720	Office	0	0	120	250	250	--	0
112 - Toilet	60	9	540	Toilet Room/Soiled/Janitor	0	10	50	50	--	100	-50
113 - Toilet	60	9	540	Toilet Room/Soiled/Janitor	0	10	50	50	--	100	-50
114 - Toilet	50	9	450	Toilet Room/Soiled/Janitor	0	10	50	100	--	150	-50
115 - PR 2	105	9	945	Recovery Room	2	6	90	130	130	--	0
116 - PR 1	100	9	900	Recovery Room	2	6	90	130	130	--	0
117 - PR 3	105	9	945	Recovery Room	2	6	90	130	130	--	0
117 - PR 3	105	9	945	Recovery Room	2	6	90	130	130	--	0
118 - Nurse Station	240	9	2,160	Nurse Station	0	0	120	400	400	--	0
120 - Hall	960	9	8,640	Corridor	0	2	290	400	500	--	+100
121 - PR 4 - 23 HR	120	9	1,080	Recovery Room	2	6	135	160	160	--	0
122 - Meds	85	9	765	Medication Room	2	4	100	160	75	--	+50
123 - Toilet	55	9	495	Toilet Room/Soiled/Janitor	0	10	50	50	--	100	-50
124 - PR 7	100	9	900	Recovery Room	2	6	90	130	130	--	0
125 - PR 5 - 23 HR	120	9	1,080	Recovery Room	2	6	135	160	160	--	0
126 - PR 8	130	9	1,170	Recovery Room	2	6	90	130	130	--	0
127 - PR 6	105	9	945	Recovery Room	2	6	90	130	130	--	0
128 - PR 9	100	9	900	Recovery Room	2	6	90	130	130	--	0
129 - Office 4	125	9	1,125	Office	0	0	40	110	110	--	0
131 - Nourish	240	9	2,160	Dietary Storage	0	2	75	250	250	--	0
132 - PR 1	105	9	945	Recovery Room	2	6	95	140	140	--	0
133 - PR 4	100	9	900	Recovery Room	2	6	90	130	130	--	0
134 - PR 2	100	9	900	Recovery Room	2	6	90	130	130	--	0
135 - Clean	120	9	1,080	Clean Workroom	2	4	150	200	100	--	+100
136 - PR 3	100	9	900	Recovery Room	2	6	90	130	130	--	0
137 - Storage	175	9	1,575	Storage	0	0	70	100	100	--	0
138 - PR 5	100	9	900	Recovery Room	2	6	90	130	130	--	0
139 - Toilet	50	9	450	Toilet Room/Soiled/Janitor	0	10	50	100	150	--	-50
140 - Hall	890	9	8,010	Corridor	0	2	225	400	500	--	+100
142 - PR 6	100	9	900	Recovery Room	2	6	90	130	130	--	0
144 - PR 7	100	9	900	Recovery Room	2	6	90	130	130	--	0
146 - PR 8	100	9	900	Recovery Room	2	6	90	130	130	--	0
148 - Toilet	50	9	450	Toilet Room/Soiled/Janitor	0	10	50	50	100	--	-50
150 - Hall	500	9	4,500	Corridor	0	2	150	300	200	--	+100
152 - GI Procedure	340	9	3,060	Endoscopy	2	12	325	500	350	--	+150
153 - Scope Decon	175	9	1,575	Soiled/Decontam Room	2	6	250	300	--	600	-300
154 - Scope Storage	75	9	675	Sterile Storage	2	4	115	150	100	--	+50
155 - Scope Processing	115	9	1,035	Sterilizer Equipment Room	0	10	100	200	--	350	-150
156 - GI Procedure	305	9	2,745	Endoscopy	2	12	325	500	350	--	+150
157 - Storage	90	9	810	Storage	0	0	30	50	50	--	0
161 - Office 3	95	9	855	Office	0	0	40	100	100	--	0
163 - Office 2	95	9	855	Office	0	0	40	100	100	--	0
165 - Office	95	9	855	Office	0	0	40	100	100	--	0
166 - Staff Lounge	400	9	3,600	Break	0	8	500	810	810	--	0
167 - Clean	70	9	630	Clean Workroom	2	4	30	110	60	--	+50
168 - Hall	245	9	2,205	Corridor	0	2	195	590	590	--	0
169 - Jan	50	9	450	Toilet Room/Soiled/Janitor	0	10	50	50	--	100	-50
170/180 - Hall	205	9	1,845	Corridor	0	2	290	1,200	1,800	--	-600
171 - Sterile Assembly	490	9	4,410	Clean Workroom	2	4	1,690	2,100	--	1,030	+660
172 - Neptune	40	9	360	Lan (general)	2	6	80	80	--	130	-50
173 - Jan	40	9	360	Toilet Room/Soiled/Janitor	0	10	70	70	--	120	-50
174 - Soiled Hold	45	9	405	Toilet Room/Soiled/Janitor	0	10	45	100	--	150	-50
175 - Womens Locker Room	355	9	3,195	Locker Room	0	8	450	300	--	500	-50
176 - Path Lab	50	9	450	Lan (general)	2	6	45	120	120	--	0
177 - Mens Locker Room	325	9	2,925	Locker Room	0	8	450	300	--	500	-200
178 - Anesth.	55	9	495	Medical/Anesthesia Gas Storage	0	8	100	100	--	150	-50
181 - OR 1	475	10	4,750	Class B and C Operating Rooms	4	25	2,125	2,160	1,960	--	+200
182 - Decon	255	9	2,295	Soiled/Decontam Room	2	6	630	710	--	1,210	-500
183 - OR 2	450	10	4,500	Class B and C Operating Rooms	4	25	1,940	1,980	1,780	--	+200
184 - Sterilizers	135	9	1,215	Sterilizer Equipment Room	0	10	750	750	--	1,000	-250
185 - OR 3	435	10	4,350	Class B and C Operating Rooms	4	25	1,940	1,980	1,780	--	+200
186 - Sterile Storage	420	9	3,780	Sterile Storage	2	4	480	480	480	--	0
187 - Equip. Storage	470	10	4,700	Sterile Storage	2	4	560	560	560	--	0
191 - Trash	80	9	720	Toilet Room/Soiled/Janitor	0	10	0	130	--	180	-50

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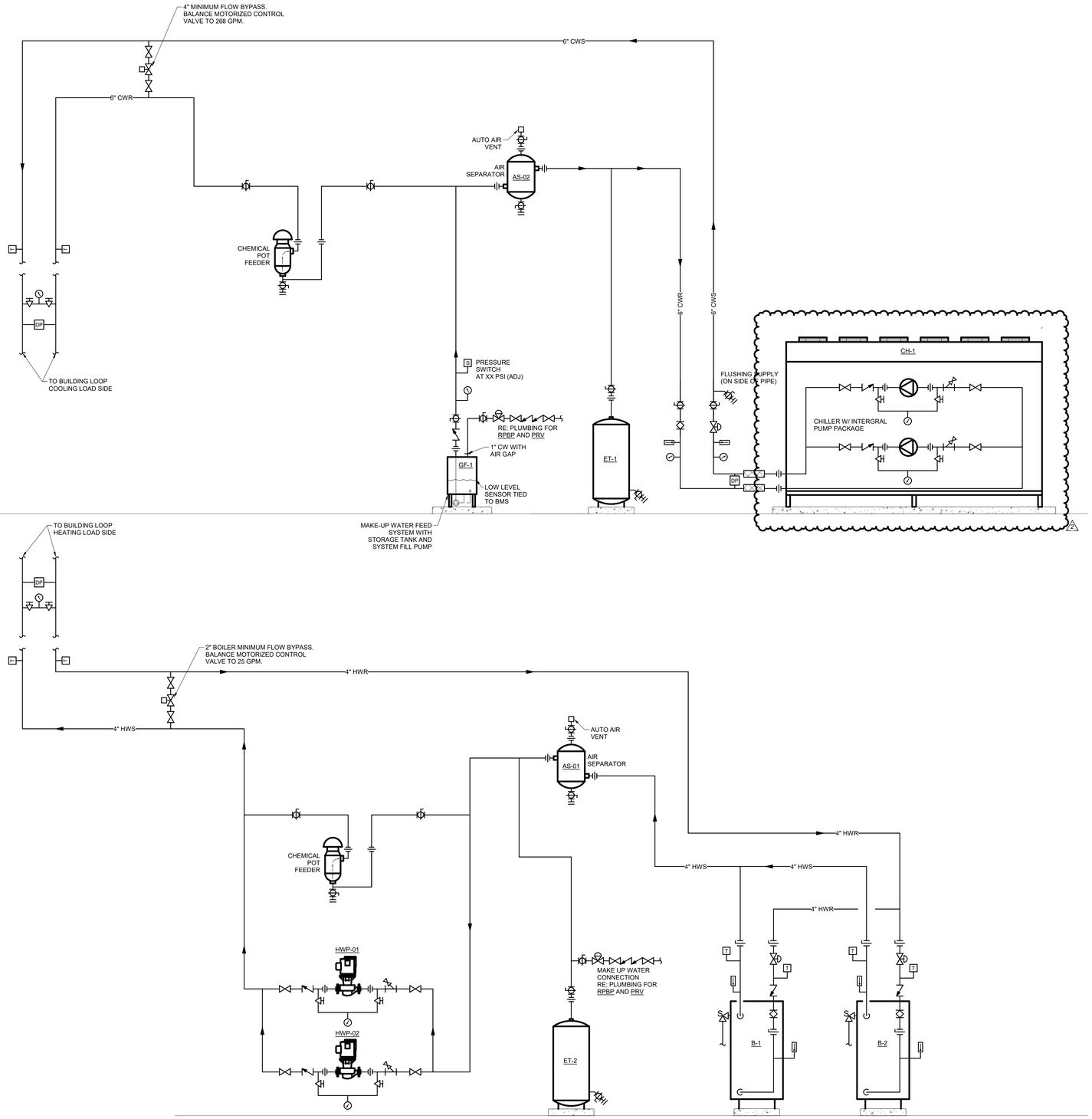

1 CHILLED WATER/HEATING WATER SYSTEM SCHEMATIC
SCALE: NONE

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2	2/20/23	ADDENDUM #2

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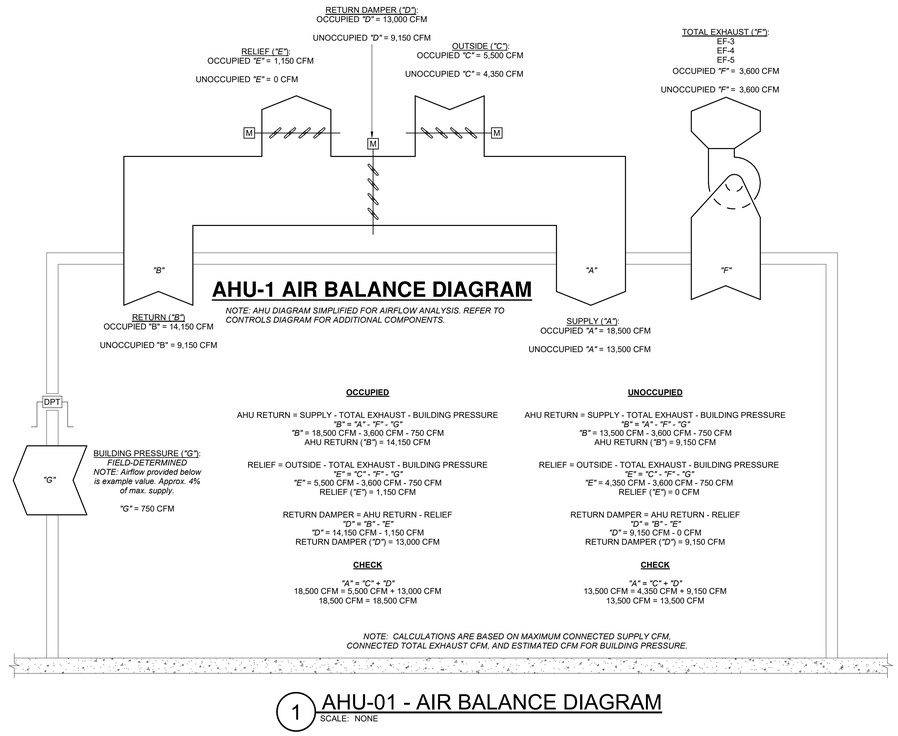
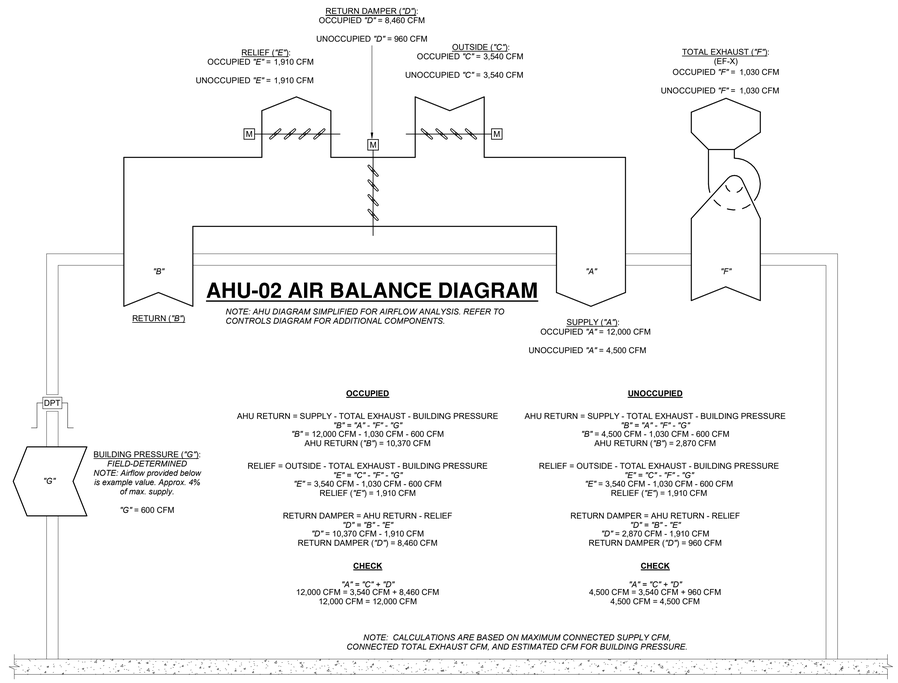


1 AHU-01 - AIR BALANCE DIAGRAM
SCALE: NONE



2 AHU-02 - AIR BALANCE DIAGRAM
SCALE: NONE

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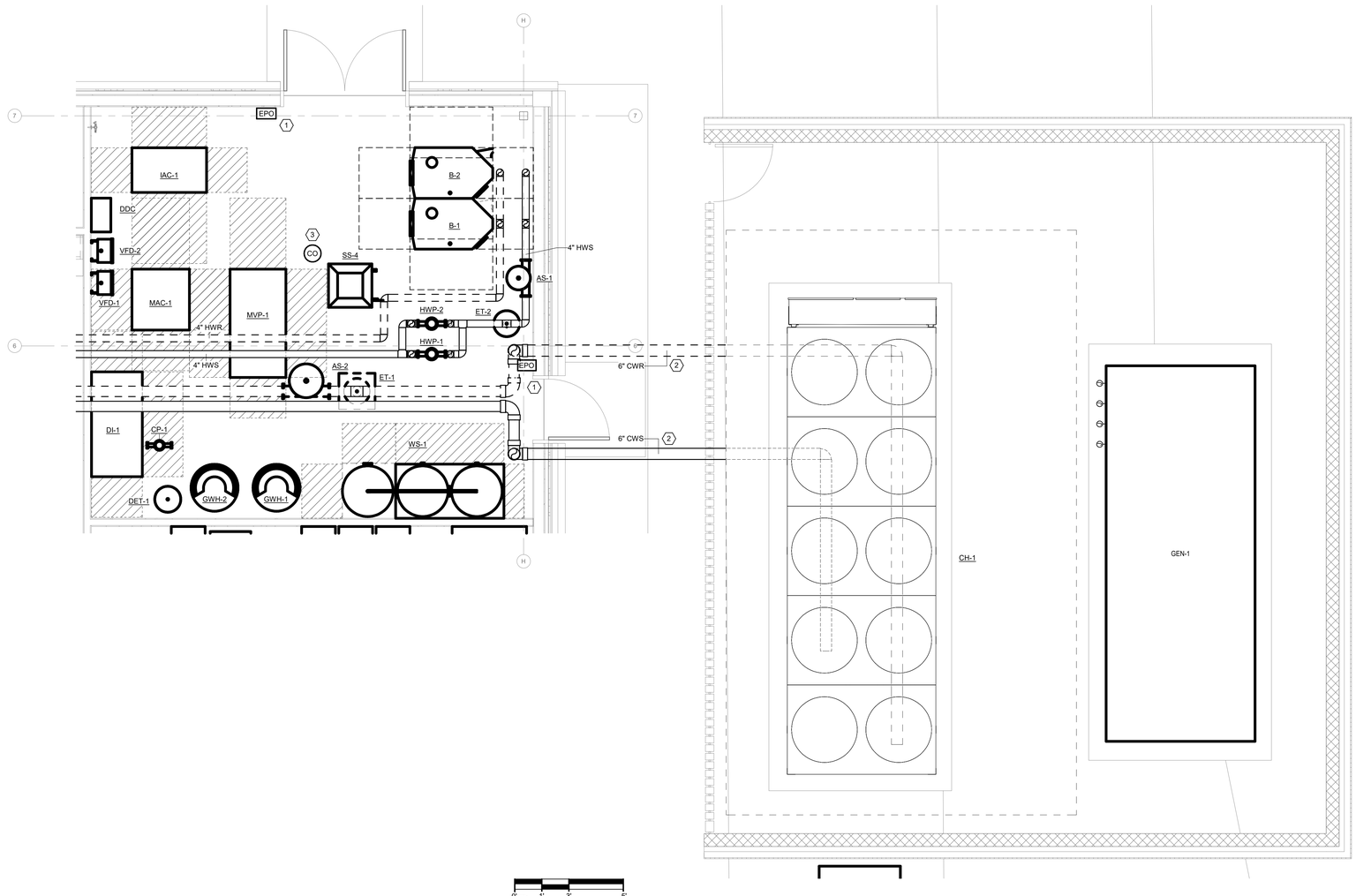
BETTER BUILT ENVIRONMENTS

KEY NOTES (X) (THIS SHEET)

1. PROVIDE EPO SWITCH FOR BOILERS AT EACH EXIT DOOR.
2. ROUTE CHILLED WATER PIPING UNDER GROUND FROM MECHANICAL ROOM OUT TO CHILLER. PROVIDE HEAT TRACE ON ALL OUTDOOR PIPING.
3. PROVIDE CARBON MONOXIDE DETECTOR.



1 ENLARGED MECHANICAL PLAN
SCALE: 3/8" = 1'-0"

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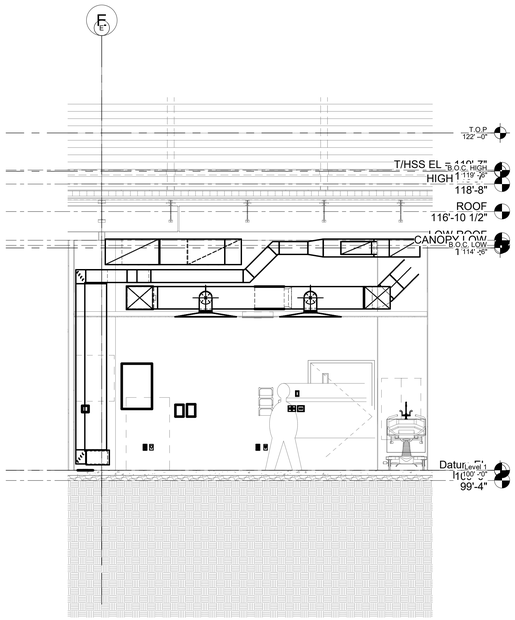
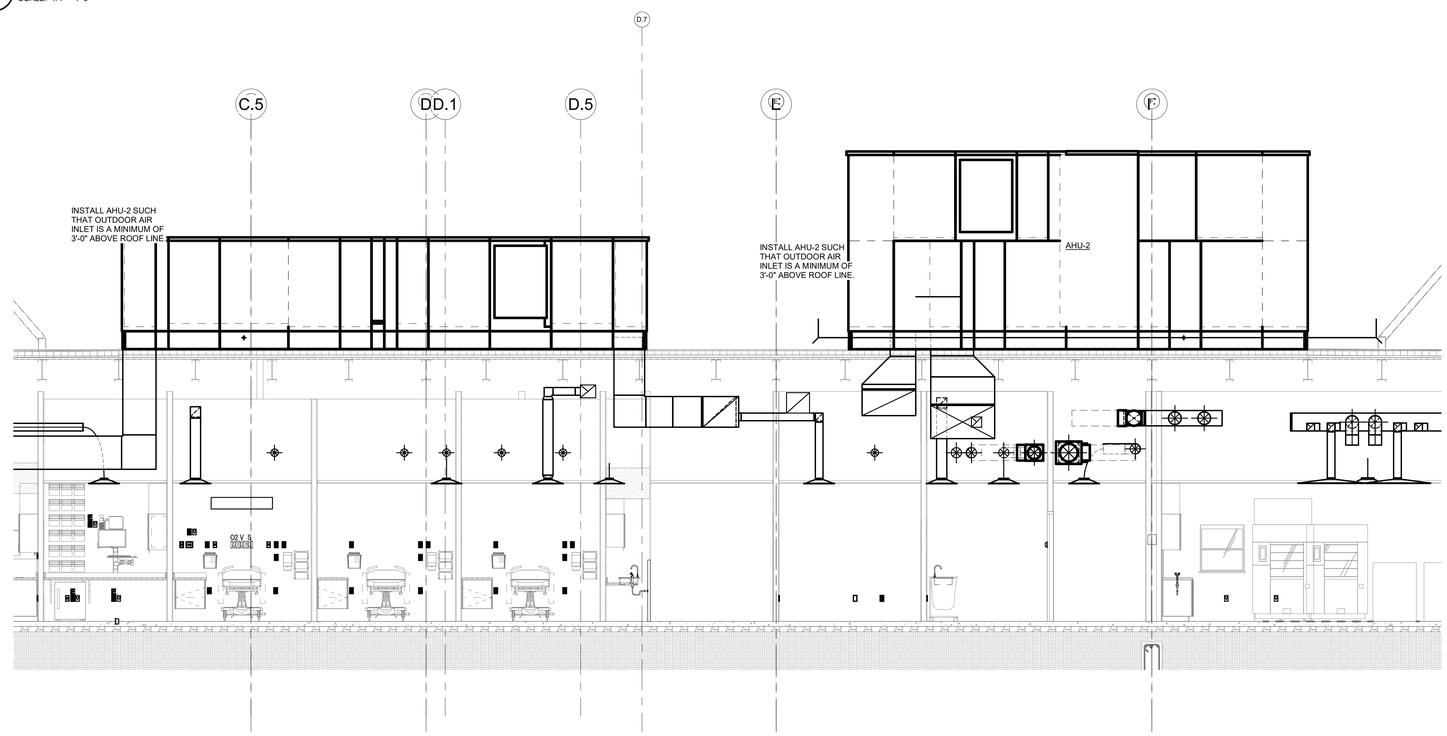


2 OR 1 - 181 SECTION VIEW
SCALE: 1/4" = 1'-0"



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

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BETTER BUILT ENVIRONMENTS

AHU-1 CONTROLS SEQUENCES

AHU SHALL OPERATE DURING NORMAL BUSINESS HOURS AS A VARIABLE AIR VOLUME SYSTEM. DURING OFF HOURS, UNIT WILL POWER ON IN UNOCCUPIED MODE AS NECESSARY FOR BUILDING CONDITIONING.

SUPPLY FAN ARRAY:

A. START:
   1. THE VARIABLE FREQUENCY DRIVES (VFD) WILL "SOFT START" ALL FANS IN THE ARRAY AND SLOWLY (OVER A 2 MINUTE PERIOD) RAMP UP THE AIRFLOW WHENEVER THE UNIT IS STARTED AFTER A SHUTDOWN.

B. OPERATION:
   1. SUPPLY FANS WILL OPERATE CONTINUOUSLY TO MAINTAIN BUILDING PRESSURIZATION.
   2. VARIABLE FREQUENCY DRIVES (VFDs) SHALL CONTROL ALL FANS TO MAINTAIN THE SUPPLY AIR DUCT STATIC PRESSURE SETPOINT (SA-DSP-SP). SETPOINT WILL BE CONTINUALLY ADJUSTED SO THAT AT LEAST ONE (1) TERMINAL BOX WILL BE MAINTAINED AT 90% AIRFLOW BY UTILIZING TRIM AND RESPONSE (T&R) LOGIC AS OUTLINED IN ASHRAE GUIDELINE 36 USING STARTING POINT PARAMETERS FROM TABLE 5.16.1.2. ADJUST PARAMETERS AS REQUIRED DURING COMMISSIONING/TUNING OF SYSTEMS.

C. AIRFLOW VERIFICATION:
   1. SUPPLY FAN AIR MONITORING STATIONS (SA-AFMS) WILL CONTINUOUSLY MONITOR THE ACTUAL SUPPLY AIRFLOW WHICH WILL BE USED FOR THE RETURN FAN ARRAY AIRFLOW CALCULATION AND SYSTEM TROUBLESHOOTING.

D. SHUTDOWN:
   1. THE VFDs SHALL "SOFT STOP" ALL FAN IN THE ARRAY AND SLOWLY (OVER A 2 MINUTE PERIOD) RAMP DOWN THE AIRFLOW WHENEVER THE UNIT IS STOPPED AFTER A SHUTDOWN.

RETURN FAN ARRAY (SUPPLY FAN TRACKING):

A. START:
   1. VFDs WILL "SOFT START" ALL FANS IN THE ARRAY AND SLOWLY (OVER A 2 MINUTE PERIOD) RAMP UP THE AIRFLOW WHENEVER THE UNIT IS STARTED AFTER A SHUTDOWN.

B. OPERATION:
   1. RETURN FAN WILL OPERATE CONTINUOUSLY.
      A. RETURN AIR MONITORING STATION (RA-AFMS) WILL CONTINUOUSLY MONITOR THE RETURN AIRFLOW.
      B. RETURN FAN VFDS WILL MODULATE THE FANS TO TRACK THE SUPPLY AIRFLOW TO MAINTAIN THE CALCULATED RETURN FAN AIRFLOW SETPOINT (RFA-SP).
      C. RFA-SP WILL BE CALCULATED EVERY FIFTEEN (15) MINUTES AS FOLLOWS:
         1. AHU OCCUPIED = MEASURED SUPPLY - EXHAUST AIRFLOW (EF-1, EF-2) + FIELD-DETERMINED AIRFLOW FOR POSITIVE BUILDING PRESSURIZATION.
         2. AHU UNOCCUPIED = MEASURED SUPPLY - EXHAUST AIRFLOW (EF) - FIELD-DETERMINED AIRFLOW FOR POSITIVE BUILDING PRESSURIZATION.

C. SHUTDOWN:
   1. THE VFDS WILL "SOFT STOP" ALL FANS OF THE ARRAY AND SLOWLY (OVER A 2 MINUTE PERIOD) RAMP DOWN THE AIRFLOW WHENEVER THE UNIT IS STOPPED AFTER A SHUTDOWN.

OUTSIDE AIR DAMPER (OAD) AND RETURN AIR DAMPER (RAD):

A. NORMAL POSITION:
   1. OUTSIDE AIR NORMAL POSITION - CLOSED.
   2. MIXED AIR NORMAL POSITION - OPEN.

B. OPERATION:
   1. OUTSIDE AIR MONITORING STATION (OA-AFMS) WILL CONTINUOUSLY MONITOR THE ACTUAL OUTSIDE AIRFLOW AND WILL MODULATE THE OUTSIDE AIR AND MIXED AIR DAMPERS TO MAINTAIN THE OUTSIDE AIR VOLUME SETPOINTS (OAV-SP) AT THEIR OCCUPIED AND UNOCCUPIED VALUES AS FOLLOWS;
      A. AHU OCCUPIED: REFER TO AHU SCHEDULE FOR OUTSIDE AIRFLOW CFM.
      B. AHU UNOCCUPIED: EXHAUST AIRFLOW + FIELD-DETERMINED AIRFLOW FOR POSITIVE BUILDING PRESSURIZATION.

C. SHUTDOWN:
   1. DAMPERS WILL RETURN TO THEIR NORMAL POSITIONS.

EXHAUST AIR DAMPER (EAD):

A. NORMAL POSITION:
   1. EXHAUST AIR DAMPER NORMAL POSITION: CLOSED.

B. OPERATION:
   1. EXHAUST AIR DAMPER WILL MODULATE AS REQUIRED TO MAINTAIN THE BUILDING'S POSITIVE PRESSURE OF 0.03"WG (ADJ.).
   2. IF THE AIRFLOW IS DETERMINED TO NOT BE EXHAUSTING AS DETERMINED BY THE DIFFERENTIAL PRESSURE SENSOR (DPS-EX) THE RETURN FAN SHALL RAMP UP UNTIL EXHAUST FLOW IS ESTABLISHED.

C. SHUTDOWN:
   1. DAMPER WILL RETURN TO ITS NORMAL POSITION.

HEATING COIL - HOT WATER VALVE:

A. CALL FOR HEATING:
   1. IF THE MIXED AIR TEMPERATURE IS THREE (3) DEG-F BELOW THE OCCUPIED DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP).

B. OPERATION:
   1. ON A CALL FOR HEATING, THE HOT WATER CONTROL VALVE (HW-CV) WILL MODULATE OPEN AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP).

HEATING COIL PUMP:

A. START/OPERATION:
   1. HEATING COIL PUMP (HWP-4) WILL SART AND OPERATE CONTINUOUSLY WHEN THE OUTSIDE AIR TEMPERATURE (OAT) IS BELOW 40F OR IF THE HEATING COIL VALVE (HW-CV) IS OPEN MORE THAN 10%.

B. SHUTDOWN:
   1. HEATING COIL PUMP WILL BE OFF WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 45F AND THE HEATING COIL VALVE HAS BEEN OPEN LESS THAN 5% FOR 5 MINUTES.

COOLING COIL - CHILLED WATER VALVE:

A. CALL FOR COOLING:
   1. IF THE MIXED AIR TEMPERATURE (MAT) IS THREE (3) DEG-F ABOVE THE DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP) AND SYSTEM HAS NOT ENTERED COOLING TEMPERATURE RESET.

B. OPERATION:
   1. ON A CALL FOR COOLING, THE CHILLED WATER CONTROL VALVE (CHW-CV) WILL MODULATE OPEN AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP).

MAXIMUM COOLING TEMPERATURE RESET:

A. QUALIFYING PARAMETERS:
   1. NO FURTHER STATIC PRESSURE RESET HAS OCCURRED FOR THIRTY (30) MINUTES.
   2. THE CRITICAL PRESSURE ZONE'S TERMINAL BOX HEATING VALVE IS OPEN. [CRITICAL ZONE WILL BE FIELD DETERMINED DURING SYSTEM STARTUP.]

B. OPERATION:
   1. WHEN ALL THREE QUALIFYING PARAMETERS HAVE OCCURRED, RESET THE DISCHARGE AIR TEMPERATURE ONE (1) DEG-F HIGHER.
   2. IF QUALIFYING PARAMETERS REMAIN UNCHANGED FOR FIFTEEN (15) MINUTES, RESET THE DISCHARGE AIR TEMPERATURE ONE (1) DEG-F HIGHER.
   3. CONTINUE TEMPERATURE RESET UNTIL ONE OF THE QUALIFYING PARAMETERS CHANGES OR THE DISCHARGE AIR TEMPERATURE REACHES 60F.
   4. WHEN A QUALIFYING PARAMETER HAS CHANGED, RESET THE DISCHARGE AIR TEMPERATURE ONE (1) DEG-F COOLER EVERY FIFTEEN (15) MINUTES UNTIL THE QUALIFYING PARAMETERS REMAIN STABLE.

HUMIDIFICATION:

A. START:
   1. WHEN RETURN AIR HUMIDITY SENSOR (RAH) DROPS BELOW THE RETURN AIR HUMIDITY SETPOINT (RAH-SP) MINIMUM, THE DEDICATED STEAM GENERATOR WILL BE ENABLED AND HUMIDIFIER CONTROL VALVE (HUM-CV) WILL FULLY OPEN.

B. OPERATION:
   1. STEAM GENERATOR WILL OPERATE CONTINUOUSLY UNTIL RETURN AIR HUMIDITY SETPOINT (RAH-SP) MAXIMUM IS EXCEEDED.

C. SHUTDOWN:
   1. WHEN RETURN AIR HUMIDITY SETPOINT (RAH-SP) MAXIMUM IS EXCEEDED, THE STEAM GENERATOR WILL BE DISABLED.

MORNING WARM-UP:

A. START TIME WILL BE ADAPTIVE BASED ON THE PREVIOUS DAYS TIME TO TEMPERATURE FOR IT'S ASSOCIATED TERMINAL BOXES.
B. DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP) WILL BE SET AT 60 DEG-F WITH MECHANICAL COOLING LOCKED OUT.
C. MIXED, EXHAUST, AND OUTSIDE AIR DAMPERS WILL BE IN THEIR NORMAL POSITIONS
D. UNIT WILL REMAIN IN WARM-UP MODE UNTIL A SIGNAL IS SENT FROM THE BMS INDICATING THAT ALL ASSOCIATED SPACES HAVE REACHED OCCUPIED TEMPERATURES.

MORNING COOL-DOWN:

A. START TIME WILL BE ADAPTIVE BASED ON THE PREVIOUS DAYS TIME TO TEMPERATURE FOR ITS ASSOCIATED TERMINAL BOXES.
B. DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP) WILL BE SET AT THE MINIMUM COOLING VALUE.
C. MIXED, EXHAUST, AND OUTSIDE AIR DAMPERS WILL BE IN THEIR NORMAL POSITION.
D. UNIT WILL REMAIN IN COOL-DOWN MODE UNTIL A SIGNAL IS SENT FROM THE BMS INDICATING THAT ALL ASSOCIATED SPACES HAVE REACHED OCCUPIED TEMPERATURES.

UNIT SHUTDOWN:

A. IF SHUTDOWN BY EITHER A STOP COMMAND, POWER FAILURE, OR SYSTEM SAFETY; THE UNIT WILL BE SET AS FOLLOWS:
   1. SUPPLY FAN ARRAY - OFF.
   2. RETURN FAN ARRAY - OFF.
   3. OUTSIDE AIR DAMPER - CLOSED.
   4. MIXED AIR DAMPER - OPEN.
   5. EXHAUST AIR DAMPER - CLOSED.
   6. HOT WATER VALVE - CLOSED.
   7. CHILLED WATER VALVE - CLOSED.

B. IF SHUTDOWN BY A FREEZESTAT TRIP:
   1. SUPPLY FAN ARRAY - ON.
   2. RETURN FAN ARRAY - ON.
   3. OUTSIDE AIR DAMPER - CLOSED.
   4. MIXED AIR DAMPER - OPEN.
   5. EXHAUST AIR DAMPER - CLOSED.
   6. HOT WATER VALVE - OPEN.
   7. CHILLED WATER VALVE - CLOSED.

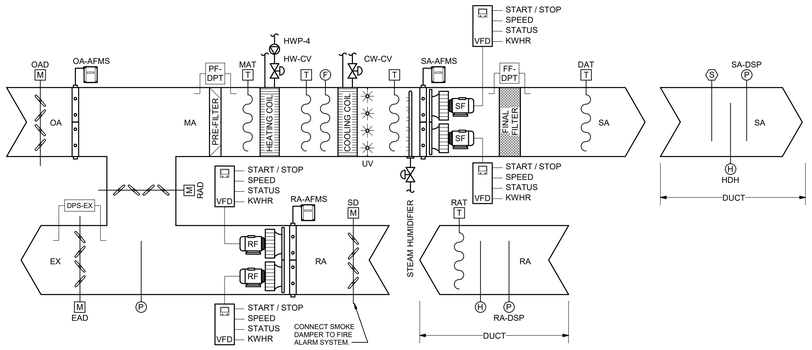
SYSTEM SAFETIES:

A. THE FOLLOWING SAFETIES WILL BE ALARMED AND THE UNIT WILL BE SHUTDOWN. A MANUAL RESET WILL BE REQUIRED BEFORE RESTARTING THE AIR HANDLING UNIT.
   1. IF THE DUCT STATIC PRESSURE - HIGH LIMIT SETPOINT IS EXCEEDED.
   2. IF THE BMS RECEIVES A SIGNAL FROM THE FIRE ALARM SYSTEM.

B. IF THE HUMIDIFIER IS RUNNING AND THE HIGH DUCT HUMIDITY (HDH) SENSOR DETECTS HUMIDITY OVER THE HIGH DUCT HUMIDITY - SETPOINT (HDH-SP), THE HUMIDIFIER'S STEAM GENERATOR WILL BE DISABLED AND SIGNAL AN ALARM TO THE BAS. A MANUAL RESET WILL BE REQUIRED BEFORE RESTARTING THE HUMIDIFIER.

C. ALARMS WILL BE GENERATED FOR THE FOLLOWING EVENTS.
   1. EACH INDIVIDUAL SUPPLY FAN AND EACH INDIVIDUAL RETURN FAN WILL BE MONITORED THROUGH INDIVIDUAL CURRENT SENSING SWITCHES. IF A FAN FAILS; A COMMON SUPPLY FAN OR COMMON RETURN FAN ALARM WILL BE SENT.
   2. THE SUPPLY FAN ARRAY DOES NOT MAINTAIN THE PROPER SA-DSP-SP FOR FIFTEEN (15) MINUTES.
   3. VFD WILL ALARM TO BAS.

REFER TO SHEET M7.1 FOR AHU CONTROL SETPOINTS REFERRED TO IN THESE SEQUENCES.



1 AHU-01 - CHILLED WATER/HEATING WATER AHU CONTROLS DIAGRAM
SCALE: 1/8" = 1'-0"

2 VAV TERMINAL UNIT CONTROLS DIAGRAM
SCALE: 1/8" = 1'-0"

OPERATING ROOM (OR) CONTROL SEQUENCES:

A. THE OR ROOM PRESSURE CONTROLLER SHALL MONITOR THE ROOM PRESSURE RELATIVE TO THE STERILE CORRIDOR TO VERIFY POSITIVE PRESSURE IN THE OR. THE ROOM SHALL OPERATE IN TWO MODES: OCCUPIED AND UNOCCUPIED. THE OCCUPIED-UNOCCUPIED SCHEDULE SHALL BE ADJUSTABLE AS DETERMINED BY THE OWNER.

1. OCCUPIED MODE:
   a. DURING OCCUPIED HOURS THE PRESSURE INDEPENDENT SUPPLY AIR TERMINAL BOX SHALL OPERATE IN A CONSTANT VOLUME MODE TO PROVIDE THE SCHEDULE AIR QUANTITY. THE AIR FLOW VALUE FOR THE OR SHALL BE AS INDICATED ON THE SCHEDULE FOR DESIGN CFM. THE AIRFLOW SET POINT SHALL BE ADJUSTABLE (TYPICALLY BETWEEN 25 AIR CHANGES PER HOUR (ACPH) AND 30 ACPH). THE ROOM PRESSURE CONTROLLER SHALL CONTROL THE RETURN AIR TERMINAL BOX TO PROVIDE THE RETURN AIR QUANTITY AT 400 CFM (ADJUSTABLE) BELOW THE SUPPLY AIR CFM AND TO MAINTAIN A MINIMUM POSITIVE PRESSURE OF +0.01 INCHES WATER COLUMN (W.C.), IN THE OR.
   b. ON A DROP IN TEMPERATURE BELOW HEATING SET POINT, THE SYSTEM SHALL MODULATE THE RE-HEAT COIL NORMALLY OPEN TWO-WAY HEATING CONTROL VALVE TO SATISFY THE TEMPERATURE SET POINT (ADJUSTABLE). ON A RISE IN ROOM TEMPERATURE ABOVE THE SET POINT, THE SYSTEM SHALL MODULATE THE CONTROL VALVE CLOSED.
   c. TWO ALARM POINTS SHALL BE PROVIDED FOR THE OR: ROOM PRESSURE AND AIR CHANGES PER HOUR (ACPH):
      1. ALARM ROOM PRESSURE WHEN THE PRESSURE DIFFERENTIAL FALLS BELOW +0.01 INCHES W.C. PROVIDE 30 SECOND (ADJUSTABLE) ANNUNCIATION DELAY TIME FOR LOCAL AND REMOTE ALARMS.
      2. ALARM ACPH WHEN THE ACPH RATE FALLS BELOW 25 ACPH (ADJUSTABLE) PROVIDE 120 SECOND (ADJUSTABLE) ANNUNCIATION DELAY TIME FOR LOCAL AND REMOTE ALARMS.

2. UNOCCUPIED MODE:
   a. DURING UN-OCCUPIED HOURS THE PRESSURE INDEPENDENT SUPPLY AIR TERMINAL BOX SHALL OPERATE IN A CONSTANT VOLUME MODE TO PROVIDE THE MINIMUM SCHEDULE AIR QUANTITY TO ACHIEVE THE MINIMUM REQUIRED ACPH. THE AIRFLOW SET POINT SHALL BE ADJUSTABLE (TYPICALLY BETWEEN 12 AIR CHANGES PER HOUR (ACPH) AND 15 ACPH). THE ROOM PRESSURE CONTROLLER SHALL CONTROL THE RETURN AIR TERMINAL BOX TO PROVIDE THE RETURN AIR QUANTITY AT 400 CFM (ADJUSTABLE) BELOW THE SUPPLY AIR CFM AND TO MAINTAIN A MINIMUM POSITIVE PRESSURE OF +0.01 INCHES WATER COLUMN (W.C.), IN THE OR.
   b. ON A DROP IN TEMPERATURE BELOW HEATING SET POINT, THE SYSTEM SHALL MODULATE THE RE-HEAT COIL NORMALLY OPEN TWO-WAY HEATING CONTROL VALVE TO SATISFY THE TEMPERATURE SET POINT (ADJUSTABLE). ON A RISE IN ROOM TEMPERATURE ABOVE THE SET POINT, THE SYSTEM SHALL MODULATE THE CONTROL VALVE CLOSED.
   c. TWO ALARM POINTS SHALL BE PROVIDED FOR THE OR: ROOM PRESSURE AND AIR CHANGES PER HOUR (ACPH):
      1. ALARM ROOM PRESSURE WHEN THE PRESSURE DIFFERENTIAL FALLS BELOW +0.01 INCHES W.C. PROVIDE 30 SECOND (ADJUSTABLE) ANNUNCIATION DELAY TIME FOR LOCAL AND REMOTE ALARMS.
      2. ALARM ACPH WHEN THE ACPH RATE FALLS BELOW 12 ACPH (ADJUSTABLE) PROVIDE 120 SECOND (ADJUSTABLE) ANNUNCIATION DELAY TIME FOR LOCAL AND REMOTE ALARMS

TERMINAL BOX CONTROLS SEQUENCES

ON A CALL FOR COOLING:
   A. VAV DAMPER WILL MODULATE BETWEEN ITS MINIMUM AND MAXIMUM BALANCED AIRFLOWS TO MAINTAIN THE CURRENT SPACE TEMPERATURE SETPOINTS (ST-SP) COOLING VALUE.

ON A CALL FOR HEATING:
   A. VAV DAMPER WILL MAINTAIN ITS MINIMUM AIRFLOW WHILE THE HEATING COIL'S HOT WATER VALVE MODULATES UP TO THE DISCHARGE AIR TEMPERATURE'S (DAT) MAXIMUM HEATING VALUE TO MAINTAIN THE ST-SP HEATING VALUE.
   B. IF ADDITIONAL HEAT IS REQUIRED, THE VAV DAMPER WILL MODULATE UP TO ITS HEATING AIRFLOW WHILE THE HOT WATER VALVE MODULATES TO MAINTAIN THE MAXIMUM DAT.

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MECHANICAL CONTROLS

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BETTER BUILT ENVIRONMENTS

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AHU-2 CONTROLS SEQUENCES

AHU SHALL OPERATE DURING NORMAL BUSINESS HOURS AS A VARIABLE AIR VOLUME SYSTEM. DURING OFF HOURS, UNIT WILL POWER ON IN UNOCCUPIED MODE AS NECESSARY FOR BUILDING CONDITIONING.

SUPPLY FAN ARRAY:

A. START:
1. THE VARIABLE FREQUENCY DRIVES (VFD) WILL "SOFT START" ALL FANS IN THE ARRAY AND SLOWLY (OVER A 2 MINUTE PERIOD) RAMP UP THE AIRFLOW WHENEVER THE UNIT IS STARTED AFTER A SHUTDOWN.

B. OPERATION:
1. SUPPLY FANS WILL OPERATE CONTINUOUSLY TO MAINTAIN BUILDING PRESSURIZATION.
2. VARIABLE FREQUENCY DRIVES (VFDS) SHALL CONTROL ALL FANS TO MAINTAIN THE SUPPLY AIR DUCT STATIC PRESSURE SETPOINT (SA-DSP-SP). SETPOINT WILL BE CONTINUALLY ADJUSTED SO THAT AT LEAST ONE (1) TERMINAL BOX WILL BE MAINTAINED AT 90% AIRFLOW BY UTILIZING TRIM AND RESPONSE (T&R) LOGIC AS OUTLINED IN ASHRAE GUIDELINE 36 USING STARTING POINT PARAMETERS FROM TABLE 5.16.1.2. ADJUST PARAMETERS AS REQUIRED DURING COMMISSIONING/TUNING OF SYSTEMS.

C. AIRFLOW VERIFICATION:
1. SUPPLY FAN AIR MONITORING STATIONS WILL CONTINUOUSLY MONITOR THE ACTUAL SUPPLY AIRFLOW WHICH WILL BE USED FOR THE RETURN FAN ARRAY AIRFLOW CALCULATION AND SYSTEM TROUBLESHOOTING.

D. SHUTDOWN:
1. THE VFDS SHALL "SOFT STOP" ALL FAN IN THE ARRAY AND SLOWLY (OVER A 2 MINUTE PERIOD) RAMP DOWN THE AIRFLOW WHENEVER THE UNIT IS STOPPED AFTER A SHUTDOWN.

RETURN FAN ARRAY (SUPPLY FAN TRACKING):

A. START:
1. VFDS WILL "SOFT START" ALL FANS IN THE ARRAY AND SLOWLY (OVER A 2 MINUTE PERIOD) RAMP UP THE AIRFLOW WHENEVER THE UNIT IS STARTED AFTER A SHUTDOWN.

B. OPERATION:
1. RETURN FAN WILL OPERATE CONTINUOUSLY.
A. RETURN AIR MONITORING STATION (RA-AFMS) WILL CONTINUOUSLY MONITOR THE RETURN AIRFLOW.
B. RETURN FAN VFDS WILL MODULATE THE FANS TO TRACK THE SUPPLY AIRFLOW TO MAINTAIN THE CALCULATED RETURN FAN AIRFLOW SETPOINT (RFA-SP).
C. RFA-SP WILL BE CALCULATED EVERY FIFTEEN (15) MINUTES AS FOLLOWS:
1. AHU OCCUPIED = MEASURED SUPPLY - EXHAUST AIRFLOW (EF-3, EF-4, EF-5) - FIELD-DETERMINED AIRFLOW FOR POSITIVE BUILDING PRESSURIZATION.
2. AHU UNOCCUPIED = MEASURED SUPPLY - EXHAUST AIRFLOW (EF) - FIELD-DETERMINED AIRFLOW FOR POSITIVE BUILDING PRESSURIZATION.

C. SHUTDOWN:
1. THE VFDS WILL "SOFT STOP" ALL FANS OF THE ARRAY AND SLOWLY (OVER A 2 MINUTE PERIOD) RAMP DOWN THE AIRFLOW WHENEVER THE UNIT IS STOPPED AFTER A SHUTDOWN.

OUTSIDE AIR DAMPER (OAD) AND RETURN AIR DAMPER (RAD):

A. NORMAL POSITION:
1. OUTSIDE AIR NORMAL POSITION - CLOSED.
2. MIXED AIR NORMAL POSITION - OPEN.

B. OPERATION:
1. OUTSIDE AIR MONITORING STATION (OA-AFMS) WILL CONTINUOUSLY MONITOR THE ACTUAL OUTSIDE AIRFLOW AND WILL MODULATE THE OUTSIDE AIR AND MIXED AIR DAMPERS TO MAINTAIN THE OUTSIDE AIR VOLUME SETPOINTS (OAV-SP) AT THEIR OCCUPIED AND UNOCCUPIED VALUES AS FOLLOWS:
A. AHU OCCUPIED: REFER TO AHU SCHEDULE FOR OUTSIDE AIRFLOW CFM.
B. AHU UNOCCUPIED: EXHAUST AIRFLOW + FIELD-DETERMINED AIRFLOW FOR POSITIVE BUILDING PRESSURIZATION.

C. SHUTDOWN:
1. DAMPERS WILL RETURN TO THEIR NORMAL POSITIONS.

EXHAUST AIR DAMPER (EAD):

A. NORMAL POSITION:
1. EXHAUST AIR DAMPER NORMAL POSITION: CLOSED.

B. OPERATION:
1. EXHAUST AIR DAMPER WILL MODULATE AS REQUIRED TO MAINTAIN THE BUILDING'S POSITIVE PRESSURE OF 0.03"WG (ADJ.).
2. IF THE AIRFLOW IS DETERMINED TO NOT BE EXHAUSTING AS DETERMINED BY THE DIFFERENTIAL PRESSURE SENSOR (DPS-EX) THE RETURN FAN SHALL RAMP UP UNTIL EXHAUST FLOW IS ESTABLISHED.

C. SHUTDOWN:
1. DAMPER WILL RETURN TO ITS NORMAL POSITION.

HEATING COIL - HOT WATER VALVE:

A. CALL FOR HEATING:
1. IF THE MIXED AIR TEMPERATURE IS THREE (3) DEG-F BELOW THE OCCUPIED DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP).

B. OPERATION:
1. ON A CALL FOR HEATING, THE HOT WATER CONTROL VALVE (HW-CV) WILL MODULATE OPEN AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP).

HEATING COIL PUMP:

A. START/OPERATION:
1. HEATING COIL PUMP (HWP-3) WILL SART AND OPERATE CONTINUOUSLY WHEN THE OUTSIDE AIR TEMPERATURE (OAT) IS BELOW 40F OR IF THE HEATING COIL VALVE (HW-CV) IS OPEN MORE THAN 10%.

B. SHUTDOWN:
1. HEATING COIL PUMP WILL BE OFF WHEN THE OUTSIDE AIR TEMPERATURE IS ABOVE 45F AND THE HEATING COIL VALVE HAS BEEN OPEN LESS THAN 5% FOR 5 MINUTES.

COOLING COIL - CHILLED WATER VALVE:

A. CALL FOR COOLING:
1. IF THE MIXED AIR TEMPERATURE (MAT) IS THREE (3) DEG-F ABOVE THE DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP) AND SYSTEM HAS NOT ENTERED COOLING TEMPERATURE RESET.

B. OPERATION:
1. ON A CALL FOR COOLING, THE CHILLED WATER CONTROL VALVE (CHW-CV) WILL MODULATE OPEN AS REQUIRED TO MAINTAIN THE DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP).

MAXIMUM COOLING TEMPERATURE RESET:

A. QUALIFYING PARAMETERS:
1. NO FURTHER STATIC PRESSURE RESET HAS OCCURRED FOR THIRTY (30) MINUTES.
2. THE CRITICAL PRESSURE ZONE'S TERMINAL BOX HEATING VALVE IS OPEN. [CRITICAL ZONE WILL BE FIELD DETERMINED DURING SYSTEM STARTUP.]
3. THE AHU DISCHARGE AIR DEWPOINT (CALCULATED BY BMS FROM DISCHARGE AIR DRY-BULB TEMPERATURE AND RELATIVE HUMIDITY) HAS NOT EXCEEDED DISCHARGE AIR DEWPOINT MAXIMUM (DADPT-M).

B. OPERATION:
1. WHEN ALL THREE QUALIFYING PARAMETERS HAVE OCCURRED, RESET THE DISCHARGE AIR TEMPERATURE ONE (1) DEG-F HIGHER.
2. IF QUALIFYING PARAMETERS REMAIN UNCHANGED FOR FIFTEEN (15) MINUTES, RESET THE DISCHARGE AIR TEMPERATURE ONE (1) DEG-F HIGHER.
3. CONTINUE TEMPERATURE RESET UNTIL ONE OF THE QUALIFYING PARAMETERS CHANGES OR THE DISCHARGE AIR TEMPERATURE REACHES 60F.
4. WHEN A QUALIFYING PARAMETER HAS CHANGED, RESET THE DISCHARGE AIR TEMPERATURE ONE (1) DEG-F COOLER EVERY FIFTEEN (15) MINUTES UNTIL THE QUALIFYING PARAMETERS REMAIN STABLE.

HUMIDIFICATION:

A. START:
1. WHEN ANY ONE ROOM DROPS BELOW THE ROOM RELATIVE HUMIDITY MINIMUM SETPOINT (RAH-MNSP), THE DEDICATED STEAM GENERATOR WILL BE ENABLED AND HUMIDIFIER CONTROL VALVE (HUM-CV) WILL FULLY OPEN.

B. OPERATION:
1. STEAM GENERATOR WILL OPERATE CONTINUOUSLY UNTIL ROOM RELATIVE HUMIDITY MAXIMUM SETPOINT (RAH-MXSP) IS EXCEEDED.

C. SHUTDOWN:
1. WHEN ANY ONE ROOM EXCEEDS THE RELATIVE HUMIDITY MAXIMUM SETPOINT (RAH-MXSP), THE STEAM GENERATOR WILL BE DISABLED.

VENTILATION RESET:

A. IF THE RETURN AIR CARBON DIOXIDE SENSOR - SETPOINT (RACO2 - SP) REACHES IT'S MAXIMUM SETPOINT, THE OUTSIDE AIR DAMPER WILL BE INCREMENTALLY OPENED SLOWLY UNTIL EITHER OF THE TWO FOLLOWING CONDITIONS ARE MET.
1. THE COOLING DISCHARGE AIR TEMPERATURE CANNOT BE MAINTAINED.
2. THE HEATING COIL DISCHARGE AIR TEMPERATURE CANNOT BE MAINTAINED.

B. WHEN THE RETURN CARBON DIOXIDE SENSOR SETPOINT REACHES A VALUE OF 700 PPM, OPERATION OF THE OUTSIDE AIR DAMPER WILL RETURN TO MAINTAIN MINIMUM OUTSIDE AIR VOLUMES.

DESICCANT DEHUMIDIFICATION (CDQ) WHEEL:

REFER TO TABLE BELOW FOR SEQUENCES OF OPERATION.

MORNING WARM-UP:

A. START TIME WILL BE ADAPTIVE BASED ON THE PREVIOUS DAYS TIME TO TEMPERATURE FOR IT'S ASSOCIATED TERMINAL BOXES.
B. DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP) WILL BE SET AT 60 DEG-F WITH MECHANICAL COOLING LOCKED OUT.
C. MIXED, EXHAUST, AND OUTSIDE AIR DAMPERS WILL BE IN THEIR NORMAL POSITIONS
D. UNIT WILL REMAIN IN WARM-UP MODE UNTIL A SIGNAL IS SENT FROM THE BMS INDICATING THAT ALL ASSOCIATED SPACES HAVE REACHED OCCUPIED TEMPERATURES.

MORNING COOL-DOWN:

A. START TIME WILL BE ADAPTIVE BASED ON THE PREVIOUS DAYS TIME TO TEMPERATURE FOR ITS ASSOCIATED TERMINAL BOXES.
B. DISCHARGE AIR TEMPERATURE SETPOINT (DAT-SP) WILL BE SET AT THE MINIMUM COOLING VALUE.
C. MIXED, EXHAUST, AND OUTSIDE AIR DAMPERS WILL BE IN THEIR NORMAL POSITION.
D. UNIT WILL REMAIN IN COOL-DOWN MODE UNTIL A SIGNAL IS SENT FROM THE BMS INDICATING THAT ALL ASSOCIATED SPACES HAVE REACHED OCCUPIED TEMPERATURES.

UNIT SHUTDOWN:

A. IF SHUTDOWN BY EITHER A STOP COMMAND, POWER FAILURE, OR SYSTEM SAFETY; THE UNIT WILL BE SET AS FOLLOWS:
1. SUPPLY FAN ARRAY - OFF.
2. RETURN FAN ARRAY - OFF.
3. OUTSIDE AIR DAMPER - CLOSED.
4. MIXED AIR DAMPER - OPEN.
5. EXHAUST AIR DAMPER - CLOSED.
6. HOT WATER VALVE - CLOSED.
7. CHILLED WATER VALVE - CLOSED.

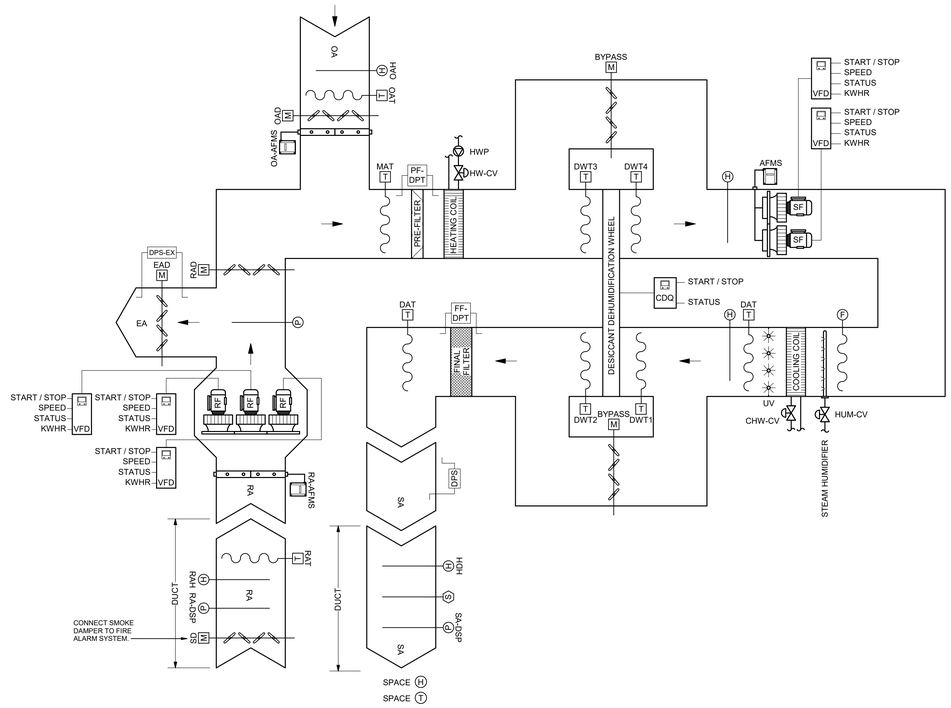
B. IF SHUTDOWN BY A FREEZESTAT TRIP:
1. SUPPLY FAN ARRAY - ON.
2. RETURN FAN ARRAY - ON.
3. OUTSIDE AIR DAMPER - CLOSED.
4. MIXED AIR DAMPER - OPEN.
5. EXHAUST AIR DAMPER - CLOSED.
6. HOT WATER VALVE - OPEN.
7. CHILLED WATER VALVE - CLOSED.

SYSTEM SAFETIES:

A. THE FOLLOWING SAFETIES WILL BE ALARMED AND THE UNIT WILL BE SHUTDOWN. A MANUAL RESET WILL BE REQUIRED BEFORE RESTARTING THE AIR HANDLING UNIT.
1. IF THE DUCT STATIC PRESSURE - HIGH LIMIT SETPOINT IS EXCEEDED.
2. IF THE BMS RECEIVES A SIGNAL FROM THE FIRE ALARM SYSTEM.

B. IF THE HIGH DUCT HUMIDITY - SETPOINT (HDH-SP) IS REACHED, THE HUMIDIFIER'S STEAM GENERATOR WILL BE DISABLED. A MANUAL RESET WILL BE REQUIRED BEFORE RESTARTING THE HUMIDIFIER.

C. ALARMS WILL BE GENERATED FOR THE FOLLOWING EVENTS.
1. EACH INDIVIDUAL SUPPLY FAN AND EACH INDIVIDUAL RETURN FAN WILL BE MONITORED THROUGH INDIVIDUAL CURRENT SENSING SWITCHES. IF A FAN FAILS; A COMMON SUPPLY FAN OR COMMON RETURN FAN ALARM WILL BE SENT.
2. THE SUPPLY FAN ARRAY DOES NOT MAINTAIN THE PROPER SA-DSP-SP FOR FIFTEEN (15) MINUTES.
3. VFD WILL ALARM TO BAS.
4. FAN FILTER STATUS WILL ALARM BAS AND NOTIFY FILTER STATUS ALARM LOCATED AT NURSE'S STATION. REFER TO AHU SCHEDULE FOR MAXIMUM RATED PRESSURE ACROSS PRE-FILTER SECTION AND FINAL FILTER SECTION THAT INDICATE A DIRTY (LOADED) FILTER.



1 AHU-02 - DESICCANT DEHUMIDIFICATION AHU CONTROLS DIAGRAM
SCALE: NONE

AHU-2 DESSICANT WHEEL CONTROLS SEQUENCES

CONTROL MODE		PSYCHROMETRIC CONDITIONS	CONTROL ACTION	COMMENTS
O1	OCCUPIED COOLING	- RH(space) < RH(setpoint) - DBT(mixed air) > DBT(supply air) - *h*(outside air) > *h*(return air)	- STOP THE CDQ WHEEL - MODULATE COOLING COIL TO MEET DBT(supply air) SETPOINT - PRE-HEAT COIL IS OFF - OPEN BYPASS DAMPERS	- SPACE RH% BELOW THE DESIRED UPPER LIMIT, CDQ WHEEL IS TURNED OFF - COOLING COIL SATISFIES THE SUPPLY AIR DRY-BULB SETPOINT
O2a	OCCUPIED COOLING AND DEHUMIDIFICATION (STAGE 1)	- RH(space) > RH(setpoint) - DBT(mixed air) > DBT(supply air)	- ROTATE THE CDQ WHEEL - MODULATE THE COOLING COIL TO MEET DBT(supply air) SETPOINT - PRE-HEAT COIL IS OFF - OPERATE IN THIS MODE UNTIL RH(space) DROPS 5% BELOW THE OCCUPIED RH SETPOINT	- SPACE RH IS ABOVE THE DESIRED UPPER LIMIT - ROTATING THE CDQ WHEEL RESULTS IN ENHANCED DEHUMIDIFICATION - COOLING COIL SATISFIES THE SUPPLY AIR DRY-BULB SETPOINT
O2b	OCCUPIED COOLING AND DEHUMIDIFICATION (STAGE 2)	- RH(space) > RH(setpoint) + 3% - DBT(mixed air) > DBT(supply air)	- ROTATE THE CDQ WHEEL - MODULATE THE COOLING COIL TO MEET DBT(supply air) SETPOINT - MODULATE PRE-HEAT COIL TO KEEP THE COOLING COIL VALVE POSITION AT 95% OPEN - OPERATE IN THIS MODE UNTIL RH(space) DROPS 5% BELOW THE OCCUPIED RH SETPOINT	- SPACE RH IS ABOVE THE DESIRED UPPER LIMIT - ROTATING THE CDQ WHEEL RESULTS IN ENHANCED DEHUMIDIFICATION - COOLING COIL SATISFIES THE SUPPLY AIR DRY-BULB SETPOINT - PRE-HEATING THE AIR ENTERING THE UPSTREAM SIDE OF THE CDQ WHEEL LOWERS THE DEWPOINT TEMPERATURE AND RAISES THE DRY-BULB TEMPERATURE OF THE AIR LEAVING THE DOWNSTREAM SIDE OF THE WHEEL - PREVENTING THE COOLING COIL VALVE FROM REACHING 100% WIDE OPEN AVOIDS THE SITUATION WHERE THE SUPPLY-AIR TEMPERATURE WILL BEGIN TO RISE ABOVE THE DESIRED SETPOINT
O3	OCCUPIED HEATING	- DBT(outside air) < DBT (supply air) - OUTSIDE AIRFLOW AT MINIMUM SETPOINT	- STOP THE CDQ WHEEL - COOLING COIL IS OFF - MODULATE THE PRE-HEAT COIL TO MEET THE DBT(supply air) SETPOINT - OPEN BYPASS DAMPERS	- SYSTEM IS IN HEATING MODE, SO CDQ WHEEL IS TURNED OFF - PRE-HEAT COIL SATISFIES THE SA DRY-BULB SETPOINT

AHU CONTROL POINT SETPOINT SCHEDULE

UNIT	CONTROL POINTS		SETPOINT VALUE	UNITS	NOTES
AHU-1	RFA-SP	RETURN FAN AIRFLOW SETPOINT	CALCULATED BY SYSTEM		
	SA-DSP-SP	SUPPLY AIR DUCT STATIC PRESSURE SETPOINT	FIELD DETERMINED		
	OAV-SP	OUTSIDE AIR VOLUME SETPOINT	REFER TO AHU SCHEDULE		
	DAT-SP	DISCHARGE AIR TEMPERATURE SETPOINT (DRY-BULB)	55	°F (DRY-BULB)	
	DADPT-M	DISCHARGE AIR DEWPOINT TEMPERATURE MAXIMUM	40	°F DP	
	RAH-MNSP	ROOM RELATIVE HUMIDITY MINIMUM SETPOINT	30	% RH	1
	RAH-MXSP	ROOM RELATIVE HUMIDITY MAXIMUM SETPOINT	60	% RH	1
	HDH-SP	HIGH DUCT HUMIDITY SETPOINT	FIELD DETERMINED		
AHU-2	RFA-SP	RETURN FAN AIRFLOW SETPOINT	CALCULATED BY SYSTEM		
	SA-DSP-SP	SUPPLY AIR DUCT STATIC PRESSURE SETPOINT	FIELD DETERMINED		
	OAV-SP	OUTSIDE AIR VOLUME SETPOINT	REFER TO AHU SCHEDULE		
	DAT-SP	DISCHARGE AIR TEMPERATURE SETPOINT	52	°F (DRY-BULB)	
	DADPT-M	DISCHARGE AIR DEWPOINT TEMPERATURE MAXIMUM	40	°F DP	
	HDH-SP	HIGH DUCT HUMIDITY SETPOINT	50	% RH	
	RAH-SP	RETURN AIR HUMIDITY SETPOINT (RANGE: MIN TO MAX)	30-50	% RH	

NOTES
1 REFER TO PLANS FOR LOCATIONS OF ROOM HUMIDITY SENSORS.

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MECHANICAL CONTROLS

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RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023

BranchPattern | www.branchpattern.com
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

CHILLED WATER SYSTEM SEQUENCE:

THE CHILLED WATER SYSTEM SHALL OPERATE WHEN THERE IS A COOLING DEMAND BY ANY AIR HANDLING UNIT CHILLED WATER COIL. THE PIPING SYSTEM IS CONFIGURED IN A VARIABLE PRIMARY CONFIGURATION WITH VARIABLE VOLUME PRIMARY PUMPS.

CHILLER CONTROL
THE BAS SHALL ENABLE/DISABLE THE CHILLER SYSTEMS. CHILLER SHALL BE PROVIDED WITH A BACNET INTERFACE TO COMMUNICATE WITH THE BAS. ALL AVAILABLE CHILLER POINTS SHALL BE MAPPED TO THE BAS AND INDICATED ON THE FRONT END WORKSTATION. THE AIR-COOLED CHILLER SHALL BE CONTROLLED BY THE MANUFACTURER'S PACKAGED CONTROLS. THE BUILDING AUTOMATION SYSTEM SHALL HAVE THE CAPABILITY TO TURN ON/OFF THE CHILLER AND ASSOCIATED VARIABLE SPEED PRIMARY PUMPS, AND ADJUST LEAVING WATER TEMPERATURE SET POINTS. BUILDING AUTOMATION SYSTEM SHALL ALSO MONITOR CONDENSER FAN MOTORS, REFRIGERANT CIRCUITS, COMPRESSOR STATUS AND RUN HOURS AND ANY/ALL ALARMS SEEN FROM CHILLER.

THE BAS SHALL CONTROL CHILLERS TO MAINTAIN CHILLED WATER SUPPLY SET POINT OF 40°F (ADJ.) AND A LOW TEMP CHILLED WATER SUPPLY SET POINT OF 35°F (ADJ.).

UPON COMMAND OF A CHILLER TO START, IT SHALL START ONCE THE HARD WIRED FLOW SWITCH DETECTS FLOW.

PRIMARY PUMP CONTROL
THE BAS SHALL PERMIT THE OPERATING VARIABLE VOLUME PUMP(S) TO OPERATE YEAR ROUND. TWO PUMPS ARE BEING PROVIDED WITH ONE WILL SERVE AS STANDBY. THE BAS SHALL DETERMINE WHICH PUMP IS THE "LEAD" PUMP. THE BAS SHALL AUTOMATICALLY ALTERNATE THE LEAD PUMP TO THE LAG PUMP AT THE BEGINNING OF EACH MONTH.

CURRENT SWITCHES SHALL PROVIDE INPUT TO BAS FOR "PROOF OF FLOW".

TEMPERATURE SENSORS LOCATED IN THE SUPPLY AND RETURN SHALL BE USED MONITOR CHILLED WATER TEMPERATURE.

THE BAS CONTRACTOR SHALL FURNISH A DIFFERENTIAL PRESSURE SENSOR FOR THE DISTRIBUTION SYSTEM. REFER TO THE DRAWINGS FOR THE SUGGESTED LOCATIONS AND PIPING ARRANGEMENT. THE FINAL LOCATIONS SHALL BE COORDINATED WITH THE ENGINEER BEFORE INSTALLATION. THE SENSORS SHALL BE INSTALLED BY THE HVAC CONTRACTOR AND WIRED BY THE BAS CONTRACTOR. PIPING SHALL BE AS SHOWN ON THE DRAWINGS. THE BAS SHALL MODULATE THE SPEED OF THE WATER SUPPLY PUMP(S) VIA A 4-20 MA SIGNAL TO THE VFD AS REQUIRED TO MAINTAIN THE DIFFERENTIAL PRESSURE SET POINT. THE BAS SHALL STAGE ON PUMPS AS REQUIRED TO MAINTAIN DIFFERENTIALPRESSURE SET POINT AND MINIMUM CHILLED WATER FLOW AS RECOMMENDED BY THE MANUFACTURER. PROVIDE START/STOP OUTPUT AND ALARM INPUTS FOR THE VARIABLE FREQUENCY DRIVE (VFD) FOR EACH PUMP.

ALARM CONTACTS FROM THE PUMP VFDS SHALL BE WIRED TO THE BAS TO PROVIDE AN ALARM SIGNAL AT THE FRONT END WORKSTATION.

FREEZE PROTECTION
WHEN AIR TEMPERATURE DROPS BELOW 36°F (ADJ) THE CHILLED WATER PUMPS SHALL ACTIVATE TO FLOW WATER THROUGH CHILLED WATER COILS AS METHOD OF FREEZE PROTECTION.

FIN TUBE RADIATOR CONTROLS SEQUENCES

A. CONTROL VALVE ON FIN TUBE RADIATOR SHALL BE TIED INTO VAV BOX VALVE SERVING WAITING ROOM. WHEN VAV HAS A CALL FOR HEAT, FTR CONTROL VALVE SHALL MODULATE OPEN.
B. WHEN HEAT NO LONGER REQUIRED, FTR CONTROL VALVE SHALL MODULATE CLOSE.

BOILER CONTROLS SEQUENCES

BUILDING HOT WATER BOILERS B-01, B-02:
A. THE HOT WATER PLANT WILL BE ENABLED WHENEVER THERE IS A CALL FOR HEATING FOR FIFTEEN (15) MINUTES. CALL FOR HEATING WILL BE DEFINED AS ANY HEATING COMPONENT OF THE HVAC SYSTEM NOT BEING ABLE TO MAINTAIN -3 DEG-F FROM THE CURRENT SETPOINT.
B. THE HOT WATER PLANT WILL BE DISABLED WHENEVER THERE HAS BEEN NO CALL FOR HEATING FOR ONE HOUR.
C. SYSTEM MINIMUM FLOW WILL BE PROVIDED BY THE SYSTEM BYPASS OPENED AND THE PACKAGED PUMP SYSTEM DESIGNED TO MAINTAIN MINIMUM FLOW.
D. THE HOT WATER BOILERS AND THEIR RESPECTIVE TWO-POSITION CONTROL VALVES WILL BE ENABLED FROM THE DDC SYSTEM. EACH OF THE BOILERS WILL BE SEQUENCED ON AND OFF OR OPENED AND CLOSED FROM SUPPLY WATER TEMPERATURE AS REQUIRED TO MAINTAIN 130OF (ADJUSTABLE) SUPPLY WATER TEMPERATURE.
E. EACH OF THE BOILERS INTERNAL FACTORY MOUNTED CONTROLS WILL CONTROL THE FIRING OF ITS OWN BOILER. WHENEVER A BOILER IS SHUT OFF, ITS RESPECTIVE TWO-POSITION CONTROL VALVE SHALL CLOSE AND WHENEVER A BOILER IS ACTIVATED, ITS RESPECTIVE TWO-POSITION CONTROL VALVE SHALL OPEN.
F. CYCLE ALL BOILERS USING ITS PRE-PROGRAMMED PARALLEL MODULATION STAGING LOGIC TO MAXIMIZE HIGHER PART-LOAD (LOW FIRE) EFFICIENCY AND MINIMIZE ON/OFF SHORT CYCLING OF ANY BOILER.
G. PROVIDE ALARM STATUS AND HISTORY TO THE BMS
H. SEAMLESSLY INTERFACE WITH THE BMS FOR MONITORING AND ALARMS
I. UTILIZE ITS OWN OUTSIDE AIR TEMPERATURE SENSOR FOR ITS PRE-PROGRAMMED WATER TEMPERATURE RESET CONTROL. RESET THE HEATING WATER TEMPERATURE ACCORDING TO THE FOLLOWING RESET SCHEDULE:

OUTSIDE AIR TEMPERATURE (OAT)	WATER SUPPLY TEMPERATURE
30˚F	130˚F
60˚F	110˚F

J. THE DDC SYSTEM WILL ENABLE THE HEATING WATER PUMPING SYSTEM TO OPERATE THE PUMPS, HWP-01, -02, ON A LEAD/LAG SEQUENCE, BASED ON THE OWNERS-DEFINED SCHEDULE AND PER THE PUMP CONTROLLER. ONCE THE PUMPING SYSTEM HAS PROVEN FLOW THROUGH THE HEATING WATER SYSTEM DIFFERENTIAL PRESSURE SWITCH, THE BOILER SYSTEM WILL BE ENABLED. THE HEATING WATER PUMPING SYSTEM CONTROLS WILL MODULATE THE PUMP'S TO MAINTAIN THE HEATING WATER DIFFERENTIAL PRESSURE SET POINT (AS SENSED BY HEATING WATER SYSTEM DIFFERENTIAL PRESSURE SENSOR). IF THE PUMPING SYSTEM DOES NOT PROVE FLOW, AN ALARM WILL BE SENT TO THE BAS.

EXHAUST FAN CONTROLS SEQUENCES

A. EXHAUST FANS SHALL BE ENABLED DURING BUSINESS HOURS WHEN THE BUILDING IS SCHEDULED OCCUPIED AND DISABLED WHEN THE BUILDING IS SCHEDULED UNOCCUPIED.
B. EF-1: SERVES THE DECONTAMINATION ROOM. FAN SHALL OPERATE AT A CONSTANT VOLUME PER THE SCHEDULED EXHAUST REQUIREMENT FOR THIS AREA.
C. EF-2: SERVES THE STERILIZATION ROOMS. FAN SHALL OPERATE AT A CONSTANT VOLUME PER THE SCHEDULED EXHAUST REQUIREMENT FOR THIS AREA.
D. EF-3: SERVES GENERAL EXHAUST FOR BUILDING. FAN SHALL OPERATE AT A CONSTANT VOLUME PER THE SCHEDULED EXHAUST REQUIREMENT FOR THIS AREA.
E. EF-4: SERVES THE MANIFOLD/GAS STORAGE ROOM. FAN SHALL OPERATE AT A CONSTANT VOLUME 24/7. PROVIDE MONITOR AND ALARM.

CABINET UNIT HEATER CONTROLS SEQUENCES

A. ON A CALL FOR HEAT FROM THERMOSTAT, CONTROL VALVE SHALL MODULATE OPEN AND FAN SHALL ENERGIZE.
B. WHEN SPACE TEMPERATURE IS SATISFIED, CONTROL VALVE SHALL MODULATE CLOSE AND FAN SHALL POWER OFF.

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MECHANICAL CONTROLS

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RELEASED FOR CONSTRUCTION
As Noted on Drawings
Development Services Department
City of Lee's Summit, Missouri
03/15/2023

BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

FIRE PROTECTION GENERAL NOTES

1. THE SPRINKLER SYSTEM SHALL BE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA-13, 2012 INTERNATIONAL FIRE CODE, 2012 INTERNATIONAL BUILDING CODE. ALL ELECTRICAL AND MECHANICAL EQUIPMENT ROOMS SHALL BE SPRINKLED AS ORDINARY HAZARD GROUP 2 (0.2 GPM/SQ. FT). REFER TO FP101 FOR ADDITIONAL COVERAGE REQUIREMENTS. ALL SPRINKLERS SHALL BE QUICK RESPONSE TYPE UNLESS REQUIRED OTHERWISE BY CODE.
2. PIPING SIZED BY HYDRAULIC CALCULATION METHOD IN ACCORDANCE WITH THE CURRENT EDITION OF NFPA 13 AND SHALL BE SO STATED IN THE SUBMITTAL.
3. ALL FIRE PROTECTION WORK SHALL MEET ALL OF THE REQUIREMENTS OF NFPA AND LOCAL AND STATE AUTHORITIES HAVING JURISDICTION. ALL MATERIALS, METHODS, AND DESIGN SHALL BE PER CURRENT EDITION OF NFPA 13 AND SHALL BE SO STATED IN THE SUBMITTAL. FLUSH AND TEST SYSTEM IN ACCORDANCE WITH NFPA 13, 24 AND LOCAL CODES.
4. THE CONTRACTOR SHALL SUBMIT A SEALED SET OF INSTALLATION "SHOP" DRAWINGS, HYDRAULIC CALCULATIONS AND MATERIAL DATA FOR THE ENGINEER'S REVIEW PRIOR TO CONSTRUCTION. ALL WORK TO BE COORDINATED WITH OTHER TRADES.
5. SPRINKLER SYSTEMS SHALL BE INSTALLED BY PERSONNEL WHO HAVE ENGINEERING FACILITIES AND EXPERIENCE IN SUCH WORK AND WHO ARE REGULARLY EMPLOYED TO DO SUCH WORK.
6. SPRINKLERS SHALL BE AS REQUIRED BY NFPA 13. WHERE EXCESSIVE TEMPERATURES ARE ANTICIPATED, HIGH TEMPERATURE HEADS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 13. THE CONTRACTOR SHALL INDICATE SPRINKLER TEMPERATURE RATING, ORIFICE SIZE AND TYPE ON FINAL DRAWINGS. SPRINKLERS IN FINISHED AREAS TO BE CONCEALED TYPE. SPRINKLER AND ESCUTCHEON TO BE CHROME PLATED IN UNFINISHED AREAS.
7. COORDINATE EXACT LOCATION OF SPRINKLERS, PIPING AND EQUIPMENT WITH CEILING, ELECTRICAL, MECHANICAL AND STRUCTURAL COMPONENTS OF BUILDING. MAKE MODIFICATIONS WITHOUT ADDITIONAL COST TO THE OWNER.
8. ALL MATERIAL SHALL BE UL LISTED AND NFPA APPROVED.
9. REFER TO THE ARCHITECTURAL DRAWINGS FOR LOCATIONS OF ALL FIRE WALLS WHICH FIRE PROTECTION PIPING PENETRATES. FIRE PROTECTION PIPING SHALL BE FIRE SAFED IN AN APPROVED MANNER WHEN PENETRATING WALLS AND FLOORS. PROVIDE SLEEVES OR OTHER APPROVED MEANS AND SEAL OPENINGS IN WALLS, FLOORS, AND PARTITIONS IN SUCH A MANNER AS TO MAINTAIN THE SMOKE AND FIRE RATING OF THAT WALL, FLOOR OR CEILING.
10. SPACING OF SPRINKLERS: THE SPACING AND SIZES OF PIPES SHALL CONFORM TO THE REQUIREMENTS OF NFPA 13. SPRINKLERS SHALL BE WITHIN 6" OF CENTER OF TILE. PROVIDE SWING JOINT IF REQUIRED TO ACCOMPLISH THIS. SPRINKLERS SHALL BE AT LEAST 6" FROM ANY CEILING FIXTURE. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF SPRINKLERS AND PIPING WITH THE LIGHTING AND AIR DISTRIBUTION DRAWINGS. COORDINATE WITH ANY LIGHTING FIXTURES THAT MAY EXTEND BELOW THE CEILING TO AVOID OBSTRUCTION AS DEFINED BY NFPA 13.
11. PIPING: SPRINKLER PIPING SHALL BE SCHEDULE 40 BLACK STEEL PIPE AND FITTINGS CONFORMING TO ASTM A-53. MINIMUM SIZE IS ONE INCH.
12. PIPE SUPPORTS, HANGERS, CLAMPS, RODS AND OTHER ACCESSORIES: SHALL BE OF AN APPROVED TYPE AND IN SUFFICIENT NUMBER TO PROPERLY SUPPORT ALL PIPING FURNISHED AND INSTALLED. PIPING SHALL BE SUPPORTED BY ROUND WROUGHT U-TYPE APPROVED ADJUSTABLE HANGERS. PROVIDE ALL HANGERS INCLUDING TRAPEZE HANGERS AS REQUIRED TO COMPLY WITH NFPA 13. IF BAR JOIST CONSTRUCTION IS USED, HANG TO TOP CORD OF BAR JOIST ONLY. PROVIDE ANY ADDITIONAL DRAINS REQUIRED TO COMPLY WITH NFPA 13 AND LOCAL CODES WITHOUT ADDITIONAL COST TO OWNER. HANGERS HAVE NOT BEEN SHOWN FOR CLARITY.
13. ALL WORK TO BE TESTED AT 200 PSI FOR 2 HOURS. TEST TO BE WITNESSED BY KANSAS CITY FIRE DEPARTMENT. CALL THE FIRE DEPARTMENT 24 HOURS IN ADVANCE TO SCHEDULE THE SPRINKLER HYDROSTATIC AND ACCEPTANCE TEST. ALL TEST TO BE PER NFPA.
14. SPRINKLER PIPING TO BE RUN CONCEALED ABOVE THE FINISHED CEILING.
15. CONTRACTOR IS RESPONSIBLE FOR PROVIDING AND COORDINATING THE LOCATION OF ALL INSPECTOR'S TEST VALVES. THERE SHOULD BE AT LEAST ONE INSPECTOR'S TEST CONNECTION FOR EACH ZONE AND THE PREACTION SYSTEM. DISCHARGE TEST CONNECTION TO OUTSIDE, OR OTHER ADEQUATE DRAIN. PROVIDE AND INSTALL ACCESS PANELS AS REQUIRED.
16. ALL UNDERGROUND WORK SHALL BE PERFORMED IN ACCORDANCE WITH NFPA-24 REQUIREMENTS BY A STATE LICENSED CONTRACTOR. UNDERGROUND PIPE TO BE PVC DR-14 WITH MECHANICAL JOINT FITTINGS, RESTRAINED PER NFPA REQUIREMENTS. CONTRACTOR IS RESPONSIBLE TO LEAVE TO NATURAL STATE ALL AREAS AFFECTED BY EXCAVATION AND INSTALLATION OF NEW FIRE MAIN.
17. ALL TRAPPED SECTIONS OF WATER TO BE PROVIDED WITH AUXILIARY DRAINS, AS REQUIRED BY NFPA-13. DRAINS TO BE 1" GLOBE VALVE WITH NIPPLE AND CAP. IF TRAPPED SECTION IS OVER 50 GAL, PIPE TO AN APPROVED LOCATION. INSTALL SIGNS AS REQUIRED. PROVIDED CAPS AT THE END OF EACH MAIN FOR FLUSHING PURPOSES.
18. TAMPER SWITCHES AND FLOW SWITCHES SHALL BE CONNECTED FOR SUPERVISION AND ALARM TO THE FIRE ALARM PANEL. PROVIDE NECESSARY ELECTRICAL WIRING. CONNECTIONS FROM SWITCHES TO FIRE ALARM PANEL. THOROUGHLY REVIEW FINAL LOCATION, TYPE, MOUNTING HEIGHT AND CONTROL OF ALL DEVICES PRIOR TO ROUGH-IN.
19. PROVIDE THE FOLLOWING SYSTEM DATA: PROVIDE COPY TO OWNER'S REP.
    A. HAZARD CLASSIFICATION AREA OF APPLICATION - SQ. FT.
    B. HYDRAULIC DESIGN DENSITY HOSE ALLOWANCES - GPM
    C. HYDRAULIC DESIGN GPM/SQ. FT.
    D. TOTAL SYSTEMS REQUIREMENTS - GPM AT PSI
    E. HYDRAULIC DESIGN SQ. FT. HD
    F. WATER SUPPLY STATIC PRESSURE - PSI
20. PROVIDE TEST DATA AFTER SYSTEM INSTALLATION.
21. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR COMMUNICATIONS WITH THE PROPERTY OWNER'S PERSONNEL TO REVIEW CONTRACT DOCUMENTS PRIOR TO INSTALLATION.
22. IN GENERAL, PLANS AND DETAILS ARE DIAGRAMMATIC ONLY AND SHOULD NOT BE SCALED. COORDINATE ALL FIRE PROTECTION WORK WITH ELECTRICAL, PLUMBING AND HVAC WORK SO AS NOT TO CONFLICT IN LOCATION OR PERFORMANCE OF OTHER SYSTEMS.
23. THE CONTRACTOR SHALL KEEP A MASTER SET OF BLUE LINE PRINTS THAT ARE TO BE MARKED UP TO REFLECT "AS BUILT" CONDITIONS ON A DAILY BASIS. THESE "AS BUILT" MARK UPS MAY BE REVIEWED BY THE ARCHITECT, ENGINEER, OR OWNER'S REPRESENTATIVE, AT THEIR REQUEST AND WITHOUT PRIOR NOTIFICATION. THESE "AS BUILT" DRAWINGS WILL BE TURNED OVER TO THE OWNER AT THE CONCLUSION OF THE PROJECT.
24. THE CONTRACTOR SHALL INCLUDE ALL NECESSARY FEES AND CHARGES IN HIS BID.
25. PROVIDE SPARE SPRINKLER FOR EACH SPRINKLER TYPE USED IN BUILDING QUANTITY BY NFPA 13), A SPRINKLER WRENCH AND A SPRINKLER CABINET. THE CABINET SHALL BE MOUNTED ON THE WALL ADJACENT TO THE RISER.
26. FIRE ALARM PANEL FOR REMOTE MONITORING, ALARM, RESET, ETC. WILL BE LOCATED AS INDICATED. REFER TO FIRE ALARM ELECTRICAL DRAWINGS.
27. PROVIDE ELECTRONIC DISC FILE FOR ID OF EVERY ITEM IN THE FIRE PROTECTION SYSTEMS INCLUDING FIRE ALARM SYSTEM.
28. VALVE TYPES FOR BRANCH LINES SHALL BE SUPERVISED BALL VALVES, AND FOR THE MAINS (LARGER LINES) USE SUPERVISED OS&Y.
29. CONTRACTOR SHALL OBTAIN A CURRENT 2 HYDRANT WATER FLOW TEST OR WATER MODEL DATED WITHIN (12) MONTHS FROM TIME OF SHOP DRAWING SUBMITTAL. ALL HYDRAULIC CALCULATIONS SHALL BE BASED ON THIS FLOW TEST.
30. CALCULATIONS SHOULD MAINTAIN A MINIMUM 10% SPRINKLER SYSTEM SAFETY FACTOR.
31. SYSTEM SHALL BE INSTALLED WITH LIGHT HAZARD CLASSIFICATION UNLESS OTHERWISE REQUIRED BY THE AHJ, NFPA, AND IBC REQUIREMENTS. SEE ARCHITECTURAL LIFE SAFETY DRAWINGS AND DETAILS FOR FURTHER BUILDING CLASSIFICATION INFORMATION.
32. CONFIRM WITH LOCAL FIRE CHIEF THAT STANDPIPES ARE NOT REQUIRED FOR THIS BUILDING.
33. FIRE PROTECTION CONTRACTOR SHALL FULLY PARTICIPATE IN THE BUILDING SYSTEMS COORDINATION PROCESS. THIS INCLUDES MEETING WITH THE MECHANICAL, ELECTRICAL AND PLUMBING CONTRACTORS TO DISCUSS PIPE ROUTING, EQUIPMENT LOCATIONS AND POTENTIAL AREAS OF CONFLICT. COORDINATION DRAWINGS MUST BE SUBMITTED SHOWING FIRE SPRINKLER PIPING AND SPRINKLERS FULLY COORDINATED WITH ALL OTHER TRADES. CONFLICTS THAT ARISE IN THE FIELD DURING INSTALLATION WILL BE CORRECTED AT NO ADDITIONAL COST TO THE OWNER.
34. FIRE PROTECTION CONTRACTOR SHALL BE AWARE THAT DUCTWORK AND HYDRONIC PIPING TAKES PRECEDENCE OVER SPRINKLER PIPING WITH REGARDS TO ABOVE CEILING SPACE. IT IS ASSUMED THAT FOR COORDINATION PURPOSES THE BRANCH SPRINKLER PIPING CAN RUN ABOVE THE BOTTOM OF BEAMS/JOISTS AS REQUIRED. THE CONTRACTOR SHALL BECOME FAMILIAR WITH CEILING HEIGHTS, BEAM DEPTHS, AND DUCTWORK/PIPING LAYOUT PRIOR TO DRAWING FIRE SPRINKLER SHOP DRAWINGS. CEILING SPACE WITH ROOFS ABOVE ARE ESPECIALLY COMPACT AND CAREFUL ATTENTION SHOULD BE PAID TO PIPE SLOPES AND ROUTING.
35. LIGHT FIXTURE LOCATIONS IN CEILINGS TAKE PRECEDENCE OVER SPRINKLER HEAD LOCATIONS. CEILING DIFFUSERS MAY BE MOVED TO AN ADJACENT TILE IF THE RELOCATION WILL ELIMINATE THE NEED FOR AN ADDITIONAL SPRINKLER HEAD WITH APPROVAL BY THE ENGINEER.
36. THE KANSAS CITY FIRE DEPARTMENT SHALL WITNESS THE FULL FLOW FLUSH TEST PRIOR TO CONNECTION TO THE FIRE SPRINKLER SYSTEM.
37. FIRE PROTECTION WATER ENTRY SIZE IS A MINIMUM. PIPE SIZE MAY INCREASE BASED ON SITE FLOW AND PRESSURE CONDITIONS.

3

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009012026
PROFESSIONAL ENGINEER
03/07/2023

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Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
3	3/7/23	ADDENDUM #3

FP0.1

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FIRE PROTECTION GENERAL NOTES

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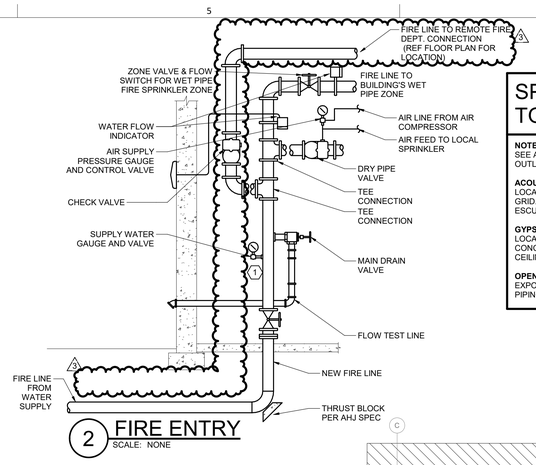
RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
Lee's Summit, Missouri
03/15/2023

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-#009700026
PROFESSIONAL ENGINEER
03/07/2023

BranchPattern
www.branchpattern.com
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS



2 FIRE ENTRY
SCALE: NONE

SPRINKLER TYPES ACCORDING TO CEILING TYPES

NOTES:
SEE ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING TYPES AND LOCATIONS OUTLINED BELOW

ACOUSTICAL TILE CEILINGS:
LOCATE SPRINKLER HEADS CENTERED WITHIN LONG AXIS OF THE TILE, WITHIN 2'x2' GRID. CHROME PLATED SEMI-RECESSED SPRINKLER HEAD WITH CHROME PLATED ESCUTCHEON.

GYPSUM CEILING:
LOCATE SPRINKLER HEAD TO COORDINATE WITH ALL CEILING MOUNTED DEVICES. CONCEAL SPRINKLER HEAD WITH COVER. COVER FACTORY PAINTED TO MATCH CEILING FINISH.

OPEN TO STRUCTURE AREAS:
EXPOSED UP-TURNED SPRINKLER HEAD. BRUSHED CHROME FINISH. SPRINKLER HEAD PIPING COLOR TO BE PAINTED PER ARCHITECTURAL SPECIFICATIONS.

FIRE PROTECTION LEGEND

SYMBOL	DESCRIPTION
◯	STANDPIPE LOCATIONS
	AREAS NOT HATCHED ARE LIGHT HAZARD
	ORDINARY HAZARD GROUP 1
	ORDINARY HAZARD GROUP 2

LIFE SAFETY WALL LEGEND

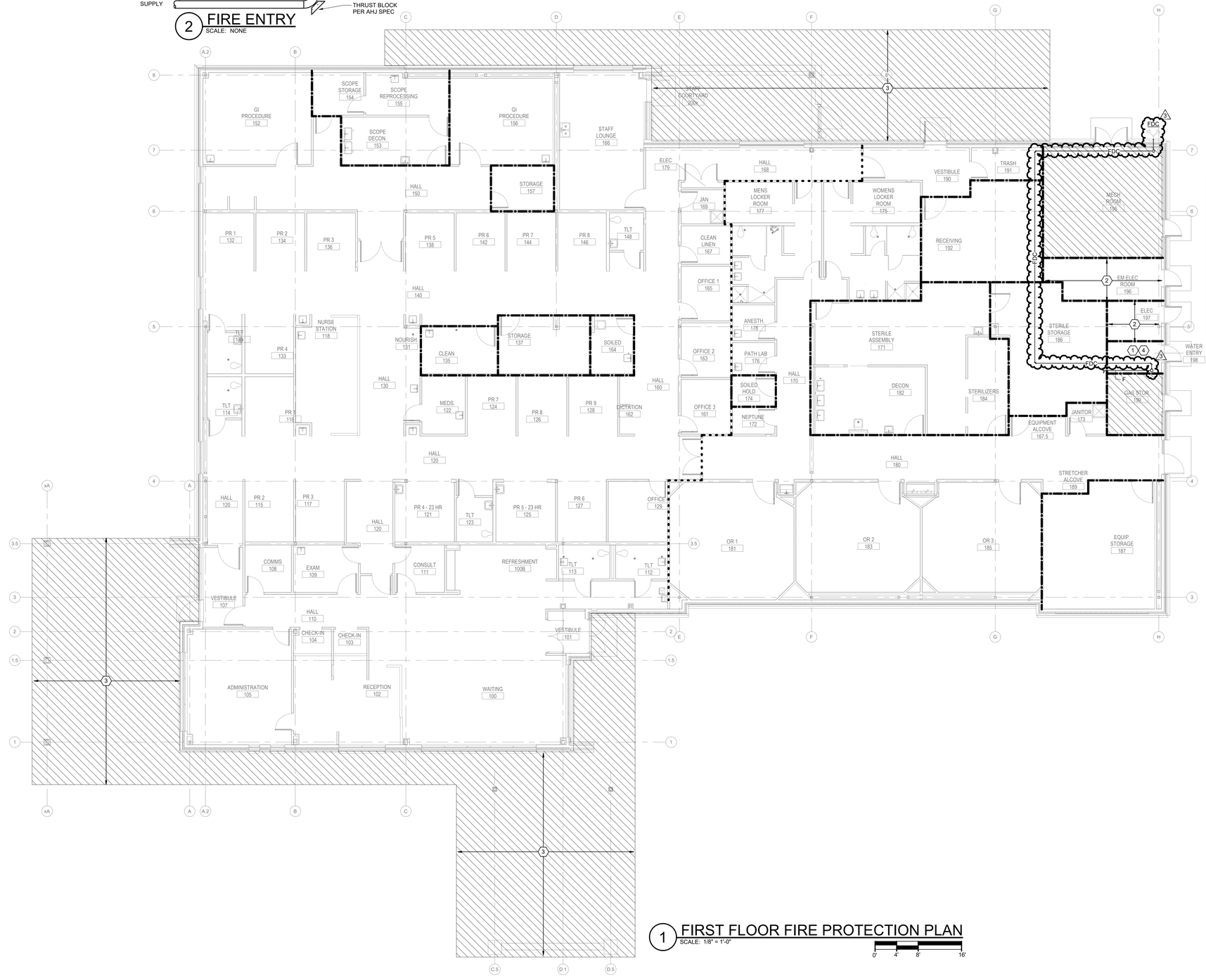
	1-HR FIRE RATED WALL
	1-HR SMOKE RATED WALL

GENERAL NOTES (THIS SHEET)

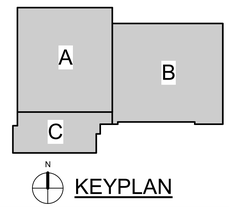
1. REFER TO SHEET FP.01 FOR FIRE PROTECTION GENERAL NOTES.

KEY NOTES (X) (THIS SHEET)

1. FIRE WATER ENTRY. BACKFLOW DEVICE IS LOCATED ON-SITE NEAR FIRE MAIN TAP PER LEE'S SUMMIT REQUIREMENTS. REFER TO CIVIL PLANS.
2. DO NOT ROUTE PIPES ABOVE ELECTRICAL EQUIPMENT.
3. PROVIDE DRY-PIPE FIRE PROTECTION SYSTEM TO SERVE ENTRY CANOPY. SIZING OF SYSTEM WILL BE PERFORMED BY FIRE PROTECTION ENGINEER.
4. PROVIDE DRY-PIPE VALVE IN FIRE ENTRY ROOM. PROVIDE DRY-PIPE SYSTEM WITH TANK TYPE AIR COMPRESSOR WITH WALL MOUNTING HARDWARE LOCATED IN FIRE ENTRY ROOM. CONNECT AIR COMPRESSOR TO EMERGENCY POWER SYSTEM. REFER TO ELECTRICAL DRAWINGS FOR CIRCUITING.



1 FIRST FLOOR FIRE PROTECTION PLAN
SCALE: 1/8" = 1'-0"
0' 4' 8' 16'



KEYPLAN

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Checked By	AB, RC, MG

Revision

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FP1.1

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FIRST FLOOR FIRE PROTECTION PLAN

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RELEASED FOR CONSTRUCTION
As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009012006
PROFESSIONAL ENGINEER
02/07/2023

BranchPattern
www.branchpattern.com
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

PLUMBING LEGEND

NOTE: THIS IS A MASTER SYMBOLS LIST. ALL SYMBOLS, ABBREVIATIONS, ETC. MAY NOT NECESSARILY BE USED ON ALL DRAWINGS

PIPING

- DOMESTIC COLD WATER
- DOMESTIC HOT WATER
- DOMESTIC HOT WATER RECIRC.
- 140°F DOMESTIC HOT WATER
- 140°F DOMESTIC HOT WATER RECIRC.
- PRIMARY STORM DRAIN
- SECONDARY STORM DRAIN
- SANITARY PUMPED DISCHARGE
- SANITARY WASTE
- CONDENSATE DRAIN
- SANITARY VENT
- GREASE WASTE
- ACID WASTE
- ACID VENT
- LIQUEFIED PETROLEUM GAS (PROPANE)
- NATURAL GAS
- COMPRESSED AIR
- FIRE SUPPRESSION

MISCELLANEOUS

- SECTION CUT: UPPER NUMBER INDICATES DRAWING NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- CONNECTION POINT OF NEW WORK TO EXISTING
- CONNECTION POINT OF DEMOLITION TO EXISTING
- DETAIL REFERENCE: UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- RISER DESIGNATION
- NOTE REFERENCE SYMBOL
- EXISTING LINEWORK
- DEMOLITION LINEWORK
- NEW LINEWORK

VALVES / SYMBOLS

- DIRECTION OF FLOW IN PIPING
- TWO WAY CONTROL VALVE
- THREE WAY CONTROL VALVE
- BUTTERFLY VALVE
- GLOBE VALVE
- BALANCING VALVE
- SOLENOID VALVE
- CONTROL VALVE
- THERMOSTATIC MIXING VALVE
- TRIPLE DUTY VALVE WITH PRESSURE PORTS
- CHECK VALVE
- STRAINER
- STRAINER WITH BLOWOFF
- RELIEF/SAFETY VALVE
- PRESSURE REDUCING VALVE
- VACUUM BREAKER
- VENTURI
- GAS COCK
- SIGHT GLASS
- BALL VALVE
- 3/4" BALL DRAIN VALVE WITH 3/4" HOSE CONNECTION AND CAP ON CHAIN
- THERMOSTATIC TRAP
- F&T TRAP
- GATE VALVE
- PRESSURE GAUGE
- PRESSURE GAUGE WITH PIGTAIL
- THERMOMETER, THERMOMETER W/ TEST WELL
- PRESSURE/TEMPERATURE PORT
- UNION
- FLANGE CONNECTION
- PIPING ELBOW UP
- PIPING ELBOW DOWN
- PIPING TEE UP
- PIPING TEE DOWN
- PIPING CAP
- GAUGE COCK
- WATER HAMMER ARRESTOR
- PIPING REDUCER
- PRESSURE REGULATING VALVE
- FLEXIBLE CONNECTOR
- AUTOMATIC AIR VENT
- MANUAL AIR VENT
- PIPE ANCHOR / ROOF PIPING SUPPORT
- EXPANSION JOINT
- PIPE GUIDE
- VENT THRU ROOF
- 3"FS-1 FLOOR SINK, SIZE AND TYPE
- 3"FD-1 FLOOR DRAIN, SIZE AND TYPE
- 3"RD-1 ROOF DRAIN, SIZE AND TYPE
- HOSE BIBB / WALL HYDRANT
- LINE CLEANOUT / WALL CLEANOUT
- FCO FLOOR CLEANOUT
- GCO GRADE CLEANOUT
- SELF-REGULATING HEATED CABLE – LENGTH AS SHOWN IN DRAWINGS. REFERENCE ELECTRICAL PLANS FOR SPECIFICATION OF COMPLETE HEAT-TRACE SYSTEM. ARROW DENOTES DIRECTION

ABBREVIATIONS

AAV	AIR ADMITTANCE VALVE
AFF	ABOVE FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNIT
CW	COLD WATER
DEG,°	DEGREES
DDC	DIRECT DIGITAL CONTROL
DN	DOWN
DT	DILUTION TANK
DW	DIRECT WASTE
(E)	EXISTING TO REMAIN
ESP	EXTERNAL STATIC PRESSURE
EWT	ENTERING WATER TEMPERATURE
FDC	FIRE DEPARTMENT CONNECTION
FFE	FINISHED FLOOR ELEVATION
FHC	FIRE HOSE CABINET
FPM	FEET PER MINUTE
GCO	GRADE CLEANOUT
GPM	GALLONS PER MINUTE
HD	HEAD
HP	HORSEPOWER
HW	HOT WATER
HWC	HOT WATER CIRCULATION
HZ	HERTZ
IE	INVERT ELEVATION
IMB	ICE MAKER BOX
IN.WC	INCHES OF WATER COLUMN
IW	INDIRECT WASTE
KW	KILOWATT
LBS	POUNDS
LWT	LEAVING WATER TEMPERATURE
MBH	1000 BTU PER HOUR
MFR	MANUFACTURER
MH	MANHOLE
(N)	NEW
N/A	NOT APPLICABLE
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
PH,ø	PHASE
PIV	POST INDICATOR VALVE
PRV	PRESSURE REDUCING VALVE
QTY	QUANTITY
(R)	RELOCATED EXISTING
RPM	REVOLUTIONS PER MINUTE
RPZ	REDUCED PRESSURE ZONE BACKFLOW PREVENTER
SF	SQUARE FEET
TDH	TOTAL DYNAMIC HEAD
TSP	TOTAL STATIC PRESSURE
TW	TEPID WATER
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDERSLAB
VTR	VENT THROUGH ROOF
WC	WATER COLUMN
WCO	WALL CLEANOUT

PLUMBING GENERAL NOTES

1. THE PLANS ARE, TO A GREAT EXTENT, DIAGRAMMATIC IN NATURE. DRAWING SCALES SHOULD BE VERIFIED FROM DIMENSIONS ON ARCH. PLANS. THE INFORMATION PRESENTED IS AS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATION, MEASUREMENTS LEVELS, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THE WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE.
2. CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO SUBMITTING A BID TO COVER THE CONDITIONS AT THE SITE INFORMING THEMSELVES OF ALL DETAILS.
3. ALL WORK SHALL COMPLY WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL CODES, LAWS, ACTS AND ORDINANCES, AND ALL AUTHORITIES HAVING JURISDICTION.
4. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL ENGINEERING REQUIREMENTS, THE OWNER'S DESIGN CRITERIA, UTILITY COMPANY REQUIREMENTS, APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY, AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.
5. RECORD DRAWINGS - PREPARE AND SUBMIT TO THE OWNER RECORD DRAWINGS INDICATING THE EXACT LOCATION OF ALL EQUIPMENT INCLUDING THE EQUIPMENT'S "AS INSTALLED" SIZE(S). MANUFACTURER, MODEL NUMBERS, AND PERFORMANCE RATINGS.
6. SUPPORTS - EQUIPMENT, PIPING, OR ANY OTHER ACCESSORY SHALL NOT BE SUPPORTED FROM OTHER PIPING, DUCTWORK, METAL ROOF DECK, LATERAL BRACING BRIDGING, OR CONDUIT. ITEMS SHALL ONLY BE SUPPORTED FROM BUILDING STRUCTURE.
7. COORDINATE EXACT LOCATION OF ALL PIPING AND EQUIPMENT WITH STRUCTURAL, ARCHITECTURAL, ELECTRICAL, AND OTHER MECHANICAL SYSTEMS.
8. WHERE MOUNTING HEIGHTS ARE NOT DETAILED OR DIMENSIONED, INSTALL MECHANICAL SERVICES AND OVERHEAD EQUIPMENT TO PROVIDE THE MAXIMUM HEADROOM POSSIBLE.
9. ALL PIPING TO VIBRATING EQUIPMENT SHALL HAVE FLEXIBLE CONNECTORS.
10. COORDINATE ALL ROOF AND CHASE PENETRATIONS WITH STRUCTURAL DRAWINGS AND ROOF INSTALLER.
11. THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK.
12. ALL TESTS SHALL BE COMPLETED BEFORE ANY MECHANICAL EQUIPMENT OR PIPING INSULATION IS APPLIED.
13. CONCRETE HOUSEKEEPING PADS TO SUIT MECHANICAL EQUIPMENT SHALL BE SIZED AND LOCATED BY THE MECHANICAL CONTRACTOR. MINIMUM CONCRETE PAD THICKNESS SHALL BE 4 INCHES. PAD SHALL EXTEND BEYOND THE EQUIPMENT A MINIMUM OF 4 INCHES ON EACH SIDE. CONCRETE HOUSEKEEPING PADS SHALL BE PROVIDED BY THE GENERAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OF THE MECHANICAL CONTRACTOR TO COORDINATE THE SIZES AND LOCATIONS OF CONCRETE HOUSEKEEPING PADS WITH THE GENERAL CONTRACTOR.
14. ACCESS PANELS ARE REQUIRED (MIN. 18"X18", UNLESS NOTED OTHERWISE IN SPECIFICATIONS) FOR ACCESS TO EVERY VALVE AND CONTROL SENSOR IF NOT OTHERWISE ACCESSIBLE. ACCESS PANEL SHALL BE APPROVED BY ARCHITECT/ENGINEER. COORDINATE PANEL LOCATIONS WITH THE ARCHITECT PRIOR TO INSTALLATION.
15. PROVIDE SHUTOFF VALVES IN ALL DOMESTIC WATER PIPING SYSTEM BRANCHES IN WHICH BRANCH PIPING SERVES TWO OR MORE FIXTURES.
16. ROUTE ALL PIPING PARALLEL TO BUILDING WALLS, STRUCTURE AND FEATURES, AS HIGH AS POSSIBLE, AND OFFSET AS NECESSARY TO AVOID STRUCTURAL MEMBERS, MECHANICAL EQUIPMENT AND THE LIKE.
17. REFER TO ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS OF STANDARD AND ACCESSIBLE PLUMBING FIXTURES.
18. SLOPE ALL SANITARY WASTE PIPE SIZES 3" AND UNDER AT 1/4" PER FOOT (2.08%) MINIMUM, UNLESS NOTED OTHERWISE.
19. SLOPE ALL SANITARY WASTE PIPE SIZES 4" AND ABOVE AT 1/8" PER FOOT (1.04%) MINIMUM, UNLESS NOTED OTHERWISE.
20. SLOPE ALL STORM AND OVERFLOW STORM PIPING AT 1/8" PER FOOT (1.04%) MINIMUM, UNLESS NOTED OTHERWISE.
21. SLOPE ALL CONDENSATE DRAINAGE PIPING AT 1/8" PER FOOT (1.04%) MINIMUM, UNLESS NOTED OTHERWISE.
22. DRAWINGS PROVIDED DURING PRELIMINARY SUBMITTALS (SD,DD, 50%CD) ARE SUBJECT TO CHANGE. SIZES, QUANTITY, LOCATION, TYPE, ETC OF PIPING, FIXTURES, EQUIPMENT, ACCESSORIES, ETC ARE NOT FINAL.

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P1.0B	UNDERSLAB PLUMBING PLAN - AREA B
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MEDICAL GAS LEGEND

GAS AND VACUUM PIPING

- MA — MEDICAL AIR
- DA — DENTAL AIR
- LA — LABORATORY AIR
- O — OXYGEN
- N2O — NITROUS OXIDE
- OE — ORAL EVACUATION
- MV — MEDICAL-SURGICAL VACUUM
- WAGD — WASTE ANESTHESIA GAS DISPOSAL (WAGD)
- MVW — COMBINATION MEDICAL VACUUM AND WAGD
- CO2 — CARBON DIOXIDE
- N — NITROGEN
- IA — INSTRUMENT AIR
- MAI — MEDICAL AIR COMPRESSOR INTAKE
- VE — VACUUM PUMP EXHAUST

GAS AND VACUUM VALVES / SYMBOLS

- ZONE VALVE BOX
- ALARM PANEL (REFERENCE SCHEDULES FOR TYPE)
- WALL MOUNTED MEDICAL AIR OUTLET
- WALL MOUNTED OXYGEN OUTLET
- WALL MOUNTED INSTRUMENT AIR OUTLET
- WALL MOUNTED MEDICAL-SURGICAL VACUUM INLET
- WALL MOUNTED DENTAL AIR OUTLET
- WALL MOUNTED CARBON DIOXIDE OUTLET
- WALL MOUNTED NITROUS OXIDE AIR OUTLET
- WALL MOUNTED WAGD INLET
- CEILING MOUNTED GAS AND VACUUM. THICKLINE BASE INDICATES ORIENTATION OF SYMBOL MAY BE USED WITH ANY OUTLETS/INLETS SHOWN ABOVE. (EXAMPLES LEFT TO RIGHT: MEDICAL AIR OUTLET, OXYGEN OUTLET, WAGD INLET)

PLUMBING PIPE INSULATION SCHEDULE

SERVICE	SIZE	LOCATION	INSULATION MATERIAL	INSULATION THICKNESS	NOTES
DOMESTIC COLD WATER	NPS 1 AND SMALLER	INTERIOR	MINERAL-FIBER, PREFORMED PIPE INSULATION	1/2 INCH	
DOMESTIC COLD WATER	NPS 1-1/4 AND LARGER	INTERIOR	MINERAL-FIBER, PREFORMED PIPE INSULATION	1 INCH	
DOMESTIC HOT AND RECIRCULATED HOT WATER <140°F	NPS 1-1/4 AND SMALLER	INTERIOR	MINERAL-FIBER, PREFORMED PIPE INSULATION	1 INCH	
DOMESTIC HOT AND RECIRCULATED HOT WATER <140°F	NPS 1-1/2 AND LARGER	INTERIOR	MINERAL-FIBER, PREFORMED PIPE INSULATION	1-1/2 INCH	
SANITARY WASTE WITH HEAT TRACING	ALL SIZES	INTERIOR	MINERAL-FIBER, PREFORMED PIPE INSULATION	1 INCH	
STORMWATER AND OVERFLOW DRAINAGE	ALL SIZES	INTERIOR	MINERAL-FIBER, PREFORMED PIPE INSULATION	1 INCH	1
CONDENSATE AND EQUIPMENT DRAIN WATER <60°F	ALL SIZES	INTERIOR	MINERAL-FIBER, PREFORMED PIPE INSULATION	1/2 INCH	2

1. INCLUDE INSULATION ON ALL DRAIN BODIES. INITIAL VERTICAL LEADER FROM DRAIN BODY AND ALL HORIZONTAL PIPING ONLY, INSULATION ON VERTICAL LEADERS NOT REQUIRED.
2. INSULATE FLOOR DRAINS, TRAPS, AND SANITARY DRAIN PIPING WITHIN 10 FT OF DRAIN RECEIVING CONDENSATE AND EQUIPMENT DRAIN WATER BELOW 60° F, WITH 1/2 INCH MINERAL-FIBER, PREFORMED PIPE INSULATION (ALL SIZES).

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Job Number	3-22030
Drawn By	JS
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Revision

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PLUMBING LEGEND & NOTES

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2/7/2023 4:41:58 PM

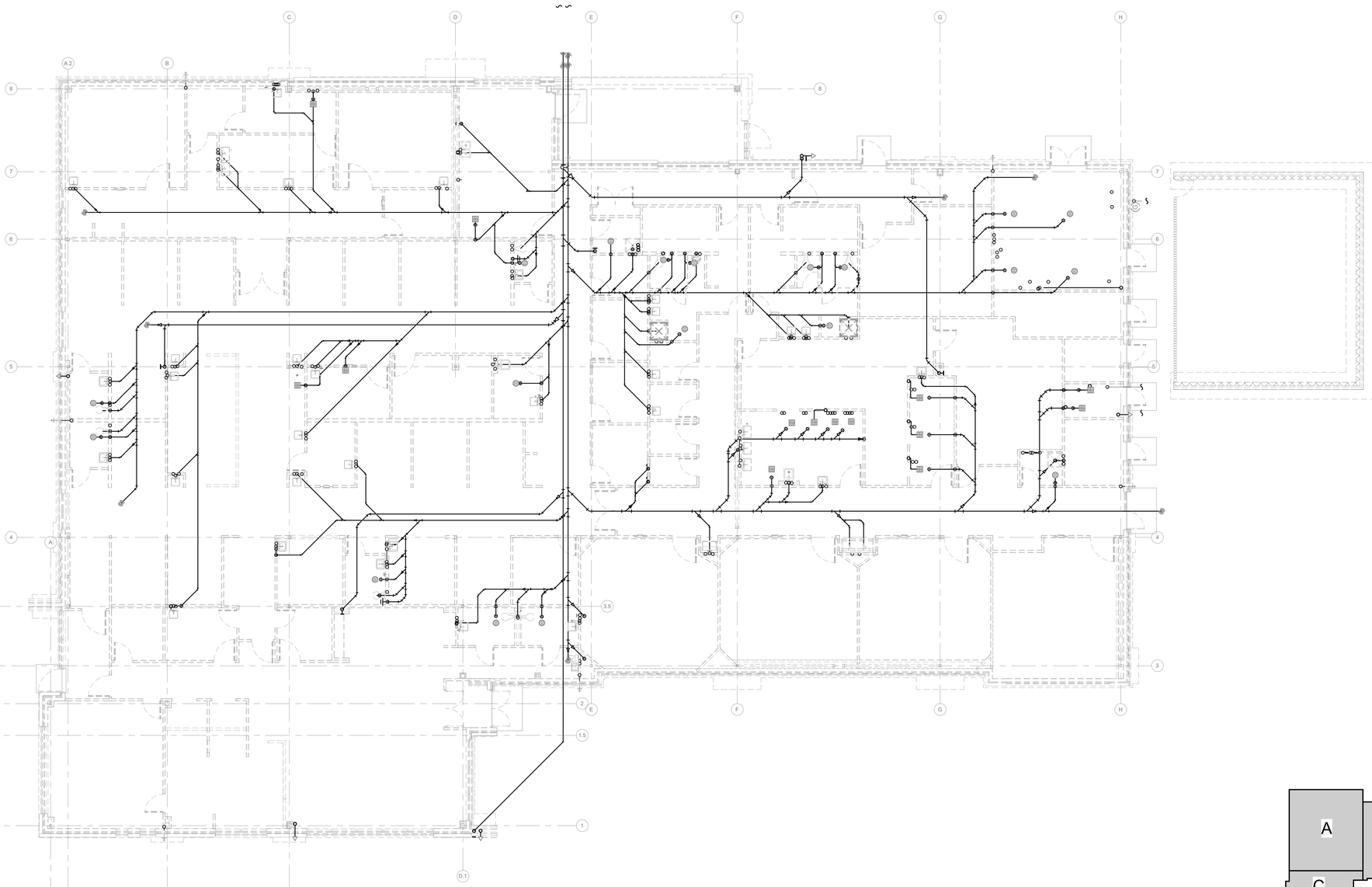
BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

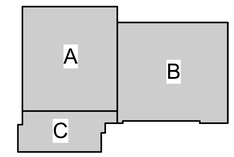
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. WASTE PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT FOR 4" AND LARGER AND 1/4" PER FOOT OF 3" OR SMALLER.
3. STORM AND STORM OVERFLOW PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT. PROVIDE CLEANOUTS IN BASE OF STACKS AND COORDINATE DRAIN LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
4. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
5. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
6. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS.
7. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. 1-1/2" SAN UP TO EMERGENCY EYE WASH.
2. 2" SAN UP TO LAVATORY/SINK.
3. 2" SAN UP TO ELECTRIC WATER COOLER.
4. 3" SAN UP TO CLINICAL SERVICE SINK.
5. 3" SAN UP TO MOP SINK BASIN.
6. 4" SAN UP TO WATER CLOSET.
7. 2" SAN UP TO URINAL.
8. 2" SAN UP TO SHOWER.
9. 2" SAN UP.
10. 4" SAN UP.
11. NOT USED.
12. 1-1/2" V UP.
13. 2" V UP.
14. 1-1/2" SAN UP.



1 UNDERSLAB PLUMBING PLAN OVERALL
SCALE: 1/8" = 1'-0"
0' 4' 8' 16'



KEYPLAN

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As noted on drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-#009700026
PROFESSIONAL ENGINEER
02/07/2023

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Surgery Center of Lee's Summit
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Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	JS
Checked By	AB, RC, MG

Revision

Number	Date	Description

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UNDERSLAB PLUMBING PLAN - OVERALL

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Lee's Summit, Missouri
02/15/2023

BranchPattern
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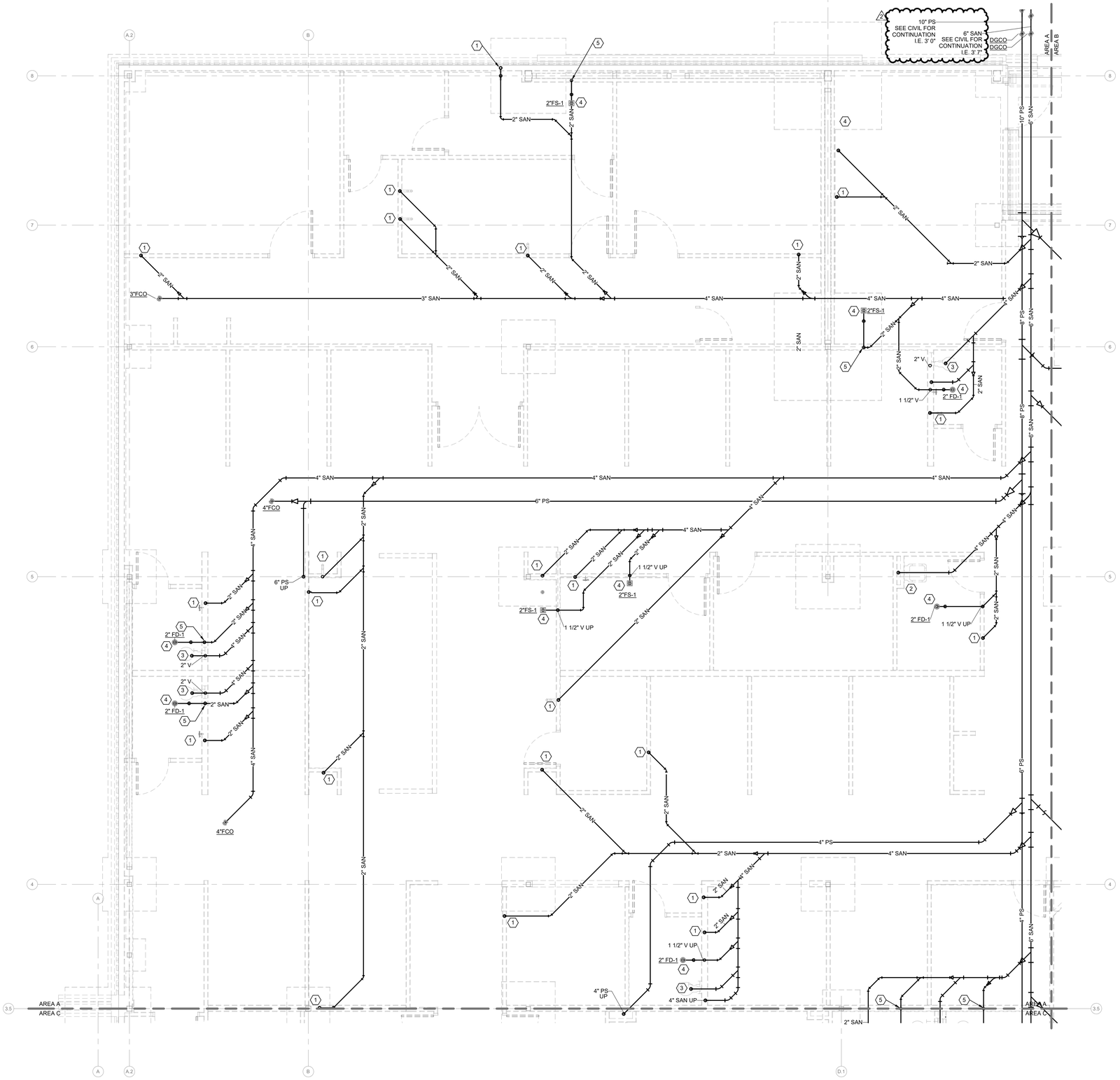
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

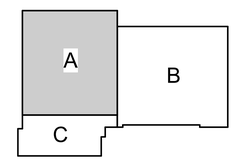
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. WASTE PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT FOR 4" AND LARGER AND 1/4" PER FOOT OF 3" OR SMALLER.
3. STORM AND STORM OVERFLOW PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT. PROVIDE CLEANOUTS IN BASE OF STACKS AND COORDINATE DRAIN LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
4. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
5. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS. AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
6. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS.
7. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. 2" SAN UP TO LAVATORY/SINK.
2. 3" SAN UP TO CLINICAL SERVICE SINK.
3. 4" SAN UP TO WATER CLOSET.
4. 2" SAN UP.
5. 1-1/2" V UP.



1 UNDERSLAB PLUMBING PLAN - AREA A
SCALE: 1/4" = 1'-0"



KEYPLAN

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-#009700026
PROFESSIONAL ENGINEER
02/20/2023

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Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
2	2/20/23	ADDENDUM #2

P1.0A

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UNDERSLAB PLUMBING PLAN - AREA A

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City of Lee's Summit, Missouri
02/15/2023

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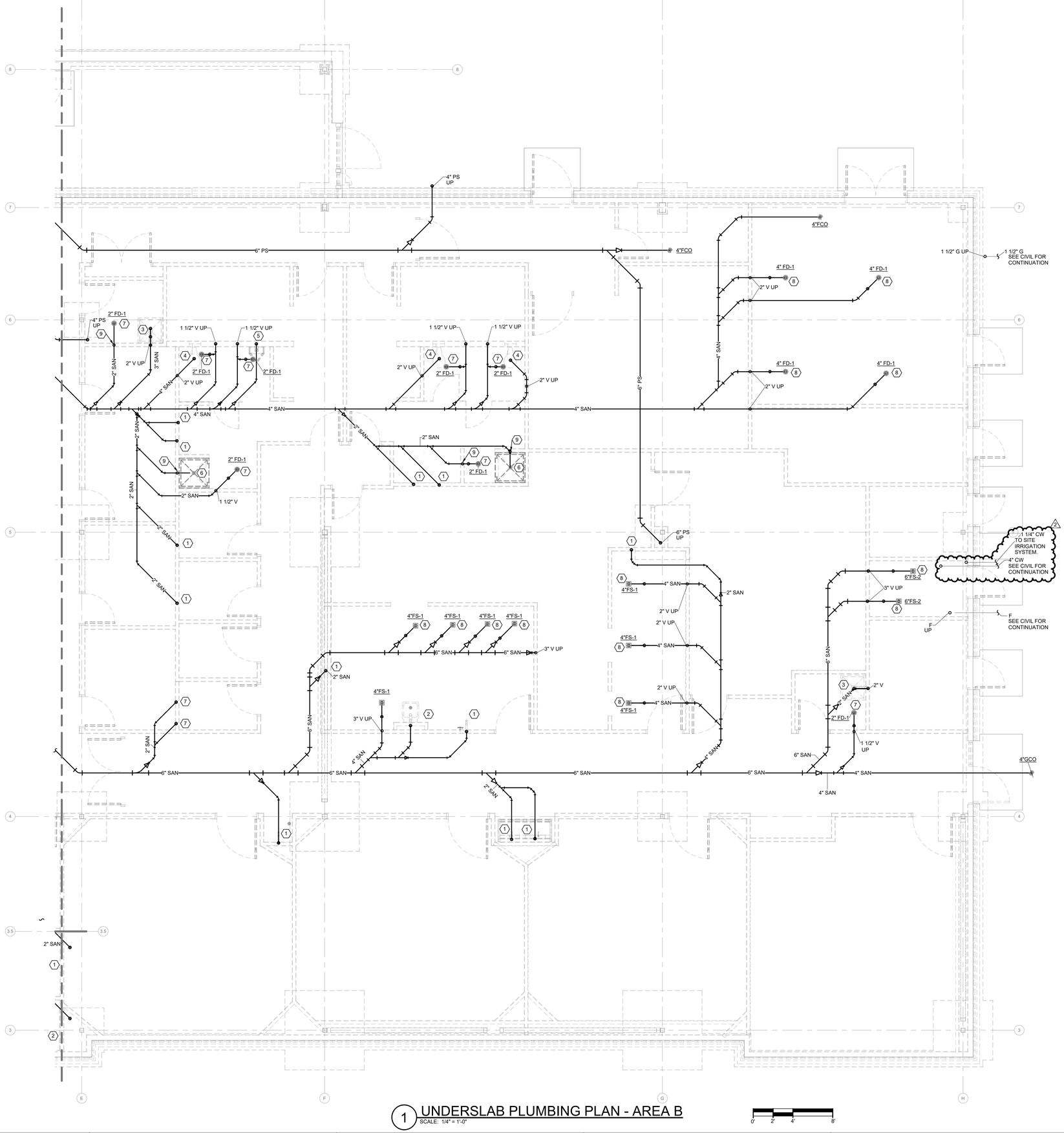
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. WASTE PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT FOR 4" AND LARGER AND 1/4" PER FOOT OF 3" OR SMALLER.
3. STORM AND STORM OVERFLOW PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT. PROVIDE CLEANOUTS IN BASE OF STACKS AND COORDINATE DRAIN LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
4. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
5. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
6. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS.
7. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

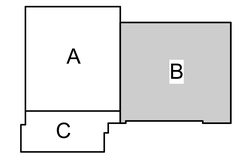
KEY NOTES (X) (THIS SHEET)

1. 2" SAN UP TO LAVATORY/SINK.
2. 3" SAN UP TO CLINICAL SERVICE SINK.
3. 3" SAN UP TO MOP SINK BASIN.
4. 4" SAN UP TO WATER CLOSET.
5. 2" SAN UP TO URINAL.
6. 2" SAN UP TO SHOWER.
7. 2" SAN UP.
8. 4" SAN UP.
9. 1-1/2" V UP.
10. 2" V UP.



1 UNDERSLAB PLUMBING PLAN - AREA B
SCALE: 1/4" = 1'-0"

0' 2' 4' 8'



KEYPLAN

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009/000026
PROFESSIONAL ENGINEER
02/20/2023

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Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

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2	2/20/23	ADDENDUM #2

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UNDERSLAB PLUMBING PLAN - AREA B

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Development Services Department
Lee's Summit, Missouri
02/15/2023

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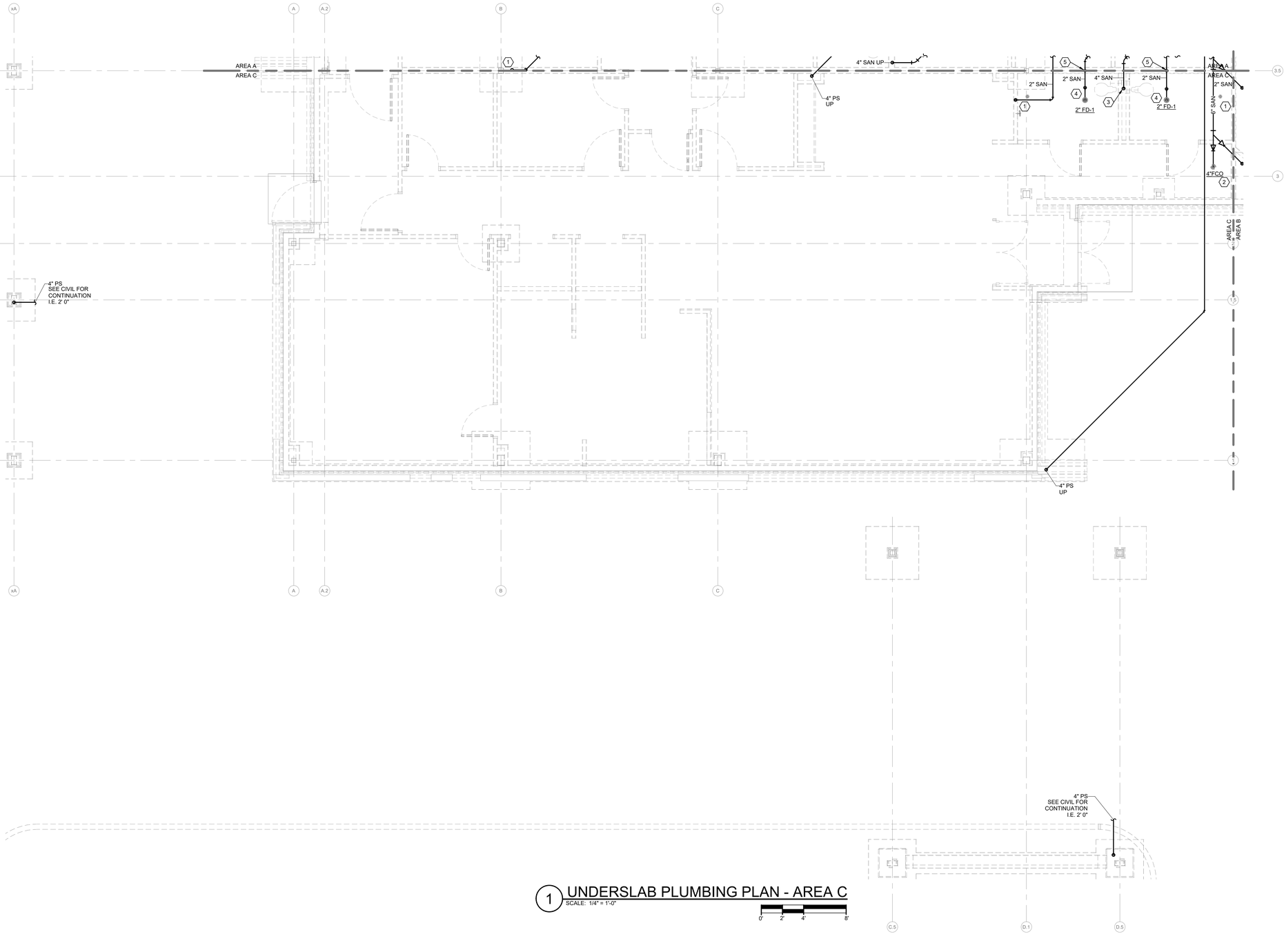
GENERAL NOTES (THIS SHEET)

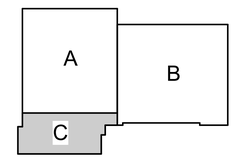
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. WASTE PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT FOR 4" AND LARGER AND 1/4" PER FOOT OF 3" OR SMALLER.
3. STORM AND STORM OVERFLOW PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT. PROVIDE CLEANOUTS IN BASE OF STACKS AND COORDINATE DRAIN LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
4. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
5. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
6. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS.
7. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. 2" SAN UP TO LAVATORY/SINK.
2. 2" SAN UP TO ELECTRIC WATER COOLER.
3. 4" SAN UP TO WATER CLOSET.
4. 2" SAN UP.
5. 1-1/2" V UP.



1 UNDERSLAB PLUMBING PLAN - AREA C
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



KEYPLAN

RICKI MANKTALA
NUMBER PE-#009700026
STATE OF MISSOURI
PROFESSIONAL ENGINEER
02/07/2023

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Surgery Center of Lee's Summit
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Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

P1.0C

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UNDERSLAB PLUMBING PLAN - AREA C

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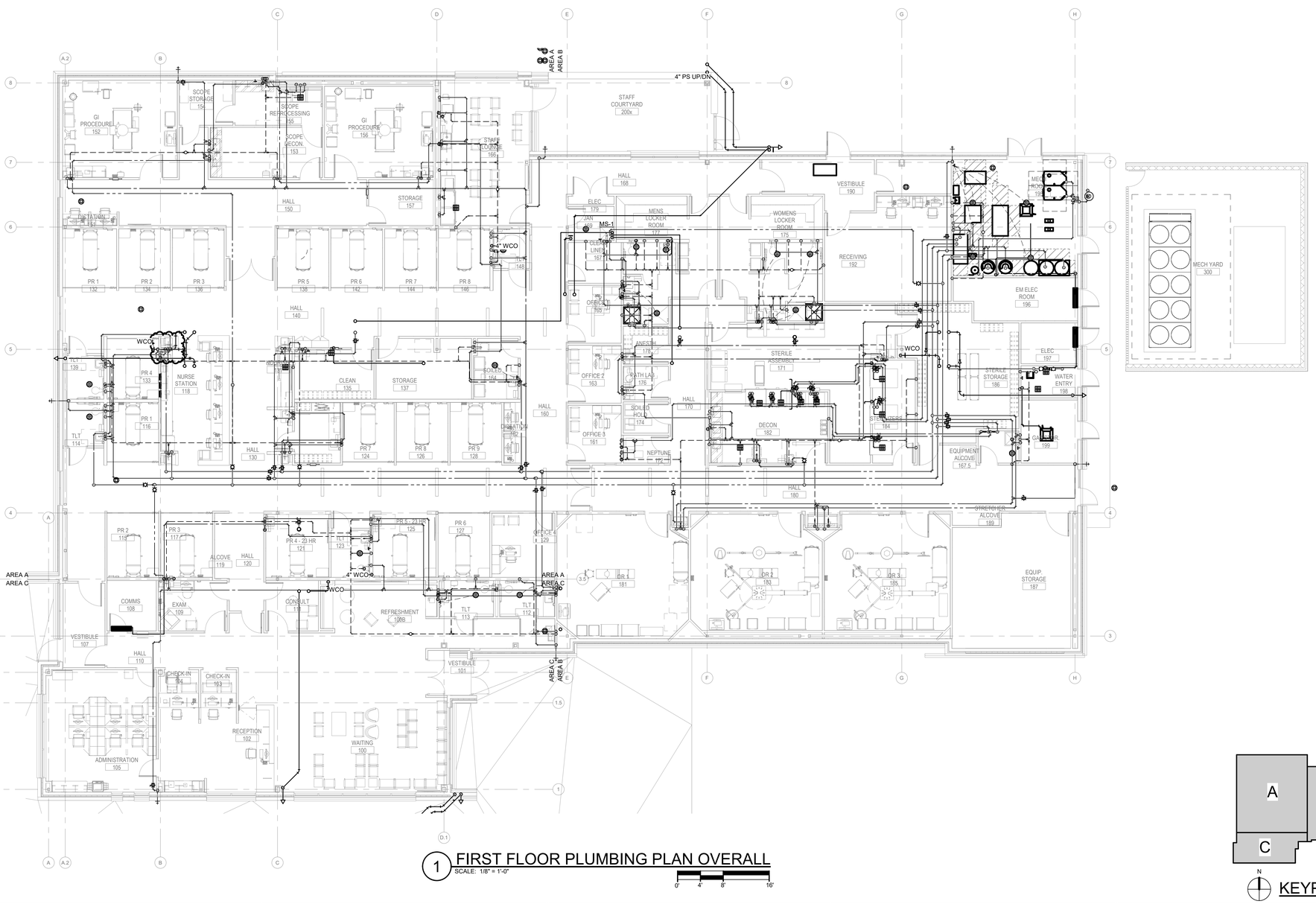
Development Services Department
Lee's Summit, Missouri
02/15/2023

BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

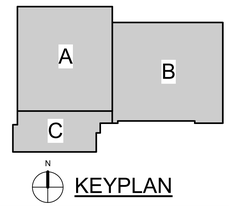
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. WASTE PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT FOR 4" AND LARGER AND 1/4" PER FOOT OF 3" OR SMALLER.
3. STORM AND STORM OVERFLOW PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT. PROVIDE CLEANOUTS IN BASE OF STACKS AND COORDINATE DRAIN LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
4. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
5. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.
6. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS.
7. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.



1 FIRST FLOOR PLUMBING PLAN OVERALL

SCALE: 1/8" = 1'-0"

0' 4' 8' 16'



KEYPLAN

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Date	2/8/2023
Job Number	3-22030
Drawn By	JS
Checked By	AB, RC, MG

Revision

Number	Date	Description
1	Date 2	Revision 1

P1.1

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FIRST FLOOR PLUMBING PLAN - OVERALL

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Lee's Summit, Missouri
02/15/2023

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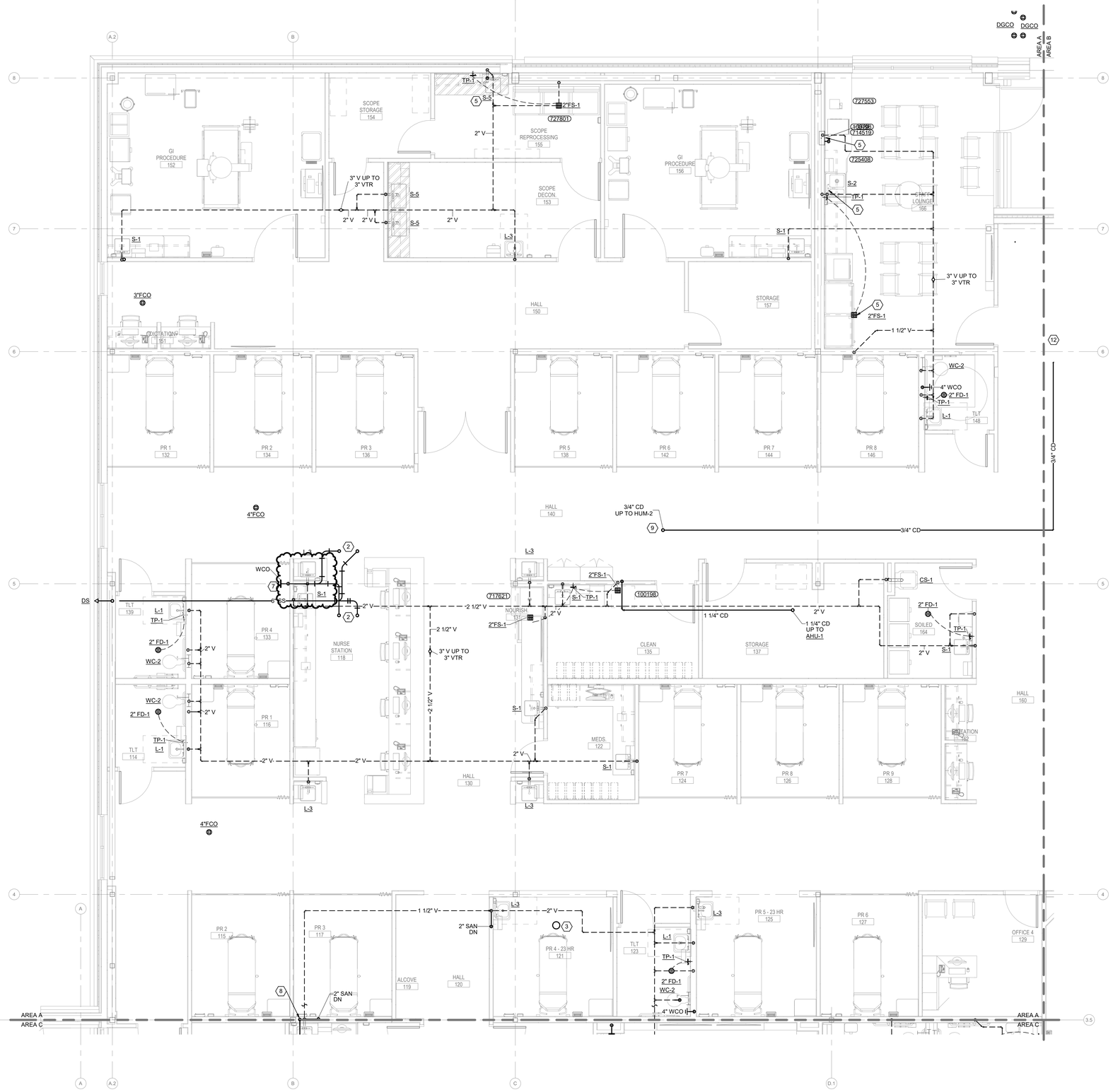
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

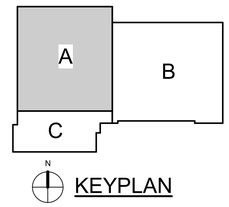
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. WASTE PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT FOR 4" AND LARGER AND 1/4" PER FOOT OF 3" OR SMALLER.
3. STORM AND STORM OVERFLOW PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT. PROVIDE CLEANOUTS IN BASE OF STACKS AND COORDINATE DRAIN LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
4. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
5. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.
6. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS.
7. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. 4" PS UP TO RD ON ROOF. 4" SS UP TO OD ON ROOF.
2. 6" PS UP TO RD ON ROOF. 6" SS UP TO OD ON ROOF.
3. DRAIN TUBING FROM RHB ON ROOF ABOVE. ROUTE DRAIN TUBING DOWN IN LAVATORY WALL AND CONNECT TO LAVATORY TAIL PIECE.
4. REFER TO DETAIL 8 ON P5.3 FOR HUMIDIFIER PIPING LAYOUT.
5. DROP SANITARY FROM FIXTURE THROUGH BOTTOM OF CASEWORK AND NOT IN WALL TO AVOID GRADE BEAM BELOW WALL STRUCTURE IN THIS LOCATION.
6. ROUTE 3/4" CD FROM SS-1 DOWN WALL TO NEAREST SINK TAIL PIECE.
7. ALL SANITARY AND STORM STACKS SHALL HAVE A WCO 18"AFF BEFORE GOING UNDERSLAB.



1 FIRST FLOOR DRAIN AND VENT PLAN - AREA A
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009/000026
PROFESSIONAL ENGINEER
02/07/2023

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description
1	Date 2	Revision 1

P1.1A

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FIRST FLOOR DRAIN & VENT PLAN - AREA A

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Development Services Department
Lee's Summit, Missouri
02/15/2023

BranchPattern
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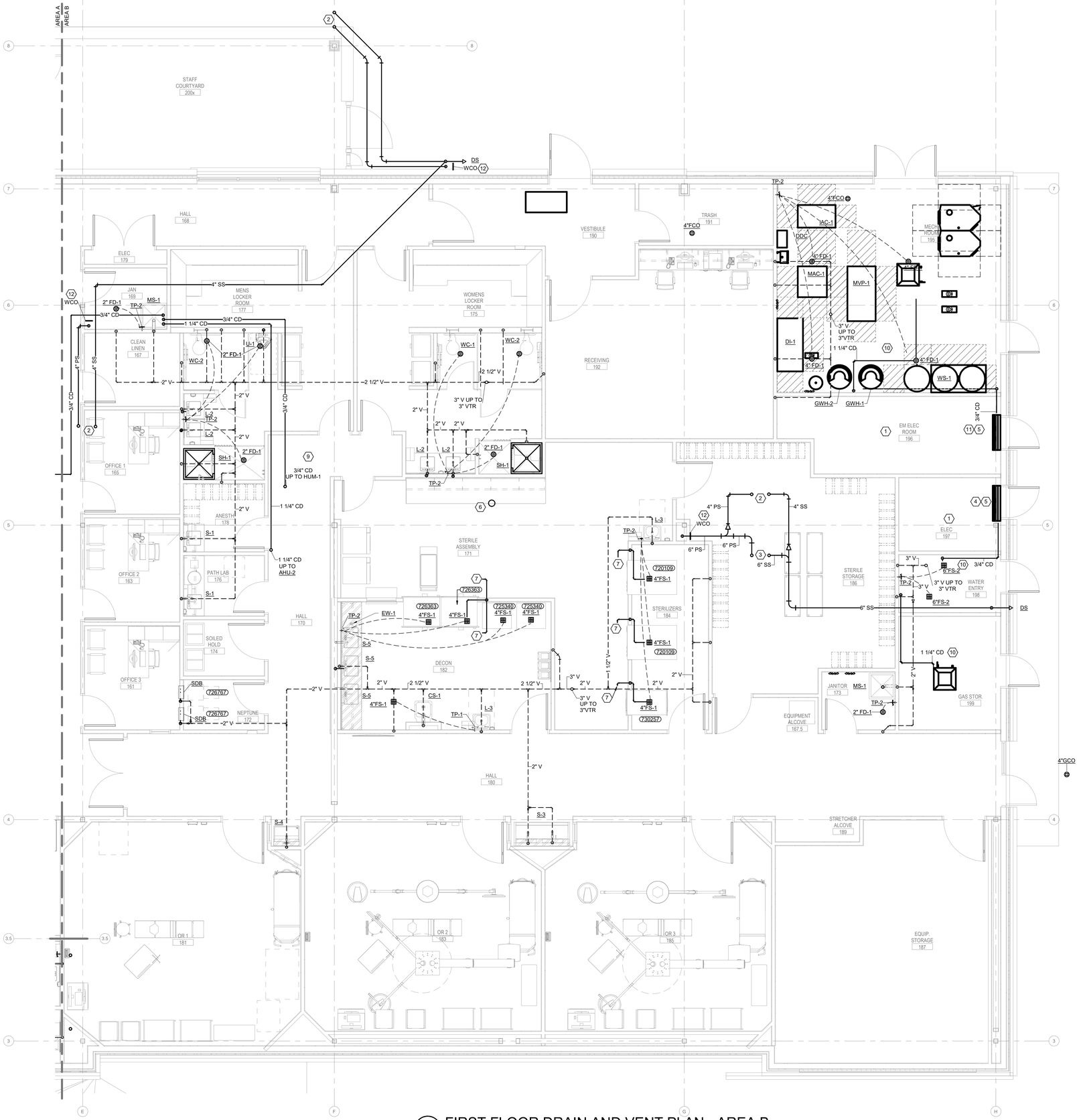
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

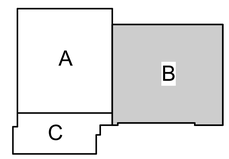
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. WASTE PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT FOR 4" AND LARGER AND 1/4" PER FOOT OF 3" OR SMALLER.
3. STORM AND STORM OVERFLOW PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT. PROVIDE CLEANOUTS IN BASE OF STACKS AND COORDINATE DRAIN LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
4. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
5. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS. AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.
6. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS.
7. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. ROUTING PIPING OVER THIS ROOM IS PROHIBITED UNLESS OTHERWISE NOTED.
2. 4" PS UP TO RD ON ROOF. 4" SS UP TO OD ON ROOF.
3. 6" PS UP TO RD ON ROOF. 6" SS UP TO OD ON ROOF.
4. ROUTE 3/4" CD FROM SS-2 DOWN WALL TO NEAREST 4"FS-1.
5. COORDINATE CONDENSATE ROUTING WITH ELECTRICAL EQUIPMENT CLEARANCES.
6. DRAIN TUBING FROM RHB ON ROOF ABOVE. ROUTE DRAIN TUBING DOWN IN LAVATORY WALL AND CONNECT TO LAVATORY TAIL PIECE.
7. CONNECT 3/4" CD TO EXHAUST HOOD. ROUTE TO NEAREST FLOOR SINK.
8. INSTALL TRAP PRIMER (TP-2) ABOVE ACCESSIBLE CEILING TO SERVE NEIGHBORING FLOOR DRAINS AND FLOOR SINKS AS INDICATED.
9. REFER TO DETAIL 8 ON P5.3 FOR HUMIDIFIER PIPING LAYOUT.
10. ROUTE 1-1/4" CD FROM SS-3 DOWN WALL TO NEAREST 4"FS-1.
11. ROUTE 3/4" CD FROM SS-5 DOWN WALL TO NEAREST 4"FS-1.
12. ALL SANITARY AND STORM STACKS SHALL HAVE A WCO 18"AFF BEFORE GOING UNDERSLAB.



1 FIRST FLOOR DRAIN AND VENT PLAN - AREA B
SCALE: 1/4" = 1'-0"



KEYPLAN

STATE OF MISSOURI
RICKI MANKTELA
NUMBER PE-2009020026
PROFESSIONAL ENGINEER
02/07/2023

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Checked By	Checker

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Number	Date	Description

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FIRST FLOOR DRAIN & VENT PLAN - AREA B

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RELEASED FOR CONSTRUCTION
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Lee's Summit, Missouri
02/15/2023

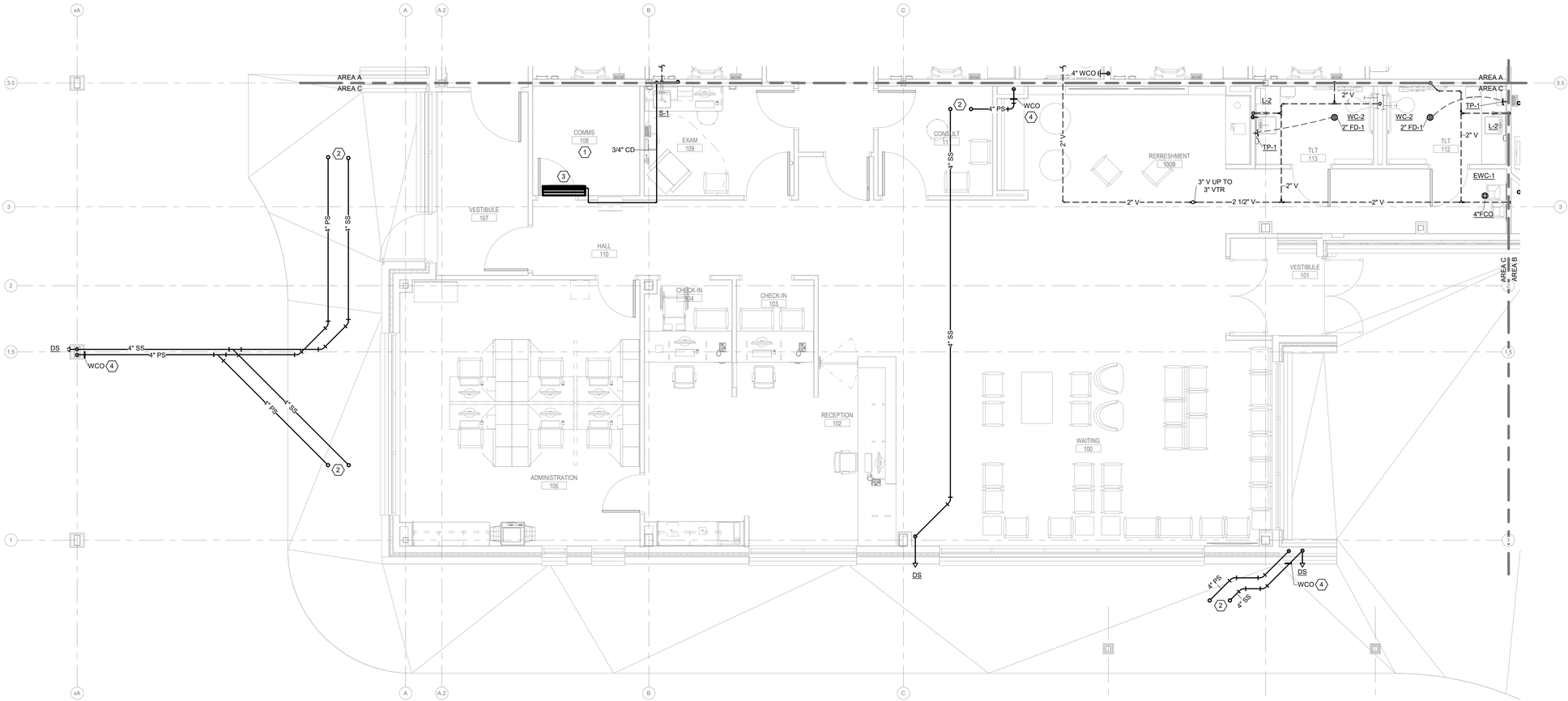
BranchPattern
www.branchpattern.com
PROJECT NUMBER: 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

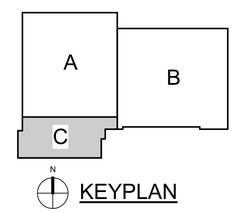
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. WASTE PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT FOR 4" AND LARGER AND 1/4" PER FOOT OF 3" OR SMALLER.
3. STORM AND STORM OVERFLOW PIPING SHALL BE ROUTED AT A SLOPE OF 1/8" PER FOOT. PROVIDE CLEANOUTS IN BASE OF STACKS AND COORDINATE DRAIN LOCATIONS WITH ARCHITECTURAL FLOOR PLANS.
4. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
5. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS. AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.
6. PROVIDE ALL FLOOR DRAINS AND FLOOR SINKS WITH TRAP PRIMERS.
7. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. ROUTING PIPING OVER THIS ROOM IS PROHIBITED UNLESS OTHERWISE NOTED.
2. 4" PS UP TO RD ON ROOF. 4" SS UP TO OD ON ROOF.
3. COORDINATE CONDENSATE ROUTING WITH ELECTRICAL EQUIPMENT CLEARANCES.
4. ALL SANITARY AND STORM STACKS SHALL HAVE A WCO 18" AFF BEFORE GOING UNDERSLAB.



1 FIRST FLOOR DRAIN AND VENT PLAN - AREA C
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



KEYPLAN

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P1.1C

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FIRST FLOOR DRAIN & VENT PLAN - AREA C

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City of Lee's Summit, Missouri
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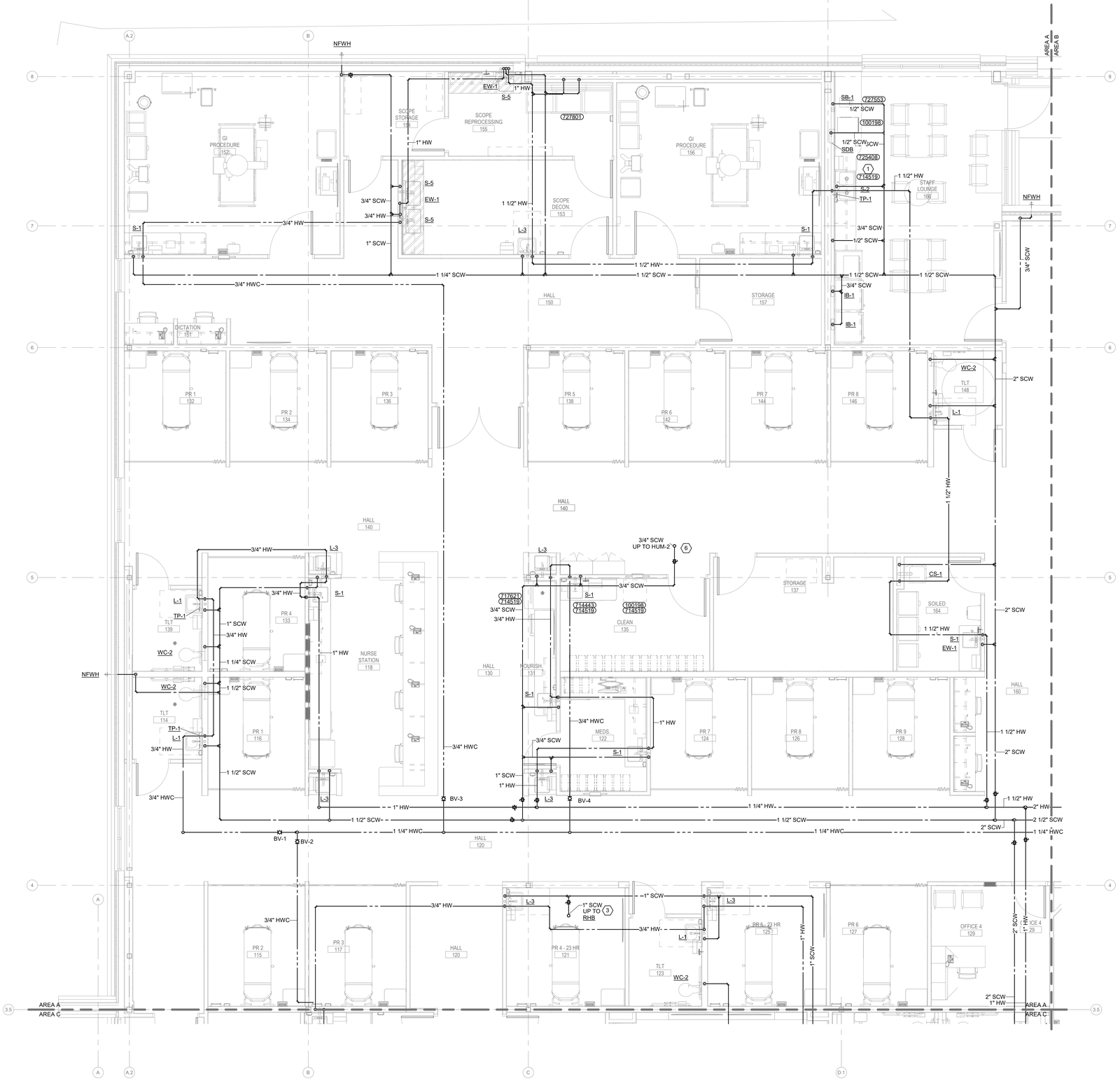
GENERAL NOTES (THIS SHEET)

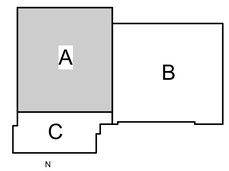
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. REFER TO PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION AND FIXTURE CONNECTION SIZES.
3. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
4. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
5. PIPING DROPS TO FIXTURES ON EXTERIOR WALL SHALL BE ROUTED ON WARM SIDE OF INSULATION TO PROTECT FROM FREEZING.
6. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. INSTALL WALL BOX UNDER SINK WITHIN CABINETRY. INSTALL STAINLESS STEEL, DOUBLE PITCHED DRAIN PAN BELOW FILTER AND PROVIDE 1" DRAIN CONNECTED TO SINK TAILPIECE.
2. PROVIDE HEAT TRACE ON SCW PIPING SERVING HUMIDIFIERS EQUAL TO RAYCHEM XL-TRACE EDGE.
3. 1" SCW SUPPLY UP TO RHB ON ROOF ABOVE. PROVIDE SHUTOFF VALVE IN BRANCH FOR SEASONAL SHUTOFF.



1 FIRST FLOOR WATER AND GAS PLAN - AREA A
SCALE: 1/4" = 1'-0"



KEYPLAN

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009/000026
PROFESSIONAL ENGINEER
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FIRST FLOOR WATER & GAS PLAN - AREA A

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Lee's Summit, Missouri
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GENERAL NOTES (THIS SHEET)

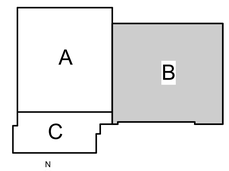
1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. REFER TO PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION AND FIXTURE CONNECTION SIZES.
3. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
4. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
5. PIPING DROPS TO FIXTURES ON EXTERIOR WALL SHALL BE ROUTED ON WARM SIDE OF INSULATION TO PROTECT FROM FREEZING.
6. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. NATURAL GAS METER AND BUILDING PRESSURE REGULATOR. COORDINATE WITH UTILITY PROVIDER.
2. LOCATION OF BOILER EMERGENCY SHUTDOWN BUTTON TIED TO 120V ELECTRONIC SOLENOID VALVE IN NATURAL GAS PIPING.
3. PROVIDE LINE SIZE RPZ BACKFLOW PREVENTER TO SERVE THE STERILE/DECON EQUIPMENT FOR SCW AND HW. ROUTE DRAIN TO MOP SINK IN JAN 173. COORDINATE INDIRECT DRAIN SIZE WITH MANUFACTURER.
4. ROUTING PIPE OVER THIS ROOM IS PROHIBITED UNLESS OTHERWISE NOTED.
5. PROVIDE HEAT TRACE ON SCW PIPING SERVING HUMIDIFIERS EQUAL TO RAYCHEM XL-TRACE EDGE.
6. 1" SCW SUPPLY UP TO RHB ON ROOF ABOVE. PROVIDE SHUTOFF VALVE IN BRANCH FOR SEASONAL SHUTOFF.
7. EMERGENCY DOMESTIC WATER CONNECTION. INSTALL 36" AFF PIPING TO BE SLOPED BACK TOWARDS EMERGENCY CONNECTION.
8. SHUTOFF VALVE TO EMERGENCY DOMESTIC WATER CONNECTION TO REMAIN CLOSED. SHUTOFF VALVE TO MAIN WATER ENTRY TO REMAIN OPEN.

1 FIRST FLOOR WATER AND GAS PLAN - AREA B
SCALE: 1/4" = 1'-0"

0' 2' 4' 8'



STATE OF MISSOURI
RICKI MANKTALA
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2	2/20/23	ADDENDUM #2

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FIRST FLOOR WATER & GAS PLAN - AREA B

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GENERAL NOTES (THIS SHEET)

1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. REFER TO PLUMBING FIXTURE SCHEDULE FOR ADDITIONAL INFORMATION AND FIXTURE CONNECTION SIZES.
3. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
4. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
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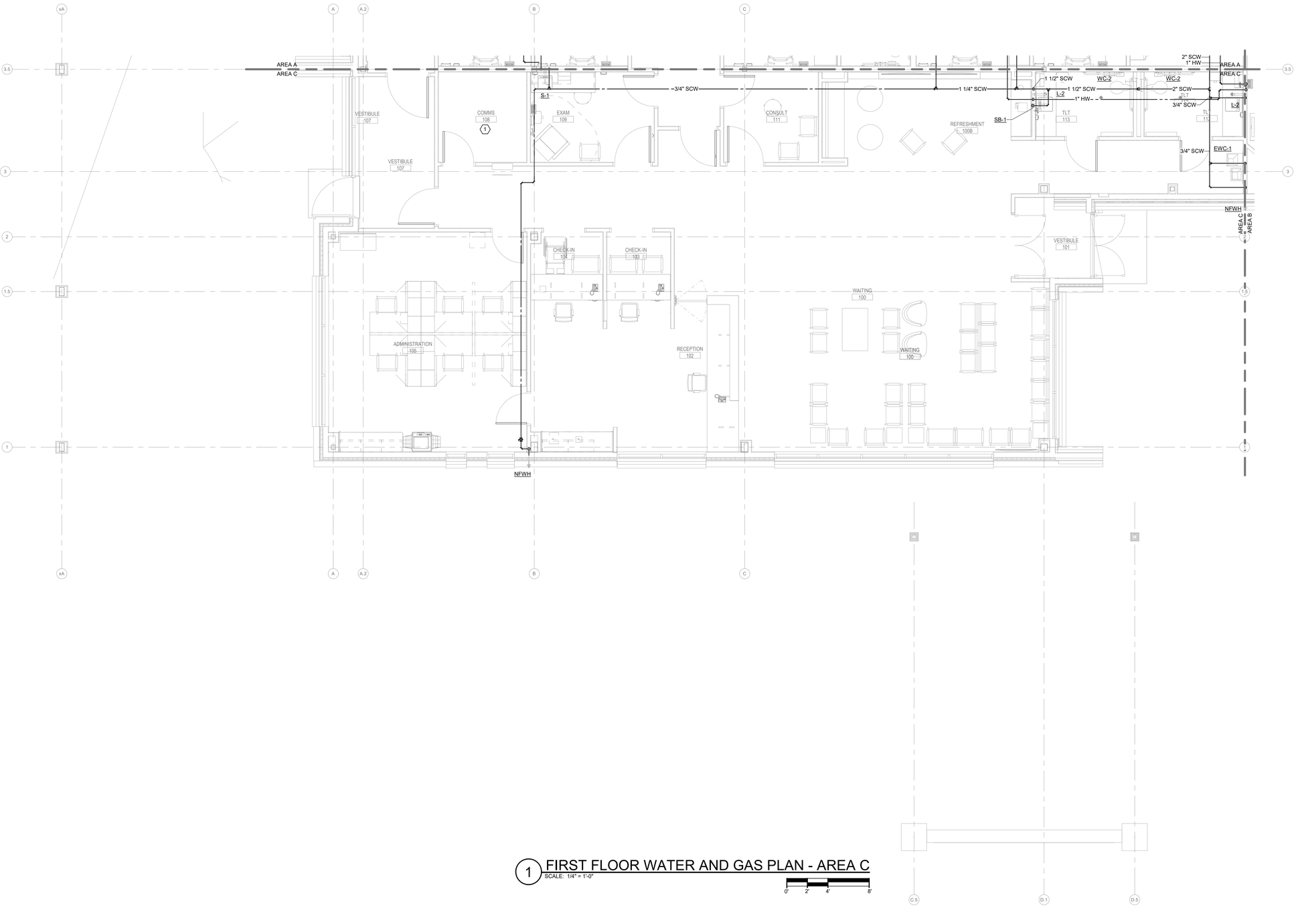
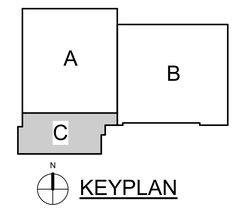
6. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.

KEY NOTES (X) (THIS SHEET)

1. ROUTING PIPE OVER THIS ROOM IS PROHIBITED UNLESS OTHERWISE NOTED.



1 FIRST FLOOR WATER AND GAS PLAN - AREA C
SCALE: 1/4" = 1'-0"



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FIRST FLOOR WATER & GAS PLAN - AREA C

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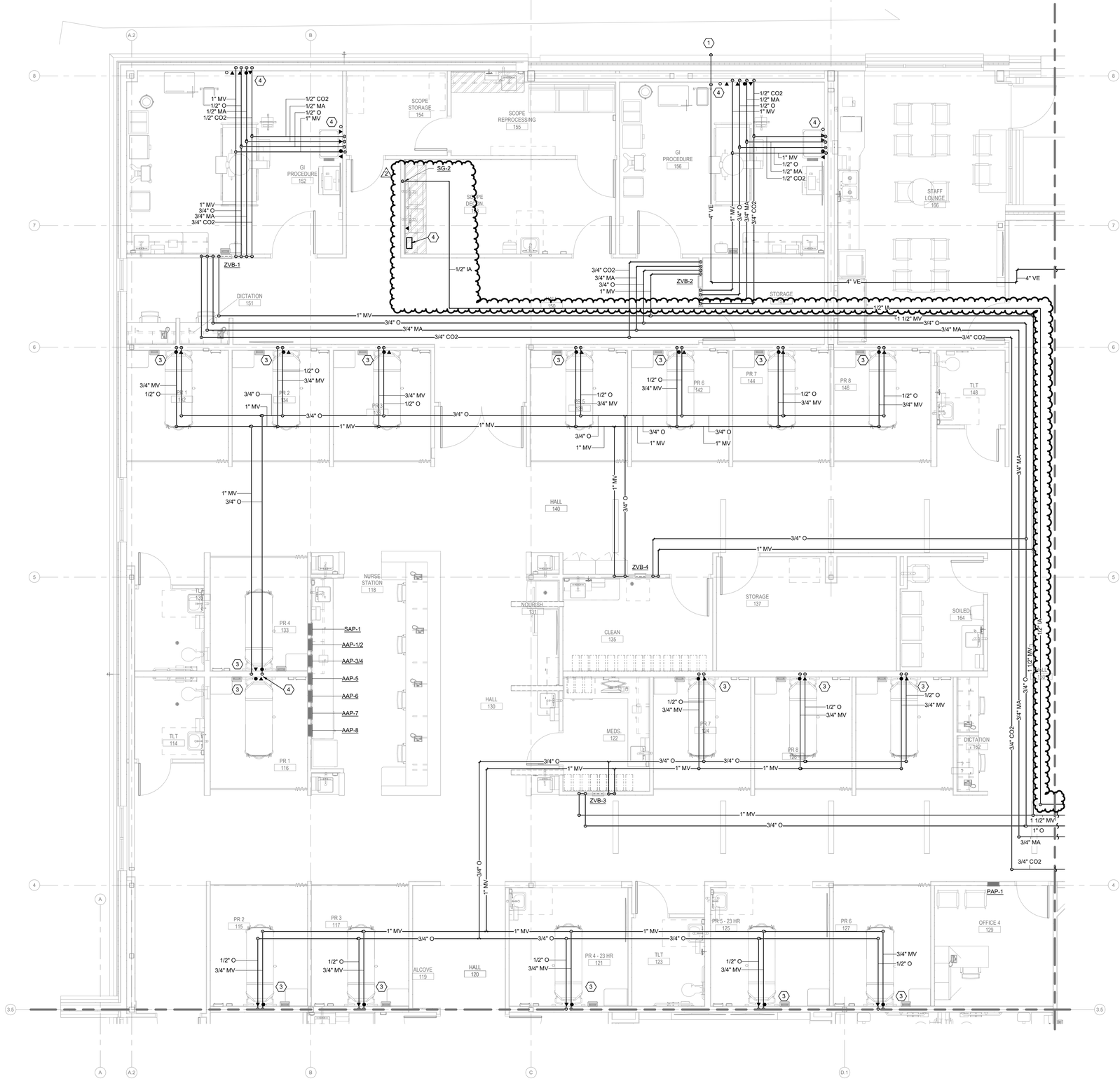
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
3. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.
4. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
5. ALL WALL MEDICAL GAS OUTLETS TO BE OHMEDA DIAMOND COMPATIBLE PIN INDEX. CEILING OUTLETS TO BE DISS TYPE WITH HOSE ASSEMBLIES AND RETRACTORS.
6. POSITIVE PRESSURE GAS PIPING RUNOUTS NO SMALLER THAN 1/2", RUNOUTS SERVING 2 OR MORE CONNECTIONS MUST BE 3/4" MIN.
7. VACUUM GAS PIPING RUNOUTS NO SMALLER THAN 3/4". RUNOUTS SERVING 2 OR MORE CONNECTIONS MUST BE 1" MIN.
8. PLUMBING PLANS GOVERN THE QUANTITY OF MEDICAL GAS STATION INLETS/OUTLETS. REFER TO ARCHITECTURAL ELEVATIONS AND CEILING PLANS FOR COORDINATED AND DIMENSIONED LOCATIONS.

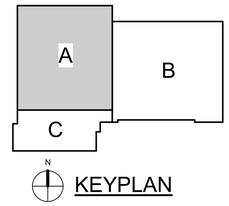
KEY NOTES (X) (THIS SHEET)

1. DISCHARGE VACUUM PUMP EXHAUST PIPING AS HIGH ON EXTERIOR WALL AS POSSIBLE. DO NOT ROUTE TO THE ROOF. DO NOT LOCATE WITHIN 25' OF ANY BUILDING OPENING.
2. 1" MV DOWN IN WALL, BRANCH 3/4" MV TO VACUUM CONNECTIONS ON BOTH SIDES OF WALL. 3/4" O DOWN IN WALL, BRANCH 1/2" O TO OXYGEN CONNECTIONS ON BOTH SIDES OF WALL. 3/4" MA DOWN IN WALL. BRANCH 1/2" MA TO MEDICAL AIR OUTLETS ON BOTH SIDES OF WALL.
3. WALL MOUNT MED GAS OUTLET ARRAY CONSISTING OF ONE (1) OXYGEN OUTLET, ONE (1) MEDICAL VACUUM INLET AND ONE (1) VACUUM SLIDE.
4. PROVIDE AGILENT IDP-3 POINT OF USE VACUUM PUMP. CONNECT TO WALL OUTLET ON OPPOSITE SIDE OF SINK.



1 FIRST FLOOR GAS AND VACUUM PLAN - AREA A
SCALE: 1/4" = 1'-0"

0' 2' 4' 8'



KEYPLAN

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2	2/20/23	ADDENDUM #2

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FIRST FLOOR GAS & VACUUM PLAN - AREA A

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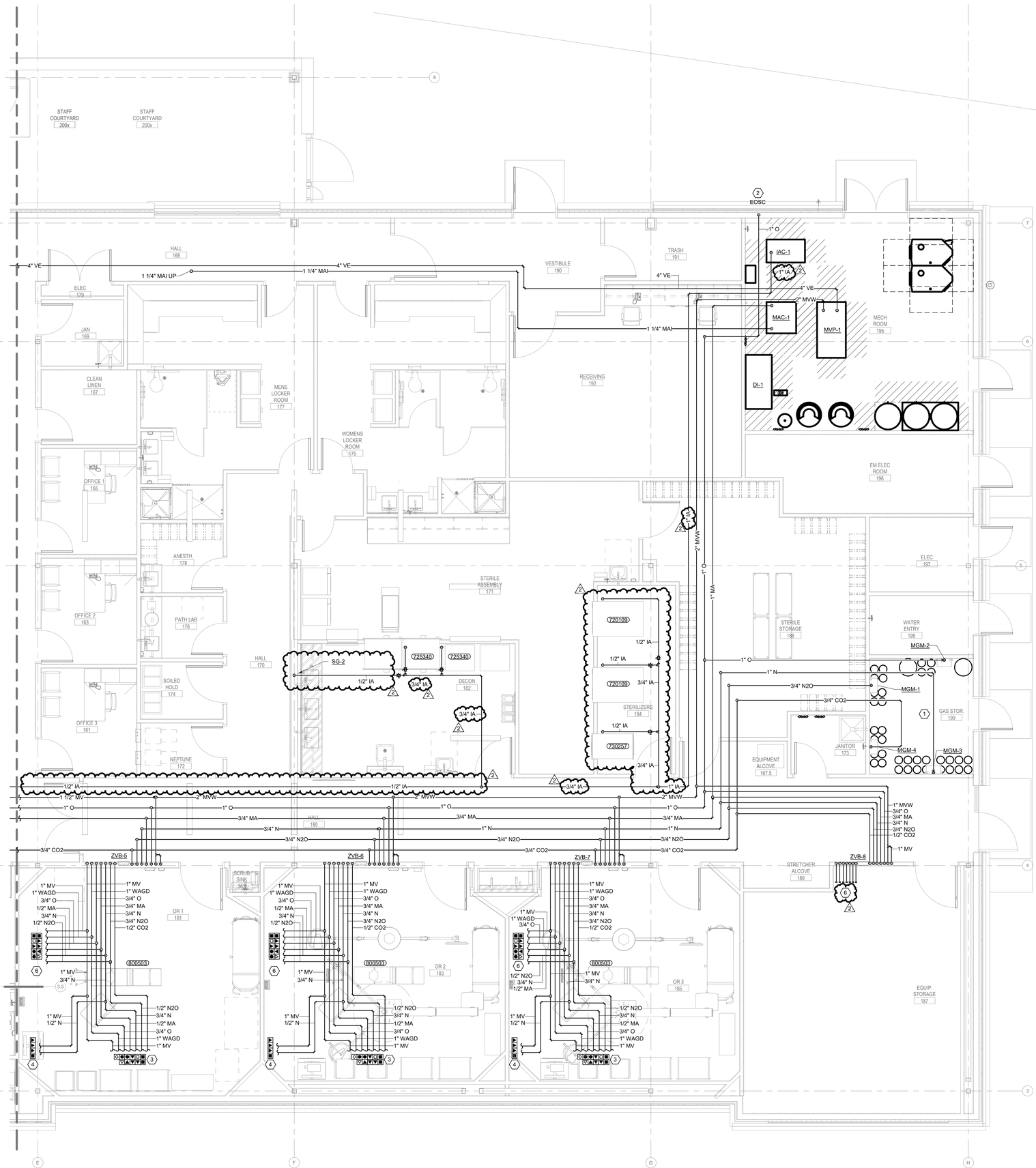
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
3. FIELD COORDINATE CONNECTION REQUIREMENTS FOR ALL MEDICAL, HVAC, AND LIKE EQUIPMENT, EITHER FURNISHED OR PROVIDED BY OTHERS.
4. MOUNT ALL VALVES IN ACCESSIBLE LOCATIONS. GIVE PREFERENCE TO LOCATIONS IN CORRIDORS, AREAS THAT WILL NOT IMPACT PATIENT CARE (IE STORAGE SPACE), AND ABOVE ACT CEILINGS.
5. ALL WALL MEDICAL GAS OUTLETS TO BE OHMEDA DIAMOND COMPATIBLE PIN INDEX. CEILING OUTLETS TO BE DISS TYPE WITH HOSE ASSEMBLIES AND RETRACTORS.
6. POSITIVE PRESSURE GAS PIPING RUNOUTS NO SMALLER THAN 1/2", RUNOUTS SERVING 2 OR MORE CONNECTIONS MUST BE 3/4" MIN.
7. VACUUM GAS PIPING RUNOUTS NO SMALLER THAN 3/4". RUNOUTS SERVING 2 OR MORE CONNECTIONS MUST BE 1" MIN.
8. PLUMBING PLANS GOVERN THE QUANTITY OF MEDICAL GAS STATION INLETS/OUTLETS. REFER TO ARCHITECTURAL ELEVATIONS AND CEILING PLANS FOR COORDINATED AND DIMENSIONED LOCATIONS.

KEY NOTES (X) (THIS SHEET)

1. VENT MANIFOLDS TO EXTERIOR OF THE BUILDING.
2. LOCATION OF EMERGENCY OXYGEN SUPPLY CONNECTION.
3. CEILING MEDICAL GAS OUTLET ARRAY CONSISTING OF TWO (2) OXYGEN, ONE (1) MEDICAL AIR, TWO (2) MEDICAL VACUUM, ONE (1) CO2, ONE (1) N2O, TWO (2) NITROGEN, AND ONE (1) WAGD OUTLETS.
4. CEILING MEDICAL GAS OUTLET ARRAY CONSISTING OF ONE (1) NITROGEN, AND THREE (3) MEDICAL VACUUM OUTLETS.
5. CEILING MED GAS OUTLET ARRAY CONSISTING OF TWO (2) OXYGEN OUTLETS, ONE (1) MEDICAL AIR, THREE (3) MEDICAL VACUUM, ONE (1) WAGD, TWO (2) NITROGEN, AND ONE (1) N2O.
6. MEDICAL GAS PIPING FOR FUTURE OPERATING ROOM EXPANSION. CAP PIPING AND LOCK SHUTOFF VALVES IN THE OFF POSITION.



1 FIRST FLOOR GAS AND VACUUM PLAN - AREA B
SCALE: 1/4" = 1'-0"
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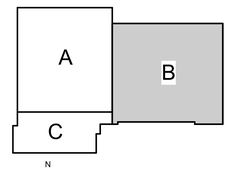

KEYPLAN

Surgery Center of Lee's Summit
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Date	2/8/2023
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2	2/20/23	ADDENDUM #2

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FIRST FLOOR GAS & VACUUM PLAN - AREA B

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2/7/2023 4:43:09 PM

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Lee's Summit, Missouri
02/15/2023

BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

1. SEE SHEET P0.1 FOR PLUMBING GENERAL NOTES AND LEGEND.
2. COORDINATE ROUTING OF PLUMBING SYSTEMS WITH ALL OTHER TRADES.
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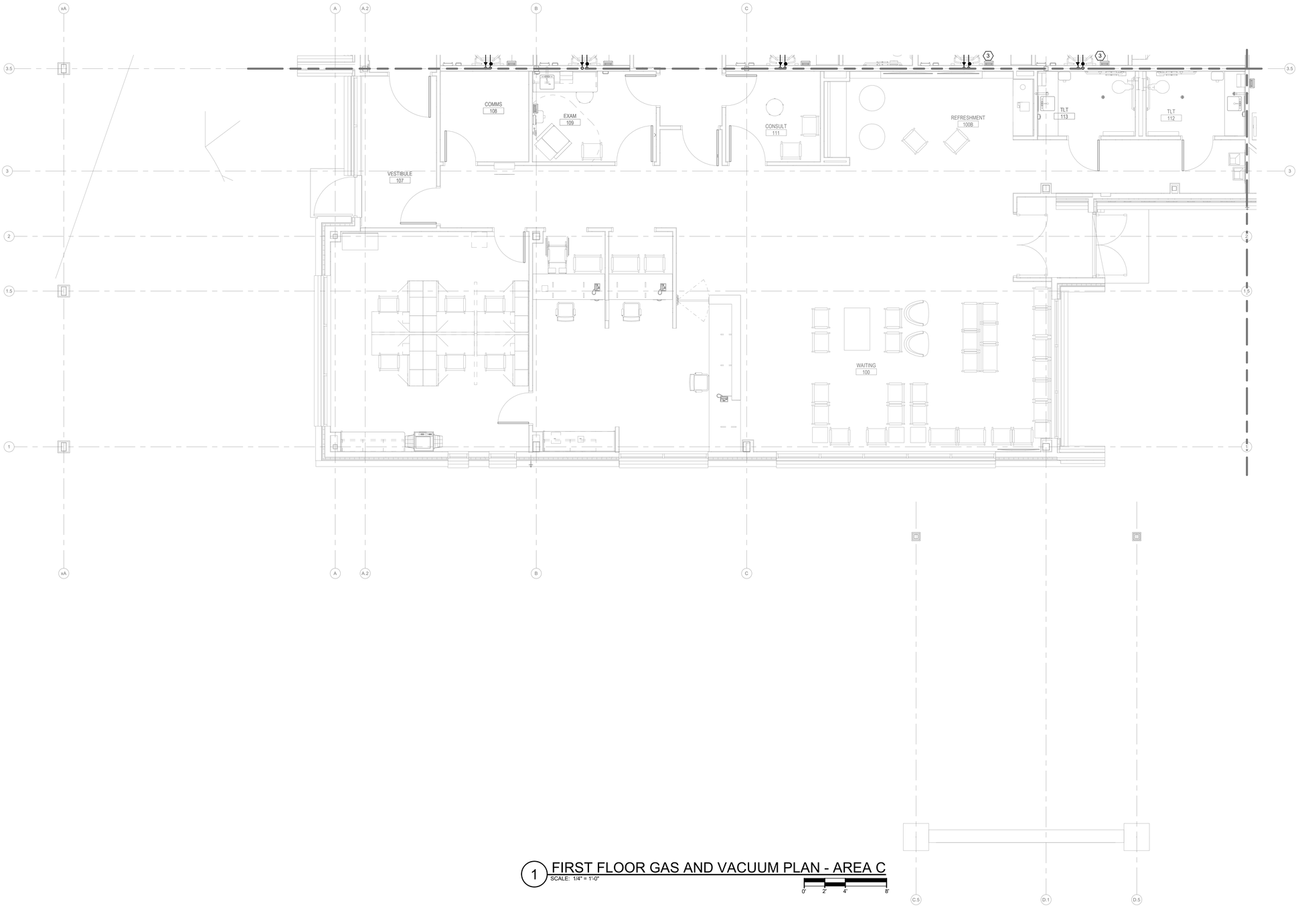
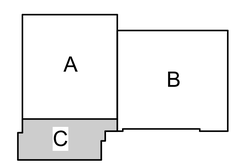


1 FIRST FLOOR GAS AND VACUUM PLAN - AREA C
SCALE: 1/4" = 1'-0"
0' 2' 4' 8'



KEYPLAN

RICKI MANKTALA
NUMBER PE-2009020026
STATE OF MISSOURI
PROFESSIONAL ENGINEER
02/07/2023

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

P3.1C

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FIRST FLOOR GAS & VACUUM PLAN - AREA C

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

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Development Services Department
City of Lee's Summit, Missouri
02/15/2023

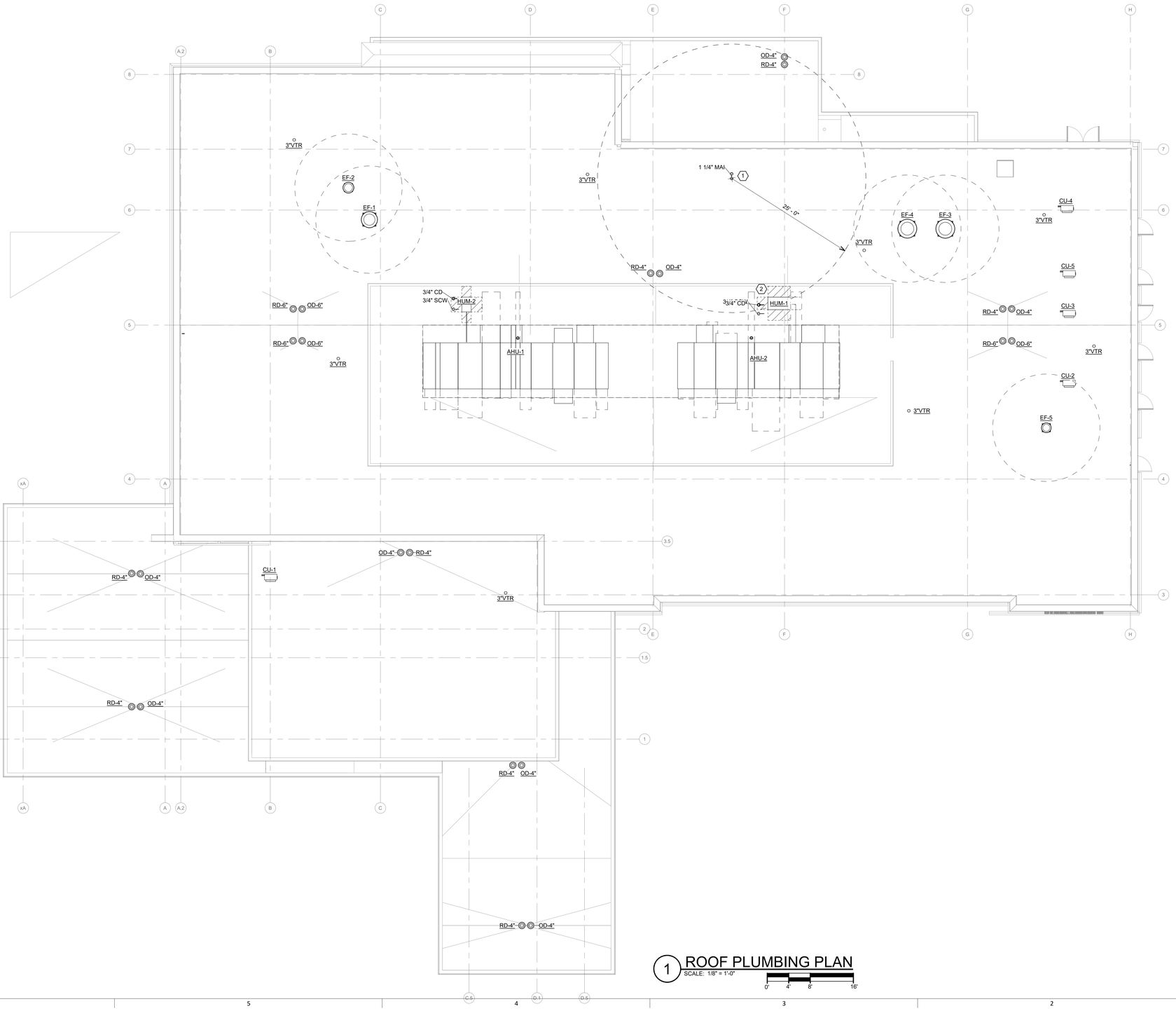
BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

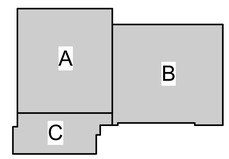
1. SEE SHEET M0.1 AND P0.1 FOR LEGENDS AND ADDITIONAL GENERAL NOTES.

KEY NOTES (X) (THIS SHEET)

1. TERMINATE MEDICAL AIR COMPRESSOR INTAKE WITH GOOSENECK PER DETAIL.
2. HUMIDIFIER SERVED WITH 3/4" SOFTENED COLD WATER FROM BELOW. ROUTE 3/4" DRAIN COOLER DISCHARGE TO NEAREST FLOOR OR MOP SINK IN BACK OF HOUSE SPACE. SEE DETAIL 8 ON P5.3.



1 ROOF PLUMBING PLAN
SCALE: 1/8" = 1'-0"
0' 4' 8' 16'



KEYPLAN

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-#009/000026
PROFESSIONAL ENGINEER
02/07/2023

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ROOF PLUMBING PLAN

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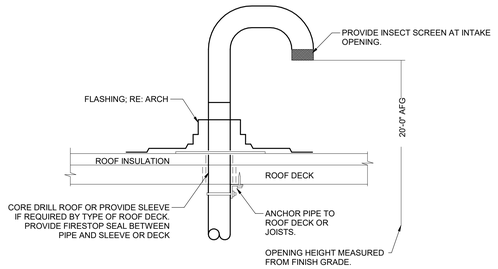
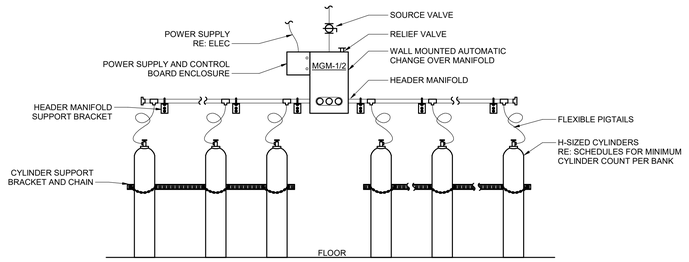


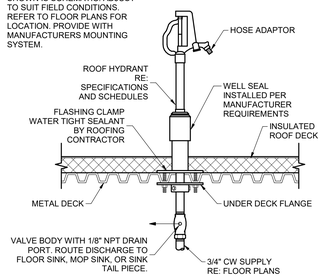
1. REFER TO PLANS FOR PIPE SIZE(S) AND LOCATION(S). LOCATE PENETRATION MINIMUM 18" FROM ADJACENT WALLS, EQUIPMENT CURBS, PARAPETS, EXPANSION JOINTS, ETC.
2. OPENING FOR MEDICAL AIR INTAKE PIPE TO BE A MINIMUM OF 20'-0" ABOVE FINISH GRADE AND A MINIMUM OF 25'-0" FROM ANY OPENING (EXHAUST, FLUE, DOOR, WINDOW, OTHER INTAKES, ETC.) AS REQUIRED PER NFPA 99. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS.

1 MEDICAL AIR INTAKE ROOF PENETRATION
SCALE: NONE

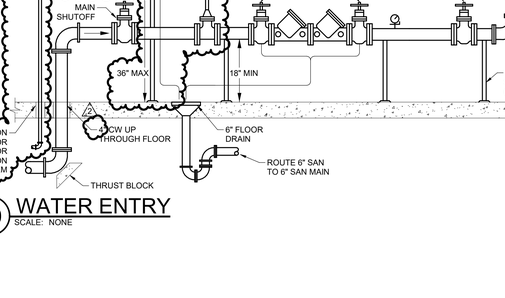


2 MEDICAL GAS MANIFOLD DETAIL
SCALE: NONE

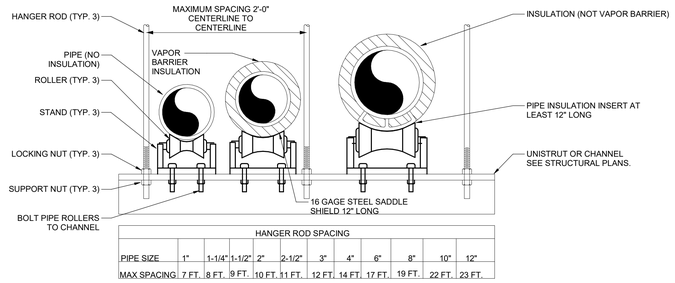
NOTE: PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO FLOOR PLANS FOR LOCATION. PROVIDE WITH MANUFACTURERS MOUNTING SYSTEM.



3 NON-FREEZE ROOF HYDRANT
SCALE: NONE



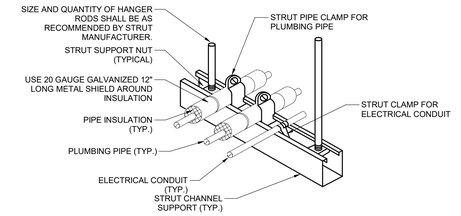
4 NON-FREEZE WALL HYDRANT
SCALE: NONE



HANGER ROD SPACING										
PIPE SIZE	1"	1-1/4"	1-1/2"	2"	2-1/2"	3"	4"	6"	8"	10"	12"
MAX SPACING	7 FT.	8 FT.	9 FT.	10 FT.	11 FT.	12 FT.	14 FT.	17 FT.	19 FT.	22 FT.	23 FT.

NOTE: TRAPEZE HANGERS APPLY TO ALL MULTIPLE HORIZONTAL RUNS WITH OR WITHOUT VAPOR BARRIER INSULATION. COORDINATE INSTALLATION WITH ALL OTHER CONDITIONS TO ALLOW SPACE FOR OTHER SERVICES.

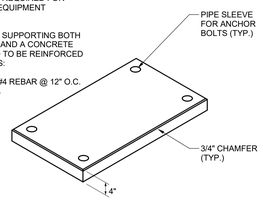
5 TRAPEZE HANGER
SCALE: NONE



NOTES:
1. PIPE AND CONDUIT OF ALL TRADES MAY BE COMBINED ON SAME SUPPORT CHANNEL WHERE PRACTICAL.
2. SUPPORT CHANNEL LENGTH SHALL NOT BE DETERMINED UNTIL ALL PIPING AND CONDUIT TO BE SUPPORTED IS COORDINATED.

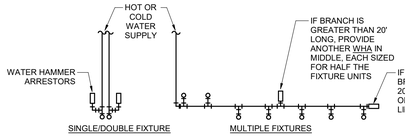
6 TRAPEZE PIPE HANGER
SCALE: NONE

NOTES:
1. FLOOR UNDER PAD SHALL BE ROUGHENED; PAD SHALL BE DOWELED TO FLOOR. ADJUST PAD SIZE AS REQUIRED FOR INDIVIDUAL EQUIPMENT INSTALLED.
2. ALL PADS SUPPORTING BOTH EQUIPMENT AND A CONCRETE INERTIA BAD TO BE REINFORCED AS FOLLOWS:
a) PROVIDE #4 REBAR @ 12" O.C. BOTH WAYS.



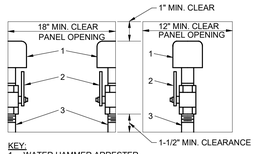
7 TYPICAL EQUIPMENT PAD
SCALE: NONE

NOTES:
1. INSTALL IN HORIZONTAL OR VERTICAL POSITION, BUT NEVER UPSIDE DOWN. INSTALL IN LINE WITH WATER FLOW DIRECTION IF POSSIBLE. SIZE THE UNITS AS SHOWN ON THE DRAWINGS AND/OR THE TABLES SHOWN ABOVE. PROVIDE ACCESSIBILITY TO WHA.
2. INSTALL PER PDI STANDARDS AND MANUFACTURER'S INSTRUCTIONS. PROVIDE A WHA AT ALL QUICK-CLOSING VALVES.
3. FOR INDIVIDUAL SINKS/LAVATORIES WITH SOLENOID VALVES, INSTALL COMBINATION LOOSE KEY ANGLE STOP WITH WATER HAMMER ARRESTOR.
4. WATER HAMMER ARRESTORS MAY BE INSTALLED ABOVE CEILING.



PDI SIZE	PIPE SIZE	FIXTURE UNIT LOAD
A	1/2"	1-11
B	3/4"	12-32
C	1"	33-60
D	1-1/4"	61-113
E	1-1/2"	114-154
F	2"	155-330

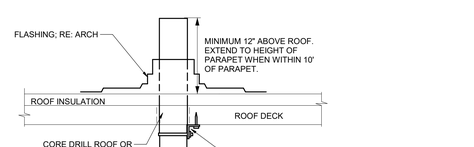
FIXTURE UNIT TABULATION		
FIXTURE	COLD	HOT
VALVE WATER CLOSET	10	- -
TANK WATER CLOSET	5	- -
URINAL	5	- -
LAVATORY/SINK	1.5	1.5
JANITOR'S SINK	3	3
SHOWER/BATHTUB	2	2



KEY:
1. WATER HAMMER ARRESTER.
2. BALL VALVE, SAME NOMINAL SIZE AS PIPE BRANCH IN CHASE. OPENING IN BALL VALVE TO MATCH PIPE ID.
3. PIPE SAME SIZE AS BRANCH IN CHASE TO WHICH IT IS ATTACHED.

NOTE:
1. PROVIDE REDUCER IF REQUIRED BETWEEN VALVE AND WATER HAMMER ARRESTER.

8 WATER HAMMER ARRESTOR AND PANEL
SCALE: NONE

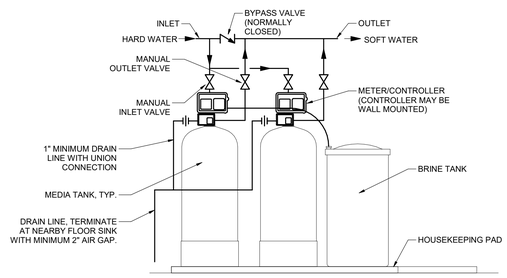


REFER TO PLANS FOR VTR PIPE SIZES AND LOCATIONS. LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, OR TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, OR ONE FOOT FROM ANY VERTICAL SURFACE. LOCATE VTR MINIMUM 18" FROM PARAPET, EXPANSION JOINT, EQUIPMENT CURB, ETC. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS.

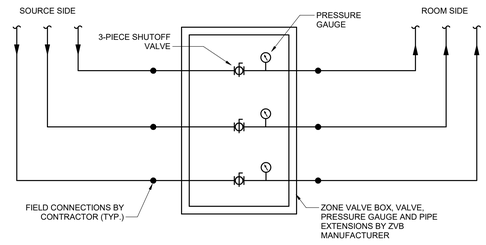
APPLY UV PAINT COATING PER MANUFACTURER FOR PVC.

9 VENT THROUGH ROOF
SCALE: NONE

10 WATER ENTRY
SCALE: NONE



11 WATER SOFTENER DIAGRAM
SCALE: NONE



(RE: PLANS AND SCHEDULES FOR DESIGNATION.)
SCHEDULES DICTATE NUMBER OF VALVES REQUIRED FOR EACH PARTICULAR INSTANCE.

12 ZONE VALVE BOX DETAIL
SCALE: NONE

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BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

02/20/2023

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Drawn By	JS
Checked By	AB, RC, MG

Revision

Number	Date	Description
2	2/20/23	ADDENDUM #2

P5.1

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PLUMBING DETAILS

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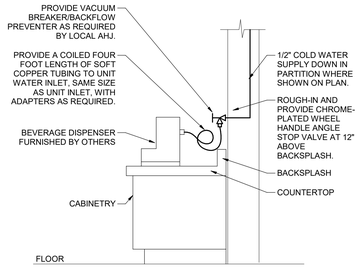
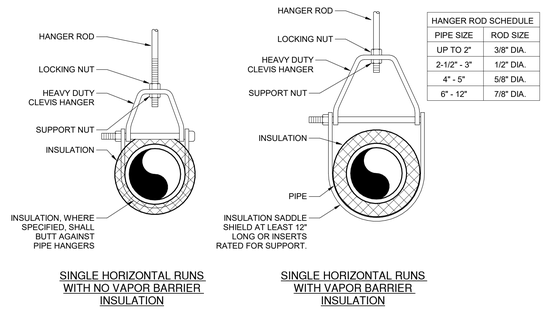


1 BEVERAGE DISPENSER WATER
SCALE: NONE

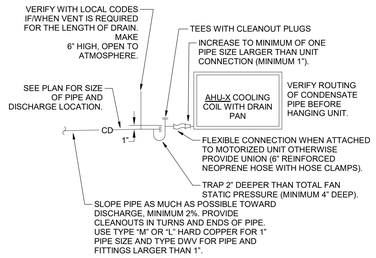


HANGER ROD SCHEDULE	
PIPE SIZE	ROD SIZE
UP TO 2"	3/8" DIA.
2-1/2" - 3"	1/2" DIA.
4" - 5"	5/8" DIA.
6" - 12"	7/8" DIA.

SINGLE HORIZONTAL RUNS WITH NO VAPOR BARRIER INSULATION

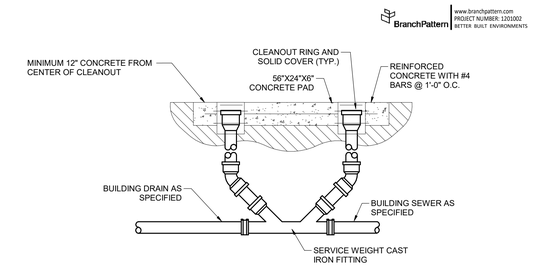
SINGLE HORIZONTAL RUNS WITH VAPOR BARRIER INSULATION

2 CLEVIS HANGER
SCALE: NONE



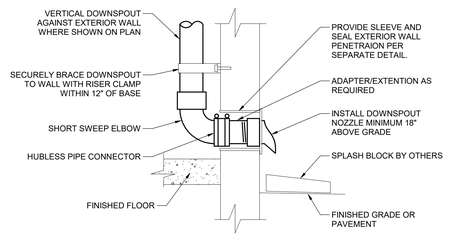
INSULATE WITH 1/2" FIBERGLASS WITH ALL-SERVICE JACKET. CONNECT TO SECONDARY DRAIN ON COIL IF EXITING. ROUTE PIPE AS CONVENIENT AND COORDINATE WITH OTHER ITEMS. DISCHARGE INTO RECEPTOR WITH AIR GAP OF TWO PIPE DIAMETERS. REFER TO LOCAL CODE FOR INDIRECT DRAIN REQUIREMENTS.

3 CONDENSATE DRAIN
SCALE: NONE



LOCATE EXTERIOR DOUBLE GRADE CLEANOUT AT END OF RUNS, AT TURNS OF PIPE GREATER THAN 45 DEGREES, AT MAXIMUM 100' INTERVALS ON STRAIGHT RUNS, AND WHERE SHOWN ON PLANS. VERIFY SOIL/ROCK CONDITIONS WITH GEOTECHNICAL REPORT SITE EXAMINATION. USE SERVICE WEIGHT CAST IRON PIPE AND FITTING WITH NEOPRENE GASKET JOINTS. BACKFILL WITH CRUSHED ROCK TO COVER PIPE MINIMUM 6". PROVIDE EARTH BACKFILL AND COMPACT. REPAIR ANY SOD AND/OR PAVEMENT TO MATCH EXISTING. USE CLASS "C" CONCRETE FOR PAD AND JOINT BRACING.

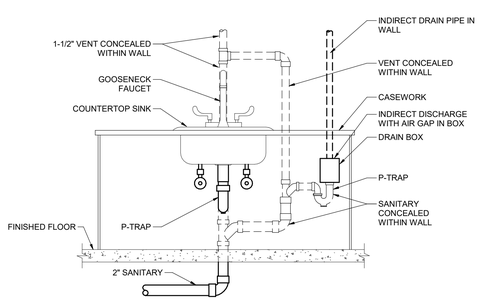
4 DOUBLE GRADE CLEANOUT (DGCO)
SCALE: NONE



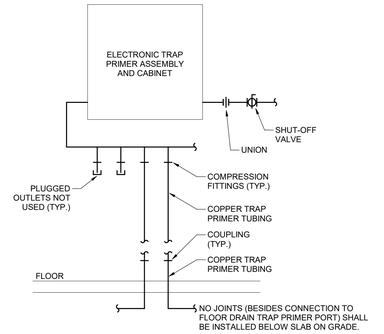
1. ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO SPECIFICATIONS FOR DOWNSPOUT NOZZLE, AND TYPE OF PIPE, FITTINGS, AND CONNECTORS.

2. FOR INSTALLATIONS WITHIN WALL CAVITY, INSTALL PIPING ON WARM SIDE OF WALL INSULATION.

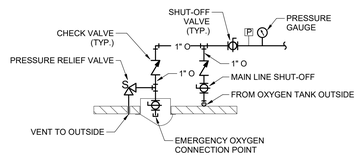
5 DOWNSPOUT NOZZLE
SCALE: NONE



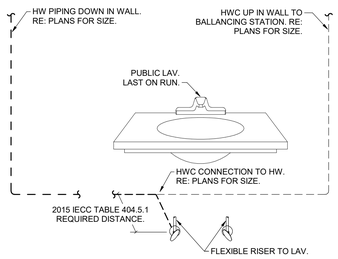
6 DRAIN BOX ADJACENT TO SINK/LAVATORY
SCALE: NONE



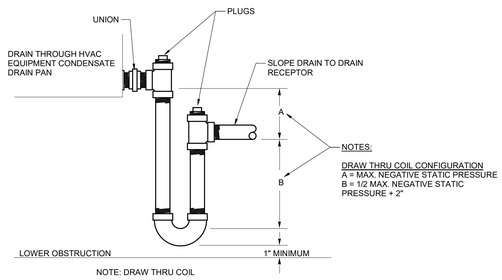
7 ELECTRONIC TRAP PRIMER DETAIL
SCALE: NONE



8 EMERGENCY OXYGEN SUPPLY CONNECTION
SCALE: NONE

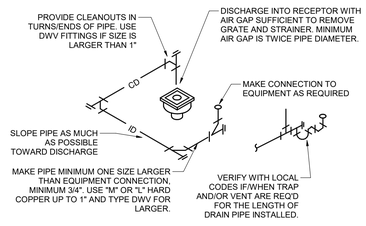


9 HOT WATER RECIRC IECC 404.5.1
SCALE: NONE



NOTE: DRAW THRU COIL

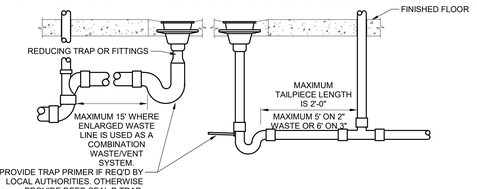
10 HVAC CONDENSATE TRAP
SCALE: NONE



ROUTE PIPE INCONSPICUOUSLY AND UNOBTRUSIVELY. HANG PIPE AS REQUIRED. DO NOT INSULATE INDIRECT DRAIN PIPE WITH INSTALLED EXPOSED IN FOOD SERVICE FACILITY. REFER TO LOCAL CODES FOR FURTHER INFORMATION.

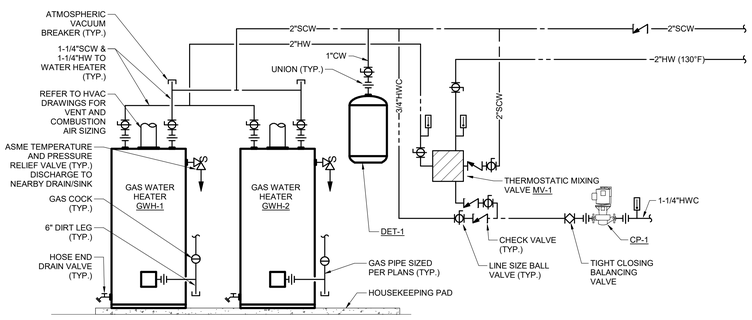
11 INDIRECT/CONDENSATE DRAIN
SCALE: NONE

PROVIDE AN INDIVIDUAL VENT ON ALL FLOOR DRAINS. INSTALL VENT IN PARTITION OR CHASE WHERE SHOWN ON PLAN. HORIZONTAL VENT BELOW FLOOR IS NOT PERMITTED. IF FLOOR DRAIN/SINK IS MORE THAN 5' ON A 2" WASTE OR 6' ON A 3" WASTE FROM THE PARTITION, PROVIDE A TRAP AND WASTE LINE TWO PIPE SIZES LARGER THAN THE DRAIN/SINK OUTLET, WITH A REDUCER ON THE TRAP INLET, AND VENT WITHIN 15 FEET. OTHER VENTING METHODS MAY BE USED IF APPROVED BY LOCAL CODE.



LOCATE FLOOR DRAIN/SINK WHERE SHOWN ON DIMENSIONED ARCHITECTURAL PLAN. IF FLOOR STRUCTURE INTERFERES WITH PLACEMENT, MOVE SIDEWAYS IF POSSIBLE, OTHERWISE MOVE BACK. ALWAYS LOCATE WHERE EASILY ACCESSIBLE, BUT NOT IN FOOT TRAFFIC. IF SITUATION IS FLOOR SLAB ON GRADE, PROVIDE BACKFILL PER SPECIFICATIONS. IF FLOOR IS EXISTING, SAW CUT OR CORE DRILL IT. SET DRAIN BODY IN PLACE & POUR AROUND IT. IF SITUATION IS FLOOR NOT ON GRADE, REFER TO "FLOOR PENETRATION" DETAIL FOR VENTS.

12 FLOOR DRAIN/SINK INSTALLATION
SCALE: NONE



13 GAS FIRED WATER HEATER WITH TMV'S
SCALE: NONE

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Job Number	3-22030
Drawn By	JS
Checked By	AB, RC, MG

Revision

Number	Date	Description

P5.2

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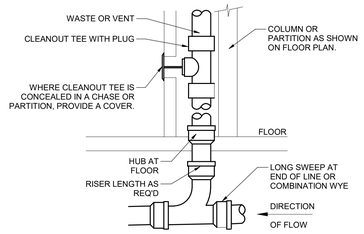
PLUMBING DETAILS

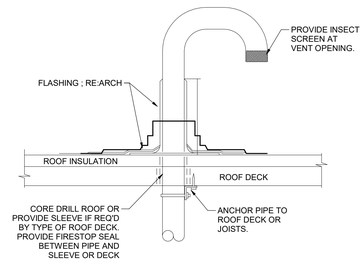
BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

RELEASED FOR CONSTRUCTION
As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023



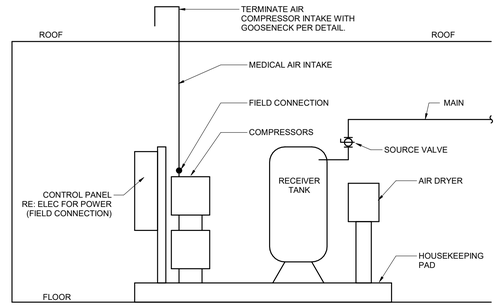
NOTES:
1. PROVIDE WCO AT BASE OF ALL SANITARY WASTE AND STORM RISERS. PROVIDE WCO WHERE SHOWN ON PLANS, AND ON SANITARY WASTE BRANCHES NOT SERVED WITH A FLOOR CLEANOUT. CONSULT LOCAL CODES FOR OTHER WCO REQUIREMENTS. REFER TO PLUMBING FIXTURE SCHEDULE FOR FURTHER INFORMATION.
2. CLEANOUT FACE SHALL BE WITHIN 1-1/2" OF WALL SURFACE. PROVIDE EXTENSION IF REQUIRED.

1 WALL CLEANOUT
SCALE: NONE

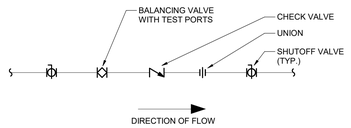


NOTES:
LOCATION OF VENT SHALL COMFORM TO REQUIREMENTS OF NFPA 99 CHAPTER 5.1.3.4.6. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS.

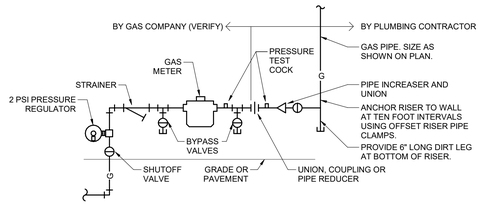
2 MEDICAL GAS MANIFOLD VENT
SCALE: NONE



3 MEDICAL AIR COMPRESSOR DETAIL
SCALE: NONE

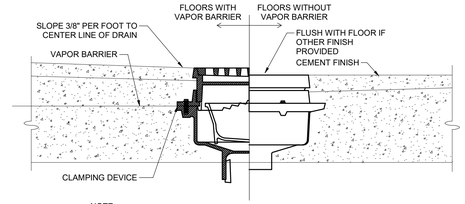


4 HWC BALANCING VALVE ASSEMBLY
SCALE: NONE



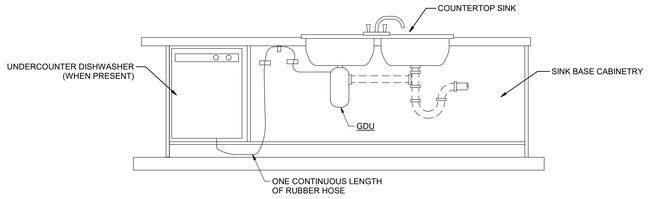
NOTES:
1. COMPLY WITH ALL REQUIREMENTS FOR METERING AND PIPING WITH GAS COMPANY. INSTALL OTHER UTILITIES MINIMUM TEN FEET FROM GAS LINE. PLUMBING CONTRACTOR SHALL PAY ALL GAS COMPANY FEES FOR INSTALLATION. USE WELDED OR SCREWED PIPE AND FITTINGS. GAS COMPANY SHALL EXCAVATE, BACKFILL, AND REPAIR ANY PAVING OR SOD FOR GAS SERVICE LINE INSTALLATION FROM MAIN TO BUILDING.
2. MINIMUM 6" LONG NIPPLE ON BOTH SIDES OF GAS PRESSURE REGULATOR.

5 GAS SERVICE WITH REGULATOR
SCALE: NONE

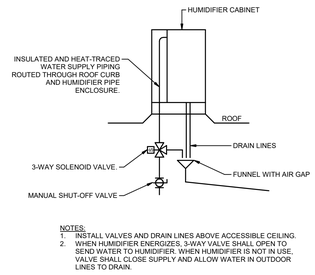


NOTE:
1. FOR FLOOR SLABS WITH VAPOR BARRIER PROVIDE CLAMPING DEVICE CONNECTION.

6 FLOOR DRAIN INSTALLATION
SCALE: NONE

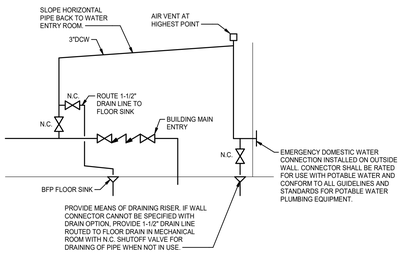


7 KITCHEN SINK & GARBAGE DISPOSAL
SCALE: NONE



NOTES:
1. INSTALL VALVES AND DRAIN LINES ABOVE ACCESSIBLE CEILING.
2. WHEN HUMIDIFIER ENERGIZES, 3-WAY VALVE SHALL OPEN TO SEND WATER TO HUMIDIFIER. WHEN HUMIDIFIER IS NOT IN USE, VALVE SHALL CLOSE SUPPLY AND ALLOW WATER IN OUTDOOR LINES TO DRAIN.

8 HUMIDIFIER PIPING DETAIL
SCALE: NONE



9 EMERGENCY DOMESTIC WATER CONNECTION SCHEMATIC
SCALE: NONE

2

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PROJECT NUMBER: 1201002
BETTER BUILT ENVIRONMENTS

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Date	2/8/2023
Job Number	3-22030
Drawn By	JS
Checked By	AB, RC, MG

Revision

Number	Date	Description
2	2/20/23	ADDENDUM #2

P5.3

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PLUMBING DETAILS

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As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023

BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

MEDICAL VACUUM PUMP SYSTEM SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES/FUNCTION	TYPE	MOTOR/PUMP HP	MOTOR/PUMP QTY	MOTOR/PUMP NOISE LEVEL (DbA)	CAPACITY SCFM	CAPACITY RECEIVER SIZE (GAL.)	ELECTRICAL DATA VOLTS	ELECTRICAL DATA PH	ELECTRICAL DATA FLA	NOTES
MVP-1	PATTONS 70BI-25-073C	MEDICAL VACUUM PUMP	ROTARY VANE	7.5	2	79	32	120	480	3	25	1-6

NOTES:
1. FOR FEEDER SIZE AND LOCAL DISCONNECT SWITCH SEE THE ELECTRICAL SHEETS IN THE CONTRACT DRAWINGS.
2. PROVIDE A PRE-PIPED SYSTEM WITH A CONTROL PANEL AND VARIABLE FREQUENCY DRIVE MOUNTED ON A COMMON BASE/FRAME.
3. PROVIDE A SINGLE POINT ELECTRICAL CONNECTION.
4. PROVIDE A DUPLEX SYSTEM: ONE COMPRESSOR FOR NORMAL OPERATION AND THE OTHER IN RESERVE.
5. PROVIDE AN EXHAUST PIPE FOR EACH VACUUM PUMP. THE EXHAUST PIPE WILL BE ROUTED TO THE ROOF WITH A GOOSENECK.
6. REFER TO MECH/ELEC COORDINATION SCHEDULE FOR SCCR.

MEDICAL AIR COMPRESSOR SYSTEM SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES/FUNCTION	TYPE	CAPACITY SCFM	CAPACITY PSIG	CAPACITY RECEIVER SIZE (GAL.)	COMPRESSOR MOTOR HP	COMPRESSOR MOTOR QTY	COMPRESSOR MOTOR NOISE LEVEL (DbA)	ELECTRICAL DATA VOLTS	ELECTRICAL DATA PH	ELECTRICAL DATA FLA	NOTES
MAC-1	PATTONS 62-22-022C	MEDICAL AIR COMPRESSOR	SCROLL	7	50	80	2	2	65	480	3	6	1-5

NOTES:
1. FOR FEEDER SIZE AND LOCAL DISCONNECT SWITCH SEE THE ELECTRICAL SHEETS IN THE CONTRACT DRAWINGS.
2. PROVIDE A PRE-PIPED SYSTEM WITH A CONTROL PANEL AND VARIABLE FREQUENCY DRIVE MOUNTED ON A COMMON BASE/FRAME.
3. PROVIDE A SINGLE POINT ELECTRICAL CONNECTION.
4. PROVIDE A DUPLEX SYSTEM: ONE COMPRESSOR FOR NORMAL OPERATION, AND THE OTHER IN RESERVE IN CASE OF COMPRESSOR FAILURE.
5. REFER TO MECH/ELEC COORDINATION SCHEDULE FOR SCCR.

INSTRUMENT AIR COMPRESSOR SYSTEM SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES/FUNCTION	TYPE	SYSTEM CAPACITY SCFM	SYSTEM CAPACITY PSIG	SYSTEM CAPACITY RECEIVER SIZE (GAL)	COMPRESSOR MOTOR HP	COMPRESSOR MOTOR QTY	COMPRESSOR MOTOR NOISE LEVEL (DbA)	ELECTRICAL DATA VOLTS	ELECTRICAL DATA PH	ELECTRICAL DATA FLA	NOTES
IAC-1	BEACONMEDAES LES08-115T-RD-071	STERILE/DECON	SCROLL	20.8	112.4	71	7.5	1	59	480	3	13	1-5

NOTES:
1. FOR FEEDER SIZE AND LOCAL DISCONNECT SWITCH SEE THE ELECTRICAL SHEETS IN THE CONTRACT DRAWINGS.
2. PROVIDE A PRE-PIPED SYSTEM WITH A CONTROL PANEL AND VARIABLE FREQUENCY DRIVE MOUNTED ON A COMMON BASE/FRAME.
3. PROVIDE A SINGLE POINT ELECTRICAL CONNECTION.
4. PROVIDE A DUPLEX SYSTEM: ONE COMPRESSORS FOR NORMAL OPERATION. ONE IN RESERVE.
5. REFER TO MECH/ELEC COORDINATION SCHEDULE FOR SCCR.

MEDICAL GAS FACILITY ALARM PANEL SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	PANEL LOCATION	SOURCES ALARMED/MONITORED MA	O	MV	WAGD	N20	IA	CO2	ELECTRICAL VOLTS	AMPS	PH	NOTES
PAP-1	POWEREX - MAP10-55	OFFICE 123	X	X	X	X	X	X	X	120	2	1	1,3
SAP-1	POWEREX - MAP10-55	NURSE STATION 131	X	X	X	X	X	X	X	120	2	1	2,3

NOTES: 1. PRIMARY LOCATION. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO INSTALL.
2. SECONDARY LOCATION. COORDINATE FINAL LOCATION WITH OWNER PRIOR TO INSTALL.
3. SEE SPECIFICATIONS FOR REQUIRED ALARMING/MONITORING POINTS PER GAS SOURCE.

MEDICAL GAS ZONE VALVE BOX SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	ZONE VALVE BOX LOCATION	ROOMS SERVED	NUMBER OF GAS VALVES O	MA	MV	WAGD	N2O	N	CO2	NOTES
ZVB-1	POWEREX - ZVB4BBCC	HALLWAY 150	GI PROCEDURE 152	X	X	X				X	1
ZVB-2	POWEREX - ZVB4BBCC	HALLWAY 150	GI PROCEDURE 156	X	X	X				X	1
ZVB-3	POWEREX - ZVB2BC	HALLWAY 120	RECOVERY 115-117, 121, 124-128	X		X					1
ZVB-4	POWEREX - ZVB2BC	HALLWAY 140	RECOVERY 132-134, 136, 138, 142,144,146	X		X					1
ZVB-5	POWEREX - ZVB7ABBBBCC	HALLWAY 180	OR 181	X	X	X	X	X	X	X	1
ZVB-6	POWEREX - ZVB7ABBBBCC	HALLWAY 180	OR 183	X	X	X	X	X	X	X	1
ZVB-7	POWEREX - ZVB7ABBBBCC	HALLWAY 180	OR 185	X	X	X	X	X	X	X	1
ZVB-8	POWEREX - ZVB7ABBBBCC	HALLWAY 180	EQUIPMENT STOR 187	X	X	X	X	X	X	X	1

NOTES:
1. MAXIMUM VALVE SIZE IS 2". PANEL MUST BE LOCATED IN A MINIMUM 6" DEEP STUD WALL. VERIFY BOX DEPTH VS VALVE SIZE WITH MANUFACTURER.

MEDICAL GAS VOLUME TABLE

		QUANTITY	STANDARD CU. FT. OF GAS EA.	STANDARD CU. FT. OF GAS TOTAL	LIQUID VOLUME (GAL) EA.	LIQUID VOLUME (GAL) TOTAL
LIQUID OXYGEN - O2	"H" CYLINDER	6	N/A	N/A	15	132.3
	LOX DEWAR	1	N/A		42.3	
NITROUS OXIDE - N2O	"H" CYLINDER	8	558	4464	N/A	N/A
CARBON DIOXIDE - CO2	"H" CYLINDER	8	568	4544	N/A	N/A
NITROGEN - N2	"H" CYLINDER	16	229	3664	N/A	N/A

Per 2018 IBC Table 307.1(1), maximum allowable gaseous oxidizer quantity is 4500 Cu. Ft. using additional quantities allowed by notes D and E.
Per 2018 IBC Table 307.1(1), maximum allowable liquid oxidizer quantity is 4500 Cu. Ft. using additional quantities allowed by notes D and E.

RECIRCULATION VALVE SCHEDULE

MARK	SERVES	GPM	PIPE DIAMETER	NOTES:
BV-1	TOILETS, NURSE STATION	0.9	3/4"	-
BV-2	PREP ROOMS, TOILETS, EXAM	1.0	3/4"	-
BV-3	TOILET, STAFF LOUNGE, SCOPE PROCESSING	1.6	3/4"	-
BV-4	NOURISH, MEDS, CLEAN	0.7	3/4"	-
BV-5	SCRUB SINKS	0.6	3/4"	-
BV-6	STERILE PROCESSING	0.6	3/4"	-
BV-7	LOCKER ROOMS	0.6	3/4"	-

NOTES:
1. NOT USED

MEDICAL GAS AREA ALARM PANEL SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	PANEL LOCATION	ZONE VALVE BOXES SERVED	SOURCES MONITORED MA	O	MV	WAGD	N20	IA	CO2	ELECTRICAL VOLTS	AMPS	PH	NOTES
AAP-1/2	POWEREX - AAP10 SERIES	NURSE STATION 118	ZVB-1 & ZVB-2	X	X	X				X	120	2	1	-
AAP-3/4	POWEREX - AAP10 SERIES	NURSE STATION 118	ZVB-3 & ZVB-4		X	X					120	2	1	-
AAP-5	POWEREX - AAP10 SERIES	NURSE STATION 118	ZVB-5	X	X	X	X	X	X	X	120	2	1	-
AAP-6	POWEREX - AAP10 SERIES	NURSE STATION 118	ZVB-6	X	X	X	X	X	X	X	120	2	1	-
AAP-7	POWEREX - AAP10 SERIES	NURSE STATION 118	ZVB-7	X	X	X	X	X	X	X	120	2	1	-
AAP-8	POWEREX - AAP10 SERIES	NURSE STATION 118	ZVB-8	X	X	X	X	X	X	X	120	2	1	-

NOTES:
1. NONE

DEIONIZED WATER GENERATOR SCHEDULE

MARK	MANUFACTURER	MODEL	SERVES	LOCATION	PERFORMANCE CAPACITY (GPD)	ELECTRICAL	NOTES
DI-1	AMERIWATER	OHCS-2050	STERILE/DECOND EQUIPMENT	MECH ROOM	800	SEE NOTE	1-4

NOTES
1. EACH UNIT SHALL BE PROVIDED WITH LOCAL GRAPHICAL USER INTERFACE MONITORED BY BMS SYSTEM WITH MANUFACTURER COMMUNICATION CARD.
2. PROVIDE ALL ACCESSORIES AND CONTROLS FOR A TIR 34 COMPLIANT SYSTEM, INCLUDING BUT NOT LIMITED TO CARBON PREFILTERS, ANTISCALANT INJECTOR, RO GENERATOR, DI POLISHER, 55GAL STORAGE TANK, & 30 GPM DISTRIBUTION PUMP.
3. PROVIDE 2 - 120V/1P/15A DEDICATED GFCI RECEPTACLE, AND 2 - 208V/3P/20A RECEPTACLES.
4. REFER TO MECH/ELEC COORDINATION SCHEDULE FOR SCCR.

EXPANSION TANK SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES	TANK VOL. (GAL)	TANK ACCEPTANCE MIN VOLUME (GAL)	SYSTEM VOL. (GAL)	TEMPERATURE HIGH / LOW (F)	NOTES
DET-1	WESSELS TTA-20	GWH-1 & GWH-2	8	4.9	130.1	140/40	1-4

NOTES:
1. PROVIDE PRE-CHARGED PRESSURIZED EXPANSION TANK WITH HEAVY DUTY BUTYL RUBBER BLADDER.
2. PROVIDE SUPPORT SYSTEM TO SUSPEND VERTICAL EXPANSION TANK FROM STRUCTURE WITH PIPING SUPPORTED INDEPENDENT OF THE TANK.
3. PROVIDE EXPANSION TANK THAT IS NSF 61.
4. INSTALL IN CW LINE BEFORE WATER HEATER PER MANUFACTURERS RECOMMENDATIONS.

GAS MANIFOLD SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	LOCATION	CYLINDERS PER BANK	GAS SERVICE	NOTES:
MGM-1	POWEREX - MFLD-CYL-NFPA-N2O	MED GAS 224	4x4	NITROUS OXIDE	2,3
MGM-2	POWEREX - MFLD-LIQ-NFPA-O2	MED GAS 224	1x6	OXYGEN	1,3
MGM-3	POWEREX - MFLD-CYL-NFPA-N2	MED GAS 224	8x8	NITROGEN	2,3
MGM-4	POWEREX - MFLD-CYL-NFPA-CO2	MED GAS 224	4x4	CARBON DIOXIDE	2,3

NOTES:
1. PROVIDE POWEREX 1X1 LIQUID HEADER AND POWEREX VERTICAL 6 CYLINDER RESERVE HEADER BAR WITH SS PIG TAILS
2. PROVIDE POWEREX STAGGERED HEADER BARS WITH STAINLESS STEEL PIG TAILS
3. VENT MANIFOLD RELIEF VALVES TO THE EXTERIOR, TURN DOWN, AND SCREEN.

HOT WATER MIXING VALVE SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	MINIMUM GPM	MAXIMUM GPM	INLET WATER TEMP (F)	OUTLET WATER TEMP (F)	PRESSURE DROP (PSI)	ELECTRICAL VOLTS	ELECTRICAL PH	NOTES:
MV-1	LEONARD PNV-150-LF	0.25	50	140	130	5	120	1	1
MV-2	LEONARD TA-300-LF	2.0	4.5	125	85	20	-	-	2
MV-3	LEONARD 170A-LF	0.25	1.9	125	105	20	-	-	3
MV-4	LEONARD TM-520B-LF-DT-CP	1.00	75	130	77	10	-	-	4

NOTES
1 PROVIDE BUILDING AUTOMATION SYSTEM INTERFACE WITH THE MIXING VALVE STATION.
2 MIXING VALVE FOR USE WITH EMERGENCY EYE/FACE WASH
3 POINT-OF-USE MIXING VALVE FOR SINKS AND LAVATORIES.
4 MIXING VALVE FOR USE WITH DI MAKEUP WATER.

MEDICAL EQUIPMENT CONNECTION SCHEDULE

CAD ID	DESCRIPTION	PROJECT QUANTITY	ROUGH-IN SIZE (IN.) CW (GPM EA.)	HW (GPM EA.)	PW (GPM EA.)	DW	IW	IA (PSI,SCFM)	CO2	N	MA	OX	NO	MV	WAGD	NOTES
100198	ICE MAKER - 90 LB	2	1/2" (<1 GPM)				3/4"									8,9
714443	FREESTANDING ICE/WATER DISPENSER	1	1/2" (<1 GPM)				3/4"									2,8
714519	ICE MAKER FILTRATION SYSTEM	4	3/4" (<1 GPM)													11
717621	ICE MAKER - 425 LB	1	1/2" (<1 GPM)				3/4"									8,9
720109	STERILIZER - MED	2	1-1/4" (12 GPM)		SEE NOTE (0.6 GPM)		1-1/2"	1/2" (90 PSI, 3 SCFM)								1,3,13,14,15
725340	WASHER/DISINFECTOR	2	1-1/4" (14.1 GPM)	1-1/4" (14.1 GPM)	1-1/4" (12.6 GPM)		X	1/2" (90 PSI, 1.75 SCFM)								1,3,11,14,15
725408	DISHWASHER	1		3/4" (5 GPM)			X									5
726363	ULTRASONIC CLEANER	2	1" (8 GPM)		1" (8 GPM)		X									1,12
726767	NEPTUNE DOCKING STATION	2	1/2" (<1 GPM)				X									1,4,7
727553	COFFEE BREWER	1	1/2" (<1 GPM)													1,3,13,14,15
730257	STERILIZER - SMALL	1	1-1/4" (15 GPM)	1/2" (1 GPM)			SEE NOTE	1/2" (90 PSI, 3 SCFM)								1,3,13,14,15
800503	SURGICAL BOOM	3							SEE PLANS	SEE PLANS				SEE PLANS		10
XXXXXX	ULTRASONIC CLEANER	1	3/4" (8 GPM)	3/4" (8 GPM)			3/4"									

NOTES:

GENERAL NOTE: COORDINATE EXACT LOCATION AND ELEVATION OF EQUIPMENT ROUGH-INS WITH FFE PLANS AND ELEVATIONS. VERIFY EQUIPMENT CONNECTION SIZES WITH PURCHASED EQUIPMENT.

1. COORDINATE IW (INDIRECT WASTE) CONNECTION SIZE WITH EQUIPMENT PROVIDER. PROVIDE NECESSARY DRAIN TUBING.
2. ROUTE IW TUBING FROM UNIT TO ADJACENT FLOOR DRAIN.
3. ROUTE IW TUBING FROM UNIT TO FLOOR SINK. LOCATE FLOOR SINK UNDERNEATH UNIT. COORDINATE WITH MANUFACTURER.
4. ROUTE IW TUBING FROM EQUIPMENT TO NEARBY DB DRAIN BOX.
5. PROVIDE SDB SUPPLY DRAIN BOX LOCATED UNDERCOUNTER AT 24" AFF FOR UTILITY CONNECTION.
6. PROVIDE COLD WATER SB SUPPLY BOX LOCATED UNDERCOUNTER AT 24" AFF FOR UTILITY CONNECTION. ROUTE CW TUBING UP FROM SB THROUGH HOLE IN BACK OF COUNTERTOP. PROVIDE RUBBER GROMMET FOR HOLE. COORDINATE WITH ARCHITECT PRIOR TO DRILLING GROMMET HOLE.
7. ROUTE 3/4"CW LINE DOWN ALONG THE FACE OF THE WALL. TERMINATE WATER PIPING 1' ABOVE THE EQUIPMENT AND INSTALL A SHUTOFF VALVE IN THE RISER 1'6" ABOVE THE EQUIPMENT.
8. PROVIDE WATTS SD-3 BACKFLOW PREVENTER IN SUPPLY TUBING TO THE EQUIPMENT. LOCATE IN AN ACCESSIBLE LOCATION.
9. PROVIDE SDB SUPPLY DRAIN BOX LOCATED UNDERCOUNTER AT 24" AFF FOR UTILITY CONNECTION. ROUTE CW AND IW TUBING UP FROM SDB THROUGH HOLE IN BACK OF COUNTERTOP. PROVIDE RUBBER GROMMET FOR HOLE. COORDINATE WITH ARCHITECT PRIOR TO DRILLING GROMMET HOLE.
10. BASIS OF DESIGN MEDICAL GAS OUTLET QUANTITY: (2 - MV), (1 - NO), (1-CO2).
11. INSTALL ICE MACHINE WATER FILTRATION SYSTEM ON THE INLET DOMESTIC COLD WATER SUPPLY UPSTREAM OF THE BACKFLOW PREVENTOR.
12. ROUTE IW TUBING FROM UNIT TO FLOOR SINK. TERMINATE IW TUBING WITH CODE REQUIRED AIR GAP.
13. EQUIPMENT REQUIRES 1MEGAOHM RESISTIVITY DI/RO WATER. MAX FLOW RATE OF 0.6 GPM, 4.2GAL/CYCLE, AND 3 GPH OUT OF CYCLE.
14. PROVIDE INLINE REDUCED PRESSURE ZONE BACKFLOW PREVENTOR ON ALL DOMESTIC WATER LINES. INSTALL SHUTOFF VALES ON INCOMING UTILITY LINES IN ACCESSIBLE LOCATION.
15. ROUTE STEAM RELIEF VALVE TO THE EXTERIOR OF THE BUILDING PER ASME BOILER CODE.
16. PROVIDE CONNECTION FROM MV-4.

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Job Number	3-22030
Drawn By	JS
Checked By	AB, RC, MG

Revision

Number	Date	Description
2	2/20/23	ADDENDUM #2

P6.1

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PLUMBING SCHEDULES

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

RELEASED FOR CONSTRUCTION
As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-#009700026
PROFESSIONAL ENGINEER
02/20/2023

WATER SOFTENER SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	GRAIN CAP. (MAX.) @ SALT DOSAGE	CONTINUOUS FLOW (GPM@15)	PEAK FLOW (GPM)	ELECTRICAL VOLTS	ELECTRICAL PH	WEIGHT LBS.	NOTES
WS-1	CULLIGAN CTM 450-PF	4545 @ 225	76	104	120	1	6,960	1-6

NOTES
1. FOR FEEDER SIZE AND LOCAL DISCONNECT SWITCH SEE THE ELECTRICAL SHEETS IN THE CONTRACT DRAWINGS.
2. PROVIDE UNIT WITH GROUNDED PLUG-IN ELECTRICAL CONNECTION AND MOUNTED AND WIRED CONTROL TRANSFORMER IF REQUIRED.
3. PROVIDE CONTROLS FOR AUTO REGENERATION - PROGRESSIVE FLOW SET-UP, WATER METER, CONTROLLED WITH DEMAND.
4. PROVIDE A DUPLEX SYSTEM.
5. SUPPLIER TO VERFIY WATER HARDNESS AND SUBMIT SYSTEM CAPACITY CALCULATION WITH SHOP DRAWINGS SUBMITTAL.
6. PROVIDE CONTROLS FOR PROGRESSIVE FLOW.

FUEL FIRED WATER HEATER SCHEDULE

MARK	MANUFACTURER & MODEL OR EQUAL	SERVES	FUEL	FUEL INPUT (MBH)	EFF. RANGE (%)	EWT (DEG F)	LWT (DEG F)	RECOVERY RATE (GPH)	TANK STORAGE (GAL)	ELECTRICAL DATA MOPD	VOLTS	PH	NOTES
GWH-1	BRADFORD WHITE - EF-100T-199E-3N(A)	DOMESTIC HOT WATER	NG	199	97%	40	140	233	80	20A	120	1	1-6
GWH-2	BRADFORD WHITE - EF-100T-199E-3N(A)	DOMESTIC HOT WATER	NG	199	97%	40	140	233	80	20A	120	1	1-6

NOTES:
1. ASME RATED VESSEL. PROVIDE WITH ASME-RATED TEMPERATURE AND PRESSURE RELIEF VALVE, TEMPERATURE AND PRESSURE GAUGES.
2. PROVIDE WITH DIRECT VENT INTAKE AND EXHAUST PIPING AS RECOMMENDED BY MANUFACTURER.
3. PROVIDE VENT PIPING MATERIAL AND ALL NECESSARY SUPPORT ETC. AS RECOMMENDED BY MANUFACTURER.
4. PROVIDE WITH CONDENSATE NEUTRALIZER KIT INSTALLED ON CONDENSATE DRAIN LINE.
5. PROVIDE WITH CONCENTRIC VENT KIT AND BACNET GATEWAY KIT.
6. PROVIDE WITH DEDICATED 15AMP CIRCUIT.

RECIRCULATING PUMP SCHEDULE

MARK	MANUFACTURER & "MODEL" OR EQUAL	LOCATION	SERVES	TYPE	GPM	HEAD (FT.)	ELECTRICAL CONNECTION DATA V/P/HZ	MOTOR HP	NOTES:
CP-1	BELL & GOSSETT ECOCIRC XLN 40-200	MECH ROOM	BUILDING HWC	CARTRIDGE	6.0	17.0	480/3/60	1	1,2

NOTES:
1. PUMP FOR DOMESTIC HOT WATER LOOP WILL RUN CONTINUOUSLY.
2. GPM AND HEAD FLOW RATES ARE CALCULATED DESIGN FLOW RATES.

PLUMBING FIXTURE & EQUIPMENT CONNECTION SCHEDULE

FIXTURE	COMPONENT	MANUFACTURER	MODEL	DESCRIPTION	FLOW RATE (GPM/GPF)	ACCESSIBLE	ELECTRICAL	WASTE	VENT	CW	HW
WC-1	WATER CLOSET SEAT FLUSH VALVE	ZURN PROFLO ZURN	Z5655-BWL1 PFTSCOF2000WH ZEMS6000AV-MOB-HET	FLOOR MOUNT, SIPHON JET, GLAZING, ELONGATED RIM, AND 15" HEIGHT. OPEN FRONT SOLID PLASTIC SEAT. HARDWIRED SENSOR FLUSH VALVE WITH TRUE MANUAL OVERRIDE AND ACCESSORIES.	1.28	NO	HARDWIRED	4"	2"	1"	-
WC-2	WATER CLOSET SEAT FLUSH VALVE	ZURN PROFLO ZURN	Z5665-BWL1 PFTSCOF2000WH ZEMS6000AV-MOB-HET	FLOOR MOUNT, SIPHON JET, GLAZING, ELONGATED RIM, AND 17" HEIGHT. OPEN FRONT SOLID PLASTIC SEAT. HARDWIRED SENSOR FLUSH VALVE WITH TRUE MANUAL OVERRIDE AND ACCESSORIES.	1.28	YES	HARDWIRED	4"	2"	1"	-
U-1	URINAL FLUSH VALVE WALL CARRIER	ZURN ZURN ZURN	Z5755U ZEMS6003AV-ULF Z1222	TOP SPUD, RE: ARCH FOR MOUNTING HEIGHT. AUTOMATIC SENSOR TYPE FLUSH VALVE WITH TRUE MANUAL OVERRIDE AND ACCESSORIES. PROVIDE WITH WALL CARRIER.	0.125	YES	HARDWIRED	2"	1-1/2"	3/4"	-
L-1	LAVATORY FAUCET INSULATION KIT	ZURN ZURN IPS	Z5344 Z6920-XL-CWB-M-0.5 2018SLSS3003	WALL HUNG, 4" CENTERS, PROVIDE WITH CARRIER, COORDINATE WITH WALL THICKNESS. AUTOMATIC SENSOR-OPERATED FAUCET WITH ACCESSORIES, WITH MV-3.	0.5	YES	HARDWIRED	2"	1-1/2"	1/2"	1/2"
L-2	LAVATORY FAUCET INSULATION KIT	ZURN ZURN IPS	Z5110 Z6915-XL-N 2018SLSS3003	COUNTERTOP, SELF-RIMMING VITREOUS CHINA, 4" CENTERS. MANUALLY OPERATED FAUCET, WITH MV-3.	0.5	YES	-	2"	1-1/2"	1/2"	1/2"
L-3	LAVATORY FAUCET INSULATION KIT	ZURN ZURN IPS	Z5344 Z6920-XL-CWB-J-1.5 2018SLSS3003	WALL HUNG, 4" CENTERS, PROVIDE WITH CARRIER, COORDINATE WITH WALL THICKNESS. AUTOMATIC SENSOR-OPERATED FAUCET WITH ACCESSORIES, WITH MV-3.	1.5	YES	HARDWIRED	2"	1-1/2"	1/2"	1/2"
S-1	SINK FAUCET INSULATION KIT	ELKAY ZURN IPS	LRAD1919-55-3 Z6920-XL-CWB-K-1.0 2018SLSS3003	SINGLE BOWL, DROP IN, TYPE 304 STAINLESS STEEL SINK BOWL. AUTOMATIC SENSOR-OPERATED FAUCET WITH ACCESSORIES. PROVIDE WITH MV-3	1.0	-	HARDWIRED	2"	1-1/2"	1/2"	1/2"
S-2	SINK FAUCET INSULATION KIT	ELAKY ZURN IPS	LRAD3319-55-4 Z7870CXL 2018SLSS3003	DOUBLE BOWL, DROP IN, TYPE 304 STAINLESS STEEL SINK BOWL. CHROME PLATED BRASS WITH CERAMIC DISC CARTRIDGES, LIMIT STOP AND LEVER HANDLE. PROVIDE WITH GDU.	2.0	-	-	2"	1-1/2"	1/2"	1/2"
S-3	SURGICAL SCRUB SINK & FAUCET INSULATION KIT	JUST MFG IPS	JKS-770-2-S-P 2018SLSS3003	WALL MOUNTED 2 STATION SURGICAL SCRUB SINK WITH SENSOR FAUCET AND KNEE ACTIVATED SOAP.	1.5	-	HARDWIRED	2"	1-1/2"	1/2"	1/2"
S-4	SURGICAL SCRUB SINK & FAUCET INSULATION KIT	JUST MFG IPS	JKS-770-S-P 2018SLSS3003	WALL MOUNTED 1 STATION SURGICAL SCRUB SINK WITH SENSOR FAUCET AND KNEE ACTIVATED SOAP.	1.5	-	HARDWIRED	2"	1-1/2"	1/2"	1/2"
S-5	SINK FAUCET INSULATION KIT	ELKAY ZURN IPS	DLR1919-10-3 Z6920-XL-CWB-J 1.5 2018SLSS3003	SINGLE BOWL, DROP IN, TYPE 304 STAINLESS STEEL SINK BOWL. AUTOMATIC SENSOR-OPERATED FAUCET WITH ACCESSORIES. PROVIDE WITH MV-3	1.5	-	HARDWIRED	2"	1-1/2"	1/2"	1/2"
CS-1	CLINICAL SERVICE SINK	ZURN	Z5410	VITREOUS CHINA WALL HUNG HEALTHCARE SERVICE SINK WITH RIM GUARDS	-	-	-	3"	1-1/2"	(2) 1/2"	(2) 1/2"
	FLUSH VALVE	ZURN	Z6017	CHROME PLATED, CHLORAMINE RESISTANT, DUAL SEAL DIPHRAGM FLUSH VALVE.	-	-	-	-	1-1/4"	-	-
	FAUCET	ZURN	Z843D4-LVB-PE-5XT-FT-YT	CHROME PLATED WALL FAUCET WITH 8" CENTERS, 3/4" THREADED HOSE OUTLET, VACUUM BREAKER, WALL BRACE, PAIL HOOK.	-	-	-	-	-	1/2"	1/2"
	BEDPAN WASHER	ZURN	Z85500-WM-EVB-HK-SE-SH-VC	CHROME PLATED BEDPAN WASHER WITH FOOT PEDAL ACTIVATION.	-	-	-	-	-	1/2"	1/2"
EWC-1	ELECT. WATER COOLER	ELKAY	LZSTL8WSSK	WALL MOUNTED, HI/LO, FRONT & SIDE CONTROLS, INTEGRAL CHILLER, W/ BOTTLE FILLER. PROVIDE WITH MOUNTING PLATE, CARRIER.	-	YES	6 FLA	2"	1-1/2"	1/2"	-
SH-1	SHOWER VALVE HEAD	SYMMONS	SYM9605-X-PLR-231	CHROME PLATED BRASS SHOWER VALVE, PRESSURE COMPENSATING ASSE 1016 TYPE P, INTEGRAL CHECKSTOPS, 4.0GPM MAXIMUM FLOW, PROVIDE WITH 1.5GPM HAND SHOWER, 24" SLIDE BAR, SS BRAIDED HOSE AND VACUUM BREAKER.	1.5	YES	-	2"	1-1/2"	1/2"	1/2"
SB	SUPPLY BOX	SIOUX CHIEF	696-10	1/4 TURN VALVE WITH HAMMER ARRESTOR, PAINT FACEPLATE TO MATCH (RE: ARCH)	-	-	-	2"	1-1/2"	1/2"	-
SDB	DRAIN BOX	SIOUX CHIEF	696-G2313	RECESSED ABS WALL DRAIN BOX WITH INTEGRAL PRESSURE TEST NIPPLE, PROVIDE WITH FRAME, BRACKET, WHA AND DEBRIS COVER.	-	-	-	1-1/2"	-	-	-
WHA	WATER HAMMER ARRESTOR	SIOUX CHIEF	652	SIZE PER PLAN, PISTON-TYPE WATER HAMMER ARRESTOR, PROVIDE WITH LINE SIZE BALL VALVE FOR ISOLATION AND PROVIDE WITH ACCESS.	-	-	-	-	-	PER DETAIL	-
TP-1	TRAP PRIMER	PPP INC	PRO1-ULP500	UNDER LAVATORY CHROME PLATED FLOW ACTIVATED TRAP PRIMER VALVE.	-	-	-	-	-	1/2"	-
TP-2	TRAP PRIMER	PPP INC	MP-500-115V	SURFACE MOUNTED ELECTRONIC TRAP PRIMING ASSEMBLY WITH DISTRIBUTION UNIT. PROVIDE WITH DISTRIBUTION UNIT GREATER THAN OR EQUAL TO THE NUMBER OF FLOOR DRAINS/SINKS SERVED.	-	-	120V/1P 2A	-	-	1/2"	-
NFWH	WALL HYDRANT	ZURN	Z1310	RECESSED HOSE BOX WITH WALL FLANGE, LOCKABLE DOOR WITH KEY, REMOVABLE LOOSE KEY HANDLE, VACUUM BREAKER, COORDINATE ROD DEPTH WITH WALL THICKNESS.	-	-	-	-	-	3/4"	-
RHB	ROOF HOSE BIBB	ZURN	Z1388XLL34VBAC	ROOF HOSE BIBB, CAST IRON HYDRANT SUPPORT COMPONENTS, WELL SEAL TIGHTENS BETWEEN HYDRANT SUPPORT AND HYDRANT PIPE, EPDM BOOT TO COVER WELL SEAL AND TOP OF HYDRANT SUPPORT, 2 DEGREE SHIM SUPPLIED FOR INSTALLATION ON PITCHED ROOFS. PROVIDED WITH NIDEL 37HF. PROVIDE WITH VACUUM BREAKER AND CASING GUARD.	-	-	-	-	-	3/4"	-
SG-1	SPRAY GUN	HEALTHMARK	6000-6025	STAINLESS STEEL WATER SPRAY GUN. PROVIDE WITH 3/4" CONNECTOR, 1.5 METER HOSE, TABLE TOP ROSETTE, UNIVERSAL TIP. COORDINATE FINAL LOCATION WITH OWNER.	-	-	-	-	-	1/2"	-
SG-2	SPRAY GUN	HEALTHMARK	6000-6025	STAINLESS STEEL COMPRESSED AIR SPRAY GUN. PROVIDE WITH 3/4" CONNECTOR, 1.5 METER HOSE, TABLE TOP, ROSETTE. CONNECT TO 1/2" IA. COORDINATE FINAL LOCATION WITH OWNER.	-	-	-	-	-	-	-
GDU	GARBAGE DISPOSAL UNIT	IN-SINK-ERATOR	EVOLUTION EXCEL	AUTO-REVERSE GRIND SYSTEM, PERMANENTLY LUBRICATED UP AND LOWER BEARINGS. 25.5 LBS	-	-	120/1/60 1HP 10.2A	2"	-	-	-
MS-1	MOP SERVICE BASIN	FIAT ZURN	MSB2424 Z843MR-CS-RC	MOLDED STONE, 24"x24"x10" WITH STAINLESS STEEL DRAIN. WITH INTERNAL STOPS AND CHECK STOPS, VACUUM BREAKER, PAIL HOOK, WALL BRACKET.	-	NO	-	3"	2"	1/2"	1/2"
EW-1	EMERGENCY EYE WASH	GUARDIAN	G5022	DECK MOUNTED EYE/FACE WASH. PROVIDE FIXTURE HEAD ARRANGEMENT COORDINATE WITH EACH SINK FAUCET ASSEMBLY. PROVIDE WITH MV-2 MIXING VALVE.	-	YES	-	-	-	3/4"	3/4"
GV	GAS SHUT-OFF VALVE	AGS	MERLIN 1049	2" NATURAL GAS 120 VOLT SOLENOID VALVE. NORMALLY CLOSED. PROVIDE WITH AGS EGOTW EMERGENCY SHUT-OFF BUTTON WITH CLEAR COVER. PROVIDE AT EACH EXTERIOR DOOR.	-	-	120V/1P 0.5A	-	-	-	-
FD-1	FLOOR DRAIN	ZURN	ZN415SZ	CAST IRON FLOOR DRAIN, 6"X6" SQUARE STRAINER, 8"DIA. BODY, SEEPAGE SLOTS, COMBO MEMBRANE CLAMP AND ADJUSTABLE COLLAR, LIGHT DUTY NICKEL BRONZE STRAINER.	-	-	-	PER PLAN	-	-	-
FS-1	FLOOR SINK	ZURN	Z1902	CAST IRON 12" SQUARE FLOOR SINK, 10" DEEP SUMP, WHITE A.R.E. COATED INTERIOR, (1/2,3/4,FULL) NICKEL BRONZE GRATE FOR LIGHT DUTY (UNDER 2,000 LBS.), ALUMINUM SEDIMENT BUCKET, TRAP PRIMER CONNECTION.	-	-	-	PER PLAN	-	-	-
FS-2	FLOOR SINK	ZURN	ZN1926	CAST IRON 16" SQUARE FLOOR SINK, 12" DEEP SUMP, WHITE A.R.E. COATED INTERIOR, (1/2,3/4,FULL) NICKEL BRONZE GRATE FOR LIGHT DUTY (UNDER 2,000 LBS.), ALUMINUM SEDIMENT BUCKET, TRAP PRIMER CONNECTION.	-	-	-	PER PLAN	-	-	-
RD	ROOF DRAIN	ZURN	ZA-125-100-DR	CAST IRON ROOF DRAIN WITH FLANGE, FLASHING RING WITH GRAVEL STOP, ADJUSTABLE EXTENSION, CAST IRON MUSHROOM LOCKING DOME, AND UNDERDECK CLAMP.	-	-	-	PER PLAN (STORM)	-	-	-
OD	OVERFLOW DRAIN	ZURN	ZA-100-W2-DR	CAST IRON ROOF DRAIN WITH FLANGE, FLASHING RING WITH GRAVEL STOP, ADJUSTABLE EXTENSION, CAST IRON MUSHROOM LOCKING DOME, 2" INTERNAL DAM, AND UNDERDECK CLAMP.	-	-	-	PER PLAN (STORM)	-	-	-
DS	DOWNSPOUT NOZZLE	ZURN	Z199-SS	NICKEL BRONZE BODY DOWNSPOUT NOZZLE WITH WALL FLANGE, AND REMOVABLE STAINLESS STEEL SCREEN.	-	-	-	PER PLAN (STORM)	-	-	-
FCO	FLOOR CLEANOUT	ZURN	ZN1400-BZ1-BP-VP	ADJUSTABLE, COATED CAST IRON BODY, BRONZE THREADED PLUG, ROUND SCORIATED NICKEL BRONZE LIGHT-DUTY TOP.	-	-	-	PER PLAN	-	-	-
GCO	GRADE CLEANOUT	ZURN	Z1400-BP	EPOXY COATED CAST IRON BODY WITH EXTRA HEAVY DUTY SCORIATED CAST IRON SECURED TOP. PROVIDE PROVIDE WITH BRONZE PLUG. WITH BRONZE PLUG.	-	-	-	PER PLAN	-	-	-
WCO	WALL CLEANOUT	ZURN	Z1446-BP	EPOXY COATED CAST IRON BODY WITH BRONZE PLUG, ROUND STAINLESS STEEL WALL ACCESS COVER, AND SECURING SCREW.	-	-	-	PER PLAN	-	-	-
RPZ-1	REDUCED PRESSURE BACKFLOW PREVENTOR	ZURN	375 - 4"	170 GPM @ 10 PSI LOSS MAX. STAINLESS STEEL BODIED VALVE WITH STAINLESS STEEL CHECK ASSEMBLIES, WITH 1/4 TURN BALL VALVES, PROVIDE WITH STRAINER AND FUNNEL DRAIN.	-	-	-	-	-	4"	-
RPZ-2	REDUCED PRESSURE BACKFLOW PREVENTOR	ZURN	975XL2 - 1-1/4"	35 GPM @ 14 PSI LOSS MAX FOR IRRIGATION SYSTEM. BRONZE BODIED VALVE WITH BRONZE CHECK ASSEMBLIES, WITH 1/4 TURN BALL VALVES, PROVIDE WITH STRAINER AND FUNNEL DRAIN.	-	-	-	-	-	1-1/4"	-
RPZ-ECWC	REDUCED PRESSURE BACKFLOW PREVENTOR	ZURN	375 - 3"	170 GPM @ 13 PSI LOSS MAX FOR EMERGENCY COLD WATER CONNECTION STAINLESS STEEL BODIED VALVE WITH STAINLESS STEEL CHECK ASSEMBLIES, WITH 1/4 TURN BALL VALVES, PROVIDE WITH STRAINER AND FUNNEL DRAIN.	-	-	-	-	-	3"	-

GENERAL NOTE:
NO AERATORS ON ALL LAVATORIES AND SINKS.

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Surgery Center of Lee's Summit
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Date	2/8/2023
Job Number	3-22030
Drawn By	JS
Checked By	AB, RC, MG

Revision

Number	Date	Description
2	2/20/23	ADDENDUM #2

P6.2

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PLUMBING SCHEDULES

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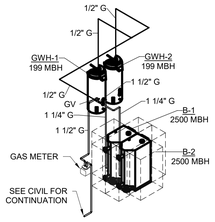
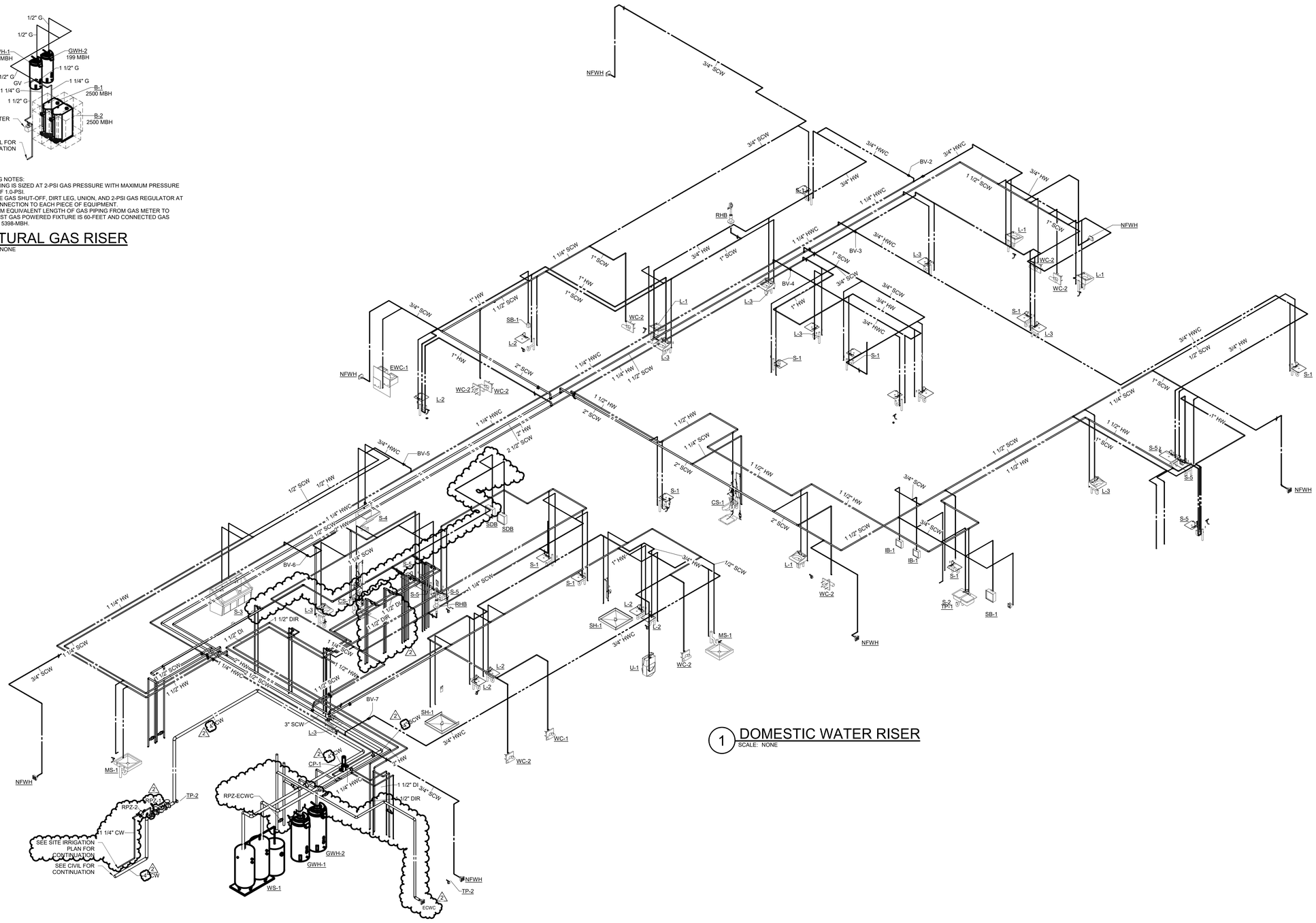


GAS PIPING NOTES:
1. GAS PIPING IS SIZED AT 2-PSI GAS PRESSURE WITH MAXIMUM PRESSURE DROP OF 1.0-PSI.
2. PROVIDE GAS SHUT-OFF, DIRT LEG, UNION, AND 2-PSI GAS REGULATOR AT GAS CONNECTION TO EACH PIECE OF EQUIPMENT.
3. MAXIMUM EQUIVALENT LENGTH OF GAS PIPING FROM GAS METER TO FARTHEST GAS POWERED FIXTURE IS 60-FEET AND CONNECTED GAS LOAD IS 5398-MBH.

2 NATURAL GAS RISER
SCALE: NONE



1 DOMESTIC WATER RISER
SCALE: NONE

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PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023

02/20/2023

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2	2/20/23	ADDENDUM #2

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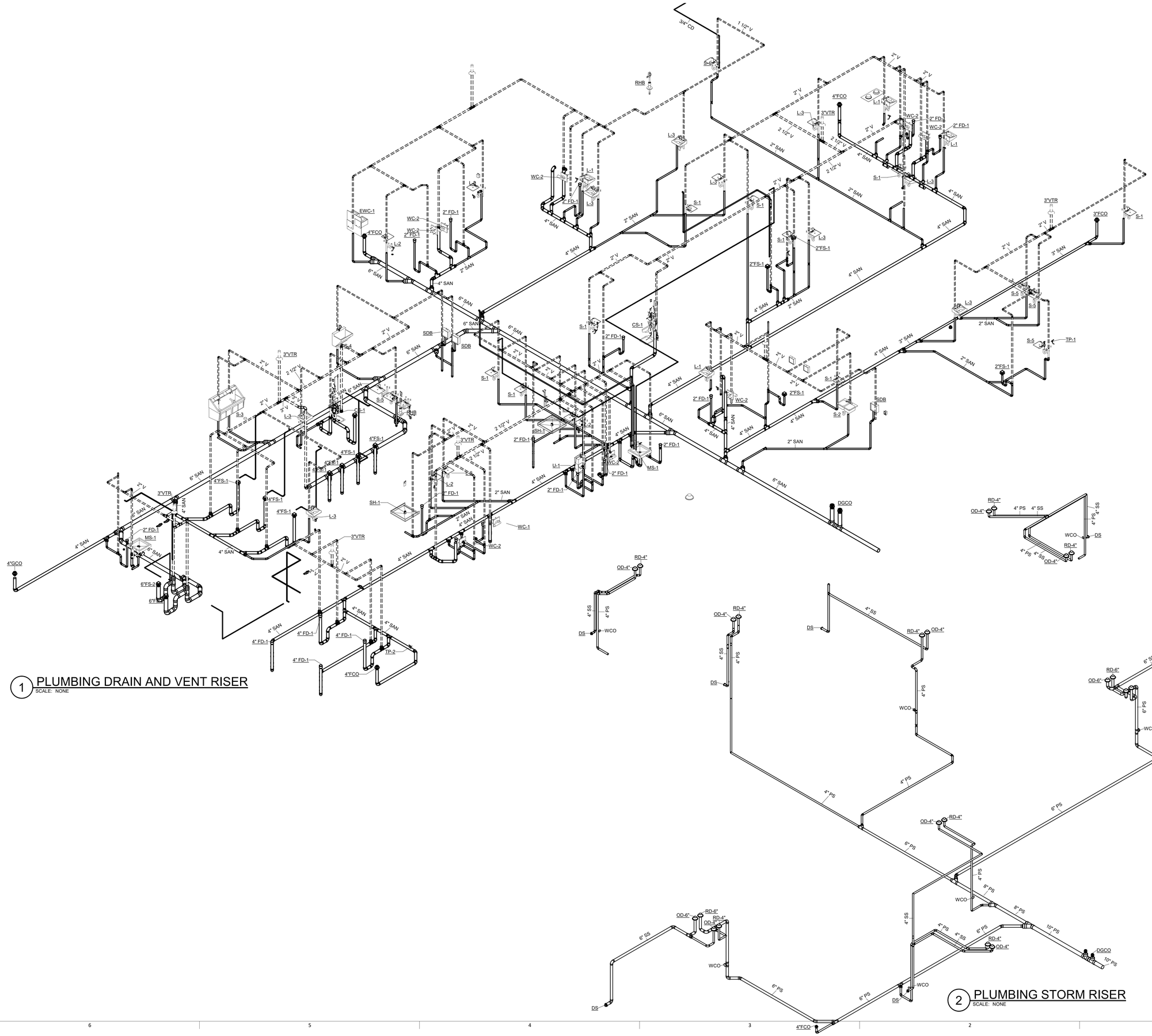
PLUMBING WATER AND NATURAL GAS RISER

RELEASED FOR CONSTRUCTION
As Noted on Plans
Development Services Department
Lee's Summit, Missouri
02/15/2023



1 PLUMBING DRAIN AND VENT RISER
SCALE: NONE

2 PLUMBING STORM RISER
SCALE: NONE

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PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009026080
PROFESSIONAL ENGINEER
02/07/2023

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PLUMBING DRAIN AND VENT RISER

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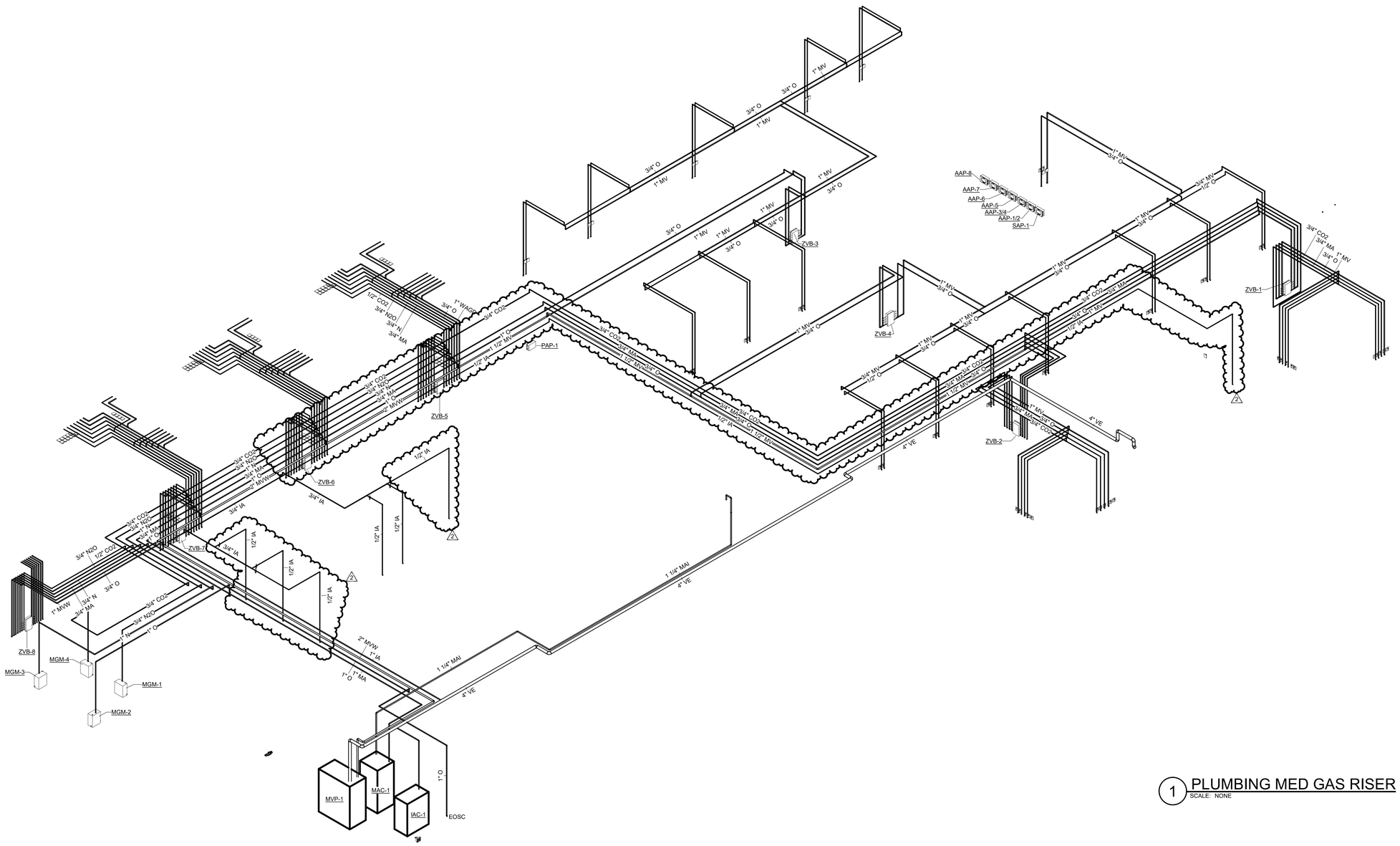
As noted on drawings
Development Services Department
Lee's Summit, Missouri
02/15/2023

STATE OF MISSOURI
RICKI MANKTALA
NUMBER PE-2009026006
PROFESSIONAL ENGINEER
02/20/2023



1 PLUMBING MED GAS RISER
SCALE: NONE

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PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

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Checked By	Checker

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2	2/20/23	ADDENDUM #2

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PLUMBING MED GAS RISER

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As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
Date: 02/15/2023

2/7/2023 4:38:53 PM

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ELECTRICAL LEGEND

THIS IS A MASTER SYMBOLS LIST. ALL SYMBOLS, ABBREVIATIONS, ETC. MAY NOT NECESSARILY BE USED ON ALL DRAWINGS

ONE LINE AND RISER

- PANEL XXX — PANEL
- CURRENT TRANSFORMER, RATED AS SPECIFIED OR REQUIRED
- M — MOTOR: HORSEPOWER AS INDICATED ON PLANS OR DIAGRAMS
- SPD — SURGE PROTECTION DEVICE
- GROUND CONNECTION
- LSIG — CIRCUIT BREAKER, RATING AS SHOWN. LSIG DENOTES ELECTRONIC TRIP UNIT WITH ADJUSTABLE SETTINGS FOR: L= LONG TIME TRIP DELAY, S= SHORT TIME TRIP DELAY, I= INSTANTANEOUS, G= GROUND FAULT
- 800A3P — SWITCH, RATING AS SHOWN
- 400A FRN — FUSE, FUSE AMPACITY AND TYPE AS SHOWN
- M — UTILITY METER (AS REQUIRED BY UTILITY)
- SAFETY SWITCH, NON-FUSED, 240V, U.N.O.
- FUSED DISCONNECT
- COMBINATION STARTER/DISCONNECT (SIZE AS INDICATED)
- ENCLOSED CIRCUIT BREAKER (SIZE AS INDICATED)
- T T-XX — TRANSFORMER, TYPE AND RATING AS SHOWN
- CONDUIT CONNECTION
- G — CIRCUIT BREAKER WITH GROUND FAULT PROTECTION
- G — FUSE WITH GROUND FAULT PROTECTION
- ATS-XX — AUTOMATIC TRANSFER SWITCH
- GROUND CONNECTION WITH TEST WELL
- GROUND ROD
- POLE MOUNTED UTILITY TRANSFORMER
- G — ENGINE GENERATOR
- ST — SHUNT TRIP
- X — SHORT CIRCUIT TAG DESIGNATION
- XXXX — FEEDER TAG DESIGNATION

CONDUIT DESIGNATIONS

- XX-XXX — PANEL NAME - CIRCUIT NUMBER. BRANCH CIRCUITS HOMERUN USE NUMBER 12 AWG WIRE, UNLESS OTHERWISE NOTED. ALL CIRCUITS SHALL CONTAIN A GROUND AND NEUTRAL CONDUCTOR, UNLESS NOTED OTHERWISE. CONTRACTOR SHALL PROVIDE MULTI-WIRE CIRCUIT HANDLE TIES AS FINAL FIELD INSTALLED WIRING REQUIRES.
- XX-# — PANEL NAME - CIRCUIT NUMBER. HOME RUNS SHALL USE #12 AWG WIRE UNO.
- CONDUIT AND WIRE CONCEALED, 3/4" UNLESS OTHERWISE NOTED, CONDUIT USED FOR SWITCH LEGS, AND CONDUIT USED FOR CONTROL WIRING
- CONDUIT AND WIRE EMBEDDED IN CONCRETE OR BELOW GRADE
- CONDUIT TURNING DOWN
- CONDUIT TURNING UP
- CONDUIT CONTINUATION
- CONDUIT CAPPED FOR FUTURE USE

POWER

- PANELBOARD, ELECTRICAL DISTRIBUTION PANEL, OR LOAD CENTER SURFACE MOUNTED
- PANELBOARD, ELECTRICAL DISTRIBUTION PANEL, OR LOAD CENTER RECESS MOUNTED

SUBSCRIPTS ADJACENT DEVICES INDICATE THE FOLLOWING:

G = GFCI; T = TAMPER RESISTANT; AC = MOUNT 6" ABOVE COUNTER/BACKSPLASH; U = DEVICE WITH USB CHARGING PORT; WP = WEATHER PROOF; H = HOSPITAL GRADE; 60" = SPECIAL MOUNTING HEIGHT AS NOTED

- 20 AMP, 125V, NEMA 5-20R SIMPLEX RECEPTACLE
- 20 AMP, 125V, NEMA 5-20R DUPLEX RECEPTACLE
- 20 AMP, 125V, NEMA 5-20R QUAD RECEPTACLE
- 20 AMP, 125V, NEMA 5-20R DUPLEX RECEPTACLE, CONNECTED TO EMERGENCY POWER, RED IN COLOR.
- 20 AMP, 125V, NEMA 5-20R QUAD RECEPTACLE, CONNECTED TO EMERGENCY POWER, RED IN COLOR.
- 20 AMP, 125V, NEMA 5-20R SWITCHED DUPLEX RECEPTACLE
- 20 AMP, 125V, NEMA 5-20R DUPLEX FLOOR RECEPTACLE, 3/4" CONDUIT RUN CONCEALED IN FLOOR SLAB
- 20 AMP, 125V, NEMA 5-20R CEILING FLOOR RECEPTACLE, 3/4" CONDUIT
- 20 AMP, 125V, NEMA 5-20R QUAD FLOOR RECEPTACLE, 3/4" CONDUIT RUN CONCEALED IN FLOOR SLAB
- 20 AMP, 125V, NEMA 5-20R QUAD CEILING RECEPTACLE, 3/4" CONDUIT
- JUNCTION BOX, WALL MOUNTED
- JUNCTION BOX, FLOOR MOUNTED
- JUNCTION BOX, CEILING MOUNTED
- SPECIAL RECEPTACLE, FLOOR MOUNTED, CONFIGURATION AS NOTED ON PLAN
- SPECIAL RECEPTACLE, WALL MOUNTED, CONFIGURATION AS NOTED ON PLAN
- SPECIAL RECEPTACLE, CEILING MOUNTED, CONFIGURATION AS NOTED ON PLAN
- PP — POWER (SERVICE) POLE
- FURNITURE FEED RECEPTACLE, FLOOR MOUNTED, CONFIGURATION AS NOTED ON PLAN. POWER POKE THRU CONNECTION, FLOOR MOUNTED, CONFIGURATION AS NOTED ON PLAN
- FURNITURE FEED RECEPTACLE, WALL MOUNTED, CONFIGURATION AS NOTED ON PLAN
- PLUGMOLD, REFER TO DRAWING FOR LENGTHS
- SAFETY SWITCH, NON-FUSED, 240V, U.N.O.
- FUSED DISCONNECT
- COMBINATION STARTER/DISCONNECT (SIZE AS INDICATED)
- COMBINATION DISCONNECT, WITH RECEPTACLE, REFER TO DRAWING FOR SIZE
- ENCLOSED CIRCUIT BREAKER (SIZE AS INDICATED)
- PHOTOCELL
- EMERGENCY POWER OFF (EPO) BUTTON
- ADA — ADA DOOR OPENER. MOUNT @ 48" AFF
- 0' - 0" — SELF-REGULATING HEATED CABLE – LENGTH AS SHOWN IN DRAWINGS. REFERENCE ELECTRICAL/PLUMBING PLANS FOR SPECIFICATION OF COMPLETE HEAT-TRACE SYSTEM. ARROW DENOTES DIRECTION

LIGHTING

NOTE: UPPER CASE LETTER DENOTES LUMINAIRES TYPE. LOWER CASE LETTER ADJACENT TO LUMINAIRE INDICATES SWITCH THAT CONTROLS LUMINAIRES. MOUNTING IS NOTED ON LUMINAIRE SCHEDULE

- LIFE SAFETY POWER SHADING
- CRITICAL POWER SHADING
- A — RECESSED LUMINAIRE
- A — SURFACE LUMINAIRE
- A — WALL MOUNTED LUMINAIRE
- A — LINEAR PENDANT LUMINAIRE
- A — PENDANT LUMINAIRE
- A — STRIP TYPE LUMINAIRE, LENGTHS AS NOTED ON LUMINAIRE SCHEDULE
- A — SURFACE MOUNTED DOWNLIGHT
- A — RECESSED MOUNTED DOWNLIGHT
- A — WALL MOUNTED LUMINAIRE
- A — WALL WASH LUMINAIRE
- A — RECESSED STEP LIGHT LUMINAIRE
- A — TRACK LUMINAIRE
- A A — CEILING MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL CHEVRONS AS REQUIRED
- A — EMERGENCY BATTERY LUMINAIRE (2 HEAD) 84" AFF, UNLESS OTHERWISE NOTED
- A — EMERGENCY BATTERY LUMINAIRE (2 HEAD) WITH MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL CHEVRONS AS REQUIRED MOUNT AT 84" AFF, UNLESS OTHERWISE NOTED
- A A — WALL MOUNTED EXIT SIGN. PROVIDE DIRECTIONAL CHEVRONS AS REQUIRED
- A — SINGLE POLE MOUNTED, EXTERIOR LUMINAIRE
- A — DOUBLE POLE MOUNTED, EXTERIOR LUMINAIRE
- A — QUAD POLE MOUNTED, EXTERIOR LUMINAIRE
- A — BOLLARD LUMINAIRE
- A — CEILING FAN
- S_x — SINGLE POLE SWITCH (SWITCH LOWER CASE LETTER INDICATES DEVICE CONTROL)
  - 3= THREE WAY SWITCH; 4= FOUR WAY SWITCH
  - K= KEYED SWITCH; D= DIMMER SWITCH
  - TO= MOTOR THERMAL OVERLOAD SWITCH; T= TIMER
  - HOA=HAND-OFF-AUTOMATIC; P= PILOT LIGHT
  - OS= OCCUPANCY SENSOR; VS= VACANCY SENSOR
  - LVD= LOW VOLTAGE DIMMER; M=MOTOR SPEED CONTROL
- ## — CEILING MOUNTED SENSOR; VS= VACANCY, OS= OCCUPANCY, DL= DAYLIGHT
- ## — WALL MOUNTED SENSOR; VS= VACANCY, OS= OCCUPANCY, DL= DAYLIGHT

MISCELLANEOUS

- X — KEY NOTE DESIGNATION
- X — KEY NOTE DESIGNATION
- 1 — REVISION NUMBER DESIGNATION
- NEW TO EXISTING CONNECTION
- DEMO TO EXISTING CONNECTION
- XX — SPECIALTY EQUIPMENT (BY OTHERS)

FIRE ALARM

- FACP — FIRE ALARM CONTROL PANEL
- FARA — FIRE ALARM REMOTE ANNUNCIATOR PANEL
- FATC — FIRE ALARM CONTROL PANEL
- BACP — BACKUP FIRE ALARM CONTROL PANEL
- HVAC — HVAC FIRE ALARM CONTROL PANEL
- EVAC — VOICE EVACUATION FIRE ALARM CONTROL PANEL
- SCP — FIRE ALARM SMOKE CONTROL PANEL
- NAC — FIRE ALARM NOTIFICATION CIRCUIT PANEL
- MZW — FIRE ALARM MASTER 2-WAY CONTROL PANEL
- AMP — FIRE ALARM AMPLIFIER RACK PANEL
- MIC — FIRE ALARM MICROPHONE PANEL
- S — SMOKE DETECTOR, ADDRESSABLE PHOTO ELECTRIC
- S L — SMOKE DETECTOR, EARLY WARNING LASER DETECTION
- S CO — CARBON MONOXIDE DETECTOR
- FD — FLAME DETECTOR
- HD — HEAT DETECTOR
- G — GAS DETECTOR
- S — DUCT SMOKE DETECTOR, ADDRESSABLE PHOTO ELECTRIC
- V — FIRE ADA ALARM STROBE MOUNTED AT 80" AFF OR 6" BELOW CEILING WHICHEVER IS LOWER
- V — FIRE ADA ALARM HORN MOUNTED AT 80" AFF OR 6" BELOW CEILING WHICHEVER IS LOWER
- V — FIRE ALARM AUDIBLE AND ADA STROBE LIGHT MOUNTED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER
- FIRE ADA ALARM SPEAKER MOUNTED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER
- V — FIRE ALARM SPEAKER AND ADA STROBE LIGHT MOUNTED AT 80" AFF OR 6" BELOW CEILING, WHICHEVER IS LOWER
- V — FIRE ADA ALARM STROBE CEILING MOUNTED
- V — FIRE ADA ALARM HORN CEILING MOUNTED
- V — FIRE ALARM AUDIBLE AND ADA STROBE LIGHT CEILING MOUNTED
- FIRE ADA ALARM SPEAKER CEILING MOUNTED
- FIRE ALARM SPEAKER AND ADA STROBE LIGHT CEILING MOUNTED
- F — FIRE ALARM MANUAL PULL STATION, ADDRESSABLE DOUBLE ACTION
- MAGNETIC DOOR HOLDER
- FS — FIRE ALARM FLOW SWITCH
- TS — FIRE ALARM TAMPER SWITCH
- CM — FIRE ALARM CONTROL MODULE (W/ INPUT/OUTPUT MODULE)
- RTS — DUCT DETECTOR REMOTE INDICATOR ALARM AND TEST
- M2W — TWO WAY COMMUNICATION MASTER STATION
- 2W — TWO WAY CALL STATION

STD. MOUNTING HEIGHTS U.N.O.

ARCHITECTURAL DRAWINGS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS INDICATED ON ELECTRICAL DRAWINGS. DIMENSION TO CENTERLINE UNO.

RECEPTACLES	18"
RECEPTACLES IN EQUIPMENT ROOMS	46"
RECEPTACLES (EXTERIOR)	24"
RECEPTACLES (GARAGES)	24"
ALARMS, SWITCHES AND CONTROLS	46"
TELEPHONE OUTLETS	18"
SAFETY SWITCHES	46"
STARTERS	48"
PANELS (TOP)	72"
CLOCK OUTLETS	90"
FIRE ALARM PULL STATIONS (HANDLE)	44"
STROBES	96" OR 6" BELOW CEILING, WHICHEVER IS LOWER
FIRE ALARM BELLS (EXTERIOR)	12'-0"
FIRE ALARM CONTROL PANEL (TOP)	66"
ANNUNCIATION PANELS	48"
INTERCOM	46"
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS)	48"
REMOTE INDICATING LIGHT (FINISHED AREAS)	CEILING
EXIT SIGNS (WALL MOUNTED BOTTOM)	6" ABOVE DOOR
TELEVISION OUTLETS	18"
INTERCOMS	46"
MAXIMUM HEIGHT OF OPERABLE COMPONENTS	48" TO TOP
PHOTOCELLS	12'-0"

ABBREVIATIONS

A	AMPS, AIR (COMPRESSED)
AC	ABOVE COUNTER
AF	FUSE RATING
AFC	ABOVE FINISHED CEILING
AFEA	AREA FOR EVACUATION ASSISTANCE
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AIC	AMPERE INTERRUPTING CURRENT
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
AV	AUDIO VISUAL
BFF	BELOW FINISHED FLOOR
BKR	BREAKER
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
C	CONDIT
CATV	CABLE TELEVISION SYSTEM
CCTV	CLOSED CIRCUIT TELEVISION
CKT	CIRCUIT
CLG	CEILING
CM	COFFEE MAKER
CT	CURRENT TRANSFORMER
CU	COPPER, CONDENSING UNIT
CW	CLOTHES WASHER
(D)	DEMOLISHED
DN	DOWN
DPDT	DOUBLE POLE, DOUBLE THROW
DPST	DOUBLE POLE, SINGLE THROW
DW	DISHWASHER
(E)	EXISTING
ECD	ELECTRIC CLOTHES DRYER
ENCL	ENCLOSURE
EPO	EMERGENCY POWER OFF
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
FBO	FURNISHED BY OTHERS
FF	FINISHED FLOOR
FHC	FIRE HOSE CABINET
FLA	FULL LOAD AMPS
FLR	FLOOR
FRZR	FREEZER
FVNR	FULL VOLTAGE, NON REVERSING
GD	GARBAGE DISPOSAL
GFI	GROUND FAULT CIRCUIT INTERRUPTER (PERSONAL PROTECTION ON DEVICE)
GFP	GROUND FAULT PROTECTED FROM UPSTREAM
GFR	GROUND FAULT RELAY
GND	GROUND
HOA	HAND OFF AUTOMATIC
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
HTG	HEATING
HTR	HEATER
ISCA	AVAILABLE SHORT-CIRCUIT CURRENT (AMPS)
IG	ISOLATED GROUND
KCMIL	1000 CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMPS
KVAR	KILOVOLT AMPS REACTIVE
KW	KILOWATT
KWH	KILOWATT HOUR
LED	LIGHT EMITTING DIODE
LF	LINEAR FEET
LRA	LOCKED ROTOR AMPS
MATV	MASTER ANTENNA TELEVISION SYSTEM
MCA	MINIMUM CIRCUIT AMPACITY
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MD	MOTORIZED DAMPER
MDP	MAIN DISTRIBUTION PANEL
MFP	MULTI-FUNCTION PRINTER
MFR	MANUFACTURER
MH	MANHOLE
MSB	MAIN SWITCHBOARD
MTD	MOUNTED
MW	MICROWAVE
(N)	NEW
N/A	NOT APPLICABLE
NIC	NOT IN CONTRACT
N/O.N/C	NORMALLY OPEN, NORMALLY CLOSED
N/L	NIGHT LIGHT
OC	ON CENTER
OV	OVEN
PDU	POWER DISTRIBUTION UNIT
PH,ø	PHASE
PJ	PROJECTOR
PLOT	PLOTTER
PNL	PANEL
PRINT	PRINTER (SMALL)
PT	POTENTIAL TRANSFORMER
QTY	QUANTITY
(R)	RELOCATED
RA	RETURN AIR
RANGE	RANGE/STOVE
RCP	REFLECTED CEILING PLAN
REF	REFRIGERATOR
REV	REVISION
RH	RELATIVE HUMIDITY
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SD	SMOKE DETECTOR
SF	SQUARE FEET
SPDT	SINGLE POLE, DOUBLE THROW
SPST	SINGLE POLE, SINGLE THROW
SP	STATIC PRESSURE
SWBD	SWITCHBOARD
TL	TWISTLOCK
TV	TELEVISION
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDER SLAB
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
USB	RECEPTACLE W/ INTEGRATED USB PORT
V	VOLTAGE
VAC	VOLTS ALTERNATING CURRENT, VACUUM
VM	VENDING MACHINE
W	WATTS
W	WITH
W/O	WITHOUT
WP	WEATHERPROOF
WT	WATERTIGHT, WEIGHT
XFMR	TRANSFORMER
XP	EXPLOSION PROOF

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ELECTRICAL GENERAL NOTES

1. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS ON ARCHITECTURAL DRAWINGS AND IN FIELD PRIOR TO COMMENCEMENT OF WORK.
2. REVIEW ARCHITECTURAL, STRUCTURAL, MECHANICAL, AND OTHER DRAWINGS FOR ADDITIONAL SCOPE REQUIREMENTS PRIOR TO BID.
3. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
4. WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE CURRENT ADOPTED EDITIONS OF LOCAL, STATE, AND NATIONAL CODES AND STANDARDS.
5. OBTAIN PERMITS AND INSPECTIONS REQUIRED.
6. FINAL CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT SUPPLIED.
7. CONTRACTOR SHALL REPLACE EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS CONTRACT.
8. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT IN A TIMELY MANNER WILL NOT BE ACCEPTED AS A REASON TO SUBSTITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.
9. SYSTEMS SHALL BE COMPLETE, AND READY FOR CONTINUOUS OPERATION.
10. DEVICE BOXES SHALL BE MINIMUM 4" SQUARE.
11. PROVIDE NEW UPDATED TYPED PANELBOARD DIRECTORIES FOR PANELS MODIFIED OR INSTALLED AS A PART OF THIS PROJECT.
12. CONDUITS PENETRATING THROUGH ROOF SHALL BE APPROVED BY OWNER'S ROOFING CONTRACTOR. INSTALLATION SHALL BE WATERTIGHT AND PERFORMED BY OWNER'S ROOFING CONTRACTOR AT ELECTRICAL CONTRACTOR'S EXPENSE.
13. FINAL CONNECTIONS TO MOTORS, TRANSFORMERS, AND OTHER VIBRATING EQUIPMENT SHALL BE WITH FLEXIBLE CONDUIT AND APPROVED FITTINGS THAT DO NOT REDUCE THE USABLE INTERNAL DIAMETER OF THE CONDUIT. REFERENCE SPECIFICATIONS FOR SPECIFIC PRODUCTS. DO NOT SECURE CONDUITS, DISCONNECTS, OR DEVICES TO DUCTWORK OR MECHANICAL EQUIPMENT.
14. WHERE PANELS ARE INSTALLED FLUSH WITH WALLS, EMPTY CONDUITS SHALL BE EXTENDED FROM THE PANEL TO AN ACCESSIBLE SPACE ABOVE OR BELOW. A MINIMUM OF ONE 3/4" CONDUIT SHALL BE INSTALLED FOR EVERY THREE SINGLE POLE SPARE CIRCUIT BREAKERS OR SPACES, OR FRACTION THEREOF, BUT NOT LESS THAN TWO CONDUITS.
15. ELECTRICAL SYSTEMS COMPONENTS SHALL BE LISTED OR LABELED BY UL OR OTHER RECOGNIZED TESTING FACILITY.
16. PROVIDE AN INSULATED GROUND CONDUCTOR WITH EACH LINE VOLTAGE CIRCUIT.
17. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH BRANCH CIRCUIT REQUIRING A NEUTRAL CONDUCTOR. PROVIDE MULTIPOLE BREAKERS FOR EACH MULTIWIRE BRANCH CIRCUIT SERVING EQUIPMENT OR FURNITURE.
18. REFERENCE DIVISION 22 AND 23 DRAWINGS AND SPECIFICATIONS FOR LOCATION AND REQUIREMENTS OF MECHANICAL AND PLUMBING EQUIPMENT. PROVIDE SERVICE TO AND CONNECT EQUIPMENT AS REQUIRED.
19. PROVIDE FUSES SIZED PER MANUFACTURERS RECOMMENDATIONS.
20. COORDINATE THE EXACT MOUNTING LOCATIONS OF WALL AND FLOOR DEVICES WITH ARCHITECTURAL AND EQUIPMENT PLANS AND ELEVATIONS.
21. REFER TO TECHNOLOGY DRAWINGS AND SPECIFICATIONS FOR LOW-VOLTAGE SYSTEMS INFRASTRUCTURE REQUIREMENTS. ELECTRICAL CONTRACTOR SHALL PROVIDE ALL CONDUITS AND BACKBOXES REQUIRED FOR LOW-VOLTAGE SYSTEMS.
22. RACEWAYS SHALL NOT BE ROUTED HORIZONTALLY ABOVE ROOF. RACEWAY SHALL PENETRATE ROOF AT LOCATION OF EQUIPMENT SERVED.
23. FIELD LOCATE EXISTING UNDERGROUND PUBLIC AND OWNER UTILITIES AND BUILDING GROUNDING/LIGHTNING PROTECTION SYSTEMS PRIOR TO ANY EXCAVATION. REPLACE OR REPAIR DAMAGED UTILITIES AND GROUNDING/LIGHTNING PROTECTION SYSTEMS TO ORIGINAL CONDITION.
24. WIRING IN PATIENT CARE AREAS SHALL COMPLY WITH NEC 517.13(A) AND (B).

ELECTRICAL LIGHTING NOTES

1. COORDINATE THE LOCATION AND MOUNTING HEIGHT OF LUMINAIRES AND DEVICES WITH ARCHITECTURAL DRAWINGS. WHERE LUMINAIRES OR DEVICES ARE NOT SPECIFICALLY INDICATED, COORDINATE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH-IN.
2. CONNECT EMERGENCY LIGHTING AND EXIT SIGNS AS REQUIRED PER NEC AND NFPA 99.
3. COORDINATE PENDANT HUNG INDUSTRIAL STRIP(S) IN UNFINISHED AREAS WITH PIPING, DUCTWORK, EQUIPMENT, CABLE TRAY, ETC. TO AVOID CONFLICTS. MAKE MINOR ADJUSTMENTS TO LUMINAIRE LOCATIONS AS REQUIRED.
4. RECESSED LIGHT FIXTURES INSTALLED IN GYP. BOARD OR PLASTER CEILINGS SHALL HAVE PLASTER FRAMES INSTALLED PRIOR TO CEILING MATERIAL.
5. FIXTURES RECESSED IN "T-BAR" CEILING SHALL BE SUPPORTED INDEPENDENTLY OF CEILING SYSTEM WITH HANGER WIRES UP TO STRUCTURE. SECURE HANGER WIRES TO CORNERS OF FIXTURE. CLIP FIXTURE TO GRID ON TWO SIDES WITH FACTORY-FURNISHED CLIPS. FINAL ELECTRICAL CONNECTION TO FIXTURE SHALL BE MADE WITH FLEXIBLE CONDUIT OR UL LISTED ASSEMBLY.
6. VERIFY TRIM COMPATIBILITY WITH CEILING TYPE INDICATED IN ARCHITECTURAL REFLECTED CEILING PLAN PRIOR TO ORDERING LUMINAIRES. MODIFY TRIMS AS REQUIRED TO WORK WITH SPECIFIED CEILINGS.
7. LOSS OF UTILITY POWER SHALL ENERGIZE THE EMERGENCY GENERATOR AND TRANSFER POWER FOR LIFE-SAFETY BRANCH ILLUMINATION IS 10 SECONDS OR LESS. COMPONENTS OF SYSTEM SHALL BE UL924 LISTED FOR EMERGENCY TRANSFER.
8. PROVIDE COSTS FOR ADDING 3 ADDITIONAL EXIT SIGNS PER LEVEL AS REQUIRED BY THE FIRE MARSHAL AT THE TIME OF FINAL INSPECTION. LOCATE AS REQUIRED BY FIRE MARSHAL.
9. PROVIDE OCCUPANCY/VACANCY SENSOR RELAYS AND POWER PACKS FOR LIGHTING CONTROL FUNCTION INDICATED. PROVIDE 1 SET OF AUXILIARY CONTACTS IN LOW VOLTAGE SENSORS FOR HVAC CONTROLS.
10. SET VACANCY/OCCUPANCY SENSORS TO 15 MINUTE TIME DELAY UNLESS NOTED OTHERWISE. DO NOT EXCEED MAXIMUM CODE REQUIRED TIME DELAY.
11. CONNECT OCCUPANCY SENSOR(S) AHEAD OF LOCAL LIGHTING CONTROLS.
12. WHERE MULTIPLE VACANCY/OCCUPANCY SENSORS ARE LOCATED IN THE SAME ROOM OR SPACE, CONNECT SO EACH SENSOR CONTROLS ALL LIGHTING (EXCEPT NON-SWITCHED EMERGENCY LIGHTING) WITHIN THAT ROOM OR SPACE.
13. PROVIDE LOW VOLTAGE VACANCY/OCCUPANCY SENSORS WHERE MULTIPLE SENSORS ARE USED TO CONTROL THE SAME LUMINAIRE(S).
14. PROVIDE WALL MOUNTED VACANCY/OCCUPANCY SENSOR TO MATCH THE SPECIFIED DEVICE COLOR.
15. INSTALL WALL MOUNTED OCCUPANCY SENSOR IN VACANCY MODE.
16. VACANCY/OCCUPANCY SENSOR VENDOR SHALL PROVIDE LAYOUT OF DEVICES AND PROPER DEVICE SELECTION FOR COMPLETE COVERAGE OF AREAS. SUBMIT SHOP DRAWINGS WHICH INDICATE LOCATIONS AND DEVICE TYPE AT EACH LOCATION. PROVIDE ADDITIONAL DEVICES AS REQUIRED. CONTRACTOR SHALL ADJUST DEVICES AS REQUIRED SO THE COVERAGE AREA CORRESPONDS TO THE AREA CONTROLLED AND SHALL RETURN TO SITE AS REQUIRED WITHIN 1 YEAR OF FINAL COMPLETION TO READJUST OR REPLACE ANY DEVICE WHICH IS NOT PROPERLY FUNCTIONING. THE LOCATION OF THE VACANCY/OCCUPANCY SENSOR(S) ON THESE DRAWING ARE DIAGRAMMATIC.
17. DO NOT LOCATE VACANCY/OCCUPANCY SENSORS WITHIN 3' OF AN HVAC SUPPLY DEVICE.
18. CEILING MOUNTED VACANCY/OCCUPANCY SENSORS SHALL BE DUAL TECHNOLOGY TYPE.

FIRE ALARM GENERAL NOTES

1. PROVIDE FIRE ALARM SYSTEM DEVICES, CONDUIT, WIRES, AND CABLE AS DIRECTED BY EQUIPMENT MANUFACTURER. MATERIALS, EQUIPMENT, AND WORKMANSHIP SHALL MEET ADOPTED CODES. THE SYSTEM SHALL BE COMPLETE AND OPERATIONAL IN EVERY RESPECT. SHOP DRAWINGS SHALL INCLUDE A SINGLE LINE DIAGRAM THAT INDICATES DEVICES, CONDUIT, WIRE, CABLE SIZES AND EQUIPMENT TO BE USED. SHOP DRAWINGS SHALL BE STAMPED AND SIGNED BY A REGISTERED ENGINEER PROVIDED BY THE FIRE ALARM VENDOR. SYSTEM CALIBRATION AND TESTING SHALL BE BY FACTORY CERTIFIED TECHNICIAN.

STATE OF MISSOURI — ABHINAV PANDEY — NUMBER PE-2018015824 — PROFESSIONAL ENGINEER
02/07/2023

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Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description

E0.1

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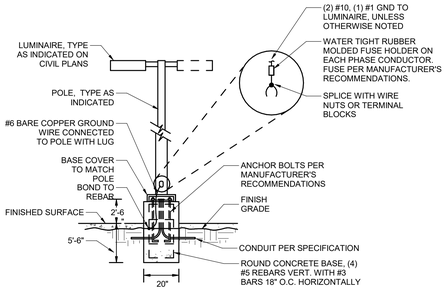
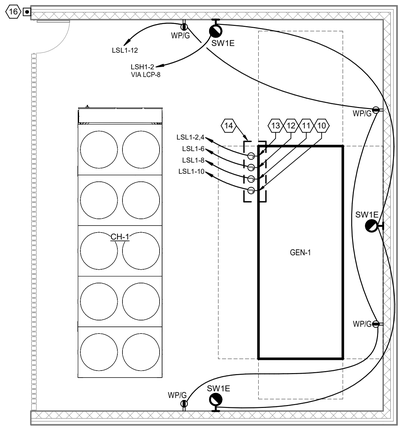
ELECTRICAL LEGEND & NOTES

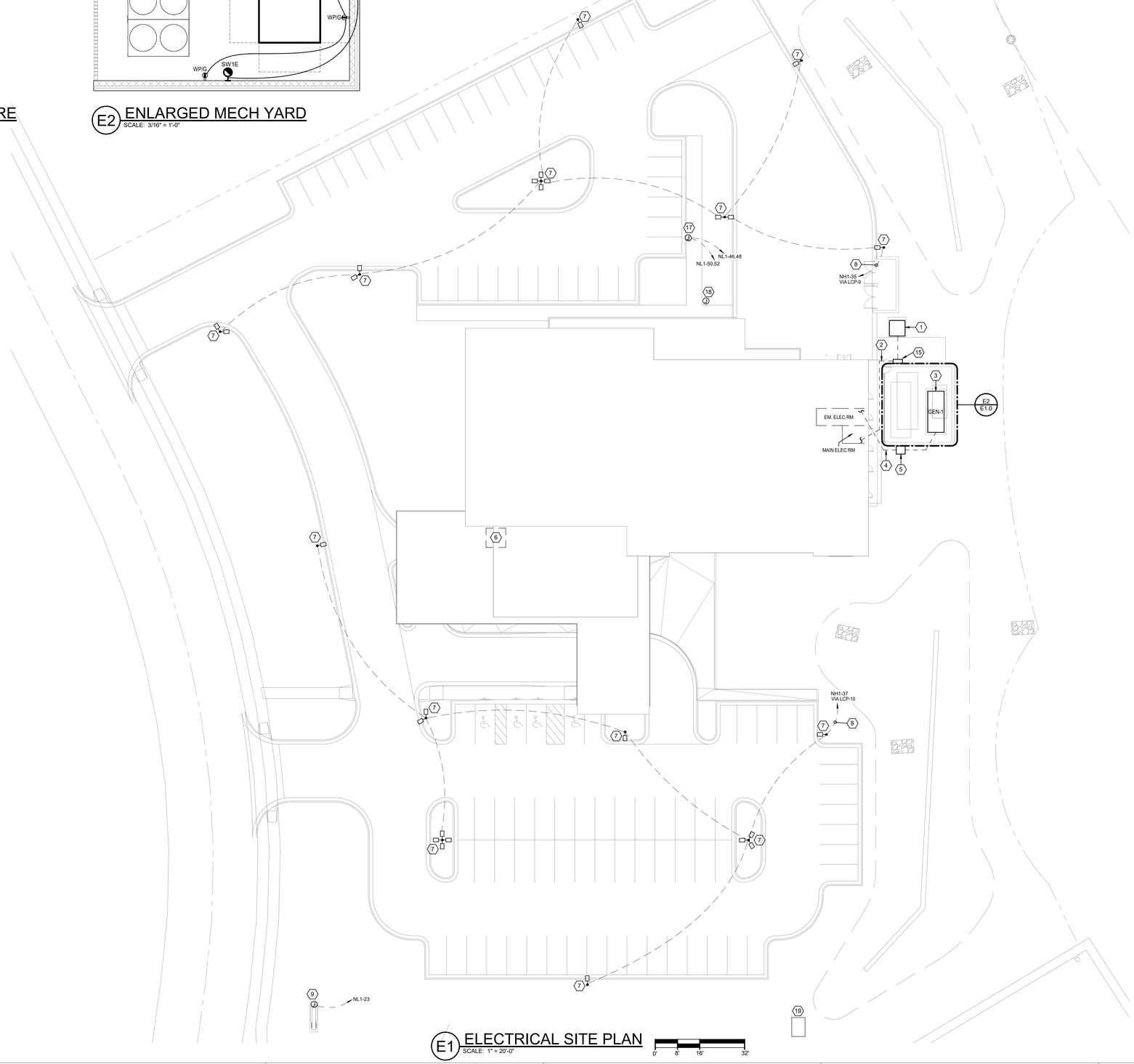
BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt



E3 PARKING LOT LIGHTING FIXTURE
SCALE: NONE



E2 ENLARGED MECH YARD
SCALE: 3/16" = 1'-0"



E1 ELECTRICAL SITE PLAN
SCALE: 1" = 20'-0"
0' 8' 16' 32'

GENERAL NOTES (THIS SHEET)

1. REFER TO SHEET E0.1 FOR ELECTRICAL SYMBOL LEGEND AND ADDITIONAL GENERAL NOTES.
2. COORDINATE INSTALLATION OF RACEWAYS, DEVICES, AND EQUIPMENT WITH OTHER TRADES.
3. REFER TO CIVIL DRAWINGS FOR UTILITIES.
4. SITE WIRING AND CABLING SHALL BE UNDERGROUND.
5. PROVIDE TRACER WIRE 12" ABOVE UNDERGROUND CONDUIT AND DUCT BANKS.
6. REFER TO LIGHTING PLAN FOR BUILDING MOUNTED EXTERIOR LIGHTING.
7. MAINTAIN MINIMUM 3'-0" HORIZONTAL AND VERTICAL SEPARATION BETWEEN ELECTRICAL AND TELECOM UNDERGROUND LINES.

KEY NOTES (X) (THIS SHEET)

1. PROPOSED LOCATION OF NEW PAD MOUNTED UTILITY TRANSFORMER BY EVERY. REFER TO CIVIL UTILITY PLAN FOR EXACT LOCATION. INSTALL TRANSFORMER ON EVERGY APPROVED CONCRETE EQUIPMENT PAD. COORDINATE FINAL LOCATION WITH CIVIL AND OBTAIN WRITTEN APPROVAL FROM EVERGY.
2. UNDERGROUND SECONDARY SERVICE ENTRANCE. PROVIDE CONCRETE ENCASED DUCT BANK. REFER TO ONE-LINE DIAGRAM FOR FEEDER SIZE.
3. EXTERIOR GENERATOR. REFER TO ONE-LINE DIAGRAM AND SPECIFICATIONS FOR ADDITIONAL INFORMATION. COORDINATE FINAL EQUIPMENT PAD SIZE WITH VENDOR SUBMITTED SHOP DRAWINGS. COORDINATE GENERATOR CONNECTIONS WITH VENDOR SUBMITTED SHOP DRAWINGS.
4. UNDERGROUND FEEDERS AND CONTROL CABLING FROM GENERATOR TO EMERGENCY DISTRIBUTION EQUIPMENT. PROVIDE CONCRETE ENCASED DUCT BANK. REFER TO ONE-LINE DIAGRAM FOR FEEDER SIZE. PROVIDE CONDUIT AND WIRING/CABLING AS REQUIRED FOR GENERATOR STARTING CIRCUIT, ALARMS, MONITORING, CONTROLS, AND POWERED ACCESSORIES.
5. PAD-MOUNTED DUAL-PURPOSE DOCKING STATION FOR LOAD BANK AND TEMPORARY GENERATOR. REFER TO ONE-LINE DIAGRAM FOR ADDITIONAL INFORMATION.
6. MAIN TELECOM ROOM AND PROPOSED LOCATION OF INCOMING TELECOM SERVICES. PROVIDE (3) 4" CONDUIT STUBBED THROUGH FLOOR AS REQUIRED. REFER TO TECHNOLOGY DRAWINGS FOR LOCATION AND ADDITIONAL REQUIREMENTS. CONDUIT ROUTING TO SERVICE PROVIDE VAULT SHALL BE DELEGATED DESIGN.
7. SITE LIGHT POLE BY CIVIL. REFER TO CIVIL PHOTOMETRIC PLANS FOR LIGHT FIXTURE SPECIFICATIONS. PROVIDE CIRCUITING TO FIXTURE AS REQUIRED.
8. PROVIDE (2)#8, (1)8G, IN 1"C FOR SITE LIGHT POLE WIRING. MAKE CONNECTIONS TO FIXTURES AS REQUIRED. CIRCUIT VIA EXTERIOR LIGHTING CONTROLLER PROVIDED IN MAIN ELECTRICAL ROOM.
9. CONNECTION TO INTEGRALLY LIT MONUMENT SIGN. FIELD-LOCATE WEATHERPROOF JUNCTION BOX AND DISCONNECT. BOX AND DISCONNECT SHALL BE OBSCURED FROM VIEW AS MUCH AS PRACTICAL (LOCATED ON END OF SIGN, NOT ON SIGN FACES). PROVIDE (2)#10, (1)#10G, IN 3/4"C. VERIFY ELECTRICAL REQUIREMENTS WITH SIGNAGE VENDOR PRIOR TO ROUGH-IN.
10. CONNECTION TO GENERATOR STATOR HEATER.
11. CONNECTION TO GENERATOR BATTERY CHARGER.
12. CONNECTION TO GENERATOR ENGINE OIL HEATER.
13. CONNECTION TO GENERATOR JACKET WATER HEATER. PROVIDE (2)#6, (1)#10G, IN 1"C. VERIFY FINAL HEATER SIZE, WIRING, AND OVERCURRENT PROTECTION PRIOR TO ROUGH-IN.
14. ACCESSORY CIRCUITS FOR GENERATOR. VERIFY FINAL QUANTITIES, SIZES, AND LOCATIONS OF ACCESSORY CIRCUITS PRIOR TO ROUGH-IN. PROVIDE DISCONNECTS, SUPPORTS, CONDUIT, WIRING, AND OTHER COMPONENTS AS REQUIRED BY GENERATOR MANUFACTURER.
15. PAD-MOUNTED CT CABINET RATED 1200A AND UTILITY METER. ENCLOSURES SHALL BE RATED FOR OUTDOOR INSTALLATION. INSTALL PER EVERGY SERVICE STANDARDS. CT CABINET BASIS OF DESIGN IS MILBANK KCPLM-1234PM. ALTERNATE EVERGY-APPROVED CT CABINETS ARE ACCEPTABLE. REFER TO EVERGY SERVICE STANDARDS SECTION 10.9 FOR ADDITIONAL INFORMATION. COORDINATE INSTALLATION WITH EVERGY AND OTHER TRADES.
16. EMERGENCY POWER OFF (EPO) BUTTON FOR SHUTDOWN OF GENERATOR. PROVIDE TAMPER-RESISTANT, WEATHERPROOF COVER. CONNECT EPO BUTTON AS REQUIRED.
17. CONNECTION TO ELECTRIC VEHICLE DUAL-PORT CHARGING STATION. FIELD COORDINATE FINAL LOCATIONS OF CHARGING STATIONS. PROVIDE (4)#8, (1)#8G, IN 1" C FOR EACH CIRCUIT. PROVIDE 40A/2P CIRCUIT BREAKER FOR EACH CHARGING PORT. PRIOR TO INSTALLATION, VERIFY THE ELECTRICAL REQUIREMENTS OF THE ACTUAL TYPE OF CHARGING STATION BEING FURNISHED. COORDINATE ADDITIONAL REQUIREMENTS WITH EVERGY.
18. IN-GRADE RATED PULL BOX, BASIS OF DESIGN IS QUAZITE 12"X12" BOX. PROVIDE (2) 1" SPARE CONDUIT, CAPPED WITH PULL STRING FROM MAIN ELECTRICAL ROOM 197.
19. REFER TO CIVIL PLANS FOR EXACT LOCATION OF VAULT FOR WATER LINE DOUBLE-CHECK VALVE. PROVIDE 3/4" CONDUIT ROUTED FROM VAULT LOCATION TO WATER ENTRY ROOM 198. PROVIDE CABLING AND CONTROL MODULES AS REQUIRED FOR MONITORING OF THE BUILDING SPRINKLER SYSTEM.

BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
Lee's Summit, Missouri
Date: 02/15/2023

STATE OF MISSOURI ABHINAV PANDEY NUMBER PE-2018015824 PROFESSIONAL ENGINEER
02/07/2023

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Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description

E1.0

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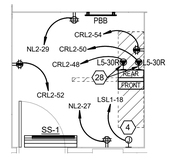
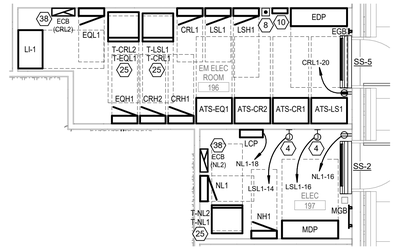
ELECTRICAL SITE PLAN

RELEASED FOR CONSTRUCTION
As Noted on Plans
Development Services Department
Lee's Summit, Missouri
Dec 15, 2023



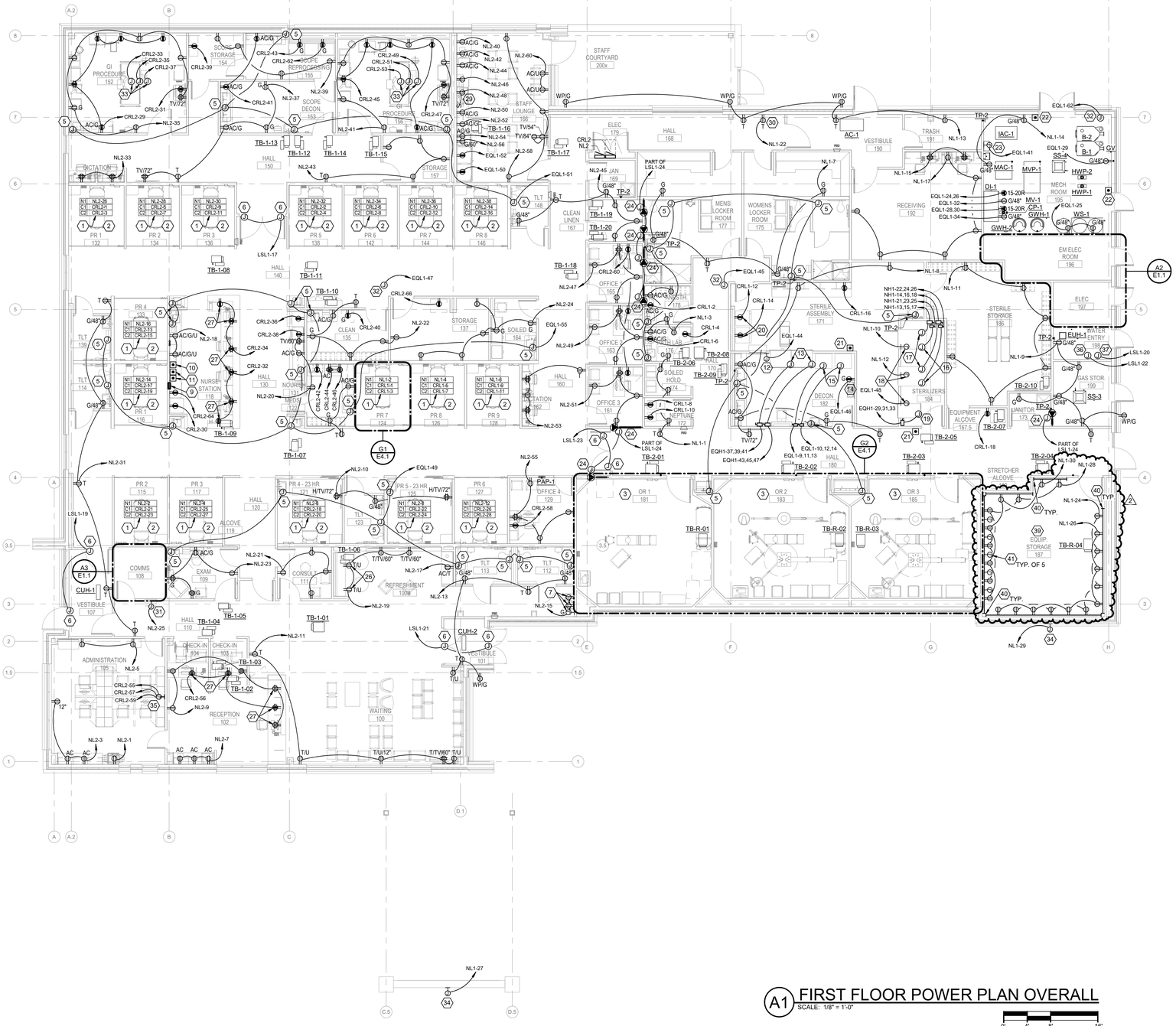
ENLARGED COMM ROOM 108

A3 SCALE: 1/4" = 1'-0"



ENLARGED MAIN ELECTRICAL ROOMS

A2 SCALE: 1/4" = 1'-0"



FIRST FLOOR POWER PLAN OVERALL

A1 SCALE: 1/8" = 1'-0"

0' 4' 8' 16'

GENERAL NOTES (THIS SHEET)

1. REFER TO SHEET E0.1 FOR ELECTRICAL SYMBOL LEGEND AND ADDITIONAL GENERAL NOTES.
2. HOSPITAL GRADE RECEPTACLES SHALL BE USED THROUGHOUT.

KEY NOTES (X) (THIS SHEET)

1. CIRCUIT SCHEDULE FOR RECEPTACLES LOCATED IN THIS ROOM. SEE ENLARGED PLAN FOR LAYOUT.
2. REFER TO DETAIL A1/SHEET E4.1 FOR DEVICE LAYOUT IN THIS ROOM.
3. DO NOT PENETRATE THIS ROOM WITH CONDUIT OR WIRING WHICH SERVES OTHER AREAS.
4. CONNECTION TO FIRE ALARM EQUIPMENT PANEL(S) AND ASSOCIATED POWER SUPPLIES.
5. CONNECTION TO LOW VOLTAGE TRANSFORMER SERVING AUTOMATIC FAUCET AND/OR FLUSH VALVE. PROVIDE A TOGGLE SWITCH DISCONNECT ABOVE FINISHED ACCESSIBLE CEILING WHERE A HARD CEILING EXISTS. PROVIDE SUITABLE ACCESS PANEL. PROVIDE CONDUIT PATHWAY AND BACKBOXES AS REQUIRED FOR CONCEALED INSTALLATION. COORDINATE EXACT LOCATION WITH PLUMBING ROUGH-IN. WIRING BETWEEN TRANSFORMER AND FAUCETS/VALVES SHALL BE PROVIDED BY DIVISION 22.
6. CONNECTION TO AUTOMATIC DOOR OPERATOR. PROVIDE A TOGGLE SWITCH DISCONNECT ABOVE FINISHED ACCESSIBLE CEILING ADJACENT TO THE EQUIPMENT SERVED. COORDINATE WITH ARCHITECTURAL DRAWINGS AND DOOR HARDWARE SCHEDULE FOR ROUGH-IN OF BACK BOXES FOR DOOR PUSH PADS.
7. RECEPTACLE(S) FOR ELECTRIC WATER COOLER. COORDINATE MOUNTING WITH MANUFACTURER'S REQUIREMENTS. PROVIDE DEAD-FRONT GFCI DEVICE ADJACENT TO WATER COOLER PANEL, CONNECTED TO PROVIDE GFCI PROTECTION TO DOWNSTREAM RECEPTACLE(S).
8. GENERATOR REMOTE ANNUNCIATOR PANEL, 1 OF 2. VERIFY LOCATION WITH OWNER PRIOR TO ROUGH-IN. PROVIDE SURFACE-MOUNT ENCLOSURE IF INSTALLED IN UNFINISHED SPACE. IF OWNER DIRECTS TO INSTALL IN A FINISHED SPACE, PROVIDE FLUSH-MOUNT ENCLOSURE.
9. GENERATOR REMOTE ANNUNCIATOR PANEL, 2 OF 2. FIELD COORDINATE EXACT LOCATION ALONG WALL WITH OTHER ALARM PANELS AND PUSH BUTTONS ABOVE COUNTER. COORDINATE WITH ARCHITECTURAL ELEVATIONS PROVIDE FLUSH-MOUNT ENCLOSURE FOR ANNUNCIATOR PANEL.
10. EMERGENCY POWER OFF (EPO) BUTTON FOR SHUTDOWN OF GENERATOR. CONNECT EPO BUTTONS AS REQUIRED. PROVIDE CLEAR, HINGED COVER.
11. EMERGENCY POWER OFF (EPO) BUTTON FOR SHUTDOWN OF AIR HANDLING UNITS. CONNECT EPO BUTTONS AS REQUIRED. PROVIDE CLEAR, HINGED COVER.
12. CONNECTION TO AUTOMATIC PASSTHROUGH. PROVIDE 120V/1P TOGGLE SWITCH ADJACENT TO UNIT FOR DISCONNECTING MEANS.
13. CONNECTION TO WASHER/DISINFECTOR. PROVIDE (3)#8, (1)#10G, IN 1"C. PROVIDE NEMA-1, 60A/3P NON-FUSED DISCONNECT SWITCH.
14. RECEPTACLE FOR AUTOMATIC DETERGENT DISPENSER.
15. CONNECTION TO ULTRASONIC CLEANER. PROVIDE (3)#12, (1)#12G, IN 3/4" C. PROVIDE NEMA-1, 30A/3P NON-FUSED DISCONNECT SWITCH.
16. CONNECTION TO MEDIUM-SIZE STERILIZER POWER. PROVIDE (3)#12, (1)#12G, IN 3/4" C. PROVIDE NEMA-1, 30A/3P NON-FUSED DISCONNECT.
17. CONNECTION TO MEDIUM-SIZE STERILIZER ELECTRIC STEAM GENERATOR. PROVIDE (3)#4, (1)#8G, IN 1-1/4" C. PROVIDE NEMA-1, 100A/3P NON-FUSED DISCONNECT.
18. CONNECTION TO STERILIZER CONTROLS. PROVIDE 120V/1P TOGGLE SWITCH ADJACENT TO UNIT FOR DISCONNECTING MEANS.
19. CONNECTION TO SMALL-SIZE STERILIZER POWER AND ELECTRIC STEAM GENERATOR. PROVIDE (3)#8, (1)#10G, IN 3/4" C. PROVIDE NEMA-1, 60A/3P NON-FUSED DISCONNECT.
20. RECEPTACLE FOR LOW-TEMP STERILIZER.
21. EMERGENCY POWER OFF (EPO) BUTTON FOR SHUTDOWN OF STERILIZERS. CONNECT EPO BUTTONS AS REQUIRED. PROVIDE CLEAR, HINGED COVER.
22. EMERGENCY POWER OFF (EPO) BUTTON FOR SHUTDOWN OF BOILERS. CONNECT EPO BUTTONS AS REQUIRED. PROVIDE CLEAR, HINGED COVER.
23. CONNECTION TO BAS CONTROL PANEL.
24. CONNECTION TO SMOKE DAMPER.
25. STACKED TRANSFORMER MOUNTING. PROVIDE UNISTRUT FRAME FOR STACKING ONE TRANSFORMER ABOVE THE OTHER AS REQUIRED. PROVIDE BRACING AS REQUIRED TO RESIST LATERAL MOVEMENT.
26. RECEPTACLES INSTALLED AT BASE OF BUILT-IN BENCH. MOUNT RECEPTACLES HORIZONTALLY. COORDINATE WITH ARCHITECTURAL DETAILS.
27. RECEPTACLES INSTALLED IN BUILT-UP CASEWORK. CONDUIT SHALL BE CONCEALED WITHIN CASEWORK, STUBBED UP FROM BELOW AS REQUIRED.
28. MOUNT RECEPTACLES ON THE REAR SIDE OF THE TELECOM EQUIPMENT RACKS, AT BOTTOM OF RACK, WITH CONDUIT STUBBED UP FROM BELOW. CONDUIT ROUTING AND WIRING DEVICE BOXES SHALL NOT BLOCK OR IMPEDE ACCESS TO RACK EQUIPMENT. CONFIRM SPECIAL RECEPTACLE CONFIGURATION WITH OWNER PRIOR TO INSTALLATION.
29. RECEPTACLE BELOW COUNTER FOR GARBAGE DISPOSAL. CONNECT TO ABOVE COUNTER TOGGLE SWITCH.
30. CONNECTION FOR EMPLOYEE TIME CLOCK. COORDINATE FINAL MOUNTING AND CONNECTION TYPE WITH PROVIDED EQUIPMENT.
31. CONNECTION TO VENDOR BADGE MAKER. COORDINATE FINAL MOUNTING AND CONNECTION TYPE WITH PROVIDED EQUIPMENT.
32. CONNECTION TO PIPING HEAT TRACE SYSTEM. REFER TO PLUMBING DRAWINGS FOR HEAT TRACE LOCATION AND SPECIFICATION.
33. CONNECTIONS TO SERVICE COLUMN. PROVIDE #12 AWG CONDUCTORS IN 1/2" CONDUIT FOR EACH CIRCUIT. PROVIDE A #6 AWG INSULATED COPPER BONDING JUMPER FROM THE SERVICE COLUMN RACEWAY ENCLOSURE TO THE CONDUITS CONTAINING THE BRANCH CIRCUIT CONDUCTORS SERVING THE SERVICE COLUMN IN ORDER TO MAKE THE RACEWAY AN EFFECTIVE GROUND-FAULT CURRENT PATH.
34. CONNECTION TO ILLUMINATED BUILDING SIGNAGE. COORDINATE MOUNTING LOCATION WITH ARCHITECTURAL ELEVATIONS. COORDINATE WIRING AND CONTROL REQUIREMENTS WITH SIGNAGE VENDOR PRIOR TO INSTALLATION.
35. CONNECTION TO PRE-WIRED FURNITURE SYSTEM POWER WHIP. RECEPTACLES ARE INTEGRAL TO FURNITURE SYSTEM PANELS AND PROVIDED BY FURNITURE VENDOR. CONNECT PER MANUFACTURER'S INSTRUCTIONS. COORDINATE WITH LOW VOLTAGE FOR ADDITIONAL FURNITURE FEED COMPONENTS.
36. CONNECTION TO DRY-PIPE FIRE PROTECTION SYSTEM AIR COMPRESSOR. PROVIDE 120V/1P TOGGLE SWITCH ADJACENT TO EQUIPMENT FOR DISCONNECTING MEANS. PRIOR TO ORDERING, VERIFY CIRCUIT BREAKER SIZE, WIRING SIZE, AND ADDITIONAL REQUIREMENTS WITH ACTUAL AIR COMPRESSOR SPECIFIED BY THE FIRE PROTECTION ENGINEER.
37. CONNECTION TO DRY-PIPE FIRE PROTECTION SYSTEM MONITORING DEVICES, ALARMS, AND CONTROLS AS REQUIRED.
38. PROVIDE ENCLOSED CIRCUIT BREAKER WITH ELECTRONIC TRIP FOR PROTECTION OF DOWNSTREAM PANELBOARD. REFER TO ONE-LINE DIAGRAM FOR SIZE.
39. PULL (3) 3/4" SPARE CONDUIT WITH PULL STRING TO THIS SPACE FROM EMERGENCY ELEC ROOM 196, TERMINATED ABOVE CEILING.
40. PROVIDE WIREMOLD SERIES AL3300 SURFACE RACEWAY. MOUNT RACEWAY AT 48" AFF. PROVIDE RECEPTACLES AND DEVICE PLATES AS REQUIRED, AND PROVIDE ACCESSORIES AS REQUIRED FOR A COMPLETE SYSTEM, INCLUDING BUT NOT LIMITED TO END CAPS, BLANK PLATES, COVERS, COUPLINGS, AND OTHER COMPONENTS. PROVIDE CIRCUITING TO DEVICES AS SHOWN. POWER ACCESS TO RACEWAY MUST BE PROVIDED FROM A BACK FEED WITHIN THE WALL CAVITY. PROVIDE FIELD MEASUREMENTS TO THE MANUFACTURER.
41. PROVIDE J-BOX ROUGHED-IN AT 36" AFF FOR FUTURE WALL RECEPTACLE. PROVIDE BLACK COVERPLATE AND CONDUIT STUBBED TO ABOVE CEILING WITH PULL-STRING.

BranchPattern
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PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

ABHINAV PANDEY
NUMBER PE-2010015824
PROFESSIONAL ENGINEER
STATE OF MISSOURI
02/20/2023

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Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description
2	2/20/23	ADDENDUM #2

E1.1

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FIRST FLOOR POWER PLAN - OVERALL

2/20/2023 4:52:08 PM

BIM 360/3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

2/7/2023 9:47:37 PM

RELEASED FOR CONSTRUCTION
As noted on drawings
Development Services Department
Lee's Summit, Missouri
Feb 15/2023

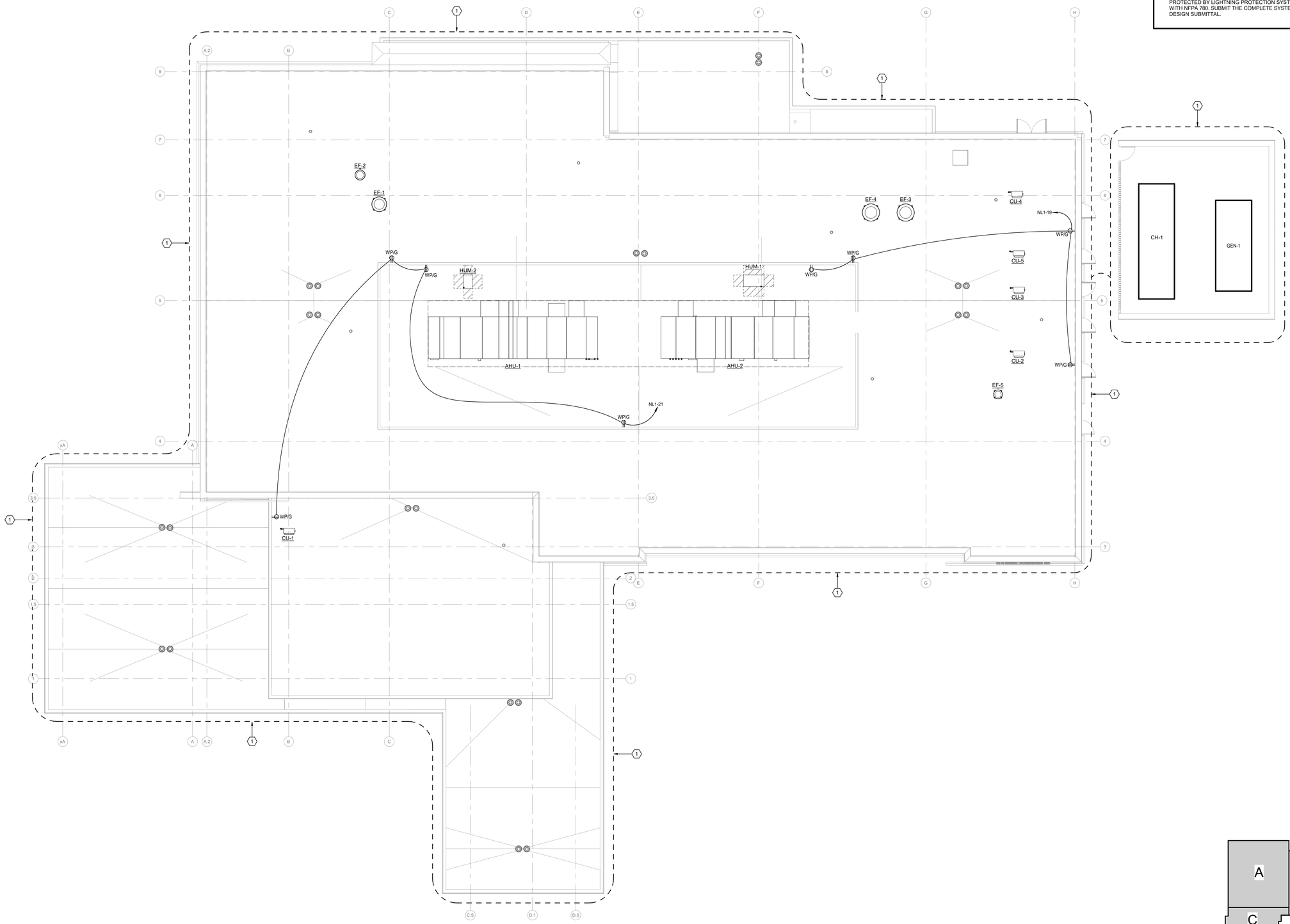
BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

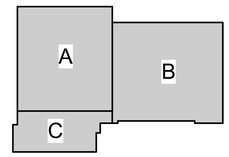
1. REFER TO SHEET E0.1 FOR ELECTRICAL SYMBOL LEGEND AND ADDITIONAL GENERAL NOTES.
2. PROVIDE COMPLETE LIGHTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA 780. LIGHTNING PROTECTION SYSTEM SHALL BE FURNISHED WITH UL MASTER LABEL.

KEY NOTES (X) (THIS SHEET)

1. COUNTERPOISE LOOP FOR LIGHTNING PROTECTION SYSTEM. ALL STRUCTURE AND EQUIPMENT WITHIN THIS BOUNDARY SHALL BE PROTECTED BY LIGHTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA 780. SUBMIT THE COMPLETE SYSTEM AS A DELEGATED DESIGN SUBMITTAL.



1 ROOF ELECTRICAL PLAN
SCALE: 1/8" = 1'-0"
0' 4' 8' 16'



KEYPLAN

STATE OF MISSOURI
ABHINAV PANDEY
NUMBER PE-2018015824
PROFESSIONAL ENGINEER
02/07/2023

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Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description

E1.2

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ROOF ELECTRICAL PLAN

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RELEASED FOR CONSTRUCTION
As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
Dec 15, 2023

BranchPattern
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PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

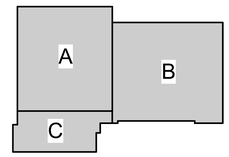
GENERAL NOTES (THIS SHEET)

1. REFER TO SHEET E0.1 FOR ELECTRICAL SYMBOL LEGEND AND ADDITIONAL GENERAL NOTES.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT LOCATION OF LUMINAIRES.
3. EXIT SIGNS SHALL BE CONNECTED TO "UNSWITCHED" LEG OF THE CIRCUIT.
4. EXIT SIGN LOCATIONS ARE SHOWN FOR CIRCUITING AND ROUGH-IN ONLY. REFER TO LIFE SAFETY DRAWINGS FOR EXACT LOCATION, ORIENTATION, AND DIRECTIONAL ARROWS. EXIT SIGNS SHALL BE INSTALLED AFTER SITE WALKTHROUGH REVIEW BY FIRE DEPARTMENT AUTHORITY.
5. CONNECT EMERGENCY LIGHTING AND EXIT SIGNS AHEAD OF LOCAL SWITCHING.
6. COORDINATE THE LOCATION AND MOUNTING HEIGHT OF LUMINAIRES AND DEVICES WITH ARCHITECTURAL DRAWINGS. WHERE LUMINAIRES OR DEVICES ARE NOT SPECIFICALLY INDICATED, COORDINATE LOCATIONS AND MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO ROUGH-IN.
7. VERIFY FIXTURE TRIM COMPATIBILITY WITH CEILING TYPES INDICATED IN ARCHITECTURAL CEILING PLANS AND DETAILS PRIOR TO ORDERING ANY LUMINAIRES.
8. COORDINATE LUMINAIRE LOCATIONS, MOUNTING, AND SUPPORTS WITH MECHANICAL DUCTWORK, PIPING, AND OTHER TRADES TO AVOID CONFLICTS.
9. LOSS OF UTILITY POWER SHALL ENERGIZE EGRESS LIGHTING. LIGHTING SYSTEMS SHALL MEET UL STANDARDS FOR LIFE SAFETY REQUIREMENTS.
10. PROVIDE OCCUPANCY/VACANCY SENSOR RELAYS AND POWER PACKS AS REQUIRED TO PROVIDE THE LIGHTING CONTROL FUNCTION INDICATED. PROVIDE LOW VOLTAGE SENSORS WITH 1 SET OF AUXILIARY CONTACTS FOR INTEGRATION WITH HVAC CONTROLS.
11. SET OCCUPANCY/VACANCY SENSORS TO 15 MINUTE DELAY, UNLESS NOTED OTHERWISE. DO NOT EXCEED MAXIMUM CODE ALLOWED TIME DELAY.
12. CONNECT OCCUPANCY/VACANCY SENSORS AHEAD OF LOCAL LIGHTING CONTROLS.
13. WHERE MULTIPLE OCCUPANCY/VACANCY SENSORS ARE LOCATED IN THE SAME ROOM OR SPACE, CONNECT SENSORS TO CONTROL ALL LIGHTING (EXCEPT NON-SWITCHED EMERGENCY LIGHTING) WITHIN THAT ROOM OR SPACE, UNLESS NOTED OTHERWISE.
14. LOCATIONS OF THE OCCUPANCY/VACANCY SENSORS ON THESE DRAWINGS ARE DIAGRAMMATIC. LIGHTING CONTROL VENDOR SHALL PROVIDE LAYOUT OF DEVICES AND DEVICE SELECTION FOR COMPLETE SENSOR COVERAGE OF AREAS. SUBMIT SHOP DRAWINGS WHICH INDICATE LOCATIONS AND DEVICE TYPE. PROVIDE ADDITIONAL DEVICES AS REQUIRED. CONTRACTOR SHALL ADJUST DEVICES AS REQUIRED FOR COVERAGE OF THE CONTROLLED AREAS. CONTRACTOR SHALL RETURN TO SITE AS REQUIRED WITHIN 1 YEAR OF FINAL COMPLETION TO RE-ADJUST OR REPLACE DEVICES WHICH ARE NOT FUNCTIONING PROPERLY.
15. DO NOT LOCATE CEILING SENSORS WITHIN 3' OF AN HVAC SUPPLY AIR TERMINAL.
16. LIGHTING CONTROL SENSORS SHALL BE DUAL TECHNOLOGY TYPE UNLESS NOTED OTHERWISE.
17. SWITCHES IN PATIENT PREP/RECOVERY ROOMS AND IN PROCEDURE/OPERATING ROOMS SHALL BE LABELED WITH FUNCTIONAL DESCRIPTION. FINAL LABEL SHALL BE APPROVED BY OWNER PRIOR TO ORDERING.
18. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT MOUNTING FOR UNDERCOUNTER LUMINAIRES.

KEY NOTES (X) (THIS SHEET)

1. MASTER OVERRIDE SWITCH FOR NIGHTTIME SHUTOFF OF ALL "A3E" AND "W1" LIGHT FIXTURES IN ALL PRE-OP AND RECOVERY BAYS.
2. DO NOT PENETRATE THIS ROOM WITH CONDUIT OR CABLING WHICH SERVES OTHER AREAS.
3. PROVIDE 3-BUTTON WALL-MOUNT DIGITAL OVERRIDE SWITCH TO INCLUDE 'ON', 'OFF', AND 'AUTO' MODE FOR EXTERIOR LIGHTING. ROUTE CIRCUIT THROUGH LIGHTING CONTROL PANEL 'LCP'.
4. CHAIN HANG FIXTURES AT 9'-0" AFF IN THIS SPACE. COORDINATE FINAL LOCATIONS WITH PIPING, DUCTWORK, EQUIPMENT, CABLE TRAY, AND ALL TRADES.
5. MASTER OVERRIDE SWITCH FOR LIGHT FIXTURES IN CORRESPONDING CORRIDOR.
6. MOUNT BANK OF SWITCHES ABOVE COUNTER AS INDICATED.
7. PROVIDE COVE LIGHTING AROUND SOFFIT PERIMETER AS INDICATED. CONTROL WITH ADJACENT CORRIDOR FIXTURES VIA LIGHTING CONTROL PANEL. REFER TO ARCHITECTURAL DRAWINGS FOR COVE DETAILS.
8. NOT USED.
9. REFER TO ARCHITECTURAL ELEVATIONS FOR HEIGHT AND LOCATION OF WALL MOUNTED LUMINAIRES.
10. LIGHT FIXTURES AND ASSOCIATED WIRING AND CONTROLS INDICATED BY THIS NOTE AND/OR WITHIN THIS DASHED BOUNDARY ARE INCLUDED AS PART OF THE SHELL BUILDING SCOPE.
11. COORDINATE FINAL MOUNTING LOCATIONS OF LIGHTING SWITCHES WITH STRYKER O.R. ROOM CONTROL TOUCH PANELS IN THIS ROOM. INSTALL SWITCHES IN CONSOLIDATED GROUP ADJACENT TO TOUCH PANELS.
12. MOUNT VANITY FIXTURES VERTICALLY ON EACH SIDE OF MIRROR. REFER TO ARCHITECTURAL ELEVATIONS FOR MOUNTING HEIGHTS.
13. MOUNT VANITY FIXTURE HORIZONTALLY CENTERED 6" ABOVE MIRROR. REFER TO ARCHITECTURAL ELEVATIONS.
14. SUSPEND PENDANT AT 8'-0" AFF TO BOTTOM OF FIXTURE.
15. SUSPEND PENDANT AT 7'-0" AFF TO BOTTOM OF FIXTURE.

1 FIRST FLOOR LIGHTING PLAN OVERALL
SCALE: 1/8" = 1'-0"
0' 4' 8' 16'



KEYPLAN

ABHINAV PANDEY
STATE OF MISSOURI
NUMBER PE-2018015824
PROFESSIONAL ENGINEER
02/07/2023

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Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description

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FIRST FLOOR LIGHTING PLAN - OVERALL

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Lee's Summit, Missouri
Feb 15 2023

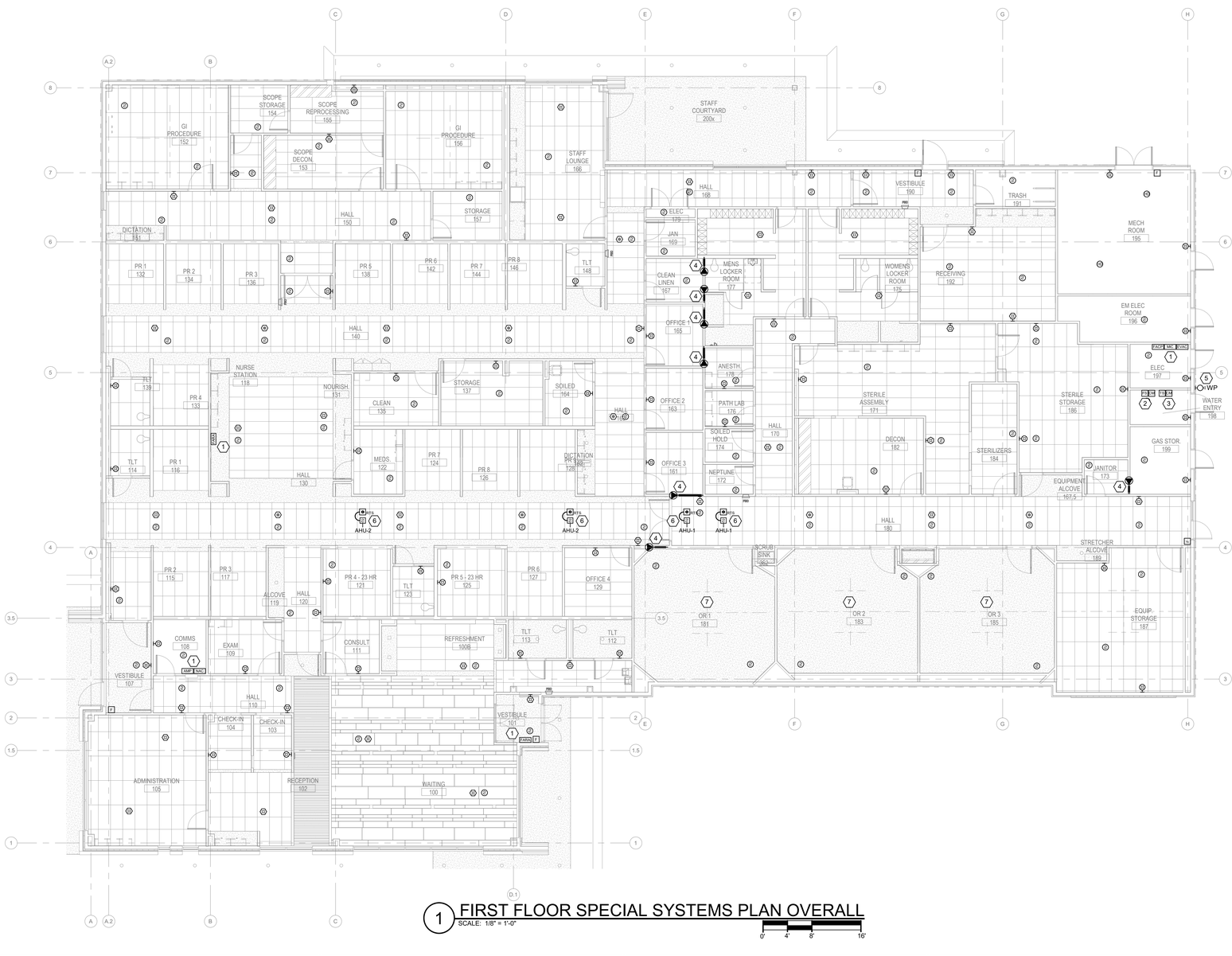
BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

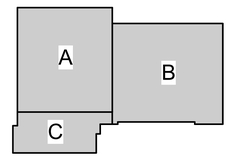
1. REFER TO SHEET E0.1 FOR ELECTRICAL SYMBOL LEGEND AND ADDITIONAL GENERAL NOTES. REFER TO SHEET E5.1 FOR FIRE ALARM RISER.
2. PROVIDE FIRE ALARM SYSTEM DEVICES, CONDUIT, WIRES, CABLES, AND ACCESSORIES AS DIRECTED BY FIRE ALARM EQUIPMENT MANUFACTURER. MATERIALS, EQUIPMENT, AND WORKMANSHIP SHALL MEET ADOPTED CODES. THE SYSTEM SHALL BE COMPLETE AND OPERATIONAL IN EVERY RESPECT. SITE SPECIFIC SHOP DRAWINGS SHALL INCLUDE A SINGLE LINE DIGRAM WHICH INDICATES DEVICES, CONDUIT, WIRES, CABLES, EQUIPMENT, AND ACCESSORIES TO BE USED. SITE SPECIFIC SHOP DRAWINGS SHALL BE STAMPED AND SIGNED BY A REGISTERED ENGINEER PROVIDED BY THE FIRE ALARM VENDOR. SYSTEM CALIBRATION AND TESTING SHALL BE BY FACTORY CERTIFIED TECHNICIAN.
3. PROVIDE CONNECTIONS AS REQUIRED TO POWERED DOORS TO ALLOW FREE EGRESS UPON ALARM CONDITIONS.

KEY NOTES (X) (THIS SHEET)

1. PROVIDE EQUIPMENT FOR A FULLY FUNCTIONING VOICE EVACUATION SYSTEM. INCLUDE AS REQUIRED: POWER SUPPLIES FOR NACS, AMPLIFIERS FOR SPEAKER CIRCUITS, MICROPHONES, ANNUNCIATORS, AND FACP & EVAC PANELS, PROVIDING SLC/IDC, BUS/DATA, AND VOICE CAPABILITIES.
2. PROVIDE CONNECTION TO AND SUPERVISION OF THE PIV AS REQUIRED. VERIFY EXACT LOCATION WITH FIRE SUPPRESSION CONTRACTOR.
3. PROVIDE MODULES FOR SPRINKLER RISERS - WATERFLOW, TAMPER, PRESSURE/FLOW, AND HIGH/LOW AIR SWITCHES. TAMPER & HIGH/LOW AIR SWITCHES SHALL INITIATE SUPERVISORY SIGNAL. WATERFLOW & PRESSURE/FLOW SWITCHES SHALL INITIATE ALARM SIGNAL.
4. PROVIDE DETECTION DEVICES, MODULES, AND RELAYS AS REQUIRED TO CONTROL SMOKE DAMPERS UPON DETECTION OF SMOKE.
5. PROVIDE EXTERIOR HORN/STROBE ABOVE FDC. VERIFY FINAL LOCATION WITH FIRE SUPPRESSION CONTRACTOR. PROVIDE SUPERVISION OF POWER FROM WATERFLOW SWITCH PER NFPA 72.
6. PROVIDE DUCT DETECTOR AND CONNECTIONS TO ASSOCIATED AIR HANDLING UNIT TO SHUTDOWN THE UNIT UPON DETECTION OF SMOKE AND GLOBAL SHUTDOWN OF OTHER APPLICABLE UNITS. PROVIDE APPROPRIATE REMOTE TEST SWITCH FOR TESTING OF DETECTOR. INSTALL DEVICES ABOVE ACCESSIBLE CEILING.
7. DO NOT PENETRATE THIS ROOM WITH CONDUIT OR CABLING WHICH SERVES OTHER AREAS.



1 FIRST FLOOR SPECIAL SYSTEMS PLAN OVERALL
SCALE: 1/8" = 1'-0"
0' 4' 8' 16'



KEYPLAN

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NUMBER PE-2018015824
PROFESSIONAL ENGINEER
STATE OF MISSOURI
02/07/2023

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Checked By	JB, AP

Revision

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FIRST FLOOR SPECIAL SYSTEMS PLAN - OVERALL

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Lee's Summit, Missouri
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BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

GENERAL NOTES (THIS SHEET)

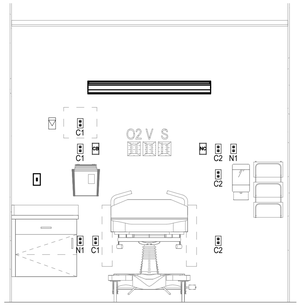
1. REFER TO SHEET E0.1 FOR ELECTRICAL SYMBOL LEGEND AND ADDITIONAL GENERAL NOTES.
2. INSTALLATION SHALL BE IN ACCORDANCE WITH O.R. EQUIPMENT MANUFACTURER'S (STERIS) APPROVED SITE-SPECIFIC SHOP DRAWINGS. CONTRACTOR SHALL COORDINATE SIZE, QUANTITY, AND LAYOUT OF MATERIALS AS REQUIRED TO COMPLY WITH THE MANUFACTURER'S REQUIREMENTS.

KEY NOTES (X) (THIS SHEET)

1. RECEPTACLES IN THIS ROOM SHALL BE HOSPITAL GRADE. WALL MOUNTED RECEPTACLES IN THIS ROOM SHALL BE 3'-0" AFF TO CENTER, UNLESS NOTED OTHERWISE.
2. FLUSH MOUNT DUPLEX ISOLATION POWER PANELBOARD (TWO SEPARATE ISOLATION PANELS IN A SINGLE ENCLOSURE) WITH INTEGRAL LINE ISOLATION MONITOR. BASIS OF DESIGN IS BENDER 'MIX' SERIES ISOLATION PANEL. REFER TO PANEL SCHEDULES FOR ADDITIONAL INFORMATION.
3. COORDINATE THE EXACT DIMENSIONS OF THE WALL FRAMING WITH THE ISOLATION PANEL MANUFACTURER'S APPROVED SHOP DRAWINGS. MECHANICAL PIPING OR DUCTS SHALL NOT BE ROUTED ABOVE THESE PANELS.
4. PROVIDE TWO 3/4" CONDUIT FROM EACH PANEL TO THE CEILING SPACE ABOVE FOR FUTURE USE. CAP WITH PULL STRING AND LABEL AS SPARE.
5. TYPE L6-30R RECEPTACLE, FLUSH MOUNTED, FOR PORTABLE O.R. LASER UNIT. PROVIDE (2)#10, #10G, 3/4"C. VERIFY RECEPTACLE CONFIGURATION WITH ACTUAL EQUIPMENT TO BE PROVIDED PRIOR TO ROUGH-IN, AND PROVIDE CONDUCTORS AS REQUIRED.
6. CONNECTIONS TO O.R. BOOM RECEPTACLES, ELECTRIC BRAKE, MONITORS, AND 120V ACCESSORIES. PROVIDE #12 AWG CONDUCTORS IN 1/2" CONDUIT FOR EACH CIRCUIT. FOR BOOM RECEPTACLES: CONNECT TWO, NON-ADJACENT RECEPTACLES PER CIRCUIT. PROVIDE SEPARATE COMPARTMENTS WITHIN THE BOOM ASSEMBLY TO SEPARATE THE CRITICAL BRANCH WIRING THAT IS SERVED FROM SEPARATE ISOLATION PANELS. BOOM RECEPTACLES SHALL BE HOSPITAL GRADE WITH FACE PLATES IDENTIFIED WITH THE PANEL AND CIRCUIT NUMBER FROM WHICH THEY ARE SERVED.
7. PROVIDE A #6 AWG INSULATED COPPER BONDING JUMPER FROM THE BOOM RACEWAY ENCLOSURE TO THE CONDUITS CONTAINING THE BRANCH CIRCUIT CONDUCTORS SERVING THE BOOM IN ORDER TO MAKE THE BOOM RACEWAY AN EFFECTIVE GROUND-FAULT CURRENT PATH.
8. CONNECTION TO BOOM SURGICAL LIGHT. BOND SURGICAL LIGHT HOUSING TO THE METALLIC CONDUIT SERVING THE FIXTURE. CONNECT TO 120V CRITICAL BRANCH VIA CENTRAL LIGHTING INVERTER CIRCUIT.
9. PROVIDE 3/4" CONDUIT FOR SURGICAL CONTROL WIRING PROVIDED BY SURGICAL LIGHT VENDOR. MAXIMUM LENGTH IS 25'.
10. PROVIDE BACKBOX AS REQUIRED FOR BOOM LIGHTING WALL CONTROL PANEL. COORDINATE EXACT LOCATION OF CONTROLLER AND ADDITIONAL REQUIREMENTS WITH BOOM VENDOR.
11. CONNECTION TO ELAPSED TIME CLOCK.
12. NOT USED.
13. PROVIDE 12"X12"X4" WALL MOUNTED JUNCTION BOX FOR INTEGRATION RACK. REFER TO E9 SERIES DRAWINGS FOR ADDITIONAL EQUIPMENT VENDOR REQUIREMENTS.
14. RECEPTACLES FOR INTEGRATION RACK. INSTALL PER EQUIPMENT VENDOR REQUIREMENTS.
15. CONNECTION TO STERIS LEVITON BOX. PROVIDE 24"X24"X6" JUNCTION BOX CEILING AT THIS LOCATION, AND WALL MOUNTED LEVITON BOX. REFER TO SITE-SPECIFIC SHOP DRAWINGS FOR ADDITIONAL EQUIPMENT VENDOR REQUIREMENTS.
16. CONNECTION TO PATIENT HEADWALL NORMAL BRANCH RECEPTACLES. SEE ASSOCIATED CIRCUIT SCHEDULE ON THIS SHEET FOR QUANTITY OF CIRCUITS.
17. CONNECTION TO PATIENT HEADWALL CRITICAL BRANCH RECEPTACLES. SEE ASSOCIATED CIRCUIT SCHEDULE ON THIS SHEET FOR QUANTITY OF CIRCUITS.
18. HOMERUN(S) TO PANELBOARD. SEE POWER PLAN (SHEET E1.1A) FOR PANELBOARD AND CIRCUIT NUMBERS.
19. RECEPTACLES PROVIDED ON PATIENT HEADWALL ARE NOT SHOWN ON THIS ENLARGED FLOOR PLAN. REFER TO ASSOCIATED HEADWALL ELEVATION AND SCHEDULE FOR RECEPTACLE QUANTITIES AND CIRCUIT INFORMATION. REFER TO ARCHITECTURAL ELEVATIONS FOR EXACT RECEPTACLE LOCATIONS AND DIMENSIONS.
20. CEILING MOUNTED RECEPTACLE IN OPERATING ROOM SHALL BE NEMA 5-20R STRAIGHT BLADE RECEPTACLE ON 6'-0" TYPE S.O. CORD DROP WITH STRAIN RELIEF AT EACH END AND STAINLESS STEEL GROMMETED COVERPLATE FLUSH IN CEILING. CONFIRM WITH USERS WHICH SIDE OF GAS OUTLETS TO INSTALL POWER.

TYPICAL ELEVATION DEVICE LEGEND

DEVICE SYMBOL	EQUIVALENT PLAN SYMBOL AS DEFINED ON LEGEND SHEET	DESCRIPTION
N#		HOSPITAL GRADE NORMAL DUPLEX RECEPTACLE. ALPHA-NUMERIC SUBSCRIPT INDICATES CIRCUIT ID
C#		HOSPITAL GRADE CRITICAL DUPLEX RECEPTACLE. ALPHA-NUMERIC SUBSCRIPT INDICATES CIRCUIT ID

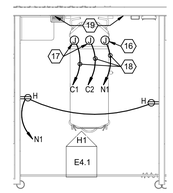


H1 HEADWALL ELEVATION TYPICAL RECOVERY ROOM
SCALE: 1/2" = 1'-0"

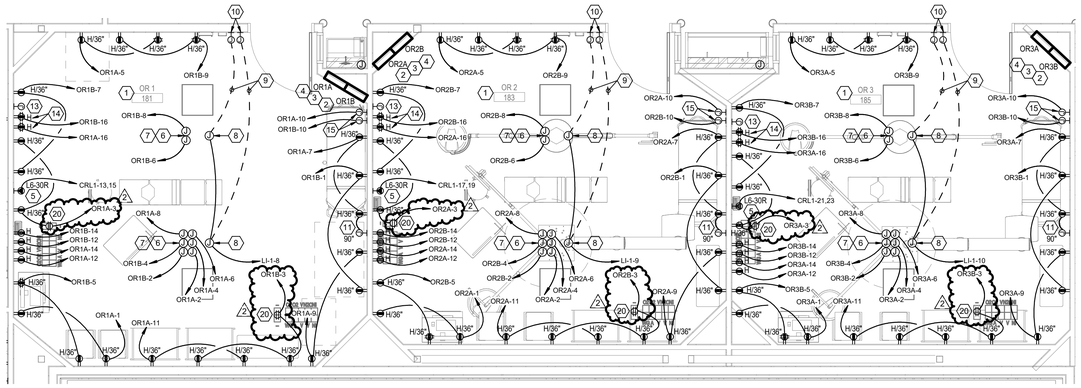
TYPICAL PATIENT RECOVERY ROOM
RECEPTACLE CONNECTION SCHEDULE

CIRCUIT ID	DESCRIPTION	BRANCH	LOAD (VA) *
N1	120V RECEPTACLES	NORMAL	720
C1	120V RECEPTACLES	CRITICAL	540
C2	120V RECEPTACLES	CRITICAL	540

* TYPICAL LOAD SERVED. SEE POWER PLANS FOR CIRCUIT NUMBERS IN EACH ROOM.



G1 ENLARGED TYPICAL RECOVERY ROOM
SCALE: 1/4" = 1'-0"



G2 ENLARGED O.R. 181, 183, 185
SCALE: 1/4" = 1'-0"

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Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

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2	2/20/23	ADDENDUM #2

E4.1

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ENLARGED ELECTRICAL PLANS

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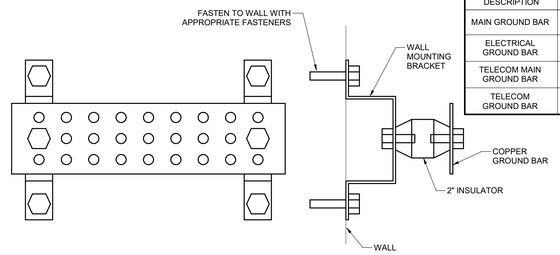
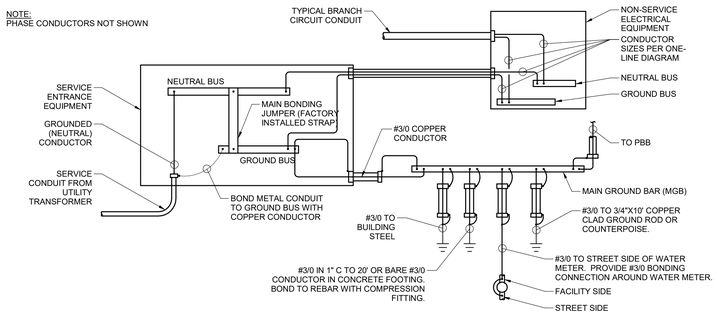
Development Services Department
Lee's Summit, Missouri
Dec 15, 2023

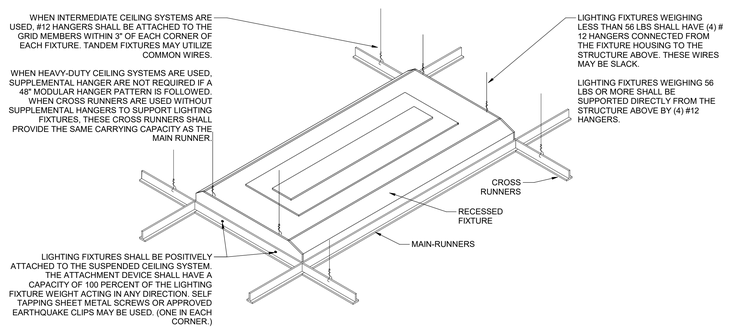
BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

GROUND BAR SCHEDULE			
DESCRIPTION	ID	SIZE	ERICO CAT. NO.
MAIN GROUND BAR	MGB	24x4x1/4	EGB-A-14-4-24-CCT
ELECTRICAL GROUND BAR	EGB	12x4x1/4	EGB-A-14-4-12-CCT
TELECOM MAIN GROUND BAR	PBB	24x4x1/4	TMGB-A-24-L33PT
TELECOM GROUND BAR	SBB	12x4x1/4	TMGB-A-12-L15PT

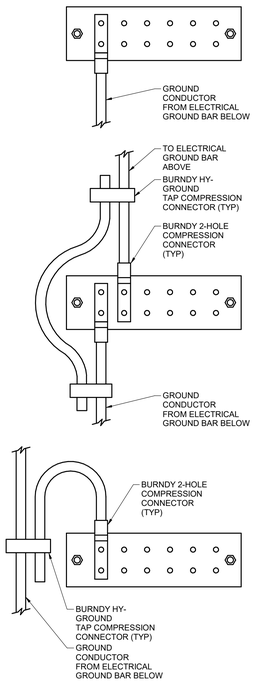


D5 GROUND BAR
SCALE: NONE

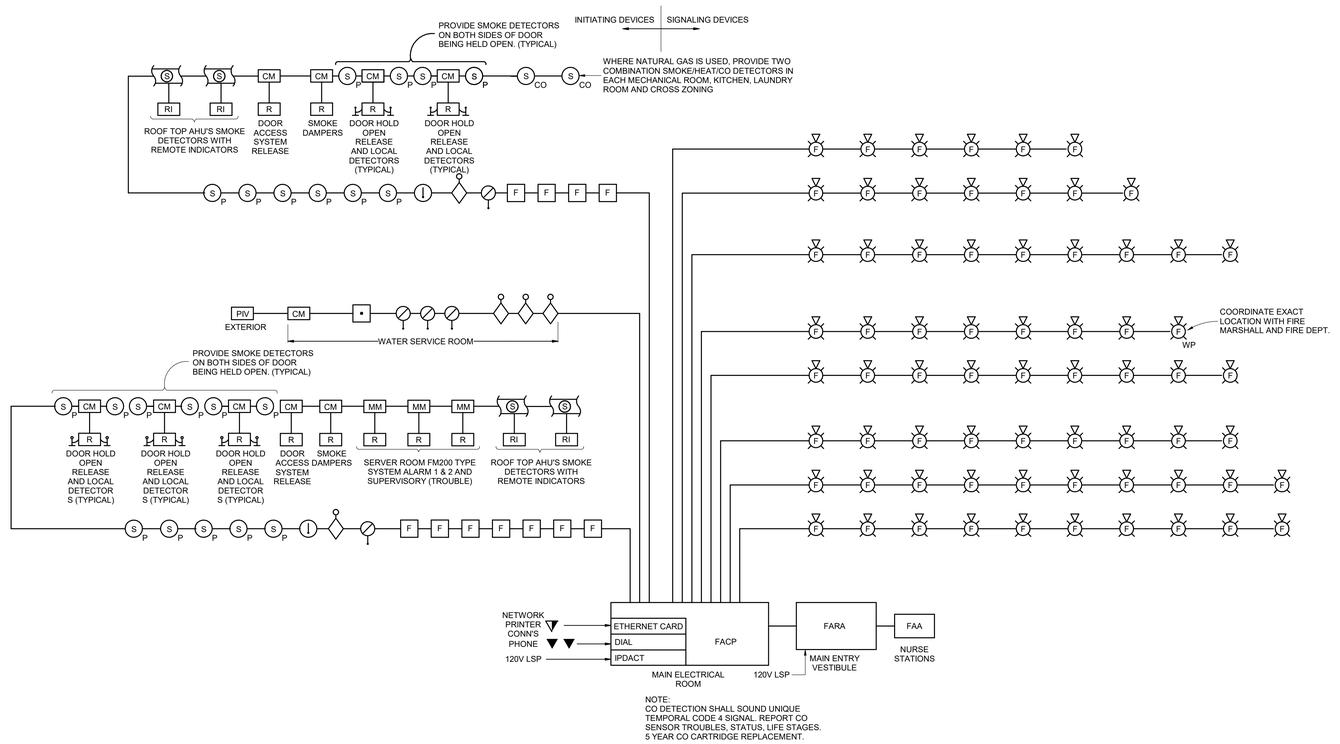




D4 SERVICE ENTRANCE GROUNDING
SCALE: NONE



D3 LAY-IN FIXTURE MOUNTING
SCALE: NONE



NOTE:
CO DETECTION SHALL SOUND UNIQUE TEMPORAL CODE 4 SIGNAL REPORT CO SENSOR TROUBLES, STATUS, LIFE STAGES. 5 YEAR CO CARTRIDGE REPLACEMENT.

GENERAL FIRE ALARM NOTES

1. PROVIDE FIRE ALARM SYSTEM EQUIPMENT THAT IS INDICATED ON THE RISER AND IN PLANS. REFER TO PLANS FOR ADDITIONAL LOCATIONS AND QUANTITIES.
2. WIRING SHALL BE IN CONDUIT.
3. WORK SHALL BE PERFORMED IN A WORKMANLIKE MANNER TO THE SATISFACTION OF THE ARCHITECT/ENGINEER.
4. WORK, MATERIALS AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL AND STATE CODES AND ORDINANCES.
5. PROVIDE PERMITS AND INSPECTIONS REQUIRED.
6. GUARANTEE THE INSTALLATION AGAINST DEFECTS IN MATERIALS AND WORKMANSHIP WHICH MAY OCCUR UNDER NORMAL USAGE FOR A PERIOD OF ONE YEAR AFTER OWNER'S ACCEPTANCE. DEFECTS SHALL BE PROMPTLY REMEDIED WITHOUT COST TO THE OWNER.
7. PROVIDE RECORD DRAWINGS TO ARCHITECT/ENGINEER. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS REROUTING, ETC.
8. SYSTEMS SHALL BE TESTED FOR PROPER OPERATION. IF TESTS INDICATE THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
9. PROVIDE DEVICES, CONDUIT, WIRES, AND CABLE AS DIRECTED BY THE EQUIPMENT MANUFACTURER. MATERIALS, AND WORKMANSHIP SHALL MEET PREVAILING CODES. THE SYSTEM SHALL BE COMPLETE AND OPERABLE IN EVERY RESPECT. SUBMIT SINGLE LINE DIAGRAM OF SYSTEM WITH SHOP DRAWINGS. THIS SINGLE LINE DIAGRAM SHALL SHOW DEVICES, CONDUIT, WIRE, CABLE SIZES, AND EQUIPMENT TO BE USED, AND SHALL BE STAMPED AND SIGNED BY STATE OR LOCAL FIRE DEPARTMENT AS APPLICABLE. SYSTEM CALIBRATION AND TESTING SHALL BE BY A FACTORY CERTIFIED TECHNICIAN.
10. SYSTEM SUPPLIER SHALL PROVIDE ALARM DEVICES WITH THE APPROPRIATE CANDELA AND DECIBEL RATINGS TO COMPLY WITH ADA REQUIREMENTS. PROVIDE ADDITIONAL DEVICES AS REQUIRED.
11. PROVIDE ADDITIONAL NOTIFICATION ALARM CIRCUIT POWER SUPPLIES AS REQUIRED. DOCUMENT POWER SUPPLY LOCATIONS AND PROTECT WITH A NEARBY SMOKE DETECTOR.
12. COORDINATE WITH SPRINKLER SYSTEM(S). PROVIDE TAMPER, FLOW, CONTROL, AND MONITOR DEVICES AS REQUIRED.
13. PATIENT ROOM SMOKE DETECTORS SHALL HAVE RELAY BASES AND PROVIDE INTERFACE WITH NURSE CALL SYSTEM. REFER TO 'BR' SUB SCRIPT ON SMOKE DETECTORS. DIRECT FROM SMOKE DETECTOR OR CONNECTED TO FACP RELAY BANK.
14. ANNUNCIATOR DISPLAY SHALL INCLUDE DESCRIPTIVE ROOM NAME AND LOCATION APPROVED BY ENGINEER / OWNER.
15. AUDIBLE DEVICE LOUDNESS SHALL BE ADJUSTABLE.
16. DOOR HOLD OPENS SHALL HAVE TIME OF DAY FUNCTION. SOME DOORS ARE TO BE RELEASED (CLOSED) IN THE EVENING AT A PROGRAMMABLE TIME.
17. IF SEPARATE DIGITAL DIALER IS PROVIDED IT SHALL BE INSTALLED IN ENGINEER OFFICE.

D2 GROUND BAR CONNECTION
SCALE: NONE

D1 FIRE ALARM RISER
SCALE: NONE

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E5.1

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ELECTRICAL DETAILS

2/7/2023 9:47:50 PM

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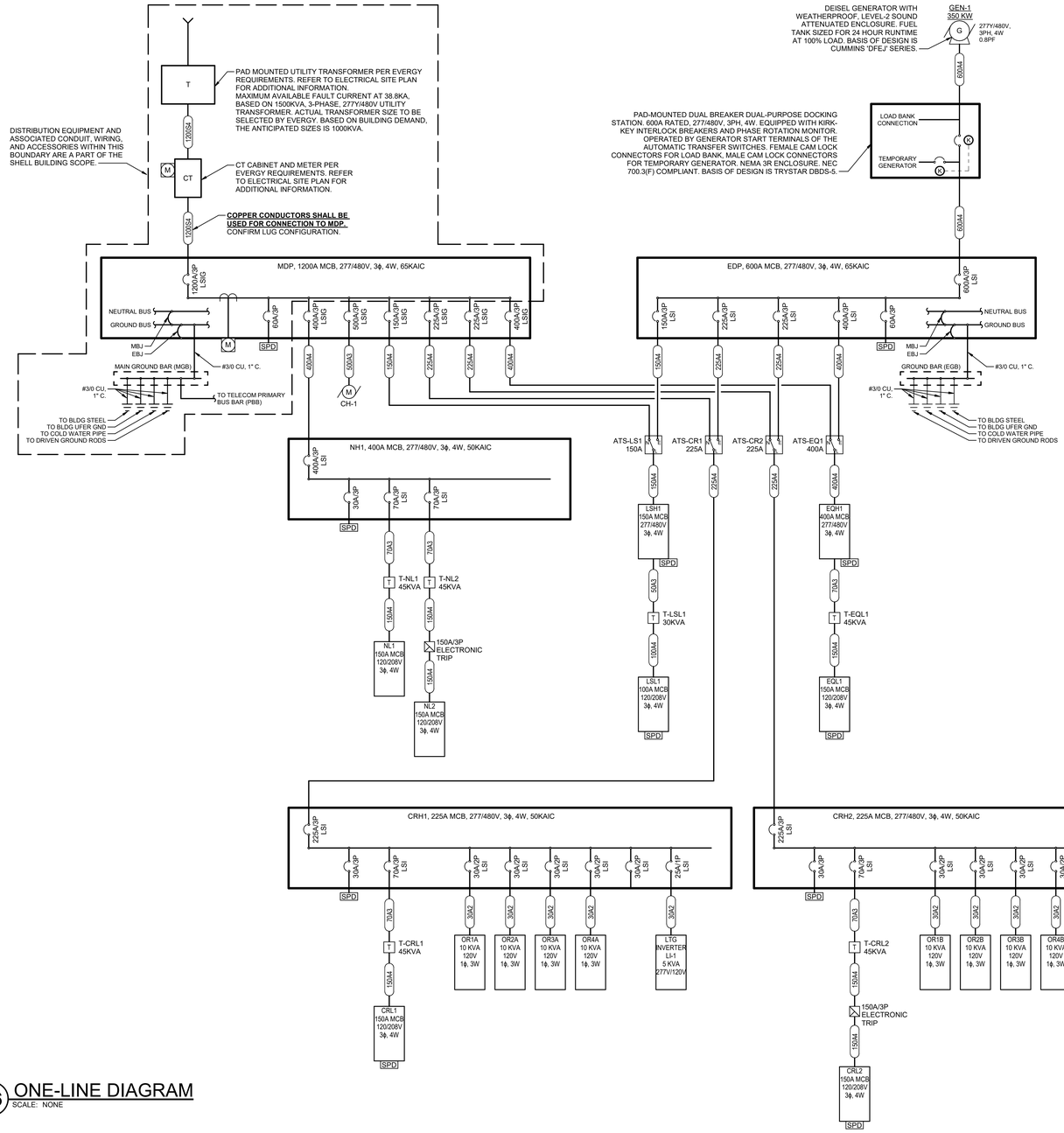
Development Services Department
Lee's Summit, Missouri
Dec 15/2023

BranchPattern | www.branchpattern.com PROJECT NUMBER 1201002 BETTER BUILT ENVIRONMENTS

AUTOMATIC TRANSFER SWITCH SCHEDULE

ATS TAG	BRANCH	RATING	NUMBER OF POLES	VOLTAGE	SHORT CIRCUIT RATING (KA)	TRANSITION TYPE	BYPASS/ ISOLATION	LOAD PRIORITY	ENGINE START TIME DELAY	TRANSFER TO EMERGENCY TIME DELAY	RE-TRANSFER TO NORMAL TIME DELAY	LOAD SHED FEATURE	REMARKS
ATS-LS1	LIFE SAFETY	150A	4	480V	50	OPEN	NO	1	1 S	0 S	1800 S	NO	
ATS-CR1	CRITICAL	225A	4	480V	50	OPEN	NO	1	1 S	0 S	1800 S	NO	
ATS-CR2	CRITICAL	225A	4	480V	50	OPEN	NO	1	1 S	0 S	1800 S	NO	
ATS-EQ1	EQUIPMENT	400A	4	480V	50	OPEN	NO	2.1	1 S	10 S	1500 S	YES	



A6 ONE-LINE DIAGRAM
SCALE: NONE

GENERAL NOTES (THIS SHEET)

1. REFER TO SHEET E0.1 FOR ELECTRICAL SYMBOL LEGEND AND ADDITIONAL GENERAL NOTES.
2. REFER TO ELECTRICAL PANEL SCHEDULES FOR QUANTITIES AND SIZES OF BREAKERS WITHIN EQUIPMENT, INCLUDING SPARES AND SPACES.
3. CLEAR, DETAILED, WRITTEN INSTRUCTION ARE TO BE PERMANENTLY ATTACHED TO THE GENERATOR DOCKING STATION AND THE ELECTRICAL GEAR WHICH IT SERVES.
4. REFER TO DIVISION 26 SPECIFICATIONS FOR INFORMATION ON WHERE ALUMINUM CONDUCTORS ARE ALLOWABLE.

FEEDER SCHEDULE

TAG	CU CONDUCTORS AND CONDUIT	AL (COMPACT STRANDED) CONDUCTORS AND CONDUIT
30A2	(2)#10, (1)#10 GND IN 1/2"C	N/A
50A3	(3)#6, (1)#10 GND IN 1"C	NA
70A3	(3)#4, (1)#8 GND IN 1 1/4"C	NA
100A4	(4)#2, (1)#8 GND IN 1 1/2"C	NA
150A4	(4)#1/0, (1)#6 GND IN 2"C	(4)#3/0, (1)#6 CU GND IN 2"C
225A4	(4)#4/0, (1)#4 GND IN 2 1/2"C	(4)350 KCMIL, (1)#4 CU GND IN 3"C
400A4	(4)600 KCMIL, (1)#3 GND IN 4"C	2 SETS OF (4)300 KCMIL, (1)#1/0 GND IN 3"C
500A3	2 SETS OF (3)#4/0, (1)#2 GND IN 2"C	2 SET OF (3)350 KCMIL, (1)#1/0 GND IN 2 1/2"C
600A4	2 SETS OF (4)400 KCMIL, (1)#1 GND IN 3"C	2 SETS OF (4)600 KCMIL, (1)#3/0 GND IN 3 1/2"C
1200S4	4 SETS OF (4)400 KCMIL IN 3"C	4 SETS OF (4)600 KCMIL IN 3 1/2"C

ABHINAV PANDEY
NUMBER PE-2018015824
PROFESSIONAL ENGINEER
STATE OF MISSOURI
02/07/2023

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Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description

E6.1

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ONE-LINE DIAGRAM

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

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MECH/ELEC EQUIPMENT COORDINATION SCHEDULE

ABBREVIATIONS

C	COMBINATION STARTER AND SAFETY SWITCH	MC	MECHANICAL CONTRACTOR	S	SWITCH
CB	CIRCUIT BREAKER	N1	NEMA 1	SF	SWITCH WITH FUSTAT
CP	CONTROL PANEL	N3R	NEMA 3R	SS	SAFETY SWITCH
EC	ELECTICAL CONTRACTOR	N4X	NEMA 4X	VFD	VARIABLE FREQUENCY DRIVE
I	INTEGRAL WITH EQUIPMENT	NF	NON-FUSED	RCPT	RECEPTACLE

EQUIPMENT			ELECTRICAL SYSTEM					DISCONNECT				CONTROLLER			REMARKS
TAG	DESCRIPTION	NAMEPLATE LOAD	VOLTAGE	PH	MINIMUM kAIC	FEEDER OR BRANCH CIRCUIT	PANEL - CKT	FURNISHED BY / INSTALLED BY	SIZE	TYPE	ENCLOSURE	FURNISHED BY / INSTALLED BY	TYPE	ENCLOSURE	
AAP-1/2	MED GAS ALARM PANEL	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	LSL1 - 5	EC/EC	20A	CB	-	-			
AAP-3/4	MED GAS ALARM PANEL	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	LSL1 - 7	EC/EC	20A	CB	-	-			
AAP-5	MED GAS ALARM PANEL	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	LSL1 - 9	EC/EC	20A	CB	-	-			
AAP-6	MED GAS ALARM PANEL	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	LSL1 - 11	EC/EC	20A	CB	-	-			
AAP-7	MED GAS ALARM PANEL	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	LSL1 - 13	EC/EC	20A	CB	-	-			
AAP-8	MED GAS ALARM PANEL	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	LSL1 - 15	EC/EC	20A	CB	-	-			
AC-1	AIR CURTAIN	1/2 hp	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	NL1 - 20	EC/EC	20A	S	N1	MC/MC			
AHU-1(R)	AIR HANDLING UNIT RETURN FANS	24.8 MCA	480 V	3	10	(3)#8, (1)#10G IN 3/4"C	EQH1 - 21,23,25	EC/EC	60A	SS	N3R	MC/MC	VFD		
AHU-1(S)	AIR HANDLING UNIT SUPPLY FANS	47.3 MCA	480 V	3	10	(3)#6, (1)#10G IN 1"C	EQH1 - 13,15,17	EC/EC	60A	SS	N3R	MC/MC	VFD		
AHU-1(U)	AIR HANDLING UNIT UV LIGHTS	3.3 MCA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 36	EC/EC	20A	S	N3R	MC/MC			
AHU-1(X)	AIR HANDLING UNIT ACCESSORIES	13.3 MCA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 38	EC/EC	20A	S	N3R	MC/MC			
AHU-2(C)	AIR HANDLING UNIT CDQ MOTOR	0.4 MCA	480 V	3	10	(3)#12, (1)#12G IN 3/4"C	EQH1 - 30,32,34	EC/EC	30A	SS	N3R	MC/MC	VFD		
AHU-2(R)	AIR HANDLING UNIT RETURN FANS	24.8 MCA	480 V	3	10	(3)#8, (1)#10G IN 3/4"C	EQH1 - 22,24,26	EC/EC	60A	SS	N3R	MC/MC	VFD		
AHU-2(S)	AIR HANDLING UNIT SUPPLY FANS	47.3 MCA	480 V	3	10	(3)#6, (1)#10G IN 1"C	EQH1 - 14,16,18	EC/EC	60A	SS	N3R	MC/MC	VFD		
AHU-2(U)	AIR HANDLING UNIT UV LIGHTS	3.3 MCA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 40	EC/EC	20A	S	N3R	MC/MC			
AHU-2(X)	AIR HANDLING UNIT ACCESSORIES	13.3 MCA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 42	EC/EC	20A	S	N3R	MC/MC			
B-1	HOT WATER BOILER	4.5 FLA	208 V	3	5	(3)#12, (1)#12G IN 3/4"C	EQL1 - 1,3,5	EC/EC	30A	SS	N1	MC/MC			
B-2	HOT WATER BOILER	4.5 FLA	208 V	3	5	(3)#12, (1)#12G IN 3/4"C	EQL1 - 2,4,6	EC/EC	30A	SS	N1	MC/MC			
CH-1	AIR-COOLED CHILLER	399 MCA	480 V	3	65	2 SETS OF (3)#300 KCMIL, (1)#1G IN 2-1/2"C	MDP - 19,21,23	EC/EC	600A	SS	N3R	MC/MC	VFD		
CP-1	RECIRCULATION PUMP	2 hp	208 V	3	5	(3)#12, (1)#12G IN 3/4"C	EQL1 - 15,17,19	EC/EC	30A	SS	N1	MC/MC			
CU-1	SPLIT SYSTEM HEAT PUMP	25.0 MCA	208 V	1	5	(2)#10, (1)#10G IN 3/4"C	EQL1 - 20,22	EC/EC	30A	SS	N3R	MC/MC			
CU-2	SPLIT SYSTEM HEAT PUMP	25.0 MCA	208 V	1	5	(2)#10, (1)#10G IN 3/4"C	NL1 - 41,43	EC/EC	30A	SS	N3R	MC/MC			
CU-3	SPLIT SYSTEM HEAT PUMP	25.0 MCA	208 V	1	5	(2)#10, (1)#10G IN 3/4"C	NL1 - 45,47	EC/EC	30A	SS	N3R	MC/MC			
CU-4	SPLIT SYSTEM HEAT PUMP	25.0 MCA	208 V	1	5	(2)#10, (1)#10G IN 3/4"C	NL1 - 49,51	EC/EC	30A	SS	N3R	MC/MC			
CU-5	SPLIT SYSTEM HEAT PUMP	25.0 MCA	208 V	1	5	(2)#10, (1)#10G IN 3/4"C	NL1 - 53,55	EC/EC	30A	SS	N3R	MC/MC			
CUH-1	CABINET UNIT HEATER	5.8 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	NL2 - 57	EC/EC	20A	S	N1	MC/MC			
CUH-2	CABINET UNIT HEATER	5.8 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	NL2 - 59	EC/EC	20A	S	N1	MC/MC			
DI-1	DEIONIZED WATER GENERATOR	-	120 V	1				EC/EC	-	RCPT	-	-			2
EF-1	EXHAUST FAN	1 hp	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 31	EC/EC	20A	S	N3R	MC/MC			
EF-2	EXHAUST FAN	1 hp	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 33	EC/EC	20A	S	N3R	MC/MC			
EF-3	EXHAUST FAN	1 hp	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 35	EC/EC	20A	S	N3R	MC/MC			
EF-4	EXHAUST FAN	1 hp	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 37	EC/EC	20A	S	N3R	MC/MC			
EF-5	EXHAUST FAN	1 hp	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 39	EC/EC	20A	S	N3R	MC/MC			
EUH-1	ELECTRIC UNIT HEATER	24.0 FLA	208 V	1	5	(2)#10, (1)#10G IN 3/4"C	EQL1 - 16,18	EC/EC	30A	SS	N1	MC/MC			
GT-1	GLYCOL TANK	-	120 V	1				EC/EC	-	RCPT	-	-			2
GV	GAS SHUT-OFF VALVE	0.5 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 27	EC/EC	20A	S	N1	MC/MC			
GWH-1	FUEL FIRED WATER HEATER	3.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 21	EC/EC	20A	S	N1	MC/MC			
GWH-2	FUEL FIRED WATER HEATER	3.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 23	EC/EC	20A	S	N1	MC/MC			
HUM-1	ELECTRIC STEAM HUMIDIFIER	78.5 FLA	480 V	3	18	(3)#2, (1)#8G IN 1-1/4"C	NH1 - 1,3,5	EC/EC	100A	SS	N3R	MC/MC			
HUM-2	ELECTRIC STEAM HUMIDIFIER	78.5 FLA	480 V	3	18	(3)#2, (1)#8G IN 1-1/4"C	NH1 - 2,4,6	EC/EC	100A	SS	N3R	MC/MC			
HWP-1	HEATING HOT WATER PUMP	7.5 hp	480 V	3	5	(3)#12, (1)#12G IN 3/4"C	EQH1 - 38,40,42	EC/EC	30A	VFD	N1	MC/MC			
HWP-2	HEATING HOT WATER PUMP	7.5 hp	480 V	3	5	(3)#12, (1)#12G IN 3/4"C	EQH1 - 44,46,48	EC/EC	30A	VFD	N1	MC/MC			
MAC-1	MEDICAL AIR COMPRESSOR	6.0 FLA	480 V	3	5	(3)#12, (1)#12G IN 3/4"C	EQH1 - 7,9,11	EC/EC	30A	SS	N1	MC/MC			
MV-1	MIXING VALVE	0.5 FLA FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 43	EC/EC	20A	S	N1	MC/MC			
MVP-1	MEDICAL VACUUM PUMP	25.0 FLA	480 V	3	10	(3)#8, (1)#10G IN 3/4"C	EQH1 - 8,10,12	EC/EC	60A	SS	N1	MC/MC			
PAC-1	INSTRUMENT AIR COMPRESSOR	27.0 FLA	480 V	3	10	(3)#8, (1)#10G IN 3/4"C	EQH1 - 2,4,6	EC/EC	60A	SS	N1	MC/MC			
PAP-1	MED GAS ALARM PANEL	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	LSL1 - 1	EC/EC	20A	CB	-	-			
SAP-1	MED GAS ALARM PANEL	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	LSL1 - 3	EC/EC	20A	CB	-	-			
SS-1	SPLIT SYSTEM EVAPORATOR	1.0 MCA	208 V	1	5	(2)#12, (1)#12G IN 1"C									1
SS-2	SPLIT SYSTEM EVAPORATOR	1.0 MCA	208 V	1	5	(2)#12, (1)#12G IN 1"C									1
SS-3	SPLIT SYSTEM EVAPORATOR	1.0 MCA	208 V	1	5	(2)#12, (1)#12G IN 1"C									1
SS-4	SPLIT SYSTEM EVAPORATOR	1.0 MCA	208 V	1	5	(2)#12, (1)#12G IN 1"C									1
SS-5	SPLIT SYSTEM EVAPORATOR	1.0 MCA	208 V	1	5	(2)#12, (1)#12G IN 1"C									1
TP-2 (169)	TRAP PRIMER	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 59	EC/EC	20A	S	N1	MC/MC			
TP-2 (171)	TRAP PRIMER	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 57	EC/EC	20A	S	N1	MC/MC			
TP-2 (173)	TRAP PRIMER	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 57	EC/EC	20A	S	N1	MC/MC			
TP-2 (175)	TRAP PRIMER	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 59	EC/EC	20A	S	N1	MC/MC			
TP-2 (177)	TRAP PRIMER	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 59	EC/EC	20A	S	N1	MC/MC			
TP-2 (182)	TRAP PRIMER	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 59	EC/EC	20A	S	N1	MC/MC			
TP-2 (195)	TRAP PRIMER	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 57	EC/EC	20A	S	N1	MC/MC			
TP-2 (198)	TRAP PRIMER	2.0 FLA	120 V	1	5	(2)#12, (1)#12G IN 1/2"C	EQL1 - 57	EC/EC	20A	S	N1	MC/MC			
WS-1	WATER SOFTENER	-	120 V	1				EC/EC	-	RCPT	-	-			2

NOTES:

a. VERIFY/COORDINATE RATINGS FOR EQUIPMENT SUPPLIED BY THE SELECTED MANUFACTURER. WHERE RATINGS ARE OTHER THAN AS REQUIRED FOR SPECIFIED UNIT, DISCONNECTS, MOTOR STARTERS, OVERCURRENT DEVICES AND RELATED REVISIONS SHALL BE PROVIDED ACCORDINGLY. THE CONTRACTOR THAT FURNISHES EQUIPMENT WITH RATINGS OTHER THAN AS NOTED SHALL BE RESPONSIBLE FOR COORDINATION AND COSTS FOR REVISIONS TO ACCOMMODATE SELECTED EQUIPMENT.
b. FRACTIONAL HORSEPOWER SINGLE PHASE MOTORS SHALL BE PROVIDED WITH INTEGRAL OVERLOAD PROTECTION.
c. DISCONNECTS SHALL BE FUSIBLE UNLESS NOTED OTHERWISE.
d. ELECTRICAL CONTRACTOR SHALL PROVIDE CIRCUIT TO EQUIPMENT AS INDICATED.
e. LOCATE DISCONNECT AT EQUIPMENT PER NEC UNLESS NOTED OTHERWISE.
f. EQUIPMENT IDs THAT END IN ".X" INDICATE THERE ARE MULTIPLE UNITS THAT ARE IDENTICAL AND PROVIDED ON THE PROJECT. SEE PLANS FOR THE UNIQUE SEQUENTIAL DESIGNATION.

REMARKS:

1. UNIT POWERED THROUGH ASSOCIATED CONDENSING UNIT.
2. REFER TO POWER PLANS FOR RECEPTACLE(S) AND CIRCUIT(S) WHICH SERVE THIS UNIT.

TERMINAL BOX SCHEDULE

Equipment Name	Panel	Circuit Number
TB-R-01	EQL1	54
TB-R-02	EQL1	54
TB-R-03	EQL1	54
TB-R-04	EQL1	54
TB-2-01	EQL1	56
TB-2-02	EQL1	56
TB-2-03	EQL1	56
TB-2-04	EQL1	56
TB-2-05	EQL1	56
TB-2-06	EQL1	56
TB-2-07	EQL1	56
TB-2-08	EQL1	56
TB-2-09	EQL1	56
TB-2-10	EQL1	56

GENERAL NOTES:
a. CONNECT 120V TERMINAL BOX CONTROL TRANSFORMER AND LOCAL DISCONNECT AS REQUIRED. DO NOT EXCEED TEN (10) TERMINAL BOXES PER CIRCUIT. COORDINATE WITH MECHANICAL CONTRACTOR AND CONTROLS VENDOR.

TERMINAL BOX SCHEDULE

Equipment Name	Panel	Circuit Number
TB-1-01	EQL1	58
TB-1-02	EQL1	58
TB-1-03	EQL1	58
TB-1-04	EQL1	58
TB-1-05	EQL1	58
TB-1-06	EQL1	58
TB-1-07	EQL1	58
TB-1-08	EQL1	58
TB-1-09	EQL1	58
TB-1-10	EQL1	58
TB-1-11	EQL1	60
TB-1-12	EQL1	60
TB-1-13	EQL1	60
TB-1-14	EQL1	60
TB-1-15	EQL1	60
TB-1-16	EQL1	60
TB-1-17	EQL1	60
TB-1-18	EQL1	60
TB-1-19	EQL1	60
TB-1-20	EQL1	60

LUMINAIRE SCHEDULE

BranchPattern www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

TAG	DESCRIPTION	MANUFACTURER OR APPROVED EQUIVALENT	CATALOG NUMBER OR APPROVED EQUIVALENT	SOURCE INFO TYPE	LUMENS	COLOR	CRI	INPUT VA	VOLTAGE	REMARKS
A1	2X4 RECESSED LED LENSED TROFFER. COLD-ROLLED STEEL HOUSING, PAINTED AFTER FABRICATION, WITH DIFFUSE ACRYLIC LENS. 0-10V DIMMING DRIVER.	LITHONIA (COLUMBIA, METALUX)	2GTL-4-30L-GZ10-LP840	LED	3000 lm	4000K	80	24 VA	277 V	
A2	2X2 RECESSED LED LENSED TROFFER. COLD-ROLLED STEEL HOUSING, PAINTED AFTER FABRICATION, WITH DIFFUSE ACRYLIC LENS. 0-10V DIMMING DRIVER.	LITHONIA (COLUMBIA, METALUX)	2GTL-2-20L-GZ10-LP840	LED	2200 lm	4000K	80	19 VA	277 V	
A3	2X4 RECESSED LED LENSED TROFFER. COLD-ROLLED STEEL HOUSING, PAINTED AFTER FABRICATION, WITH DIFFUSE ACRYLIC LENS. 0-10V DIMMING DRIVER.	LITHONIA (COLUMBIA, METALUX)	2GTL-4-48L-GZ10-LP840	LED	4800 lm	4000K	80	36 VA	277 V	
A3E	2X4 RECESSED LED LENSED TROFFER. COLD-ROLLED STEEL HOUSING, PAINTED AFTER FABRICATION, WITH DIFFUSE ACRYLIC LENS. 0-10V DIMMING DRIVER. 90-MINUTE EMERGENCY BATTERY BACKUP.	LITHONIA (COLUMBIA, METALUX)	2GTL-4-48L-GZ10-LP840-EL14L	LED	4800 lm	4000K	80	36 VA	277 V	
A5	2X4 RECESSED LED LENSED TROFFER. COLD-ROLLED STEEL HOUSING, PAINTED AFTER FABRICATION, WITH DIFFUSE ACRYLIC LENS. 0-10V DIMMING DRIVER.	LITHONIA (COLUMBIA, METALUX)	2GTL-4-72L-GZ10-LP840	LED	7200 lm	4000K	80	54 VA	277 V	
B1	2X4 RECESSED HIGH EFFICIENCY LED VOLUMETRIC TROFFER. COLD-ROLLED STEEL HOUSING, PAINTED AFTER FABRICATION, WITH CENTER BASKET, DIFFUSE, SMOOTH ACRYLIC LENS. 0-10V DIMMING DRIVER.	LITHONIA (COLUMBIA, METALUX)	2BLT4-30LHE-ADSM-EZ1-LP840	LED	3000 lm	4000K	80	23 VA	277 V	
B2	2X4 RECESSED HIGH EFFICIENCY LED VOLUMETRIC TROFFER. COLD-ROLLED STEEL HOUSING, PAINTED AFTER FABRICATION, WITH CENTER BASKET, DIFFUSE, SMOOTH ACRYLIC LENS. 0-10V DIMMING DRIVER.	LITHONIA (COLUMBIA, METALUX)	2BLT4-40LHE-ADSM-EZ1-LP840	LED	4000 lm	4000K	80	30 VA	277 V	
B3	2X4 RECESSED HIGH EFFICIENCY LED VOLUMETRIC TROFFER. COLD-ROLLED STEEL HOUSING, PAINTED AFTER FABRICATION, WITH CENTER BASKET, DIFFUSE, SMOOTH ACRYLIC LENS. 0-10V DIMMING DRIVER.	LITHONIA (COLUMBIA, METALUX)	2BLT4-48LHE-ADSM-EZ1-LP840	LED	4800 lm	4000K	80	35 VA	277 V	
C1	LED RIBBON COVE LIGHT WITH ALUMINUM CHANNEL WITH FLAT, DIFFUSE FROSTED LENS. DIRECT INPUT 277V AC. PROVIDE LENGTHS AS REQUIRED AS SHOWN ON LIGHTING PLANS. PROVIDE POWER FEEDS, JUMPERS, REMOTE DRIVERS, AND ACCESSORIES AS REQUIRED. 1.5 W/FT, 200 LUMEN/FT.	ACOLYTE	RB-90-SWS220-1.540 & CHAS3-F-SV	LED		4000K	90		277 V	
D1	4" DIAMETER RECESSED LED DOWNLIGHT. GALVANIZED STEEL HOUSING WITH ADJUSTABLE MOUNTING BARS, SERVICEABLE FROM BELOW CEILING. 0-10V DIMMING DRIVER.	GOTHAM (PRESCOLITE, PORTFOLIO)	EVO4-40/10-AR-WD-LSS-MVOLT-EZ1	LED	1000 lm	4000K	85	9 VA	277 V	
D4	4" DIAMETER RECESSED LED DOWNLIGHT. GALVANIZED STEEL HOUSING WITH ADJUSTABLE MOUNTING BARS, SERVICEABLE FROM BELOW CEILING. NARROW BEAM DISTRIBUTION. 0-10V DIMMING DRIVER.	GOTHAM (PRESCOLITE, PORTFOLIO)	EVO4-40/15-AR-ND-LSS-MVOLT-EZ1	LED	1500 lm	4000K	85	15 VA	277 V	
D5	6" DIAMETER RECESSED LED DOWNLIGHT. GALVANIZED STEEL HOUSING WITH ADJUSTABLE MOUNTING BARS, SERVICEABLE FROM BELOW CEILING. 0-10V DIMMING DRIVER.	GOTHAM (PRESCOLITE, PORTFOLIO)	EVO6-40/20-AR-WD-LSS-MVOLT-GZ10	LED	2000 lm	4000K	85	20 VA	277 V	
D8	4" DIAMETER RECESSED LED SHOWER-RATED DOWNLIGHT. NON-CONDUCTIVE DEAD FRONT TRIM. IP66 RATED ROOM SIDE, WET LOCATION LISTED. GALVANIZED STEEL HOUSING WITH ADJUSTABLE MOUNTING BARS, SERVICEABLE FROM BELOW CEILING. 0-10V DIMMING DRIVER.	GOTHAM	EVO4SH-40/15-DFF-SMO-MVOLT-EZ10	LED	1300 lm	4000K	85	14 VA	277 V	
D9	6" SQUARE RECESSED LED DOWNLIGHT. GALVANIZED STEEL HOUSING WITH ADJUSTABLE MOUNTING BARS, SERVICEABLE FROM BELOW CEILING. 0-10V DIMMING DRIVER.	GOTHAM (PRESCOLITE, PORTFOLIO)	EVO6SQ-40/20-AR-FL-LSS-MVOLT-EZ1	LED	2000 lm	4000K	85	20 VA	277 V	
D10	6" SQUARE RECESSED LED DOWNLIGHT. GALVANIZED STEEL HOUSING WITH ADJUSTABLE MOUNTING BARS, SERVICEABLE FROM BELOW CEILING. 0-10V DIMMING DRIVER.	GOTHAM (PRESCOLITE, PORTFOLIO)	EVO6SQ-40/07-AR-FL-LSS-MVOLT-EZ1	LED	750 lm	4000K	85	8 VA	277 V	
DA2	4.5" SQUARE RECESSED LED DOWNLIGHT FOR USE WITH 6" ARMSTRONG CEILING SYSTEM. CONFIRM CEILING SYSTEM TYPE WITH ARCHITECT PRIOR TO ORDERING FIXTURES. CONFIRM FIXTURE FINISHES WITH ARCHITECT PRIOR TO ORDERING.	USAI	B4SDTZ-24C3-40KS-90-S-GW-GW-NCSM-UNV-D6E	LED	2000 lm	4000K	80	24 VA	277 V	
DA3	3" SQUARE RECESSED LED DOWNLIGHT FOR USE WITH HORIZONTAL WOOD SLAT ARMSTRONG CEILING SYSTEM. CONFIRM CEILING SYSTEM TYPE WITH ARCHITECT PRIOR TO ORDERING FIXTURES. CONFIRM FIXTURE FINISHES WITH ARCHITECT PRIOR TO ORDERING.	USAI	B3SCM-20X3-40KS-50-S-WH-BL-NC1-SB-UNV-D6E	LED	1400 lm	4000K	80	20 VA	277 V	
H1	48" LED INDUSTRIAL STRIP FIXTURE. COLD-ROLLED STEEL HOUSING WITH SNAP-ON FROSTED, DIFFUSE LENS.	LITHONIA (COLUMBIA, METALUX)	ZL1N-L48-5000LM-FST-MVOLT-40K-80CRI-WH	LED	5000 lm	4000K	80	34 VA	277 V	
H1E	48" LED INDUSTRIAL STRIP FIXTURE. COLD-ROLLED STEEL HOUSING WITH SNAP-ON FROSTED, DIFFUSE LENS. 90-MINUTE EMERGENCY BATTERY BACKUP.	LITHONIA (COLUMBIA, METALUX)	ZL1N-L48-5000LM-FST-MVOLT-40K-80CRI-E10WLCP-WH	LED	5000 lm	4000K	80	34 VA	277 V	
M1	2X4 RECESSED LED SURGICAL TROFFER. ANTIMICROBIAL FINISH. INSET-STYLE DOORFRAME WITH CLOSED-CELL SILICONE GASKET. SYMMETRIC/ASYMMETRIC DIFFUSE ACRYLIC LENS. UL WET LOCATION LISTED, IP65 RATED. 0-10V DIMMING DRIVER.	KENALL (KURTZON, HEALTHCARE LIGHTING)	M4SEDI-24-100L-40K9-DCC-277-2F-2H-ASYM	LED	12000 lm	4000K	90	114 VA	277 V	
M2	1X4 RECESSED LED SURGICAL TROFFER. ANTIMICROBIAL FINISH. INSET-STYLE DOORFRAME WITH CLOSED-CELL SILICONE GASKET. SYMMETRIC DIFFUSE ACRYLIC LENS. UL WET LOCATION LISTED, IP65 RATED. 0-10V DIMMING DRIVER WITH DIM-TO-DARK CAPABILITY.	KENALL (KURTZON, HEALTHCARE LIGHTING)	M4SEDI-14-76L-40K9-DCC-277-2F-2H-SYM	LED	7600 lm	4000K	90	85 VA	277 V	
P3	DECORATIVE LED PENDANT. 13.5" DIAMETER GLOBE GLASS SHADE. SMOKE FINISH GLASS WITH SATIN NICKEL HARDWARE. INTEGRAL DIM-TO-WARM LED. 6' FIELD-CUTTABLE CABLE.	TECH LIGHTING	700-TD-PLNP-K-S-LEDWD	LED	680 lm	3000K	90	10 VA	120 V	1
P4	DECORATIVE LED PENDANT. 32" DIAMETER, EXTRUDED AND ROLLED RECTANGULAR ALUMINUM LOOP WITH FLEXIBLE SILICON DIFFUSER.	KUZCO LIGHTING	PD11132-BK	LED	4500 lm	3000K	90	60 VA	120 V	1
SW1	EXTERIOR WALL MOUNTED LED SCONCE. DIE-CAST ALUMINUM HOUSING WITH VISUAL COMFORT, WIDE THROW OPTICS. POWDER COAT FINISH, IP66 RATED, WET LOCATION LISTED. FULLY CUTOFF, ZERO UPLIGHT. ARCHITECT TO CONFIRM FINISH PRIOR TO ORDERING.	LITHONIA (HUBBELL)	WDGE2-P5-40K-80CRI-VW-MVOLT-DDBXD	LED	6000 lm	4000K	80	48 VA	277 V	
SW1E	EXTERIOR WALL MOUNTED LED SCONCE. DIE-CAST ALUMINUM HOUSING WITH VISUAL COMFORT, WIDE THROW OPTICS. POWDER COAT FINISH, IP66 RATED, WET LOCATION LISTED. FULLY CUTOFF, ZERO UPLIGHT. 90-MINUTE EMERGENCY BATTERY BACKUP. ARCHITECT TO CONFIRM FINISH PRIOR TO ORDERING.	LITHONIA (HUBBELL)	WDGE2-P5-40K-80CRI-VW-MVOLT-E20WH-DDBXD	LED	6000 lm	4000K	80	48 VA	277 V	
UC1	18" LENGTH, LED UNDERCABINET FIXTURE. EXTRUDED ALUMINUM HOUSING WITH ANTIMICROBIAL FINISH. EXTRUDED, FROSTED ACRYLIC LENS. CLOSED-CELL EPDM GASKET SEALS BETWEEN LENS AND END CAPS.	KENALL (FAIL-SAFE)	MAUCLED-I-MW-11L40K-18-277	LED	1200 lm	4000K	80	15 VA	277 V	
UC2	24" LENGTH, LED UNDERCABINET FIXTURE. EXTRUDED ALUMINUM HOUSING WITH ANTIMICROBIAL FINISH. EXTRUDED, FROSTED ACRYLIC LENS. CLOSED-CELL EPDM GASKET SEALS BETWEEN LENS AND END CAPS.	KENALL (FAIL-SAFE)	MAUCLED-I-MW-11L40K-24-277	LED	1300 lm	4000K	80	15 VA	277 V	
W1	48" WALL MOUNTED LED PATIENT HEADWALL FIXTURE. DIRECT/INDIRECT DISTRIBUTION, AMBIENT AND READING MODES. SEPARATELY CONTROLLED UP/DOWN LED COMPARTMENTS. ALUMINUM HOUSING WITH ANTIMICROBIAL FINISH, AND UV-STABILIZED FROSTED ACRYLIC LENS. 0-10V DIMMING DRIVER.	KENALL (FAIL-SAFE)	MPWUD-48-MW-1/1-45L-40K8-DIM1-DV	LED	11000 lm	4000K	82	93 VA	277 V	
W9	CONTEMPORARY LED VANITY LIGHT. BRONZE FINISH WITH RECTANGULAR WHITE GLASS SHADE.	TECH LIGHTING	700BCMET-Z-930-277	LED	1150 lm	3000K	90	25 VA	277 V	1
X1	UNIVERSAL MOUNT LED EDGE-LIT EXIT SIGN. MINIMUM 90-MINUTE BATTERY BACKUP. ACRYLIC PANELS WITH GREEN LETTERING. UL924 LISTED. REFERENCE LIGHTING PLANS FOR LOCATIONS, NUMBER OF FACES, AND DIRECTIONAL CHEVRONS.	LITHONIA (DUAL-LITE, SURE-LITES)	EDG/EDGR-1/2-G/GMR-EL	LED				3 VA	277 V	2

NOTES:

a. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS FOR LUMINAIRES.
b. CONTRACTOR TO VERIFY LUMINAIRE CATALOG NUMBER AND INSTALLATION REQUIREMENTS PRIOR TO ORDERING.
c. LISTED ALTERNATE MANUFACTURERS ARE PERMITTED TO BID AN EQUIVALENT LUMINAIRE WHICH COMPLIES WITH THE PRODUCT REQUIREMENTS IDENTIFIED IN THIS SCHEDULE AND THE SPECIFICATIONS WITHOUT SUBMITTING A PRIOR APPROVAL REQUEST. ALTERNATE LUMINAIRES WILL BE REVIEWED DURING THE SUBMITTAL PROCESS AND THE MANUFACTURER WILL BE RESPONSIBLE TO PROVIDE A LUMINAIRE WHICH MEETS THE PRODUCT REQUIREMENTS. WHERE AN ALTERNATE MANUFACTURER IS NOT LISTED, A PRIOR APPROVAL REQUEST MUST BE SUBMITTED IN ACCORDANCE WITH THE SPECIFICATIONS IN ORDER TO BID THAT MANUFACTURER'S PRODUCT.
d. PROVIDE VIBRATION DAMPER IN POLE FIXTURES GREATER THAN 10'.
e. GALVANIZE THE INTERIOR AND EXTERIOR OF POLES. PRIME AND PAINT EXTERIOR WITH A MINIMUM OF 3 MILS OF TGIC POWDERS.
f. REMOVE PLASTIC WRAP FROM POLES ONCE RECEIVED ON SITE. STORE POLES OUT OF STANDING WATER OR VEGETATION.

REMARKS:

1. ALTERNATE FIXTURES ARE NOT ACCEPTABLE.
2. PROVIDE DIRECTIONAL ARROWS AS SHOWN ON PLANS, AND PROVIDE MOUNTING AS SHOWN ON PLANS.

LIGHTING CONTROL PANEL SCHEDULE

LCP NAME	LCP RELAY NUMBER	LIGHTING CONTROL	MANUAL CONTROL	OCCUPANCY SENSOR	VACANCY SENSOR	DAYLIGHT SENSOR	TIMECLOCK/ PHOTOCELL	SENSOR MOUNTING	SENSOR TIMEOUT (MIN.)	PROGRAMMING NOTES
LCP	1	WAITING 100, VESTIBULE 101, VESTIBULE 107, HALL 110	NONE	Yes	No	Yes	No	CEILING	20	BUILDING SCHEDULE ON/OFF, ON/OFF OVERRIDE WITH 24 HR SWEEPS & FLICKER WARNING.
LCP	2	HALL 120, HALL 130, HALL 140, HALL 160	SWITCH	Yes	No	No	No	CEILING	20	BUILDING SCHEDULE ON/OFF, ON/OFF OVERRIDE WITH 24 HR SWEEPS & FLICKER WARNING.
LCP	3	HALL 150	SWITCH	Yes	No	No	No	CEILING	20	BUILDING SCHEDULE ON/OFF, ON/OFF OVERRIDE WITH 24 HR SWEEPS & FLICKER WARNING.
LCP	4	HALL 168, VESTIBULE 190	SWITCH	Yes	No	No	No	CEILING	20	BUILDING SCHEDULE ON/OFF, ON/OFF OVERRIDE WITH 24 HR SWEEPS & FLICKER WARNING.
LCP	5	HALL 170, HALL 180	SWITCH	Yes	No	No	No	CEILING	20	BUILDING SCHEDULE ON/OFF, ON/OFF OVERRIDE WITH 24 HR SWEEPS & FLICKER WARNING.
LCP	6	EXTERIOR: MAIN ENTRY CANOPY	SWITCH	No	No	No	Yes	N/A		
LCP	7	EXTERIOR: COURTYARD, BUILDING MOUNTED LIGHTING	SWITCH	No	No	No	Yes	N/A		
LCP	8	EXTERIOR: MECHANICAL YARD	SWITCH	No	No	No	Yes	N/A		
LCP	9	EXTERIOR: SITE LIGHT POLES - NORTH	SWITCH	No	No	No	Yes	N/A		
LCP	10	EXTERIOR: SITE LIGHT POLES - SOUTH	SWITCH	No	No	No	Yes	N/A		

GENERAL NOTES:

a. PROVIDE 16 CHANNEL DIGITAL PROGAMMABLE DIMMING LIGHTING CONTROL RELAY PANEL FOR LCP1.
b. PROVIDE OCCUPANCY SENSORS, POWER PACKS, AND ASSOCIATED CIRCUITRY AS REQUIRED. OCCUPANCY SENSORS SHALL PROVIDE FULL COVERAGE OF AREA SERVED.
c. OCCUPANCY SENSORS SHALL BE INACTIVE DURING PROGRAMMED TIMER "ON" PERIODS FOR ZONES ONLY CONTROLLED BY THE RELAY PANEL.
d. CONTRACTOR TO COORDINATE PROGRAMMING OF TIMED ON AND OFF SETTINGS WITH OWNER REQUIREMENTS.
e. EXIT SIGNS ON CONTROLLED CIRCUITS SHALL BE CONNECTED TO UN-SWITCHED LEG OF LIGHTING CIRCUIT.
f. CORRIDOR OCCUPANCY SENSORS SHALL PROVIDE AFTER-HOURS OVERRIDE OF LIGHTING WITHIN EACH INDIVIDUAL CORRIDOR.
g. LENGTH OF TIME TO GIVE FLICKER WARNING SHALL BE PROGRAMMED PER OWNER'S REQUEST.

LIGHTING CONTROL SCHEDULE

ZONE NAME	MANUAL CONTROL	OCCUPANCY SENSOR	VACANCY SENSOR	DAYLIGHT SENSOR	TIMECLOCK/ PHOTOCELL	SENSOR MOUNTING	SENSOR TIMEOUT (MIN.)	FUNCTIONAL DESCRIPTION	REMARKS
CORRIDORS, VIESTIBULES	SWITCH	Yes	No	No	No	CEILING	20	ON BUILDING SCHEDULE DURING NORMAL HOURS. ON OCCUPANCY SENSOR AFTER HOURS. EMERGENCY LUMINAIRES SHALL AUTOMATICALLY TURN ON TO 100% UPON LOSS OF NORMAL POWER.	4,5
EXTERIOR EMERGENCY LIGHTING	NONE	No	No	No	Yes	N/A		AUTO-ON AND AUTO-OFF BY PHOTOCELL, MANUAL OVERRIDE FROM LIGHTING CONTROL PANEL AFTER HOURS. EMERGENCY LUMINAIRES SHALL AUTOMATICALLY TURN ON TO 100% UPON LOSS OF NORMAL POWER.	4,5
EXTERIOR NORMAL LIGHTING - NON-DIMMABLE	NONE	No	No	No	Yes	N/A		AUTO-ON AND AUTO-OFF BY PHOTOCELL, MANUAL OVERRIDE FROM LIGHTING CONTROL PANEL AFTER HOURS.	4,5
JANITOR, STORAGE ROOMS, RECEIVING	SWITCH	Yes	No	No	No	CEILING/WALL	15	SINGLE POLE SWITCH FOR MANUAL ON/MANUAL OFF.	
LOUNGE/BREAKROOM	DIMMER & SWITCH	No	Yes	Yes	No	CEILING	20	LOW VOLTAGE DIMMER SWITCH FOR MANUAL ON/MANUAL OFF AND DIMMING.	2,7,8
MECH/ELEC ROOMS, TELECOM ROOM, WATER/MED GAS	SWITCH	No	No	No	No	N/A		PILOT LIGHT SWITCH FOR MANUAL ON/MANUAL OFF.	
MEDICAL WORKROOMS, MEDICATION	SWITCH	Yes	No	No	No	WALL	20	LOW VOLTAGE SWITCH FOR MANUAL ON/MANUAL OFF.	
NURSE STATION	DIMMER & SWITCH	Yes	No	No	No	CEILING	20	LOW VOLTAGE DIMMER SWITCHES FOR MANUAL ON/MANUAL OFF AND DIMMING.	
PREP & RECOVERY ROOMS	DIMMER & SWITCH	No	No	No	No	N/A		LOW VOLTAGE DIMMER SWITCHES FOR MANUAL ON/MANUAL OFF AND DIMMING.	
PRIVATE OFFICES	DIMMER & SWITCH	Yes	No	No	No	CEILING	20	LOW VOLTAGE DIMMER SWITCH FOR MANUAL ON/MANUAL OFF AND DIMMING.	
RESTROOMS, LOCKER ROOMS	SWITCH	Yes	No	No	No	CEILING/WALL	15	AUTO-ON AND AUTO-OFF.	
SHARED OFFICES	DIMMER & SWITCH	Yes	No	No	No	CEILING	20	LOW VOLTAGE DIMMER SWITCHES FOR MANUAL ON/MANUAL OFF AND DIMMING.	
TRASH, CLEAN LINEN, SOILED, SOILED WORKROOM	SWITCH	Yes	No	No	No	WALL	15	SINGLE-POLE SWITCH FOR MANUAL ON/MANUAL OFF.	
WAITING ROOMS, LOBBIES, RECEPTION	DIMMER & SWITCH	Yes	No	Yes	No	CEILING	20	ON BUILDING SCHEDULE DURING NORMAL HOURS, WITH LOW VOLTAGE DIMMER SWITCH FOR MANUAL ON/OFF AND DIMMING. ON OCCUPANCY SENSOR AFTER HOURS. EMERGENCY LUMINAIRES SHALL AUTOMATICALLY TURN ON TO 100% UPON LOSS OF NORMAL POWER.	2,7,8

NOTES:

a. OCCUPANCY SENSOR CONTROLS LUMINAIRES FOR AUTO ON/AUTO OFF.
b. VACANCY SENSOR CONTROLS LUMINAIRES FOR MANUAL ON/OFF AND AUTO OFF AFTER TIMEOUT.
c. DAYLIGHT SENSOR CONTROLS LUMINAIRE OUTPUT WITHIN DAYLIGHTING ZONE.
d. TIMECLOCK AND PHOTOCELL CONTROL LUMINAIRES FOR AUTO ON/AUTO OFF.

REMARKS:

1. LUMINAIRES SHALL BE CONTROLLED TO TURN ON TO 50% UPON OCCUPANCY.
2. LUMINAIRES SHALL BE CONTROLLED TO DIM CONTINOUSLY FROM 100% TO 15% OR LOWER.
3. LUMINAIRES SHALL BE CONTROLLED TO DIM TO 50%.
4. COORDINATE TIME SCHEDULE WITH OWNER.
5. PROVIDE LIGHTING CONTROL RELAY PANEL CAPABLE OF 0-10V DIMMING.
6. TIMECLOCK AND PHOTOCELL OVERRIDE OCCUPANCY SENSOR CONTROL FROM DAWN TO DUSK.
7. HATCHING ON PLANS INDICATE DAYLIGHT ZONES. NOT ALL ROOMS REQUIRE DAYLIGHT SENSORS. DAYLIGHT ZONES WITH NO DAYLIGHTING SENSORS FALL UNDER THE EXCEPTION OF IECC C405.2.3.1 OF LESS THAN 150W.
8. THE AUTOMATIC DAYLIGHTING CONTROLS SEQUENCE SHALL INCLUDE AT A MINIMUM:
   a. TARGET ILLUMINANCE VALUES FOR WORKING ROOMS (I.E. OFFICES, ETC.) SHOULD BE 35FC AT WORKPLANE HEIGHT. TARGET ILLUMINANCE VALUES FOR COMMON SPACE (I.E. COMMONS, CORRIDORS, ETC.) SHOULD BE 20FC AT GROUND FLOOR.
   b. FOR AREA THAT ARE NOT USED FOR SPECIFIC OFFICE DESK TASK (I.E. LOBBIES, CORRIDORS, COMMONS, ETC.) THE SYSTEM SHALL PERFROM A DIM-TO-OFF OPERATION. FOR AREAS THAT ARE USED FOR SPECIFIC OFFICE DESK TASKS, THE SYSTEM SHALL PERFORM A DIM-TO-10% OPERATION.
   c. IF ROOM IS PROVIDED WITH A MANUAL OVERRIDE SWITCH, THE LIGHTS WILL NOT BE ALLOWED TO BE MANUALLY RAISED ABOVE THE THRESHOLD THAT THE DAYLIGHTING SENSOR IS HOLDING THE LIGHTS AT FOR OPTIMAL ENERGY SAVINGS.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
02/15/2023

STATE OF MISSOURI
ABHINAV PANDEY
NUMBER PE-2018015824
PROFESSIONAL ENGINEER
02/07/2023

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1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description

E7.1

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ELECTRICAL SCHEDULES

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

2/7/2023 9:47:53 PM

Distribution Panel: MDP

Location: ELEC 197
Supply From:
Mounting: SURFACE
Enclosure: Type 1
Phase Created: New Construction
Volts: 480Y/277V
Phases: 3
Wires: 4
K.A.I.C. Rating: 65
Mains Type: MCB
Mains / Design Rating: 1200 A
Bus Rating: 1200 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1					4,023	0									2	
	3	ATS-LS1	Other; Spare; R; E; L	150 A	3			4,287	0			3	60 A	--	SURGE PROTECTION DEVICE (SPD)	4	
	5									3,703	0					6	
	7					12,688	21,576									8	
	9	ATS-CR1	Spare; R; E; L	225 A	3			10,726	17,580			3	225 A	Spare; R; E; L	ATS-CR2	10	
	11									12,883	18,480					12	
	13					100,0...	111,4...									14	
	15	ATS-EQ1	Spare; R; E; M	400 A	3			101,7...	111,0...			3	400 A	Spare; R; E; L	NH1	16	
	17									100,2...	112,5...					18	
	19					72,333	--									20	
	21	CHILLER CH-1	M	500 A	3			72,333	--			3	--	--	BUSSED SPACE	22	
	23									72,333	--					24	
	25					--	--									26	
	27	BUSSED SPACE	--	--	3			--	--			3	--	--	BUSSED SPACE	28	
	29									--	--					30	
	31					--	--									32	
	33	BUSSED SPACE	--	--	3			--	--			3	--	--	BUSSED SPACE	34	
	35									--	--					36	
	37					--	--									38	
	39	BUSSED SPACE	--	--	3			--	--			3	--	--	BUSSED SPACE	40	
	41									--	--					42	
				Total Load:		322,089 VA		317,805 VA		320,211 VA							
				Total Amps:		1164 A		1147 A		1157 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load
L	Lighting		17,042 VA	125.00%	21,303 VA
C	Continuous		0 VA	0.00%	0 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA
	145,660 VA	Remaining	135,660 VA	50%	67,830 VA
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA
	393,600 VA	Remaining	393,600 VA	100.00%	393,600 VA
E	Equipment		403,660 VA	80.00%	322,928 VA
A	Appliance		0 VA	0.00%	0 VA
LC	Load Center (# of...	0	0 VA	0.00%	0 VA

Phase Balance
99 % A-B
100 % B-C
100 % C-A

Panel Totals
Connected Load (VA): 960,106 VA
NEC Demand Load (VA): 815,805 VA
Connected Load (A): 1155 A
NEC Demand Load (A): 981 A
Spare Capacity (A): 219 A
Spare Capacity (%): 18

Notes:

Branch Panel: NH1

Location: ELEC 197
Supply From: MDP
Mounting: SURFACE
Enclosure: Type 1
Phase Created: New Construction
Volts: 480Y/277V
Phases: 3
Wires: 4
K.A.I.C. Rating: 65
Mains Type: MCB
Mains / Design Rating: 400 A
Bus Rating: 400 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1					21,767	21,767									2	
	3	HUM-1	E	100 A	3			21,767	21,767			3	100 A	E	HUM-2	4	
	5									21,767	21,767					6	
	7					15,730	14,140									8	
	9	T-NL1	Spare; R; E; L	70 A	3			15,220	14,320			3	70 A	R; E	T-NL2	10	
	11									15,820	14,660					12	
	13					16,000	16,000									14	
ST	15	STERILIZER STEAM GEN.	E	80 A	3			16,000	16,000			3	80 A	E	STERILIZER STEAM GEN.	16	ST
	17									16,000	16,000					18	
	19	SPACE FOR SHUNT TRIP	--	--	1	--	--					1	--	--	SPACE FOR SHUNT TRIP	20	
	21							2,000	2,000							22	
ST	23	STERILIZER POWER	E	20 A	3					2,000	2,000	3	20 A	E	STERILIZER POWER	24	ST
	25					2,000	2,000									26	
	27	SPACE FOR SHUNT TRIP	--	--	1			--	--			1	--	--	SPACE FOR SHUNT TRIP	28	
	29									0	0					30	
	31	SPARE	--	60 A	3	0	0					3	60 A	--	SPARE	32	
	33							0	0							34	
	35	LTG: PARKING LOT NORTH	L	20 A	1					1,105	0	1	20 A	--	SPARE	36	
	37	LTG: PARKING LOT SOUTH	L	20 A	1	1,105	0					1	20 A	--	SPARE	38	
	39	LTG: OR & STAFF SUPPORT	L	20 A	1			1,499	0			1	20 A	--	SPARE	40	
	41	LTG: PREP/RECOVERY & GI	L	20 A	1					1,217	0	1	20 A	--	SPARE	42	
	43	LTG: LOBBY & ADMIN	L	20 A	1	894	--					1	--	--	BUSSED SPACE	44	
	45	LTG: MAIN ENTRY...	L	20 A	1			520	--			1	--	--	BUSSED SPACE	46	
	47	LTG: COURTYARD &...	L	20 A	1					240	--	1	--	--	BUSSED SPACE	48	
	49	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	50	
	51	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	52	
	53	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	54	
	55	BUSSED SPACE	--	--	1	--	0									56	
	57	BUSSED SPACE	--	--	1			--	0			3	30 A	--	SURGE PROTECTION DEVICE (SPD)	58	
	59	BUSSED SPACE	--	--	1					--	0					60	
				Total Load:		111,402 VA		111,092 VA		112,575 VA							
				Total Amps:		402 A		401 A		407 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load
L	Lighting		6,670 VA	125.00%	8,338 VA
C	Continuous		0 VA	0.00%	0 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA
	56,500 VA	Remaining	46,500 VA	50%	23,250 VA
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA
	0 VA	Remaining	0 VA	0.00%	0 VA
E	Equipment		271,900 VA	80.00%	217,520 VA
A	Appliance		0 VA	0.00%	0 VA
LC	Load Center (# of...	0	0 VA	0.00%	0 VA

Phase Balance
100 % A-B
99 % B-C
99 % C-A

Panel Totals
Connected Load (VA): 335,070 VA
NEC Demand Load (VA): 259,108 VA
Connected Load (A): 403 A
NEC Demand Load (A): 312 A
Spare Capacity (A): 88 A
Spare Capacity (%): 22

Notes:
ST - PROVIDE COMPONENTS FOR SHUNT TRIP BREAKER

Distribution Panel: EDP

Location: EM ELEC ROOM 196
Supply From:
Mounting: SURFACE
Enclosure: Type 1
Phase Created: New Construction
Volts: 480Y/277V
Phases: 3
Wires: 4
K.A.I.C. Rating: 65
Mains Type: MCB
Mains / Design Rating: 600 A
Bus Rating: 600 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1					4,023	0									2	
	3	ATS-LS1	Other; Spare; R; E; L	150 A	3			4,287	0			3	60 A	--	SURGE PROTECTION DEVICE (SPD)	4	
	5									3,703	0					6	
	7					12,688	21,576									8	
	9	ATS-CR1	Spare; R; E; L	225 A	3			10,726	17,580			3	255 A	Spare; R; E; L	ATS-CR2	10	
	11									12,883	18,480					12	
	13					100,0...	--									14	
	15	ATS-EQ1	Spare; R; E; M	400 A	3			101,7...	--			3	--	--	BUSSED SPACE	16	
	17									100,2...	--					18	
	19					--	--									20	
	21	BUSSED SPACE	--	--	3			--	--			3	--	--	BUSSED SPACE	22	
	23									--	--					24	
	25					--	--									26	
	27	BUSSED SPACE	--	--	3			--	--			3	--	--	BUSSED SPACE	28	
	29									--	--					30	
				Total Load:		138,354 VA		134,380 VA		135,303 VA							
				Total Amps:		500 A		485 A		489 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load
L	Lighting		10,372 VA	125.00%	12,965 VA
C	Continuous		0 VA	0.00%	0 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA
	89,160 VA	Remaining	79,160 VA	50%	39,580 VA
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA
	176,600 VA	Remaining	176,600 VA	100.00%	176,600 VA
E	Equipment		131,760 VA	80.00%	105,408 VA
A	Appliance		0 VA	0.00%	0 VA
LC	Load Center (# of...	0	0 VA	0.00%	0 VA

Phase Balance
98 % A-B
100 % B-C
98 % C-A

Panel Totals
Connected Load (VA): 408,036 VA
NEC Demand Load (VA): 344,697 VA
Connected Load (A): 491 A
NEC Demand Load (A): 415 A
Spare Capacity (A): 185 A
Spare Capacity (%): 31

Notes:

Branch Panel: LSH1

Location: EM ELEC ROOM 196
Supply From: ATS-LS1
Mounting: SURFACE
Enclosure: NEMA 1
Phase Created: New Construction
Volts: 480Y/277V
Phases: 3
Wires: 4
K.A.I.C. Rating: 50
Mains Type: MCB
Mains / Design Rating: 150 A
Bus Rating: 150 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1					3,510	144					1	20 A	L	LTG: MECH YARD	2	
	3	T-LSL1	Spare; R; E	50 A	3			3,510	777			1	20 A	Other; L	LTG: OR & STAFF SUPPORT	4	
	5									3,230	473	1	20 A	L	LTG: PREP/RECOVERY & GI	6	
	7	SPARE	--	20 A	1	0	369					1	20 A	L	LTG: LOBBY & ADMIN	8	
	9	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	10	
	11	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	12	
	13	BUSSED SPACE	--	--	1	--	0					1	20 A	--	SPARE	14	
	15	BUSSED SPACE	--	--	1			--	0			1	20 A	--	SPARE	16	
	17	BUSSED SPACE	--	--	1					--	0	1	20 A	--	SPARE	18	
	19	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	20	
	21	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	22	
	23	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	24	
	25					0	--					1	--	--	BUSSED SPACE	26	
	27	SURGE PROTECTION DEVICE (SPD)	--	30 A	3			0	--			1	--	--	BUSSED SPACE	28	
	29									0	--	1	--	--	BUSSED SPACE	30	
				Total Load:		4,023 VA		4,287 VA		3,703 VA							
				Total Amps:		15 A		16 A		13 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load
L	Lighting		1,619 VA	125.00%	2,024 VA
C	Continuous		0 VA	0.00%	0 VA
R	Total Receptacle Load	1st 10,000 VA	720 VA	100%	720 VA
	720 VA	Remaining	0 VA	0%	0 VA
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA
	0 VA	Remaining	0 VA	0.00%	0 VA
E	Equipment		9,530 VA	80.00%	7,624 VA
A	Appliance		0 VA	0.00%	0 VA
LC	Load Center (# of...	0	0 VA	0.00%	0 VA

Phase Balance
94 % A-B
87 % B-C
93 % C-A

Panel Totals
Connected Load (VA): 12,013 VA
NEC Demand Load (VA): 10,512 VA
Connected Load (A): 14 A
NEC Demand Load (A): 13 A
Spare Capacity (A): 137 A
Spare Capacity (%): 92

Notes:

Branch Panel: LSL1

Location: EM ELEC ROOM 196
Supply From: T-LSL1
Mounting: SURFACE
Enclosure: NEMA 1
Phase Created: New Construction
Volts: 208Y/120V
Phases: 3
Wires: 4
K.A.I.C. Rating: 10
Mains Type: MCB
Mains / Design Rating: 100 A
Bus Rating: 100 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1	PAP-1	E	20 A	1	240	750					2	50 A	E	J-BOX: GEN JACKET HEATER	2	
	3	SAP-1	E	20 A	1			240	750							4	
	5	AAP-1/2	E	20 A	1					240	600	1	20 A	E	J-BOX: ENGINE OIL HEATER	6	
	7	AAP-3/4	E	20 A	1	240	600					1	20 A	E	J-BOX: GEN BATT....	8	
	9	AAP-5	E	20 A	1			240	600			1	20 A	E	J-BOX: GEN STATOR...	10	
	11	AAP-6	E	20 A	1					240	720	1	20 A	R	REC: MECH YARD	12	
	13	AAP-7	E	20 A	1	240	600					1	20 A	E	J-BOX: FIRE ALARM PANEL	14	FA
	15	AAP-8	E	20 A	1			240	600			1	20 A	E	J-BOX: FIRE ALARM PANEL	16	FA
	17	J-BOX: AUTO DOORS 140	E	20 A	1					240	600	1	20 A	E	J-BOX: FIRE ALARM RPS	18	FA
	19	J-BOX: AUTO DOORS 107	E	20 A	1	240	600					1	20 A	E	DRY PIPE ALARM & CTRLS	20	FA
	21	J-BOX: AUTO DOORS 101	E	20 A	1			240	600			1	20 A	E	DRY PIPE AIR COMP.	22	FA
	23	J-BOX: AUTO DOORS 180	E	20 A	1					240	350	1	20 A	E	J-BOX: FIRE/SMOKE...	24	
	25	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	26	
	27	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	28	
	29	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	30	
	31	SPARE	--	20 A	1	0	--					1	--	--	BUSSED SPACE	32	
	33	SPARE	--	20 A	1			0	--			1	--	--	BUSSED SPACE	34	
	35	SPARE	--	20 A	1					0	--	1	--	--	BUSSED SPACE	36	
	37					0	--					1	--	--	BUSSED SPACE	38	
	39	SURGE PROTECTION DEVICE (SPD)	--	30 A	3			0	--			1	--	--	BUSSED SPACE	40	
	41									0	--	1	--	--	BUSSED SPACE	42	
				Total Load:		3,510 VA		3,510 VA		3,230 VA							
				Total Amps:		30 A		30 A		27 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load
L	Lighting		0 VA	0.00%	0 VA
C	Continuous		0 VA	0.00%	0 VA
R	Total Receptacle Load	1st 10,000 VA	720 VA	100%	720 VA
	720 VA	Remaining	0 VA	0%	0 VA
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA
	0 VA	Remaining	0 VA	0.00%	0 VA
E	Equipment		9,530 VA	80.00%	7,624 VA
A	Appliance		0 VA	0.00%	0 VA
LC	Load Center (# of...	0	0 VA	0.00%	0 VA

Phase Balance
100 % A-B
93 % B-C
93 % C-A

Panel Totals
Connected Load (VA): 10,250 VA
NEC Demand Load (VA): 8,344 VA
Connected Load (A): 28 A
NEC Demand Load (A): 23 A
Spare Capacity (A): 77 A
Spare Capacity (%): 77

Notes:
FA - PROVIDE RED HANDLE LOCK-ON BREAKER FOR FIRE ALARM EQUIPMENT CIRCUITS

BranchPattern
www.branchpattern.com
PROJECT NUMBER: 1201002
BETTER BUILT ENVIRONMENTS

Branch Panel: EQH1

Location: EM ELEC ROOM 196
Supply From: ATS-EQ1
Mounting: SURFACE
Enclosure: Type 1
Phase Created: New Construction
Volts: 480Y/277V
Phases: 3
Wires: 4
K.A.I.C. Rating: 50
Mains Type: MCB
Mains / Design Rating: 400 A
Bus Rating: 400 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1					16,100	7,500									2	
	3	T-EQL1	Spare; R; E; M	70 A	3			17,820	7,500			3	40 A	M	PAC-1	4	
	5									16,270	7,500					6	
	7					1,667	6,933									8	
	9	MAC-1	M	20 A	3			1,667	6,933			3	35 A	M	MVP-1	10	
	11									1,667	6,933					12	
	13					11,667	11,667									14	
ST	15	AHU-1 SUPPLY FANS	M	60 A	3			11,667	11,667			3	60 A	M	AHU-2 SUPPLY FANS	16	ST
	17									11,667	11,667					18	
	19	SPACE FOR SHUNT TRIP	--	--	1	--	--					1	--	--	SPACE FOR SHUNT TRIP	20	
	21							6,100	6,100							22	
ST	23	AHU-1 RETURN FANS	M	35 A	3					6,100	6,100	3	35 A	M	AHU-2 RETURN FANS	24	ST
	25					6,100	6,100									26	
	27	SPACE FOR SHUNT TRIP	--	--	1			--	--			1	--	--	SPACE FOR SHUNT TRIP	28	
	29									10,000	200					30	
ST	31	SMALL STERILIZER POWER	E	50 A	3	10,000	200					3	20 A	M	AHU-2 CDQ MOTOR	32	ST
	33							10,000	200							34	
	35	SPACE FOR SHUNT TRIP	--	--	1					--	--	1	--	--	SPACE FOR SHUNT TRIP	36	
	37					8,000	3,067									38	
	39	WASHER-DISINFECTOR	E	40 A	3			8,000	3,067			3	20 A	M	HWP-1	40	
	41									8,000	3,067					42	
	43					8,000	3,067									44	
	45	WASHER-DISINFECTOR	E	40 A	3			8,000	3,067			3	20 A	M	HWP-2	46	
	47									8,000	3,067					48	
	49	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	50	
	51	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	52	
	53	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	54	
	55					0	--					1	--	--	BUSSED SPACE	56	
	57	SURGE PROTECTION DEVICE (SPD)	--	30 A	3			0	--			1	--	--	BUSSED SPACE	58	
	59									0	--	1	--	--	BUSSED SPACE	60	
				Total Load:		100,067 VA		101,787 VA		100,237 VA							
				Total Amps:		361 A		368 A		362 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load
L	Lighting		0 VA	0.00%	0 VA
C	Continuous		0 VA	0.00%	0 VA
R	Total Receptacle Load	1st 10,000 VA	6,500 VA	100%	6,500 VA
	6,500 VA	Remaining	0 VA	0%	0 VA
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA
	176,600 VA	Remaining	176,600 VA	100.00%	176,600 VA
E	Equipment		118,990 VA	80.00%	95,192 VA
A	Appliance		0 VA	0.00%	0 VA
LC	Load Center (# of...	0	0 VA	0.00%	0 VA

Phase Balance
99 % A-B
99 % B-C
100 % C-A

Panel Totals
Connected Load (VA): 302,090 VA
NEC Demand Load (VA): 278,292 VA
Connected Load (A): 363 A
NEC Demand Load (A): 335 A
Spare Capacity (A): 65 A
Spare Capacity (%): 16

Notes:
ST - PROVIDE COMPONENTS FOR SHUNT TRIP BREAKER

Branch Panel: EQL1

Location: EM ELEC ROOM 196
Supply From: T-EQL1
Mounting: SURFACE
Enclosure: NEMA 1
Phase Created: New Construction
Volts: 208Y/120V
Phases: 3
Wires: 4
K.A.I.C. Rating: 10
Mains Type: MCB
Mains / Design Rating: 150 A
Bus Rating: 150 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A	A	B	B	C	C	Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1					550	550									2	
ST	3	B-1	E	20 A	3			550	550			3	20 A	E	B-2	4	ST
	5									550	550					6	
	7	SPACE FOR SHUNT TRIP	--	--	1	--	--					1	--	--	SPACE FOR SHUNT TRIP	8	
	9							1,000	1,000							10	
	11	ULTRASONIC CLEANER	E	20 A	3					1,000	1,000	3	20 A	E	ULTRASONIC CLEANER	12	
	13					1,000	1,000									14	
	15							900	2,500			2	30 A	E	EUH-1	16	
	17	CP-1	M	20 A	3					900	2,500					18	
	19					900	2,080					2	20 A	E	CU-1 & SS-1	20	
	21	GWH-1	E	20 A	1			360	2,080							22	
	23	GWH-2	E	20 A	1					360	600	2	20 A	R	REC: DI-1	24	
	25	REC: WS-1	R	20 A	1	360	600									26	
	27	GV GAS SHUTOFF VALVE	E	20 A	1			180	600			2	20 A	R	REC: DI-1	28	
	29	REC: GT-1	R	20 A	1					360	600					30	
	31	EF-1	E	20 A	1	1,920	600					1	20 A	R	REC: DI-1	32	
	33	EF-2	E	20 A	1			1,920	600			1	20 A	R	REC: DI-1	34	
	35	EF-3	E	20 A	1					1,920	360	1	20 A	E	AHU-1 UV LIGHTS	36	
	37	EF-4	E	20 A	1	1,920	1,200					1	20 A	E	AHU-1 ACCESSORIES	38	
	39	EF-5	E	20 A	1			1,920	360			1	20 A	E	AHU-2 UV LIGHTS	40	
	41	J-BOX: BAS PANEL	E	20 A	1					600	1,200	1	20 A	E	AHU-2 ACCESSORIES	42	
	43	MV-1	E	20 A	1	180	480					1	20 A	E	J-BOX: 196 PASSTHRU	44	
	45	J-BOX: HEAT TRACE HUM-1	E	20 A	1			360	180			1	20 A	R	REC: 182 DETERGENT	46	
	47	J-BOX: HEAT TRACE HUM-2	E	20 A	1					360	1,200	1	20 A	E	J-BOX: STERILIZER CTRLS	48	
	49	PLMB PWR 112,113,123	E	20 A	1	350	1,000					1	20 A	R	REC: 166 REFRIGERATOR	50	
	51	PLMB PWR GI, TLT 148	E	20 A	1			300	1,000			1	20 A	R	REC: 166 REFRIGERATOR	52	
	53	PLMB PWR OR SUPPORT	E	20 A	1					550	200	1	20 A	E	VAV PWR: OR RETURN	54	
	55	PLMB PWR...	E	20 A	1	550	500					1	20 A	E	VAV PWR: AHU-2	56	
	57	AUTO TRAP PRIMERS	E	20 A	1			960	500			1	20 A	E	VAV PWR: AHU-1	58	
	59	AUTO TRAP PRIMERS	E	20 A	1					960	500	1	20 A	E	VAV PWR: AHU-1	60	
	61	SPARE	--	20 A	1	0	360					1	20 A	E	CHILLER HEATER & HEAT...	62	
	63	SPARE (HWP-3)	--	20 A	1			0	--			1	--	--	BUSSED SPACE	64	
	65	SPARE (HWP-4)	--	20 A	1					0	--	1	--	--	BUSSED SPACE	66	
	67					0	--					1	--	--	BUSSED SPACE	68	
	69	SURGE PROTECTION DEVICE (SPD)	--	30 A	3			0	--			1	--	--	BUSSED SPACE	70	
	71									0	--	1	--	--	BUSSED SPACE	72	
				Total Load:		16,100 VA		17,820 VA		16,270 VA							
				Total Amps:		134 A		149 A		136 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load
L	Lighting		0 VA	0.00%	0 VA
C	Continuous		0 VA	0.00%	0 VA
R	Total Receptacle Load	1st 10,000 VA	6,500 VA	100%	6,500 VA
	6,500 VA	Remaining	0 VA	0%	0 VA
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA
	2,700 VA	Remaining	2,700 VA	100.00%	2,700 VA
E	Equipment		40,990 VA	80.00%	32,792 VA
A	Appliance		0 VA	0.00%	0 VA
LC	Load Center (# of...	0	0 VA	0.00%	0 VA

Phase Balance
91 % A-B
92 % B-C
99 % C-A

Panel Totals
Connected Load (VA): 50,190 VA
NEC Demand Load (VA): 41,992 VA
Connected Load (A): 139 A
NEC Demand Load (A): 117 A
Spare Capacity (A): 33 A
Spare Capacity (%): 22

Notes:
ST - PROVIDE COMPONENTS FOR SHUNT TRIP BREAKER.

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
03/15/2023

STATE OF MISSOURI
ABHINAV PANDEY
NUMBER PE-2018015824
PROFESSIONAL ENGINEER
02/07/2023

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Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description

E7.2

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ELECTRICAL SCHEDULES

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

2/20/2023 4:52:09 PM

BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

Branch Panel: NL1

Location: ELEC 197 **Supply From:** T-NL1 **Mounting:** SURFACE **Enclosure:** Type 1 **Phase Created:** New Construction
Volts: 208Y/120V **Phases:** 3 **Wires:** 4
K.A.I.C. Rating: 10 **Mains Type:** MCB **Mains / Design Rating:** 150 A **Bus Rating:** 150 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A		B		C		Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1	REC: 172, 174, 176	R	20 A	1	900	720					1	20 A	R	REC: HEADWALL 124	2	
	3	REC: 176, 178	R	20 A	1			900	720			1	20 A	R	REC: HEADWALL 126	4	
	5	SPARE	--	20 A	1					0	720	1	20 A	R	REC: HEADWALL 128	6	
	7	REC: 175, 177	R	20 A	1	720	900					1	20 A	R	REC: 171, 182	8	
	9	REC: 173, 198, 199	R	20 A	1			1,080	1,200			1	20 A	E	J-BOX: STERILIZER CTRLS	10	
	11	REC: 186	R	20 A	1					1,080	1,200	1	20 A	E	J-BOX: STERILIZER CTRLS	12	
	13	REC: 190, 191	R	20 A	1	1,080	360					1	20 A	R	REC: 195	14	
	15	REC: 192 WRKSTN	R	20 A	1			720	180			1	20 A	R	REC: ELEC ROOM 197	16	
	17	REC: 192	R	20 A	1					1,080	600	1	20 A	R	LIGHTING CONTROL PANEL	18	
	19	REC: ROOF EAST	R	20 A	1	720	1,500					1	20 A	E	AC-1	20	
	21	REC: ROOF WEST	R	20 A	1			720	180			1	20 A	R	REC: 168 TIMECLOCK	22	
	23	J-BOX: MONUMENT SIGN	E	20 A	1					600	1,080	1	20 A	R	REC: 187 WIREMOLD	24	
	25	LTG: LOBBY PENDANTS	L	20 A	1	90	1,080					1	20 A	R	REC: 187 WIREMOLD	26	
	27	J-BOX: BUILDING SIGNAGE	E	20 A	1			360	900			1	20 A	R	REC: 187 WIREMOLD	28	
	29	J-BOX: BUILDING SIGNAGE	E	20 A	1					360	900	1	20 A	R	REC: 187 WIREMOLD	30	
	31	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	32	
	33	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	34	
	35	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	36	
	37	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	38	
	39	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	40	
	41	CU-2 & SS-2	E	30 A	2					2,080	0	2	40 A	--	SPARE	42	
	43					2,080	0									44	
	45	CU-3 & SS-3	E	30 A	2			2,080	2,500			2	40 A	E	EV CHARGING STATION	46	
	47									2,080	2,500					48	
	49	CU-4 & SS-4	E	30 A	2	2,080	2,500					2	40 A	E	EV CHARGING STATION	50	
	51							2,080	2,500							52	
	53	CU-5 & SS-5	E	30 A	2					2,080	0	2	40 A	--	SPARE	54	
	55					2,080	0									56	
	57	SPARE	--	30 A	2			0	--			1	--	--	BUSSED SPACE	58	
	59									0	--	1	--	--	BUSSED SPACE	60	
	61	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	62	
	63	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	64	
	65	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	66	
	67	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	68	
	69	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	70	
	71	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	72	
					Total Load:	16,810 VA		16,120 VA		16,360 VA							
					Total Amps:	140 A		134 A		137 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load	Phase Balance	Panel Totals
L	Lighting		90 VA	125.00%	113 VA		
C	Continuous		0 VA	0.00%	0 VA	96 % A-B	Connected Load (VA): 49,290 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA	99 % B-C	NEC Demand Load (VA): 39,271 VA
	17,340 VA	Remaining	7,340 VA	50%	3,670 VA	98 % C-A	Connected Load (A): 137 A
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA		NEC Demand Load (A): 109 A
	0 VA	Remaining	0 VA	0.00%	0 VA		Spare Capacity (A): 41 A
E	Equipment		31,860 VA	80.00%	25,488 VA		Spare Capacity (%): 27
A	Appliance		0 VA	0.00%	0 VA		
LC	Load Center (# of...	0	0 VA	0.00%	0 VA		

Notes:

Branch Panel: CRH1

Location: EM ELEC ROOM 196 **Supply From:** ATS-CR1 **Mounting:** SURFACE **Enclosure:** Type 1 **Phase Created:** New Construction
Volts: 480Y/277V **Phases:** 3 **Wires:** 4
K.A.I.C. Rating: 50 **Mains Type:** MCB **Mains / Design Rating:** 225 A **Bus Rating:** 225 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A		B		C		Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1	T-CRL1	Spare; R	70 A	3	5,400	2,340					2	30 A	Spare; R; E	OR1A	2	
	3							5,440	2,520							4	
	5									5,400	2,340	2	30 A	Spare; R; E	OR2A	6	
	7	LI-1	Spare; L	25 A	1	2,608	2,520									8	
	9	LTG: OR & STAFF SUPPORT	L	20 A	1			606	2,340			2	30 A	Spare; R; E	OR3A	10	
	11	LTG: PREP/RECOVERY & GI	L	20 A	1					2,803	2,520					12	
	13	SPARE	--	20 A	1	0	0					2	30 A	--	SPARE	14	
	15	SPARE	--	20 A	1			0	0							16	
	17	SPARE	--	20 A	1					0	--	1	--	--	BUSSED SPACE	18	
	19	SPARE	--	20 A	1	0	--					1	--	--	BUSSED SPACE	20	
	21	SPARE	--	20 A	1			0	--			1	--	--	BUSSED SPACE	22	
	23	SPARE	--	20 A	1					0	--	1	--	--	BUSSED SPACE	24	
	25	SPARE	--	20 A	1	0	--					1	--	--	BUSSED SPACE	26	
	27	SPARE	--	20 A	1			0	--			1	--	--	BUSSED SPACE	28	
	29	SPARE	--	20 A	1					0	--	1	--	--	BUSSED SPACE	30	
	31	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	32	
	33	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	34	
	35	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	36	
	37	SURGE PROTECTION DEVICE (SPD)	--	30 A	3	0	--					1	--	--	BUSSED SPACE	38	
	39							0	--			1	--	--	BUSSED SPACE	40	
	41									0	--	1	--	--	BUSSED SPACE	42	
					Total Load:	12,868 VA		10,906 VA		13,063 VA							
					Total Amps:	48 A		39 A		48 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load	Phase Balance	Panel Totals
L	Lighting		6,017 VA	125.00%	7,521 VA		
C	Continuous		0 VA	0.00%	0 VA	85 % A-B	Connected Load (VA): 36,837 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA	84 % B-C	NEC Demand Load (VA): 28,093 VA
	30,280 VA	Remaining	20,280 VA	50%	10,140 VA	99 % C-A	Connected Load (A): 44 A
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA		NEC Demand Load (A): 34 A
	0 VA	Remaining	0 VA	0.00%	0 VA		Spare Capacity (A): 191 A
E	Equipment		540 VA	80.00%	432 VA		Spare Capacity (%): 85
A	Appliance		0 VA	0.00%	0 VA		
LC	Load Center (# of...	0	0 VA	0.00%	0 VA		

Notes:

Branch Panel: CRH2

Location: EM ELEC ROOM 196 **Supply From:** ATS-CR2 **Mounting:** SURFACE **Enclosure:** Type 1 **Phase Created:** New Construction
Volts: 480Y/277V **Phases:** 3 **Wires:** 4
K.A.I.C. Rating: 50 **Mains Type:** MCB **Mains / Design Rating:** 225 A **Bus Rating:** 225 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A		B		C		Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1	T-CRL2	Spare; R; E	70 A	3	14,340	2,520					2	30 A	Spare; R; E	OR1B	2	
	3							13,080	2,160							4	
	5									13,980	2,520	2	30 A	Spare; R; E	OR2B	6	
	7	LTG: OR#1, OR#2, OR#3	L	20 A	1	2,736	2,160									8	
	9	SPARE	--	20 A	1			0	2,520			2	30 A	Spare; R; E	OR3B	10	
	11	SPARE	--	20 A	1					0	2,160					12	
	13	SPARE	--	20 A	1	0	0					2	30 A	--	SPARE	14	
	15	SPARE	--	20 A	1			0	0							16	
	17	SPARE	--	20 A	1					0	--	1	--	--	BUSSED SPACE	18	
	19	SPARE	--	20 A	1	0	--					1	--	--	BUSSED SPACE	20	
	21	SPARE	--	20 A	1			0	--			1	--	--	BUSSED SPACE	22	
	23	SPARE	--	20 A	1					0	--	1	--	--	BUSSED SPACE	24	
	25	SPARE	--	20 A	1	0	--					1	--	--	BUSSED SPACE	26	
	27	SPARE	--	20 A	1			0	--			1	--	--	BUSSED SPACE	28	
	29	SPARE	--	20 A	1					0	--	1	--	--	BUSSED SPACE	30	
	31	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	32	
	33	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	34	
	35	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	36	
	37	SURGE PROTECTION DEVICE (SPD)	--	30 A	3	0	--					1	--	--	BUSSED SPACE	38	
	39							0	--			1	--	--	BUSSED SPACE	40	
	41									0	--	1	--	--	BUSSED SPACE	42	
					Total Load:	21,756 VA		17,760 VA		18,660 VA							
					Total Amps:	79 A		64 A		68 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load	Phase Balance	Panel Totals
L	Lighting		2,736 VA	125.00%	3,420 VA		
C	Continuous		0 VA	0.00%	0 VA	82 % A-B	Connected Load (VA): 58,176 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA	96 % B-C	NEC Demand Load (VA): 36,950 VA
	52,740 VA	Remaining	42,740 VA	50%	21,370 VA	86 % C-A	Connected Load (A): 70 A
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA		NEC Demand Load (A): 44 A
	0 VA	Remaining	0 VA	0.00%	0 VA		Spare Capacity (A): 181 A
E	Equipment		2,700 VA	80.00%	2,160 VA		Spare Capacity (%): 80
A	Appliance		0 VA	0.00%	0 VA		
LC	Load Center (# of...	0	0 VA	0.00%	0 VA		

Notes:

Branch Panel: CRL1

Location: EM ELEC ROOM 196 **Supply From:** T-CRL1 **Mounting:** SURFACE **Enclosure:** NEMA 1 **Phase Created:** New Construction
Volts: 208Y/120V **Phases:** 3 **Wires:** 4
K.A.I.C. Rating: 10 **Mains Type:** MCB **Mains / Design Rating:** 150 A **Bus Rating:** 150 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A		B		C		Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1	REC: HEADWALL 124	R	20 A	1	540	180					1	20 A	R	REC: 178	2	
	3	REC: HEADWALL 124	R	20 A	1			540	1,000			1	20 A	R	REC: 176 CRYOSTAT	4	
	5	REC: HEADWALL 126	R	20 A	1					540	600	1	20 A	R	REC: 176 CENTRIFUGE	6	
	7	REC: HEADWALL 126	R	20 A	1	540	600					1	20 A	R	REC: 172 NEPTUNE	8	
	9	REC: HEADWALL 128	R	20 A	1			540	600			1	20 A	R	REC: 172 NEPTUNE	10	
	11	REC: HEADWALL 128	R	20 A	1					540	1,200	1	20 A	R	REC: 171 LOW-TEMP...	12	
	13	REC: OR#1 LASER	R	30 A	2	1,080	1,200					1	20 A	R	REC: 171 LOW-TEMP...	14	
	15							1,080	600			1	20 A	R	REC: 171	16	
	17	REC: OR#2 LASER	R	30 A	2					1,080	360	1	20 A	R	REC: 167 CRASH CART	18	
	19					1,080	180					1	20 A	R	REC: ELEC ROOM 196	20	
	21	REC: OR#3 LASER	R	30 A	2			1,080	0			1	20 A	--	SPARE	22	
	23									1,080	0	1	20 A	--	SPARE	24	
	25	SPARE	--	30 A	2	0	0					1	20 A	--	SPARE	26	
	27							0	0			1	20 A	--	SPARE	28	
	29	REC: OR#1 INTEGRATION	--	20 A	1					0	0	1	20 A	--	SPARE	30	
	31	REC: OR#1 INTEGRATION	--	20 A	1	0	0					1	20 A	--	SPARE	32	
	33	REC: OR#2 INTEGRATION	--	20 A	1			0	0			1	20 A	--	SPARE	34	
	35	REC: OR#2 INTEGRATION	--	20 A	1					0	0	1	20 A	--	SPARE	36	
	37	REC: OR#3 INTEGRATION	--	20 A	1	0	0					1	20 A	--	SPARE	38	
	39	REC: OR#3 INTEGRATION	--	20 A	1			0	0			1	20 A	--	SPARE	40	
	41	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	42	
	43	SPARE	--	20 A	1	0	0					1	20 A	--	SPARE	44	
	45	SPARE	--	20 A	1			0	0			1	20 A	--	SPARE	46	
	47	SPARE	--	20 A	1					0	0	1	20 A	--	SPARE	48	
	49	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	50	
	51	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	52	
	53	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	54	
	55	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	56	
	57	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	58	
	59	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	60	
	61	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	62	
	63	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	64	
	65	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	66	
	67	SURGE PROTECTION DEVICE (SPD)	--	30 A	3	0	--					1	--	--	BUSSED SPACE	68	
	69							0	--			1	--	--	BUSSED SPACE	70	
	71									0	--	1	--	--	BUSSED SPACE	72	
					Total Load:	5,400 VA		5,440 VA		5,400 VA							
					Total Amps:	45 A		45 A		45 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load	Phase Balance	Panel Totals
L	Lighting		0 VA	0.00%	0 VA		
C	Continuous		0 VA	0.00%	0 VA	100 % A-B	Connected Load (VA): 16,240 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA	100 % B-C	NEC Demand Load (VA): 13,120 VA
	16,240 VA	Remaining	6,240 VA	50%	3,120 VA	100 % C-A	Connected Load (A): 45 A
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA		NEC Demand Load (A): 36 A
	0 VA	Remaining	0 VA	0.00%	0 VA		Spare Capacity (A): 114 A
E	Equipment		0 VA	0.00%	0 VA		Spare Capacity (%): 76
A	Appliance		0 VA	0.00%	0 VA		
LC	Load Center (# of...	0	0 VA	0.00%	0 VA		

Notes:

Branch Panel: CRL2

Location: ELEC 179 **Supply From:** T-CRL2 **Mounting:** SURFACE **Enclosure:** NEMA 1 **Phase Created:** New Construction
Volts: 208Y/120V **Phases:** 3 **Wires:** 4
K.A.I.C. Rating: 10 **Mains Type:** MCB **Mains / Design Rating:** 150 A **Bus Rating:** 150 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A		B		C		Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1	REC: HEADWALL 132	R	20 A	1	540	540					1	20 A	R	REC: HEADWALL 138	2	
	3	REC: HEADWALL 132	R	20 A	1			540	540			1	20 A	R	REC: HEADWALL 138	4	
	5	REC: HEADWALL 134	R	20 A	1					540	540	1	20 A	R	REC: HEADWALL 142	6	
	7	REC: HEADWALL 134	R	20 A	1	540	540					1	20 A	R	REC: HEADWALL 142	8	
	9	REC: HEADWALL 136	R	20 A	1			540	540			1	20 A	R	REC: HEADWALL 144	10	
	11	REC: HEADWALL 136	R	20 A	1					540	540	1	20 A	R	REC: HEADWALL 144	12	
	13	REC: HEADWALL 133	R	20 A	1	540	540					1	20 A	R	REC: HEADWALL 146	14	
	15	REC: HEADWALL 133	R	20 A	1			540	540			1	20 A	R	REC: HEADWALL 146	16	
	17	REC: HEADWALL 116	R	20 A	1					540	540	1	20 A	R	REC: HEADWALL 121	18	
	19	REC: HEADWALL 116	R	20 A	1	540	540					1	20 A	R	REC: HEADWALL 121	20	
	21	REC: HEADWALL 115	R	20 A	1			540	540			1	20 A	R	REC: HEADWALL 125	22	
	23	REC: HEADWALL 115	R	20 A	1					540	540	1	20 A	R	REC: HEADWALL 125	24	
	25	REC: HEADWALL 117	R	20 A	1	540	540					1	20 A	R	REC: HEADWALL 127	26	
	27	REC: HEADWALL 117	R	20 A	1			540	540			1	20 A	R	REC: HEADWALL 127	28	
	29	REC: 152	R	20 A	1					1,080	1,000	1	20 A	R	REC: 118 WARM CABINET	30	
	31	REC: 152 ENDO CART	R	20 A	1	360	900					1	20 A	R	REC: 118 NURSE DESK	32	
	33	J-BOX: 152 GI BOOM	E	20 A	1			360	900			1	20 A	R	REC: 118 NURSE DESK	34	
	35	J-BOX: 152 GI BOOM	E	20 A	1					360	1,000	1	20 A	R	REC: 132 ICE MAKER	36	
	37	J-BOX: 152 GI BOOM	E	20 A	1	360	1,000					1	20 A	R	REC: 132 REFRIGERATOR	38	
	39	REC: 154 DRYING CABINET	R	20 A	1			1,000	1,000			1	20 A	R	REC: 135 ICE	40	
	41	REC: 153, 155	R	20 A	1					360	720	1	20 A	R	REC: 122 REFRIGERATOR	42	
	43	REC: 155 MEDIVATOR	R	20 A	1	1,000	360					1	20 A	R	REC: 122 WRKSTN	44	
	45	REC: 156	R	20 A	1			1,080	720			1	20 A	R	REC: 122 REFRIGERATOR	46	
	47	REC: 156 ENDO CART	R	20 A	1					360	1,800	1	30 A	R	REC: 108 RACK UPS	48	
	49	J-BOX: 156 GI BOOM	E	20 A	1	360	1,800					1	30 A	R	REC: 108 RACK UPS	50	
	51	J-BOX: 156 GI BOOM	E	20 A	1			360	360			1	20 A	R	REC: 108	52	
	53	J-BOX: 156 GI BOOM	E	20 A	1					360	360	1	20 A	R	REC: 108	54	
	55	J-BOX: 105 FURN FEED	R	20 A	1	720	1,080					1	20 A	R	REC: 102, 103, 104	56	
	57	J-BOX: 105 FURN FEED	R	20 A	1			720	180			1	20 A	R	REC: 129	58	
	59	J-BOX: 105 FURN FEED	R	20 A	1					720	540	1	20 A	R	REC: 161, 163, 165	60	
	61	BUSSED SPACE	--	--	1	--	1,000					1	20 A	R	REC: 155 MEDIVATOR	62	
	63	BUSSED SPACE	--	--	1			--	1,000			1	20 A	R	REC: 118 REFRIGERATOR	64	
	65	BUSSED SPACE	--	--	1					--	1,000	1	20 A	R	REC: 137 FREEZER	66	
	67	SURGE PROTECTION DEVICE (SPD)	--	30 A	3	0	--					1	--	--	BUSSED SPACE	68	
	69							0	--			1	--	--	BUSSED SPACE	70	
	71									0	--	1	--	--	BUSSED SPACE	72	
					Total Load:	14,340 VA		13,080 VA		13,980 VA							
					Total Amps:	121 A		109 A		118 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load	Phase Balance	Panel Totals
L	Lighting		0 VA	0.00%	0 VA		
C	Continuous		0 VA	0.00%	0 VA	92 % A-B	Connected Load (VA): 41,400 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA	94 % B-C	NEC Demand Load (VA): 26,348 VA
	39,240 VA	Remaining	29,240 VA	50%	14,620 VA	98 % C-A	Connected Load (A): 115 A
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA		NEC Demand Load (A): 73 A
	0 VA	Remaining	0 VA	0.00%	0 VA		Spare Capacity (A): 77 A
E	Equipment		2,160 VA	80.00%	1,728 VA		Spare Capacity (%): 51
A	Appliance		0 VA	0.00%	0 VA		
LC	Load Center (# of...	0	0 VA	0.00%	0 VA		

Notes:

Branch Panel: NL2

Location: ELEC 179 **Supply From:** T-NL2 **Mounting:** SURFACE **Enclosure:** NEMA 1 **Phase Created:** New Construction
Volts: 208Y/120V **Phases:** 3 **Wires:** 4
K.A.I.C. Rating: 10 **Mains Type:** MCB **Mains / Design Rating:** 150 A **Bus Rating:** 150 A

Notes	CKT NO.	Circuit Description	Load Classification	Trip	Poles	A		B		C		Poles	Trip	Load Classification	Circuit Description	CKT NO.	Notes
	1	REC: 105 COPIER	R	20 A	1	1,000	720					1	20 A	R	REC: HEADWALL 115	2	
	3	REC: 105	R	20 A	1			540	720			1	20 A	R	REC: HEADWALL 117	4	
	5	REC: 105 SHREDDER	R	20 A	1					1,080	720	1	20 A	R	REC: HEADWALL 121	6	
	7	REC: 102 COUNTER	R	20 A	1	540	720					1	20 A	R	REC: HEADWALL 125	8	
	9	REC: 102, 103, 104	R	20 A	1			1,260	900			1	20 A	R	REC: TV 121 & 125	10	
	11	REC: 100	R	20 A	1					1,080	720	1	20 A	R	REC: HEADWALL 127	12	
	13	REC: 101, 112, 113	R	20 A	1	1,080	720					1	20 A	R	REC: HEADWALL 116	14	
	15	REC: 100 EWC	R	20 A	1			1,000	720			1	20 A	R	REC: HEADWALL 133	16	
	17	REC: 100B COUNTER	R	20 A	1					800	360	1	20 A	R	REC: 118 COUNTER	18	
	19	REC: 100B TV & BENCH	R	20 A	1	720	1,080					1	20 A	R	REC: 122, 132	20	
	21	REC: 111	R	20 A	1			720	1,080			1	20 A	R	REC: 135, 137	22	
	23	REC: 109	R	20 A	1					1,080	1,080	1	20 A	R	REC: 137, 164	24	
	25	J-BOX: 110 BADGE MAKER	E	20 A	1	0	720					1	20 A	R	REC: HEADWALL 132	26	
	27	REC: 108	R	20 A	1			360	720			1	20 A	R	REC: HEADWALL 134	28	
	29	REC: 108	R	20 A	1					360	720	1	20 A	R	REC: HEADWALL 136	30	
	31	REC: 107, 114, 131	R	20 A	1	1,080	720					1	20 A	R	REC: HEADWALL 138	32	
	33	REC: 151	R	20 A	1			720	720			1	20 A	R	REC: HEADWALL 142	34	
	35	REC: 152	R	20 A	1					1,260	720	1	20 A	R	REC: HEADWALL 144	36	
	37	REC: 153, 150 TV	R	20 A	1	1,080	720					1	20 A	R	REC: HEADWALL 146	38	
	39	REC: 154, 155	R	20 A	1			720	180			1	20 A	R	REC: 166 COUNTER	40	
	41	REC: 156	R	20 A	1					1,260	180	1	20 A	R	REC: 166 COFFEE	42	
	43	REC: 157	R	20 A	1	900	180					1	20 A	R	REC: 166 ICE WATER	44	
	45	REC: 148, 167, 169	R	20 A	1			1,080	180			1	20 A	R	REC: 166 DISHWASHER	46	
	47	REC: 165	R	20 A	1					900	180	1	20 A	R	REC: 166 DISPOSAL	48	
	49	REC: 163	R	20 A	1	900	180					1	20 A	R	REC: 166 COUNTER	50	
	51	REC: 161	R	20 A	1			900	180			1	20 A	R	REC: 166 COUNTER	52	
	53	REC: 162	R	20 A	1					900	180	1	20 A	R	REC: 166 MICROWAVE	54	
	55	REC: 129	R	20 A	1	900	180					1	20 A	R	REC: 166 MICROWAVE	56	
	57	CUH-1	E	20 A	1			720	900			1	20 A	R	REC: 166, 166 TV	58	
	59	CUH-2	E	20 A	1					720	360	1	20 A	R	REC: 166 BENCH	60	
	61	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	62	
	63	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	64	
	65	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	66	
	67	BUSSED SPACE	--	--	1	--	--					1	--	--	BUSSED SPACE	68	
	69	BUSSED SPACE	--	--	1			--	--			1	--	--	BUSSED SPACE	70	
	71	BUSSED SPACE	--	--	1					--	--	1	--	--	BUSSED SPACE	72	
					Total Load:	14,140 VA		14,320 VA		14,660 VA							
					Total Amps:	118 A		120 A		122 A							

	Load Classification		Connected Load	Demand Factor	NEC Demand Load	Phase Balance	Panel Totals
L	Lighting		0 VA	0.00%	0 VA		
C	Continuous		0 VA	0.00%	0 VA	99 % A-B	Connected Load (VA): 43,120 VA
R	Total Receptacle Load	1st 10,000 VA	10,000 VA	100%	10,000 VA	98 % B-C	NEC Demand Load (VA): 26,992 VA
	41,680 VA	Remaining	31,680 VA	50%	15,840 VA	97 % C-A	Connected Load (A): 120 A
M	Total Motor Load	Largest Motor	0 VA	0.00%	0 VA		NEC Demand Load (A): 75 A
	0 VA	Remaining	0 VA	0.00%	0 VA		Spare Capacity (A): 75 A
E	Equipment		1,440 VA	80.00%	1,152 VA		Spare Capacity (%): 50
A	Appliance		0 VA	0.00%	0 VA		
LC	Load Center (# of...	0	0 VA	0.00%	0 VA		

Notes:

RELEASED FOR CONSTRUCTION
As Noted on Plans Review
Development Services Department
Lee's Summit, Missouri
03/15/2023

STATE OF MISSOURI
ABHINAV PANDEY
NUMBER PE-2018015824
PROFESSIONAL ENGINEER
02/20/2023

ACI BOLAND ARCHITECTS
ACI/Boland, Inc.
Kansas City | St. Louis
1710 Wyandotte
Kansas City, MO 64108
T: 816.763.9600
Licensee's Certificate of Authority Number: Missouri: #000958

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Overland Park, KS 66210
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STRUCTURAL CONSULTANT
Bob D. Campbell & Co.
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BranchPattern
1508 Grand Boulevard
Kansas City, MO 64108
913.951.8311

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description
2	2/20/23	ADDENDUM #2

E7.3

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ELECTRICAL SCHEDULES

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

RELEASED FOR CONSTRUCTION
As Noted Below
Development Services Department
Lee's Summit, Missouri
Feb 15/2023

STATE OF MISSOURI
ABHINAV PANDEY
NUMBER PE-2018015824
PROFESSIONAL ENGINEER
02/07/2023

ACI BOLAND ARCHITECTS
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MEP CONSULTANT
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1508 Grand Boulevard
Kansas City, MO 64108
913.951.8311

BranchPattern | www.branchpattern.com PROJECT NUMBER: 1201002 BETTER BUILT ENVIRONMENTS

Isolation Panel: OR3A

Location: OR 3 185 **Supply From:** CRH1 **Mounting:** Surface **Enclosure:** Type 1
Volts: 480V PRI. - 120V SEC. **Phases:** 1 **Wires:** 3 **Transformer Size:** 10 kVA
K.A.I.C. Rating: 10 **Mains Type:** MCB **Bus Rating:** 30 A **MCB Rating:** 30 A

CKT	Circuit Description	Load Class	Trip	Poles	B		C		Poles	Trip	Load Class	Circuit Description	CKT
1	REC: OR#3 SOUTHWEST	R	20 A	1	360 VA	360 VA			1	20 A	R	OR#3 BOOM 1: RCPT CKT 1	2
3	REC: OR#3 WEST	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#3 BOOM 1: RCPT CKT 3	4
5	REC: OR#3 NORTH	R	20 A	1	540 VA	360 VA			1	20 A	R	OR#3 BOOM 1: DISPLAY MONITOR	6
7	REC: OR#3 EAST & CLOCK	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#3 BOOM 1: CTRLS & BRAKE	8
9	REC: OR#3 SOUTHEAST	R	20 A	1	360 VA	180 VA			1	20 A	E	OR#3 STRYKER BOX	10
11	REC: OR#3 SOUTH	R	20 A	1			360 VA	180 VA	1	20 A	R	REC: OR#3 ROBOT	12
13	SPARE	--	20 A	1	0 VA	180 VA			1	20 A	R	REC: OR#3 ROBOT	14
15	SPARE	--	20 A	1			0 VA	360 VA	1	20 A	R	REC: OR#3 INTEGRATION...	16
					Total Load:	2,340 VA		2,340 VA					
					Total Amps:	10 A		10 A					
					Phase Balance	0 % B-A		0 % C-A					

	Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L	Lighting					
C	Continuous				**Total Conn. Load:**	4,680 VA
R	Receptacle	4,500 VA	100.00%	4,500 VA	**Total Est. Demand:**	4,644 VA
M	Motor				**Total Conn.:**	10 A
LM	Largest Motor				**Total Est. Demand:**	10 A
E	Equipment	180 VA	80.00%	144 VA	**Spare Capacity:**	20 A
A	Appliance					

Notes:
THIS SCHEDULE REPRESENTS ONE SIDE OF A DUPLEX ISOLATION PANELBOARD. "OR3B" IS THE OTHER SIDE.
ISOLATION PANELBOARDS ARE FITTED WITH (16) 2-POLE BREAKERS, NOT THE 1-POLE BREAKERS SHOWN ON THIS SCHEDULE. BRANCH CIRCUIT VOLTAGE IS 120V LINE-TO-LINE.
BASIS OF DESIGN IS BENDER "MIX" SERIES.

Isolation Panel: OR3B

Location: OR 3 185 **Supply From:** CRH2 **Mounting:** Surface **Enclosure:** Type 1
Volts: 480V PRI. - 120V SEC. **Phases:** 1 **Wires:** 3 **Transformer Size:** 10 kVA
K.A.I.C. Rating: 10 **Mains Type:** MCB **Bus Rating:** 30 A **MCB Rating:** 30 A

CKT	Circuit Description	Load Class	Trip	Poles	B		C		Poles	Trip	Load Class	Circuit Description	CKT
1	REC: OR#3 EAST	R	20 A	1	360 VA	360 VA			1	20 A	R	OR#3 BOOM 1: RCPT CKT 2	2
3	REC: OR#3 SOUTH	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#3 BOOM 1: RCPT CKT 4	4
5	REC: OR#3 ENDO CART	R	20 A	1	540 VA	360 VA			1	20 A	R	OR#3 BOOM 2: DISPLAY MONITOR	6
7	REC: OR#3 WEST	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#3 BOOM 2: CTRLS & BRAKE	8
9	REC: OR#3 NORTH	R	20 A	1	540 VA	180 VA			1	20 A	E	OR#3 STRYKER BOX	10
11	SPARE	--	20 A	1			0 VA	180 VA	1	20 A	R	REC: OR#3 ROBOT	12
13	SPARE	--	20 A	1	0 VA	180 VA			1	20 A	R	REC: OR#3 ROBOT	14
15	SPARE	--	20 A	1			0 VA	360 VA	1	20 A	R	REC: OR#3 INTEGRATION...	16
					Total Load:	2,520 VA		1,980 VA					
					Total Amps:	13 A		8 A					
					Phase Balance	0 % B-A		0 % C-A					

	Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L	Lighting					
C	Continuous				**Total Conn. Load:**	4,500 VA
R	Receptacle	4,320 VA	100.00%	4,320 VA	**Total Est. Demand:**	4,464 VA
M	Motor				**Total Conn.:**	9 A
LM	Largest Motor				**Total Est. Demand:**	9 A
E	Equipment	180 VA	80.00%	144 VA	**Spare Capacity:**	21 A
A	Appliance					

Notes:
THIS SCHEDULE REPRESENTS ONE SIDE OF A DUPLEX ISOLATION PANELBOARD. "OR3A" IS THE OTHER SIDE.
ISOLATION PANELBOARDS ARE FITTED WITH (16) 2-POLE BREAKERS, NOT THE 1-POLE BREAKERS SHOWN ON THIS SCHEDULE. BRANCH CIRCUIT VOLTAGE IS 120V LINE-TO-LINE.
BASIS OF DESIGN IS BENDER "MIX" SERIES.

Inverter: LI-1

Location: EM ELEC ROOM 196 **Supply From:** CRH1 **Mounting:** FLOOR **Enclosure:** TYPE 1 **Phase Created:** New Construction
Input Voltage: 277V SINGLE **Output Voltage:** DUAL OUTPUT 277V/120V **Phases:** 1 **Wires:** 2
Design Size: 4,800 VA **Run Time (Mins):** 90

RELAY NO.	Circuit Description	Load Classification	Trip	Poles	Load	Notes
1	LTG: OR#1	L	20 A	1	456 VA	277V
2	LTG: OR#2	L	20 A	1	456 VA	277V
3	LTG: OR#3	L	20 A	1	456 VA	277V
4	SPARE	--	20 A	1	0 VA	277V
5	SPARE	--	20 A	1	0 VA	277V
6	LTG: GI PROCEDURE	L	20 A	1	340 VA	277V
7	SPARE	--	20 A	1	0 VA	277V
8	J-BOX: OR#1 BOOM EXAM LIGHT	L	20 A	1	300 VA	120V
9	J-BOX: OR#2 BOOM EXAM LIGHT	L	20 A	1	300 VA	120V
10	J-BOX: OR#3 BOOM EXAM LIGHT	L	20 A	1	300 VA	120V
11	SPARE	--	20 A	1	0 VA	120V
12	SPARE	--	20 A	1	0 VA	120V

Panel Totals	
Total Connected Load (VA):	2,608 VA
Total Demand Load @ 1.25 (VA):	3,260 VA
Spare Capacity (VA):	1,540 VA

Notes:
BASIS OF DESIGN IS DUAL-LITE 'LSN D-SERIES' SINGLE-PHASE, DUAL-VOLTAGE-OUTPUT LIGHTING INVERTER, WITH INTERNAL BYPASS.
CATALOG NUMBER: D277-48S120/277-A2005U-C2007U-IBS
ARRANGE OUTPUT BREAKERS WITH (7) 277V BREAKERS IN POSITION 1-7, AND (5) 120V BREAKERS IN POSITION 8-12.

Isolation Panel: OR1A

Location: OR 1 181 **Supply From:** CRH1 **Mounting:** Surface **Enclosure:** Type 1
Volts: 480V PRI. - 120V SEC. **Phases:** 1 **Wires:** 3 **Transformer Size:** 10 kVA
K.A.I.C. Rating: 10 **Mains Type:** MCB **Bus Rating:** 30 A **MCB Rating:** 30 A

CKT	Circuit Description	Load Class	Trip	Poles	A		B		Poles	Trip	Load Class	Circuit Description	CKT
1	REC: OR#1 SOUTHWEST	R	20 A	1	360 VA	360 VA			1	20 A	R	OR#1 BOOM 1: RCPT CKT 1	2
3	REC: OR#1 WEST	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#1 BOOM 1: RCPT CKT 3	4
5	REC: OR#1 NORTH	R	20 A	1	540 VA	360 VA			1	20 A	R	OR#1 BOOM 1: DISPLAY MONITOR	6
7	REC: OR#1 EAST & CLOCK	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#1 BOOM 1: CTRLS & BRAKE	8
9	REC: OR#1 SOUTHEAST	R	20 A	1	360 VA	180 VA			1	20 A	E	OR#1 STRYKER BOX	10
11	REC: OR#1 SOUTH	R	20 A	1			360 VA	180 VA	1	20 A	R	REC: OR#1 ROBOT	12
13	SPARE	--	20 A	1	0 VA	180 VA			1	20 A	R	REC: OR#1 ROBOT	14
15	SPARE	--	20 A	1			0 VA	360 VA	1	20 A	R	REC: OR#1 INTEGRATION...	16
					Total Load:	2,340 VA		2,340 VA					
					Total Amps:	10 A		10 A					
					Phase Balance	100 % A-B		100 % B-A					

	Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L	Lighting					
C	Continuous				**Total Conn. Load:**	4,680 VA
R	Receptacle	4,500 VA	100.00%	4,500 VA	**Total Est. Demand:**	4,644 VA
M	Motor				**Total Conn.:**	10 A
LM	Largest Motor				**Total Est. Demand:**	10 A
E	Equipment	180 VA	80.00%	144 VA	**Spare Capacity:**	20 A
A	Appliance					

Notes:
THIS SCHEDULE REPRESENTS ONE SIDE OF A DUPLEX ISOLATION PANELBOARD. "OR1B" IS THE OTHER SIDE.
ISOLATION PANELBOARDS ARE FITTED WITH (16) 2-POLE BREAKERS, NOT THE 1-POLE BREAKERS SHOWN ON THIS SCHEDULE. BRANCH CIRCUIT VOLTAGE IS 120V LINE-TO-LINE.
BASIS OF DESIGN IS BENDER "MIX" SERIES.

Isolation Panel: OR1B

Location: OR 1 181 **Supply From:** CRH2 **Mounting:** Surface **Enclosure:** Type 1
Volts: 480V PRI. - 120V SEC. **Phases:** 1 **Wires:** 3 **Transformer Size:** 10 kVA
K.A.I.C. Rating: 10 **Mains Type:** MCB **Bus Rating:** 30 A **MCB Rating:** 30 A

CKT	Circuit Description	Load Class	Trip	Poles	A		B		Poles	Trip	Load Class	Circuit Description	CKT
1	REC: OR#1 EAST	R	20 A	1	360 VA	360 VA			1	20 A	R	OR#1 BOOM 1: RCPT CKT 2	2
3	REC: OR#1 SOUTH	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#1 BOOM 1: RCPT CKT 4	4
5	REC: OR#1 ENDO CART	R	20 A	1	540 VA	360 VA			1	20 A	R	OR#1 BOOM 2: DISPLAY MONITOR	6
7	REC: OR#1 WEST	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#1 BOOM 2: CTRLS & BRAKE	8
9	REC: OR#1 NORTH	R	20 A	1	540 VA	180 VA			1	20 A	E	OR#1 STRYKER BOX	10
11	SPARE	--	20 A	1			0 VA	180 VA	1	20 A	R	REC: OR#1 ROBOT	12
13	SPARE	--	20 A	1	0 VA	180 VA			1	20 A	R	REC: OR#1 ROBOT	14
15	SPARE	--	20 A	1			0 VA	360 VA	1	20 A	R	REC: OR#1 INTEGRATION...	16
					Total Load:	2,520 VA		1,980 VA					
					Total Amps:	13 A		8 A					
					Phase Balance	79 % A-B		79 % B-A					

	Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L	Lighting					
C	Continuous				**Total Conn. Load:**	4,500 VA
R	Receptacle	4,320 VA	100.00%	4,320 VA	**Total Est. Demand:**	4,464 VA
M	Motor				**Total Conn.:**	9 A
LM	Largest Motor				**Total Est. Demand:**	9 A
E	Equipment	180 VA	80.00%	144 VA	**Spare Capacity:**	21 A
A	Appliance					

Notes:
THIS SCHEDULE REPRESENTS ONE SIDE OF A DUPLEX ISOLATION PANELBOARD. "OR1A" IS THE OTHER SIDE.
ISOLATION PANELBOARDS ARE FITTED WITH (16) 2-POLE BREAKERS, NOT THE 1-POLE BREAKERS SHOWN ON THIS SCHEDULE. BRANCH CIRCUIT VOLTAGE IS 120V LINE-TO-LINE.
BASIS OF DESIGN IS BENDER "MIX" SERIES.

Isolation Panel: OR2A

Location: OR 2 183 **Supply From:** CRH1 **Mounting:** Surface **Enclosure:** Type 1
Volts: 480V PRI. - 120V SEC. **Phases:** 1 **Wires:** 3 **Transformer Size:** 10 kVA
K.A.I.C. Rating: 10 **Mains Type:** MCB **Bus Rating:** 30 A **MCB Rating:** 30 A

CKT	Circuit Description	Load Class	Trip	Poles	A		C		Poles	Trip	Load Class	Circuit Description	CKT
1	REC: OR#2 SOUTHWEST	R	20 A	1	360 VA	360 VA			1	20 A	R	OR#2 BOOM 1: RCPT CKT 1	2
3	REC: OR#2 WEST	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#2 BOOM 1: RCPT CKT 3	4
5	REC: OR#2 NORTH	R	20 A	1	540 VA	360 VA			1	20 A	R	OR#2 BOOM 1: DISPLAY MONITOR	6
7	REC: OR#2 EAST & CLOCK	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#2 BOOM 1: CTRLS & BRAKE	8
9	REC: OR#2 SOUTHEAST	R	20 A	1	360 VA	180 VA			1	20 A	E	OR#2 STRYKER BOX	10
11	REC: OR#2 SOUTH	R	20 A	1			360 VA	180 VA	1	20 A	R	REC: OR#2 ROBOT	12
13	SPARE	--	20 A	1	0 VA	180 VA			1	20 A	R	REC: OR#2 ROBOT	14
15	SPARE	--	20 A	1			0 VA	360 VA	1	20 A	R	REC: OR#2 INTEGRATION...	16
					Total Load:	2,340 VA		2,340 VA					
					Total Amps:	10 A		10 A					
					Phase Balance	0 % A-B		100 % C-A					

	Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L	Lighting					
C	Continuous				**Total Conn. Load:**	4,680 VA
R	Receptacle	4,500 VA	100.00%	4,500 VA	**Total Est. Demand:**	4,644 VA
M	Motor				**Total Conn.:**	10 A
LM	Largest Motor				**Total Est. Demand:**	10 A
E	Equipment	180 VA	80.00%	144 VA	**Spare Capacity:**	20 A
A	Appliance					

Notes:
THIS SCHEDULE REPRESENTS ONE SIDE OF A DUPLEX ISOLATION PANELBOARD. "OR2B" IS THE OTHER SIDE.
ISOLATION PANELBOARDS ARE FITTED WITH (16) 2-POLE BREAKERS, NOT THE 1-POLE BREAKERS SHOWN ON THIS SCHEDULE. BRANCH CIRCUIT VOLTAGE IS 120V LINE-TO-LINE.
BASIS OF DESIGN IS BENDER "MIX" SERIES.

Isolation Panel: OR2B

Location: OR 2 183 **Supply From:** CRH2 **Mounting:** Surface **Enclosure:** Type 1
Volts: 480V PRI. - 120V SEC. **Phases:** 1 **Wires:** 3 **Transformer Size:** 10 kVA
K.A.I.C. Rating: 10 **Mains Type:** MCB **Bus Rating:** 30 A **MCB Rating:** 30 A

CKT	Circuit Description	Load Class	Trip	Poles	A		C		Poles	Trip	Load Class	Circuit Description	CKT
1	REC: OR#2 EAST	R	20 A	1	360 VA	360 VA			1	20 A	R	OR#2 BOOM 1: RCPT CKT 2	2
3	REC: OR#2 SOUTH	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#2 BOOM 1: RCPT CKT 4	4
5	REC: OR#2 ENDO CART	R	20 A	1	540 VA	360 VA			1	20 A	R	OR#2 BOOM 2: DISPLAY MONITOR	6
7	REC: OR#2 WEST	R	20 A	1			360 VA	360 VA	1	20 A	R	OR#2 BOOM 2: CTRLS & BRAKE	8
9	REC: OR#2 NORTH	R	20 A	1	540 VA	180 VA			1	20 A	E	OR#2 STRYKER BOX	10
11	SPARE	--	20 A	1			0 VA	180 VA	1	20 A	R	REC: OR#2 ROBOT	12
13	SPARE	--	20 A	1	0 VA	180 VA			1	20 A	R	REC: OR#2 ROBOT	14
15	SPARE	--	20 A	1			0 VA	360 VA	1	20 A	R	REC: OR#2 INTEGRATION...	16
					Total Load:	2,520 VA		1,980 VA					
					Total Amps:	13 A		8 A					
					Phase Balance	0 % A-B		79 % C-A					

	Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
L	Lighting					
C	Continuous				**Total Conn. Load:**	4,500 VA
R	Receptacle	4,320 VA	100.00%	4,320 VA	**Total Est. Demand:**	4,464 VA
M	Motor				**Total Conn.:**	9 A
LM	Largest Motor				**Total Est. Demand:**	9 A
E	Equipment	180 VA	80.00%	144 VA	**Spare Capacity:**	21 A
A	Appliance					

Notes:
THIS SCHEDULE REPRESENTS ONE SIDE OF A DUPLEX ISOLATION PANELBOARD. "OR2A" IS THE OTHER SIDE.
ISOLATION PANELBOARDS ARE FITTED WITH (16) 2-POLE BREAKERS, NOT THE 1-POLE BREAKERS SHOWN ON THIS SCHEDULE. BRANCH CIRCUIT VOLTAGE IS 120V LINE-TO-LINE.
BASIS OF DESIGN IS BENDER "MIX" SERIES.

Surgery Center of Lee's Summit
1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	AE
Checked By	JB, AP

Revision

Number	Date	Description

E7.4

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ELECTRICAL SCHEDULES

2/7/2023 9:47:59 PM

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

RELEASED FOR CONSTRUCTION
As Noted on Plans
Development Services Department
Lee's Summit, Missouri
11/15/2023

BranchPattern
www.branchpattern.com
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

SYMBOL TYPES

NOTE: THIS IS A MASTER SYMBOLS LIST. ALL SYMBOLS, ABBREVIATIONS, ETC. MAY NOT NECESSARILY BE USED ON ALL DRAWINGS

TELECOM SYMBOLS

XX — TELECOM DATA DEVICE MOUNTED ON WALL. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

XX — TELECOM DATA DEVICE MOUNTED ON FLOOR. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

XX — TELECOM DATA DEVICE MOUNTED ON CEILING. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

XX — TELECOM ANALOG DEVICE MOUNTED ON WALL. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

XX — TELECOM ANALOG DEVICE MOUNTED ON FLOOR. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

XX — TELECOM ANALOG DEVICE MOUNTED ON CEILING. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

XX — TELECOM DATA/ANALOG COMBINATION DEVICE MOUNTED ON WALL. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

XX — TELECOM DATA/ANALOG COMBINATION DEVICE MOUNTED ON FLOOR. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

XX — TELECOM DATA/ANALOG COMBINATION DEVICE MOUNTED ON CEILING. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

AUDIOVISUAL SYMBOLS

AV DEVICE MOUNTED ON WALL. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

AV DEVICE MOUNTED ON FLOOR. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

AV DEVICE MOUNTED ON CEILING. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

AV CAMERA MOUNTED ON WALL. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

AV CAMERA MOUNTED ON CEILING. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

SECURITY SYMBOLS

SECURITY DEVICE MOUNTED ON WALL. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

SECURITY DEVICE MOUNTED ON FLOOR. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

SECURITY DEVICE MOUNTED ON CEILING. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

SECURITY CAMERA MOUNTED ON WALL. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

SECURITY CAMERA MOUNTED ON CEILING. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

NURSE CALL SYMBOLS

NURSE CALL DEVICE MOUNTED ON WALL. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

NURSE CALL DEVICE MOUNTED ON FLOOR. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

NURSE CALL DEVICE MOUNTED ON CEILING. XX INDICATES TYPE, REFER TO SCHEDULE BELOW FOR DEVICE INFORMATION.

SYSTEM TYPE	MOUNTING TYPE	TYPE	DESCRIPTION	MOUNTING	INFRASTRUCTURE BOX	INFRASTRUCTURE CONDUIT	REFERENCE	COUNT
AUDIOVISUAL	CEILING	S1	LOUDSPEAKER FOR ROOM SYSTEM	CEILING	INTEGRAL TO LOUNDSPEAKER BACKCAN (PROVIDED BY AV CONTRACTOR)	NA, PLENUM CABLING		28
AUDIOVISUAL	CEILING	S2	LOUDSPEAKER FOR ROOM SYSTEM, HARD CEILING	CEILING	4-11/16" SQUARE BACK BOX WITH BLANK COVER, 18" ABOVE CEILING	(1) 3/4" FLEX TO BACKBOX, (1) 3/4" BETWEEN DEVICES AND (1) 1" HOMERUN TO ROOM AV RACK		6
DATA DEVICE	CEILING	WAP	1-PORT TELECOM OUTLET IN CEILING FOR WIRELESS ACCESS POINT	-	4-11/16" SQUARE WITH 1-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1" C TO ACCESSIBLE CEILING SPACE		17
DATA DEVICE	WALL	2	2-PORT TELECOM OUTLET	1' - 6" AFF	4-11/16" SQUARE WITH 1-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1" C TO ACCESSIBLE CEILING SPACE		99
DATA DEVICE	WALL	TC	1-PORT DATA OUTLET FOR TIME CLOCK	3' - 10" AFF OR MATCH ELECTRICAL OUTLETS	4-SQUARE WITH 1 GANG MUD-RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 3/4" C. TO NEAREST ACCESSIBLE CEILING		1
DATA DEVICE	WALL	TV	1-PORT COAXIAL OUTLET FOR DISPLAY	5' - 0" AFF	4-11/16" SQUARE WITH 1-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1" C TO ACCESSIBLE CEILING SPACE		7
DATA DEVICE	WALL	WP	1-PORT TELECOM OUTLET FOR WALL MOUNT PHONE	4' - 0" AFF	4-11/16" SQUARE WITH 1-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1" C TO ACCESSIBLE CEILING SPACE		23
NURSE CALL	CEILING	DL	DOME LIGHT	CEILING	N/A	N/A, Plenum Cabling		34
NURSE CALL	CEILING	DZ	ZONE DOME LIGHT	CEILING	N/A	N/A, Plenum Cabling		10
NURSE CALL	WALL	AM	VISUAL NURSE MASTER ANNUNCIATOR	4' - 0" AFF	PER VENDOR SPECS	1" C TO NEAREST ACCESSIBLE CEILING		12
NURSE CALL	WALL	CM	AUDIO VISUAL NURSE MASTER CONSOLE	4' - 0" AFF	4-11/16" SQUARE BOX, 2-1/2" DEEP, WITH 13/16" DEEP 1-DEVICE MUD RING, FLUSH MOUNTED	1" C TO NEAREST ACCESSIBLE CEILING		3
NURSE CALL	WALL	EB	STAFF EMERGENCY PUSH BUTTON STATION	4' - 0" AFF	4-11/16" SQUARE BOX, 2-1/2" DEEP, WITH 13/16" DEEP 1-DEVICE MUD RING, FLUSH MOUNTED	1" C TO NEAREST ACCESSIBLE CEILING		8
NURSE CALL	WALL	EP	EMERGENCY PULL CORD STATION	4' - 0" AFF	4-11/16" SQUARE BOX, 2-1/2" DEEP, WITH 13/16" DEEP 1-DEVICE MUD RING, FLUSH MOUNTED	1" C TO NEAREST ACCESSIBLE CEILING		6
NURSE CALL	WALL	SC	AUDIO VISUAL DUAL PATIENT STATION WITH PUSH BUTTON / CORDS	4' - 0" AFF	4-11/16" SQUARE BOX, 2-1/2" DEEP, WITH 13/16" DEEP 3-DEVICE MUD RING, FLUSH MOUNTED	1" C TO NEAREST ACCESSIBLE CEILING		17
SECURITY	CEILING	M	MOTION DETECTOR	-	N/A	N/A		9
SECURITY	WALL	AC	ACCESS CONTROL HEADEND PANEL	5' - 0" AFF	N/A, SURFACE MOUNT TO FIRE RATED PLYWOOD	N/A		2
SECURITY	WALL	D	DOOR POSITION SWITCH	3' - 10" AFF	N/A, RECESS INTO TOP OF DOOR FRAME 4" FROM STRIKE SIDE, UNO	(1) 3/4" C STUBBED INTO NEAREST ACCESSIBLE CEILING		9
SECURITY	WALL	DR	DOOR RELEASE BUTTON	UNDER DESK	N/A, SURFACE MOUNT TO UNDER SIDE OF DESK	(1) 3/4" C STUBBED INTO NEAREST ACCESSIBLE CEILING		1
SECURITY	WALL	ID	INTRUSION DETECTION HEADEND PANEL	5' - 0" AFF	N/A, SURFACE MOUNT TO FIRE RATED PLYWOOD	N/A		1
SECURITY	WALL	IK	INTRUSION DETECTION KEYPAD	3' - 10" AFF	4-11/16" SQUARE WITH 2-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1-1/4" C STUBBED INTO NEAREST ACCESSIBLE CEILING		1
SECURITY	WALL	IM	INTRUSION DETECTION MASTER STATION	3' - 10" AFF	4-11/16" SQUARE WITH 2-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1-1/4" C STUBBED INTO NEAREST ACCESSIBLE CEILING		3
SECURITY	WALL	LB	LOCK DOWN BUTTON	3' - 10" AFF	N/A, SURFACE MOUNT TO UNDER SIDE OF DESK	(1) 3/4" C STUBBED INTO NEAREST ACCESSIBLE CEILING		1
SECURITY	WALL	PB	PANIC BUTTON	3' - 10" AFF	N/A, SURFACE MOUNT TO UNDER SIDE OF DESK	(1) 3/4" C STUBBED INTO NEAREST ACCESSIBLE CEILING		2
SECURITY	WALL	R	CARD READER	3' - 10" AFF	4-11/16" SQUARE WITH 1-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 3/4" C STUBBED INTO NEAREST ACCESSIBLE CEILING		12
SECURITY	WALL	RM	CARD READER, MULLION MOUNT	3' - 10" AFF	N/A, GROMMETED HOLE THROUGH MULLION	(1) 3/4" C DROPPED 1' INTO MULLION ROUTED VERTICALLY WITH A 90? BEND ATTACHED TO DECK (SEE DETAILS)		2
SECURITY	WALL	V	VIDEO INTERCOM	3' - 10" AFF	4-11/16" SQUARE WITH 2-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1" C STUBBED INTO ACCESSIBLE CEILING		3
SECURITY CAMERA	CEILING	90	SURVEILLANCE CAMERA - INTERIOR 90 DEGREE	-	N/A	N/A, PLENUM CABLING		12
SECURITY CAMERA	WALL	90	SURVEILLANCE CAMERA - EXTERIOR 90 DEGREE	8' - 0" AFF	4-11/16" SQUARE WITH 1-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1" C STUBBED INTO NEAREST ACCESSIBLE CEILING		2
SECURITY CAMERA	WALL	270	SURVEILLANCE CAMERA - EXTERIOR 270 DEGREE	8' - 0" AFF	4-11/16" SQUARE WITH 1-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1" C STUBBED INTO NEAREST ACCESSIBLE CEILING		6
TELECOM	WALL	1	1-PORT TELECOM OUTLET	1' - 6" AFF	4-11/16" SQUARE WITH 1-DEVICE MUD RING, FLUSH MOUNTED, 2-1/8" DEEP BACK BOX	(1) 1" C TO ACCESSIBLE CEILING SPACE		1

TECHNOLOGY SHEET LIST

T0.1	TECHNOLOGY LEGEND
T1.1	FIRST FLOOR TECHNOLOGY PLAN - OVERALL
T2.1	TECHNOLOGY DETAILS
T2.2	NURSE CALL DETAILS
T3.1	TECHNOLOGY SIGNAL FLOWS

ABBREVIATIONS

AC	ABOVE COUNTER
AFF	ABOVE FINISHED FLOOR
C	CONDUIT
CFCI	CONTRACTOR FURNISHED AND CONTRACTOR INSTALLED
CFOI	CONTRACTOR FURNISHED AND OWNER INSTALLED
(E)	EXISTING
EF	ENTRANCE FACILITY
ER	EQUIPMENT ROOM
GND	GROUND
IG	ISOLATED GROUND
LAN	LOCAL AREA NETWORK
LC	LUCENT CONNECTOR
Mbps	MEGABITS PER SECOND
MM	MULTIMODE
OFCI	OWNER FURNISHED AND CONTRACTOR INSTALLED
OFOI	OWNER FURNISHED AND OWNER INSTALLED
OSP	OUTSIDE CABLE PLANT
PBB	PRIMARY BONDING BUSBAR
PoE	POWER OVER ETHERNET
PoE+	POWER OVER ETHERNET PLUS
RU	RACK UNIT (1.75")
QTY	QUANTITY
SBB	SECONDARY BONDING BUSBAR
SEF	SERVICE ENTRANCE FACILITY
SM	SINGLE MODE
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TYP	TYPICAL
UG	UNDERGROUND
UNO	UNLESS OTHERWISE NOTED
UPS	UNINTERRUPTIBLE POWER SUPPLY
UTP	UNSHIELDED TWISTED PAIR
W/	WITH
W/O	WITHOUT
WAO	WORK AREA OUTLET
WAP	WIRELESS ACCESS POINT
XC	CROSS-CONNECT

EQUIPMENT LEGEND

FLAT PANEL DISPLAY, REFER TO DISPLAY TABLE BELOW FOR ANNOTATION DESCRIPTIONS.

PROJECTION SCREEN, REFER TO DISPLAY TABLE BELOW FOR ANNOTATION DESCRIPTIONS.

LADDER RACK

4-POST RACK

2-POST RACK

XX — WALL PANEL, "XX" INDICATES TYPE, CHECK ABBREVIATIONS LIST FOR TYPE.

GENERAL NOTES

1. DO NOT SCALE DRAWINGS. VERIFY DIMENSIONS ON ARCHITECTURAL DRAWINGS AND IN FIELD PRIOR TO COMMENCEMENT OF WORK.
2. REFER TO ALL ARCHITECTURAL/ELECTRICAL/STRUCTURAL/CIVIL AND MECHANICAL DRAWINGS FOR ADDITIONAL REQUIREMENTS AND INFORMATION.
3. FINAL CONNECTIONS TO EQUIPMENT SHALL BE IN ACCORDANCE WITH MANUFACTURER'S APPROVED WIRING DIAGRAMS, DETAILS, AND INSTRUCTIONS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROVIDE MATERIALS AND EQUIPMENT COMPATIBLE WITH EQUIPMENT ACTUALLY SUPPLIED.
4. WORK, MATERIALS, AND EQUIPMENT SHALL CONFORM TO THE LATEST EDITIONS OF LOCAL, STATE, AND NATIONAL CODES AND ORDINANCES.
5. PROVIDE PERMITS AND INSPECTIONS REQUIRED.
6. SYSTEM SHALL BE TESTED FOR PROPER OPERATION. IF TESTS SHOW THAT WORK IS DEFECTIVE, CONTRACTOR SHALL MAKE CORRECTIONS NECESSARY AT NO COST TO OWNER.
7. CONTRACTOR'S FAILURE TO ORDER OR RELEASE ORDER FOR MATERIALS AND/OR EQUIPMENT WILL NOT BE ACCEPTED AS REASON TO SUBSa TITUTE ALTERNATE MATERIALS, EQUIPMENT, OR INSTALLATION METHODS.
8. ALL SYSTEMS SHALL BE COMPLETE AND FULLY OPERATIONAL.
9. IT IS THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS TO ESTABLISH A STANDARD OF QUALITY. THE ENGINEER RESERVES THE RIGHT TO APPROVE METHODS AND MATERIALS NOT REFLECTED HEREIN.
10. PROVIDE RECORD DRAWINGS TO THE ARCHITECT/ENGINEER. DRAWINGS SHALL INCLUDE ALL ADDENDUM ITEMS, CHANGE ORDERS, ALTERATIONS, REROUTINGS, ETC.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING EQUIPMENT WHICH IS DAMAGED DUE TO INCORRECT FIELD WIRING PROVIDED UNDER THIS SECTION, OR FACTORY WIRING IN EQUIPMENT PROVIDED UNDER THIS SECTION.
12. VERIFY EXACT LOCATIONS OF EXISTING AND NEW UNDERGROUND UTILITIES, PIPING, AND RACEWAY SYSTEMS PRIOR TO TRENCHING. PROVIDE NECESSARY TRENCHING, BACKFILL, EXCAVATION, SUPPORTS, SERVICE FEEDERS (CONDUIT AND/OR WIRE), PULLBOXES, TRANSFORMERS PADS, SAW CUTTING AND PATCHING, CONCRETE PAVING, ETC. REQUIRED. BACKFILL TRENCHES TO 90% COMPACTION AND PATCH TO MATCH EXISTING. CONTRACTOR SHALL OBTAIN AND VERIFY EXACT UTILITY COMPANY DRAWINGS AND REQUIREMENTS.
13. THE DATA GIVEN ON THE DRAWING IS AS EXACT AS COULD BE SECURED. THE CONTRACTOR SHALL OBTAIN EXACT LOCATION, MEASUREMENTS, LEVELS, ETC. AT THE SITE AND SHALL SATISFACTORILY ADAPT THE WORK TO THE ACTUAL CONDITIONS AT THE PROJECT SITE.
14. VERIFY EXACT LOCATION OF EQUIPMENT TO BE FURNISHED BY OTHERS PRIOR TO ROUGH-IN.
15. ROUTE ALL WIRE AND CONDUIT CONCEALED, FOR ALL SYSTEMS, UNLESS NOTED OTHERWISE.
16. ACCURATE RECORDS OF WORK MODIFICATIONS (AS-BUILTS) SHALL BE KEPT DAILY.
17. THE COMPLETED INSTALLATION SHALL BE IN ACCORDANCE WITH ALL ENGINEERING REQUIREMENTS, THE OWNERS DESIGN CRITERIA, UTILITY COMPANY REQUIREMENTS, APPLICABLE INDUSTRY STANDARDS OF GOOD PRACTICE AND SAFETY AND THE MANUFACTURER'S STRICTEST RECOMMENDATIONS FOR EQUIPMENT AND PRODUCT APPLICATION AND INSTALLATION.
18. VALIDATE ALL QUANTITIES. DEVICES SHOWN ON PLANS TAKE PRECEDENCE OVER SCHEDULE QUANTITIES.
19. CARD READERS MUST BE WITHIN 6" OF DOOR FRAME, UNO.

GENERAL INFRASTRUCTURE NOTES

1. IF THE ENCLOSURE, BOXES AND CABINETS SPECIFIED ARE NOT PROVIDED FROM THE MANUFACTURER WITH THE REQUIRED KNOCKOUTS FOR THE SPECIFIED CONDUIT, FIELD CUT ALL REQUIRED KNOCKOUTS TO TERMINATE THE QUANTITY AND SIZE OF THE SPECIFIED CONDUITS.
2. MAINTAIN MAXIMUM SEPARATION BETWEEN AV SYSTEM CONDUIT AND ALL POWER CONDUIT.
3. INSTALL NYLON PULL STRINGS IN ALL CONDUIT.
4. INSTALL ALL CONDUIT IN A CONCEALED FASHION. SURFACE MOUNTED CONDUIT WILL NOT BE ACCEPTED UNLESS SPECIFICALLY IDENTIFIED IN THE DRAWINGS.
5. COVER ALL INSTALLED JUNCTION BOXES AND MUD RINGS WITH BLANK COVER PLATES.
6. ALL CONDUIT SHALL BE A MINIMUM DIAMETER OF 3/4" UNLESS NOTED OTHERWISE.
7. ALL CONDUIT SHALL BE THIN-WALL EMT UNLESS NOTED OTHERWISE. CONDUIT SIZES AND TERMINATION SHALL BE AS NOTED ON THE TECHNOLOGY INFRASTRUCTURE DRAWINGS.
8. MAXIMUM OF TWO 90-DEGREE BENDS OR 50 LINEAR FEET BETWEEN PULL BOXES. ADDITIONAL PULL BOXES NOT SHOWN ON DRAWINGS MAY BE REQUIRED. CONDUIT ROUTING IS AT THE ELECTRICAL CONTRACTOR'S DISCRETION.
9. MOUNT BOXES ON WALLS AT THE HEIGHTS NOTED ON THE TECHNOLOGY INFRASTRUCTURE DRAWINGS IF ELECTRICAL BOXES ARE AT SIMILAR BUT DIFFERENT HEIGHTS, MOUNT BOXES TO MATCH ELECTRICAL BOX HEIGHTS, (18" AFF OR 46" AFF, ETC.). DIMENSIONS SHOWN ON THESE DRAWINGS ARE TO THE CENTER OF BOX UNLESS OTHERWISE NOTED. IF MATCHING HEIGHTS WITH ELEC DOES NOT FOLLOW ADA OR OTHER APPLICABLE CODES OR STANDARDS , SUBMIT A RFI FOR CLARIFICATION.
10. PROVIDE NYLON BUSHINGS ON ALL CONDUIT STUBS AND NON-TERMINATED CONDUIT ENDS.

GENERAL AV INSTALLATION NOTES

1. INSTALL ALL EQUIPMENT IN COMPLIANCE WITH THE MANUFACTURER'S WRITTEN INSTRUCTIONS, SEISMIC CODES, AND INDUSTRY ACCEPTED RIGGING PRACTICES. SUPPORT EQUIPMENT WEIGHT FROM STRUCTURE ABOVE CEILINGS. DURING THE SUBMITTAL PROCESS, PROVIDE SHOP DRAWINGS WHICH DETAIL PROPOSED MOUNTING FOR ALL SUCH EQUIPMENT.

GENERAL GROUNDING NOTES

1. ISOLATE ALL EQUIPMENT FROM CONDUIT AND BUILDING STEEL.
2. GROUND COMMUNICATIONS SYSTEMS AND EQUIPMENT IN ACCORDANCE WITH ANSI-TIA-EIA GROUNDING STANDARD AND APPLICABLE NEC REQUIREMENTS.
3. ALL RACKS, METALIC BACKBOARDS, CABLE TRAYS, SPLICE CASES, ETC. IN A TECHNICAL EQUIPMENT SPACE (EITHER RESIDING IN OR ENTERING/EXITING) SHALL BE GROUNDED TO THEIR RESPECTIVE GROUND SYSTEM USING A #6 AWG (MINIMUM) COPPER BONDING CONDUCTOR.
4. ALL GROUND WIRES USED FOR TECHNICAL SYSTEM GROUNDING SHALL BE IDENTIFIED AT THEIR TERMINATION POINTS WITH GREEN WRAP/TAPE. THESE GROUNDS SHALL BE LABELED/IDENTIFIED AS "TECHNICAL POWER SYSTEM GROUND".

RESPONSIBILITY MATRIX

SYSTEM	SCOPE DESCRIPTION	SPECIFICATION SECTION	FURNISHED BY	INSTALLED BY
ALL LOW-VOLTAGE SYSTEMS	BACKBOXES AND CONDUIT	DIVISION 26	CONTRACTOR	CONTRACTOR
	GROUNDING BUSBAR	DIVISION 26	CONTRACTOR	CONTRACTOR
	GROUND AND BONDING TO EQUIPMENT	N/A	OWNER VENDOR	OWNER VENDOR
	DISCONTINUOUS PATHWAYS (J-HOOKS, RINGS)	N/A	OWNER VENDOR	OWNER VENDOR
	CONTINUOUS PATHWAYS (TRAY)	N/A	N/A	NOT IN CONTRACT
COMMUNICATIONS	CABLING	N/A	OWNER VENDOR	OWNER VENDOR
	FACEPLATES, CABLE TERMINATIONS AND TESTING	N/A	OWNER VENDOR	OWNER VENDOR
	RACKS, ENCLOSURES, LADDER TRAY	N/A	OWNER VENDOR	OWNER VENDOR
NETWORK ACTIVE DEVICES	WIRELESS ACCESS POINTS (WAPS)	N/A	OWNER	OWNER VENDOR
	NETWORK SWITCHES	N/A	OWNER	OWNER
	SERVERS / COMPUTERS / PHONES	N/A	OWNER	OWNER
	UPS AND PDU	N/A	OWNER	OWNER VENDOR
	CLOCKS	N/A	N/A	NOT IN CONTRACT
	MASS NOTIFICATION SYSTEM	DELEGATED	CONTRACTOR	CONTRACTOR
	DISTRIBUTED ANTENNA SYSTEM (RADIO / CELL REPEATER OR BOOSTER)	N/A	N/A	NOT IN CONTRACT
AV	CABLING, FACEPLATES, CABLE TERMINATIONS AND TESTING	N/A	OWNER VENDOR	OWNER VENDOR
	AV CONFERENCING EQUIPMENT	N/A	OWNER VENDOR	OWNER VENDOR
	OPERATING ROOM AV EQUIPMENT	N/A	OWNER VENDOR	OWNER VENDOR
	CABLE / ANTENNA TELEVISION (CATV)	N/A	OWNER VENDOR	OWNER VENDOR
	PUBLIC ADDRESS SYSTEMS	N/A	OWNER VENDOR	OWNER VENDOR
	SOUND MASKING	N/A	N/A	NOT IN CONTRACT
ELECTRONIC SECURITY	CABLING, FACEPLATES, CABLE TERMINATIONS AND TESTING	N/A	OWNER VENDOR	OWNER VENDOR
	ENCLOSURES, HOUSINGS, POWER SUPPLIES	N/A	OWNER VENDOR	OWNER VENDOR
	ACCESS CONTROL - DOOR DEVICES	N/A	OWNER VENDOR	OWNER VENDOR
	ACCESS CONTROL - CONTROLLER / SERVER	N/A	OWNER VENDOR	OWNER VENDOR
	ENTRY INTERCOM	N/A	OWNER VENDOR	OWNER VENDOR
	SURVEILLANCE - CAMERAS	N/A	OWNER VENDOR	OWNER VENDOR
	SURVEILLANCE - RECORDING / SERVERS (NVR) AND LICENSES	N/A	OWNER VENDOR	OWNER VENDOR
	INTRUSION DETECTION (MOTION, GLASS BREAK)	N/A	OWNER VENDOR	OWNER VENDOR
	EXTERIOR / SITE SECURITY	N/A	N/A	NOT IN CONTRACT
NURSE CALL	CABLING	27 52 23	CONTRACTOR	CONTRACTOR
	FACEPLATES, CABLE TERMINATIONS AND TESTING	27 52 23	CONTRACTOR	CONTRACTOR
	ENCLOSURES, HOUSINGS, POWER SUPPLIES	27 52 23	CONTRACTOR	CONTRACTOR
	DEVICES (PULL STATIONS, DOME LIGHTS)	27 52 23	CONTRACTOR	CONTRACTOR

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Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

Number	Date	Description

T0.1

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TECHNOLOGY LEGEND

2/8/2023 2:51:31 PM

RELEASED FOR CONSTRUCTION
As Noted on Drawings
Development Services Department
Lee's Summit, Missouri
11/15/2023

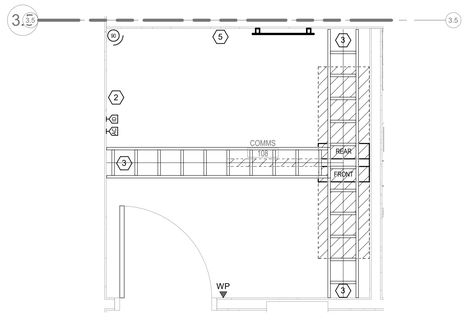
BranchPattern
www.branchpattern.com
PROJECT NUMBER 1201002
BETTER BUILT ENVIRONMENTS

KEY NOTES (THIS SHEET)

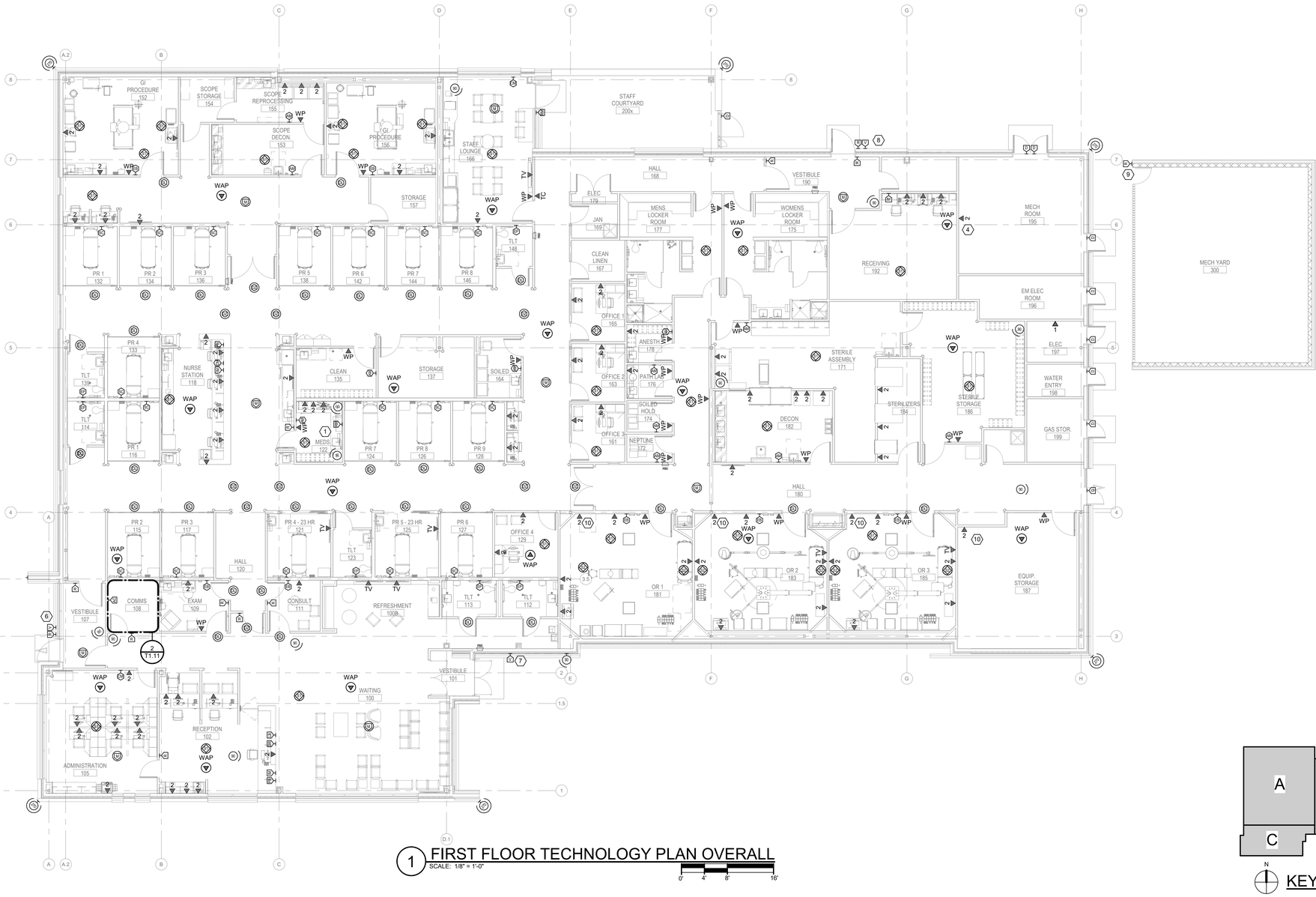
1. CONTRACTOR TO COORDINATE INFRASTRUCTURE FOR MED CABINET ACCESS CONTROL. BOTH UPPER CABINET DOORS SHALL BE PROTECTED WITH CARD READERS AND MAG-LOCKS. CONTRACTOR TO COORDINATE BACK BOX NEEDS FOR ACCESS CONTROL COMPONENTS TO ALLOW CARD READER ACCESS TO MED CABINETS. MED CABINET DOORS SHALL BE MONITORED USING DPS.
2. CONTRACTOR TO INSTALL (3) 4" CONDUITS WITH PULL STRING TO SERVICE PROVIDER VAULT FOR INCOMING SERVICES. REFERENCE ELECTRICAL SITE PLAN FOR CONDUIT FLOOR PENETRATION LOCATIONS. CONDUIT ROUTING TO BE DELEGATED DESIGN.
3. CONTRACTOR TO INSTALL 4" EZPATH SYSTEM FOR IT ROOM WALL PENTRATIONS, SIZED APPROPRIATELY FOR CABLE FILL OF CABLES BEING INITIALLY INSTALLED PLUS 25% GROWTH CAPABILITY FOR FUTURE CABLING.
4. CONTRACTORS TO COORDINATE DATA CABLING AND BACK BOX/CONDUIT LOCATOIN FOR BAS PANEL IN MECHANICAL ROOM.
5. CONTRACTOR TO PROVIDE ROOF PENETRATION FOR FUTURE DISTRIBUTED ANTENNA SYSTEM (DAS). REFERENCE ARCHITECTURAL DRAWINGS FOR LOCATION, SIZING, AND PENETRATION DETAILS.
6. DOOR INTERCOM SHALL NOTIFY NURSE STATION MASTER STATION FIRST, THEN RECEPTION MASTER STATION.
7. DOOR INTERCOM SHALL NOTIFY RECEPTION DESK MASTER STATION FIRST, THEN NURSE STATION MASTER STATION.
8. DOOR INTERCOM SHALL NOTIFY RECEIVING DESK MASTER STATION FIRST, THEN RECEPTION MASTER STATION.
9. INSTALL (1) 2" CONDUIT TO COMMS #108 FOR INFRASTRUCTURE PATHWAY FOR MECH YARD CARD READER.
10. NETWORK INFRASTUCTURE FOR STRYKER COR LITE. CONTRACTOR TO COORDINATE CABLE ROUTING TO DEVICE.

GENERAL NOTES (THIS SHEET)

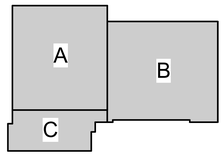
1. PROVIDE 3/4" FIRE-RATED PLYWOOD ON ALL WALLS WITHIN I.T. #108. PLYWOOD IS TO COVER WALL TO WALL WITH NO GAPS. PLYWOOD SHALL BE PAINTED WITH FIRE-RATED PAINT TO MATCH ROOM COLOR.
2. NOTE RESPONSIBILITY MATRIX FOR EQUIPMENT TO BE INSTALLED UNDER THIS CONTRACT, LISTS AS "CONTRACTOR" VS. ITEMS FOR AN OWNER-DIRECT VENDOR OUTSIDE OF THIS CONTRACT, LABEL "OWNER VENDOR", SOME OF WHICH IS SHOWN ON PLANS FOR COORDINATION. BACK BOXES AND PATHWAY IS REQUIRED UNDER THIS CONTRACT FOR ALL SHOWN EQUIPMENT, REGARDLESS OF PARTY INSTALLING THE EQUIPMENT.
3. CONTRACTOR TO ENLIST FIRESTOPPING AGENT TO INSTALL ALL FIRESTOPPING AND PENETRATIONS. AGENT SHALL INSTALL EZ-PATH44 FIRESTOPPING PENETRATIONS IN ALL SMOKE / FIREWALLS, MINIMUM OF TRIPLE BANK AT EACH PRIMARY PATHWAY PENTRATION AND ONE AT EACH SECONDARY PATHWAY PENETRATION. ALL OTHER NON-RATED PENETRATIONS SHALL BE NON-RATED EZ-PATH DEVICES USING SAME INSTALLATION METHODS AS RATED PENETRATIONS . COORDINATE WITH OWNER PRIOR FOR SIGN-OFF ON PENETRATION LOCATIONS AND QUANTITIES PRIOR TO INSTALLATION.
4. NETWORK AND DISTRIBUTION RACKS ARE SHOW FOR INFORMATION ONLY. COORDINATE FINAL RACK LAYOUT AND CONFIGURATION WITH OWNER IT AND OBTAIN SIGN-OFF PRIOR TO INSTALLATION. CONTRACTORS TO COORDINATE WITH OTHER TRADES AND OWNER FOR ALL RACK-MOUNTED EQUIPMENT AND POWER NEEDS AND INSTALL ACCORDINGLY.
5. CONTRACTOR TO COORDINATE WITH FINAL OR VENDOR SHOP DRAWINGS FOR LOW VOLTAGE INFRASTRUCTURE LOCATION REQUIREMENTS.
6. CONTRACTOR TO COORDINATE CABLE ROUTING WITH FURNITURE VENDOR.



2 ENLARGED COMMS 108
SCALE: 1/2" = 1'-0"



1 FIRST FLOOR TECHNOLOGY PLAN OVERALL
SCALE: 1/8" = 1'-0"



KEYPLAN

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1950 SE Shenandoah Drive
Lee's Summit, MO 64063

Date	2/8/2023
Job Number	3-22030
Drawn By	Author
Checked By	Checker

Revision

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FIRST FLOOR TECHNOLOGY PLAN - OVERALL

BIM 360://3-22030 HCA LSMC ASC/BP - HCA LSMC_MEP_R21.rvt

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Development Services Department
Lee's Summit, Missouri
11/15/2023

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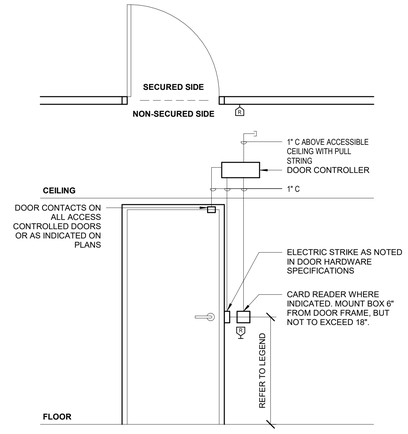
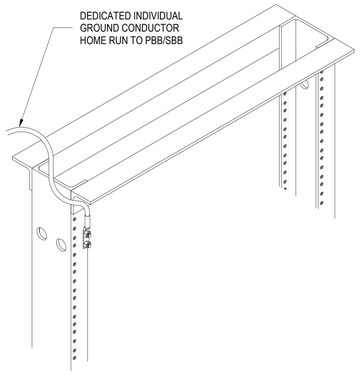
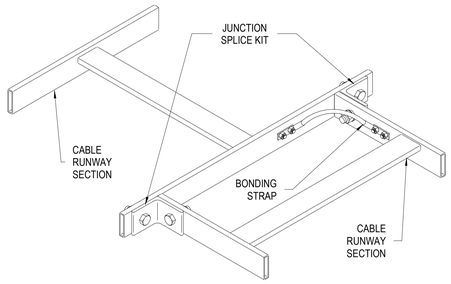
PROJECT NUMBER: 1201002
BETTER BUILT ENVIRONMENTS



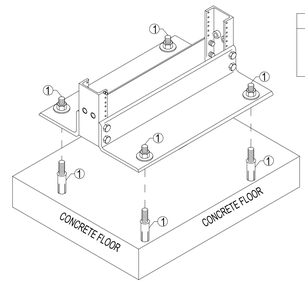
7 SINGLE DOOR DETAIL
SCALE: NONE



6 STANDING RACK GROUNDING ASSEMBLY
SCALE: NONE

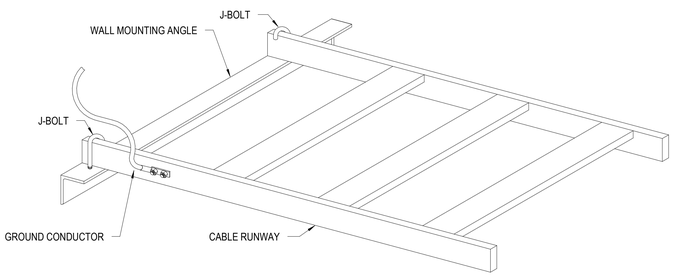


5 JUNCTION SPLICE GROUNDING ASSEMBLY
SCALE: NONE

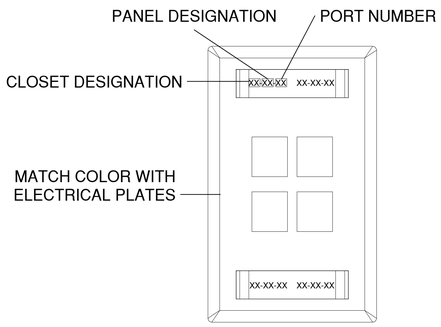


ITEM	QTY.	DESCRIPTION
1	4	CONCRETE ANCHOR, 1/2"

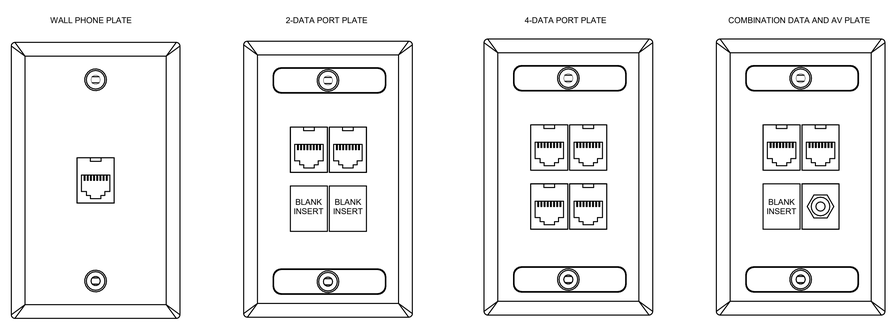
4 FLOOR STANDING RACK MOUNTING ASSEMBLY
SCALE: NONE



3 ANGULAR WALL BRACKET GROUNDING ASSEMBLY
SCALE: NONE



2 FACEPLATE LABEL DETAIL
SCALE: NONE



1 TYPICAL FACE PLATE DETAIL
SCALE: NONE

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Drawn By	MO
Checked By	BL

Revision
Number Date Description

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TECHNOLOGY DETAILS

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Lee's Summit, Missouri
11/15/2023

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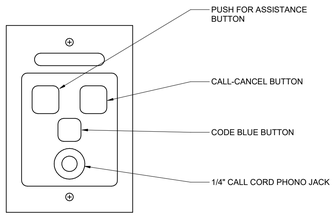
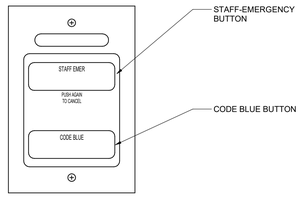
PROJECT NUMBER: 1201002
BETTER BUILT ENVIRONMENTS



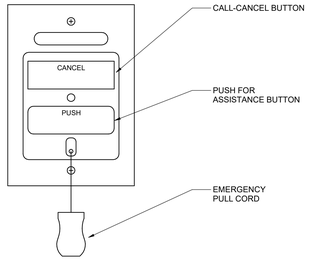
NOTES:
1. CALL ASSURANCE LED TO CONFIRM CALL HAS BEEN PLACED.
2. CALL CORD REMOVAL INITIATES AUTOMATIC CALLS.
3. INSTALLS INTO DEEP, 4-11/16" SQUARE BACK BOX WITH SINGLE-GANG MUDRING.

9 NV-VPS2 VISUAL PATIENT STATION
SCALE: 3/8" = 1'-0"



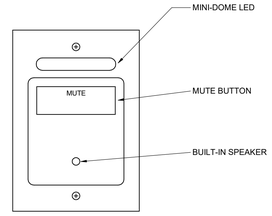
NOTES:
1. CALL ASSURANCE LED TO CONFIRM CALL HAS BEEN PLACED.
2. CONNECTS DIRECTLY TO DOME LIGHT OR PATIENT STATION.
3. INSTALLS INTO DEEP, 4-11/16" SQUARE BACK BOX WITH SINGLE-GANG MUDRING.

8 NV-PBE2 EMERGENCY STATION - STAFF EMERGENCY/CODE BLUE
SCALE: 3/8" = 1'-0"



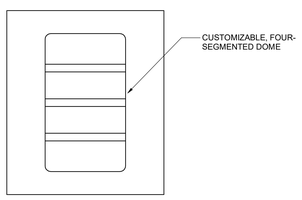
NOTES:
1. CALL ASSURANCE LED TO CONFIRM CALL HAS BEEN PLACED.
2. MUST MEET ADA REQUIREMENTS FOR MOUNTING HEIGHT AND CORD REACH.
3. INSTALLS INTO DEEP, 4-11/16" SQUARE BACK BOX WITH SINGLE-GANG MUDRING.

7 NV-EPC2/WPC2 EMERGENCY PULL CORD STATION
SCALE: 3/8" = 1'-0"

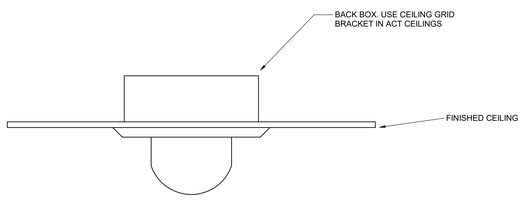


NOTES:
1. DOME COLORS ARE CUSTOMIZABLE FOR MANY DIFFERENT COLOR COMBINATIONS.
2. BUILT-IN SPEAKER CAPABLE OF PRODUCING MULTIPLE AUDIBLE ALERT TYPES.
3. INSTALLS INTO DEEP, 4-11/16" SQUARE BACK BOX WITH SINGLE-GANG MUDRING.

6 NV-EDUTY REMOTE CALL ANNUNCIATOR
SCALE: 3/8" = 1'-0"



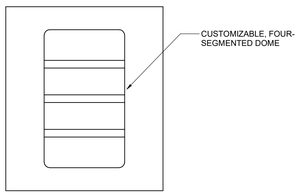
FRONT VIEW



INSTALLED VIEW

NOTES:
1. DOME COLORS ARE CUSTOMIZABLE FOR MANY DIFFERENT COLOR COMBINATIONS.
2. DOME ZONE LIGHTS PROVIDE DIRECTION TOWARDS ALERT DEVICE LOCATION.
3. BUILT-IN BUZZER CAN BE ACTIVATED FOR MULTIPLE ALERT TYPES.
4. REFERENCE TECHNOLOGY LEGEND FOR BACK BOX AND CONDUIT REQUIREMENTS

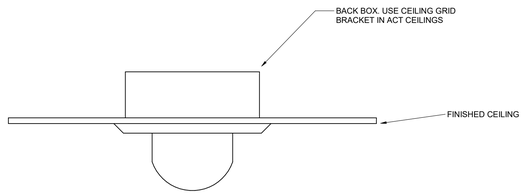
5 NV-DOME2 VISUAL/TONE ZONE INDICATOR
SCALE: 3/8" = 1'-0"



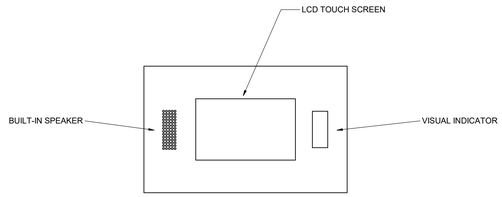
FRONT VIEW

NOTES:
1. DOME COLORS ARE CUSTOMIZABLE FOR MANY DIFFERENT COLOR COMBINATIONS.
2. BUILT-IN BUZZER CAN BE ACTIVATED FOR MULTIPLE ALERT TYPES.
3. REFERENCE TECHNOLOGY LEGEND FOR BACK BOX AND CONDUIT REQUIREMENTS

4 NV-DOME2 VISUAL/TONE INDICATOR
SCALE: 3/8" = 1'-0"

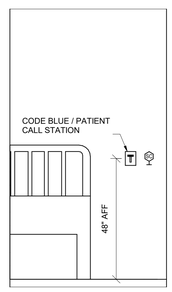


INSTALLED VIEW

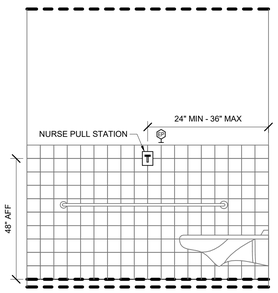


NOTES:
1. SERVES AS STANDALONE COMPLETE CALL SYSTEM.
2. INSTALL INTO DEEP, 3-GANG BACK BOX/MUDRING.

3 NV-DMP DIGITAL MULTIPURPOSE PORTAL
SCALE: 3/8" = 1'-0"



2 NURSE CALL BED PULL STATION
SCALE: 1 1/2" = 1'-0"



1 NURSE CALL BATH PULL STATION DETAIL
SCALE: 1 1/2" = 1'-0"

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NURSE CALL DETAILS

2/8/2023 2:51:35 PM

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BETTER BUILT ENVIRONMENTS

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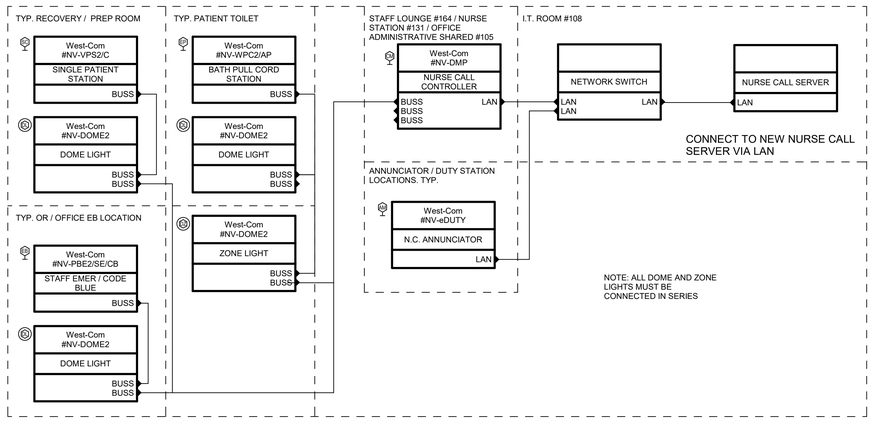

1 NURSE CALL SIGNAL FLOW
SCALE: NONE

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TECHNOLOGY SIGNAL FLOWS