JOHN KNOX VILLAGE COURTYARDS-BUILDING E

New Independent Living Building

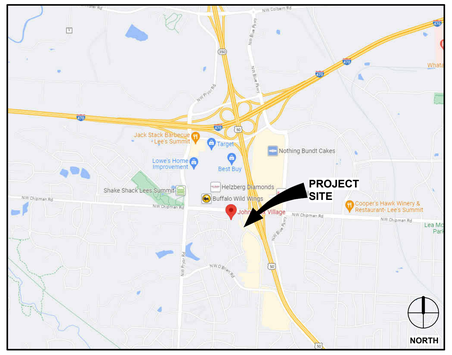
LEE'S SUMMIT, MO

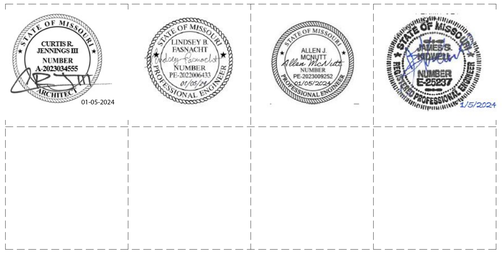
PERMIT SET

DATE: January 5, 2024

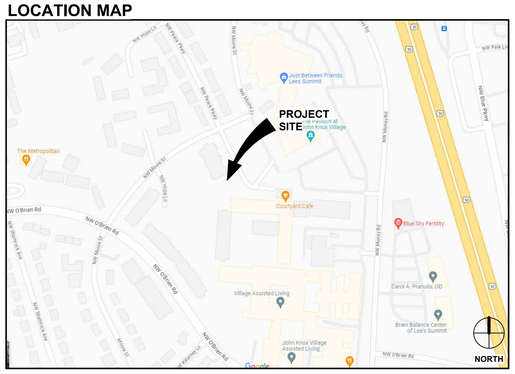
COMM. NO. 23104.00

VICINITY MAP





LOCATION MAP



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Overland Park, KS 66210
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ARCHITECTURAL ABBREVIATIONS

AB	ANCHOR BOLT
ADD	ADDENDUM
AFF	ABOVE FINISH FLOOR
ALT	ALTERNATE
ARCH	ARCHITECTURAL
BLDG	BUILDING
BLKG	BLOCKING
BR	BEDROOM
CG	CORNER GUARD
CI	CAST IRON
CJ	CONTROL JOINT
CMU	CONCRETE MASONRY UNIT
CONC	CONCRETE
CONF	CONFERENCE
CONT	CONTINUOUS
CONTR	CONTRACTOR
CORR	CORRIDOR
CR	CHAIR RAIL
CW	CASEWORK
DEFS	DIRECT APPLIED EXTERIOR FINISH SYSTEM
DIA	DIAMETER
DWG	DRAWING
EB	EXPANSION BOLT
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EPS	EXTRUDED POLYSTYRENE
EQ	EQUAL
EQUIP	EQUIPMENT
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXT	EXTERIOR
F	FILLER
FE	FIRE EXTINGUISHER
FE	FINISHED END
FEC	FIRE EXTINGUISHER CABINET
FL	FLOOR
FRT	FIRE RETARDANT TREATED
FRP	FIBERGLASS REINFORCED POLYESTER
FSD	FIRE SEPARATION DISTANCE
GALV	GALVANIZED
GWB	GYPSUM WALL BOARD
HORZ	HORIZONTAL
HP	HIGH POINT
HR	HOUR
HR	HANDRAIL
ID	INSIDE DIAMETER
IL	INDEPENDENT LIVING
INT	INTERIOR
ISOL	ISOLATION
JAN	JANITOR CLOSET
LF	LINEAR FOOT
LOC	LIMITS OF CONSTRUCTION
LP	LOW POINT
MACH	MACHINE
MAINT	MAINTENANCE
MECH	MECHANICAL
MO	MASONRY OPENING
MTD	MOUNTED
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OH	OPPOSITE HAND
PD	PARKING DRAIN
PT	PRESSURE TREATED
R	RADIUS
RE	REFER
RECPT	RECEPTION
RES	RESIDENT
RM	ROOM
RO	ROUGH OPENING
SA	SELF-ADHERING
SCHED	SCHEDULED
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
STOR	STORAGE
STRUCT	STRUCTURAL
TLT	TOILET
TOJ	TOP OF JOIST
TOM	TOP OF MASONRY
TOS	TOP OF STEEL
TOW	TOP OF WALL
TRN	TRAINING
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VEST	VESTIBULE
VIF	VERIFY IN FIELD
W/	WITH
WHL CHR	WHEELCHAIR
W/O	WITHOUT
WRB	WEATHER RESISTANT BARRIER

ARCHITECTURAL SYMBOLS

Dimension Line

New Construction

Name
Elevation

Building Elevation

L.O.C.

Limits Of Construction

Earth

Porous Fill
(Stone Or Gravel)

Cast-in-place Concrete

Brick

Concrete Masonry Units

Steel

Finish Wood

Wood Blocking

Plywood

Batt Insulation

Rigid Insulation

Gypsum Wall Board

Glass

Sand, Cement, Grout

NOTE: THESE ARE STANDARD SYMBOLS AND ALL SYMBOLS NOTED ON THIS SHEET MAY NOT APPLY.

ARCHITECTURAL SHEET NUMBERING SERIES

A0. GENERAL INFORMATION, FIRE PROTECTION PLANS

AD1. ARCHITECTURAL DEMOLITION PLANS

AS1. ARCHITECTURAL SITE PLANS

A1. FLOOR PLANS, ROOF PLAN

A2. ENLARGED PLANS

A3. REFLECTED CEILING PLANS

A4. SCHEDULES

A5. EXTERIOR ELEVATIONS, BUILDING SECTIONS

A6. WALL SECTIONS, EXTERIOR DETAILS

A7. INTERIOR ELEVATIONS, DETAILS, SECTIONS

A8. VERTICAL CIRCULATION

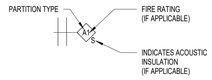
A9. SPECIAL CONSTRUCTION

NOTE: THESE ARE STANDARD SHEET SERIES NUMBERS AND ALL SHEET SERIES NOTED ON THIS SHEET MAY NOT APPLY.

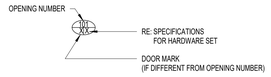
ARCHITECTURAL SYMBOLS

North Symbol

Column Grid Line

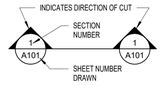


Partition Information

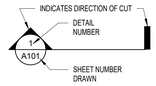


Door Information

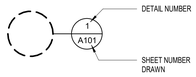
Room Information



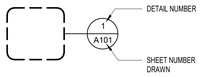
Plan & Vertical Section Reference



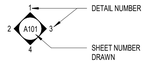
Section Detail Reference



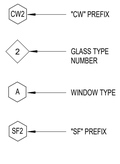
Plan Detail Reference



Enlarged Plan Reference



Elevation: Multiple Elevation



Curtain Wall Type

Glass Type

Window Type

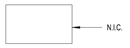
Storefront Type

Toilet Accessories

Revision Number

Plan Note

Supplemental Drawing Reference Number



Equipment Not In Contract

Equipment Number

Matchline

Center Line

Plan Spot Elevation

NOTE: THESE ARE STANDARD SYMBOLS AND ALL SYMBOLS NOTED ON THIS SHEET MAY NOT APPLY.

PROJECT DATA

PROJECT DESCRIPTION

THIS WORK CONSISTS OF A NEW COURTYARDS IL BUILDING WITH 52 APARTMENTS AND A NEW ATRIUM THAT CONNECT TO THE EXISTING COURTYARDS BUILDINGS B AND C. THESE BUILDINGS ARE ALSO INDEPENDENT LIVING (R-2) OCCUPANCY CLASSIFICATION.

DESIGN CRITERIA

2018 International Building Code
2018 International Plumbing Code
2018 International Mechanical Code
2018 International Fuel Gas Code
2018 International Residential Code
2018 International Fire Code
2017 National Electrical Code
ICC/ANSI A117.1-2009, Accessible and Usable Buildings and Facilities

SQUARE FOOTAGE

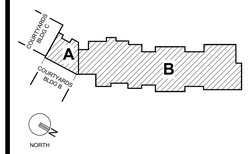
	INDEPENDENT LIVING (R-2)	ATRIUM (A-2)	TOTAL
FIRST FLOOR	15,744	2,814	18,558
SECOND FLOOR	15,434	2,210	17,644
THIRD FLOOR	15,434	2,210	17,644
FOURTH FLOOR	15,434	1,445	16,879
TOTAL	62,046 sf	8,679 sf	70,725 sf

CODE INFORMATION

BUILDING TYPE	Independent Living Apartments
USE & OCCUPANCY CLASSIFICATION	R-2/A-2
CONSTRUCTION TYPE	TYPE VA
MAX. NO. OF STORIES	4 Story (without height increase)
MAX. AREA PER FLOOR	12,000 (tabular area) 21,000 (after Frontage increase)
FULLY SPRINKLED	YES, PER NFPA 13R
ATTIC SPRINKLED	NO, (there is not an attic)
Table 601 STRUCTURAL FRAME	1 HOUR
EXTERIOR BEARING WALLS	1 HOUR
EXTERIOR NONBEARING WALLS	1 HR. (1 HR. 10' TO 20' SEPARATION)
INTERIOR BEARING WALLS	1 HOUR
INTERIOR NON-BEARING WALLS	0 HOUR
FLOOR CONSTRUCTION	1 HOUR
ROOF CONSTRUCTION	1 HOUR
Table 602	
FIRE WALLS (TABLE 706.4, Note a)	2 HOUR
FIRE BARRIERS (707.3.9)	2 HOUR (Between single occupancy fire areas)
SHAFTS (708.4)	1 HOUR connecting less than 4 stories
SLEEPING UNIT SEPARATION (709.1)	0 HOUR (Smoke Partition)
TRAVEL DISTANCE (TABLE 1016.1)	200' w/Sprinkler
TRAVEL DISTANCE WITHIN RESIDENT ROOMS TO EXIT ACCESS DOOR (1014.2.3.3)	50'

UNIT NAME	HEATED SF	FLOOR 1	FLOOR 2	FLOOR 3	FLOOR 4	TOTAL
UNIT B - BIRCH	810 SF	2	3	3	3	**11**
UNIT C - CEDAR	925 SF	6	6	5	6	**23**
UNIT D1 - HICKORY	1,145 SF	2	2	2	2	**8**
UNIT D2 - WILLOW	1,185 SF	1	1	1	1	**4**
UNIT D3 - CYPRESS	1,215 SF	1	1	1	1	**4**
ACCESSIBLE UNITS						
UNIT B - BIRCH (ADA) E123	810 SF	1	0	0	0	**1**
UNIT C - CEDAR (ADA) E316	925 SF	0	0	1	0	**1**
TOTAL		**13**	**13**	**13**	**13**	**52**

KEYPLAN



AREA A = ATRIUM
AREA B = INDEPENDENT LIVING APARTMENTS

PERMIT SET

01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

PROJECT DATA, SYMBOLS AND ABBREVIATIONS

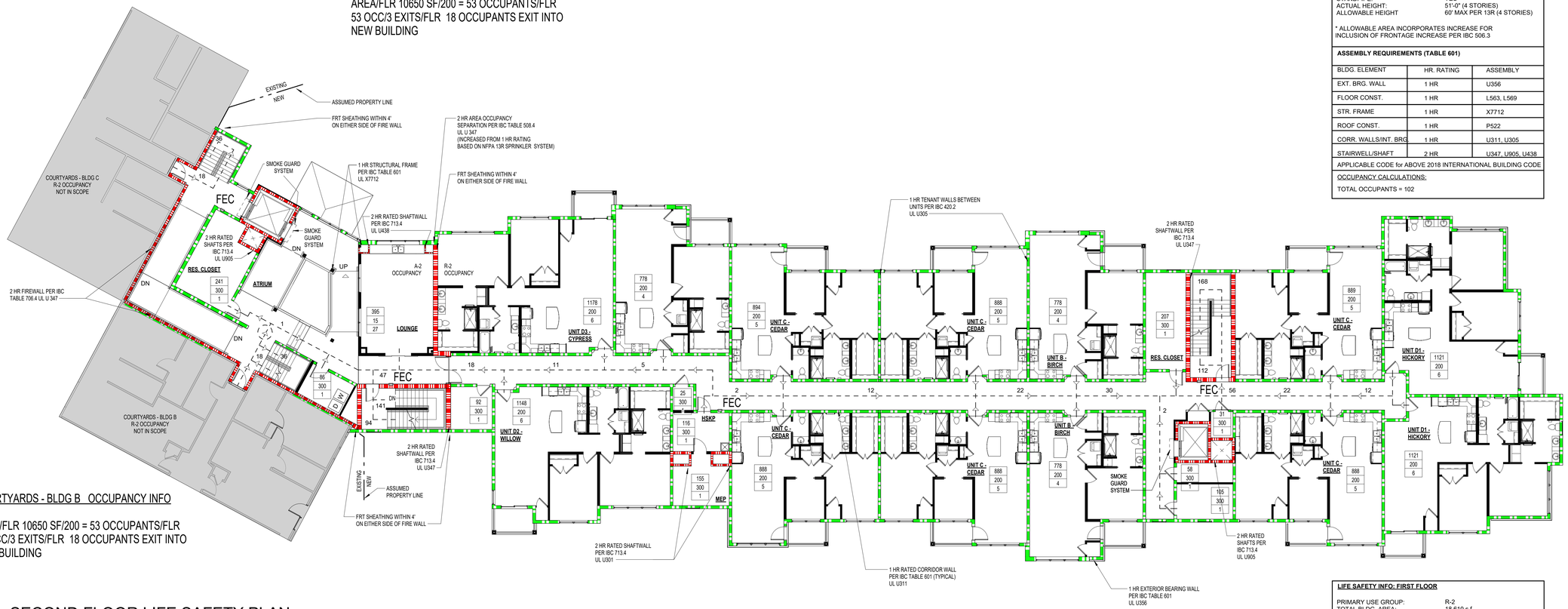
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A0.0

COURTYARDS - BLDG C OCCUPANCY INFO

AREA/FLR 10650 SF/200 = 53 OCCUPANTS/FLR
53 OCC/3 EXITS/FLR 18 OCCUPANTS EXIT INTO
NEW BUILDING



COURTYARDS - BLDG B OCCUPANCY INFO

AREA/FLR 10650 SF/200 = 53 OCCUPANTS/FLR
53 OCC/3 EXITS/FLR 18 OCCUPANTS EXIT INTO
NEW BUILDING

2 SECOND FLOOR LIFE SAFETY PLAN

3/32" = 1'-0"

LIFE SAFETY INFO: SECOND FLOOR

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	17,952 s.f.
ALLOW. AREA for R-2 USE GROUP:	24,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	51'-0" (4 STORIES)
ALLOWABLE HEIGHT	60' MAX PER 13R (4 STORIES)

* ALLOWABLE AREA INCORPORATES INCREASE FOR INCLUSION OF FRONTAGE INCREASE PER IBC 506.3

ASSEMBLY REQUIREMENTS (TABLE 601)

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	X7712
ROOF CONST.	1 HR	P522
CORR. WALLS/INT. BRG	1 HR	U311, U305
STAIRWELLS/SHAFT	2 HR	U347, U905, U438

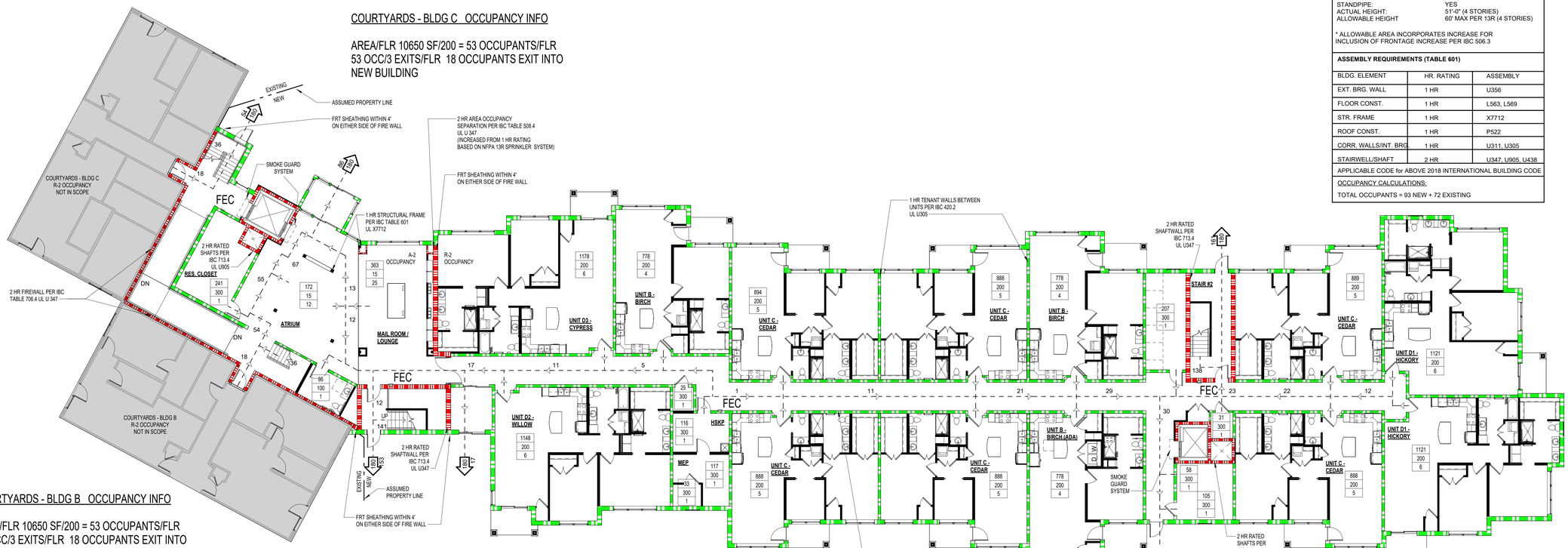
APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 102

COURTYARDS - BLDG C OCCUPANCY INFO

AREA/FLR 10650 SF/200 = 53 OCCUPANTS/FLR
53 OCC/3 EXITS/FLR 18 OCCUPANTS EXIT INTO
NEW BUILDING



COURTYARDS - BLDG B OCCUPANCY INFO

AREA/FLR 10650 SF/200 = 53 OCCUPANTS/FLR
53 OCC/3 EXITS/FLR 18 OCCUPANTS EXIT INTO
NEW BUILDING

1 FIRST FLOOR LIFE SAFETY PLAN

3/32" = 1'-0"

LIFE SAFETY INFO: FIRST FLOOR

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	18,610 s.f.
ALLOW. AREA for R-2 USE GROUP:	24,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	51'-0" (4 STORIES)
ALLOWABLE HEIGHT	60' MAX PER 13R (4 STORIES)

* ALLOWABLE AREA INCORPORATES INCREASE FOR INCLUSION OF FRONTAGE INCREASE PER IBC 506.3

ASSEMBLY REQUIREMENTS (TABLE 601)

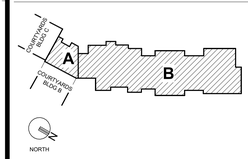
BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	X7712
ROOF CONST.	1 HR	P522
CORR. WALLS/INT. BRG	1 HR	U311, U305
STAIRWELLS/SHAFT	2 HR	U347, U905, U438

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 93 NEW + 72 EXISTING

KEYPLAN



LIFE SAFETY LEGEND

- SMOKE PARTITION
- 1 HR SMOKE BARRIER
- 1 HR FIRE PARTITION
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR RATED FIREWALL
- 3 HR RATED FIREWALL
- 4 HR RATED FIREWALL

EGRESS LEGEND

OCCUPANT LOAD CALCULATIONS

3000	FLOOR AREA IN S.F.
100	ALLOWABLE S.F. PER PERSON
30	OCCUPANT LOAD

MEANS OF EGRESS

123 — NUMBER OF OCCUPANTS ALONG EGRESS PATH
PATH OF EGRESS

EGRESS CAPACITY OF EXITS

45 / .2 / 123 — ALONG EGRESS PATH WIDTH OF EGRESS COMPONENT; CODE ALLOWED WIDTH / PERSON; CAPACITY OF EGRESS COMPONENT

PERMIT SET

STATE OF MISSISSIPPI — CURTIS R. JENNINGS III — NUMBER A-2023034555 — ARCHITECT — 01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

FIRST AND SECOND FLOOR LIFE SAFETY PLAN

DATE: January 5, 2024

DRAWING A0.1

COMM. NO. 23104.00

1/5/2024 2:08:52 PM

Autodesk Docs://23104.00 - John Knox Village - Lindbergh/23104.00-JKV-Courtyards-Building E-Architectural CENTRAL.rvt

LIFE SAFETY INFO: FOURTH FLOOR

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	17,605 s.f.
ALLOW. AREA for R-2 USE GROUP:	24,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	51'-0" (4 STORIES)
ALLOWABLE HEIGHT	60' MAX PER 13R (4 STORIES)

* ALLOWABLE AREA INCORPORATES INCREASE FOR INCLUSION OF FRONTAGE INCREASE PER IBC 506.3

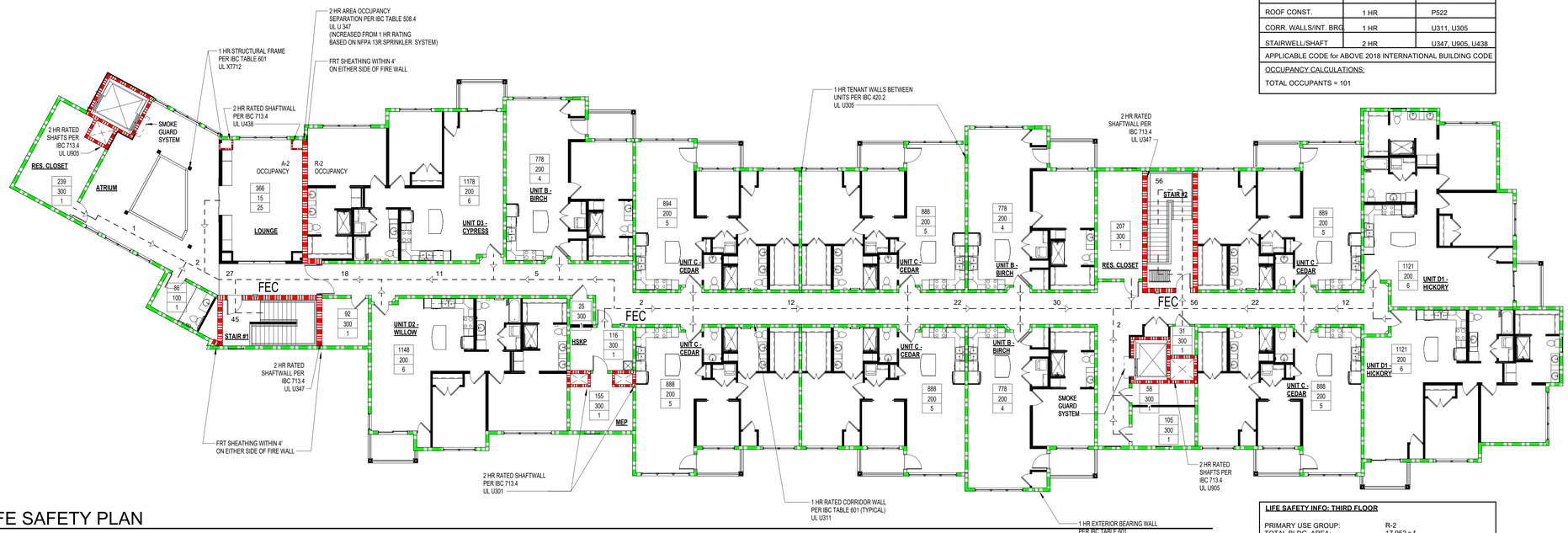
ASSEMBLY REQUIREMENTS (TABLE 601)

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	X7712
ROOF CONST.	1 HR	P522
CORR. WALLS/INT. BRG.	1 HR	U311, U305
STAIRWELL/SHAFT	2 HR	U347, U905, U438

APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 101



2 FOURTH FLOOR LIFE SAFETY PLAN

3/32" = 1'-0"

LIFE SAFETY INFO: THIRD FLOOR

PRIMARY USE GROUP:	R-2
TOTAL BLDG. AREA:	17,952 s.f.
ALLOW. AREA for R-2 USE GROUP:	24,000 (TABLE 506.2)*
CONSTRUCTION TYPE:	TYPE VA
SPRINKLED:	YES, NFPA 13R
STANDPIPE:	YES
ACTUAL HEIGHT:	51'-0" (4 STORIES)
ALLOWABLE HEIGHT	60' MAX PER 13R (4 STORIES)

* ALLOWABLE AREA INCORPORATES INCREASE FOR INCLUSION OF FRONTAGE INCREASE PER IBC 506.3

ASSEMBLY REQUIREMENTS (TABLE 601)

BLDG. ELEMENT	HR. RATING	ASSEMBLY
EXT. BRG. WALL	1 HR	U356
FLOOR CONST.	1 HR	L563, L569
STR. FRAME	1 HR	X7712
ROOF CONST.	1 HR	P522
CORR. WALLS/INT. BRG.	1 HR	U311, U305
STAIRWELL/SHAFT	2 HR	U347, U905, U438

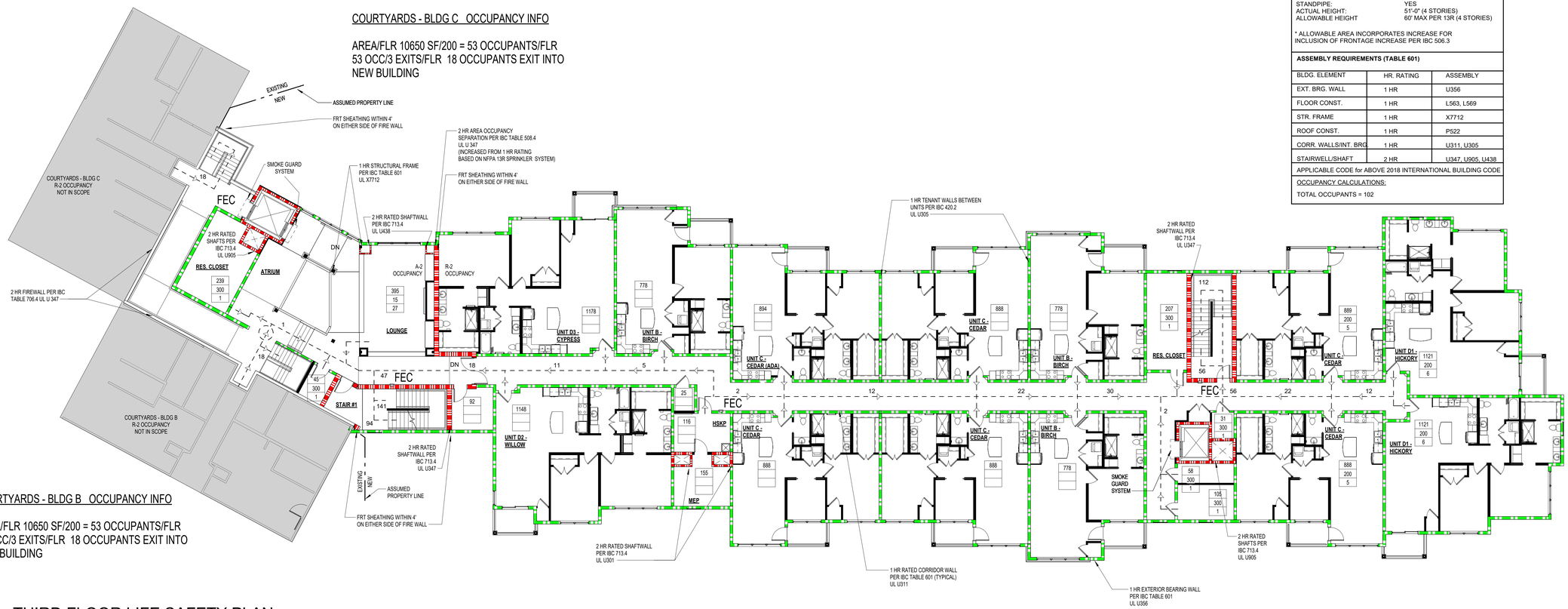
APPLICABLE CODE for ABOVE 2018 INTERNATIONAL BUILDING CODE

OCCUPANCY CALCULATIONS:

TOTAL OCCUPANTS = 102

COURTYARDS - BLDG C OCCUPANCY INFO

AREA/FLR 10650 SF/200 = 53 OCCUPANTS/FLR
53 OCC/3 EXITS/FLR 18 OCCUPANTS EXIT INTO NEW BUILDING



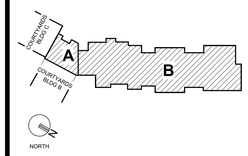
COURTYARDS - BLDG B OCCUPANCY INFO

AREA/FLR 10650 SF/200 = 53 OCCUPANTS/FLR
53 OCC/3 EXITS/FLR 18 OCCUPANTS EXIT INTO NEW BUILDING

1 THIRD FLOOR LIFE SAFETY PLAN

3/32" = 1'-0"

KEYPLAN



LIFE SAFETY LEGEND

- SMOKE PARTITION
- 1 HR SMOKE BARRIER
- 1 HR FIRE PARTITION
- 1 HR FIRE BARRIER
- 2 HR FIRE BARRIER
- 2 HR RATED FIREWALL
- 3 HR RATED FIREWALL
- 4 HR RATED FIREWALL

EGRESS LEGEND

OCCUPANT LOAD CALCULATIONS

- 3000 — FLOOR AREA IN S.F.
- 100 — ALLOWABLE S.F. PER PERSON
- 30 — OCCUPANT LOAD

MEANS OF EGRESS

- 123 — NUMBER OF OCCUPANTS ALONG EGRESS PATH; PATH OF EGRESS

EGRESS CAPACITY OF EXITS

- 45 / 2 — ALONG EGRESS PATH WIDTH OF EGRESS COMPONENT; CODE ALLOWED WIDTH / PERSON
- 123 — CAPACITY OF EGRESS COMPONENT

PERMIT SET

STATE OF MISSISSIPPI — CURTIS R. JENNINGS III — NUMBER A-2023034555 — ARCHITECT — 01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

THIRD AND FOURTH FLOOR LIFE SAFETY PLAN

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A0.2

UL U305 - 1 HR ASSEMBLY

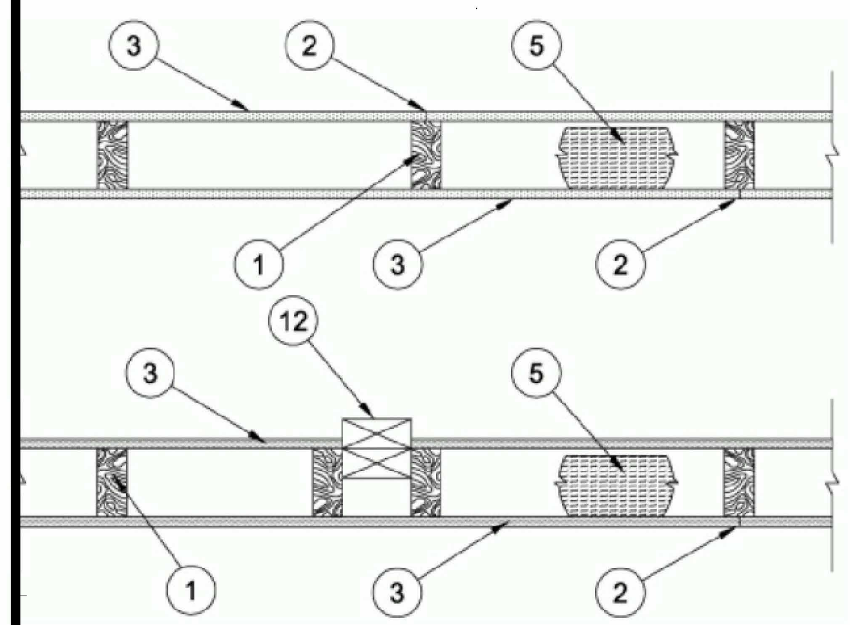
Design No. U305

July 15, 2020

Bearing Wall Rating — 1 Hr

Finish Rating — See Items 3, 3A, 3D, 3E, 3F, 3G, 3H, 3J and 3L.

STC Rating - 56 (See Item 9)



. **Wood Studs —** Nom 2 by 4 in. spaced 16 in. OC max, effectively firestopped.

. **Joints and Nail-Heads —** Joints covered with joint compound and paper tape. Joint compound and paper tape may be mitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the ntire surface of Classified veneer baseboard with the joints reinforced with paper tape. Nailheads exposed or covered with oint compound.

. **Gypsum Board* —** 5/8 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally r vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. iam heads. When used in widths other than 48 in., gypsum panels are to be installed horizontally. For an alternate method of ttachment of gypsum panels, refer to Items 6 through 6F, **Steel Framing Members***.

When Items 6, 6B, 6C, 6D, 6E, or 6F, **Steel Framing Members***, are used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.

When Item 6A, **Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers. One layer of gypsum board attached to opposite side of wood stud without furring channels as described in Item 3.

When Item 7, resilient channels are used, 5/8 in. thick, 4 ft wide gypsum panels applied vertically. Screw attached furring channels with 1 in. long, self-drilling, self-tapping Type S or S-12 steel screws spaced 8 in. OC, vertical joints located midway between studs.

When Item 5K, **Foamed Plastic** (CCVW) is used, 5/8 in. thick, 4 ft. wide, applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field.

AMERICAN GYPSUM CO — Types AGX-1(finish rating 23 min.), M-Glass (finish rating 23 min.), Type AGX-11 (finish rating 26 min), Type AGX-12 (finish rating 22 min), Type LightRoc (finish rating 23 min.) or Type AG-C

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO — Type DBX-1 (finish rating 24 min)

CABOT MANUFACTURING ULC — Type X (finish rating 22 min), 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1 (finish rating 26 min); Type EGRG or GlasRoc (finish rating 23 min), GlasRoc-2, Type Habito (finish rating 26 min).

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min), Type ULIX (finish rating 20 min)

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 34 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX (finish rating 21 min), Type CLLX (finish rating 24 min)

GEORGIA-PACIFIC GYPSUM L L C — Type 5 (finish rating 26 min), Type 6 (finish rating 23 min), Type 9 (finish rating 26 min), Type C (finish rating 26 min), Type DGG (finish rating 20 min), Type GPFS1 (finish rating 20 min), Type GPFS2 (finish rating 20 min), Type GPFS6 (finish rating 26 min), Type DS, Type DAP, Type DD (finish rating 20 min), Type DA, Type DAPC, Type LS (finish rating 23 min), Type X, Veneer Plaster Base - Type X, Water Rated - Type X, Sheathing - Type X, Soffit - Type X, Type LWX (finish rating 22 min), Veneer Plaster Base-Type LWX (finish rating 22 min), Water Rated-Type LWX (finish rating 22 min), Sheathing Type-LWX (finish rating 22 min), Soffit-Type LWX (finish rating 22 min), Type DGLW (finish rating 22 min), Water Rated-Type DGLW (finish rating 22 min), Sheathing Type- DGLW (finish rating 22 min), Soffit-Type DGLW (finish rating 22 min), Type LWX (finish rating 22 min), Type LW2X (finish rating 22 min), Veneer Plaster Base - Type LW2X (finish rating 22 min), Water Rated - Type LW2X (finish rating 22 min), Sheathing - Type LW2X (finish rating 22 min), Soffit - Type LW2X (finish rating 22 min), Type DGL2W (finish rating 22 min), Water Rated - Type DGL2W (finish rating 22 min), Sheathing - Type DGL2W (finish rating 22 min)

NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min), Type FSW-8, Type FSLX (finish rating 21 min), Type RSX (finish rating 26 min).

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2 (finish rating 20 min), PG-3 (finish rating 20 min), Types PG-3W, PG-5W (finish rating 20 min), Type PG-4 (finish rating 20 min), Type PG-6 (finish rating 23 min), Types PG-3WS, PG-5WS, PGS-WRS (finish rating 20 min), Types PG-5, PG-9 (finish rating 26 min), PG-11 PG-13 (Nails increased to 2 in.), or Type PG-C

PANEL REY S A — Type GREX, GRIX, PRX, PRC, PRC2; Types RHX, Guard Rey, MDX, ETX (finish rating 22 min), PRX2 (finish rating 21 min)

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD — Type EX-1 (finish rating 26 min)

THAI GYPSUM PRODUCTS PCL — Type C, Type X (finish rating 26 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type FRX-G (finish rating 29 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type ULX (finish rating 22 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type ULIX (finish rating 20 min)

USG BORAL DRYWALL SFZ LLC — Type SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), SCX (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type ULX (finish rating 22 min)

3A. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LighttRoc (finish rating 25 min.)

CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1 (finish rating 26 min)

CGC INC — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SCX (finish rating 24 min), Type SHX (finish rating 24 min), Type WRC (finish rating 24 min), Type WRX (finish rating 24 min)

NATIONAL GYPSUM CO — Type FSW (finish rating 24 min)

UNITED STATES GYPSUM CO — Type AR (finish rating 24 min), Type SCX (finish rating 24 min), Type SGX (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type FRX-G (finish rating 24 min), Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

USG BORAL DRYWALL SFZ LLC — Types C, SCX, SGX (finish rating 24 min).

USG MEXICO S A DE C V — Type AR (finish rating 24 min), Type C (finish rating 24 min), Type WRX (finish rating 24 min), Type WRC (finish rating 24 min), Type IP-X1 (finish rating 24 min), Type IP-X2 (finish rating 24 min), Type SHX (finish rating 24 min), Type SCX, Type IP-AR (finish rating 24 min), Type IPC-AR (finish rating 24 min)

3B. **Gypsum Board* —** (As an alternate to Item 3) — Nom 3/4 in. thick, installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-3/8 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A.
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

3C. **Gypsum Board* —** (As an alternate to Items 3, 3A and 3B) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally to one side of the assembly. Installed with 1-7/8 in. long cement coated nails as described in Item 3 or 1-1/4 in. long Type W coarse thread gypsum panel steel screws as described in Item 3A. Joint covering (Item 2) not required.
CGC INC — Type SHX

UNITED STATES GYPSUM CO — Type SHX

USG MEXICO S A DE C V — Type SHX

3D. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, or 3C — Not Shown) — For Direct Application to Studs Only- 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 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and 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 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to 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 discs or tabs may be used in lieu of or in addition to the lead batten strips 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 underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C".
RAY-BAR ENGINEERING CORP — Type RB-LBG (finish rating 24 min)

3E. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, and 3D) — 5/8 in. thick gypsum panels, with square edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last 2 screws 1 and 4 in. from edge of board or nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
GEORGIA-PACIFIC GYPSUM L L C — Type DGG (finish rating 20 min), GreenGlass Type X (finish rating 23 min)

3F. **Gypsum Board* —** (As an alternate to Items 3, 3A, 3B, 3C, 3D, and 3E) — 5/8 in. glass-mat faced with square edges, applied either horizontally or vertically. Gypsum panels nailed 7 in. OC around the perimeter and in the field with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Nails shall be placed 1 inch and 3 inch from horizontal joints and 7 inch OC thereafter.
CGC INC — Type USGX (finish rating 22 min)

UNITED STATES GYPSUM CO — Type USGX (finish rating 22 min.)

USG BORAL DRYWALL SFZ LLC — , Type USGX (finish rating 22 min.)

USG MEXICO S A DE C V — Type USGX (finish rating 22 min.)

3G. **Gypsum Board* —** (As an alternate to Items 3 through 3F) — 5/8 in. thick paper surfaced applied vertically. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board (finish rating 27 min)

3H. **Gypsum Board* —** (As an alternate to Items 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically only. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
NATIONAL GYPSUM CO — Type SBWB

3I. **Gypsum Board* —** (As an alternate to Items 3 through 3H, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES (finish rating 20 min)

3J. **Gypsum Board* —** (As an alternate to Item 3) — Not to be used with items 6 or 7. 5/8 in. thick paper surfaced applied vertically or horizontally. Gypsum panels secured per item 3 or 3A.
CERTAINTEED GYPSUM INC — Type SilentFX

3K. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 8 in. OC with the last screw 1 in. from the edge of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
NATIONAL GYPSUM CO — Type FSK (finish rating 20 min), Type FSK-G (finish rating 20 min), Type FSW (finish rating 20 min), Type FSW-2 (finish rating 24 min), Type FSW-3 (finish rating 20 min), Type FSW-5 (finish rating 22 min), Type FSW-G (finish rating 20 min), Type FSK-C (finish rating 20 min), Type FSW-C (finish rating 20 min), Type FSMR-C, Type FSW-6 (finish rating 20 min), Type FSL (finish rating 24 min).

3L. **Gypsum Board* —** (As an alternate to Item 3) — For Direct Application to Studs Only — 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 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and 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 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws, one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 in. thick. compression fitted or adhered over the screw heads. Lead batten strips to have a purity of 99.5% meeting the Federal specification QQ-L-201f, Grades "B, C or D".
MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

3M. **Gypsum Board* —** (As an alternate to Items 3) — For Direct Application to Studs Only — For use as the base layer or as the face layer. 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 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. 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". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

3N. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick, 4 ft. wide, applied horizontally or vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 3 or 3A.
CERTAINTEED GYPSUM INC — Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2 (finish rating 24 min)

3O. **Wall and Partition Facings and Accessories* —** (As an alternate to Item 3, Not Shown) — Nominal 5/8 in. thick, 4 ft wide panels, applied vertically. Panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads. Panel joints covered with paper tape and two layers of joint compound. Nailheads covered with two layers of joint compound.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527 (finish rating 24 min).

3P. **Gypsum Board* —** (As an alternate to Item 3, Not Shown) — 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 wood studs. Horizontal joints on the same side between face and base layers need not be staggered. Base layer gypsum panels fastened to studs with 1-1/4 in. long drywall nails spaced 8 in. OC. Face layer gypsum panels fastened to studs with 1-7/8 in. long drywall nails spaced 8 in. OC starting with a 4" stagger.
NATIONAL GYPSUM CO — Type FSW (finish rating 25 min)

3Q. **Gypsum Board* —** (As an alternate to Item 3) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

3R. **Gypsum Board* —** (As an alternate to Item 3. For use with Item 5H) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 3 above. Applied either horizontally or vertically, and screwed to panels with 1-5/8 in. long Type W coarse thread steel screws at 8 in. OC at perimeter and in the field with the last two screws 4 and 3/4 in. from the edges of the board when applied as the base layer. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

3S. **Gypsum Board* —** 3/4 in. thick paper or vinyl surfaced, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels secured as described in Item 3 with nail length increased to 2 in.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type PG-13

3T. **Wall and Partition Facings and Accessories* —** (As an alternate to 5/8 in. thick board as outlined in Item 3) — Nominal 1-3/8 in. thick, 4 ft wide panels, applied vertically or horizontally. Fastened with #6 x 2 in. long drywall screws spaced 8 in. OC along the perimeter and 12 in. OC in the field.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 545

3U. **Gypsum Board* —** (As an alternate to Item 3 - For use with Foamed Plastic products, Item 5J) — 5/8 in. thick, 4 ft. wide, applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels nailed 7 in. OC with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 15/64 in. diam heads.
AMERICAN GYPSUM CO — Types AGX-1

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

CABOT MANUFACTURING ULC — Type X

CERTAINTEED GYPSUM INC — Type X

CGC INC — Type SCX

PANEL REY S A — Type PRX

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

THAI GYPSUM PRODUCTS PCL — Type X

UNITED STATES GYPSUM CO — Types SCX and SGX

USG BORAL DRYWALL SFZ LLC — Types SCX and SGX

USG MEXICO S A DE C V — Type SCX

4. **Steel Corner Fasteners —** (Optional) — For use at wall corners. Channel shaped, 2 in. long by 1 in. high on the back side with two 1/8 in. wide cleats protruding into the 5/8 in. wide channel, fabricated from 24 gauge galv steel. Fasteners applied only to the end or cut edge (not along tapered edges) of the gypsum board, no greater than 2 in. from corner of gypsum board, max spacing 16 in. OC. Nailed to adjacent stud through tab using one No. 6d cement coated nail per fastener. Corners of wall board shall be nailed to top and bottom plate using No. 6d cement coated nails.

5. **Batts and Blankets* —** (Optional — Required when Item 6A is used (RC-1)) — Glass fiber or mineral wool insulation. Placed to completely or partially fill the stud cavities. When Item 6A is used, glass fiber or mineral wool insulation shall be friction-fitted to completely fill the stud cavities.
CERTAINTEED CORP

JOHNS MANVILLE

KNAUF INSULATION LLC

MANSON INSULATION INC

ROCKWOOL — Types Acoustical Fire Batts and Type AFB, min. density 1.69 pcf / 27.0 kg/m^3

ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts

ROCK WOOL MANUFACTURING CO — Delta Board

THERMAFIBER INC — Type SAFB, SAFB FF

5A. **Fiber, Sprayed* —** (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) — 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. When Item 6B is used, Fiber, Sprayed shall be INS735, INS745, INS750LD, INS765LD or INS773LD.
U S GREENFIBER L L C — INS735, INS745 and INS750LD for use with wet or dry application. INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only

5B. **Fiber, Sprayed* —** (Not Shown - Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) - 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

5C. **Batts and Blankets* —** Required for use with resilient channels, Item 7, 3 in. thick mineral wool batts, friction-fitted to fill interior of wall.
THERMAFIBER INC — Type SAFB, SAFB FF

5D. **Glass Fiber Insulation —** (As an alternate to Item 5C) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

5E. **Batts and Blankets* —** (Required for use with Wall and Partition Facings and Accessories, Item 3D) — Glass fiber insulation, nom 3-1/2 in. thick, min. density of 0.80 pcf, with a flame spread of 25 or less and a smoke developed of 50 or less, friction-fitted to completely fill the stud cavities. See Batts and Blankets Category (BKNV) for names of manufacturers.

5F. **Fiber, Sprayed* —** (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D) — As an alternate to Batts and Blankets (Item 5) and Item 5A - Spray applied granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See **Fiber, Sprayed** (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5G. **Fiber, Sprayed* —** (Optional, Not Shown — Not for use with Items 6, 6A, 6B, 6C, or 6D). — As an alternate to Batts and Blankets (Item 5) and Item 5A - Brown Colored Spray applied cellulose fiber. The fiber is applied with water to completely fill the enclosed stud 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

5H. **Foamed Plastic* —** (Optional -For use with Item 3R) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
SES FOAM INC — Nexseal™ 2.0 or Nexseal™ 2.0 LE Spray Foam and Sucraseal Spray Foam.

5I. **Fiber, Sprayed* —** (Not Shown — Not for use with Item 6) — As an alternate to Batts and Blankets (Item 5) - 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. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft^3.
APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

5J. **Foamed Plastic* —** (Optional, Not Shown - For use with Item 3U) — Spray applied, foamed plastic insulation, to completely filling stud cavity.
GACO WESTERN L L C — Types GacoEZSpray F4500, GacoProFill FR6500R, Gaco 052N, GacoOnePass F1850, GacoOnePass Low GWP F1880, and Gaco WallFoam 183M

5K. **Foamed Plastic* —** (Optional, Not Shown - For use with Item 3) — Spray applied, foamed plastic insulation completely filling stud cavity. The 5/8 in. thick, 4 ft. wide gypsum board described in item 3 shall only be applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Gypsum panels secured to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field.
CARLISLE SPRAY FOAM INSULATION — SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim, and SealTite Pro One Zero.

6. **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. 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75)

6A. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and Steel Framing Members on one side of studs 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 are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Batts and Blankets placed in stud cavity as described in Item 5. Two layers of gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Aa) to one side of studs only. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax

6B. **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. 2-3/8 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. 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 tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6D. **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, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with a double strand of No. 18 AWG twisted steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

6E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 6Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC - Type RC+ Assurance Clip

6F. **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. 2-23/32 in. wide by 7/8 in. or 1-1/2 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Fa) to studs. Clips spaced 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

7. **Furring Channel —** Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. **Caulking and Sealants —** (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

9. **STC Rating —** The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 2, above — Nailheads Shall be covered with joint compound.

B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.

C. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.

D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly.

E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. **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 wood 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,

6E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 6Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC - Type RC+ Assurance Clip

6F. **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. 2-23/32 in. wide by 7/8 in. or 1-1/2 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Fa) to studs. Clips spaced 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.
CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

7. **Furring Channel —** Optional — Not Shown — For use on one side of the wall - Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Items 5C or 5D is required.

8. **Caulking and Sealants —** (Not Shown, Optional) — A bead of acoustical sealant applied around the partition perimeter for sound control.

9. **STC Rating —** The STC Rating of the wall assembly is 56 when it is constructed as described by Items 1 through 6, except:

A. Item 2, above — Nailheads Shall be covered with joint compound.

B. Item 2, above — Joints As described, shall be covered with fiber tape and joint compound.

C. Item 5, above — Batts and Blankets* The cavities formed by the studs shall be friction fit with R-19 unfaced fiberglass insulation batts measuring 6-1/4 in. thick and 15-1/4 in. wide.

D. Item 6, above — Steel Framing Members* Type RSIC-1 clips shall be used to attach gypsum board to studs on either side of the wall assembly.

E. Item 8, above — Caulking and Sealants (Not Shown) A bead of acoustical sealant shall be applied around the partition perimeter for sound control.

F. Steel Corner Fasteners (Item 4), Fiber, Sprayed (Items 5A and 5B) and Steel Framing Members (Item 6A), not evaluated as alternatives for obtaining STC rating.

10. **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 wood 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

11. **Cementitious Backer Units* —** (Optional Item Not Shown — For Use On Face Of 1 Hr Systems With All Standard Items Required) - 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC. When 4 ft. wide boards are used, horizontal joints need not be backed by framing.
NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. **Non-Bearing Wall Partition Intersection —** (Optional) —Two nominal 2 by 4 in. studs or nominal 2 by 6 in. studs nailed together with two 3 in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

13. **Mesh Netting —** (Not Shown) — Any thin, woven or non-woven fibrous netting material attached with staples to the outer face of one row of studs to facilitate the installation of the sprayed fiber from the opposite row.

14. **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 framing with 2 in. long Type W steel screws, spaced 12 in. OC. 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.
HOMASOTE CO — Homasote Type 440-32

14A. **Mineral and Fiber Board* —** (Optional, Not Shown) — For use with Items 14B-14E) — 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 framing with minimum 1-3/8 in. long ring shanked nails or 1-1/4 in. long Type W steel screws, spaced 12 in. OC along board edges and 24 in. OC in field of board along intermediate framing. Not evaluated or intended as a substitute for the required layer(s) of UL Classified Gypsum Board.
HOMASOTE CO — Homasote Type 440-32

14B. **Glass Fiber Insulation —** (For use with Item 14A) — 3-1/2 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, placed to fill the interior of the wall. See Batts and Blankets (BKNV or BZJZ) categories for names of Classified companies.

14C. **Batts and Blankets* —** (As an alternate to Item 14B, For use with Item 14A), 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the 3-1/2 in. face of the studs with staples placed 24 in. OC.
THERMAFIBER INC — Type SAFB, SAFB FF

14D. **Adhesive —** (For use with Item 14A) — 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 14A).

14E. **Gypsum Board* —** (For use with Item 14A) — 5/8 in. thick, 4 ft wide, applied vertically over Mineral and Fiber Board (Item 14A) 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 14A). Secured to outermost studs and bearing plates 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. Finish Rating 30 Min.
AMERICAN GYPSUM CO — Type AG-C

CERTAINTEED GYPSUM INC — 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 FSK-C, FSW-C

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

PANEL REY S A — Type PRC

THAI GYPSUM PRODUCTS PCL — Type C

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

USG BORAL DRYWALL SFZ LLC — Type C

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

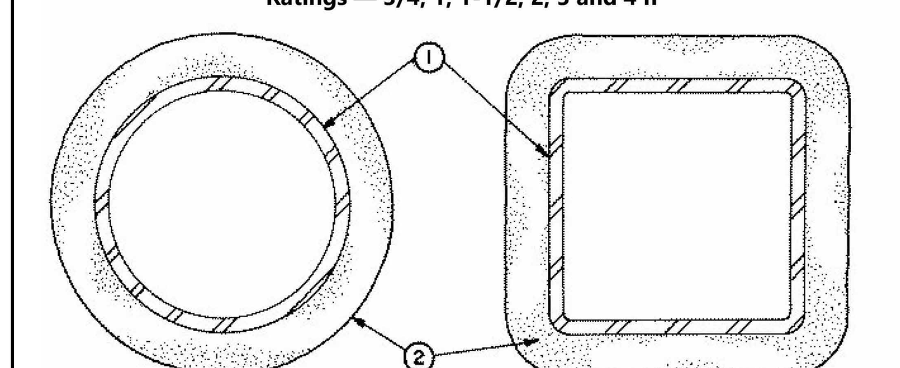
14F. **Mineral and Fiber Board —** (Optional, Not Shown) — For optional use as an additional layer on one side of wall - Nom 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on one side of the wall in between the wood studs and the UL Classified Gypsum Board (Item 3). Fiber boards installed with 1-1/4 in. long, Type W, bugle head, coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 3) 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.
BLUE RIDGE FIBERBOARD INC — SoundStop

UL X771 - 1 HR ASSEMBLY

Design No. X771

October 26, 2017

Ratings — 3/4, 1, 1-1/2, 2, 3 and 4 h



1. **Steel Pipe or Tube Column —** Steel circular pipe with diameter (OD) ranging from a minimum of 3 in. to a maximum of 32 in. with a minimum wall thickness of 3/16 in.
Steel square or rectangular tube with outside wall dimensions ranging from a minimum 3 in. to a maximum of 32 in. and a minimum wall thickness of 3/16 in.

The A/P ratio of the steel pipe or tube (see Item 2) shall range from 0.18 to 2.0.

2. **Spray-Applied Fire Resistive Materials* —** Applied by mixing with water and spraying in one or more coats to steel surfaces which must be clean and free of dirt, loose scale and oil. Min avg and ind density of 15/14 pcf respectively. Min avg and min ind density of 22/19 pcf respectively for Types Z-106, Z-106/G. Min avg and min ind density of 19/18 pcf respectively for Types 7GP and 7HD. For method of density determination, see Design Information Section, preceding these designs.
The hourly rating of the structural member is dependent upon the ratio of A/P and the thickness of Spray-Applied Fire Resistive Materials, where A is the cross sectional area of the pipe or tube and P is the heated perimeter.

The A/P ratio of a circular pipe is determined by:

$$A/P\ pipe = \frac{t\,(d - t)}{d}$$

Where:

d = the outer diameter of the pipe (in.)

t = the wall thickness of the pipe (in.)

The A/P ratio of a rectangular or square tube is determined by:

$$A/P\ tube = \frac{t\,(a + b - 2t)}{a + b}$$

Where:

a = the outer width of the tube (in.)

b = the outer length of the tube (in.)

t = the wall thickness of the tube (in.)

The thickness of Spray-Applied Fire Resistive Materials for ratings of 3/4, 1, 1-1/2, 2, 3 and 4 h of a steel pipe or tube can be determined by the equation:

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

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS
Architecture
Engineering
Planning
Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER :	DAS	DRAWN :	DAS
ARCHITECT :	DAS	CHECKED :	AAT
ENGINEER :		APPROVED :	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
UL ASSEMBLIES

DATE:	January 5, 2024	DRAWING
COMM. NO.	23104.00	A0.3

$$h = \frac{R - 0.20}{4.43 (A/P)}$$

Where:

R = the hourly rating (hrs).

h = the thickness of Spray-Applied Fire Resistive Materials, minimum 1/4 in., maximum 3-7/8 in.

ARABIAN VERMICULITE INDUSTRIES — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Sonophone 1, Sonophone 5, Z-106, Z-106/G.

GCP KOREA INC — Types MK-6/CBF, MK-6/ED, MK-6/HY, MK-6s, Monokote Acoustic 1, Monokote Acoustic 5, Z-106, Z-106/G.

PYROK INC — Type LD.

SOUTHWEST FIREPROOFING PRODUCTS CO — Types 4, 5, 5EF, 5GP, 5AR, 5GP/AR, 5EF/AR, 5MD/AR, 5MD, 7GP, 7HD, 8EF, 8GP, 8MD, 9EF, 9GP, 9MD.

GCP APPLIED TECHNOLOGIES INC — Types MK-6/HY, MK-6s, Monokote Acoustic 1, Monokote Acoustic 5, RG, Z-106, Z-106/G.

UL U356 - 1 HR ASSEMBLY

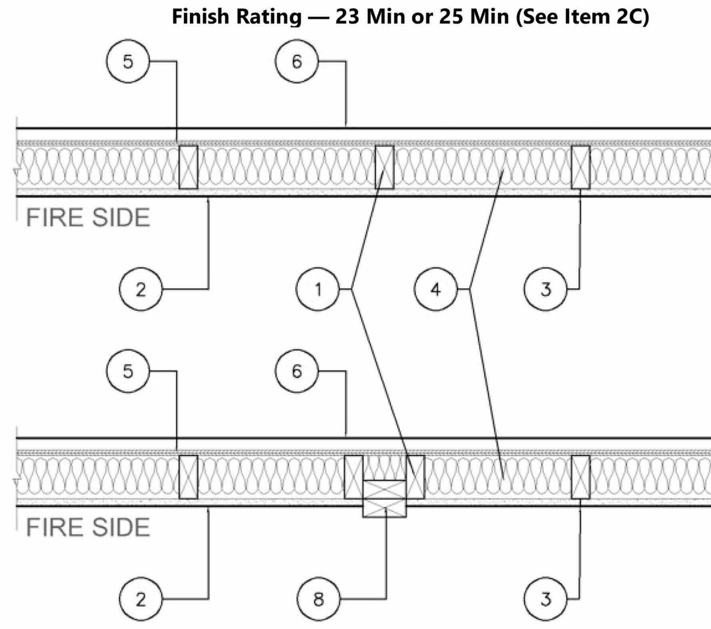
Design No. U356

March 11, 2020

Bearing Wall Rating - 1 Hr Rating Exposed to Fire on Interior Face Only

Bearing Wall Rating — 1 Hr Rating Exposed to Fire on Exterior Face (See Item 6E)

Finish Rating — 23 Min or 25 Min (See Item 2C)



1. **Wood Studs —** Nom 2 by 4 in. spaced 16 in. OC with two 2 by 4 in. top and one 2 by 4 in. bottom plates. Studs laterally-braced by wood structural panel sheathing (Item 5). When **Mineral and Fiber Boards*** (Item 5A) are considered as bracing for the studs, the load is restricted to 76% of allowable axial load. Walls effectively fire stopped at top and bottom of wall.

2. **Gypsum Board* — Any 5/8 in. thick UL Classified Gypsum Board that is eligible for use in Design Nos. L501, G512 or U305.** Nom 5/8 in. thick, 4 ft wide, applied vertically and nailed to studs and bearing plates 7 in. OC with 6d cement-coated nails, 1-7/8 in. long with 1/4 in. diam head.
When Item 7, 7B, 7C, 7D or 7E **Steel Framing Members***, is used, gypsum panels attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC.
When Item 7A **Steel Framing Members***, is used, two layers of gypsum panels attached to furring channels. Base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced 12 in. OC. Face layer attached to furring channels with 1-5/8 in. long Type S bugle-head steel screws spaced 12 in. OC. All joints in face layers staggered with joints in base layers.

AMERICAN GYPSUM CO (View Classification) — CKNX.R14196

BEIJING NEW BUILDING MATERIALS PUBLIC LTD CO (View Classification) — CKNX.R19374

CABOT MANUFACTURING ULC (View Classification) — CKNX.R25370

CERTAINTEED GYPSUM INC (View Classification) — CKNX.R3660

CGC INC (View Classification) — CKNX.R19751

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C (View Classification) — CKNX.R18482

GEORGIA-PACIFIC GYPSUM L L C (View Classification) — CKNX.R2717

LOADMASTER SYSTEMS INC (View Classification) — CKNX.R11809

NATIONAL GYPSUM CO (View Classification) — CKNX.R3501

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM (View Classification) — CKNX.R7094

PANEL REY S A (View Classification) — CKNX.R21796

SIAM GYPSUM INDUSTRY (SARABURI) CO LTD (View Classification) — CKNX.R19262

THAI GYPSUM PRODUCTS PCL (View Classification) — CKNX.R27517

UNITED STATES GYPSUM CO (View Classification) — CKNX.R1319

USG BORAL DRYWALL SFZ LLC (View Classification) — CKNX.R38438

USG MEXICO S A DE C V (View Classification) — CKNX.R16089

2A. **Gypsum Board* —** (As an alternate to Item 2, Not Shown) — Any 5/8 in. thick 4 ft wide gypsum panels that are eligible for use in Design Nos. L501, G512 or U305, supplied by the Classified Companies listed below shown in the **Gypsum Board*** (CKNX) category. Applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
CGC INC

UNITED STATES GYPSUM CO

USG BORAL DRYWALL SFZ LLC

USG MEXICO S A DE C V

2B. **Gypsum Board* —** (As an alternate to Item 2, Not Shown) — 5/8 in. thick 4 ft wide gypsum panels applied vertically and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc

CABOT MANUFACTURING ULC — Type X, 5/8 Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Type C, Type X, Type X-1, Easi-Lite Type X-2

GEORGIA-PACIFIC GYPSUM L L C — Types X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, Type X ComfortGuard Sound Deadening Gypsum Board.

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

THAI GYPSUM PRODUCTS PCL — Type C or Type X

2C. **Gypsum Board* —** (As an alternate to Item 2, Not Shown) — For Use with Item 5A only - 5/8 in. thick 4 ft wide gypsum panels applied horizontally and attached to studs and bearing plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screws 1 in.and 4 in. from edges of board. Finish Rating is 25 min.
CABOT MANUFACTURING ULC — 5/8 Type X, Type Blueglass Exterior Sheathing

GEORGIA-PACIFIC GYPSUM L L C — Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X

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

2D. **Gypsum Board* —** (As an alternate to Item 2) — Not to be used with item 7. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically only and fastened to the studs and plates with 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam and 1/4 in. diam heads, 7 in. OC.
NATIONAL GYPSUM CO — Type SBWB

2E **Gypsum Board* —** (As an alternate to Items 2 through 2D) — Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock ES.

2F. **Gypsum Board* —** (As an alternate to Item 2) — Not to be used with item 7. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally and fastened to the studs and plates with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board.
CERTAINTEED GYPSUM INC — Type SilentFX

2G. **Wall and Partition Facings and Accessories* —** (As an alternate to Items 2 through 2F) — Nominal 5/8 in. thick, 4 ft wide panels, secured as described in Item 2.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Type QuietRock 527.

2H. **Gypsum Board* —** (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a maximum 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

CONTINENTAL BUILDING PRODUCTS OPERATING CO, L L C — Type LGFC6A (finish rating 21 min), Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

2I. **Gypsum Board* —** (As an alternate to Item 2) — 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths of other than 48 in., gypsum boards are to be installed horizontally.
AMERICAN GYPSUM CO — Types AGX-1 (finish rating 25 min.), M-Glass (finish rating 25 min.), AG-C (finish rating 25 min.), LightRoc (finish rating 25 min.)

NATIONAL GYPSUM CO — Type FSK, Type FSK-G, Type FSW, Type FSW-3, Type FSW-5, Type FSW-G, Type FSK-C, Type FSW-C, Type FSMR-C, Type FSW-6, Type FSL

2J. **Gypsum Board* —** (As an alternate to Item 2) - 5/8 in. thick gypsum panels, with beveled, square, or tapered edges, applied either horizontally or vertically. Gypsum panels fastened to framing with 1-1/4 in. long Type W coarse thread steel screws spaced a max 8 in. OC with the last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum boards are to be installed horizontally.
CERTAINTEED GYPSUM INC — Type C, Type X or Type X-1(finish rating 26 min), Easi-Lite Type X (finish rating 24 min), Easi-Lite Type X-2, Type EGRG or GlasRoc or GlasRoc Sheathing (finish rating 23 min)

3. **Joints and Fastener Heads —** (Not Shown) — Gypsum board joints covered with tape and joint compound. Fastener heads covered with joint compound.

4. **Batts and Blankets* —** Mineral fiber or glass fiber insulation, 3-1/2 in. thick, pressure fit to fill wall cavities between studs and plates. Mineral fiber insulation to be unfaced and to have a min density of 3 pcf. Glass fiber insulation to be faced with aluminum foil or kraft paper and to have a min density of 0.9 pcf (min R-13 thermal insulation rating).
See **Batts and Blankets*** (BKNV) Category in the Building Materials Directory and **Batts and Blankets*** (BZJZ) Category in the Fire Resistance Directory for names of Classified Companies.

4A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 4) — 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/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — INS735 and INS745 for use with wet or dry application. INS515LD, INS541LD, INS735, INS745, INS765LD, and INS773LD are to be used for dry application only.

4B. **Fiber, Sprayed* —** As an alternate to Item 4 and 4A — 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. Nominal dry density of 4.58 lb/ft³.
NU-WOOL CO INC — Cellulose Insulation

4C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 4) — 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/ft³.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

4D. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 4) — Spray applied, granulated mineral fiber material. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

5. **Wood Structural Panel Sheathing —** Min 7/16 in. thick, 4 ft wide wood structural panels, min grade "C-D" or "Sheathing". Installed with long dimension of sheet (strength axis) or face grain of plywood parallel with or perpendicular to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 6d cement coated box nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs.

5A. **Mineral and Fiber Boards* —** As an alternate to Item 5 - Min 1/2 in. thick, 4 ft wide sheathing, installed vertically to studs. Vertical joints centered on studs. Horizontal joints backed with nom 2 by 4 in. wood blocking. Attached to studs on exterior side of wall with 1-1/2 in. long galvanized roofing nails spaced 6 in. OC at perimeter of panels and 12 in. OC along interior studs. As an option a weather resistive barrier may be applied over the Mineral and Fiber Boards.

6. **Exterior Facings —** Installed in accordance with the manufacturer's installation instructions. One of the following exterior facings is to be applied over the sheathing:
A. **Vinyl Siding — Molded Plastic* —** Contoured rigid vinyl siding having a flame spread value of 20 or less.
See **Molded Plastic** (BTAT) category in the Building Materials Directory for names of manufacturers.

B. **Particle Board Siding —** Hardboard exterior sidings including patterned panel or lap siding.

C. **Wood Structural Panel or Lap Siding —** APA Rated Siding, Exterior, plywood, OSB or composite panels with veneer faces and structural wood core, per PS 1 or APA Standard PRP-108, including textured, rough sawn, medium density overlay, brushed, grooved and lap siding.

D. **Cementitious Stucco —** Portland cement or synthetic stucco systems with self-furring metal lath or adhesive base coat. Thickness from 3/8 to 3/4 in., depending on system.

E. **Brick Veneer —** Any type on nom 4 in. wide brick veneer. When brick veneer is used, the rating is applicable with exposure on either face. Brick veneer fastened with corrugated metal wall ties attached over sheathing to wood studs with 8d nail per tie: ties spaced not more than each sixth course of brick and max 32 in. OC horizontally. One in. air space provided between brick veneer and sheathing.

F. **Exterior Insulation and Finish System (EIFS) —** Nom 1 in. **Foamed Plastic*** insulation bearing the UL Classification Marking, attached over sheathing and finished with coating system, or Portland cement or synthetic stucco systems, in accordance with manufacturer's instructions. See **Foamed Plastic** (BRYX and CCVW) categories for names of Classified companies.

G. **Siding —** Aluminum or steel siding attached over sheathing to studs.

H. **Fiber-Cement Siding —** Fiber-cement exterior sidings including smooth and patterned panel or lap siding.

I. **Wall and Partition Facings and Accessories* —** Stone veneer is mortar bonded to a lath, scratch coat and water resistant barrier applied to sheathing, installed in accordance with the manufacturers installation instructions, and meeting the requirements of local code agencies.
ELDORADO STONE OPERATIONS L L C — Type Eldorado Stone

J. **Cementitious Backer Units —** 1/2 in. or 5/8 in., min. 32 in. wide.- Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with cement board screws of adequate length to penetrate stud by a minimum 3/4 in., spaced a max of 8 in. OC. Horizontal joints need not be backed by framing. When Cementitious Backer Units are used, the rating is applicable with exposure on either face. Cementitious Backer Units for use as substrate for exterior finishes such as ceramic tile, slate, marble, natural stone, manufactured stone, thin brick, or Portland cement or synthetic stucco.
NATIONAL GYPSUM CO — Type PermaBase

6A. **Building Units* — As an alternate to Exterior Facing Item 6 —** Insulated steel panels, 12 through 42 in. wide. Attached over sheathing through retainer clips to studs or support steel with No. 14 hex head self-tapping screws located at each joint in the concealed lip of the units and spaced in accordance with the structural design requirements. KINGSPAN INSULATED PANELS INC — Types 200, 300, 400, 900, or KS series, 2 through 6 in. thickness; CWP-V, H, 2 through 3 in. nominal thickness or Designwall 2000 or Designwall 4000, 2 and 3 in. nominal thickness.

7. **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. 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7A) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall 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).

7A. **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 are overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap. Two layers of gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Aa) to interior side of studs. Clips spaced 48 in. OC., and secured to studs with two No. 8 x 2-1/2 in. coarse drywall screws, one through the hole at each end of the clip. Furring channels are friction fitted into clips.
KINETICS NOISE CONTROL INC — Type Isomax.

7B. **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. 2-3/8 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
PLITEQ INC — Type Genie Clip

7C. **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 tied together with double strand of No. 18 AWG galvanized steel wire.Gypsum board attached to furring channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach furring channels (Item 7Ca) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

7D. **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 7Db. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 2.

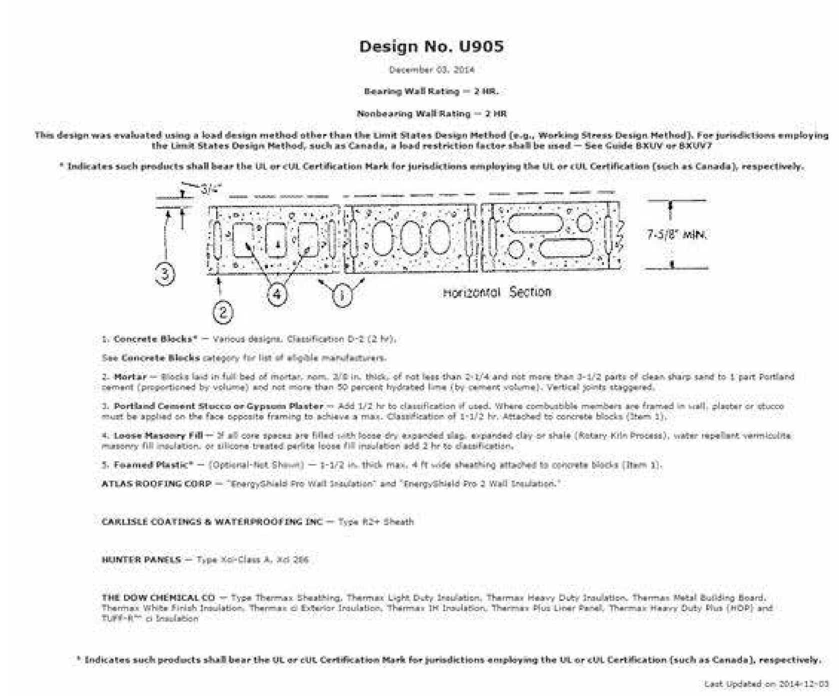
b. **Steel Framing Members* —** Used to attach furring channels (Item 7Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

7E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 7Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

8. **Non-Bearing Wall Partition Intersection —** (Optional) — Two nominal 2 by 4 in. stud or nominal 2 by 6 in. stud nailed together with two 3in. long 10d nails spaced a max. 16 in. OC. vertically and fastened to one side of the minimum 2 by 4 in. stud with 3 in. long 10d nails spaced a max 16 in. OC. vertically. Intersection between partition wood studs to be flush with the 2 by 4 in. studs. The wall partition wood studs are to be framed by with a second 2 by 4 in. wood stud fastened with 3 in. long 10d nails spaced a max. 16 in. OC. vertically. Maximum one non-bearing wall partition intersection per stud cavity. Non-bearing wall partition stud depth shall be at a minimum equal to the depth of the bearing wall.

UL U905 - 2 HR ASSEMBLY



Design No. U905

December 03, 2014

Bearing Wall Rating — 2 HR.

Nonbearing Wall Rating — 2 HR

This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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

3/4" 7-5/8" MIN. Horizontal Section 1 2 3 4

1. Concrete Blocks* — Various designs. Classification D-2 (2 hr).
See Concrete Blocks category for list of eligible manufacturers.
2. Mortar — Blocks laid in full bed of mortar, nom. 3/8 in. thick, of not less than 2-1/4 and not more than 3-1/2 parts of clean sharp sand to 1 part Portland cement (proportioned by volume) and not more than 50 percent hydrated lime (by cement volume). Vertical joints staggered.
3. Portland Cement Stucco or Gypsum Plaster — Add 1/2 hr to classification if used. Where combustible members are framed in wall, plaster or stucco must be applied on the face opposite framing to achieve a max. Classification of 1-1/2 hr. Attached to concrete blocks (Item 1).
4. Loose Masonry Fill — If all core spaces are filled with loose dry expanded slag, expanded clay or shale (Rotary Kiln Process), water repellant vermiculite masonry fill insulation, or silicone treated perlite loose fill insulation add 2 hr to classification.
5. Foamed Plastic* — (Optional-Not Shown) — 1-1/2 in. thick max, 4 ft wide sheathing attached to concrete blocks (Item 1).
ATLAS ROOFING CORP — "EnergyShield Pro Wall Insulation" and "EnergyShield Pro 2 Wall Insulation."

CARLISLE COATINGS & WATERPROOFING INC — Type R2+ Sheath

HUNTER PANELS — Type Xci-Class A, Xci 286

THE DOW CHEMICAL CO — Type Thermax Sheathing, Thermax Light Duty Insulation, Thermax Heavy Duty Insulation, Thermax Metal Building Board, Thermax White Finish Insulation, Thermax ci Exterior Insulation, Thermax IH Insulation, Thermax Plus Liner Panel, Thermax Heavy Duty Plus (HDP) and TUFF-R™ ci Insulation

* 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 2014-12-03

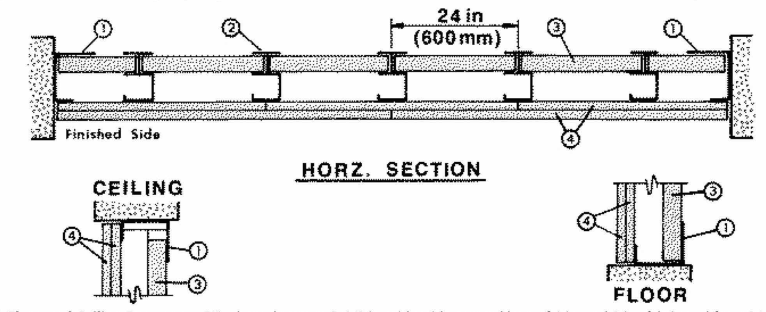
UL U438 - 2 HR ASSEMBLY

Design No. U438

March 12, 2020

Nonbearing Wall Rating — 2 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 —** "J" -shaped runner, 2-1/2 in. wide with unequal legs of 1 in. and 2 in., fabricated from 24 MSG galv steel (min 20 MSG when Item 4B is used). Runners positioned with short leg toward finished side of wall. Runners attached to structural supports with steel fasteners located not greater than 2 in. from ends and not greater than 24 in. OC.

2. **Steel Studs —** "C-H" -shaped studs, 2-1/2 in. wide by 1-1/2 in. deep, fabricated from 25 MSG galv steel (min 20 MSG when Item 4B, 4D, or 4E is used). Cut to lengths 3/8 to 1/2 in. less than floor to ceiling height and spaced 24 in. or 600 mm OC (max 16 in. OC when Items 4B, 4D, 4E is used).

2A. **Steel Studs —** (Not shown)-"E" -shaped studs installed in place of "C-H" -shaped studs (Item 2) to secure the closure liner panels at the ends of walls. Fabricated from 25 MSG galv steel (min 20 MSG when Item 4B, 4D, or 4E is used), 2-1/2 in. wide, with one leg 1 in. long and two legs 3/4 in. long. Shorter legs 1 in. apart to engage gypsum liner panels. Cut to lengths 3/8 in. less than floor to ceiling height. Sill and lintel of opening formed with "J" -shaped runners (Item 1) secured to "E" -shaped studs with angle clips and steel screws.

3. **Gypsum Board* —** 1 in. thick gypsum wallboard liner panels, supplied in nom 24 in. or 600 mm (for metric spacing) widths. Panels cut 1 in. less in length than floor to ceiling height. Vertical edges inserted in "H" -shaped section of "C-H" studs. Free edge of end panels attached to long leg of "J" -runners with 1-5/8 in. long Type S steel screws spaced not greater than 12 in. OC.
CGC INC — Type SLX.

UNITED STATES GYPSUM CO — Type SLX.

USG BORAL DRYWALL SFZ LLC — Type SLX

USG MEXICO S A DE C V — Type SLX.

4. **Gypsum Board* —** 1/2 in. thick, 4 ft. or 1200 mm (for metric spacing) wide wallboard applied vertically in two layers. Inner or base layer attached to studs with 1 in. long Type S steel screws spaced 24 in. OC along the edges and in the field of the boards. Outer or face layer attached to studs and "J" -runners with 1-5/8 in. long Type S steel screws spaced 12 in. along the edges and in the field of the boards, staggered from screws in inner layer. Joints between inner and outer layers staggered. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound.

As an alternate method, inner wallboard layer applied vertically, outer wallboard layer applied horizontally. Inner layer attached to studs with 1 in. Type S steel screws spaced 24 in. OC along vertical edges and in the field. Outer layer attached to the studs and "J" runners over the inner layer with 1-5/8 in. long Type S steel screws spaced 12 in. OC in the field, along the vertical edges and to the floor and ceiling runners. Outer layer secured to inner layer wallboard with 1-1/2 in. long Type G steel screws located midway between studs and 1 in. from the horizontal joint.

AMERICAN GYPSUM CO — Types AG-C .

CABOT MANUFACTURING ULC — Type C

CERTAINTEED GYPSUM INC — Type C

CGC INC — Type C, IP-X2, or WRC.

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, FSMR-C.
PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types PG-C.

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

THAI GYPSUM PRODUCTS PCL — Type C.

UNITED STATES GYPSUM CO — Type C, IP-X2 or WRC.

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C, IP-X2 or WRC.

4A. **Gypsum Board* —** (As an alternate to Item 4) — 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Inner or base layer attached to studs with 1 in. long Type S or S-12 steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S or S-12 steel screws spaced 12 in. OC when installed vertically and staggered 12 in. from base layer screws or 8 in. OC when installed horizontally and staggered 8 in. from base layer screws. Horizontal joints between inner and outer layers staggered a min of 12 in. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. Paper tape and joint compound may be omitted when gypsum boards are supplied with square edges. When used in widths other than 48 in., gypsum panels to be installed horizontally.
CGC INC — Type AR, IP-AR, IP-X1, SCX, ULX, or WRX.

UNITED STATES GYPSUM CO — Type AR, FRX-G, IP-AR, IP-X1, SCX, ULX or WRX.

USG BORAL DRYWALL SFZ LLC — Type SCX

USG MEXICO S A DE C V — Type AR, IP-AR, IP-X1, SCX, ULX, or WRX.

4B. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 or 4A for the base layer - 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 spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips (Item 6) required behind vertical joints.
RAY-BAR ENGINEERING CORP — Type RB-LBG

4C. **Gypsum Board* —** (As an alternate to Item 4, 4A, 4B) — 5/8 in. thick. Two layers installed as described in Item 4.
NATIONAL GYPSUM CO — Type FSMR-C.

4D. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 for the base layer - 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 spaced 8 in. OC at perimeter and 12 in. OC in the field. Lead batten strips required behind vertical joints. To be used with Lead Batten Strips (see Item 6B) or Lead Discs (see Item 6C).
MAYCO INDUSTRIES INC — Type X-Ray Shielded Gypsum

4E. **Gypsum Board* —** (Not Shown) - May be used in lieu of Items 4 for the base layer. 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

4F. **Gypsum Board* —** (As an alternate to Item 4) — 5/8 in. thick gypsum panels with beveled, square or tapered edges, applied vertically or horizontally. Inner or base layer attached to studs with 1 in. long Type S or S-12 steel screws spaced 24 in. OC when installed vertically or 16 in. OC when installed horizontally. Outer or face layer attached to studs with 1-5/8 in. long Type S or S-12 steel screws spaced 8 in. OC when installed vertically and staggered min. 8 in. from base layer screws or 8 in. OC when installed horizontally and staggered min. 6 in. from base layer screws. Horizontal joints between inner and outer layers need not to be staggered. Horizontal joints need not be backed by steel framing. Vertical joints centered over studs and staggered 24 in. Outer layer joints covered with paper tape and joint compound. Exposed screw heads covered with joint compound. When used in widths other than 48 in., gypsum panels to be installed horizontally.
UNITED STATES GYPSUM CO — Type ULIX.

5. **Batts and Blankets* —** (Optional) — (Not shown) — Mineral wool or glass fiber batts partially or completely filling stud cavity. Any mineral wool or glass fiber batt material bearing the UL Classification Marking as to Fire Resistance.

5A. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) — (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/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — INS735, INS745, INS750LD for use with wet or dry application. INS765LD and INS773LD are to be used for dry application only.

5B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) - 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

5C. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) - 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/ft³.
INTERNATIONAL CELLULOSE CORP — Celbar-RL

5D. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 5) — 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. To facilitate the installation of the material, any thin, woven or non-woven netting may be attached by any means possible to the outer face the studs. The material shall reach equilibrium moisture content before the installation of materials on either face of the studs. The minimum dry density shall be 5.79 lbs/ft³.
APPLEGATE HOLDINGS L L C — Applegate Advanced Stabilized Cellulose Insulation

6. **Lead Batten Strips —** For Use with Item 4B - (Not Shown) - Lead batten strips required behind vertical joints of lead backed gypsum wallboard (Item 4A) and optional at remaining stud locations. 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".

6A. **Lead Discs or Tabs —** (Not Shown) - Used in lieu of or in addition to the lead batten strips (Item 6) 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 5) 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".

6B. **Lead Batten Strips —** (Not Shown, for use with Item 4D) 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 and optional at remaining stud locations.

6C. **Lead Discs —** (Not Shown, for use with Item 4D) 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".

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

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS
Architecture
Engineering
Planning
Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

UL ASSEMBLIES

DATE: January 5, 2024

DRAWING A0.4

COMM. NO. 23104.00

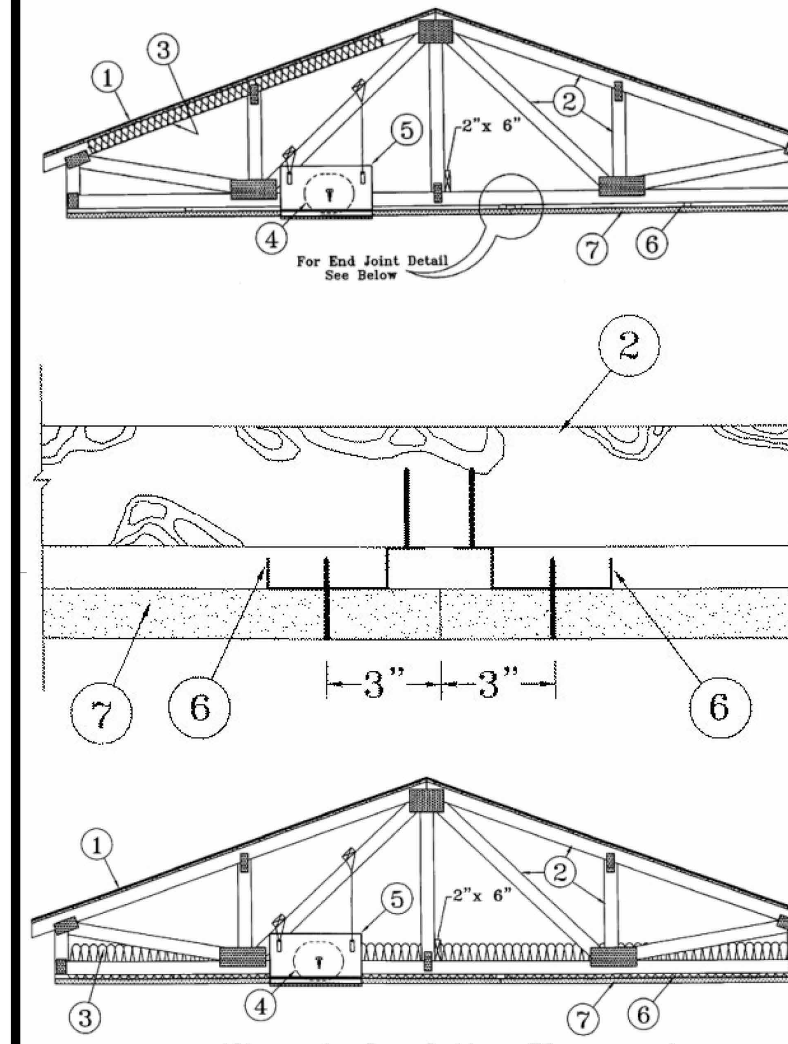
UL P522 - 1 HR ASSEMBLY

Design No. P522

May 05, 2020

Unrestrained Assembly Rating — 1 Hr

Finish Rating — 25 Min (See Items 3 or 3A)



Alternate Insulation Placement

1. **Roofing System* —** Any UL Class A, B or C Roofing System (TGFU) or Prepared Roof Covering (TFWZ) acceptable for use over nom 15/32 in. thick wood structural panels, min. grade "C-D" or "Sheathing". Nom 15/32 in. thick wood structural panels secured to trusses with No. 6d ringed shank nails spaced 12 in. OC along each truss. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Construction adhesive may be used with either the nails or staples.

2. **Trusses —** Pitched or parallel chord wood trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Truss members secured together with min. 0.0356 in. thick galv steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tooth has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approximately 7/8 in. centers with four rows of teeth per inch of plate width. Where the truss intersects with the interior face of the exterior walls, the min truss depth shall be 5-1/4 in. with a min roof slope of 3/12 and a min. area in the plane of the truss of 21 sq/ft. Where the truss intersects with the interior face of the exterior walls, the min truss depth may be reduced to 3 in. if the batts and blankets (Item 3) are used as shown in the above illustration (Alternate Insulation Placement) and are firmly packed against the intersection of the bottom chords and the plywood sheathing.

3. **Batts and Blankets* —** (Optional) — Required when Item 6B is used — Glass fiber insulation, secured to the wood structural panels with staples spaced 12 in. OC or to the trusses with 0.090 in. diam galv steel wires spaced 12 in. OC. Any glass fiber insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance, having a min density of 0.5 pcf. As an option, the insulation may be fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. When **Steel Framing Members** (Item 6B) are used, max 3-1/2 in. thick insulation shall be draped over the furring channels (Item 6Ba) and gypsum board ceiling membrane, and friction-fitted between trusses and Steel Framing Members (Item 6Bd). The finished rating has only been determined when the insulation is secured to the decking.

3A. **Fiber, Sprayed* —** As an alternate to Item 3 (not evaluated for use with Item 6B) — Any thickness of spray-applied cellulose insulation material, having a min density of 0.5 lb/ft^3, applied with water, over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Fiber, Sprayed is applied with moisture in accordance with the application instructions supplied with the product. The finish rating when Fiber Sprayed is used has not been determined. Alternate application method: The fiber is applied without water or adhesive in accordance with the application instructions supplied with a minimum density of 0.5 lb/ft^3 over the resilient channel/gypsum board ceiling membrane when resilient channels and gypsum board attachment is modified as specified in Items 6 and 7. Alternate application method: The fiber is applied without water or adhesive to a nominal density of 3.5 lb/ft^3 behind netting (Item 9) stapled to the rafters. The netting is stapled at both lower edges of the rafters creating a cavity to accept the cellulose fiber.
U S GREENFIBER L L C — INS735, INS745, INS750LD, and SANCTUARY for use with wet or dry application. INS510LD, INS515LD, INS541LD, INS735, INS765LD, and INS773LD are to be used for dry application only.

3B. **Foamed Plastic* —** (As an alternate to Item 3 or 3A, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft^3 density, while maintaining a minimum 8-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
SES FOAM INC — Sucraseal

3C. **Cavity Insulation - Batts and Blankets* or Fiber, Sprayed* —** (As described above) in Items 3 and 3A — (For Use with Item 7B, Not Shown) — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6G)/gypsum board (Item 7B) ceiling membrane.

3D. **Foamed Plastic* —** (As alternate to Item 3, 3A, or 3B, Not Shown) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 10 in. at a nominal 0.5 lb/ft^3 or 2.0 lb/ft^3 density, depending on the product installed. When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) spaced maximum 3 in. away from gypsum butt joints. Gypsum board (Item 7) to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5H) in the concealed space, minimum 1 in. clearance to be maintained between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
BASF CORP — Enertite® NM, Enertite® G, FE178®, Spraytite® 178, Spraytite® 81206, Walltite® 200, Walltite® US, Walltite® US-N, and Walltite® HP+

3E. **Foamed Plastic* —** (As an alternate to Item 3, 3A, 3B, 3C, or 3D, Not Shown) — Spray foam insulation applied directly to the underside of the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 17 in. at a nominal 0.5 lb/ft^3 density, while maintaining a minimum 1-1/2 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is used, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board (Item 7) installed at 6 in. OC to allow for maximum 3 in. spacing off ends of the gypsum board joints. Gypsum board (Item 7) to be installed using 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Not evaluated for use with Items 6A through 6F.
SES FOAM INC — EasySeal.5

3F. **Foamed Plastic* —** (As alternate to Item 3 - not to be used in combination with any alternates to item 3) — Spray foam insulation applied directly to the underside of the roofing system (Item 1). Spray foam insulation installed to a maximum thickness of 11 in. at a nominal 1.0 lb/ft^3 - 2.5 lb/ft^3 density, while maintaining a minimum 7 in. clearance between the spray foam insulation and the gypsum board (Item 7). When spray foam insulation is installed, resilient channels (Item 6) shall be installed maximum 12 in. OC, with channels adjacent to butt joints of gypsum board spaced maximum 3 in. away from gypsum butt joints. Gypsum board to be installed using minimum 1-1/4 in. long Type S screws, spaced maximum 8 in. OC, and butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. If used with a fire damper (Items 5 through 5K) in the concealed space, no clearance is necessary between damper housing and spray foam insulation. Only for use with item 6 not evaluated for use with alternates to item 6.
CARLISLE SPRAY FOAM INSULATION — SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim, and SealTite Pro One Zero.

4. **Air Duct* —** Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

5. **Ceiling Damper* —** Max nom area, 324 sq in. Max square size, 18 in. by 18 in. rectangular sizes not to exceed 324 sq in. with a max width of 18 in. Max damper height is 14 in. Installed in accordance with manufacturers installation instructions provided with the damper. Max damper openings not to exceed 162 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS — Model RD-521

POTTORFF — Model CFD-521

5A. **Alternate Ceiling Damper* —** Max nom area, 196 sq in. Max square size, 14 in. by 14 in. Rectangular sizes not to exceed 196 sq in. with a max width of 26 in. Max overall damper height is 7 in. Installed in accordance with the manufacturers installation instructions provided with the damper. Max damper openings not to exceed 98 sq in. per 100 sq ft of ceiling area.
C&S AIR PRODUCTS — Model RD-521-BT

POTTORFF — Model CFD-521-BT.

5B. **Alternate Ceiling Damper* —** Max nom area shall be 256 sq in. with the length not to exceed 24 in. and the width not to exceed 20 in. Max height of damper shall be 17 in. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Model RD-521-IP, RD-521-NP

POTTORFF — Models CFD-521-IP, CFD-521-NP

5C. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly. Max nom area shall be 75 sq in. with the length not to exceed 8-9/16 in. and the width not to exceed 8-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 38 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturers installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Models CRD2, GBR-CRD, ITG-CRD

5D. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 75 sq in. with the length not to exceed 9-1/4 in. and the width not to exceed 9-3/4 in. Max height of damper shall be 9-7/8 in. Aggregate damper openings shall not exceed 45 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SIG-CRD

5E. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses. Max nom area shall be 144 sq in. with the length not to exceed 14 in. and the width not to exceed 12 in. Max height of damper shall be 17-7/8 in. Aggregate damper openings shall not exceed 74 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturers installation instructions provided with the damper. A steel grille shall be installed in accordance with installation instructions.
C&S AIR PRODUCTS — Model RD-521-90, RD-521-NP90

POTTORFF — Models CFD-521-90, CFD-521-90NP

5F. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 131 sq in. with the length not to exceed 11-1/16 in. and the width not to exceed 11-7/8 in. Aggregate damper openings shall not exceed 66 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
DELTA ELECTRONICS INC — Model SMT-CRD

5G. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 103 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 10-1/8 in. Aggregate damper openings shall not exceed 52 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
PANASONIC CORPORATION, PANASONIC CORPORATION OF NORTH AMERICA — Model PC-RD05C5

5H. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 113 sq in. with the length not to exceed 10-1/8 in. and the width not to exceed 11-1/8 in. Aggregate damper openings shall not exceed 57 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDFUWT

5I. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 79 sq in. with the length not to exceed 10 in. and the width not to exceed 7-15/16 in. Aggregate damper openings shall not exceed 40 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A metallic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Models RDJ1 and RDH

5J. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDMWT

5K. **Alternate Ceiling Damper* —** Ceiling damper & fan assembly for use with min 18 in. deep trusses. Max nom area shall be 87 sq in. with the length not to exceed 9 in. and the width not to exceed 9-11/16 in. Aggregate damper openings shall not exceed 44 sq in. per 100 sq ft of ceiling area. Damper shall be installed in combination with one of the fan models described in, and in accordance with, the manufacturer's installation instructions provided with the damper. A plastic grille shall be installed in accordance with installation instructions.
BROAN-NUTONE L L C — Model RDMWT2

6. **Furring Channels —** Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the trusses (Item 2), spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed spaced, or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane, or when insulation (Item 3B, 3D or 3E) is applied to the underside of the roofing system (Item 1). Two courses of resilient channel positioned 6 in. OC at wallboard butt-joints (3 in. from each end of wallboard). Channels oriented opposite at wallboard butt-joints. Channel splices overlapped 4 in. beneath wood trusses. Channels secured to each truss with 1-1/4 in. long Type S screws.

6A. **Steel Framing Members* —** (Not Shown) — As an alternate to Item 6, furring channels and Steel Framing Members 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 16 in. OC perpendicular to trusses when no insulation (Items 3 or 3A) is fitted in the concealed space or 12 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane or 24 in. OC when insulation (Items 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane and a second layer of gypsum board is attached as described in Item 7 for steel framing members. Channels secured to trusses as described in Item 6Ab. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.

b. **Steel Framing Members —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 by 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to alternating trusses with No. 8 by 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item 6Aa. 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,

6B. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 and 6A.
a. **Furring Channels —** Hat-shaped furring channels, 7/8 in. deep by 2-5/8 in. wide at the base and 1-1/4 in. wide at the face, formed from No. 25 ga. galv steel, spaced max 16 in. OC perpendicular to trusses and Cold Rolled Channels (Item 6Bb). Furring channels secured to Cold Rolled Channels at every intersection with a 1/2 in. pan head self-drilling screw through each furring channel leg. Ends of adjoining channels overlapped 4 in. and tied together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap. Supplemental furring channels at base layer and outer layer gypsum board butt joints are not required. Batts and Blankets draped over furring channels as described in Item 3. Two layers of gypsum board attached to furring channels as described in Item 7.

b. **Cold Rolled Channels —** 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Bd). Adjoining lengths of cold rolled channels lapped min. 6 in. and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking —** Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 6 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the truss (Item 2) at the top and bottom of the blocking at each Steel Framing Member (Item 6Bd) location.

d. **Steel Framing Members* —** Hangers spaced 48 in. OC. max along truss, and secured to the Blocking (Item 6Bc) on alternating trusses with a single 5/16 in. by 2 in. hex head lag bolt or four #6 1-1/4 in. drywall screws through mounting hole(s) on the hanger bracket. The two 1/4 in. long steel teeth on the hanger are embedded in the side of the blocking. Hanger positioned on blocking and leveling bolt height adjusted such that furring channels are flush with bottom of trusses before gypsum board installation. Spring gauge of hanger chosen per manufacturer's instructions.
KINETICS NOISE CONTROL INC — Type ICW.

6C. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6, 6A and 6B.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep installed perpendicular to wood structural members. Channels spaced a max of 16 in. OC when no insulation (Item 3 or 3A) is fitted in the concealed space or a max of 12 in. OC when insulation (Item 3 or 3A) is fitted in the concealed space. Channels secured to trusses as described in Item 6Cb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item 6Ca) to trusses (Item 2). Clips secured to the bottom chord of each truss (24 in. OC) with one No. 8 by 2-1/2 in. long coarse drywall screw through center grommet. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item 6Ca. 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. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PLITEQ INC — Type Genie Clip

6D. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6, 6A, 6B and 6C.
a. **Main runners —** Installed perpendicular to trusses — Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft OC. Main runners hung a min of 2 in. from bottom chord of trusses with 12 SWG galv steel wire. Wires located a max of 48 in. OC.

b. **Cross tees or channels —** Nom 4 ft long, 15/16 in. or 1-1/2 in. wide face or cross channels, nom 4 ft long, 1-1/2 wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or channels used at 8 in. from each side of butted gypsum board end joints. The cross tees or channels may be riveted or screw-attached to the wall angle or channel to facilitate the ceiling installation.

c. **Wall angles or channels —** Used to support steel framing member ends and for screw-attachment of the gypsum wallboard — Min 0.016 in. thick painted or galvanized steel angle with 1 in. legs or min. 0.016 in. thick painted or galvanized steel channel with a 1 by 1-1/2 by 1 in. profile, attached to walls at perimeter of ceiling with fasteners 16 in. OC.
CGC INC — Type DGL or RX

USG INTERIORS LLC — Type DGL or RX

6E. **Alternate Steel Framing Members* —** (Not Shown) — As an alternate to items 6, 6A, 6B, and 6C, furring channels and Steel Framing Members as described below.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

6F. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 through 6E- Not for use with Items 3 or 3A. Main runners nom 12 ft long, spaced 72 in. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Cross tees, nom 6 ft long, installed perpendicular to main runners and spaced 24 in. OC. Additional 6 ft long cross tees required at each gypsum board end joint with butted gypsum board end joints centered between cross tees spaced 8 in. OC. The main runners and cross tees may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.
USG INTERIORS LLC — Type DGL or RX

6G. **Resilient Channels —** For Use With Item 7B - Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 3C is applied over the resilient channel/gypsum panel ceiling membrane.

6H. **Alternate Steel Framing Members* —** (Not Shown) — As an alternate to items 6 through 6G, furring channels and Steel Framing Members as described below.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to trusses. When insulation, Items 3 or 3A is used, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in Item 7.
REGUPOL AMERICA — Type SonusClip

7. **Gypsum Board* —** One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to trusses. Attached to the resilient channels using 1 in. long Type S bugle-head screws. Screws spaced a max of 12 in. OC along butted end-joints and in the field when no insulation (Item 3 or 3A) is fitted in the concealed spaced, or a max of 8 in. OC along butted end-joints and in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the resilient channel/gypsum board ceiling membrane. When insulation (Item 3B, 3D or 3E) is installed in the concealed space, spray-applied to the underside of the roofing system (Item 1), screws are spaced a max of 8 in. OC along resilient channels, fasteners are increased in length to 1-1/4 in, and gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels.
When **Steel Framing Members*** (Item 6A or 6C) are used, sheets installed with long dimension perpendicular to furring channels and side joints of sheet located beneath trusses. Gypsum board screws are driven through channel spaced 12 in. OC in the field when no insulation (Item 3 or 3A) is fitted in the concealed space, or 8 in. OC in the field when insulation (Item 3 or 3A) is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Gypsum board butt joints shall be staggered min. 2 ft within the assembly, and occur between the main furring channels. At the gypsum board butt joints, each end of the gypsum board shall be supported by a single length of furring channel equal to the width of the wallboard plus 6 in. on each end. The furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to the trusses with one clip at each end of the channel. Screw spacing along the butt joint to attach the gypsum board to the furring channels shall be 8 in. OC. Second (outer) layer of gypsum board required when furring channels (Item 6A, a) are spaced 24 in. OC and insulation is fitted in the concealed space, draped over the furring channel/gypsum board ceiling membrane. Outer layer of gypsum board attached to the furring channels using 1-5/8 in. long Type S bugle-head screws spaced 8 in. OC at butted joints and 12 in. OC in the field. Butted end joints of outer layer to be offset a minimum of 8 in. from base layer end joints. Butted side joints of outer layer to be offset minimum 18 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6B) are used, two layers of nom 5/8 in. thick, 4 ft wide gypsum board are installed with long dimensions perpendicular to furring channels (Item 6Ba). Base layer attached to the furring channels using 1 in. long Type S bugle head steel screws spaced 8 in. OC along butted end joints and 12 in. OC in the field of the board. Butted end joints centered on the continuous furring channels. Butted base layer end joints to be offset a min of 16 in. in adjacent courses. Outer layer attached to the furring channels using 1-5/8 in. long Type S bugle head steel screws spaced 8 in. OC at butted end joints and 12 in. OC in the field. Butted end joints centered on the continuous furring channels and offset a min of 16 in. from butted end joints of base layer. Butted side joints of outer layer to be offset min 16 in. from butted side joints of base layer.

When **Steel Framing Members** (Item 6C) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 72 in. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end, spaced approximately 2 in. from joint. Screw spacing along the gypsum board butt joint shall be 8 in. OC. Butt joint furring channels shall be attached with a RESILMOUNT Sound Isolation Clip secured to underside of every truss that is located over the butt joint. Over all Gypsum Board side joints, approximately 20 in. lengths of furring channel shall be installed parallel to trusses (Item 2) between main furring channels. Side joint furring channels shall be attached to underside of the joist with RESILMOUNT Sound Isolation Clips - located approximately 2 in. from each end of the approximate 20 in. 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.

When **Steel Framing Members** (Item 6E) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from end joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel.

When alternate **Steel Framing Members*** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board sheets installed with long dimension (side joints) perpendicular to the 6 ft long cross tees with the end joints staggered min 4 ft and centered between cross tees which are spaced 8 in. OC. Gypsum board side joints may occur beneath or between main runners. Prior to installation of the gypsum board sheets, backer strips consisting of nom 7-3/4 in. wide pieces of gypsum board are to be laid atop the cross tee flanges and centered over each butted end joint location. The backer strips are to be secured to the flanges of the cross tees at opposite corners of the backer strip with hold down clips to prevent the backer strips from being uplifted during screw-attachment of the gypsum board sheets. Gypsum board fastened to cross tees with 1 in. drywall screws spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board. The butted end joints are to be secured to the backer strip with No. 10 by 1-1/2 in. long Type G laminating screws located 1 in. from each side of the butted end joint and spaced 1 in. and 4 in. from the side joints and max 8 in. OC in the field of the board.

When **Steel Framing Members** (Item 6H) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonusClip at every truss involved with the butt joint.

CGC INC — Types C, IP-X2, IPC-AR

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

USG BORAL DRYWALL SFZ LLC — Type C

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

7A. **Gypsum Board* —** For use with Steel Framing Members (Item 6D) when Batts and Blankets* (Item 3) are not used - One layer of nom 5/8 in. thick by 48 in. wide boards, installed with long dimension parallel to the main runners. Gypsum board fastened to each cross tee or channel with five wallboard screws, with one screw located at the midspan of the cross tee or channel, one screw located 12 in. from and on each side of the cross tee or channel mid span and one screw located 1-1/2 in. from each gypsum board side joint. Except at wallboard end joints, wallboard screws shall be located on alternating sides of cross tee flange. At gypsum board end joints, gypsum board screws shall be located 1/2 in. from the joint. Gypsum board fastened to main runners with wallboard screws 1/2 in. from side joints, midway between intersections with cross tees or channels (16 in. OC). End joints of adjacent gypsum board sheets shall be staggered not less than 32 in. Gypsum board sheets screw attached to leg of wall angle with wallboard screws spaced 12 in. OC. Joints treated as described in Item 7. For use with **Steel Framing Members*** (Item 6D) when **Batts and Blankets*** (Item 3) are used - Ratings limited to 1 Hour - 5/8 in. thick, 4 ft wide; installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Fastened to cross tees with 1 in. long steel gypsum board screws spaced 8 in. OC in the field and 8 in. OC along end joints. Fastened to main runners with 1 in. long gypsum board screws spaced midway between cross tees. Screws along sides and ends of boards spaced 3/8 to 1/2 in. from board edge. End joints of the sheets shall be staggered with spacing between joints on adjacent boards not less than 4 ft OC.
CGC INC — Type C or IP-X2

UNITED STATES GYPSUM CO — Type C or IP-X2

USG BORAL DRYWALL SFZ LLC — Type C

USG MEXICO S A DE C V — Type C or IP-X2

7B. **Gypsum Board* —** For use with Items 3C and 6G. Nom 5/8 in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Finish Rating with this ceiling system is 20 min.
CGC INC — Type ULIX

UNITED STATES GYPSUM CO — Type ULIX

8. **Finishing System —** (Not Shown) — 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, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board. **Alternate Ceiling Membrane** — Not Shown.

9. **Netting —** Fibrous, woven netting material fastened to underside of each joist with staples, with side joints overlapped.

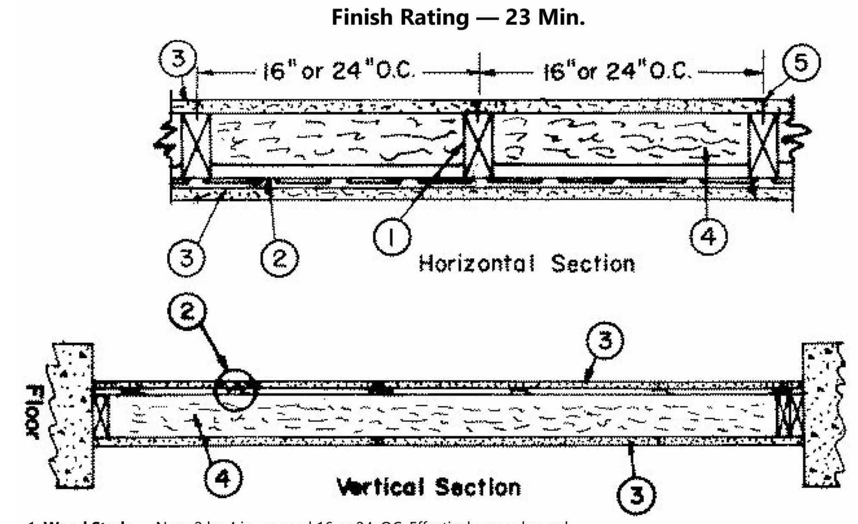
UL U311 - 1 HR ASSEMBLY

Design No. U311

March 11, 2020

Bearing Wall Rating — 1 HR.

Finish Rating — 23 Min.



1. **Wood Studs —** Nom 2 by 4 in., spaced 16 or 24. OC. Effectively cross braced.

2. **Resilient Channel —** 25 MSG galv steel. Resilient channels spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long Type W coarse thread gypsum panel steel screws.

2A. **Steel Framing Members* —** (Optional, Not Shown) — As an alternate to Item 2, furring channels and Steel Framing Members 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to studs (Item 1). Clips spaced 48 in. OC. and secured to studs with No. 8 x 2-1/2 in. coarse drywall 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).

2B. **Steel Framing Members* —** Furring channels 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 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to studs. Clips spaced 48 in. OC. Genie clips secured to studs with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
PLITEQ INC — Type Genie Clip

2C. **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 tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2Ca) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips — Type A237R

2D. **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 2Db. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 3.

b. **Steel Framing Members* —** Used to attach furring channels (Item 2Da) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

2E. **Steel Framing Members* —** (Optional, Not Shown) — Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels —** Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 2.

b. **Steel Framing Members* —** Used to attach resilient channels (Item 2Ea) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

2F. **Steel Framing Members* —** (Optional, Not Shown) — Furring channels and 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 2Fb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire. 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. Two layers of gypsum board attached to furring channels as described in Item 3A.

b. **Framing Members* —** Used to attach furring channels (Item 2Fa) to studs (Item 1). Rafts secured to stud, spaced a maximum of 24 in. OC. horizontally, vertically spaced 3 in. from the top and bottom and 24 inch on center along each stud and secured with two 1-1/4 inch (No. 6) Type W drywall screws. One on each side of the core. Fasteners should not be placed closer than 1/4 inch to the edges of the mounts.
BCD LLC — Type HushFrame Raft Connector

3. **Gypsum Board* —** 5/8 in. thick, 4 ft wide. Screw attached on one side of wall to furring channels with 1 in. long, self-drilling, self-tapping steel screws spaced 12 in. OC, vertical joints located midway between studs and back blocked with furring channels, attached with 1 in. long, self-drilling, self-tapping screws, spaced 12 in. OC, along each edge. Gypsum board on opposite side of wall attached directly to studs with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced 12 in. OC. Vertical joints shall be located over studs on this side of the wall.
AMERICAN GYPSUM CO — Types AG-C

CERTAINTEED GYPSUM INC — Type C

CGC INC — Types C, IP-X2, IPC-AR, ULIX

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, FSW-G

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

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, ULIX

USG BORAL DRYWALL SFZ LLC — Type C

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

3A. **Gypsum Board* —** (For use with Item 2F) - Any 5/8 in. thick, 4 ft. wide, Gypsum Board UL Classified for Fire Resistance (CKNX) eligible for use in Design No. G512. Two layers, applied vertically, and attached to furring channels (Item 2Fa). Vertical gypsum board side joints offset 24 inches between layers. Horizontal butt joints offset 48 inches from adjacent board horizontal joints and 24 inches from base layer butt joint. Vertical joints staggered one stud cavity on opposite sides of studs. Type S steel screws used to attach gypsum board to furring channels. First layer - 1 in. long, 3 inches from the edge and 24 in. OC. Second layer- 1-5/8 in. long, spaced 1 inch from the edge and 12 in. OC.

4. **Batts and Blankets* —** 3-1/2 in. thick mineral wool batts, placed to fill interior of wall, attached to the 4-in. face of the studs with staples placed 24 in. OC.
JOHNS MANVILLE

ROCKWOOL — Types Acoustical Fire Batts and AFB, min. density 1.69 pcf / 27.0 kg/m^3

ROCKWOOL MALAYSIA SDN BHD — Type Acoustical Fire Batts.

ROCK WOOL MANUFACTURING CO — Type Delta Board

THERMAFIBER INC — Type SAFB, SAFB FF.

4A. **Glass Fiber Insulation —** (As an alternate to Item 4) — 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the interior of the wall. See **Batts and Blankets** (BKNV or BZJZ) Categories for names of Classified companies.

4B. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 4) — 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 and INS750LD for use with wet or dry application. INS515LD, INS541LD, INS735, INS765LD and INS773LD are to be used for dry application only

4C. **Fiber, Sprayed* —** As an alternate to Items 4, 4A, and 4B — 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. Nominal dry density of 4.58 lb/ft^3.
NU-WOOL CO INC — Cellulose Insulation

4D. **Fiber, Sprayed* —** As an alternate to Batts and Blankets (Item 4) — 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

5. **Joints and Screw Heads —** Wallboard joints covered with paper tape and joint compound. Screw heads covered with joint compound. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with joints reinforced with paper tape.

6. **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 wood 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

7. **Mineral and Fiber Board —** (Optional, Not Shown) — 1/2 in. thick, 4 ft wide, square edge fiber boards applied vertically to studs on the side of the wood framing without the resilient channels, in between the wood framing and the UL Classified gypsum board (Item 3). Fiber boards installed with 1-1/4 in. long, Type W, bugle head, coarse thread gypsum board screws spaced 12 in. OC max, with the last screws spaced 2 in. and 6 in. from edge of board. Gypsum board (Item 3) installed horizontally or vertically and fastened through the fiber boards to wood framing with 2 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. Gypsum board joints staggered from fiber board joints. Fiber boards not evaluated or intended as a substitute for the required layer of UL Classified Gypsum Board.
BLUE RIDGE FIBERBOARD INC — SoundStop

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

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

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
UL ASSEMBLIES

DATE: January 5, 2024	DRAWING A0.5
COMM. NO. 23104.00	

UL U347 - 2 HR ASSEMBLY

Design No. U347

July 17, 2020

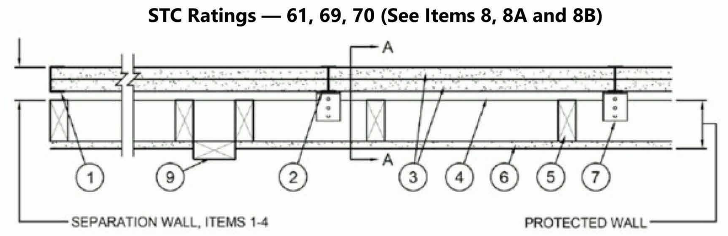
Nonbearing Wall Rating — 2 Hr (See Items 5, 5A and 5B) (Separation Wall, See Items 1,2 and 3)

Bearing Wall Rating 2 Hr. (Protected Wall, See Items 5 and 5A)

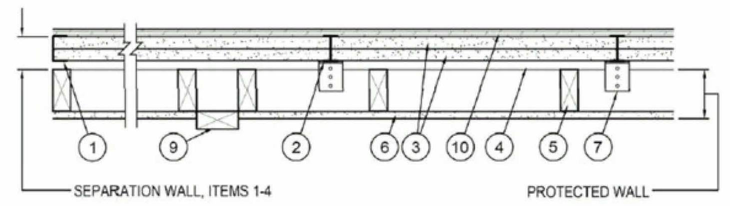
Nonbearing Wall Rating 2-Hr (Protected Wall, See Item 5, 5A and 5B)

Finish Rating — 120 Min (See Item 5)

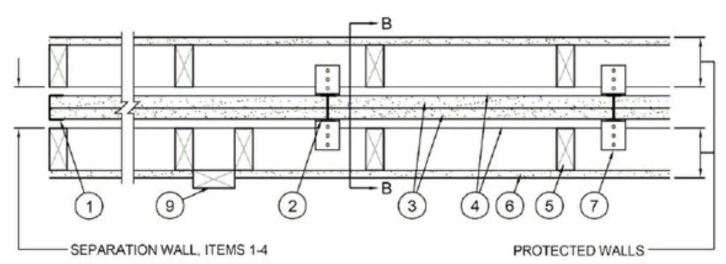
STC Ratings — 61, 69, 70 (See Items 8, 8A and 8B)



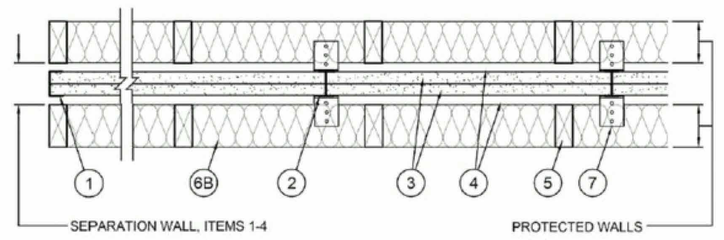
CONFIGURATION A
EXPOSED TO FIRE FROM AREA SEPARATION WALL SIDE ONLY



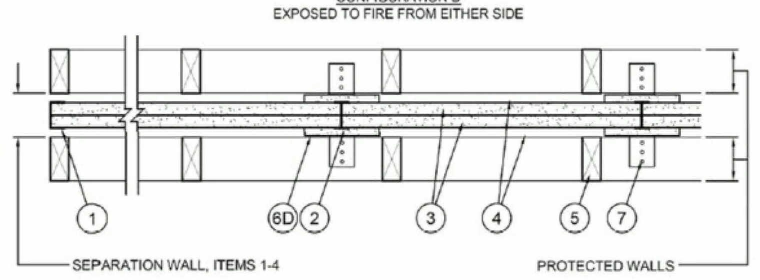
CONFIGURATION B
EXPOSED TO FIRE FROM AREA SEPARATION WALL SIDE ONLY



CONFIGURATION C
EXPOSED TO FIRE FROM EITHER SIDE



CONFIGURATION D
EXPOSED TO FIRE FROM EITHER SIDE



CONFIGURATION E
EXPOSED TO FIRE FROM EITHER SIDE

SEPARATION WALL: (Non-bearing, Max Height - 66 ft - see Item 6)

1. **Steel Track —** Floor, sidewall or top wall track. Nom 2 in. wide channel shaped with nom 1 in. long legs, formed from No. 25 MSG galv steel, secured with suitable fasteners spaced 24 in. OC.

2. **Steel Studs —** "H" shaped studs formed from No. 25 MSG galv steel having an overall depth of approximately 2 in. and flange width 1-3/8 in.

3. **Gypsum Board* —** Two layers of 1 in. thick gypsum wallboard liner panels, supplied in nom 24 in. widths. Vertical edges of panels friction fit into "H" shaped studs.
NATIONAL GYPSUM CO — Types FSW, FSW-B, FSW-7, FSW-9

PROTECTED WALL: (Bearing or Nonbearing Wall, as indicated in Items 4, 4A and 4B. When Bearing, Load Restricted for Canadian Applications — See Guide BXUV7.)

4. **Air Space —** Minimum 3/4-in. air space.

5. **Wood Studs —** For Bearing or Nonbearing Wall Rating — Nom 2 by 4 in. max spacing 24 in. OC. Studs cross braced at mid-height where necessary for clip attachment. Min 3/4 in. separation between wood framing and fire separation wall. Finish rating evaluated for wood studs only.

5A. **Steel Studs —** (As an alternate to Item 5, not shown) — For Bearing Wall Rating — Corrosion protected steel studs, min No. 20 MSG (0.0329 in., min bare metal thickness) steel or min 3- 1/2 in. wide, min No. 20 GSG (0.036 in. thick) galv steel or No. 20 MSG (0.033 in. thick) primed steel, cold formed, shall be designed in accordance with the current edition of the Specification for the Design of Cold-Formed Steel Structural Members by the American Iron and Steel Institute. All design details enhancing the structural integrity of the wall assembly, including the axial design load of the studs, shall be as specified by the steel stud designer and/or producer, and shall meet the requirements of all applicable local code agencies. The max stud spacing of wall assemblies shall not exceed 24 in. OC. Studs attached to floor and ceiling tracks with 1/2 in. long Type S-12 steel screws on both sides of studs or by welded or bolted connections designed in accordance with the AISI specifications. Top and bottom tracks shall consist of steel members, min No. 20 MSG (0.0329 in., min bare metal thickness) steel or min No. 20 GSG (0.036 in. thick) galv steel or No. 20 MSG (0.033 in. thick) primed steel, that provide a sound structural connection between steel studs, and to adjacent assemblies such as a floor, ceiling, and/or other walls. Attached to floor and ceiling assemblies with steel fasteners spaced not greater than 24 in. O.C. Studs cross-braced with stud framing at midheight where necessary for clip attachment. Min 3/4 in. separation between steel framing and area separation wall. Finish rating has not been evaluated for Steel Studs.

5B. **Steel Studs —** (As an alternate to Items 5 and 5A, for use in Configuration B only, not shown) — For Nonbearing Wall Rating — Channel shaped, fabricated from min 25 MSG corrosion-protected steel, min 3-1/2 in. wide, min 1-1/4 in. flanges and 1/4 in. return, spaced a max of 24 in. OC. Studs to be cut 3/8 to 3/4 in. less than assembly height. Top and bottom tracks shall be channel shaped, fabricated from min 25 MSG corrosion-protected steel, min width to accommodate stud size, with min 1 in. long legs, attached to floor and ceiling with fasteners 24 in. OC max. Studs cross-braced with stud framing at midheight where necessary for clip attachment. Min 3/4 in. separation between steel framing and area separation wall. Finish rating has not been evaluated for Steel Studs.

6. **Gypsum Board — Classified or Unclassified —** Min 1/2 in. thick, 4 ft wide, applied horizontally or vertically. Wallboard attached to wood studs (Item 5) with 1-1/4 in. long steel drywall screws spaced 12 in. OC. Wallboard attached to steel studs (Item 5A or 5B) with 1 in. long Type S steel screws spaced 12 in. OC. Vertical joints located over studs. Horizontal joints shall be butted tight to form a closed joint. As an option, joints covered with paper tape and joint compound. As an option, screw heads covered with joint compound.

6A. **Plywood Sheathing or OSB —** (not shown) — As an alternate to Item 6, Min 1/2 in. thick plywood or OSB applied horizontally or vertically to wood or steel studs. Vertical joints located over studs. Horizontal joints shall be butted tight to form a closed joint. Fastened to studs with nails or screws of sufficient length, spaced 12 in. OC. Joints and fastener heads are not required to be treated. Aluminum clips shall be spaced as described in Item 7.

6B. **Batts and Blankets* —** (Not shown) — As an alternate to Items 6 and 6A, Glass fiber or mineral wool insulation, min. 3-1/2 in. thick, placed to completely fill the wood or steel stud cavities. When Batts and Blankets are used in place of Items 6 and 6A, the max height is 54 ft and the aluminum clips (Item 7) shall be spaced a max of 5 ft OC vertically. Min 3/4 in. separation between insulation and area separation wall. See Batts and Blankets (BKNV) category in the Building Materials Directory and Batts and Blankets (BZJZ) category in the Fire Resistance Directory for name of Classified Companies.

6C. **Wall and Partition Facings and Accessories* —** (not shown) — As an alternate to Items 6, 6A and 6B, 4 ft wide panels, applied vertically. Panels attached to wood studs (Item 4) with 1-5/8 in. long steel drywall screws spaced 16 in. OC. Vertical joints located over studs. Joints covered with paper tape and joint compound. As an option, screw heads covered with joint compound.
NATIONAL GYPSUM CO — Type SoundBreak Gypsum Board.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types QuietRock QR-500, QuietRock QR-510, QuietRock QR-525

6D. **Gypsum Board* —** As an alternate to Item 6 - Min 5/8 in. thick, min. 6 in. wide batten strips, applied on both sides of Steel Studs (Item 2) and horizontal back to back Steel Track (Item 1). Min. 5/8 in. thick, min. 3 in. wide batten strips applied on both sides of single Steel Track (Item 1) at perimeter of assembly. Batten strips secured to studs with 1-1/4 in. long Type S steel screws spaced 12 in. OC. Batten joints shall be butted tight to form a closed joint. As an option, entire sheet of gypsum board may be used in lieu of the battens. Clip placement as in item 7, 7A, 7B, or 7C.
NATIONAL GYPSUM CO — Type FSW-3, FSW, FSW-6.

6E. **Fiber, Sprayed* —** Optional - Not Shown. - 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/ft³. Alternate Application Method: The fiber is applied without water or adhesive at a nominal dry density of 3.5 lb/ft³, in accordance with the application instructions supplied with the product.
U S GREENFIBER L L C — SANCTUARY, FRM, INS735, NS745 and INS750LD for use with wet or dry application. INS515LD, INS541LD, INS510LD, INS765LD and INS773LD are to be used for dry application only.

7. **Aluminum Clips —** Aluminum angle, 0.049 in. thick, 2 in. wide with 2 in. and 2-1/2 in. legs. Clips secured with Type S screws 3/8 in. long to "H" studs and with 1-1/4 in. long screws to wood framing or steel framing through holes provided in clip.

7A. Clip placement for separation walls up to 23 ft high: Space clips a max of 10 ft OC vertically between wood or steel framing and "H" studs.

7B. Clip placement for separation walls up to 54 ft high: Space clips as described in Item 6A for upper 24 ft. Remaining wall area below requires clips spaced a max of 5 ft OC vertically between wood or steel framing and "H" studs.

8. **STC Rating —** The STC Rating of the wall assembly is 61 when it is constructed as described by Items 1 through 6, except:
A. Item 5, above — Wood Studs — Shall be spaced 16 in. OC.

B. Item 6, above — Gypsum Board — Min. weight 1.5 psf. Shall be applied vertically and attached to studs with 1-1/4 in. long steel drywall screws spaced 16 in. OC. Joints and screwheads shall be covered with paper tape and joint compound.

C. Item 7, above — Aluminum Clips — Spaced a max of 10 ft OC vertically.

D. Batts and Blankets* - The cavities formed by the wood studs shall be friction fit with 3-1/2 in. thick fiberglass insulation batts, min. 0.80 pcf. See Batts and Blankets (BKNV) category in the Building Materials Directory and Batts and Blankets (BZJZ) category in the Fire Resistance Directory for name of Classified Companies.

E. Max Height of Separation Wall is 23 ft.

F. The STC rating applies to Configuration B only.

G. Steel Studs (Items 5A, 5B), Plywood Sheathing or OSB (Item 5A and Item 9) and Batts and Blankets (Items 6B) not evaluated as alternatives for obtaining STC rating.

8A. **STC Rating —** The STC Rating of the wall assembly is 69 when it is constructed as described by Items 1 through 6, except:
A. Item 5, above — Wood Studs — Shall be spaced 16 in. OC.

B. Item 6C, above — Wall and Partition Facings and Accessories* — Type QuietRock QR-510 panels shall be installed.

C. Item 7, above — Aluminum Clips — Spaced a max of 10 ft OC vertically.

D. Batts and Blankets* - The cavities formed by the wood studs shall be friction fit with 3-1/2 in. thick fiberglass insulation batts, min. 1.0 pcf. See Batts and Blankets (BKNV) category in the Building Materials Directory and Batts and Blankets (BZJZ) category in the Fire Resistance Directory for name of Classified Companies.

E. Max Height of Separation Wall is 23 ft.

F. The STC rating applies to Configuration B only.

G. Steel Studs (Items 5A, 5B), Plywood Sheathing or OSB (Item 6A and Item 10) and Batts and Blankets (Items 6B) not evaluated as alternatives for obtaining STC rating.

8B. **STC Rating —** The STC Rating of the wall assembly is 70 when it is constructed as described by Items 1 through 7, except:
A. Item 5, above - Wood Studs - Shall be spaced 16 in. OC.

B. Item 6C, above - Wall and Partition Facings and Accessories* - Type QuietRock QR-525 panels shall be installed as described in Item 5C.

C. Item 7, above — Aluminum Clips - Spaced a max of 10 ft OC vertically.

D. Batts and Blankets* — The cavities formed by the wood studs shall be friction fit with 3-1/2 in. thick fiberglass insulation batts, min. 1.0 pcf. See Batts and Blankets (BKNV) category in the Building Materials Directory and Batts and Blankets (BZJZ) category in the Fire Resistance Directory for name of Classified Companies.

E. Max Height of Separation Wall is 23 ft.

F. The STC rating applies to Configuration B only.

G. Steel Studs (Items 5A, 5B), Plywood Sheathing or OSB (Item 6A and Item 10) and Batts and Blankets (Items 6B) not evaluated as alternatives for obtaining STC rating.

9. **Non-Bearing Wall Partition Intersection —** (Optional) Wall system consisting of nominal 2 by 4 in. stud or nominal 2 by 6 in. stud. Maximum one non-bearing wall partition intersection per stud cavity.

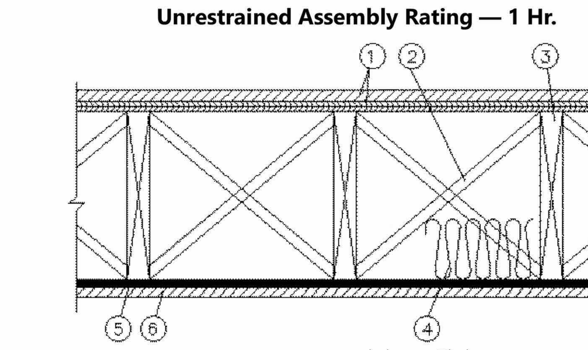
10. **Plywood Sheathing or OSB —** (Optional) — Min 1/2 in. thick plywood or OSB applied horizontally or vertically to "H" studs on area separation wall side of Configuration A or Configuration C. Vertical joints located over studs. Fastened to "H" studs with screws of sufficient length, spaced a maximum of 12 in. OC.

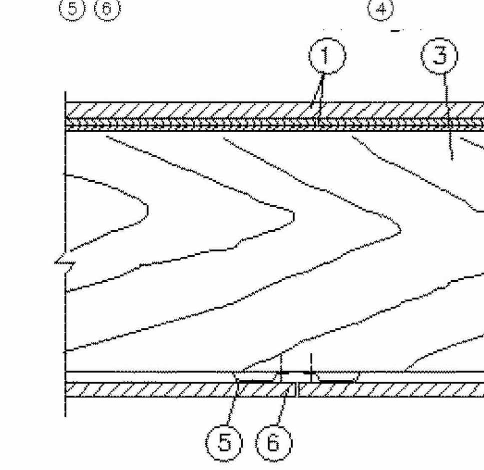
UL L569 - 1 HR ASSEMBLY

Design No. L569

July 01, 2020

Unrestrained Assembly Rating — 1 Hr.





1. **Flooring System —** The flooring system shall consist of one of the following:

System No. 1

Subflooring — Nom 15/32 in. thick wood structural panels installed perpendicular to the joists with end joints staggered. Plywood or panels secured to joists with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each joist. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) - Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Floor — Min 1 by 4 in. T & G lumber installed perpendicular to the joists, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.

System No. 2

Subflooring — Nom 15/32 in. thick wood structural panels installed perpendicular to the joists with end joints staggered. Plywood or panels secured to joists with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each joist. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* —Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

LATICRETE SUPERCAP L L C — Types LRK, HSLRK

USG MEXICO S A DE C V — Types LRK, HSLRK, CSD

Floor Mat Materials* — (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

Alternate Floor Mat Materials* — (Optional) - Floor mat material loosely laid over the subfloor. Refer to manufacturer's instructions regarding minimum thickness of floor topping over floor mat.

GRASSWORX L L C — SC Types

Alternate Floor Mat Material* — (Optional) - Floor mat material nominal 3/8 in. thick loose laid over the subfloor. Floor topping shall be a min 1/2 in. thick.

System No. 3

Subflooring — Min 15/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.

Floor Mat Materials* — (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 4

Subflooring — Nom 15/32 in. thick wood structural panels installed perpendicular to the joists with end joints staggered. Plywood or panels secured to joists with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each joist. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
MAXXON CORP — Type Maxxon Standard and Maxxon High Strength

Floor Mat Materials* — (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.
MAXXON CORP — Type Encapsulated Sound Mat.

Floor Mat Reinforcement — (Optional) Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

Metal Lath — (Optional) — 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat material.

System No. 5

Deleted.

System No. 6

Floor Mat Materials* — (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer\'s instructions regarding the minimum thickness of floor topping over each floor mat material.
UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

System No. 7

Sub-flooring — Min 19/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered.**Floor Mat Materials* — (Optional) —** Floor mat material nom 1/8 in. (3mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19mm)
HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25mm)
HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/8 in. (10mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32mm)
HACKER INDUSTRIES INC — FIRM-FILL SCM 400

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/4 in. (19mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38mm)**130869004 —** Type FIRM-FILL SCM 750**Alternate Floor Mat Materials - (Optional) —** Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of floor-topping mixture. Floor topping thickness a min 1 in. over the floor mat.
HACKER INDUSTRIES INC — Type Hacker Sound-Mat.(HSM1.02)

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32mm) of floor-topping mixture.
HACKER INDUSTRIES INC — Type Hacker Sound-Mat II. (HSM2.06)

Metal Lath (Optional) — For use with 3/8 in. (10 mm) or greater floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.**Finish Flooring - Floor Topping Mixture* —**

Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

System No. 8

Subflooring — Nom 15/32 in. thick wood structural panels installed perpendicular to the joists with end joints staggered. Plywood or panels secured to joists with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each joist. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Flooring* — Floor Topping Materials — Min 3/4 in. to 1-1/2 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance with a minimum compressive strength of 1500 psi.
See **Floor- and Roof-Topping Mixtures** (CCOX) category for names of Classified Companies.

Floor Mat Materials* — (Optional) — Floor mat material nom 1/8 in. to 3/4 in. thick. Loose laid over the subfloor. When used, Acousti-flor CSM (crack suppression mat) is loose laid over the floor mat material. Floor topping material thickness is dependent on thickness of floor mat used.
WALFLOR INDUSTRIES INC — Type Acousti-flor, Acousti-flor CSM. Floor topping thickness depends on products used as follows:

Acousti-flor (1/8 in. thick) - Floor topping thickness shall be a minimum of 3/4 in.

Acousti-flor (1/4 in. thick) - Floor topping thickness shall be a minimum of 1 in.

Acousti-flor (3/8 in. thick) - Floor topping thickness shall be a minimum of 1 in.

Acousti-flor (3/4 in. thick) - Floor topping thickness shall be a minimum of 1-1/2 in.

Metal Lath — (Optional) — Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.

Fiberglass Mesh Reinforcement — (Optional) — Coated non-woven glass fiber mesh grid loose laid over floor mat material.

System No. 9

Structural Cement-Fiber Units* — For use with **UNITED STATES GYPSUM CO** gypsum boards only. Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self- countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel.
UNITED STATES GYPSUM CO — Types STRUCTO-CRETE, USGSP

System No. 10

Subflooring — Nom 15/32 in. thick wood structural panels installed perpendicular to the joists with end joints staggered. Plywood or panels secured to joists with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each joist. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Flooring - Floor Topping Mixture* — Min 1 in. thickness of floor topping mixture having a min compressive strength of 4500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
SIKA DEUTSCHLAND GMBH — Type SCHONOX AP Rapid Plus

System No. 11

Subflooring — Nom 15/32 in. thick wood structural panels installed perpendicular to the joists with end joints staggered. Plywood or panels secured to joists with construction adhesive and No. 6d ringed shank nails, spaced 12 in. OC along each joist. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.

Floor Mat Materials* — (Optional, Not Shown) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.
LOW & BONAR INC — EnkaSonic® by Colbond a member of the Low & Bonar group Types 125, 250, 250 Plus, 400, 400 Plus, 750 and 750 Plus.

Floor Mat Reinforcement — (Optional) - Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

Metal Lath — (Optional) — Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.

Fiberglass Mesh Reinforcement — (Optional) — Coated non-woven glass fiber mesh grid loose laid over floor mat material.

2. **Cross Bridging —** 1 by 3 in.

3. **Wood Joists —** 2 by 10 in., spaced 16 in. OC, firestopped. Spacing may increase to 24 in. OC when Item 7, Battens, are used.

4. **Batts and Blankets* —** (Optional) — Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. - When the resilient channels (Item 5) or furring channels (Item 5B) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels (Item 5) or furring channels (Item 5B) are spaced a max of 12 in. OC or when the Steel Framing Members (Item 5A) are used, there is no limit in the overall thickness of insulation, and the insulation can be secured against the subflooring, held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane.

4A. **Loose Fill Material* —** As an alternate to Item 4, when the resilient channels (Item 5) or furring channels (Item 5B) are spaced a max of 12 in. OC or when the Steel Framing Members (Item 5A) are used - Any loose fill material bearing the UL Classification Marking for Surface Burning Characteristics. There is no limit in the overall thickness of insulation.

4B. **Batts and Blankets* —** (Not Shown) - Not for Direct Attachment - For use with Items 5E and 6A. As an alternative to Items 4 and 4A, any thickness of glass fiber or mineral wool insulation, nom. 0.5 pcf, fitted in the concealed space, draped over the resilient channels and gypsum board ceiling membrane (or Steel Framing Members/gypsum panel). Any glass fiber insulation bearing the UL Classification Marking for Surface Burning Characteristics.
See Batts and Blankets (BKNV) category in the Building Materials Directory for names of manufacturers.

5. **Furring Channels —** Resilient channels formed of 25 MSG thick galv steel. Installed perpendicular to the wood joists, spaced a max of 24 in. OC when no insulation is fitted in the concealed space. Otherwise, the spacing shall be as specified under Item 4 or 4A. Two courses of resilient channel positioned 6 in. OC at gypsum panel butt-joints (3 in. from each end of panel). Channels oriented opposite at panel butt-joints. Channel splices overlapped 4 in. beneath wood trusses. Channels secured to each truss with 1-1/4 in. long Type S screws.

5A. **Alternate Steel Framing Members —** (Not Shown) - As an alternate to Item 5, main runners, cross tees, cross channels and wall angle as listed below.
a. **Main Runners —** Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Hanger wires to be located adjacent to main runner/cross tee intersections. Hanger wires wrapped and twist-tied on 16d nails driven in to side of joists at least 5 in. above the bottom face.

b. **Cross Tees —** Nom 4 ft long, 1-1/2 in. wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or cross channels used at 8 in. from each side of butted gypsum panel end joints. The cross tees or cross channels may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.

c. **Cross Channels —** Nom 4 or 12 ft long, installed perpendicular to main runners, spaced 16 in. OC.

d. **Wall Angle or Channel —** Painted or galv steel angle with 1 in. legs or channel with 1 in. legs, 1-9/16 in. deep attached to walls at perimeter of ceiling with fasteners 16 in. OC. To support steel framing member ends and for screw-attachment of the gypsum panels.
CGC INC — Type DGL or RX.

USG INTERIORS LLC — Type DGL or RX.

5B. **Alternate Steel Framing Members —** (Not Shown)* — As an alternate to Items 5 and 5A, furring channels and Steel Framing Members 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, installed perpendicular to the wood joists, spaced a max of 24 in. OC when no insulation is fitted in the concealed space. Otherwise, the spacing shall be as specified under Item 4 or 4A. Channels secured to joists as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood joists (Item 2). RSIC-1 and RSIC-1 (2.75) clips secured to consecutive joists with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. RSIC-V and RSIC-V (2.75) clips secured to consecutive joists with No. 8 x 1-1/2 in. coarse drywall screw through the center hole. Furring channels are friction-fitted into clips. RSIC-1 and RSIC-V clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) and RSIC-V (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. 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. Additional clips required to hold furring channel that supports the gypsum panel butt joints, as described in Item 8.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-V, RSIC-1 (2.75), RSIC-V (2.75).

5C. **Alternate Steel Framing Members —** (Not Shown)* — As an alternate to Items 5 and 5A, furring channels 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, installed perpendicular to the wood joists, spaced a max of 24 in. OC when no insulation is fitted in the concealed space. When batt insulation (Items 4) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC. Channels secured to joists as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood joists (Item 2). GenieClips secured to consecutive joists with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. When insulation, Items 4, is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive joists. Furring channels are friction-fitted into clips. Adjoining channels are overlapped as described in Item a. 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. Additional clips required to hold furring channel that supports the gypsum panel butt joints, as described in Item 6. Not evaluated for use with Item 4A.
PLITEQ INC — Type GENIECLIP

5D. **Alternate Steel Framing Members —** (Not Shown)* - As an alternate to items 5-5C, furring channels and Steel Framing Members as described below.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 24 in OC, perpendicular to joists when no insulation is fitted in the concealed space. Otherwise, the spacing shall be as specified under item 4 or 4A. When batt insulation (Items 4) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC Channels secured to joists as described in Item b.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood joists (Item 2). Clips spaced at 48" OC and secured to the bottom of the joists with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire.Additional clips are required to hold the Gypsum Butt joints as described in item 6.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237 or A237R

5E. **Resilient Channels —** (Not Shown) - For Use With Items 4B and 6A - Resilient channels formed of 25 MSG galv steel, installed perpendicular to the joists spaced max 16 in. OC. Channels secured to each joist with 1-5/8 in. long Type S steel screws. Channel splices located beneath joists and overlapped 4 in. Two channels, spaced 6 in. OC, oriented opposite each gypsum board end joint as shown in end joint detail. Additional channels shall extend min 6 in. beyond each side edge of board. Insulation, Item 4B is applied over the resilient channel/gypsum panel ceiling membrane.

5F. **Alternate Steel Framing Members —** (Not Shown)* - As an alternate to items 5-5E, furring channels and Steel Framing Members as described below.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in deep, spaced 24 in OC, perpendicular to joists when no insulation is fitted in the concealed space. Otherwise, the spacing shall be as specified under item 4 or 4A. When batt insulation (Items 4) is draped over the resilient channel/gypsum board ceiling membrane, the resilient channel spacing shall be reduced to 12 in. OC Channels secured to joists as described in Item b.
b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the wood joists (Item 2). Clips spaced at 48" OC and secured to the bottom of the joists with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in item 6.

REGUPOL AMERICA — Type SonusClip

5G. **Steel Framing Members* —** (Optional, Not Shown) — As an alternate to Item 5.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 5, perpendicular to the joists. Channels secured to Cold Rolled Channels at every intersection with a 3/4 in. TEK screw through each furring channel leg. Ends of adjoining channels overlapped 12 in. and fastened together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap, or with two 3/4 in. TEK screws in each leg of the overlap section. Two furring channels used at end joints of gypsum board (Item 6), each extending a min of 6 in. beyond both side edges of the board.

b. **Cold Rolled Channels —** 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to joists, friction-fitted into the channel caddy on the Steel Framing Members (Item 5Gc) and secured with two 3/4 in. TEK screws. Adjoining lengths of cold rolled channels lapped min. 12 in. and secured along bottom legs with four 3/4 in. TEK screws and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Steel Framing Members* —** Spaced 48 in. OC. max along joist, and secured to the joist on alternating joists with two, #10 x 1-1/2 in. screws through mounting holes on the hanger bracket.
PAC INTERNATIONAL L L C — Type RSIC-SI-CRC EZ Clip

5H. **Steel Framing Members* —** (Optional, Not Shown) — As an alternate to Item 5.
a. **Furring Channels —** Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 5, perpendicular to joists and friction fit into Steel Framing Members (Item 5Hb). Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap or with two TEK screws along each leg of the 6 in. overlap. Two furring channels used at end joints of gypsum board (Item 6). Butt joint channels held in place by strong back channels placed upside down, on top of, and running perpendicular to primary furring channels, extending 6 in. longer than length of gypsum side joint. Strong back channels spaced maximum 48 in. OC. Strong back channels secured to every intersection of primary furring channels with four 7/16 in. pan head screws, two along each of the legs at intersections. Butt joint channels run perpendicular to strong back channels and shall be minimum 6 in. longer than length of joint, secured to strong back channels with 7/16 in. pan head screws, two along each of the legs at intersection with strong back channels.

b. **Steel Framing Members* —** Used to attach furring channels (Item 5Ha) to joists. Clips spaced 48 in. OC and secured along joist webs at each furring channel intersection with min. 3/4 in. long self-drilling #10 x 1-1/2 in. screws through each of the provided hole locations. Furring channels are friction fitted into clips.
PAC INTERNATIONAL L L C — Type RSIC-S1-1 Ultra

5I. **Steel Framing Members* —** (Optional - Not Shown) — Used to attach resilient channels (Item 5) to joists (Item 2). Clips spaced 48 in. OC and secured to joists with one No. 8 x 2-1/2 in. coarse drywall screw through center grommet hole. Channels secured to clips with one #10 x 1/2 in. pan-head self-drilling screw. Ends of adjoining channels overlapped 6 in. and secured together with two #8 15 x 1/2 in. Philips Modified screws spaced 2-1/2 in. from the center of the overlap. Gypsum board butt joints require additional resilient channels spaced 1-1/2 in. from the butt joint on either side. One edge of the extra channels will extend to an adjacent joist where it is secured with a clip.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

6. **Gypsum Board* —** Nom 5/8 in. thick, 48 in. wide gypsum panels. When resilient channels (Items 5) are used, gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from end joints. End joints secured to both resilient channels as shown in end joint detail. When Steel Framing Members (Item 5B, 5C) are used, gypsum panels installed with long dimensions perpendicular to furring channels. Panels attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 8 in. OC along butted end joints and in the field of the panels. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum panel shall be supported by a single length of furring channel equal to the width of the gypsum panel plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to underside of the joist with one clip at each end of the channel. When Steel Framing Members (Item 5A) are used, gypsum panels installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Panels fastened to cross tees with 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field and 8 in. OC along end joints. Panels fastened to main runners with 1 in. long Type S bugle-head steel screws spaced midway between cross tees. Screws along sides and ends of panels spaced 3/8 to 1/2 in. from panel edge. End joints of panels staggered on adjacent panels not less than 12 in. When **Steel Framing Members** (Item 5D) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end. The two support furring channels shall be spaced approximately 3 in. in from joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel. .
When **Steel Framing Members** (Item 5F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one joist beyond the width of the gypsum panel and be attached to the adjacent joists with one SonusClip at every joist involved with the butt joint.

When **Steel Framing Members** (Item 5G) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 6. Adjacent butt joints staggered minimum 48 in. OC.

When **Steel Framing Members** (Item 5H) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 6. Butt joints staggered minimum 24 in. OC.

CGC INC — Types C, IP-X2, IPC-AR.

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

USG BORAL DRYWALL SFZ LLC — Type C

6A. **Gypsum Board* —** (Not Shown) - For use with Items 4B and 5E. Nom 5/8 in. thick, 48 in. wide gypsum board installed with long dimension perpendicular to joists attached to resilient channels (5E) - Gypsum board screw-attached to the resilient channels with 1 in. long Type S screws spaced 8 in. OC, starting 1 in. from the side edges. At the end joints, the screws were located 3 in. from the edge.
CGC INC — Type ULIX

UNITED STATES GYPSUM CO — Type ULIX

7. **Battens —** Nom 6 by 22-1/2 by 5/8 in. thick pieces of gypsum board (Item 6) centered under subfloor joints and fastened with staples spaced 7 in. OC along each edge. Staples formed of 16 SWG (0.062 in. thick) steel with 1-1/8 in. legs and 1/2 in. crown, driven flush with gypsum board batten strips. The battens and staples are optional when the finish flooring consists of **Floor Topping Mixture***.

8. **Finishing System —** (Not shown) - Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum panels.

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

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS
Architecture
Engineering
Planning
Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : A0.6

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
UL ASSEMBLIES

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A0.6

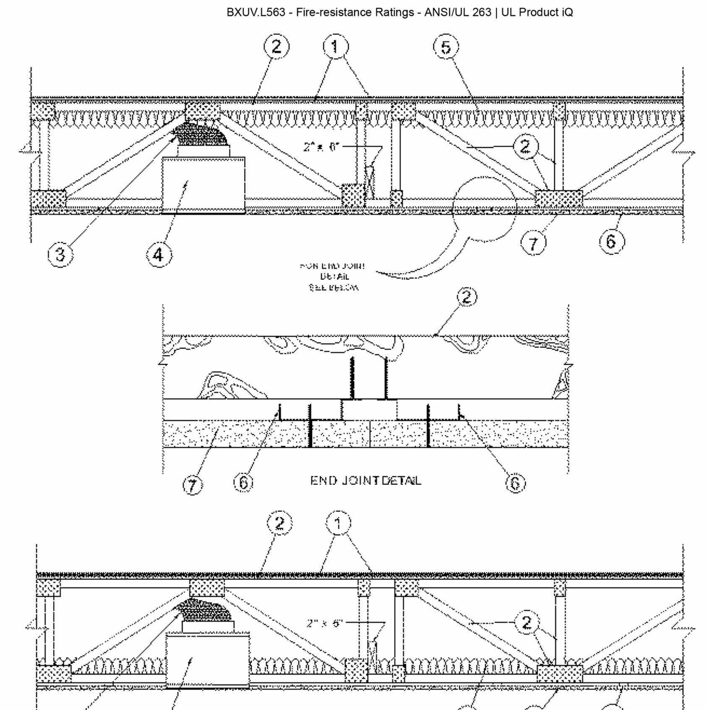
UL L563 - 1 HR ASSEMBLY

Design No. L563

February 05, 2021

Unrestrained Assembly Rating - 1 Hr

Finish Rating - 25 Min (See Items 5 or 5A and 7), 20 Min. (See Items 6E and 7A)



1. **Flooring System —** The flooring system shall consist of one of the following:

System No. 1

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring — Min 1 by 4 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.

System No. 2

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed

features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Floor Mat Materials* - (Optional) — Floor mat material nom 5/64 in. (2 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1 in. of floor-topping mixture.

HACKER INDUSTRIES INC — Type Hacker Sound-Mat

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 1/4 in. (6 mm) thick adhered to subfloor with Hacker Floor Primer. Primer to be applied to the surface of the mat prior to the placement of a min 1-1/4 in. (32 mm) of floor-topping mixture.

HACKER INDUSTRIES INC — Type Hacker Sound-Mat II.

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/8 in. (3 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 3/4 in. (19 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 125

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 1/4 in. (6 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1 in. (25 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 250, Quiet Qurl 55/025

Alternate Floor Mat Materials - (Optional)— Floor mat material nom 3/8 in. (10 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/4 in. (32 mm)

HACKER INDUSTRIES INC — FIRM-FILL SCM 400, Quiet Qurl 60/040

Alternate Floor Mat Materials - (Optional) — Floor mat material nom 3/4 in. (19 mm) thick loose laid over the subfloor. Floor topping thickness shall be a min of 1-1/2 in. (38 mm)

HACKER INDUSTRIES INC — Type FIRM-FILL SCM 750, Quiet Qurl 65/075

Metal Lath (Optional) — For use with 3/8 in. (10 mm) floor mat materials, 3/8 in. expanded steel diamond mesh, 3.4 lbs/sq yd placed over the floor mat material. Hacker Floor Primer to be applied prior to the placement of the metal lath. When metal lath is used, floor topping thickness a nom 1-1/4 in. over the floor mat.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1100 psi. Mixture shall consist of 6.8 gal of water to 80 lbs of floor topping mixture to 1.9 cu ft of sand.

HACKER INDUSTRIES INC — Firm-Fill Gypsum Concrete, Firm-Fill 2010, Firm-Fill 3310, Firm-Fill 4010, Firm-Fill High Strength, Gyp-Span Radiant

System No. 3

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Floor - Mineral and Fiber Board* — Min 1/2 in. thick, supplied in sizes ranging from 3 ft by 4 ft to 8 ft by 12 ft. All joints to be staggered a min of 12 in. with adjacent sub-floor joints.

HOMASOTE CO — Type 440-32 Mineral and Fiber Board

System No. 4

Subflooring — Min Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood or panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting

ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.010 in. thick commerical asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1800 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

UNITED STATES GYPSUM CO — Types LRK, HSLRK, CSD

LATICRETE SUPERCAP L L C — Types LRK, HSLRK

USG MEXICO S A DE C V — Types LRK, HSLRK, CSD

Floor Mat Materials* — (Optional) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

UNITED STATES GYPSUM CO — Types SAM, LEVELROCK® Brand Sound Reduction Board, LEVELROCK® Brand Floor Underlayment SRM-25

Alternate Floor Mat Materials* - (Optional) — Nom 3/8 in. thick floor mat material loose laid over the subfloor.

GRASSWORX L L C — Type SC50

System No. 5

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.4 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5-1/2 gal of water.

ELASTIZELL CORP OF AMERICA — Type FF

System No. 6

Deleted.

System No. 7

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 1-1/2 in. thickness of floor topping mixture having a min compressive strength of 1000 psi and a cast density of 100 plus or minus 5 pcf. Foam concentrate mixed 40:1 by volume with water and expanded at 100 psi through nozzle. Mixture shall consist of 1.2 cu feet of preformed foam concentrate to 94 lbs Type I Portland cement, 300 lbs of sand with 5.5 gal of water.

AERIX INDUSTRIES — Floor-Topping Mixture

System No. 8

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with end joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Mixture shall consist of 5 to 8 gal of water to 80 lbs of floor topping mixture to 2.1 cu ft of sand.

ULTRA QUIET FLOORS — Types UQF-A, UQF-Super Blend, UQF-Plus 200

System No. 9

Subflooring — Min 23/32 in. thick T & G wood structural panels installed perpendicular to trusses with joints staggered 4 ft. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ring shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a minimum compressive strength of 1500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

MAXXON CORP — Type Maxxon Standard and Maxxon High Strength

Floor Mat Materials* - (Optional) — Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.

MAXXON CORP — Type Encapsulated Sound Mat.

Floor Mat Reinforcement — (Optional) Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

Metal Lath - (Optional) 3/8 in. expanded galvanized steel diamond mesh, 3.4 lbs/sq yd loose laid over the floor mat material.

Fiber Glass Reinforcement — (Optional) - 0.015 in. thick PVC coated non-woven fiberglass mesh, 0.368 lbs./sq. yd loose laid over the floor mat material.

System No. 10

Subflooring — Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior glue, or non-veneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or non-veneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

FORMULATED MATERIALS LLC — Types FR-25, FR-30, and SiteMix

Floor Mat Material* — (Optional) Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in.

FORMULATED MATERIALS LLC — Types M1, M2, M3, Elite, Duo, R1, and R2

System No. 11

Subflooring — Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.

Floor Mat Materials* — (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 12

Subflooring — Min 23/32 in. thick wood structural panels, min grade "C-D" or "Sheathing". Face grain of plywood or strength axis of panels to be perpendicular to the joists with joints staggered.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Vapor Barrier — (Optional) - Nom 0.010 in. thick commercial rosin-sized building paper.

Finish Flooring — Min 3/4 in. thickness of lightweight insulating concrete with **Perlite Aggregate*** or **Vermiculite Aggregate***, or gypsum concrete.

See **Perlite Aggregate** (CFFX) and **Vermiculite Aggregate** (CJZZ) categories for names of manufacturers.

Floor Mat Materials* — (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 13

Subflooring — Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior glue, or nonveneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

ACG MATERIALS — AccuCrete® Types NexGen, Green, Prime and PrePour, AccuRadiant®, AccuLevel® Types G40, G50 and SD30

Floor Mat Material* — (Optional) — Floor mat material nominal 2 - 9.5 mm thick loose laid over the subfloor. Floor topping shall be a min of 3/4 in.

ACG MATERIALS — AccuQuiet® Types D13, D-18, D25, DX38, EM.125, EM.125S, EM.250, EM.250S, EM.375, EM.375S, EM.750, and EM.750S.

System No. 14

Subflooring — Min 23/32 in. thick plywood with T & G edges along the 8 ft sides and exterior glue, or nonveneer APA Rated "Sturd-I-Floor" T & G panels per APA specifications PRP-108. Plywood or nonveneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of floor topping mixture having a min compressive strength of 1000 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.

DEPENDABLE LLC — GSL M3.4, GSL K2.6, GSL-CSD and GSL RH.

Floor Mat Materials* — (Optional) - Nom. 1/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 55/025 and Quiet Qurl 55/025 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 60/040 and Quiet Qurl 60/040 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 3/4 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 1-1/2 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 65/075, Quiet Qurl 65/075 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/8 in. thick loose laid over the subfloor. Floor topping thickness shall be a minimum of 3/4 in.

KEENE BUILDING PRODUCTS CO INC — Type Quiet Qurl 52/013 and Quiet Qurl 52/013 N

Alternate Floor Mat Materials* — (Optional) - Floor mat material Nom. 1/4 in. entangled net core with a compressible fabric attached to the bottom loose laid over the subfloor. Floor topping thickness shall be a minimum of 1 in.

KEENE BUILDING PRODUCTS CO INC — Quiet Qurl 55/025 MT and Quiet Qurl 55/025 N MT

System No. 15

Subflooring — Min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. Plywood or non-veneer APA rated panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss.

Wall and Partition Facings and Accessories* - Sound Barrier (Optional) — Acoustic Sleeper pads stapled to the top of the subfloor, the bottom of the finish floor, or to 5/16 in. thick by 1-1/2 in. wide wood strips and centered over wood trusses. Acoustic Sleeper pads are to be spaced appropriately so that the finish floor panels are fastened through Acoustic Sleeper pads to trusses.
STC ARCHITECTURAL PRODUCTS L L C DBA STC SOUND CONTROL — Acoustic Sleeper

Finish Floor — Min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single-Floor". Face grain of plywood or strength axis of panel to be perpendicular to joists with joints staggered. Butt joints of panels have the option of being sealed with any UL Classified caulk or sealant found under - Fill, Void or Cavity Materials* (XHHW).

System No. 16

Subflooring - Structural Cement-Fiber Units* — Nominal 19 mm (3/4 in.) thick tongue and groove structural cement-fiber units. Long dimension of panels to be perpendicular to trusses with end joints staggered. Panels fastened to the trusses with #10 self-drilling, self-tapping cement board screws 1-3/4 in. long. Screws shall be spaced 6 in. OC along the perimeter of each sheet and 12 in. OC in the field of each sheet. Screws shall be spaced 1/2 in. from end joints and 1 in. from side joints.
ECTEK INTERNATIONAL INC — Armoroc Panel

Subflooring (Alternate) — Building Units* — Nom 3/4 in. thick, tongue and grooved boards. Long dimension of boards to be perpendicular to trusses with end joints staggered a min of 4 ft. and centered over the trusses. Boards secured to trusses with 1-1/4 in. long self-drilling, self- tapping screws spaced a max of 12 in. OC in the field with screws located 1 in. from long edge, and max 8 in. OC along the end joints with screws located 1/2 in. from end joint.
ECTEK INTERNATIONAL INC — Type MegaBoard

Vapor Barrier - (Optional) — Nom 0.030 in. thick commercial asphalt saturated felt.

Finish Flooring — Min 1 by 4 in. T & G lumber fastened diagonally to trusses, or min 15/32 in. thick wood structural panels, min grade "Underlayment" or "Single Floor". Face grain of plywood or strength axis of panel to be perpendicular to trusses with joints staggered.

System No. 17

Structural Cement-Fiber Units* — For use with **UNITED STATES GYPSUM CO** Types C, IP-X2, IPC-AR and ULIX gypsum boards only. Nom 3/4 in. thick, with long edges tongue and grooved. Long dimension of panels to be perpendicular to wood trusses with end joints staggered a min of 2 ft and centered over the trusses. Panels secured to wood trusses with 1-5/8 in. long, No. 8, self- countersinking wood screw spaced a max of 12 in. OC in the field with a screw located 1 in. and 2 in. from

each edge, and 8 in. OC on the perimeter with a screw located 2 in. from each edge, located 1/2 in. from the end edges of the panel.
UNITED STATES GYPSUM CO — Types STRUCTO-CRETE, USGSP

System No. 18

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Finish Flooring - Floor Topping Mixture* — Min 1 in. thickness of floor topping mixture having a min compressive strength of 4500 psi. Refer to manufacturer's instructions accompanying the material for specific mix design.
SIKA DEUTSCHLAND GMBH — Type SCHONOX AP Rapid Plus

System No. 19

Subflooring — Nom 23/32 in. thick wood structural panels installed perpendicular to trusses with end joints staggered. Plywood panels secured to trusses with construction adhesive and No. 6d ringed shank nails spaced 12 in. OC along each truss. TetraGRIP™ nails measuring 2-3/8 in. long, 0.113 in. diameter, 0.272 in. round head, and helically threaded shank with barbed features on the helix meeting ASTM F1667 and having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails. Staples having equal or greater withdrawal and lateral resistance strength may be substituted for the 6d nails.

Vapor Barrier — (Optional) - Commercial asphalt saturated felt, 0.030 in. thick.

Finish Flooring - Floor Topping Mixture* — Min 3/4 in. thickness of any Floor Topping Mixture bearing the UL Classification Marking as to Fire Resistance. See Floor- and Roof-Topping Mixtures (CCOX) category for names of Classified Companies.

Floor Mat Materials* — (Optional, Not Shown) - Floor mat material loose laid over the subfloor. Refer to manufacturer's instructions regarding the minimum thickness of floor topping over each floor mat material.
LOW & BONAR INC — EnkaSonic® by Colbond a member of the Low & Bonar group Types 125, 250, 250 Plus, 400, 400 Plus, 750 and 750 Plus.

Floor Mat Reinforcement — (Optional) - Refer to manufacturer's instructions regarding minimum thickness of floor topping for use with floor mat reinforcement.

Metal Lath — (Optional) — Expanded steel diamond mesh, 2.5 lb / sq yd loose laid over floor mat material.

Fiberglass Mesh Reinforcement — (Optional) — Coated non-woven glass fiber mesh grid loose laid over floor mat material.

2. **Trusses —** Parallel chord trusses, spaced a max of 24 in. OC, fabricated from nom 2 by 4 lumber, with lumber oriented vertically or horizontally. Min truss depth is 12 in. when Ceiling Dampers* are not used. Min truss depth is 18 in. when Ceiling Damper* is used. Truss members secured together with min 0.036 0356 in. thick galvanized steel plates. Plates have 5/16 in. long teeth projecting perpendicular to the plane of the plate. The teeth are in pairs facing each other (made by the same punch), forming a split tooth type plate. Each tool has a chisel point on its outside edge. These points are diagonally opposite each other for each pair. The top half of each tooth has a twist for stiffness. The pairs are repeated on approx. 7/8 in. centers with four rows of teeth per inch of plate width.

3. **Air Duct* (Optional) —** Any UL Class 0 or Class 1 flexible air duct installed in accordance with the instructions provided by the damper manufacturer.

4. **Ceiling Damper* (Optional). To be used with Air Duct Item 3. —** For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 19 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
AIRE TECHNOLOGIES INC — Models: CRD model 50 w/Boot, CRD model 50EA w/Boot, CRD model 55 w/Boot, CRD model 55 EA w/Boot.

LLOYD INDUSTRIES INC — Model CRD 50-BT, CRD 50-EA-BT, CRD 55-BT, CRD 55 EA-BT

UNITED ENERTECH CORP — Model C-S/R-WT-L, C-S/R-EA-L, C-S/R-BT, C-S/R-EA-BL

4A. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 13 in. long by 13 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 50 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
LLOYD INDUSTRIES INC — Model CRD 50-BT-6, CRD 50-EA-BT-6, CRD 55-BT-6, CRD 55 EA-BT-6, CRD50-ᵂ X-BT-6

4B. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max size ceiling outlet in plenum box nom 12 in. long by 12 in. wide. Plenum box fabricated from galv steel. Aggregate damper openings shall not exceed 72 sq in. per 100 sq ft of ceiling area. Installed in accordance with the manufacturer's installation instructions provided with the damper.
AIRE TECHNOLOGIES INC — Models: CRD model 50 w/Boot, CRD model 50EA w/Boot, CRD model 55 w/Boot, CRD model 55 EA w/Boot.

LLOYD INDUSTRIES INC — Model CRD 50-95BT, CRD 50-EA-95BT, CRD 55-95BT, CRD 55 EA-95BT

4C. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses. Max size ceiling outlet in plenum box nom 16 in. long by 16 in. wide. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
CROWN PRODUCTS CO INC — Models CRD50-FGPB-4.2-CP, -6.0-CP; CRD50-FGPB-4.2-EA-CP, -6.0-EA-CP.

LLOYD INDUSTRIES INC — Models CRD 50- FGPB-4.2, - 4.2 NI, -6.0, -6.0 NI; CRD50-EA-FGPB-4.2, -4.2 NI, -6.0, -6.0 NI.

4D. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 15 in. long by 15 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 72 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
LLOYD INDUSTRIES INC — Models 45-CRD-LT-BT and 45-CRD-LTD-BT

4E. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max size ceiling outlet in plenum box nom 10 in. long by 10 in. wide. Plenum box fabricated from galv steel. Aggregate damper openings shall not exceed 50 sq in. per 100 sq ft of ceiling area. Installed in accordance with the manufacturer's installation instructions provided with the damper.
LLOYD INDUSTRIES INC — Model 45-LTD-95-BT-4

4F. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 15 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 96 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.

LLOYD INDUSTRIES INC — Model CRD50-ᵂ X-BT

4G. **Alternate Ceiling Damper* —** For use with min. 18 in. deep trusses. Max. nom area shall be 349 sq in. Max. overall length and width shall not exceed 18-11/16 in. by 18-11/16 in. with max. 16 in. by 16 in. register opening. Aggregate damper openings shall not exceed 175 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper. An aluminum or steel grille (Item 9) shall be installed in accordance with installation instructions.
MIAMI TECH INC — Model Series RxCRD, RxCRDS or RxCRPD

4H. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 19 in. long by 19 in. wide and 11-7/8 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 128 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
METAL-FAB INC — Models MSCD-HC and MRCD-HC

4I. **Alternate Ceiling Damper* —** For use with min 18 in. deep trusses Max plenum box size nom 14 in. long by 16 in. wide and 15 in. high fabricated from galv steel. Aggregate damper openings shall not exceed 112 sq in. per 100 sq ft of ceiling area. Damper installed in accordance with the manufacturer's installation instructions provided with the damper.
METAL-FAB INC — Model MCCD

5. **Batts and Blankets* —** (Optional) - Glass fiber or mineral wool insulation bearing the UL Classification Marking as to Surface Burning Characteristics and/or Fire Resistance. When no insulation is installed in the concealed space resilient channels (Item 6) are spaced 24 in. OC. When the resilient channels (Item 6) are spaced 16 in. OC, the insulation shall be a max of 3-1/2 in. thick, and shall be secured against the subflooring with staples at 12 in. OC or held suspended in the concealed space with 0.090 in. diam galv steel wires attached to the wood trusses at 12 in. OC. When the resilient channels are spaced a max of 12 in. OC or when the Steel Framing Members (Item 6A) are used, there is no limit in the overall thickness of insulation, and the insulation can be secured against the subflooring, held suspended in the concealed space or draped over the resilient channels (or Steel Framing Members) and gypsum panel membrane. The finished rating has only been determined when the insulation is secured to the subflooring.

5A. **Loose Fill Material* —** (Optional) - As an alternate to Item 5, when the resilient channels (Item 6) are spaced a max of 12 in. OC, or when the Steel Framing Members (Item 6A) are used - Any loose fill material bearing the UL Classification Marking for Surface Burning Characteristics. There is no limit in the overall thickness of insulation. The finished rating when loose fill material is used has not been determined

5B. **Cavity Insulation - Batts and Blankets* or Loose Fill Material* - (Not Shown) —** (As described above in Items 5 and 5A) — For Use with Item 7A — Min. 3-1/2 in thick with no limit on maximum thickness fitted in the concealed space, draped over the resilient channel (Item 6E)/gypsum board (Item 7A) ceiling membrane.

6. **Resilient Channels —** Formed from min 25 MSG galv steel installed perpendicular to the trusses. When insulation (Item 5) is secured to the underside of the subfloor, the resilient channels are spaced 16 in. OC. When insulation (Items 5 or 5A) is applied over the resilient channel/gypsum panel ceiling membrane, the resilient channels are spaced 12 in. OC. Channels secured to each truss with 1-1/4 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint as shown in the above illustration. Additional channels shall extend min 6 in. beyond each side edge of panel.

6A. **Alternate Steel Framing Members —** (Not Shown) - As an alternate to Items 6, main runners, cross tees, cross channels and wall angle as listed below:

A. **Main Runners —** Nom 10 or 12 ft long, 15/16 in. or 1-1/2 in. wide face, spaced 4 ft. OC. Main runners suspended by min 12 SWG galv steel hanger wires spaced 48 in. OC. Hanger wires to be located adjacent to main runner/cross tee

intersections. Hanger wires wrapped and twist-tied on 16d nails driven in to side of trusses at least 5 in. above the bottom face.

B. **Cross Tees —** Nom 4 ft long, 1-1/2 in. wide face, installed perpendicular to the main runners, spaced 16 in. OC. Additional cross tees or cross channels used at 8 in. from each side of butted gypsum panel end joints. The cross tees or cross channels may be riveted or screw attached to the wall angle or channel to facilitate the ceiling installation.

C. **Cross Channels —** Nom 4 or 12 ft long, installed perpendicular to main runners, spaced 16 in. OC.

D. **Wall Angle or Channel —** Painted or galv steel angle with 1 in. legs or channel with 1 in. legs, 1-9/16 in. deep attached to walls at perimeter of ceiling with fasteners 16 in. OC. To support steel framing member ends and for screw-attachment of the gypsum panel.
CGC INC — Type DGL or RX.

USG INTERIORS LLC — Type DGL or RX.

6B. **Steel Framing Members* —** (Not Shown) — As an alternate to Items 6 and 6A.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-3/8 in. wide by 7/8 in. deep, spaced 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC, and secured to the bottom chord of alternating trusses with one No. 8 x 2-1/2 in. coarse drywall screw through center grommet. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the clip spacing shall be reduced to 24 in. OC and secured to consecutive trusses. Furring channels are friction fitted into clips. Adjoining channels are overlapped as described in Item a. 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. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PLITEQ INC — Type Genie Clip

6C. **Steel Framing Members* —** (Not Shown) - As an alternate to Items 6, 6A and 6B.

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 16 in. OC perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to trusses (Item 2). Clips spaced 48 in. OC. RSIC-1 and RSIC-1 (2.75) clips secured to alternating trusses with No. 8 x 2-1/2 in. course drywall screw through the center grommet. Furring channels are friction fitted into clips. RSIC-1 clips for use with 2-9/16 in. wide furring channels. RSIC-1 (2.75) clips for use with 2-23/32 in. wide furring channels. Adjoining channels are overlapped as described in Item a. 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. Additional clips required to hold furring channel that supports the gypsum board butt joints, as described in Item 7.
PAC INTERNATIONAL L L C — Types RSIC-1, RSIC-1 (2.75).

6D. **Alternate Steel Framing Members* —** (Not Shown) As an alternate to items 6 to 6C, furring channels and Steel Framing Members as described below.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-5/8 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire.Additional clips are required to hold the Gypsum Butt joints as described in item 7.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips - Type A237R

6E. **Resilient Channels - (Not Shown) —** For Use With Item 7A - Formed from min 25 MSG galv steel installed perpendicular to trusses and spaced 16 in. OC. Channels secured to each truss with 1-5/8 in. long Type S bugle head steel screws. Channels overlapped 4 in. at splices. Two channels, spaced 6 in. OC, oriented opposite each gypsum panel end joint. Additional channels shall extend min 6 in. beyond each side edge of panel. Insulation, Item 5B is applied over the resilient channel/gypsum panel (Item 7A) ceiling membrane.

6F. **Alternate Steel Framing Members* —** (Not Shown) As an alternate to items 6 to 6E, furring channels and Steel Framing Members as described below.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, 2-1/2 in. wide by 7/8 in deep, spaced 16 in OC, perpendicular to wood structural members. When insulation, Items 5 or 5A is applied over the furring channel/gypsum panel ceiling membrane, the furring channel spacing shall be reduced to 12 in. OC. Channels secured to trusses as described in Item b. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galv steel wire near each end of overlap.

b. **Steel Framing Members* —** Used to attach furring channels (Item a) to the trusses (Item 2). Clips spaced at 48" OC and secured to the bottom of the trusses with one 2-1/2 in. Coarse Drywall Screw with 1 in. diam washer through the center hole. Furring channels are then friction fitted into clips. Ends of channels are overlapped 6" and tied together with double strand of No. 18 AWG galvanized steel wire. Additional clips are required to hold the Gypsum Butt joints as described in item 7.
REGUPOL AMERICA — Type SonusClip

6G. **Steel Framing Members* —** — (Optional, Not Shown) — As an alternate to Item 6.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to the trusses. Channels secured to Cold Rolled Channels at every intersection with a 3/4 in. TEK screw through each furring channel leg. Ends of adjoining channels overlapped 12 in. and fastened together with two double strand No. 18 SWG galv steel wire ties, one at each end of overlap, or with two 3/4 in. TEK screws in each leg of the overlap section. Two furring channels used at end joints of gypsum board (Item 7), each extending a min of 6 in. beyond both side edges of the board.

b. **Cold Rolled Channels —** 1-1/2 in. by 1/2 in., formed from No. 16 ga. galv steel, positioned vertically and parallel to trusses, friction-fitted into the channel caddy on the Steel Framing Members (Item 6Gd) and secured with two 3/4 in. TEK screws. Adjoining lengths of cold rolled channels lapped min. 12 in. and secured along bottom legs with four 3/4 in. TEK screws and wire-tied together with two double strand 18 SWG galv steel wire ties, one at each end of overlap.

c. **Blocking —** Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6Gd) location with 16d nails or minimum 2-1/2 in. screws.

d. **Steel Framing Members* —** Spaced 48 in. OC. max along truss, and secured to the truss on alternating trusses with two, #10 x 1-1/2 in. screws through mounting holes on the hanger bracket.
PAC INTERNATIONAL L L C — Type RSIC-SI-CRC EZ Clip

6H. **Steel Framing Members* —** (Not Shown) — As an alternate to Item 6.

a. **Furring Channels —** Formed of No. 25 MSG galv steel, nominal 2-1/2 in. wide by 7/8 in. deep, spaced as indicated in Item 6, perpendicular to trusses and friction fit into Steel Framing Members (Item 6Hc). Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 SWG galv steel wire near each end of overlap or with two TEK screws along each leg of the 6 in. overlap. Two furring channels used at end joints of gypsum board (Item 7). Butt joint channels held in place by strong back channels placed upside down, on top of, and running perpendicular to primary furring channels, extending 6 in. longer than length of gypsum side joint. Strong back channels spaced maximum 48 in. OC. Strong back channels secured to every intersection of primary furring channels with four 7/16 in. pan head screws, two along each of the legs at intersections. Butt joint channels run perpendicular to strong back channels and shall be minimum 6 in. longer than length of joint, secured to strong back channels with 7/16 in. pan head screws, two along each of the legs at intersection with strong back channels.

b. **Blocking —** Where truss design does not permit direct, full contact of the hanger bracket, a piece of nominal 2 by 4 in. lumber (blocking), min. 12 in. long to permit full contact of the hanger bracket, to be secured vertically to the side of the trusses at the top and bottom of the blocking at each Steel Framing Member (Item 6Hc) location with 16d nails or minimum 2-1/2 in. screws.

c. **Steel Framing Members* —** Used to attach furring channels (Item 6Ha) to trusses. Clips spaced 48 in. OC and secured along truss webs at each furring channel intersection with min. 3/4 in. long self-drilling #10 x 1-1/2 in. screws through each of the provided hole locations. Furring channels are friction fitted into clips.
PAC INTERNATIONAL L L C — Type RSIC-S1-1 Ultra

6I. **Steel Framing Members* —** (Optional - Not Shown) — Used to attach resilient channels (Item 6) to trusses (Item 2). Clips spaced 48 in. OC and secured to trusses with one No. 8 x 2-1/2 in. coarse drywall screw through center grommet hole. Channels secured to clips with one #10 x 1/2 in. pan-head self-drilling screw. Ends of adjoining channels overlapped 6 in. and secured together with two #8 15 x 1/2 in. Philips Modified screws spaced 2-1/2 in. from the center of the overlap. Gypsum board butt joints require additional resilient channels spaced 1-1/2 in. from the butt joint on either side. One edge of the extra channels will extend to an adjacent truss where it is secured with a clip.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

6J. **Steel Framing Members* —** (Optional, Not Shown) — Used as an alternate method to attach resilient channels to structural members. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions. Gypsum Board butt joints staggered minimum 24 in. OC and Gypsum Board screws spaced 8 in. OC when used.
PAC INTERNATIONAL L L C — Type RC-1 Boost

7. **Gypsum Board* —** Nom 5/8 in. thick, 48 in. wide gypsum panels. When resilient channels (Item 6) are used, gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 12 in. OC and located a min of 1/2 in. from side joints and 3 in. from end joints. When insulation (Items 5 or 5A) is applied over the resilient channel/gypsum panel ceiling membrane the screw spacing shall be reduced to 8 in. OC. End joints secured to both resilient channels as shown in end joint detail. When Steel Framing Members (Item 6A) are used, gypsum panels installed with long dimension perpendicular to cross tees with side joints centered along main runners and end joints centered along cross tees. Panels fastened to cross tees with 1 in. long Type S bugle-head screws spaced 8 in. OC in the

field and along end joints. Panels fastened to main runners with 1 in. long Type S bugle-head screws spaced midway between cross tees. Screws along sides and ends of panels spaced 3/8 to 1/2 in. from board edge. End joints of panels shall be staggered with spacing between joints on adjacent panels not less than 2 ft OC. When **Steel Framing Members** (Item 6B) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long No. 6 Type S bugle-head steel screws spaced 12 in. OC in the field of the board. Screw spacing is reduced to 8 in. OC when insulation is applied over the furring channel/gypsum panel ceiling membrane. Gypsum board butted end joints shall be staggered minimum 16 in. within the assembly. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 6 in. on each end. These additional furring channels shall be attached to underside of the truss with Genie clips as described in Item 6B. Screw spacing along the gypsum board butt joint shall be 6 in. OC. When **Steel Framing Members** (Item 6C) are used, gypsum panels installed with long dimensions perpendicular to furring channels. Panels attached to the furring channels using 1 in. long Type S bugle-head steel screws spaced 8 in. OC along butted end joints and in the field of the panel. Butted end joints shall be staggered min. 2 ft within the assembly, and occur midway between the continuous furring channels. Each end of each gypsum panel shall be supported by a single length of furring channel equal to the width of the gypsum panel plus 6 in. on each end. The two support furring channels shall be spaced approximately 3-1/2 in. OC, and be attached to underside of the truss with one clip at each end of the channel. When **Steel Framing Members** (Item 6D) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, each end of each gypsum board shall be supported by a single length of furring channel equal to the width of the gypsum board plus 3 in. on each end joint. The two support furring channels shall be spaced approximately 3 in. in from joint. Screw spacing along the gypsum board butt joint and along both additional channels shall be 8 in. OC. Additional screws shall be placed in the adjacent section of gypsum board into the aforementioned 3 in. extension of the extra butt joint channels as well as into the main channel that runs between. Butt joint furring channels shall be attached with one RESILMOUNT Sound Isolation Clip at each end of the channel. When **Steel Framing Members** (Item 6F) are used, one layer of nom 5/8 in. thick, 4 ft wide gypsum board is installed with long dimensions perpendicular to furring channels. Gypsum board secured to furring channels with nom 1 in. long Type S bugle-head steel screws spaced 8 in. OC in the field of the board. Gypsum board butted end joints shall be staggered minimum 48 in. and centered over main furring channels. At the gypsum board butt joints, an additional single length of furring channel shall be installed and be spaced approximately 3 in. from the butt joint (6 in. from the continuous furring channels) to support the floating end of the gypsum board. Each of these shorter sections of furring channel shall extend one truss beyond the width of the gypsum panel and be attached to the adjacent trusses with one SonusClip at every truss involved with the butt joint.

When **Steel Framing Members** (Item 6G) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 7. Adjacent butt joints staggered minimum 48 in. OC.

When **Steel Framing Members** (Item 6H) are used, nom 5/8 in. thick, 4 ft wide gypsum board, installed as described in Item 7. Butt joints staggered minimum 24 in. OC.

AMERICAN GYPSUM CO — Type AG-C

CGC INC — Types C, IP-X2, IPC-AR

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

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

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

USG BORAL DRYWALL SFZ LLC — Type C

7A. **Gypsum Board* - (Not Shown) —** For use with Items 5B and 6E. Nom 5/8 in. thick, 48 in. wide gypsum panels installed with long dimension perpendicular to resilient channels. Gypsum panels secured with 1 in. long Type S bugle head steel screws spaced 8 in. OC and located a min of 1/2 in. from side joints and 3 in. from the end joints. Finish Rating with this ceiling system is 20 min.
CGC INC — Type ULIX

UNITED STATES GYPSUM CO — Type ULIX

8. **Finishing System - (Not Shown) —** Vinyl, dry or premixed joint compound, applied in two coats to joints and screw-heads. Nom 2 in. wide paper tape embedded in first layer of compound over all joints. As an alternate, nom 3/32 in. thick veneer plaster may be applied to the entire surface of gypsum board.

9. **Grille —** Aluminum or Steel grille, installed in accordance with the installation instructions provided with the ceiling damper.

*** 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 2021-02-05

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-2023034555
ARCHITECT

01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS
Architecture
Engineering
Planning
Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

UL ASSEMBLIES

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A0.7

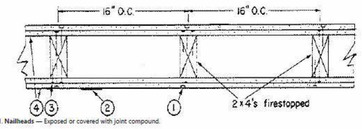
UL U301 - 2 HR ASSEMBLY

Design No. **U301**

November 21, 2023

Bearing Wall Rating — 2 Hr.
Finish Rating — 66 Min.
This design was evaluated using a load design method other than the Limit States Design Method (e.g., Working Stress Design Method). For jurisdictions employing the Limit States Design Method, such as Canada, a load restriction factor shall be used — See Guide BXUV or BXUV7

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



1. **Nailheads** — Exposed or covered with joint compound.

2. **Joints** — Exposed joints covered with joint compound and paper tape. Joint compound and paper tape may be omitted when square edge boards are used. As an alternate, nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard with the joints reinforced with paper tape.

3. **Nails** — 6d cement coated nails 1-7/8 in. long, 0.0915 in. shank diam, 1/4 in. diam heads; and 8d cement coated nails 2-3/8 in. long, 0.113 in. shank diam, 9/32 in. diam heads.

4. **Gypsum Board*** — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to studs with the 1-7/8 in. nails spaced 6 in. OC. Outer layer attached to studs over inner layer with the 2-3/8 in. long nails spaced 8 in. OC. Vertical joints located over studs. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side.
When used in widths other than 48 in., gypsum board to be installed horizontally.

When **Steel Framing Members*** (Item 6 or any alternate clips) are used, base layer attached to furring channels with 1 in. long Type S bugle-head steel screws spaced max 24 in. OC, face layer attached with 1-5/8 in. long Type S bugle-head steel screws spaced max 12 in. OC.

AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, AGX-11, LightRoc

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

CABOT MANUFACTURING ULC — Type X, 5/8 Type X, Moisture Resistant Type X, Gypsum Sheathing Type X, Mold & Mildew Resistant Type X and Mold & Mildew Resistant AR Type X, Type Blueglass Exterior Sheathing

CERTAINTEED GYPSUM INC — Types EGRG, GlasRoc, GlasRoc-2, Type C, Type X-1, Type LWTX

CGC INC — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC, WRX

CERTAINTEED GYPSUM INC — Types LGFC2A, LGFC6A, LGFC-C/A, LGFC-WD, LGLLX, CLLX

GEORGIA-PACIFIC GYPSUM L L C — Types 5, 6, 9, C, DAP, DD, DA, DAPC, DGG, DS, GPF56. LS, TG-C, Type X, Veneer Plaster Base-Type X, Water Rated-Type X, Sheathing Type-X, Soffit-Type X, GreenGlass Type X, 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 LWX2K, Veneer Plaster Base - Type LWX2K, Water Rated - Type LWX2K, Sheathing - Type LWX2K, Soffit - Type LWX2K, Type DGLL2W, Water Rated - Type DGLL2W, Sheathing - Type DGLL2W

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

NATIONAL GYPSUM CO — Riyadh, Saudi Arabia — Type FR, or WR.

PABCO BUILDING PRODUCTS L L C, DBA PABCO GYPSUM — Types C, PG-2, PG-3, PG-3W, PG-4, PG-5, PG-5W, PG-5WS, PG-9, PG-11, PG-C, PGS-WRS, PGI

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

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

THAI GYPSUM PRODUCTS PCL — Type C or Type X

UNITED STATES GYPSUM CO — Types AR, C, FRX-G, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULIX, ULX, USGX, WRC, WRX

USG BORAL DRYWALL SFZ LLC — Types C, SCX, USGX

USG MEXICO S A DE C V — Types AR, C, IP-AR, IP-X1, IP-X2, IPC-AR, SCX, SHX, ULX, USGX, WRC, WRX

4A. **Gypsum Board*** — (As an alternate to Item 4) — Nom 3/4 in. thick, installed as described in Item 4.
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

4B. **Gypsum Board*** — (As an alternate to Items 4 and 4A) — 5/8 in. thick, 2 ft wide, tongue and groove edge, applied horizontally as the outer layer to one side of the assembly. Secured as described in Item 4. Joint covering (Item 2) not required.
CGC INC — Type SHX

UNITED STATES GYPSUM CO — Type SHX

USG MEXICO S A DE C V — Type SHX

4C. **Gypsum Board*** — (As an alternate to Items 4, 4A or 4B — Not Shown) — For Direct Application to Studs Only- For use on one or both sides of the wall as the base layer or one or both sides of the wall as the face layer. 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 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. Lead batten strips required behind vertical joints of lead backed gypsum wallboard and optional at remaining stud locations. Lead batten strips, min 1-1/2 in. wide, max 10 ft long with a max thickness of 0.125 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-12 pan head steel screws. F4jone at the top of the strip and one at the bottom of the strip. Lead discs or tabs may be used in lieu of or in addition to the lead batten strips 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 underneath screw locations prior to the installation of the screws. Lead batten strips to have a purity of 99.9% meeting the Federal specification QQ-L-201f, Grade "C". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.
RAY-BAR ENGINEERING CORP — Type RB-LBG.

4D. **Gypsum Board*** — As an Alternate to Item 4 — 5/8 in. thick applied either horizontally or vertically. Inner layers fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. Outer layers fastened to framing with 1-7/8 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side.
AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, LightRoc

4E. **Gypsum Board*** — (As an alternate to Items 4 through 4D) — 5/8 in. thick, 4 ft. wide, paper surfaced applied vertically and secured as described in Item 4.
GEORGIA-PACIFIC GYPSUM L L C — Type X ComfortGuard Sound Deadening Gypsum Board

4F. **Gypsum Board*** — (As an alternate to Item 4) — Not to be used with Item 6, 6A, 6B or 6C. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically and secured as described in Item 4.
NATIONAL GYPSUM CO — Type SBWB

4G. **Gypsum Board *** — (As an alternate to Items 4 through 4F) — 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 — Types QuietRock ES

4H. **Gypsum Board*** — (As an alternate to Item 4) — Not to be used with Item 6, 6A, 6B, or 6C. 5/8 in. thick, 4 ft. wide, paper surfaced, applied vertically or horizontally and secured as described in Item 4.
CERTAINTEED GYPSUM INC — Type SilentFX

4I. **Gypsum Board*** — (As an alternate to Item 4) — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to studs with 1-1/4 in. long Type W steel screws spaced 8 in. OC. Outer layer attached to studs over inner layer with 2 in. long Type W steel screws spaced 8 in. OC offset 6 in. from base layer. Vertical joints located over studs. Vertical and horizontal joints between inner and outer layers staggered. Outer layer joints covered with joint tape and compound, screwheads covered with joint compound. As an alternate to the joint compound nom 3/32 in. thick gypsum veneer plaster may be applied to the entire surface of Classified veneer baseboard. Joints reinforced. Wallboard other than 48 in. wide must be applied horizontally. The SoundBreak XP Type X Gypsum Board is not to be used with Item 6, 6A, 6B, or 6C.
NATIONAL GYPSUM CO — Types eXP-C, FSK, FSK-C, FSK-G, FSW, FSW-3, FSW-5, FSW-6, FSW-8, FSW-C, FSW-G, FSMR-C, SBWB

4J. **Gypsum Board*** — (As an alternate to Items 4) — For Direct Application to Studs Only- For use as the base layer or as the face layer. 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 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. 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 10 ft long with a max thickness of 0.140 in. placed on the face of studs and attached to the stud with two 1 in. long Type S-8 pan head steel screws; one at the top of the strip and one at the bottom of the strip. Lead discs, max 5/16 in. diam by max 0.140 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, Grades "B, C or D". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.
MAYCO INDUSTRIES INC — "X-Ray Shielded Gypsum"

4K. **Gypsum Board*** — For use with Item 7 — 5/8 in. thick, two layers applied vertically. Inner layer attached to resilient channels with 1 in. long steel screws spaced 8 in. OC. Outer layer attached to resilient channels over inner layer with 1-5/8 in. long steel screws spaced 8 in. OC. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side. Insulation, Items 8 or 9 is required.
AMERICAN GYPSUM CO — Types AGX-1, M-Glass, AG-C, AGX-11

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

CERTAINTEED GYPSUM INC — Types EGRG, GlasRoc, GlasRoc-2, Type C, Type X-1, Easi-Lite Type X, SilentFX

4L. **Gypsum Board*** — (As an alternate to Items 4) — For Direct Application to Studs Only- For use as the base layer or as the face layer. 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 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field when applied as the base layer. When applied as the face layer screw length to be increased to 2-1/2 in. 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". Fasteners for face layer gypsum panels (Items 4, 4A or 4B) when installed over lead backed board to be min 2-1/2 in. Type S-12 bugle head steel screws spaced as described in Item 4.
RADIATION PROTECTION PRODUCTS INC — Type RPP - Lead Lined Drywall

4M. **Gypsum Board*** — (As an alternate to Item 4) — 5/8 in. thick, 4 ft. wide, two layers applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. Secured as described in Item 4.
CERTAINTEED GYPSUM INC — 5/8" Easi-Lite Type X

4N. **Gypsum Board*** — (As an alternate to 5/8 in. Type FSW in Items 4 or 4I) — Nom. 5/16 in. thick gypsum panels applied vertically or horizontally. Two layers of 5/16 in. for every single layer of 5/8 in. gypsum board described in Item 4 or 4I. Horizontal joints on the same side need not be staggered. Inner layer of each double 5/16 in. layer attached with fasteners, as described in Item 4 or 4I, spaced 24 in. OC. Outer layer of each double 5/16 in. layer attached per Item 4 or 4I.
NATIONAL GYPSUM CO — Type FSW

4O. **Wall and Partition Facings and Accessories*** — (As an alternate to Items 4 through 4N) — 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

4P. **Gypsum Board*** — (As an alternate to Item 4) — 5/8 in. thick, two layers applied either horizontally or vertically. Inner layer attached to studs with 1-1/4 in. long Type W steel screws spaced 10 in. OC with the last two screws 4 and 1 in. from the edges of the board. Outer layer attached to studs over inner layer with 1-7/8 in. long Type W steel screws spaced 10 in. OC offset 5 in. from base layer with the last two screws 4 and 1 in. from the edges of the board. Vertical joints located over studs. Vertical and horizontal joints between inner and outer layers staggered. Outer layer joints covered with joint tape and compound; screwheads covered with joint compound. When used in widths other than 48 in., gypsum panels are to be installed horizontally.
CERTAINTEED GYPSUM INC — Type LGFC6A, Type LGFC2A, Type LGFC-C/A, Type LGFC-WD, Type LGLLX

4Q. **Gypsum Board*** — (As an alternate to Item 4. For use with Item 13) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board UL Classified for Fire Resistance (CKNX) eligible for use in Design Nos. U305 and L501 or G512. Two layers, applied either horizontally or vertically, and screwed to studs with 1-5/8 in. long Type W coarse thread steel screws at 8 in. OC at perimeter and in the field with the last two screws 4 and 3/4 in. from the edges of the board when applied as the base layer. For the face layer, screw length to be increased to 2-1/2 in. All joints in face layers staggered with joints in base layers. When used in widths other than 48 in., gypsum panels are to be installed horizontally.

4R. **Gypsum Board*** — As an Alternate to Item 4 — 5/8 in. thick applied either horizontally or vertically. Inner layers fastened to framing with 1-1/4 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. Outer layers fastened to framing with 1-7/8 in. long Type W coarse thread gypsum panel steel screws spaced a max 8 in. OC, with last screw 1 in. from edge of board. When used in widths other than 48 in., gypsum board to be installed horizontally. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints of base layer on opposite side.
CERTAINTEED GYPSUM INC — Types EGRG, GlasRoc, GlasRoc-2, Type C, Type X-1, Easi-Lite Type X, SilentFX

4S. **Gypsum Board*** — (As an alternate to Item 4. For use with Item 13A) — 5/8 in. thick; two layers applied vertically. Inner layer attached to studs with the 1-7/8 in. nails spaced 6 in. OC. Outer layer attached to studs over inner layer with the 2-3/8 in. long nails spaced 8 in. OC. Vertical joints located over studs. All joints in face layers staggered with joints in base layers. Joints of each base layer offset with joints on opposite side.
AMERICAN GYPSUM CO — Types AGX-1

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

CABOT MANUFACTURING ULC — "5/8 Type X"

CGC INC — Type SCX

PANEL REY S A — Type PRX

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

THAI GYPSUM PRODUCTS PCL — Type X

UNITED STATES GYPSUM CO — Type SCX

USG BORAL DRYWALL SFZ LLC — Types SCX

USG MEXICO S A DE C V — Type SCX

4T. **Gypsum Board*** — (As an alternate to Item 4. For use with Item 13B) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 4 above. Two layers applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. All joints in outer layers staggered with joints in inner layers. Inner layer attached to studs with 1-5/8 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC at perimeter and in the field. Outer layer attached to studs over inner layer with the 2-1/2 in. long Type W coarse thread gypsum panel steel screws spaced 8 in. OC.

4U. **Gypsum Board*** — (As an alternate to Item 4. For use with Item 13C) — Any 5/8 in. thick, 4 ft. wide, Gypsum Board listed in Item 4 above. Two layers applied vertically with vertical joints centered over studs and staggered one stud cavity on opposite sides of studs. All joints in outer layers staggered with joints in inner layers. Inner layer attached to studs with 1-1/4 in. long Type W screws spaced 8 in. OC at perimeter and in the field. Outer layer attached to studs over inner layer with 1-7/8 in. long Type W screws spaced 8 in. OC.

5. **Molded Plastic*** — Not Shown, Optional — Solid vinyl siding mechanically secured over the outer layer to framing members in accordance with manufacturer's recommended installation details.
ALSIDE, DIV OF ASSOCIATED MATERIALS INC

GENTEK BUILDING PRODUCTS LTD

VYTEC CORP

6. **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. 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Wallboard attached to furring channels as described in Item 4.

B. **Steel Framing Members*** — Used to attach furring channels (Item 6a) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall 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)

6A. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — 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 tied together with double strand of No. 18 AWG galvanized steel wire. Gypsum board attached to furring channels as described in Item 4.

B. **Steel Framing Members*** — Used to attach furring channels (Item 6Aa) to studs. Clips spaced 48 in. OC., and secured to studs with 2 in. coarse drywall screw with 1 in. diam washer through the center hole. Furring channels are friction fitted into clips.
STUDCO BUILDING SYSTEMS — RESILMOUNT Sound Isolation Clips – Type A237R

6B. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — 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 6Bb. Ends of adjoining channels overlapped 6 in. and tied together with double strand of No. 18 AWG galvanized

steel wire. Gypsum board attached to furring channels as described in Item 4.

B. **Steel Framing Members*** — Used to attach furring channels (Item 6Ba) to studs. Clips spaced 48 in. OC., and secured to studs with 2-1/2 in. coarse drywall screw through the center hole. Furring channels are friction fitted into clips.
REGUPOL AMERICA — Type SonusClip

6C. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) —Resilient channels and Steel Framing Members as described below:
a. **Resilient Channels** — Formed of No. 25 MSG galv steel, spaced 24 in. OC, and perpendicular to studs. Channels secured to studs as described in Item b. Ends of adjoining channels overlapped 6 in. and secured in place with two No. 8 15 x 1/2 in. Philips Modified Truss screws spaced 2-1/2 in. from the center of the overlap. Gypsum board attached to resilient channels as described in Item 4.

b. **Steel Framing Members*** — Used to attach resilient channels (Item 6Ca) to studs. Clips spaced 48 in. OC., and secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center hole. Resilient channels are secured to clips with one No. 10 x 1/2 in. pan-head self-drilling screw.
KEENE BUILDING PRODUCTS CO INC — Type RC+ Assurance Clip

6D. **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — Used as an alternate method to attach resilient channels to wall studs. A resilient sound isolation accessory shall be used at each attachment point of the resilient channels and spaced max 24 in. O.C. Channel ends butted and centered under the structural members and attached with one accessory at each end. Additional accessories used to hold resilient channels that support the gypsum board end joints. The accessory envelops the mounting edge of the resilient channel. The accessory and resilient channel are fastened to the structural members with the screws supplied with the accessory and per the accessory manufacturer's installation instructions.
PAC INTERNATIONAL L L C — Type RC-1 Boost

6E **Steel Framing Members*** — (Optional, Not Shown, As an alternate to Item 6) — Furring channels and Steel Framing Members as described below:
a **Furring Channels** — Formed of No. 25 MSG galv steel, 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 #6 framing screws, min. 7/16 in. long at the midpoint of the overlap, with one screw on each flange of the channel. Gypsum board attached to furring channels as described in Item 4.

b **Steel Framing Members*** — Used to attach furring channels (Item 6Ea) to studs. Clips spaced maximum 48 in. OC. Clips secured to studs with No. 8 x 2-1/2 in. coarse drywall screw through the center grommet. Furring channels are friction fitted into clips.

CLARKDIETRICH BUILDING SYSTEMS — Type ClarkDietrich Sound Clip

7. **Furring Channel** — Optional — Not Shown — For use on one side of the wall with Item 4K — Resilient channels, 25 MSG galv steel, spaced vertically 24 in. OC, flange portion screw attached to one side of studs with 1-1/4 in. long diamond shaped point, double lead Phillips head steel screws. When resilient channels are used, insulation, Item 8 or 9 is required.

8. **Batts and Blankets*** — Required for use with resilient channels, Item 7, min. 3 in. thick mineral wool batts, placed to fill interior of wall, attached to the nom 4 in. face of the studs with staples placed 24 in. OC.
ROCKWOOL — Type SAFEnSOUND, min. 1.8 pcf.

THERMAFIBER INC — Type SAFB, SAFB FF

9. **Batts and Blankets*** — (As an alternate to Item 8) — Min. 3 in. thick glass fiber batts bearing the UL Classification Marking as to Surface Burning and/or Fire Resistance, friction-fitted to fill the stud cavities. See Batts and Blankets (BKNV or BZJZ) Categories for names of Classified companies.

9A. **Fiber, Sprayed*** — (Optional) — As an alternate to Battz and Blankets (Item 8). Required for use with resilient channels, Item 7. Not for use with Item 6, 6A, 6B, or 6C. — Spray applied mineral wool insulation. The fiber is applied with adhesive, at a minimum density of 4.0 pcf, to completely fill the enclosed cavity in accordance with the application instructions supplied with the product. See Fiber, Sprayed (CCAZ).
AMERICAN ROCKWOOL MANUFACTURING, LLC — Type Rockwool Premium Plus

10. **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 wood 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 or QR-510

11. **Cementitious Backer Units*** — (Optional Item Not Shown — For Use On Face Of 2 Hr Systems With All Standard Items Required) — 7/16 in., 1/2 in., 5/8 in., 3/4 in. or 1 in. thick, min. 32 in. wide. Applied horizontally or vertically with vertical joints centered over studs. Face layer fastened over gypsum board to studs and runners with cement board screws of adequate length to penetrate stud by a minimum of 3/8 in. for steel framing members, and a minimum of 3/4 in. for wood framing members spaced a max of 8 in. OC.
NATIONAL GYPSUM CO — Type DuraBacker, PermaBase, DuraBacker Plus, or PermaBase Plus

12. **Wall and Partition Facings and Accessories*** — (Optional, Not Shown) - When the Wall Assembly is used as an External Wall, on the External side of the wall one of the following Wall and Partition and Facing Accessories may be used, refer to items (A) to (C) below.
A. **Non Insulated system with metal channels** — Install moisture barrier over the Gypsum Board Item 4 and Install Acry Metal Channels vertically at a horizontal spacing not greater than 24 inches OC., over the moisture barrier. Acry Metal Channels attached through the moisture barrier and the Gypsum Board to the Wood Studs using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Install Acrytec Panels on Acry Metal Channels using 1-1/4" long corrosion coated stainless steel screws spaced at a max spacing of 24 inches OC, along with manufacturer's approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels shall be Tremco illmod 600 pre compressed polyurethane foam sealant.

B. **Insulated system with metal channels** — Install moisture barrier over the Gypsum Board Item 4. Install galvanized Z girt channels specified by the manufacturer over the moisture barrier and the Gypsum Board Item 4. Z girt channels to be installed horizontally at a max. spacing of 24" OC. Z girt channels attached through the Gypsum Board and the moisture barrier to the wood studs with screws provided by the manufacturer at a max spacing of 24 inches OC. Install mineral wool insulation between the Z girts. Maximum thickness of mineral wool insulation not to exceed 6 in. As per manufacturer's instructions install Acry Metal Channels vertically over the Z girts at a max horizontal spacing of 24 in. OC. Acrytec Panels installed on Acry channel with 1-1/4" long corrosion coated stainless steel screws at a max spacing of 24 in. OC, along with manufacturers approved adhesive (3M 540 or Tremco Vulcum 116). Adhesive to be applied in a zigzag pattern along every channel. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

C. **Non insulated wood strapping system** — Install moisture barrier over the Gypsum Board Item 4 and Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC., over the moisture barrier. 1" x 3" wood strapping attached through the moisture barrier and the Gypsum Board to the Wood studs using fasteners specified by the manufacturer and fasteners spaced max., 24 in. OC. Acrytec Panels to be installed on the 1" x 3" wood strapping using manufacturers approved stainless steel fasteners spaced at maximum 24 inches OC along with Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

D. **Insulated Wood Strapping System** — Install moisture barrier over the Gypsum Board Item 4. Install Extruded Polystyrene Insulation over moisture barrier and the Gypsum Board Item 4, max thickness of insulation not to exceed 4 inches. Install 1" x 3" wood strapping vertically at a horizontal spacing not greater than 24 inches OC. Wood strapping attached through the Insulation, the Gypsum Board and moisture barrier to the Wood Studs using fasteners specified by the manufacturer and fasteners spaced max. 24 in. OC. Acrytec Panels to be installed over the wood strapping using manufacturers approved stainless steel fasteners at a max spacing of 24 in. OC and Tremco Vulcum 116 adhesive applied in a zigzag pattern along every wood strap. Joint treatment in between panels to be Tremco illmod 600 pre compressed polyurethane foam sealant.

ACRYTEC PANEL INDUSTRIES — Nominal 5/8 inch thick Acrytec Panel.

13. **Foamed Plastic*** — (Optional, Not Shown - For use with Item 4Q) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
SES FOAM INC — Nexseal™ 2.0 or Nexseal™ 2.0 LE Spray Foam and Sucraseal Spray Foam. For use in Bearing and Non-Load Bearing Walls.

13A. **Foamed Plastic*** — (Optional, Not Shown - For use with Item 4S) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
HOLCIM SOLUTIONS AND PRODUCTS US, LLC — Types GacoEZSpray F4500, GacoProFill FR6500R, Gaco 052N, GacoOnePass F1850, GacoOnePass Low GWP F1880, and Gaco WallFoam 183M.

13B. **Foamed Plastic*** — (Optional, Not Shown - For use with Item 4T) — Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.
CARLISLE SPRAY FOAM INSULATION — Types SealTite ONE, SealTite Pro Closed Cell (CC), SealTite Pro Open Cell (OC), SealTite Pro OCX, SealTite Pro No Trim 21, SealTite Pro One Zero, Foamulate Closed Cell, Foamulate OCX, Foamulate 70, and Foamulate HFO..

13C. **Foamed Plastic*** - (Optional, Not Shown – For use with Item 4U) - Spray applied, foamed plastic insulation, at any thickness from partial fill to completely filling stud cavity.

BASF CORP – Types Enertile® NM, Enertile® G, FE170® , Sprayfite® 178, Sprayfite® 81206, Walltite® 200, Walltite® US , Walltite® US-N, Walltite® HF+, Sprayfite® Comfort XL, and Walltite® XL

14. **Foamed Plastic*** — (Optional, Not Shown - For use over Gypsum Board, Item 4) - Polyisocyanurate foamed plastic boards, any thickness applied vertically with vertical joints located over studs. May be used with Molded Plastic, Item 5 or any exterior facing, as authorized by the Authority Having Jurisdiction and installed in accordance with the manufacturer's installation instructions.
HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — "Xci Class A", "Xci 286", "Xci Foil (Class A)", "Xci CG", "Xci Foil", "Xci CG NH", "Xci Foil NH"

15. **Building Units*** — (Optional, Not Shown - For use over Gypsum Board, Item 4) Polyisocyanurate composite foamed plastic boards, any thickness, applied vertically with vertical joints located over studs. May be used with Molded Plastic, Item 5 or any exterior facing, as authorized by the Authority Having Jurisdiction and installed in accordance with the manufacturer's installation instructions.
HUNTER PANELS, A DIVISION OF CARLISLE CONSTRUCTION MATERIALS, LLC — "Xci NB", "Xci Ply"

16. **Building Units** – (Optional Item Not Shown – For use over Gypsum Board, Item 4) 1 in., 2 in. or 3 in. thick, 4 ft. wide – Applied vertically or horizontally with vertical joints centered over studs. Fastened to studs and runners with wafer head screws of adequate length to penetrate framing by a minimum of ¼ in., spaced a max 8 in. o.c.

NATIONAL GYPSUM CO – Type PBCI

*** 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 2023-11-21

PERMIT SET

STATE OF MINNESOTA
CURTIS R. JENNINGS III
NUMBER
A.202304555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

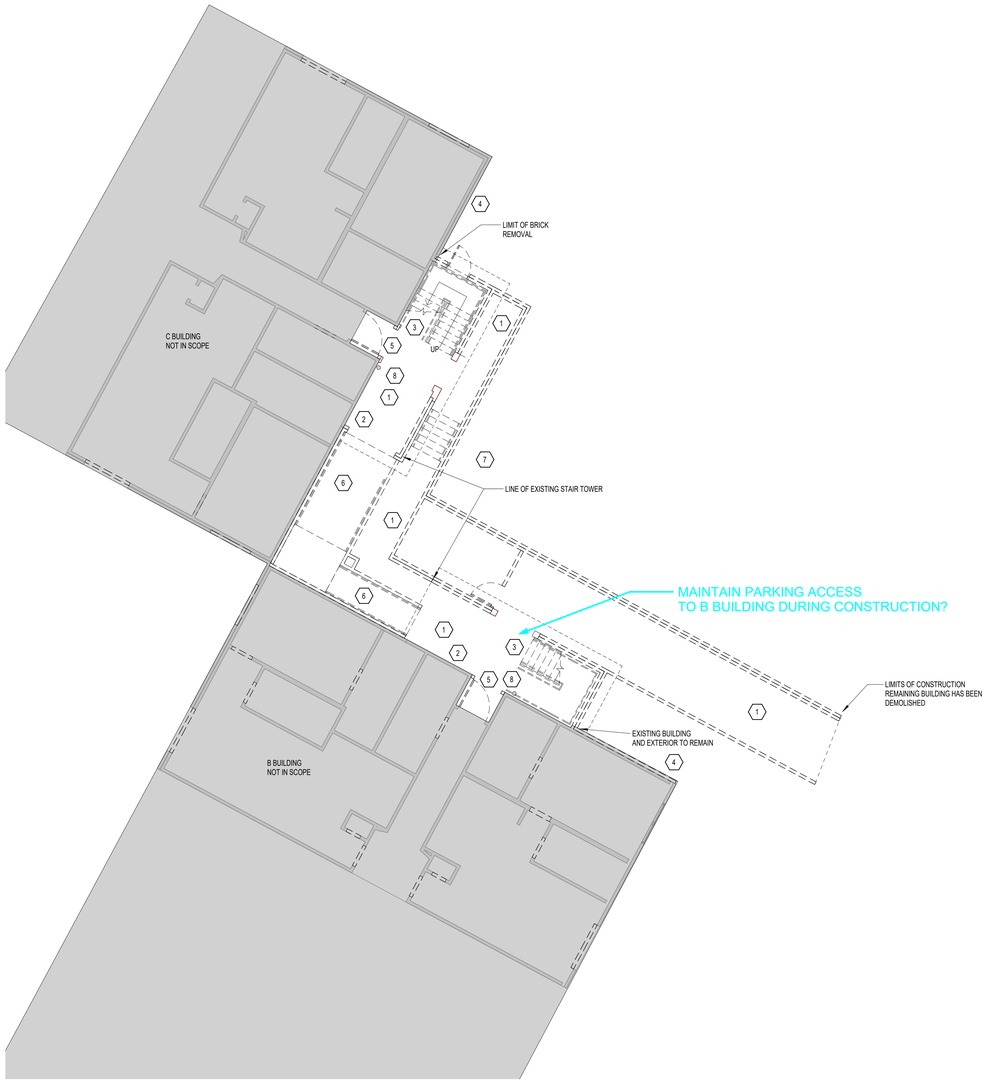
UL ASSEMBLIES

DATE:	January 5, 2024	DRAWING	A0.8
COMM. NO.	23104.00		

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

3 WEST ELEVATION - CORNER
1 1/2" = 1'-0"

2 EAST ELEVATION
1 1/2" = 1'-0"

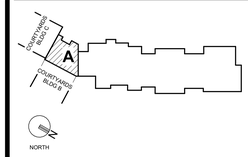


1 ATRIUM - FIRST FLOOR PLAN - DEMOLITION
1/8" = 1'-0"

GENERAL DEMOLITION NOTES

1. BEFORE WORK HAS BEGUN, CONTRACTORS SHALL MAKE A THOROUGH SURVEY OF THE BUILDING AND NOTIFY THE OWNER IN WRITING OF ALL DISCREPANCIES BETWEEN EXISTING CONDITIONS AND THOSE SHOWN ON THE DRAWINGS. FAILURE BY THE CONTRACTOR TO HAVE ACQUAINTED HIMSELF WITH AVAILABLE INFORMATION CONCERNING EXISTING CONDITIONS SHALL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITIES OF PERFORMANCE OF WORK IN ACCORDANCE WITH REQUIREMENTS OF THE CONTRACT DOCUMENTS.
2. THESE DRAWINGS HAVE BEEN DEVELOPED FROM EXISTING DRAWINGS AND MAY NOT REFLECT ACTUAL FIELD CONDITIONS THE CONTRACTOR SHALL VERIFY FIELD CONDITIONS AND NOTIFY THE ARCHITECT IN WRITING OF ANY WORK DESCRIBED IN THE CONTRACT DOCUMENTS WHICH CANNOT BE PERFORMED DUE TO EXISTING CONDITIONS.
3. PROTECT FROM DAMAGE ALL MATERIALS TO REMAIN.
4. CONTRACTOR SHALL USE CAUTION WHEN PERFORMING DEMOLITION AT OR NEAR FIRE-RATED WALLS OR SHAFTS SO AS NOT TO DISRUPT INTEGRITY OF THE FIRE RATING OF THE WALLS OR SHAFTS AND REPAIR DAMAGE TO WALLS OR SHAFTS AS REQUIRED, TO ENSURE CONDITIONS RATINGS REPAIR ADJACENT SURFACES AS REQUIRED TO RECEIVE NEW FINISH.
5. DEMOLITION WORK INCLUDES, BUT IS NOT NECESSARILY LIMITED TO THOSE ITEMS NOTED. OTHER ITEMS OF A MINOR NATURE WHICH MAY EXIST BUT ARE NOT SPECIFICALLY NOTED ON THE DRAWINGS ARE TO BE REMOVED AS REQUIRED, TO PROVIDE ACCESS AND ALLOW ALTERATION OR NEW WORK TO PROCEED. REPAIR ADJACENT SURFACES AS REQUIRED TO RECEIVE NEW FINISHES.
6. NOT ALL MECHANICAL, ELECTRICAL AND PLUMBING, EQUIPMENT WHICH IS REQUIRED TO BE REMOVED IS SHOWN. CONTRACTOR SHALL REMOVE ALL SUCH EQUIPMENT WHICH WILL INTERFERE WITH NEW CONSTRUCTION. EQUIPMENT WHICH WILL NO LONGER BE USED (EG. PIPES, CONDUITS AND DUCTS) SHALL BE REMOVED COMPLETELY BACK TO THE POINT OF SERVICE AND CAPPED OR PLUGGED. ALSO SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR ADDITIONAL DEMOLITION NOTES.
7. IF ANY HAZARDOUS MATERIALS ARE ENCOUNTERED BY THE GENERAL CONTRACTOR, INCLUDING BUT NOT LIMITED TO MATERIALS CONTAINING ASBESTOS, LEAD PAINT, ETC., WORK IS TO BE STOPPED AND THE ARCHITECT IMMEDIATELY NOTIFIED.
8. WHERE PLUMBING FIXTURES ARE NOTED TO BE REMOVED, ALL ASSOCIATED TOILET ACCESSORIES SHALL ALSO BE REMOVED.
9. REMOVE OR MODIFY EXISTING CONSTRUCTION AS SHOWN. TYPICAL WALL AND CEILING REMOVAL INCLUDES FINISHES, TRIM, BASES, DOORS AND FRAMES, MECHANICAL, PLUMBING AND ELECTRICAL SYSTEMS CONTAINED THERIN UNLESS NOTED OTHERWISE. REMOVE ALL EXISTING DEVICES (SWITCHES, RECEPTACLES, TELEPHONE, CONDUIT, WIRE, ETC.) IN EXISTING WALLS TO BE REMOVED. REMOVE EXISTING LIGHT FIXTURES, DIFFUSERS, SPEAKERS, CONDUIT, WIRE, ETC. WHERE EXISTING CEILING IS TO BE REMOVED. SAW CUT SLAB ON GRADE AS REQD TO ACCOMODATE NEW UNDERGROUND UTILITY LINES AND PATCH SLABS FLUSH W/ EXIST. DOWEL NEW/ EXIST AS REQ'D TO PREVENT SETTLEMENT.
10. AREAS OF EXISTING SURFACES NOT SCHEDULED FOR DEMOLITION WHICH BECOME DAMAGED, SHALL BE PATCHED OR REPAIRED TO MATCH ADJACENT SURFACE THICKNESS, FINISH AND TEXTURE.NEW WORK SHALL BE PRIMED PRIOR TO RECEIVING FINISH COATS.
11. ALL EXISTING WALLS AND PARTITIONS THAT ARE SCHEDULED TO REMAIN AND RECEIVE NEW FINISHES SHALL BE PATCHED, REPAIRED, OR RESURFACED AS REQUIRED TO PROVIDE A SMOOTH SURFACE FOR THE NEW FINISHES. REPAIR ADJACENT SURFACES AS REQUIRED TO RECEIVE NEW FINISH.
12. ALL EXISTING FLOOR AND WALL SURFACES THAT HAVE BEEN DAMAGED BY THIS RENOVATION SHALL BE REPAIRED OR PATCHED TO MATCH THEIR FINISH PRIOR TO THE START OF CONSTRUCTION.
13. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF DEMOLITION OF EXISTING CONCRETE SLAB FOR THE INSTALLATION OF PLUMBING WORK. REFER TO PLUMBING DRAWINGS FOR EXTENT OF WORK.
14. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING ALL SHORING AND BRACING NECESSARY TO PROTECT EXISTING CONSTRUCTION TO REMAIN. CONTRACTOR SHALL PROVIDE SUITABLE SHORING AND BRACING AS REQUIRED TO SUPPORT LOADS IMPOSED OR RESULTING FROM DEMOLITION WORK. REFER TO SPECIFACTION SECTION 02150 AND STRUCTURAL DRAWINGS FOR ADDITIONAL INFORMATION.

KEYPLAN



DEMOLITION NOTES

1. REMOVE THE REMAINING BUILDING IN ITS ENTIRETY. REMOVE ALL MEP AND FOUNDATIONS.
2. REMOVE EXTERIOR BRICK. REPAIR EXTERIOR WALL AND FOUNDATIONS AS REQUIRED.
3. REMOVE EXISTING STAIRS. SALVAGE FOR RE-INSTALLATION.
4. BRICK TO REMAIN.
5. REMOVE DOOR AND FEC. RE-INSTALL FEC PER PLANS.
6. REMOVE EXISTING RAMPS AND FOUNDATIONS IN ENTIRETY.
7. REMOVE SOLAR PANELS AND ASSOCIATED IN ITS ENTIRETY. RE: ELECTRICAL.
8. PROTECT AND MAINTAIN STANDPIPE DURING CONSTRUCTION.

PERMIT SET

STATE OF MISSISSIPPI
CURTIS R. JENNINGS III
NUMBER A-202304555
ARCHITECT
01-05-2024

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ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

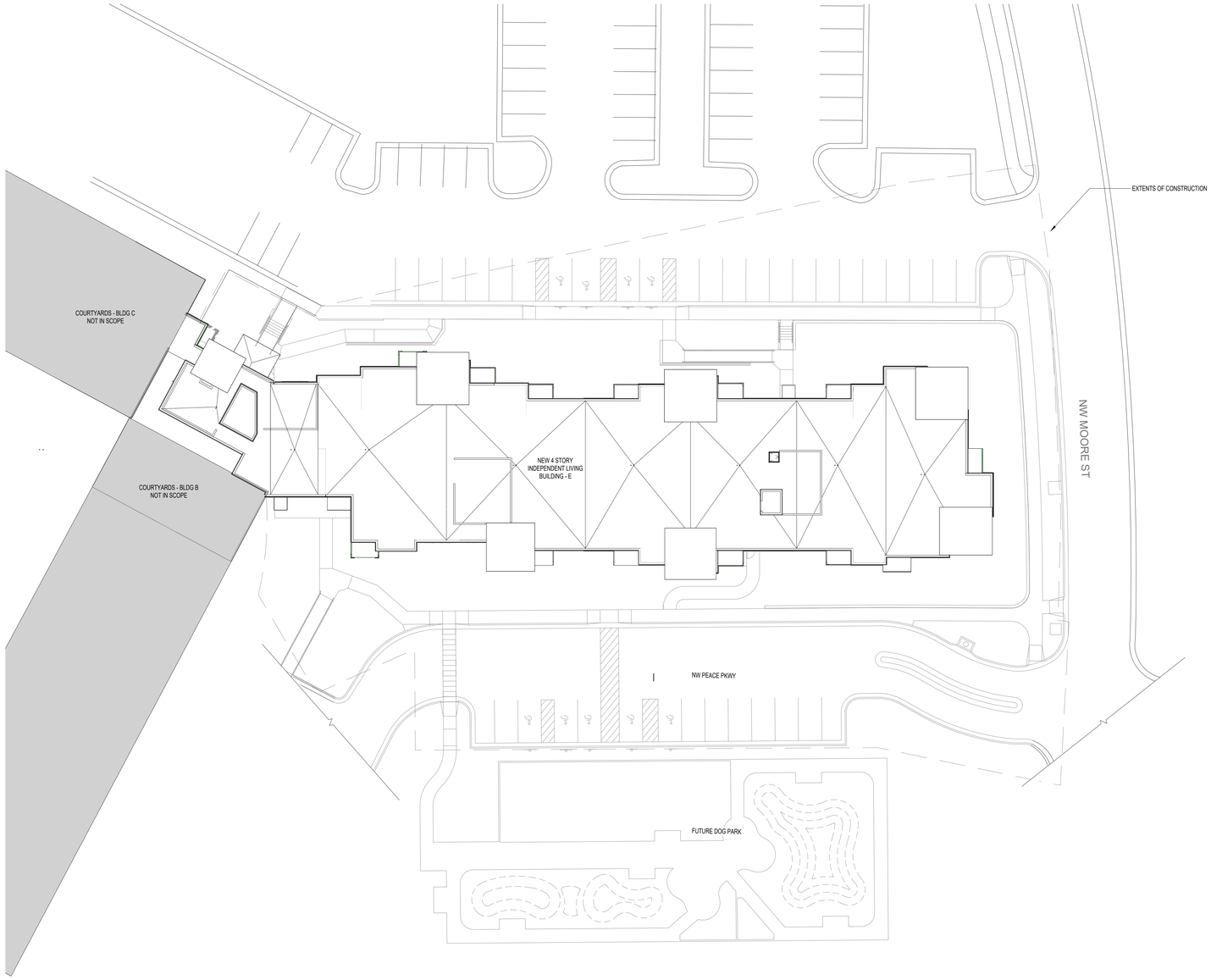
DRAWING TITLE

DEMOLITION PLAN

DATE: January 5, 2024

COMM. NO. 23104.00

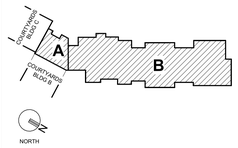
DRAWING AD1.1



1 SITE PLAN
1" = 20'-0"

NORTH

KEYPLAN



GENERAL NOTES

ARCHITECTURAL SITE PLAN IS FOR RERENCE ONLY. RE: CIVIL DRAWINGS FOR ACTUAL CONDITIONS.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-202034555
ARCHITECT
01-05-2024

PROJECT TITLE

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ARCHITECT	: DAS	CHECKED	: AAT
ENGINEER	:	APPROVED	: CRJ

NO.	REVISION DESCRIPTION	DATE

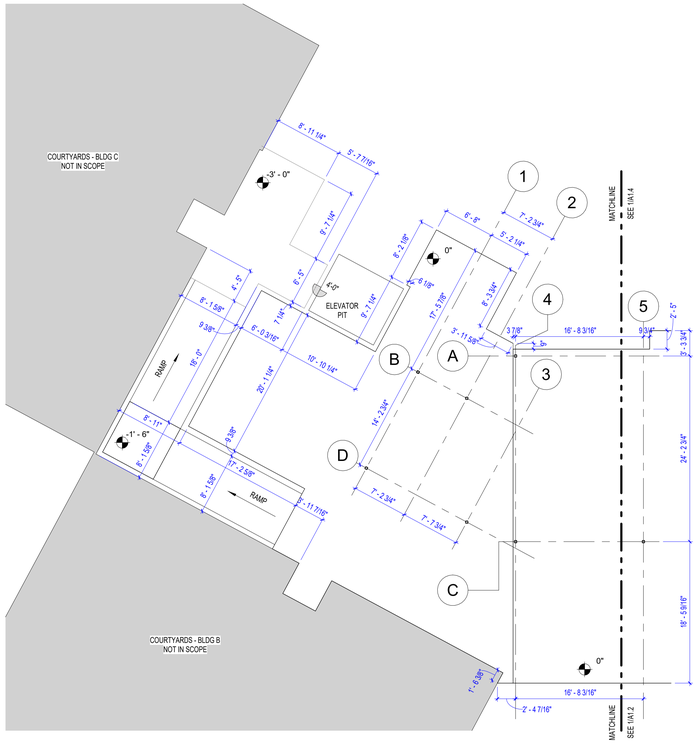
DRAWING TITLE

ARCHITECTURAL SITE PLAN

DATE: January 5, 2024

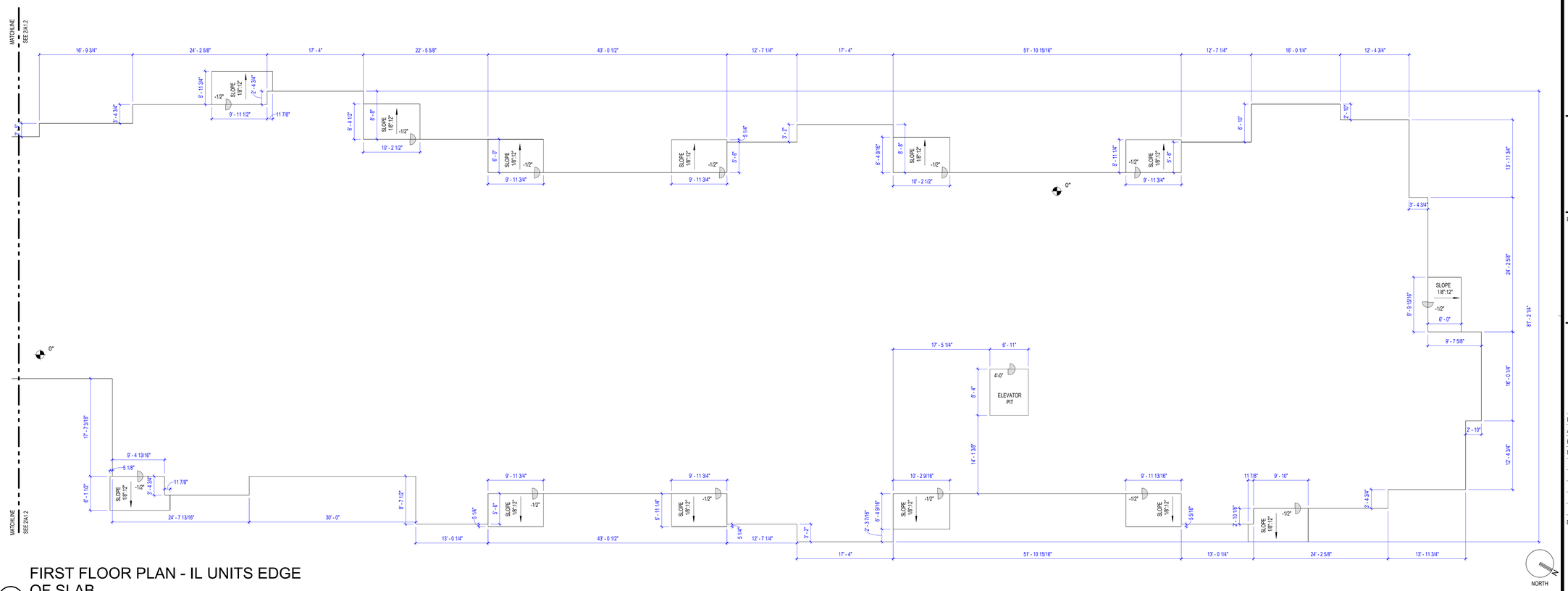
COMM. NO. 23104.00

DRAWING A1.1



2 ATRIUM - FIRST FLOOR PLAN EDGE OF SLAB

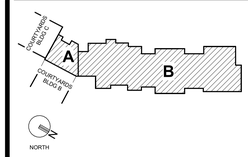
1/8" = 1'-0"



1 FIRST FLOOR PLAN - IL UNITS EDGE OF SLAB

1/8" = 1'-0"

KEYPLAN



PERMIT SET

STATE OF MASSACHUSETTS
CURTIS R. JENNINGS III
NUMBER
A-202304555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

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ENGINEER		APPROVED	CRJ

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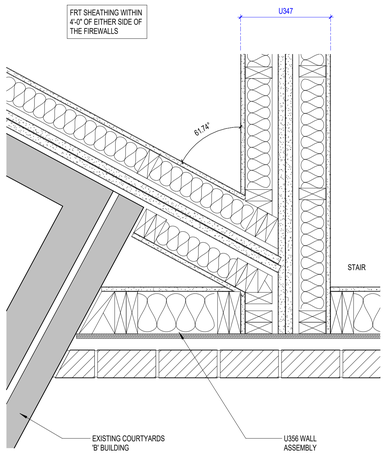
DRAWING TITLE

FIRST FLOOR PLAN - IL UNITS EDGE OF SLAB

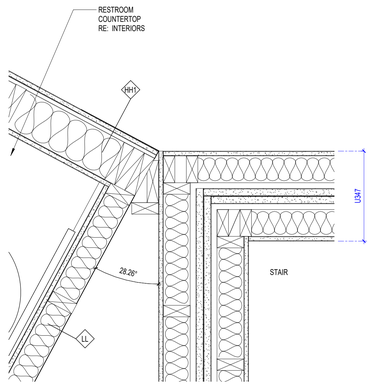
DATE: January 5, 2024

COMM. NO. 23104.00

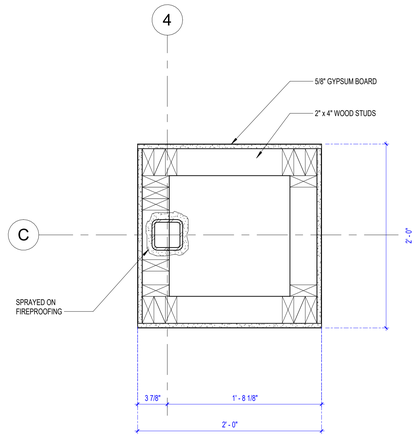
DRAWING A1.2



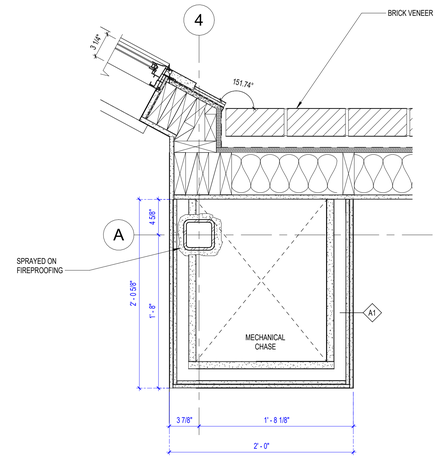
5 ATRIUM CONNECTION 2
1 1/2" = 1'-0"



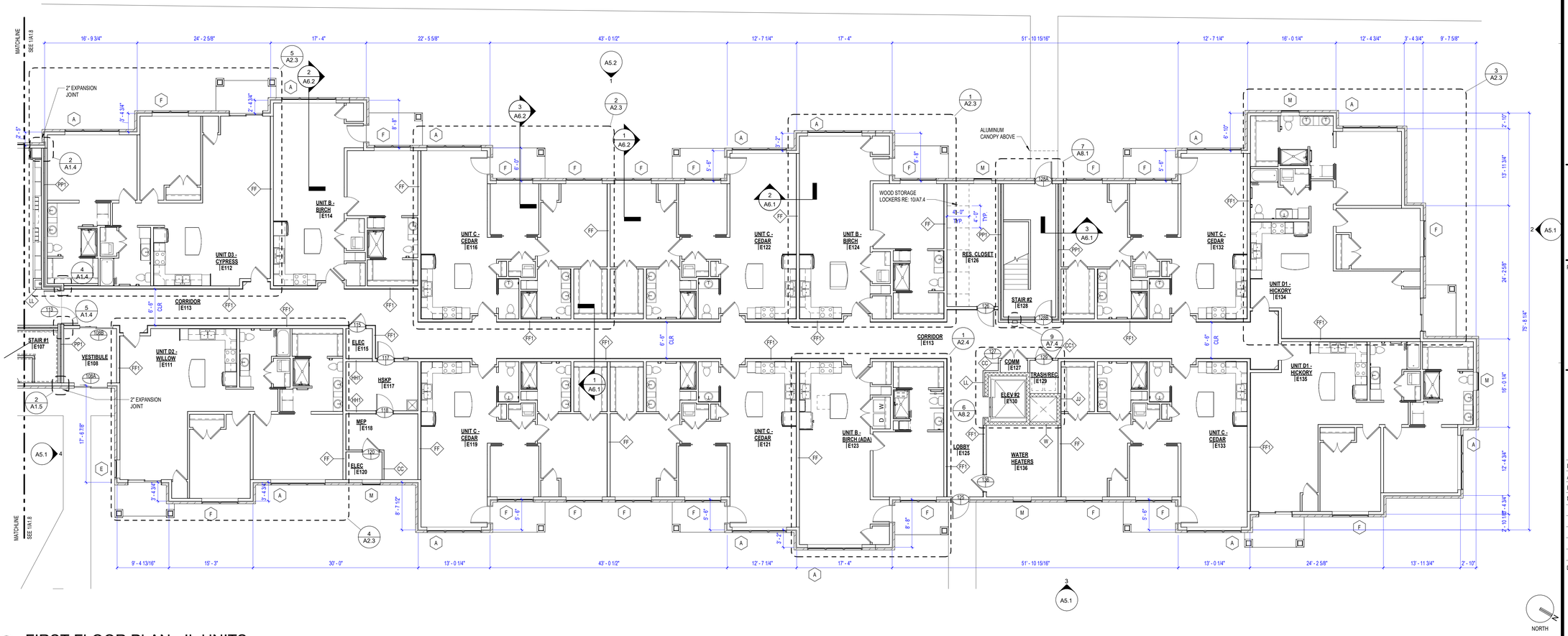
4 ATRIUM CONNECTION 1
1 1/2" = 1'-0"



3 INTERIOR COLUMN
1 1/2" = 1'-0"

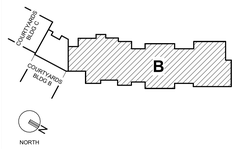


2 EXTERIOR CORNER/INTERIOR COLUMN DETAIL
1 1/2" = 1'-0"



1 FIRST FLOOR PLAN - IL UNITS
1/8" = 1'-0"

KEYPLAN



PERMIT SET

STATE OF MISSISSIPPI
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ARCHITECT
01-05-2024

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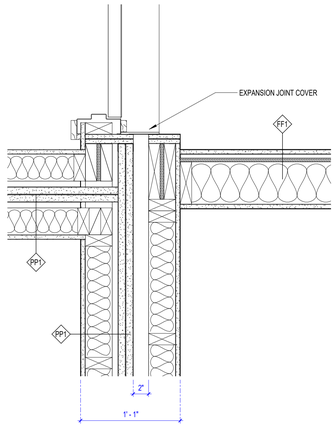
DRAWING TITLE

FIRST FLOOR PLAN - IL UNITS

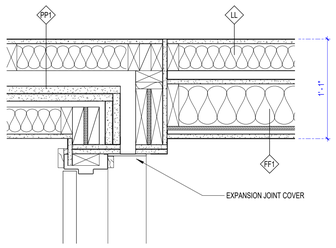
DATE: January 5, 2024

COMM. NO. 23104.00

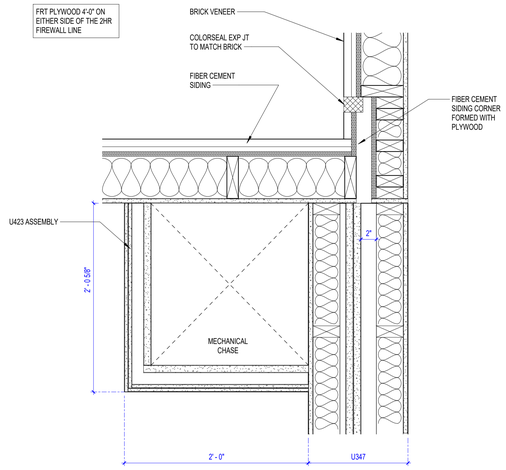
DRAWING A1.3



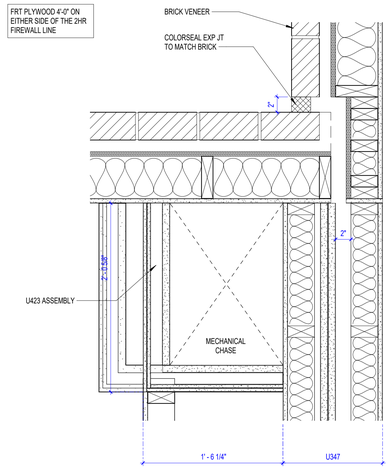
5 EXPANSION JOINT - INTERIOR - TYPICAL 2
1 1/2" = 1'-0"



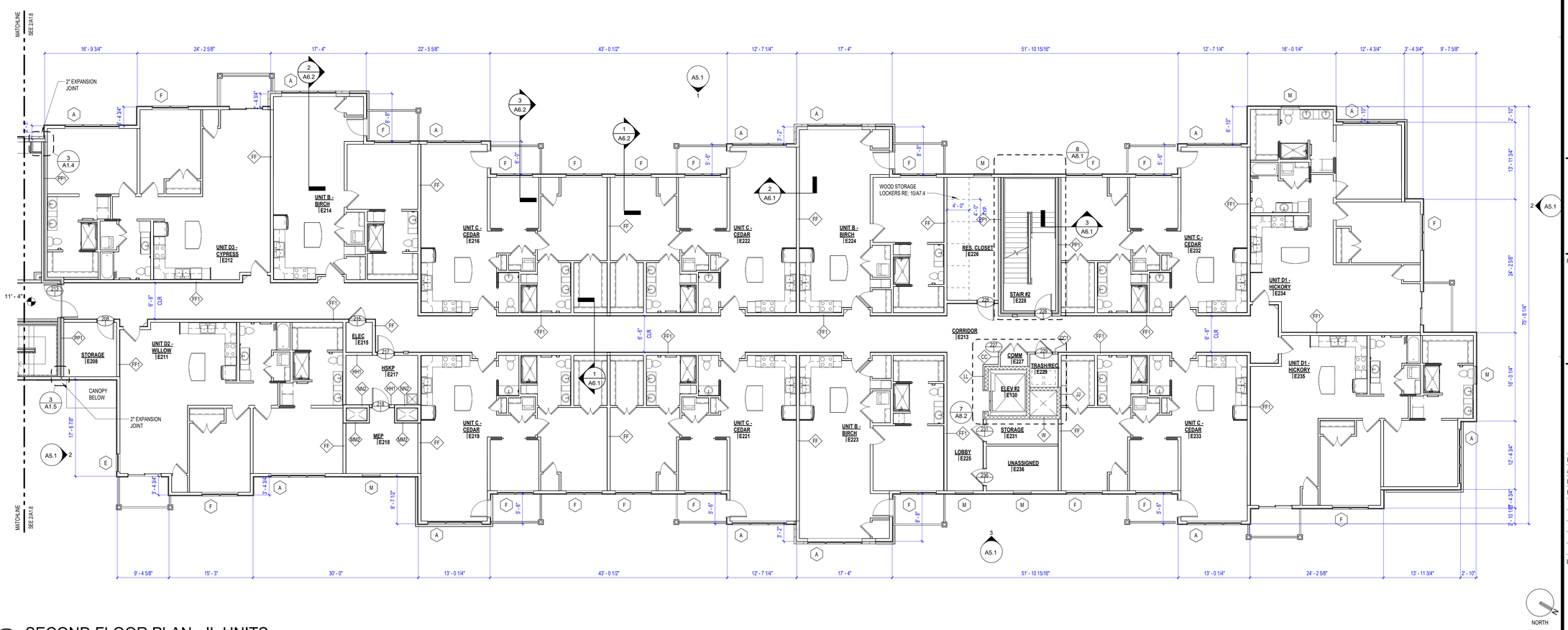
4 EXPANSION JOINT - INTERIOR - TYPICAL 1
1 1/2" = 1'-0"



3 EXPANSION JOINT - EXT/UPPER FLOORS 1
1 1/2" = 1'-0"

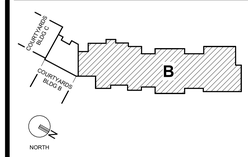


2 EXPANSION JOINT - EXT/1ST FLR 1
1 1/2" = 1'-0"



1 SECOND FLOOR PLAN - IL UNITS
1/8" = 1'-0"

KEYPLAN



PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
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PROJECT TITLE

John Knox Village

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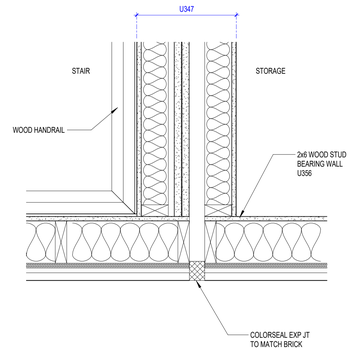
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

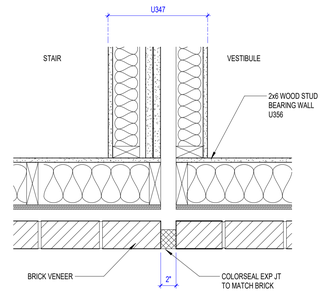
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
SECOND FLOOR PLAN - IL UNITS

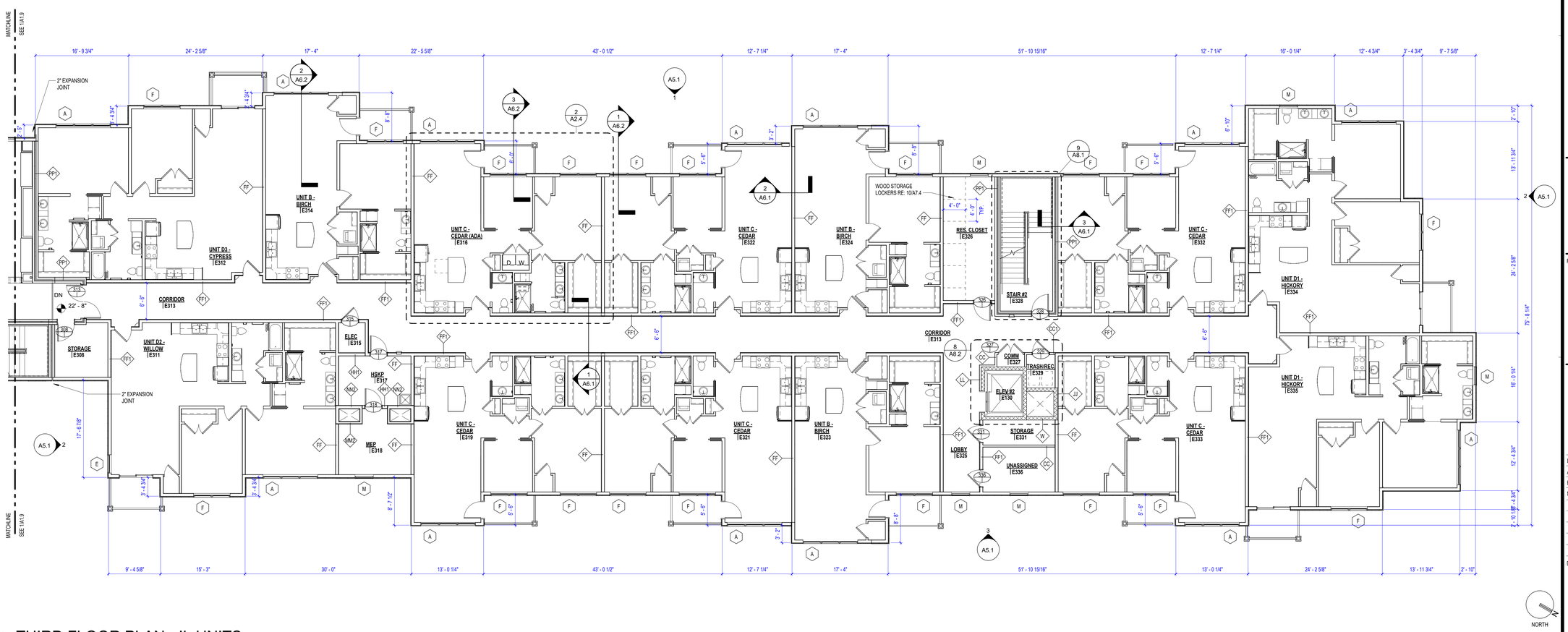
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A1.4



3 EXPANSION JOINT - EXT/UPPER FLOORS
1 1/2" = 1'-0"

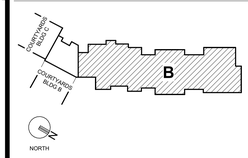


2 EXPANSION JOINT - EXT/1ST FLR 2
1 1/2" = 1'-0"



1 THIRD FLOOR PLAN - IL UNITS
1/8" = 1'-0"

KEYPLAN



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ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

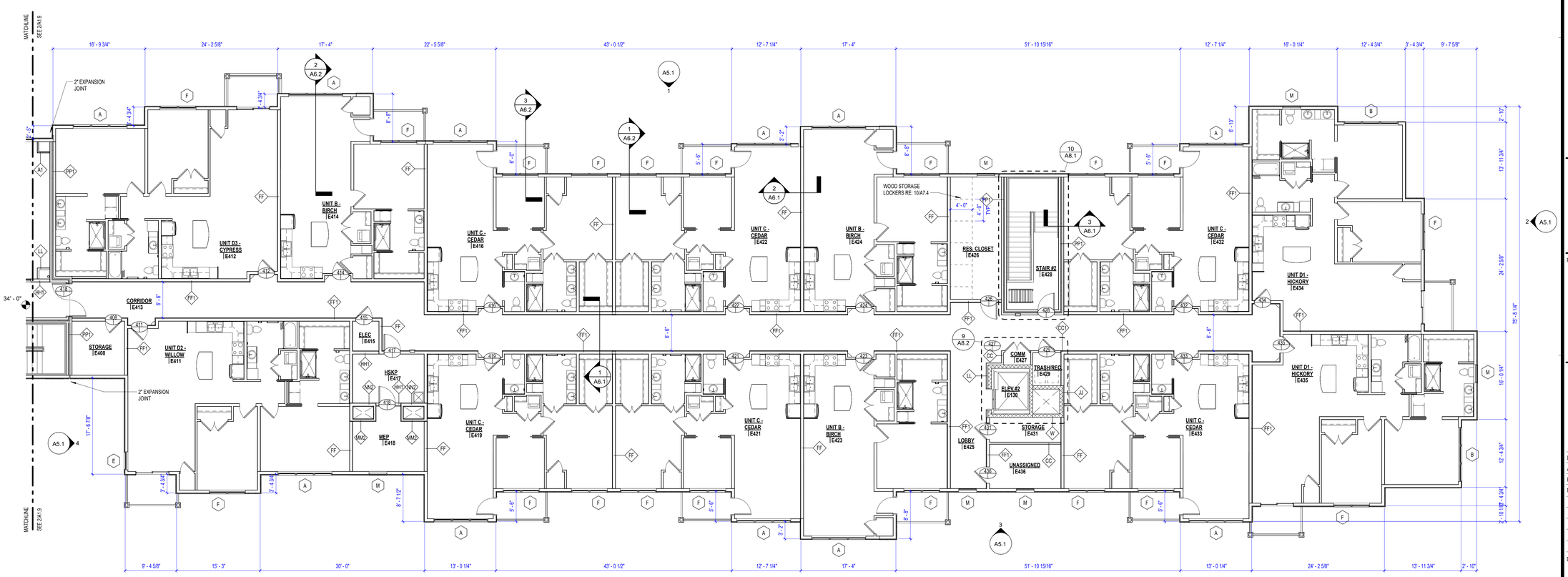
DRAWING TITLE

THIRD FLOOR PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

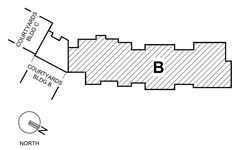
DRAWING A1.5



1 FOURTH FLOOR PLAN - IL UNITS

1/8" = 1'-0"

KEYPLAN



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NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

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ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

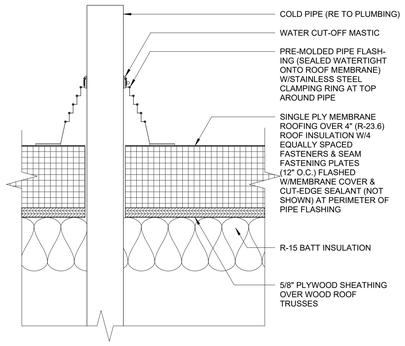
DRAWING TITLE

FOURTH FLOOR PLAN - IL UNITS

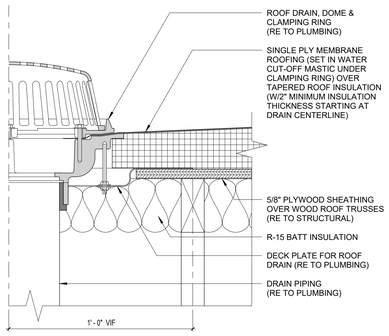
DATE: January 5, 2024

COMM. NO. 23104.00

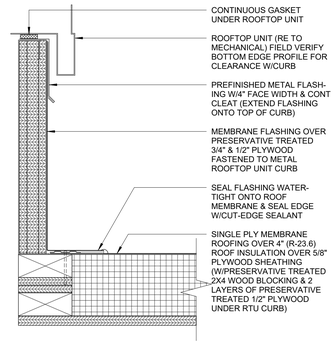
DRAWING A1.6



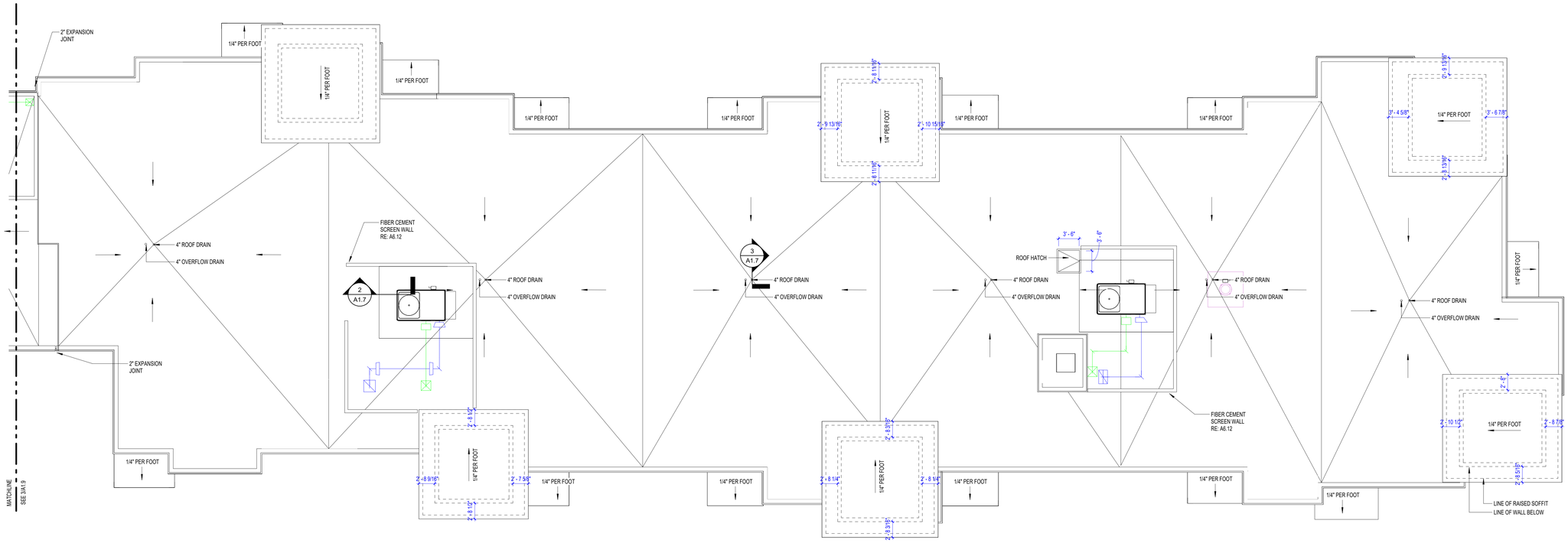
4 PIPE FLASHING AT ROOF
3" = 1'-0"



3 ROOF DRAIN
3" = 1'-0"

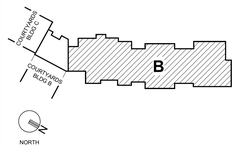


2 RTU CURB FLASHING AT ROOF
3" = 1'-0"



1 ROOF PLAN - IL UNITS
1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. SLOPE TO BE 1/4" PER FOOT UNLESS OTHERWISE NOTED
2. ROOFING MATERIAL IS TO BE SINGLE PLY MEMBRANE ROOF OVER INSULATION UNLESS OTHERWISE NOTED

PERMIT SET

STATE OF MISSISSIPPI
CURTIS R. JENNINGS III
NUMBER A 2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
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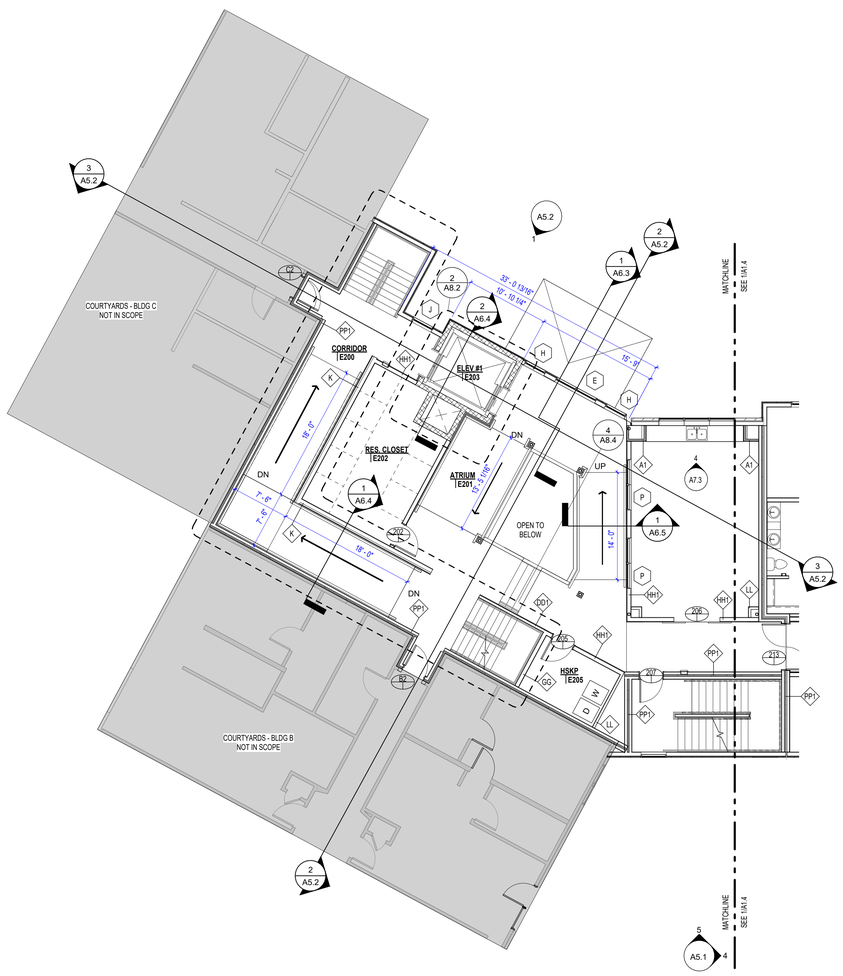
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

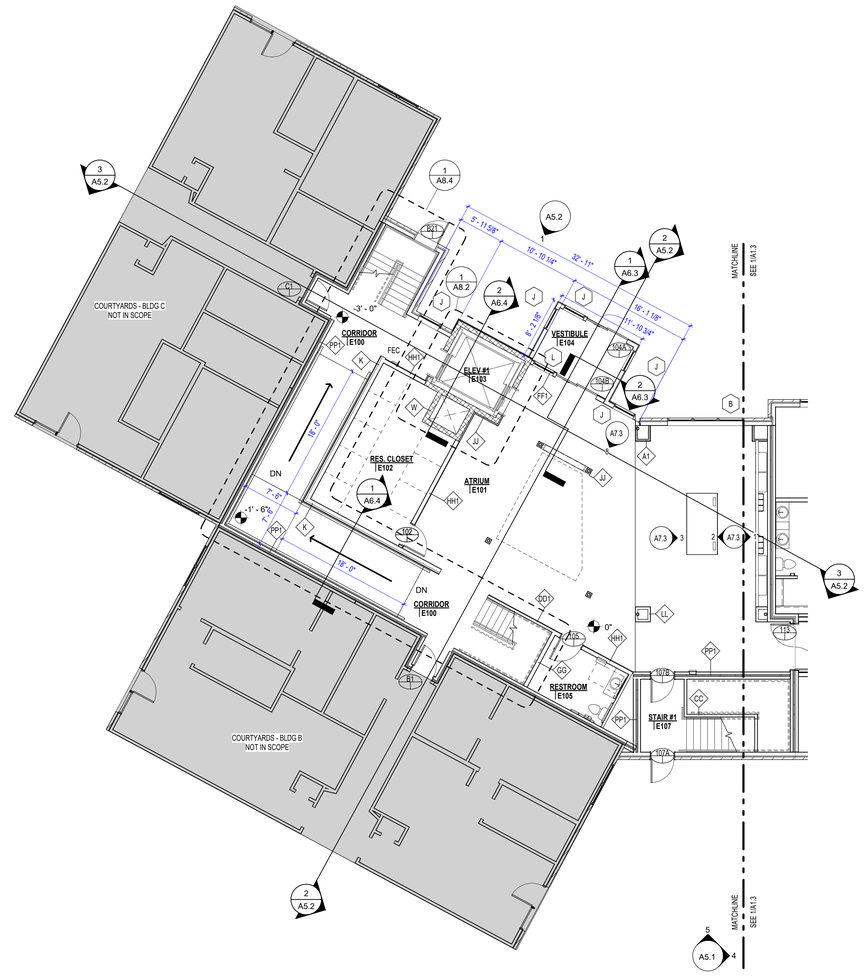
DRAWING TITLE
ROOF PLAN - IL UNITS

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A1.7



2 ATRIUM - SECOND FLOOR PLAN

1/8" = 1'-0"

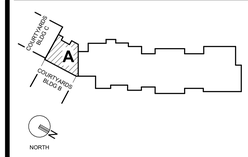


1 ATRIUM - FIRST FLOOR PLAN

1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

NO.	REVISION DESCRIPTION	DATE

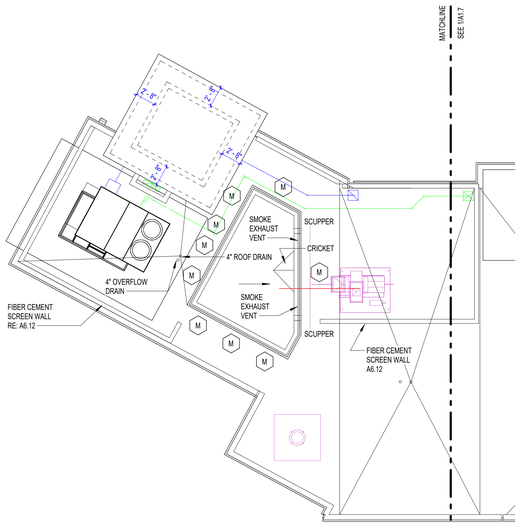
DRAWING TITLE

FIRST AND SECOND FLOOR PLANS - ATRIUM

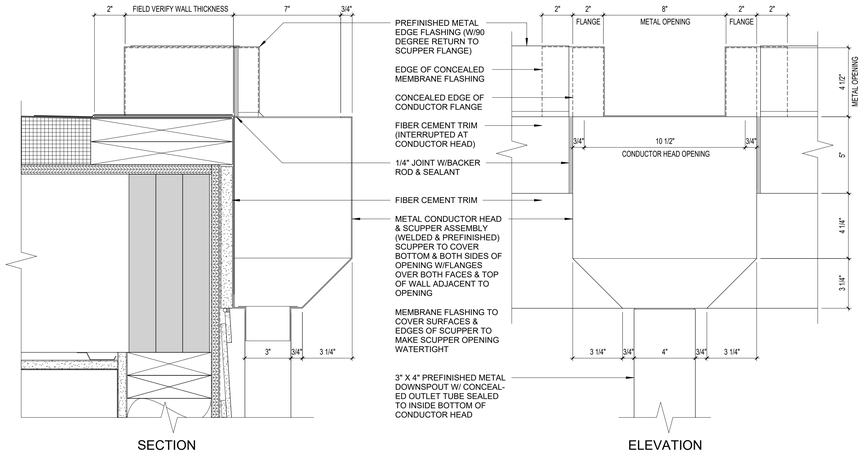
DATE: January 5, 2024

COMM. NO. 23104.00

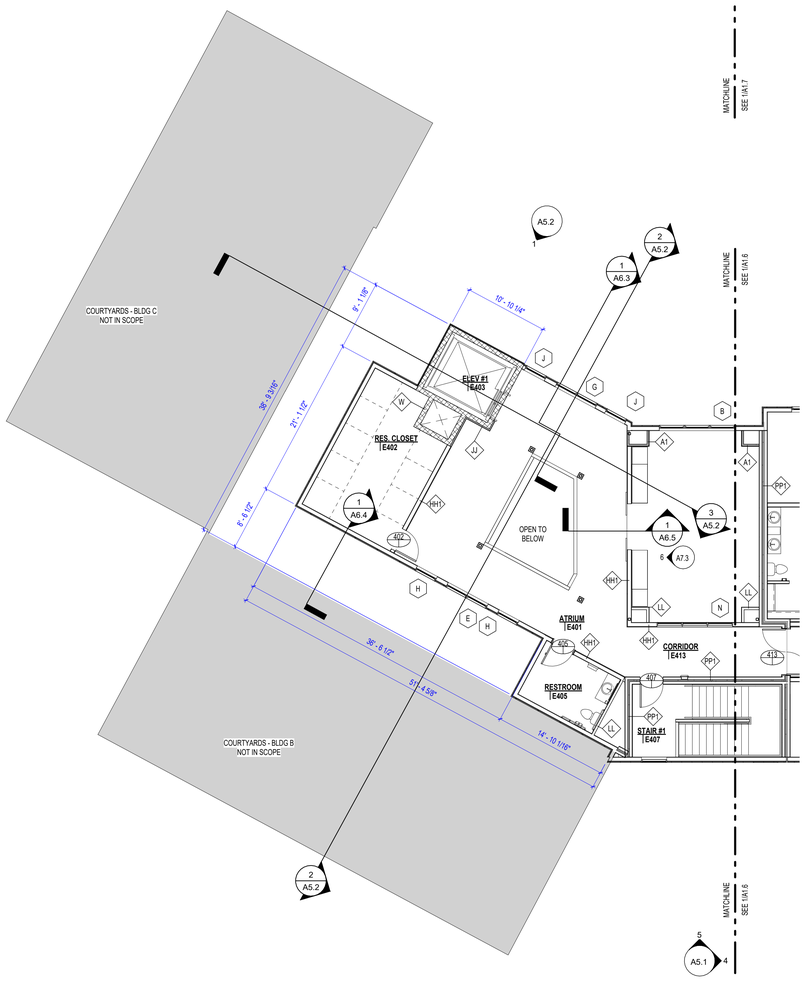
DRAWING A1.8



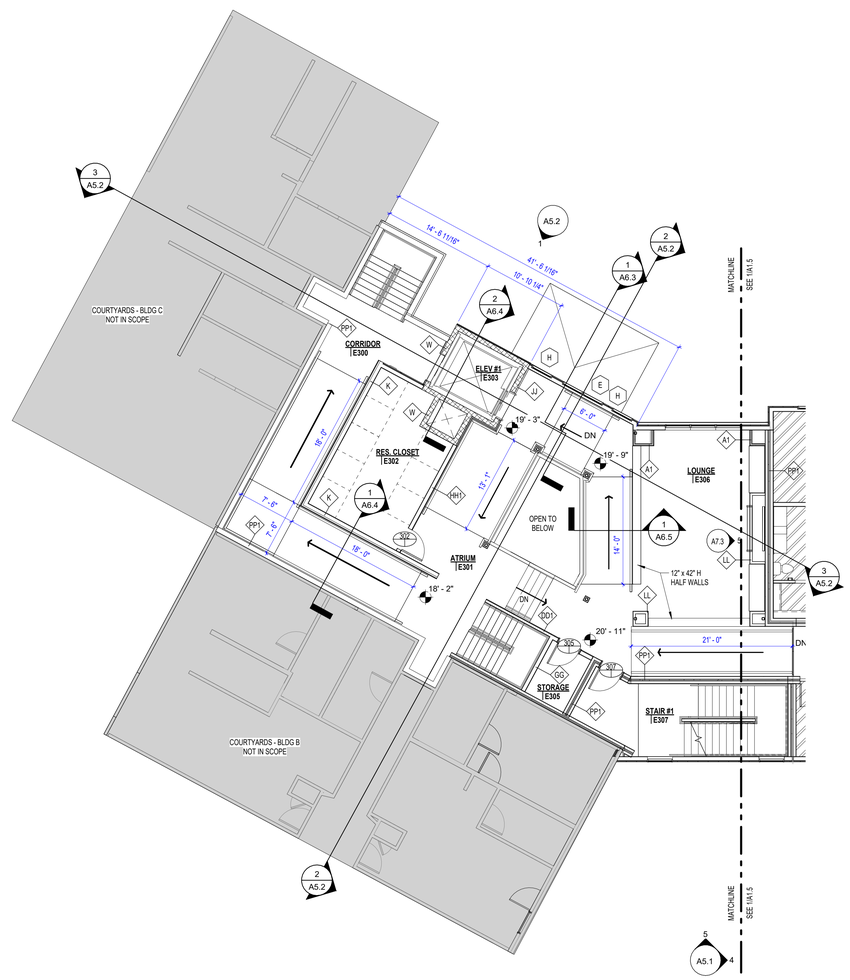
3 ROOF PLAN - ATRIUM
1/8" = 1'-0"



4 SCUPPER & DOWNSPOUTS CONDUCTOR HEAD
3" = 1'-0"



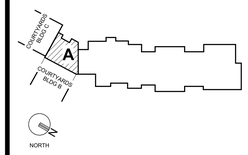
2 ATRIUM - FOURTH FLOOR PLAN
1/8" = 1'-0"



1 ATRIUM - THIRD FLOOR PLAN
1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. SLOPE TO BE 1/4" PER FOOT UNLESS OTHERWISE NOTED
2. ROOFING MATERIAL IS TO BE SINGLE PLY MEMBRANE ROOF OVER INSULATION UNLESS OTHERWISE NOTED

PERMIT SET

STATE OF MISSOURI
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NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

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DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

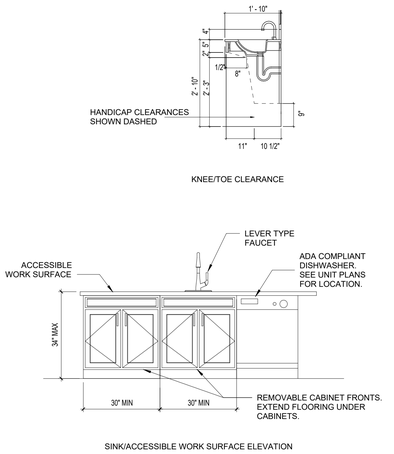
DRAWING TITLE

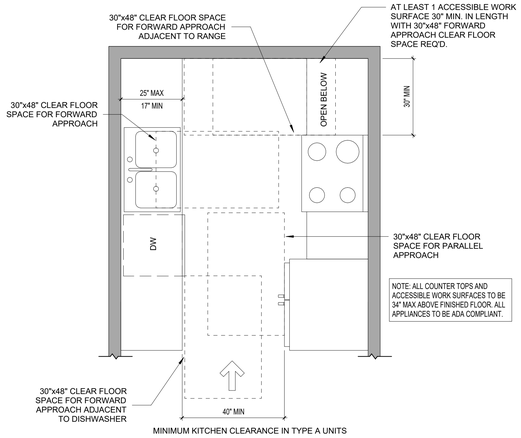
THIRD, FOURTH AND ROOF FLOOR PLANS - ATRIUM

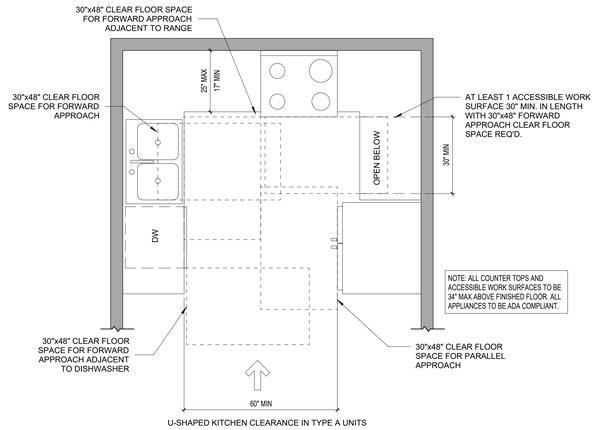
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A1.9

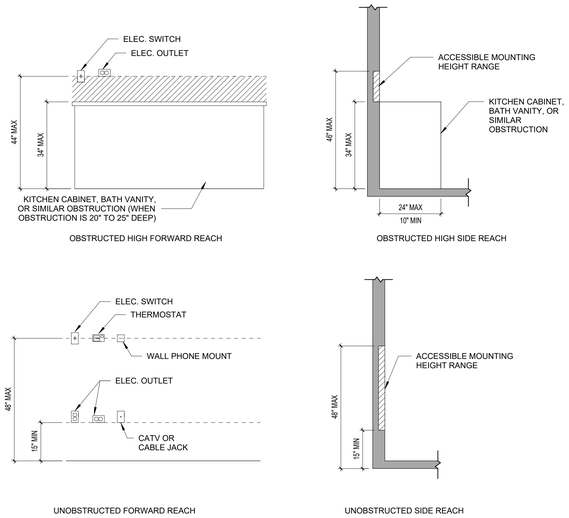






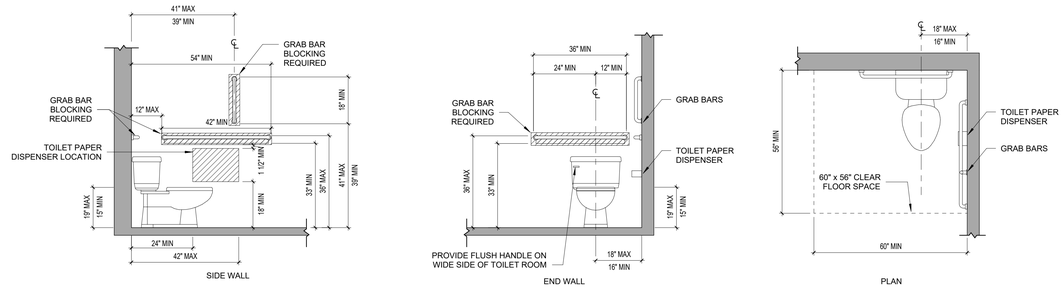
ACCESSIBLE KITCHENS (ICC/ANSI A117.1-2009)

7 1/2" = 1'-0"



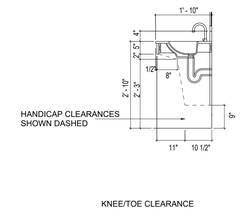
ACCESSIBLE MOUNTING HEIGHTS (ICC/ANSI A117.1-2009)

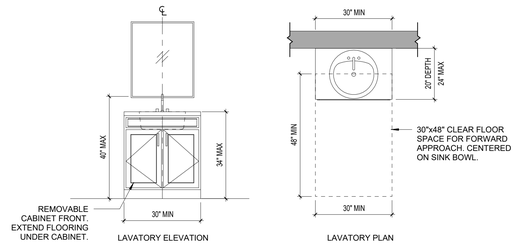
3 1/2" = 1'-0"



ACCESSIBLE WATER CLOSETS (ICC/ANSI A117.1-2009)

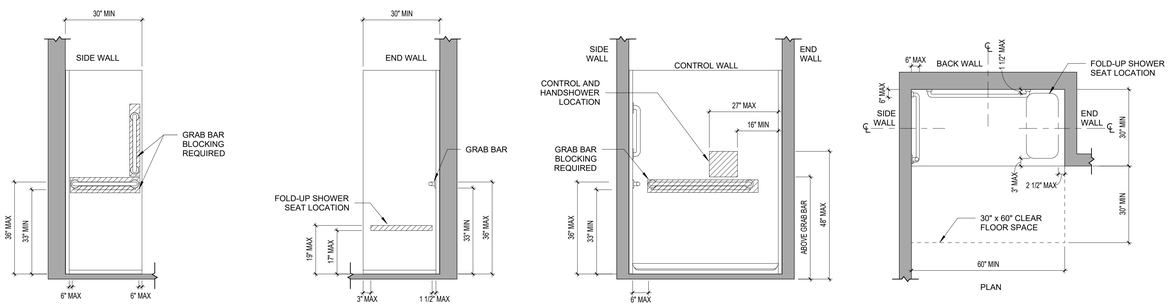
6 1/2" = 1'-0"





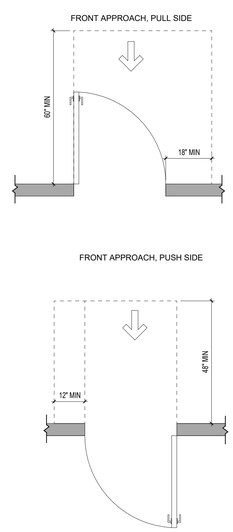
ACCESSIBLE LAVATORIES (ICC/ANSI A117.1-2009)

2 1/2" = 1'-0"



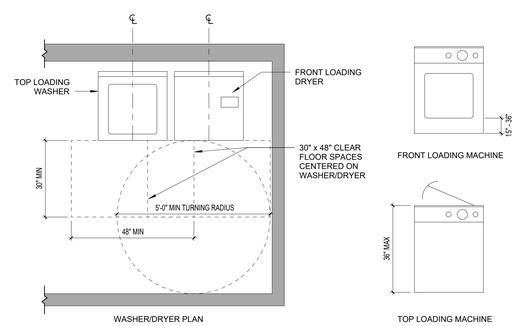
ACCESSIBLE SHOWERS (STANDARD ROLL-IN TYPE) (ICC/ANSI A117.1-2009)

5 1/2" = 1'-0"



ACCESSIBLE ENTRANCES

4 1/2" = 1'-0"



ACCESSIBLE LAUNDRY EQUIPMENT (ICC/ANSI A117.1-2009)

1 1/2" = 1'-0"

GENERAL NOTES

NOTE:
TYPE A ACCESSIBILITY DETAILS APPLY TO UNIT E123 AND E316. SEE BUILDNG PLANS FOR UNIT LOCATION.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

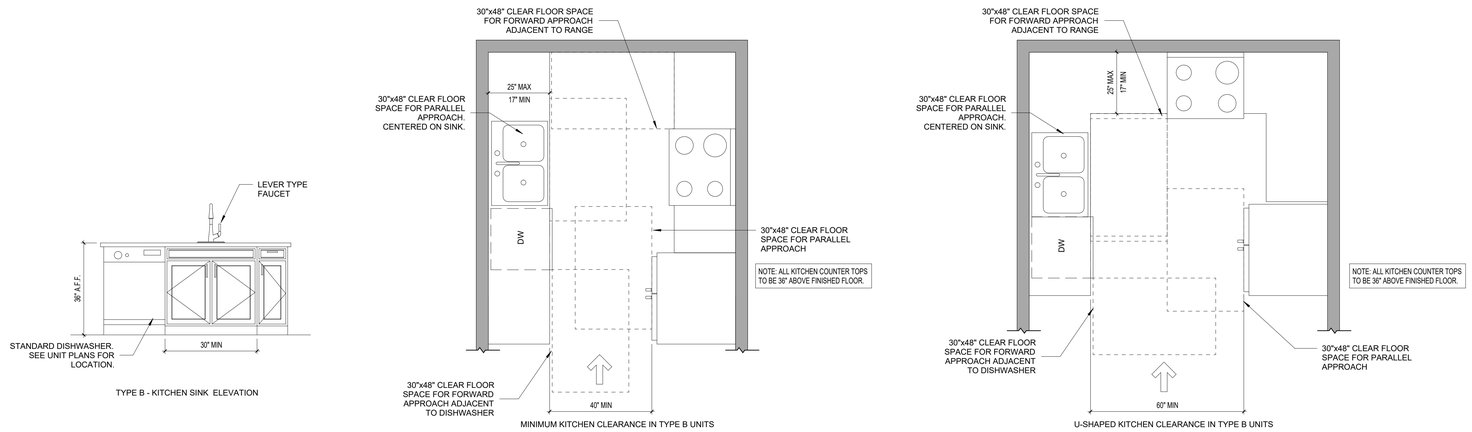
DRAWING TITLE

ANSI TYPE A UNIT ACESSIBILITY DETAILS

DATE: January 5, 2024

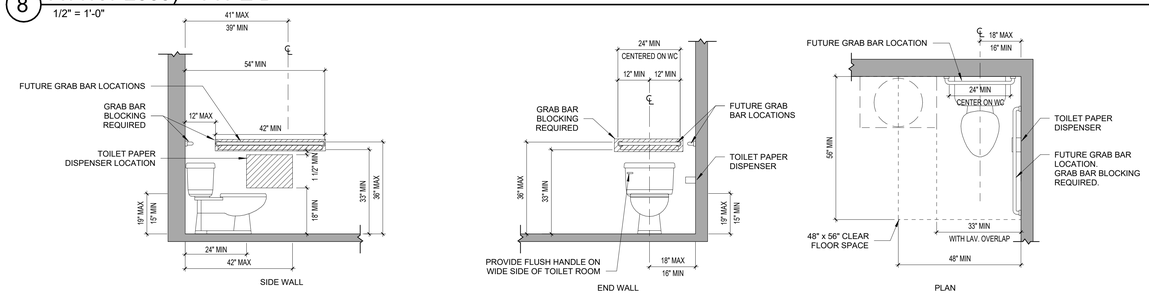
COMM. NO. 23104.00

DRAWING A2.1



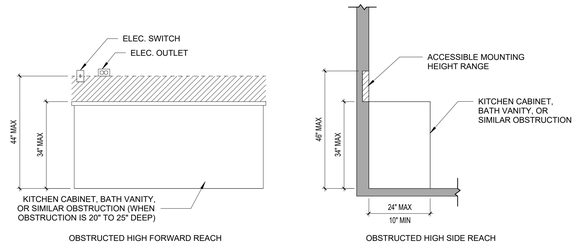
ACCESSIBLE KITCHENS (ICC/ANSI A117.1-2009) - TYPE B

8 1/2" = 1'-0"



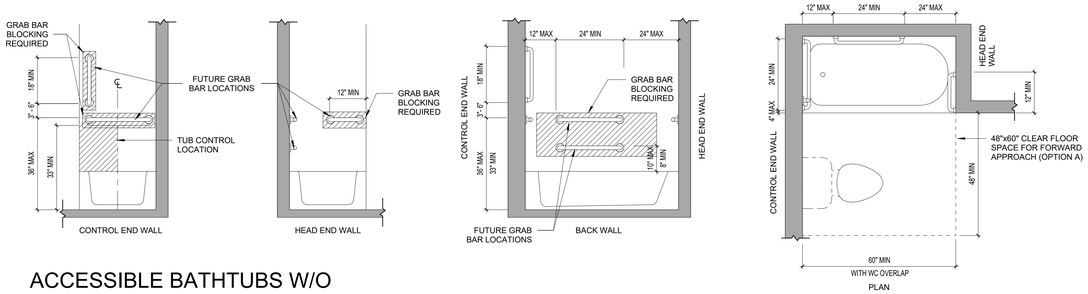
ACCESSIBLE WATER CLOSETS (ICC/ANSI A117.1-2009) - TYPE B

7 1/2" = 1'-0"



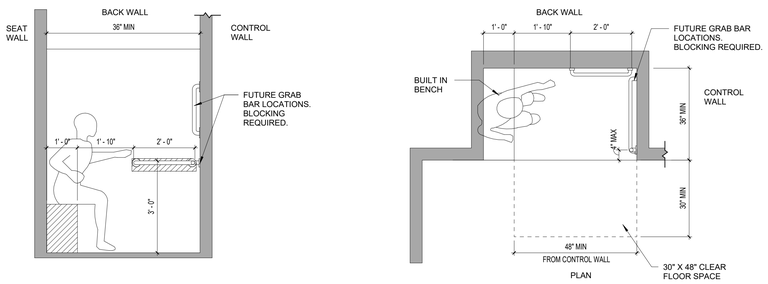
ACCESSIBLE MOUNTING HEIGHTS (ICC/ANSI A117.1-2009) - TYPE B

3 1/2" = 1'-0"



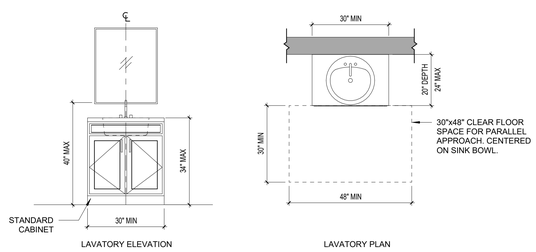
ACCESSIBLE BATHTUBS W/O PERMANENT SEAT (ICC/ANSI A117.1-2009) - TYPE B

6 1/2" = 1'-0"



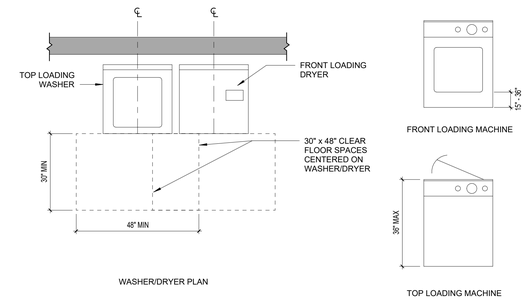
ACCESSIBLE TRANSFER TYPE SHOWER COMPARTMENT (ICC/ANSI A117.1-2009) - TYPE B

5 1/2" = 1'-0"



ACCESSIBLE LAVATORIES (ICC/ANSI A117.1-2009) - TYPE B

2 1/2" = 1'-0"



ACCESSIBLE LAUNDRY EQUIPMENT (ICC/ANSI A117.1-2009) - TYPE B

1 1/2" = 1'-0"

ACCESSIBLE ENTRANCES - TYPE B

4 1/2" = 1'-0"

GENERAL NOTES

NOTE:
TYPE B ACCESSIBILITY DETAILS APPLY TO ALL RESIDENT UNITS, BESIDES TYPE A ACCESSIBLE UNITS. SEE BUILDNG PLANS FOR UNIT LOCATION.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

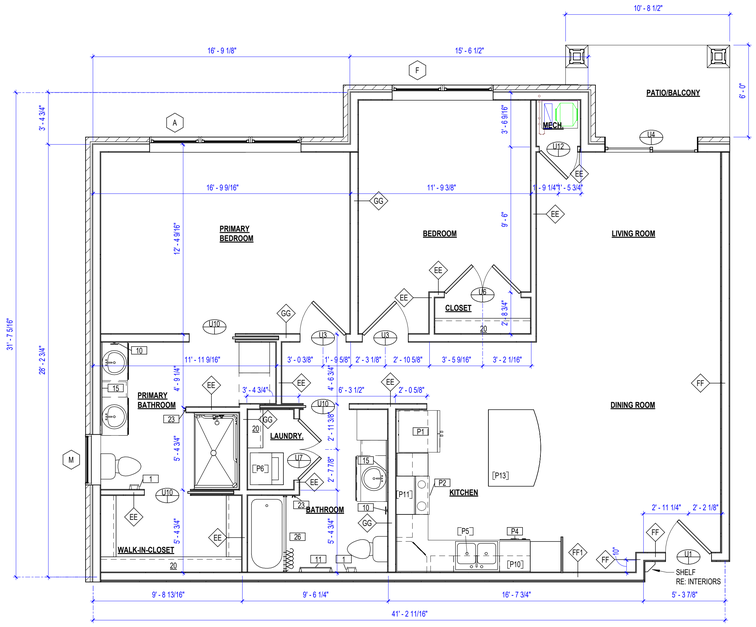
DRAWING TITLE

ANSI TYPE B UNIT ACCESSIBILITY DETAILS

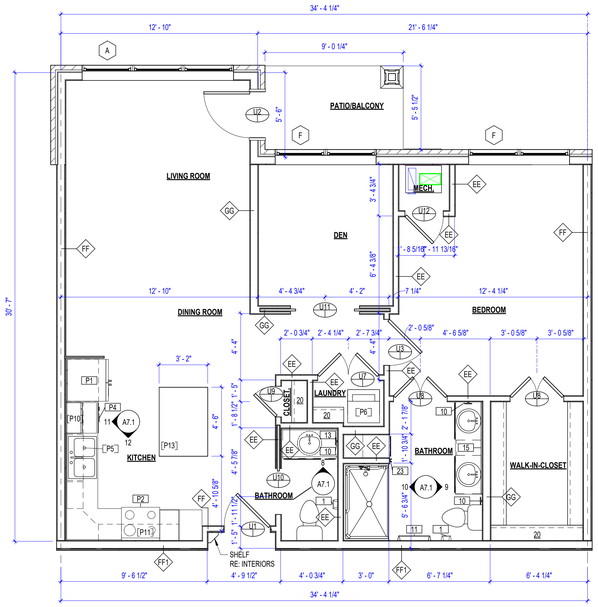
DATE: January 5, 2024

COMM. NO. 23104.00

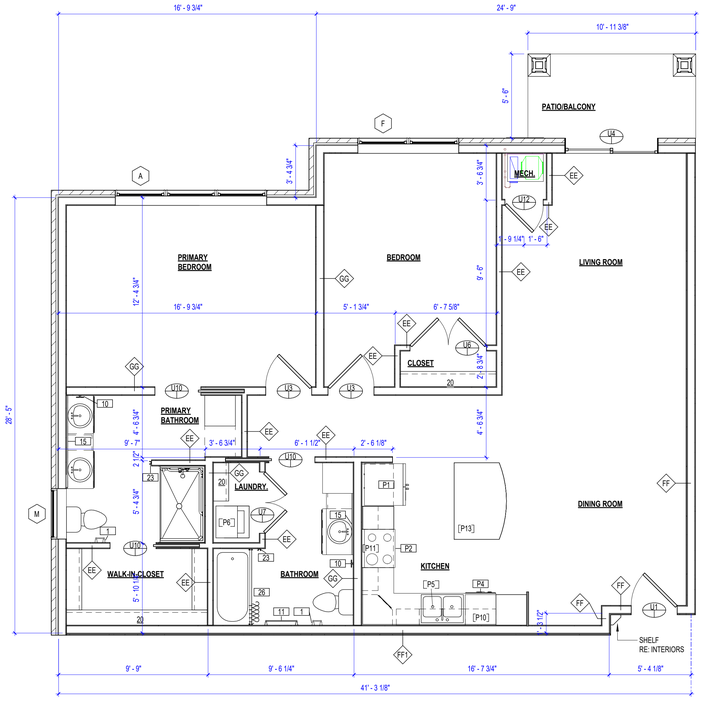
DRAWING A2.2



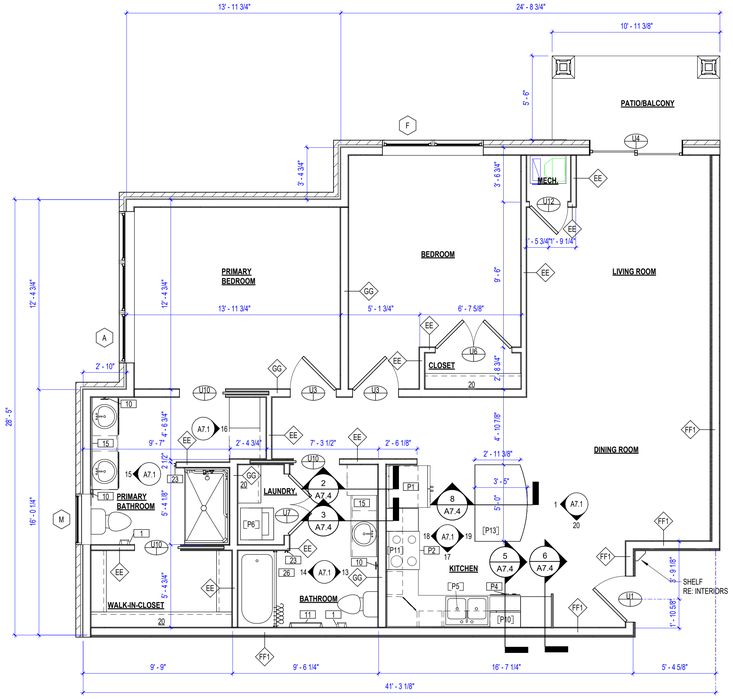
4 UNIT D2 - WILLOW (1185 SF)
1/4" = 1'-0"



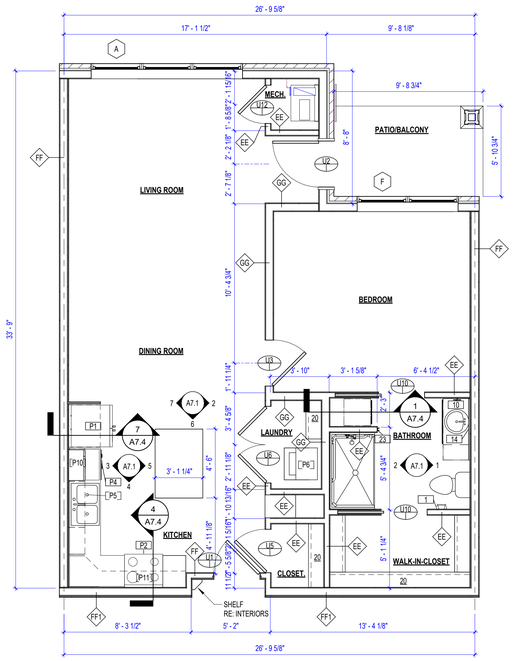
2 UNIT C - CEDAR (925 SF)
1/4" = 1'-0"



5 UNIT D3 - CYPRESS (1215 SF)
1/4" = 1'-0"



3 UNIT D1 - HICKORY (1145 SF)
1/4" = 1'-0"



1 UNIT B - BIRCH (810 SF)
1/4" = 1'-0"

GENERAL NOTES

1. ALL RESIDENT ROOMS SHALL COMPLY WITH ANSI TYPE B ACCESSIBILITY STANDARDS FOR ACCESSIBLE UNITS. SEE A2.2 FOR ACCESSIBILITY DETAILS. UNIT B 123 AND C 316 SHALL ALSO COMPLY WITH ANSI TYPE A ACCESSIBILITY STANDARDS FOR ACCESSIBLE UNITS - SEE SHEET A2.1 FOR ACCESSIBILITY DETAILS.
2. ALL UNITS TO CONTAIN THE FOLLOWING TOILET ACESSORIES: (1) 24" TOWEL BAR, 1 TOILET PAPER HOLDER, 1 TOWEL RING, 1 ROBE HOOK.
3. INSTALL ALL GRAB BAR BLOCKING AT TIME OF CONSTRUCTION. GRAB BARS TO BE INSTALLED AT RESIDENT REQUEST, TYP. INSTALL MASTER SHOWER 18" VERTICAL GRAB BARS AND WRAP AROUND GRAB BARS AT TIME OF CONSTRUCTION.
4. ALL UNDIMENSIONED DOORS TO BE CENTERED OR 4" OFF SIDE WALL.
5. ALL UNDESIGNATED DIMENSIONED WALLS TO BE 3 1/2" WOOD STUD.
6. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL LAYOUTS.
7. REFER TO INTERIOR FINISH PLANS & LEGEND FOR ALL UNIT INTERIORS.
8. DIMENSIONS ARE TO FACE OF STUD UNLESS OTHERWISE NOTED.
9. CORRIDOR WALLS AT UNIT AND DEMISING WALLS BETWEEN UNITS SHALL BE TREATED AS SOUND RATED WALLS.

PERMIT SET

STATE OF MISSISSIPPI
CURTIS B. JENNINGS III
NUMBER
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ARCHITECT
01-05-2024

PROJECT TITLE

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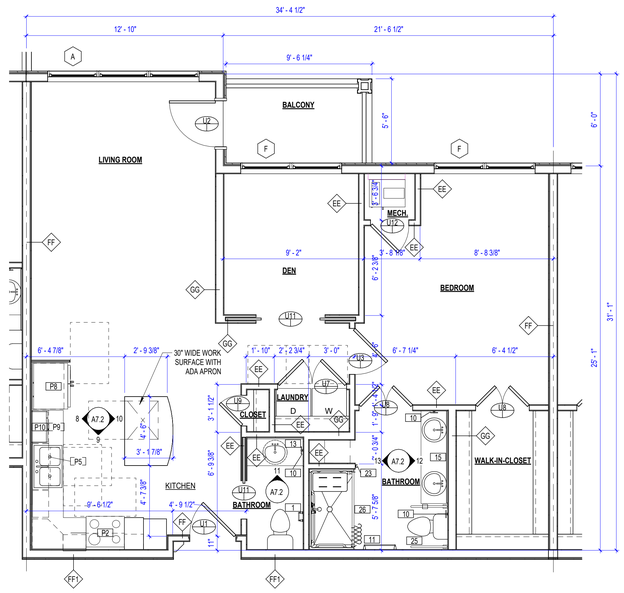
DESIGNER	DAS	DRAWN	DAS/CRW
ARCHITECT	DAS	CHECKED	AAT
ENGINEER	DES	APPROVED	CRJ

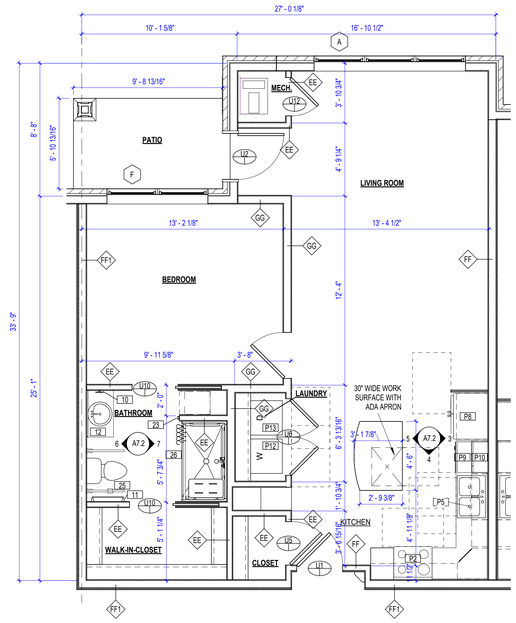
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
ENLARGED PLANS

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A2.3



2 E316 - UNIT C - CEDAR (ADA)
1/4" = 1'-0"



1 E123 - UNIT B - BIRCH (ADA)
1/4" = 1'-0"

GENERAL NOTES

1. ALL RESIDENT ROOMS SHALL COMPLY WITH ANSI TYPE B ACCESSIBILITY STANDARDS FOR ACCESSIBLE UNITS. SEE A2.2 FOR ACCESSIBILITY DETAILS. UNIT B 123 AND C 316 SHALL ALSO COMPLY WITH ANSI TYPE A ACCESSIBILITY STANDARDS FOR ACCESSIBLE UNITS - SEE SHEET A2.1 FOR ACCESSIBILITY DETAILS.
2. ALL UNITS TO CONTAIN THE FOLLOWING TOILET ACCESSORIES: (1) 24" TOWEL BAR, 1 TOILET PAPER HOLDER, 1 TOWEL RING, 1 ROBE HOOK.
3. INSTALL ALL GRAB BAR BLOCKING AT TIME OF CONSTRUCTION. GRAB BARS TO BE INSTALLED AT RESIDENT REQUEST, TYP. INSTALL MASTER SHOWER 18" VERTICAL GRAB BARS AND WRAP AROUND GRAB BARS AT TIME OF CONSTRUCTION.
4. ALL UNDIMENSIONED DOORS TO BE CENTERED OR 4" OFF SIDE WALL.
5. ALL UNDESIGNATED DIMENSIONED WALLS TO BE 3 1/2" WOOD STUD.
6. SEE ELECTRICAL DRAWINGS FOR ELECTRICAL LAYOUTS.
7. REFER TO INTERIOR FINISH PLANS & LEGEND FOR ALL UNIT INTERIORS.
8. DIMENSIONS ARE TO FACE OF STUD UNLESS OTHERWISE NOTED.
9. CORRIDOR WALLS AT UNIT AND DEMISING WALLS BETWEEN UNITS SHALL BE TREATED AS SOUND RATED WALLS.

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NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

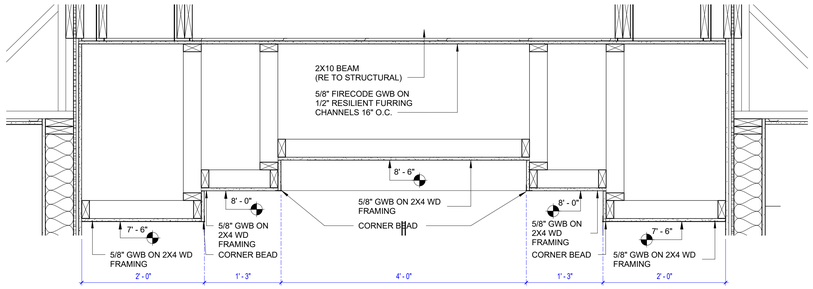
SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER : DAS		DRAWN : DAS/CRW	
ARCHITECT : DAS		CHECKED : AAT	
ENGINEER : DES		APPROVED : CRJ	

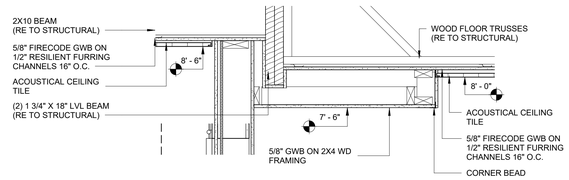
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
ENLARGED PLANS

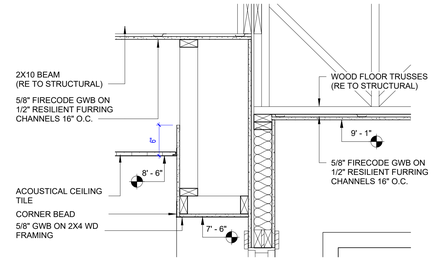
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A2.4



7 CORRIDOR BULKHEAD AT END
1" = 1'-0"

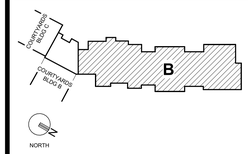


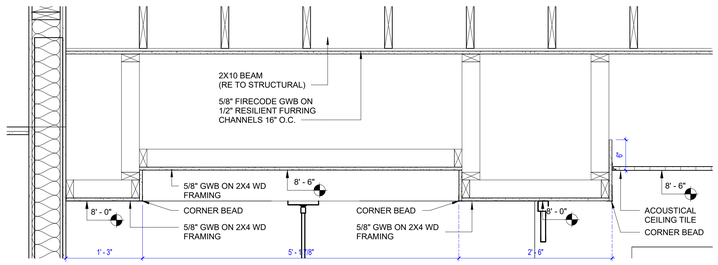
5 LOUNGE BULKHEAD
1" = 1'-0"



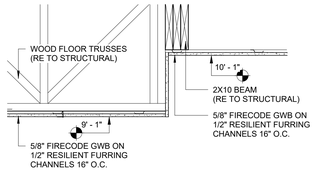
3 UNIT ENTRY
1" = 1'-0"

KEYPLAN

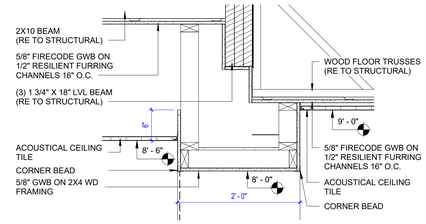




6 CORRDIOR BULKHEAD
1" = 1'-0"



4 UNIT STEP UP AT LIVING ROOM
1" = 1'-0"



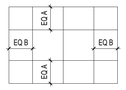
2 MAILROOM/LOUNGE BULKHEAD
1" = 1'-0"

REFLECTED CEILING PLAN LEGEND

- PAINTED GYPSUM BOARD
- SUSPENDED ACOUSTIC CEILING SYSTEM
- RECESSED TROFFER
- DOWNLIGHT
- SURFACE FIXTURE LIGHT
- CEILING DIFFUSER
- CEILING OUTLET
- CEILING DATA
- SMOKE DETECTOR
- SPEAKER
- SPRINKLER
- HEAT DETECTOR
- FIRE ALARM SPEAKER
- EXIT SIGN
- SUSPENDED LINEAR LIGHT FIXTURE
- LINEAR DIFFUSER
- STRUCTURAL BEAM - RE: STRUCT.

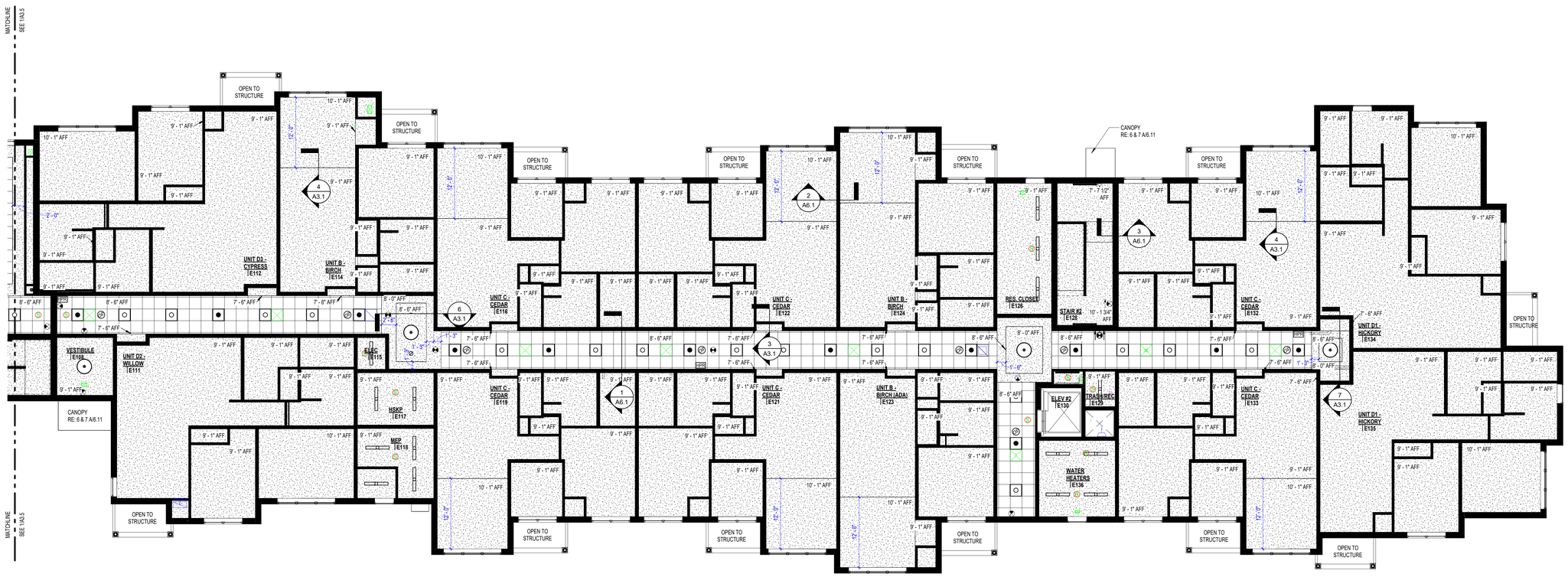
GENERAL NOTES

1. ALL ACOUSTICAL CEILINGS SHALL BE CENTERED IN THE ROOMS WITH EQUAL SIZE PANELS AT OPPOSITE SIDES OF THE ROOM - TYPICAL WHETHER INDICATED OR NOT.



2. ACOUSTICAL CEILINGS IN ADJACENT EXT DOORS SHALL HAVE HOLD DOWN CLIPS - TYP

3. ROOMS WITHOUT CEILING HEIGHTS INDICATED ARE 9'-1" AFF UNLESS NOTED OTHERWISE.



1 FIRST FLOOR IL UNITS REFLECTED CEILING PLAN
1/8" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS
Architecture
Engineering
Planning
Interiors

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DESIGNER	DAS	DRAWN	LW/DAS/GMJ
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

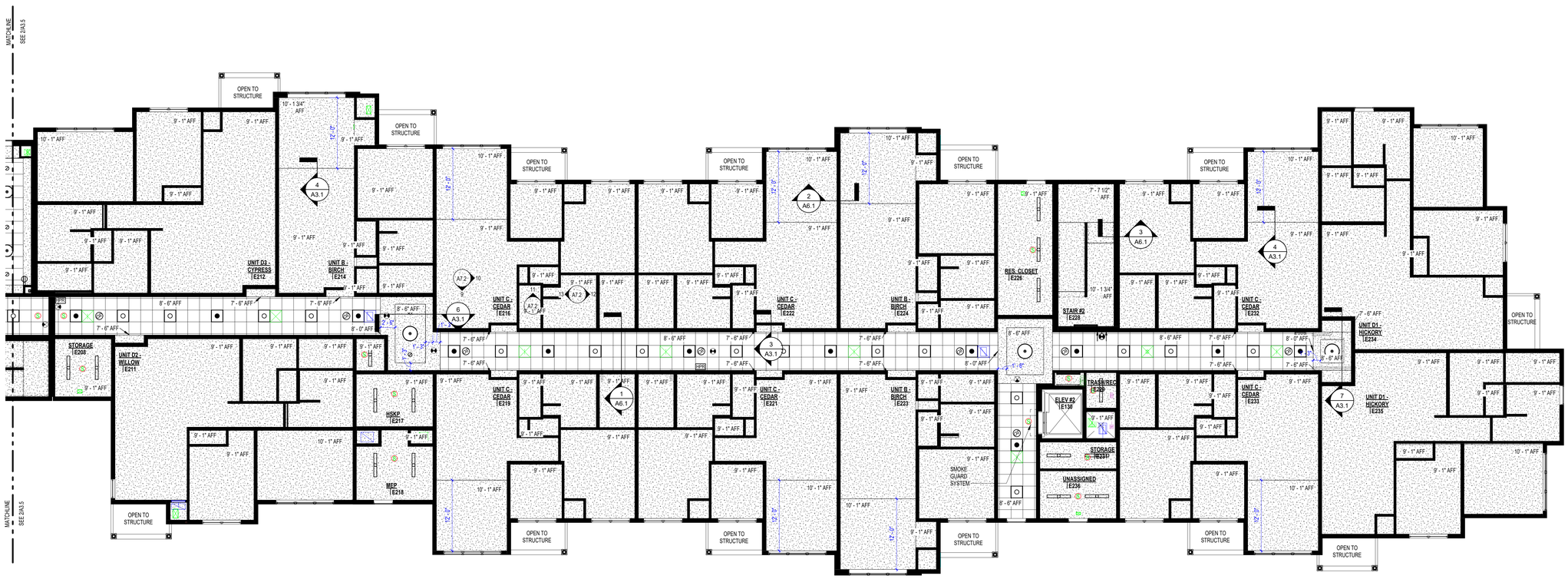
DRAWING TITLE

FIRST FLOOR IL UNITS REFLECTED CEILING PLAN

DATE: January 5, 2024

COMM. NO. 23104.00

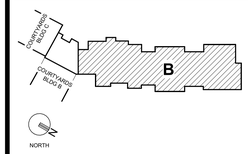
DRAWING A3.1



1 SECOND FLOOR IL UNITS REFLECTED CEILING PLAN

1/8" = 1'-0"

KEYPLAN

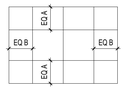


REFLECTED CEILING PLAN LEGEND

- PAINTED GYPSUM BOARD
- SUSPENDED ACOUSTIC CEILING SYSTEM
- RECESSED TROFFER
- DOWNLIGHT
- SURFACE FIXTURE LIGHT
- CEILING DIFFUSER
- CEILING OUTLET
- CEILING DATA
- SMOKE DETECTOR
- SPEAKER
- SPRINKLER
- HEAT DETECTOR
- FIRE ALARM SPEAKER
- EXIT SIGN
- SUSPENDED LINEAR LIGHT FIXTURE
- LINEAR DIFFUSER
- STRUCTURAL BEAM - RE: STRUCT.

GENERAL NOTES

1. ALL ACOUSTICAL CEILINGS SHALL BE CENTERED IN THE ROOMS WITH EQUAL SIZE PANELS AT OPPOSITE SIDES OF THE ROOM - TYPICAL WHETHER INDICATED OR NOT.



2. ACOUSTICAL CEILINGS IN ADJACENT EXT DOORS SHALL HAVE HOLD DOWN CLIPS - TYP

3. ROOMS WITHOUT CEILING HEIGHTS INDICATED ARE 9'-1" AFF UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

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Charlotte, North Carolina 28203.4633
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DESIGNER	DAS	DRAWN	LW/DAS/GMJ
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

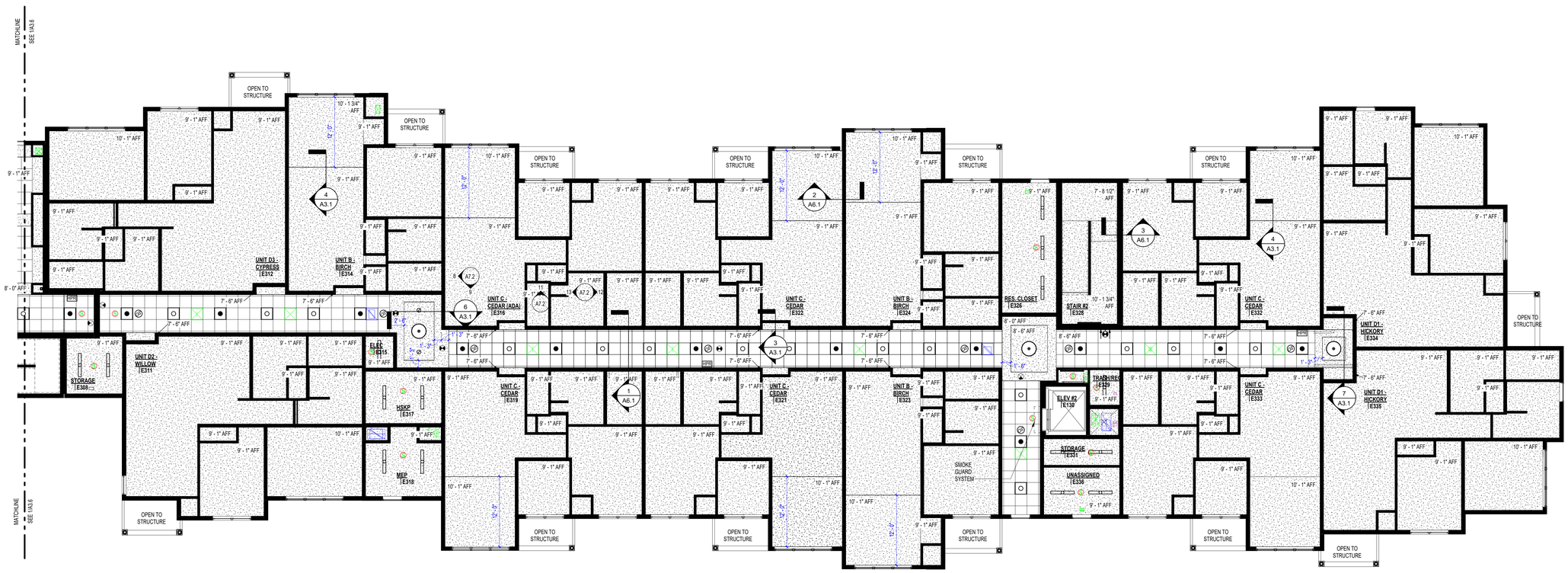
DRAWING TITLE

SECOND FLOOR IL UNITS REFLECTED CEILING PLAN

DATE: January 5, 2024

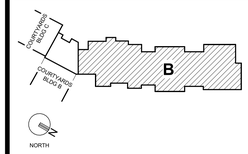
COMM. NO. 23104.00

DRAWING A3.2



1 THIRD FLOOR IL UNITS REFLECTED CEILING PLAN
1/8" = 1'-0"

KEYPLAN

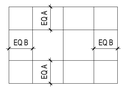


REFLECTED CEILING PLAN LEGEND

- PAINTED GYPSUM BOARD
- SUSPENDED ACOUSTIC CEILING SYSTEM
- RECESSED TROFFER
- DOWNLIGHT
- SURFACE FIXTURE LIGHT
- CEILING DIFFUSER
- CEILING OUTLET
- CEILING DATA
- SMOKE DETECTOR
- SPEAKER
- SPRINKLER
- HEAT DETECTOR
- FIRE ALARM SPEAKER
- EXIT SIGN
- SUSPENDED LINEAR LIGHT FIXTURE
- LINEAR DIFFUSER
- STRUCTURAL BEAM - RE: STRUCT.

GENERAL NOTES

1. ALL ACOUSTICAL CEILINGS SHALL BE CENTERED IN THE ROOMS WITH EQUAL SIZE PANELS AT OPPOSITE SIDES OF THE ROOM - TYPICAL WHETHER INDICATED OR NOT.



2. ACOUSTICAL CEILINGS IN ADJACENT EXT DOORS SHALL HAVE HOLD DOWN CLIPS - TYP

3. ROOMS WITHOUT CEILING HEIGHTS INDICATED ARE 9'-1" AFF UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	LW/DAS/GMJ
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

THIRD FLOOR IL UNITS REFLECTED CEILING PLAN

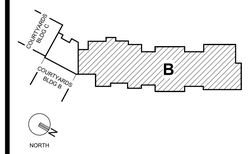
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A3.3

1 FOURTH FLOOR IL UNITS REFLECTED CEILING PLAN
1/8" = 1'-0"

KEYPLAN



REFLECTED CEILING PLAN LEGEND

- PAINTED GYPSUM BOARD
- SUSPENDED ACOUSTIC CEILING SYSTEM
- RECESSED TROFFER
- DOWNLIGHT
- SURFACE FIXTURE LIGHT
- CEILING DIFFUSER
- CEILING OUTLET
- CEILING DATA
- SMOKE DETECTOR
- SPEAKER
- SPRINKLER
- HEAT DETECTOR
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- EXIT SIGN
- SUSPENDED LINEAR LIGHT FIXTURE
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- STRUCTURAL BEAM - RE: STRUCT.

GENERAL NOTES

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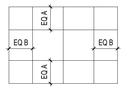

2. ACOUSTICAL CEILINGS IN ADJACENT EXT DOORS SHALL HAVE HOLD DOWN CLIPS - TYP

3. ROOMS WITHOUT CEILING HEIGHTS INDICATED ARE 9'-1" AFF UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	LW/DAS/GMJ
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

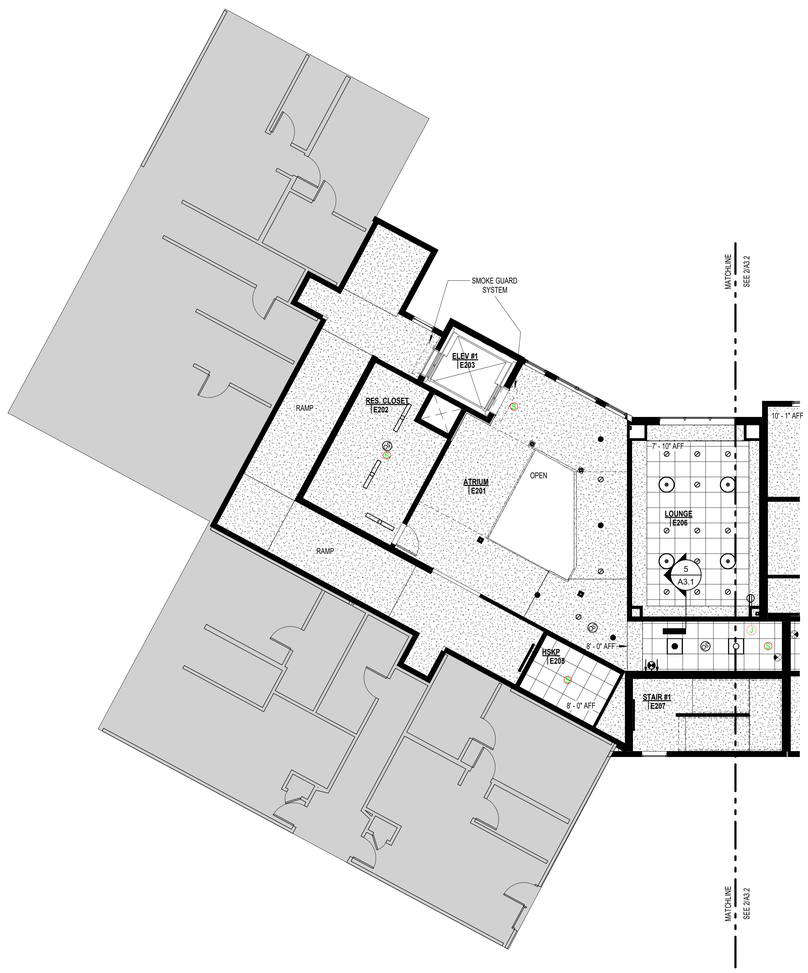
DRAWING TITLE

FOURTH FLOOR IL UNITS REFLECTED CEILING PLAN

DATE: January 5, 2024

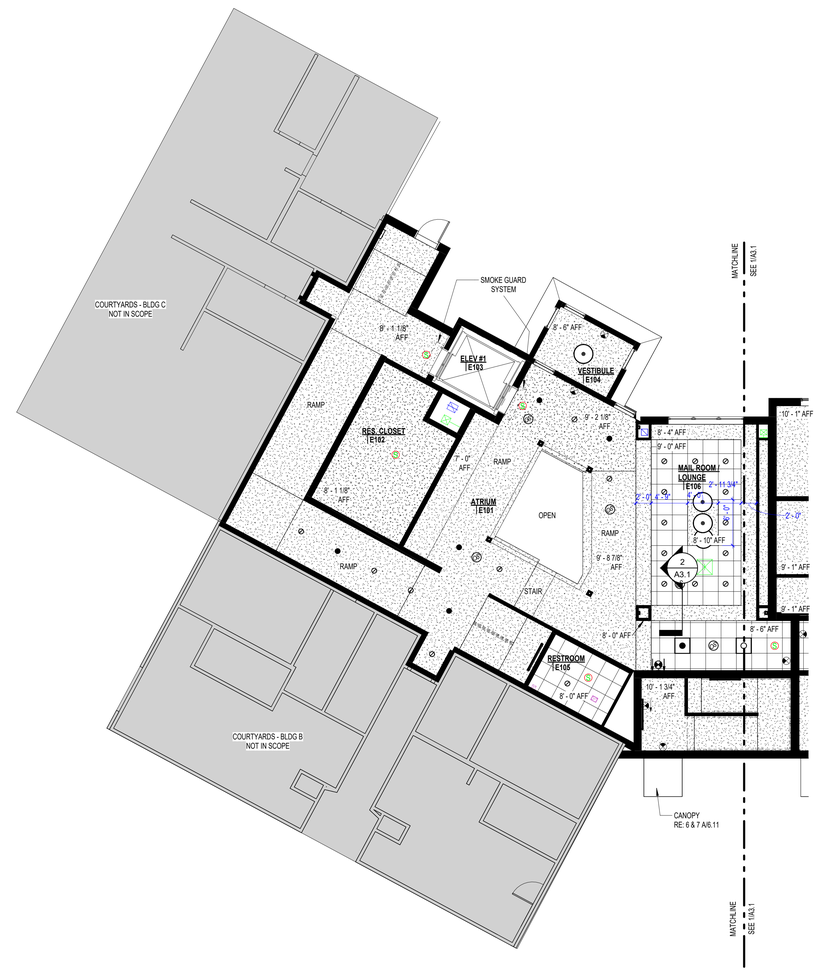
COMM. NO. 23104.00

DRAWING A3.4



2 ATRIUM - SECOND FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

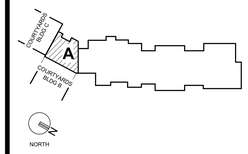


1 ATRIUM - FIRST FLOOR REFLECTED CEILING PLAN

1/8" = 1'-0"

NORTH

KEYPLAN



REFLECTED CEILING PLAN LEGEND

- PAINTED GYPSUM BOARD
- SUSPENDED ACOUSTIC CEILING SYSTEM
- RECESSED TROFFER
- DOWNLIGHT
- SURFACE FIXTURE LIGHT
- CEILING DIFFUSER
- CEILING OUTLET
- CEILING DATA
- SMOKE DETECTOR
- SPEAKER
- SPRINKLER
- HEAT DETECTOR
- FIRE ALARM SPEAKER
- EXIT SIGN
- SUSPENDED LINEAR LIGHT FIXTURE
- LINEAR DIFFUSER
- STRUCTURAL BEAM - RE: STRUCT.

GENERAL NOTES

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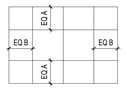

2. ACOUSTICAL CEILINGS IN ADJACENT EXT DOORS SHALL HAVE HOLD DOWN CLIPS - TYP

3. ROOMS WITHOUT CEILING HEIGHTS INDICATED ARE 9'-1" AFF UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSISSIPPI
CURTIS R. JENNINGS III
NUMBER A-202304555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

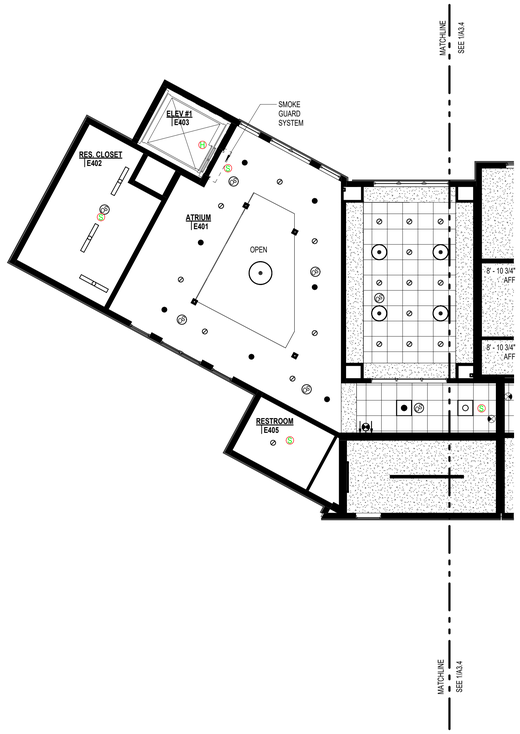
DRAWING TITLE

FIRST AND SECOND FLOOR ATRIUM REFLECTED CEILING PLAN

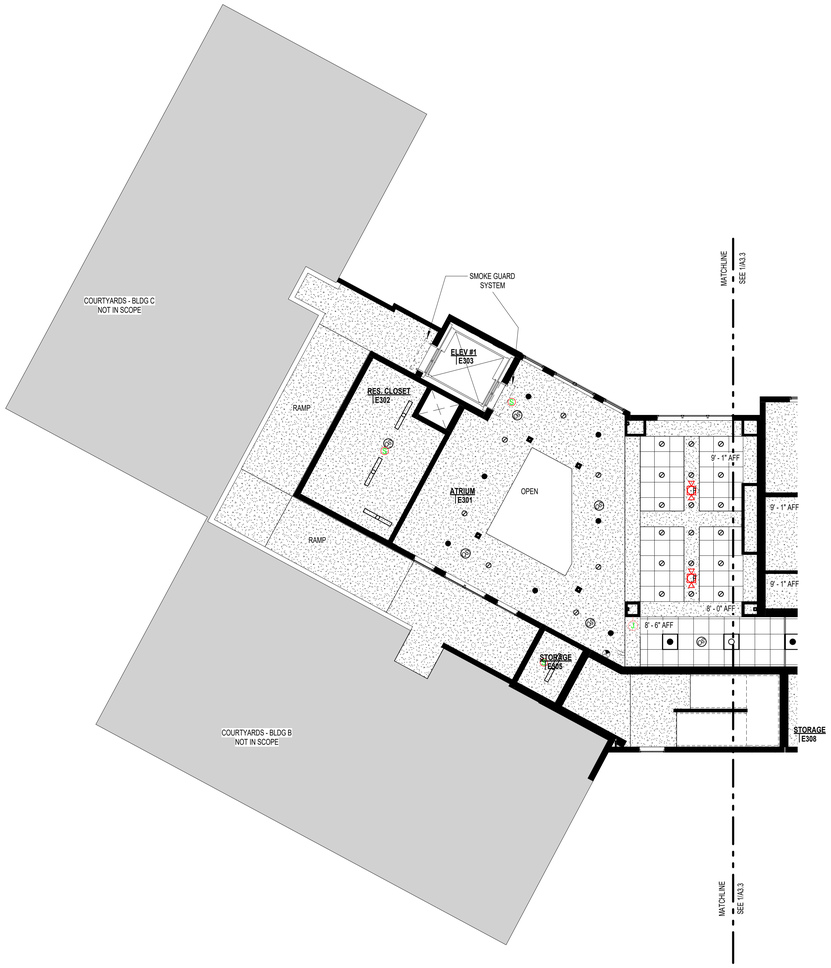
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A3.5



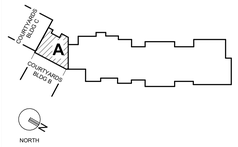
2 ATRIUM - FOURTH FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"



1 ATRIUM - THIRD FLOOR REFLECTED CEILING PLAN
1/8" = 1'-0"

NORTH

KEYPLAN



REFLECTED CEILING PLAN LEGEND

- PAINTED GYPSUM BOARD
- SUSPENDED ACOUSTIC CEILING SYSTEM
- RECESSED TROFFER
- DOWNLIGHT
- SURFACE FIXTURE LIGHT
- CEILING DIFFUSER
- CEILING OUTLET
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- SMOKE DETECTOR
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GENERAL NOTES

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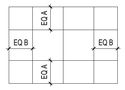

2. ACOUSTICAL CEILINGS IN ADJACENT EXT DOORS SHALL HAVE HOLD DOWN CLIPS - TYP

3. ROOMS WITHOUT CEILING HEIGHTS INDICATED ARE 9'-1" AFF UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSISSIPPI
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DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

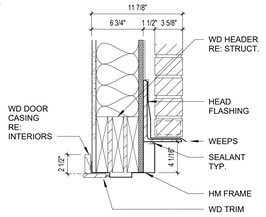
DRAWING TITLE

THIRD AND FOURTH FLOOR ATRIUM REFLECTED CEILING PLAN

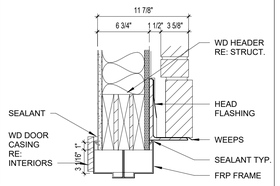
DATE: January 5, 2024

DRAWING A3.6

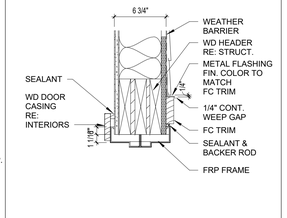
COMM. NO. 23104.00



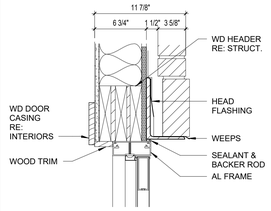
H1 - HM HEAD @ BRICK



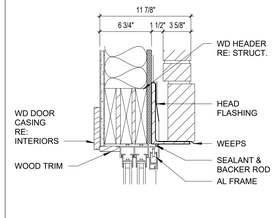
H2 - FBG HEAD @ BRICK



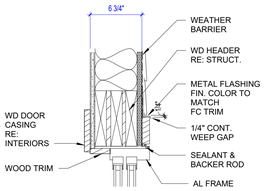
H3 - FBG HEAD @ SIDING



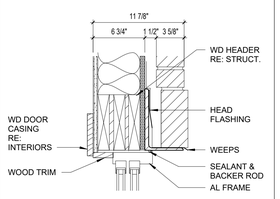
H4 - AL HEAD @ ENTRY



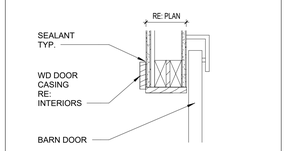
H5 - AL SLIDING HEAD @ BRICK



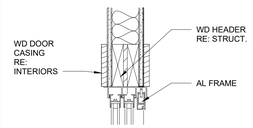
H6 - AL SLIDING HEAD @ SIDING



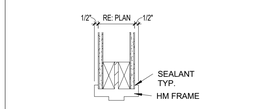
H7 - FBG HEAD @ BRICK



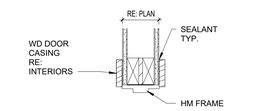
H8 - HEAD @ BARN DOOR



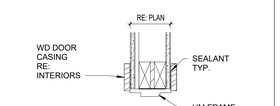
H9 - AL SLIDING HEAD @ GYP WALL



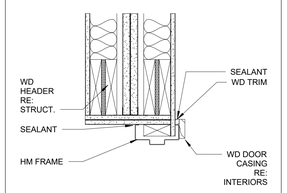
H10 - HM HEAD @ INT GYP



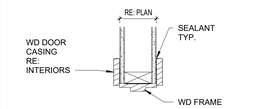
H11 - HM HEAD @ INT GYP W/CASING



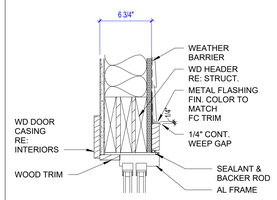
H12 - HM HEAD @ INT GYP FURRING W/CASING



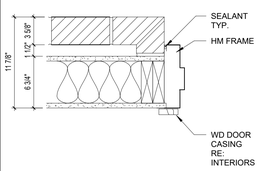
H13 - HM HEAD @ INT GYP SHAFT WALL



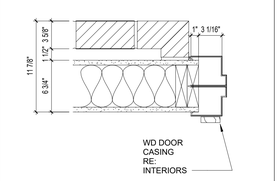
H14 - WD HEAD PRE-HUNG



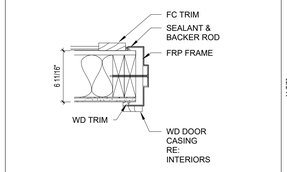
H15 - FBG HEAD @ SIDING



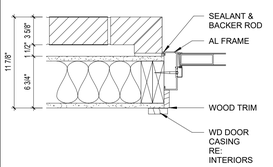
J1 - HM JAMB @ BRICK



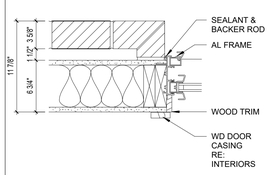
J2 - FBG JAMB @ BRICK



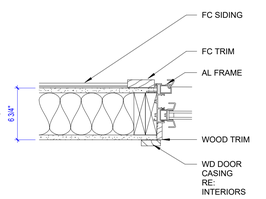
J3 - FBG JAMB @ SIDING



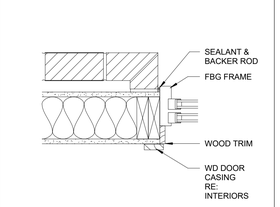
J4 - AL JAMB @ BRICK



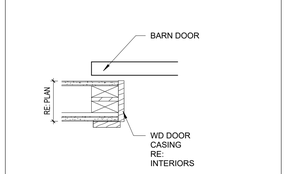
J5 - AL SLIDING JAMB @ SIDING



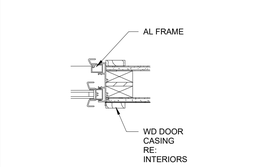
J6 - AL SLIDING JAMB @ SIDING



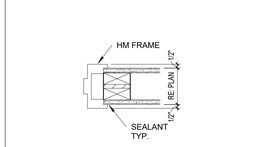
J7 - FBG SLIDING JAMB @ BRICK



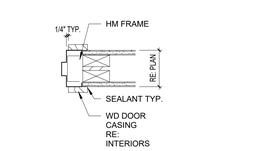
J8 - JAMB @ BARN DOOR



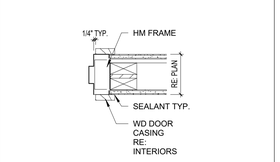
J9 - AL SLIDING JAMB @ GYP CASING



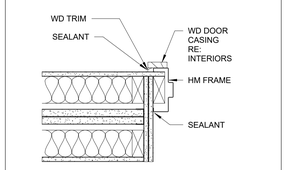
J10 - HM JAMB @ GYP NO CASING



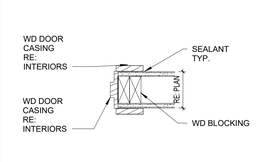
J11 HM JAMB @ GYP W/CASING



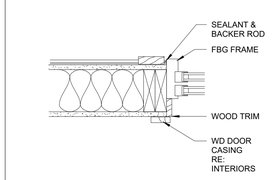
J12 - HM JAMB @ GYP W/FURRING CASING



J13 - HM JAMB @ INT CYP SHAFT WALL



J14 - WD JAMB PRE-HUNG



J15 - FBG SLIDING JAMB @ SIDING

DOOR SCHEDULE

ROOM	DOOR ELEV	DOOR TYPE	DOOR WIDTH	DOOR HEIGHT	FIRE RATING	FRAME ELEV	FRAME HEAD	FRAME JAMB	HARDWARE LOCK	HARDWARE CLOS	HARDWARE ACCESS CNTRL	Comments
102	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
104A	FG	AL	6' - 0"	7' - 0"		2	H6	J6	8			
104B	FG	AL	6' - 0"	7' - 0"		2	H9	J9	8		X	
105	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	3	X		
107A	F	HM	3' - 0"	7' - 0"		2	H1	J1	7	X	X	
107B	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6			
108A	FG	AL	6' - 0"	7' - 0"		2	H1	J1	8	X		
108B	FG	AL	6' - 0"	7' - 0"		2	H9	J9	8	X	X	
113	F	HM	(2) 3' - 0"	6' - 8"	90 MIN	3	H13	J13	5	X		
115	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	10	X		
117	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	10	X		
118	F	WD	3' - 0"	6' - 8"		1	H10	J10	10	X		
120	F	WD	3' - 0"	6' - 8"		1	H11	J11	10	X		
125	FG	AL	3' - 0"	7' - 0"		2	H4	J4	9		X	
126	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
127	F	WD	4' - 6"	6' - 8"		1	H10	J10	4			
128A	F	HM	3' - 0"	7' - 0"		1	H1	J1	7	X	X	
128B	F	HM	3' - 0"	6' - 8"	90 MIN	1	H12	J12	6	X		
129	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
136	F	WD	3' - 0"	6' - 8"	45 MIN	1	H12	J12	10	X		
202	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
205	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	1	X		
206	F	WD	(2) 3' - 0"	6' - 8"			H8	J8	11			
207	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
208	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
213	F	HM	(2) 3' - 0"	6' - 8"	90 MIN	3	H13	J13	5	X		
215	F	WD	3' - 0"	6' - 8"		1	H12	J12	10			
217	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	10	X		
218	F	WD	3' - 0"	6' - 8"		1	H10	J10	10			
226	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
227	F	WD	4' - 6"	6' - 8"		1	H10	J10	4			
228	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
229	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
231	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
236	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	1	X		
302	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
305	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	10	X		
307	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
308	F	WD	3' - 0"	6' - 8"	90 MIN	1	H13	J13	10	X		
313	F	HM	(2) 3' - 0"	6' - 8"	90 MIN	3	H13	J13	5	X		
315	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	10	X		
317	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	10	X		
318	F	WD	3' - 0"	6' - 8"		1	H10	J10	10			
326	F		3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
327	F	WD	4' - 6"	6' - 8"		1	H10	J10	4			
328	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
329	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
331	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
336	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	1	X		
402	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
405	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	3	X		
406	F	WD	(2) 3' - 0"	6' - 8"			H8	J8	11			
407	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
408	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
413	F	HM	(2) 3' - 0"	6' - 8"	90 MIN	1	H13	J13	5	X		
415	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	10	X		
417	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	10	X		
418	F	WD	3' - 0"	6' - 8"		1	H10	J10	10			
426	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
427	F	WD	4' - 8"	6' - 8"			H10	J10	4			
428	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
429	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
431	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	2	X		
436	F	WD	3' - 0"	6' - 8"	20 MIN	1	H12	J12	1	X		
B1	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
B2	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
B3	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
B21	FG	AL	3' - 0"	7' - 0"			H4	J4	9	X		
C1	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
C2	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		
C3	F	HM	3' - 0"	6' - 8"	90 MIN	1	H13	J13	6	X		

MARK	DOOR TYPE	DOOR MATERIAL	DOOR WIDTH	DOOR PAIR	DOOR HEIGHT	FIRE RATING	FRAME ELEV	FRAME HEAD	FRAME JAMB	HW SET	COMMENTS
U1	PD	MDF	3'-0"		6'-8"	20 MIN		H12	J12	12	
U2	FG-1	FBG	3'-0"		6'-8"			H2/H3	J2/J3	16	EXTERIOR - INTEGRAL BLINDS
U3	PD	DF	3'-0"		6'-8"			H14	J14	15	
U4	FG-1	FBG	3'-0"		6'-8"			H7/H15	J7/J15	20	EXTERIOR - INTEGRAL BLINDS
U5	PD-1	DF	2'-10"		6'-8"			H14	J14	13	
U6	PD-1	DF	PAIR 2'-6"		6'-8"			H14	J14	14	
U7	PD-1	DF	PAIR 2'-0"		6'-8"			H14	J14	14	
U8	PD-1	DF	PAIR 1'-9"		6'-8"			H14	J14	21	
U9	PD-1	DF	2'-0"		6'-8"			H14	J14	13	
U10	PD/PKT	DF	2'-10"		6'-8"			H14	J14	17	
U11	PD/PKT	DF	PAIR 2'-4"		6'-8"			H14	J14	18	
U12	PD	DF	2'-6"		6'-8"			H14	J14	16	

FIBERGLASS DOORS BASIS OF DESIGN - JELD WEN DESIGN-PRO SERIES

GENERAL NOTES

1. DOORS ARE TO BE INSTALLED SO THE BACK OF THE FRAME IS 4", TYP. TO FACE OF WALL AT INSIDE CORNER, UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER : DES	APPROVED : CRJ

NO.	REVISION DESCRIPTION	DATE

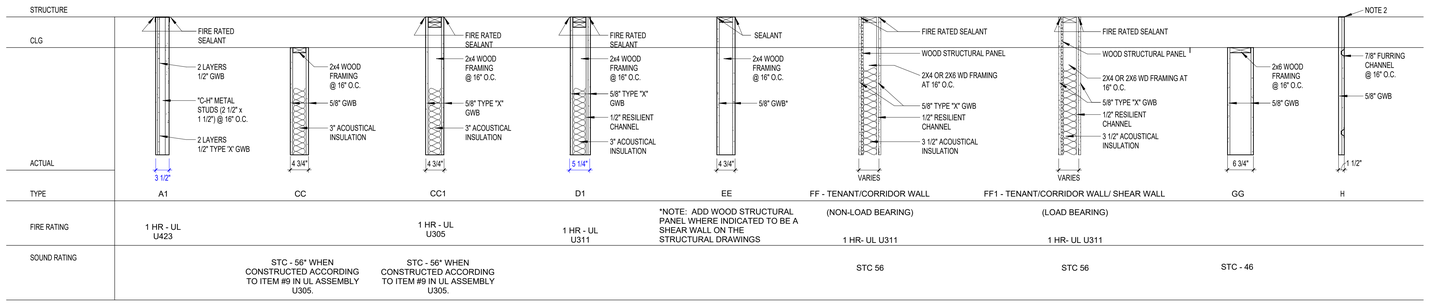
DRAWING TITLE

DOOR SCHEDULE

DATE: January 5, 2024

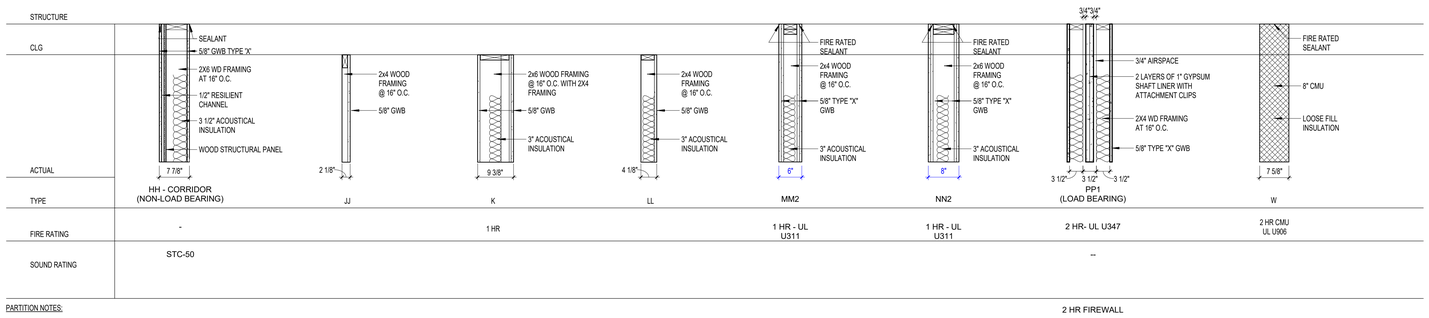
DRAWING A4.1

COMM. NO. 23104.00



PARTITIIONS TYPES-

3/4" = 1'-0"



PARTITION NOTES:

NOTE 1: SOUND RATING WHERE NOTED ON PLANS.

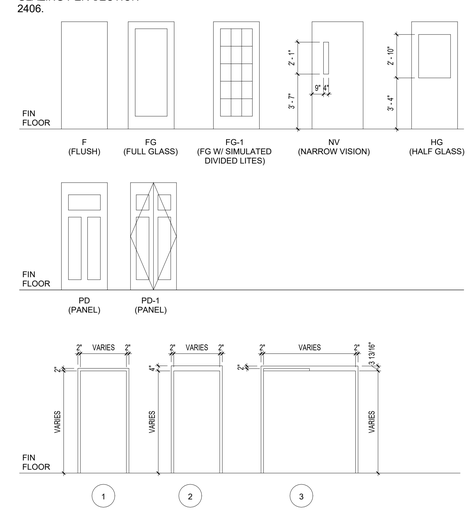
NOTE 2: LINE OF SUBSTRATE.

NOTE 3: GWB SHALL BE ACOUSTICALLY SEALED TO STRUCTURE AT SOUND RATED PARTITIONS. APPLY SEALANT AROUND ALL CUT OUTS IN GWB WALL. CAULK SIDES AND BACK OF ELECTRICAL BOXES.

NOTE 4: PROVIDE DEEP LEG TOP TRACK RUNNERS FOR MINIMUM 5/8" DEFLECTION GAP.

NOTE 5: DESIGNATED STC RATINGS APPLY TO SOUND RATED PARTITIONS.

NOTE: ALL GLAZING IN FIXED AND OPERABLE PANELS OF DOORS SHALL BE SAFETY GLAZING PER SECTION 2406.



DOOR ELEVATIONS

1 1/4" = 1'-0"

APPLIANCE SCHEDULE

MARK	ITEM	MANUF	MODEL #	DESCRIPTION
P1	REFRIGERATOR	GENERAL ELECTRIC	GSS23	HSHSS STAINLESS STEEL
P2	RANGE	GENERAL ELECTRIC	JS645	SJSS STAINLESS STEEL
P3	NOT USED			
P4	DISHWASHER	GENERAL ELECTRIC	GDF645	SSNSS STAINLESS STEEL
P5	GARBAGE DISPOSAL	GENERAL ELECTRIC	GFC530V	
P6	WASHER DRYER	LG	WKE100H_A/WKG101_A	WHITE SEE UNIT PLANS FOR LOCATION
P7	UNDERCOUNTER REFRIGERATOR	GENERAL ELECTRIC	GCE06GSHSB	SLSS STAINLESS STEEL
P8	REFRIGERATOR	GENERAL ELECTRIC	GZS22DSJSS	ACCESSIBLE UNITS (SS = STAINLESS STEEL) - COUNTER-DEPTH
P9	DISHWASHER	GENERAL ELECTRIC	GLDA696F	ACCESSIBLE UNITS (SS = STAINLESS STEEL)
P10	MICROWAVE	GENERAL ELECTRIC	PEM31	SLSS STAINLESS STEEL
P11	UNDER THE CABINET HOOD	GENERAL ELECTRIC	JVX3300	SJSS STAINLESS STEEL
P12	WASHER	GENERAL ELECTRIC	GFW550	SSNWW WHITE SEE UNIT PLANS FOR LOCATION
P13	DRYER	GENERAL ELECTRIC	GFD55E	SSNWW WHITE SEE UNIT PLANS FOR LOCATION

APPLIANCE SCHEDULE

12" = 1'-0"

TOILET ACCESSORY SCHEDULE

MARK	ITEM	MODEL #/FIN	MANUF	MT.HT.	SIZE	REMARKS
1	TOILET PAPER HOLDER	YB5408BN	MOEN: KINGSLEY SERIES/BRUSHED NICKEL	CENTERLINE AT 21" AFF		TO BE INSTALLED IN ALL RESIDENT UNIT TOILETS
2	TOILET PAPER DISPENSER	56798	GEORGIA PACIFIC	CENTERLINE AT 19" AFF		TO BE INSTALLED IN ALL PUBLIC TOILETS
3	VERTICAL GRAB BAR	YG5418BN	MOEN: KINGSLEY SERIES/BRUSHED NICKEL	BOTTOM AT 41" AFF	18"	PROVIDE BLOCKING ALL UNITS AND INSTALL WHERE NOTED IN CUSTOMIZATION
4	GRAB BAR	YG5436BN	MOEN: KINGSLEY SERIES/BRUSHED NICKEL	TOP AT 36" AFF	36"	PROVIDE BLOCKING ALL UNITS AND INSTALL WHERE NOTED IN CUSTOMIZATION
5	GRAB BAR	YG5442BN	MOEN: KINGSLEY SERIES/BRUSHED NICKEL	TOP AT 36" AFF	42"	PROVIDE BLOCKING ALL UNITS AND INSTALL WHERE NOTED IN CUSTOMIZATION
6	VERTICAL GRAB BAR	B-6806X18	BOBRICK/SATIN FINISH	BOTTOM AT 41" AFF	18"	INSTALL AT ALL UNIT MASTER BATH SHOWERS
7	GRAB BAR	B-6806X36	BOBRICK/SATIN FINISH	TOP AT 36" AFF	36"	PROVIDE BLOCKING/TO BE INSTALLED IN ALL PUBLIC TOILETS
8	GRAB BAR	B-6806X42	BOBRICK/SATIN FINISH	TOP AT 36" AFF	42"	PROVIDE BLOCKING/TO BE INSTALLED IN ALL PUBLIC TOILETS
9	COMBINATION GRAB BAR	CUSTOM-SEE PLAN	BY SHOWER MANUFACTURER	TOP AT 36" @ SHOWER FF		INSTALL AT ALL UNIT MASTER BATH SHOWERS
10	TOWEL RING	YB5486BN	MOEN: KINGSLEY SERIES/BRUSHED NICKEL	CENTERLINE AT 50" AFF		PROVIDE BLOCKING/TO BE INSTALLED IN ALL RESIDENT UNIT TOILETS
11	TOWEL BAR	YG5424BN	MOEN: KINGSLEY SERIES/BRUSHED NICKEL	CENTERLINE AT 46" AFF	24"	PROVIDE BLOCKING/TO BE INSTALLED IN ALL RESIDENT UNIT TOILETS
12	MIRROR	CUSTOM	GUARDIAN INDUSTRIES W/ 2" FLAT STOCK FRAME	MIRROR BOTTOM AT 40" AFF	36"W X 38" H	MIRROR BOTTOM AT 38" AFF IN ACCESSIBLE UNITS
13	MIRROR	CUSTOM	GUARDIAN INDUSTRIES W/ 2" FLAT STOCK FRAME	MIRROR BOTTOM AT 40" AFF	44"W X 38" H	MIRROR BOTTOM AT 38" AFF IN ACCESSIBLE UNITS
14	MIRROR	CUSTOM	GUARDIAN INDUSTRIES W/ 2" FLAT STOCK FRAME	MIRROR BOTTOM AT 40" AFF	48"W X 38" H	MIRROR BOTTOM AT 38" AFF IN ACCESSIBLE UNITS
15	MIRROR	CUSTOM	GUARDIAN INDUSTRIES W/ 2" FLAT STOCK FRAME	MIRROR BOTTOM AT 40" AFF	72"W X 38" H	MIRROR BOTTOM AT 38" AFF IN ACCESSIBLE UNITS
16	SHOWER DOOR		SOUTHEASTERN ALUMINUM SLIDING BYPASS			FINISH 16 (ARCHITECTURAL) TO BE INSTALLED IN ALL RESIDENT UNIT SHOWERS
17	SOAP DISPENSER	52054	GEORGIA PACIFIC			TO BE INSTALLED IN ALL PUBLIC TOILETS
18	SANITARY NAPKIN DISPOSAL	B-270	BOBRICK/SATIN FINISH	TOP AT 30" AFF		PROVIDE BLOCKING/TO BE INSTALLED IN ALL WOMENS PUBLIC TOILETS AND UNI-SEX TOILETS
19	TOWEL DISPENSER/WASTE REC.	59451	GEORGIA PACIFIC	TOWEL DISPENSER AT 48" AFF		TO BE INSTALLED IN ALL PUBLIC TOILETS
20	CLOSET SHELF AND ROD	CLOSETMAID VINYL	COATED STEEL 12" DEPTH SHELF & ROD WIRE SHELF	CENTERLINE AT 66" AFF		PROVIDE BLOCKING/TO BE INSTALLED IN ALL RESIDENT UNITS. CENTERLINE AT 48" AFF AT ALL ACCESSIBLE UNITS
21	CLOSET SHELF AND ROD	CLOSETMAID VINYL	COATED STEEL 8" DEPTH SHELF & ROD WIRE SHELF	CENTERLINE AT 66" AFF		PROVIDE BLOCKING/TO BE INSTALLED IN ALL RESIDENT UNITS. CENTERLINE AT 48" AFF AT ALL ACCESSIBLE UNITS
22	DOUBLE ROBE HOOK	6727	BOBRICK/SATIN FINISH	CENTERLINE AT 48" AFF		TO BE INSTALLED IN ALL PUBLIC TOILETS
23	DOUBLE ROBE HOOK		LIBERTY HARDWARE WINDEMERE (STAINLESS)	CENTERLINE AT 66" AFF		PROVIDE BLOCKING/TO BE INSTALLED IN ALL RESIDENT UNITS. CENTERLINE AT 48" AFF AT ALL ACCESSIBLE UNITS
24	FOLDING SHOWER SEAT	B-5191	BOBRICK/SATIN FINISH			TO BE INSTALLED IN BOTH ADA SHOWERS
25	FOLD DOWN GRAB BARS	3413-25	ASI			W/INTEGRAL TOILET PAPER HOLDER
26	SHOWERCURTAIN ROD	DN2160BN	MOEN/BRUSHED NICKEL	CENTERLINE AT 76" AFF		TO BE INSTALLED IN RESIDENT UNIT TUBS

TOILET ACCESSORY SCHEDULE

12" = 1'-0"

PERMIT SET

STATE OF MISSISSIPPI
CURTIS R. JENNINGS III
NUMBER A-202034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

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DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

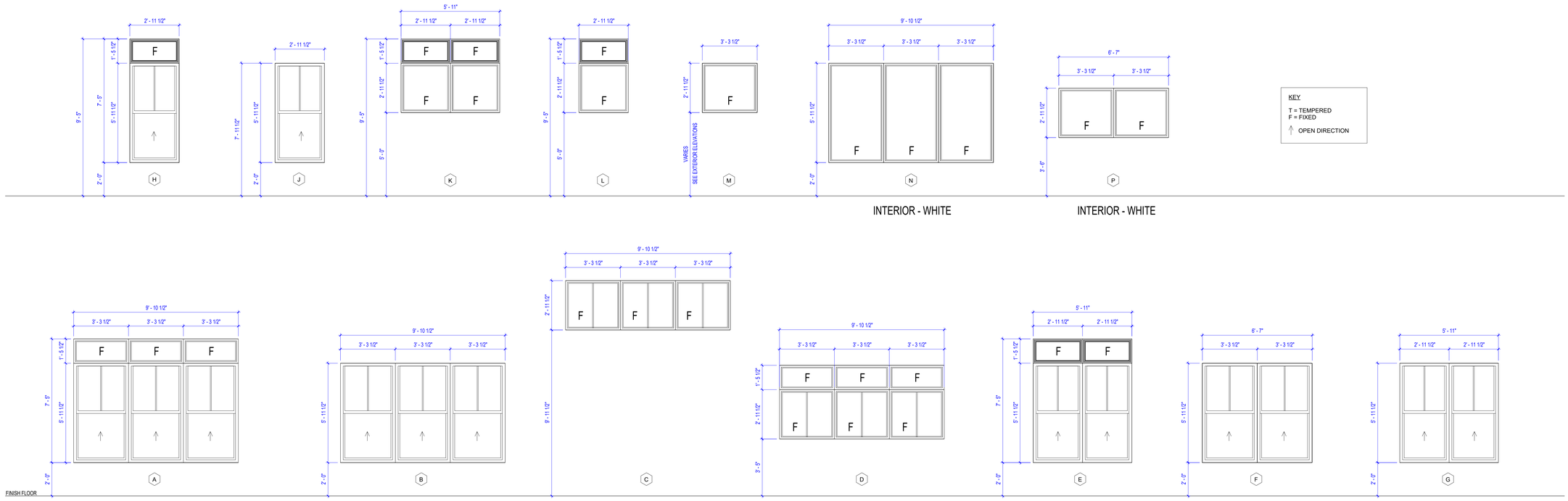
DRAWING TITLE

PARTITION TYPES, APPLIANCE SCH. & TOILET ACCESSORY SCH.

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A4.2



ALL EXTERIOR WINDOWS ARE CLAY IN COLOR

EXTERIOR WINDOW ELEVATIONS

3/8" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034557
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

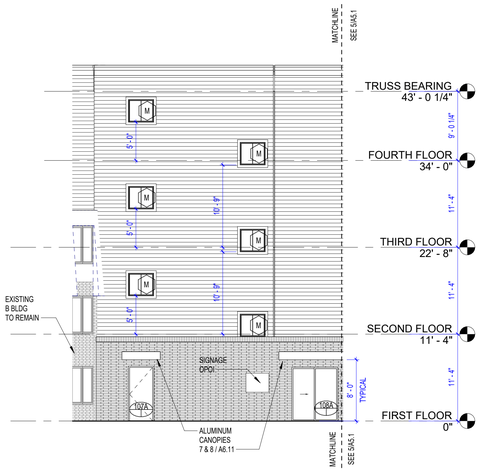
WINDOW ELEVATIONS

DATE: January 5, 2024

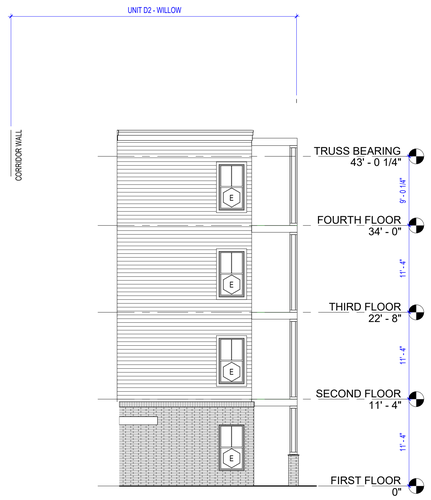
COMM. NO. 23104.00

DRAWING A4.3

3 EAST ELEVATION A
1/8" = 1'-0"



5 EAST ELEVATION B
1/8" = 1'-0"

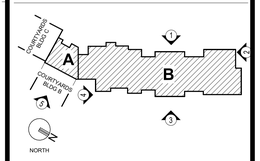


4 SOUTH ELEVATION
1/8" = 1'-0"

2 NORTH ELEVATION
1/8" = 1'-0"

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

KEYPLAN



PERMIT SET

STATE OF MISSISSIPPI
CURTIS R. JENNINGS III
NUMBER A 202304555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	LW/DAS
ARCHITECT	DAS	CHECKED	DAS
ENGINEER		APPROVED	

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

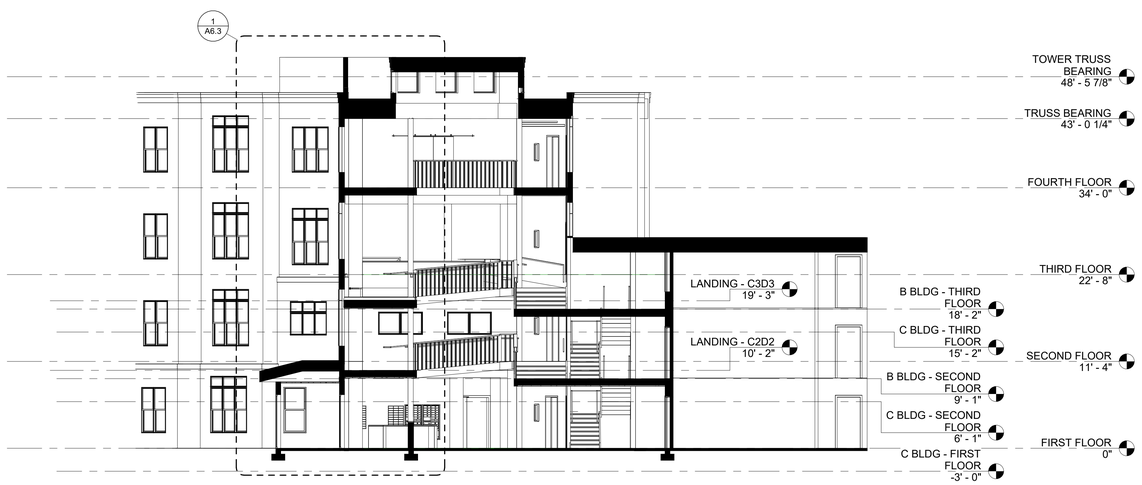
EXTERIOR ELEVATIONS

DATE: January 5, 2024

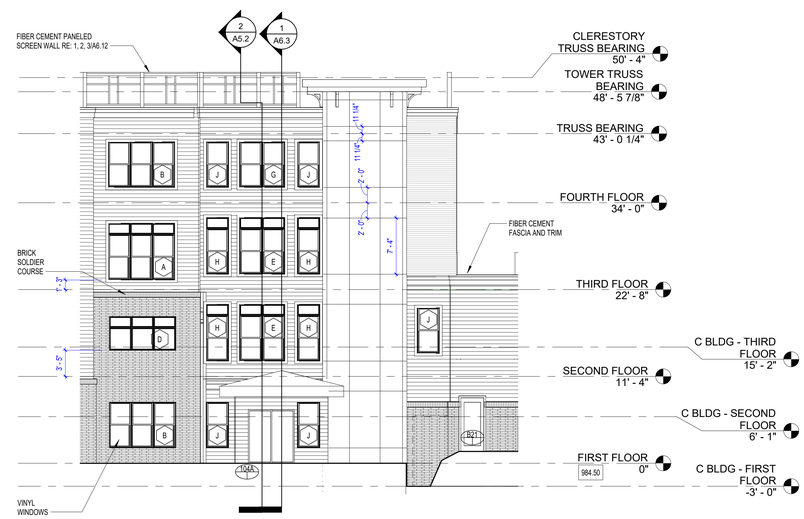
COMM. NO. 23104.00

DRAWING A5.1

3 ATRIUM - LONGITUDINAL SECTION
1/8" = 1'-0"



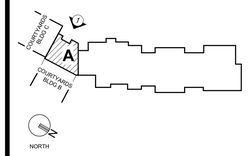
2 ATRIUM CROSS SECTION
1/8" = 1'-0"



1 WEST ELEVATION ATRIUM
1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

PERMIT SET

STATE OF MISSISSIPPI
CURTIS R. JENNINGS III
NUMBER
A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

NO.	REVISION DESCRIPTION	DATE

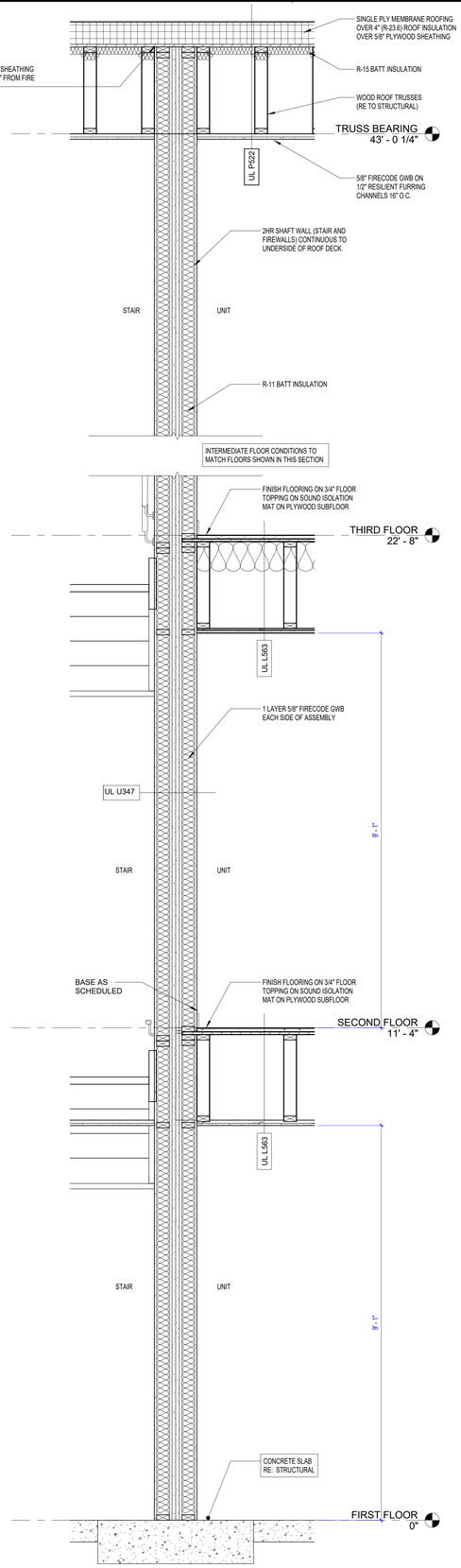
DRAWING TITLE

EXTERIOR ELEVATIONS & BUILDING SECTIONS

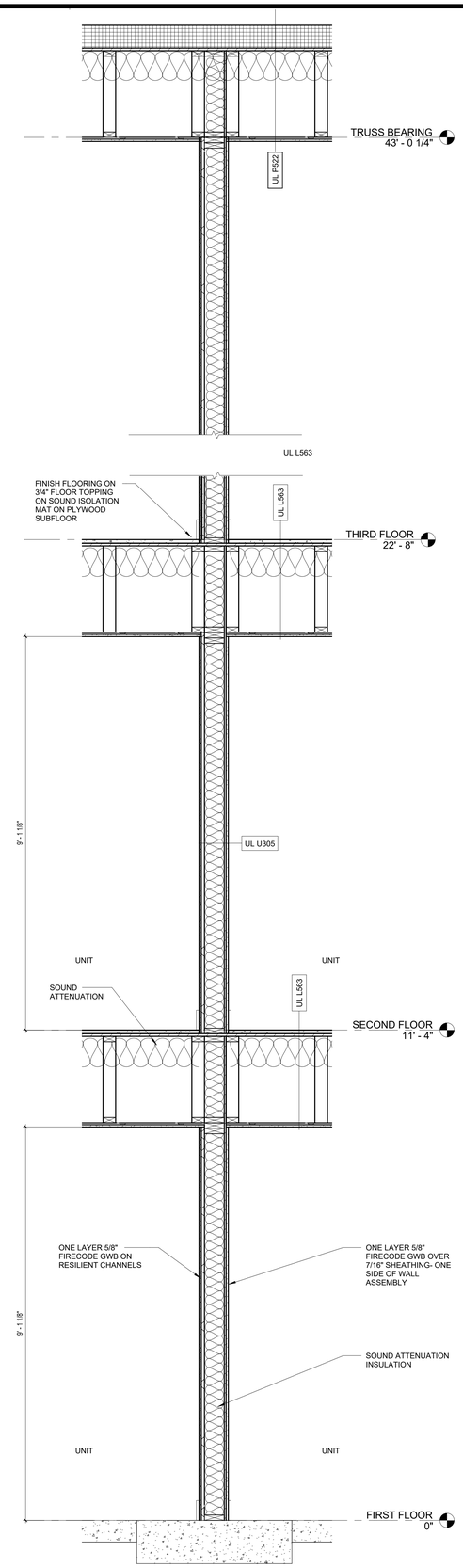
DATE: January 5, 2024

COMM. NO. 23104.00

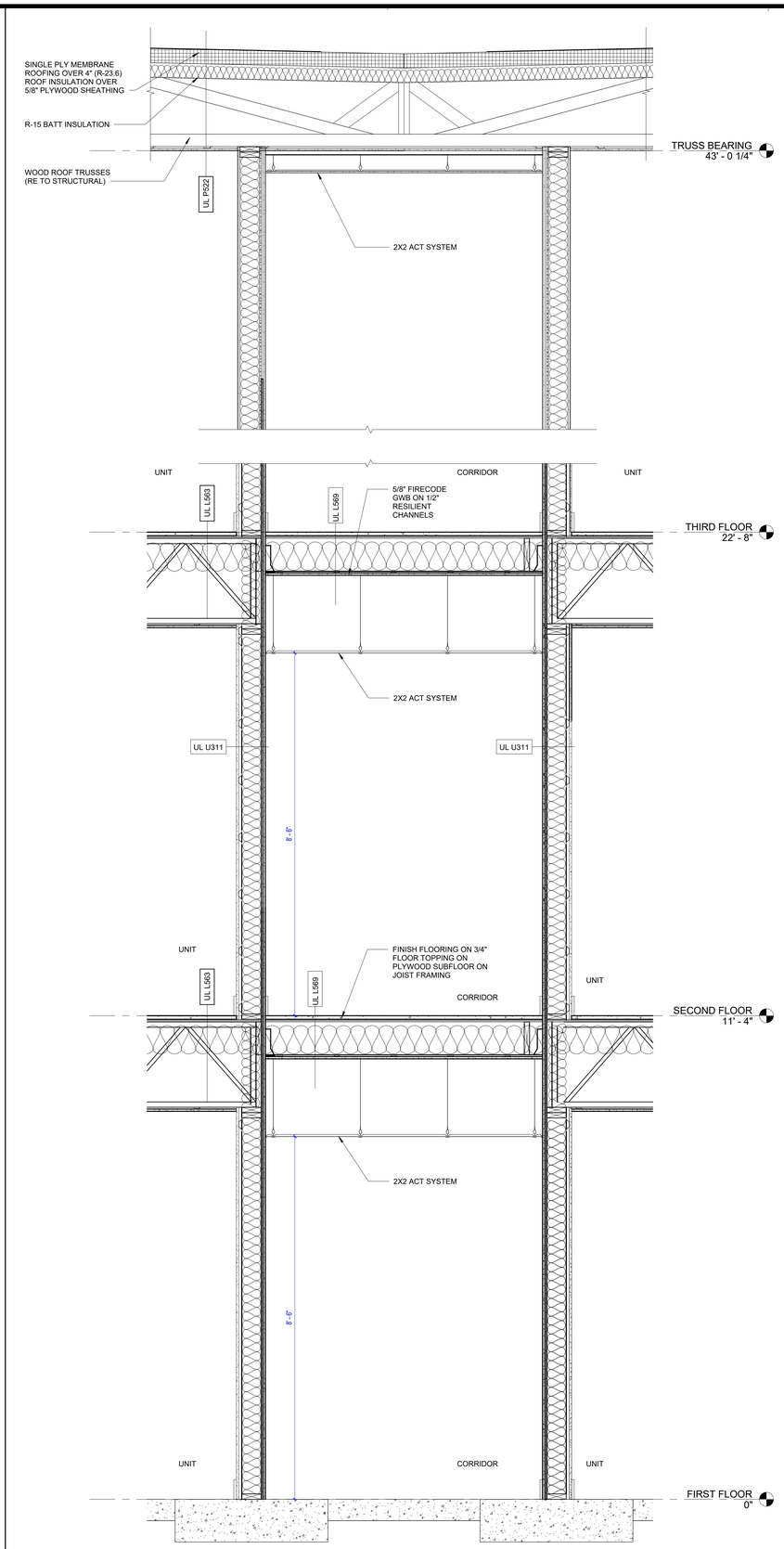
DRAWING A5.2



3 TYPICAL SHAFT WALL
3/4" = 1'-0"



2 TYPICAL TENANT WALL SECTION
3/4" = 1'-0"



1 TYPICAL WALL SECTION AT CORRIDOR
3/4" = 1'-0"

GENERAL NOTES

1. DETAILS / SECTIONS SHOWN ON DRAWINGS ARE TYPICAL AND MAY APPLY TO LOCATIONS OTHER THAN WHERE SPECIFICALLY MARKED ON THE PLANS. IF SECTIONS OR DETAILS DO NOT REPRESENT ALL REQUIRED CONDITIONS, THE ARCHITECT SHALL BE CONTACTED FOR CLARIFICATION BY THE GENERAL CONTRACTOR.

PERMIT SET

STATE OF MISSISSIPPI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

NO.	REVISION DESCRIPTION	DATE

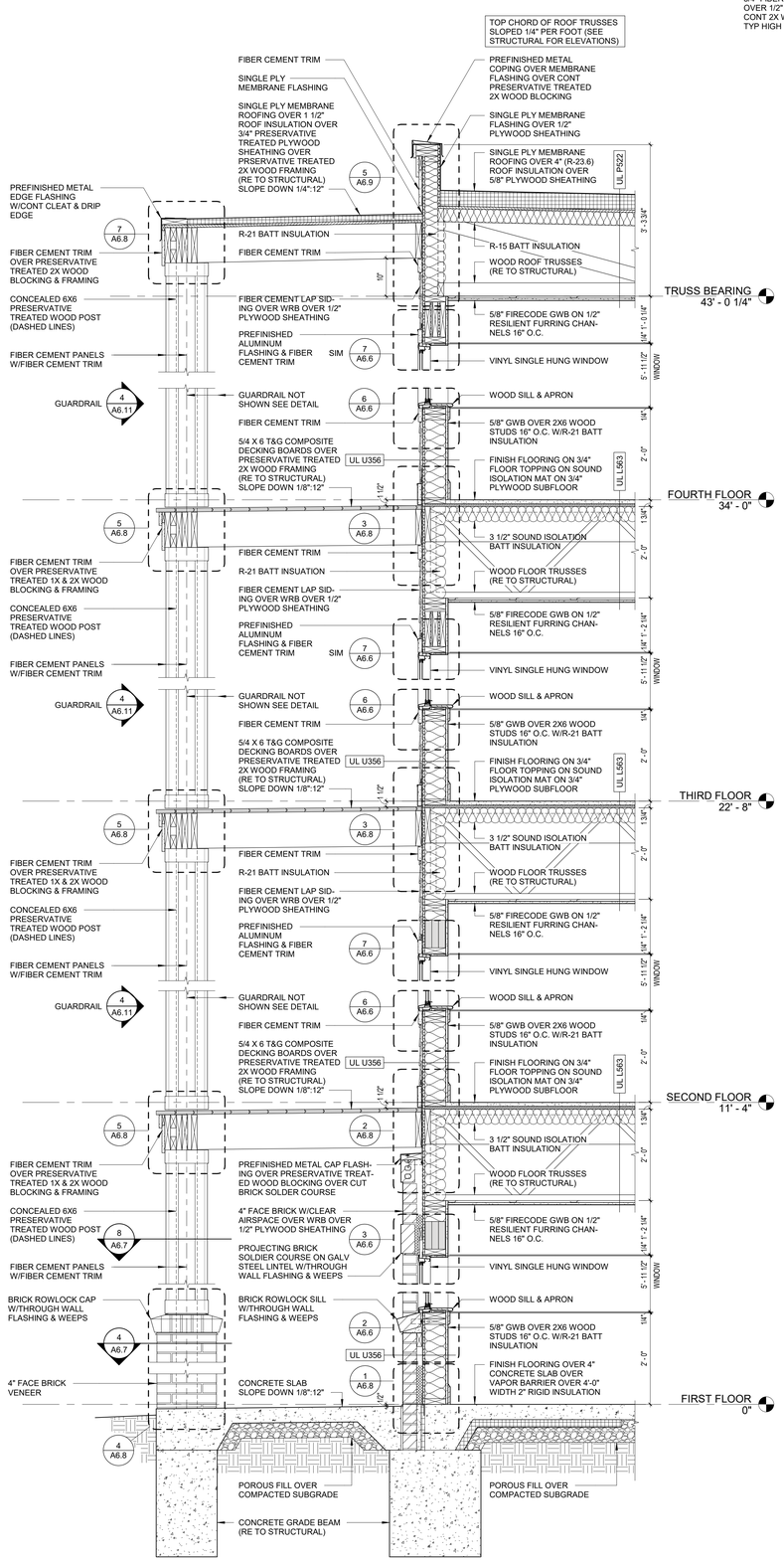
DRAWING TITLE

WALL SECTIONS - TYPICAL

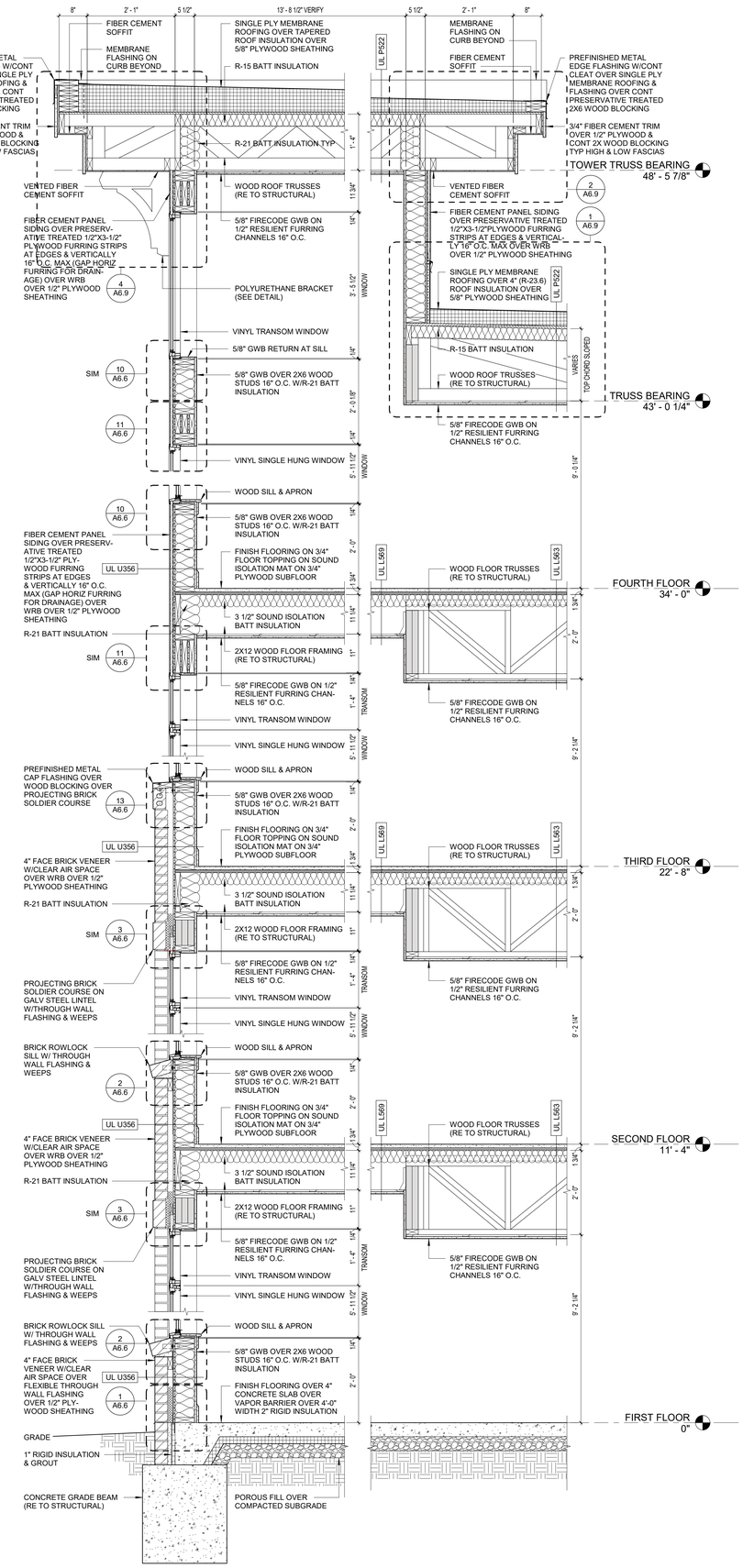
DATE: January 5, 2024

COMM. NO. 23104.00

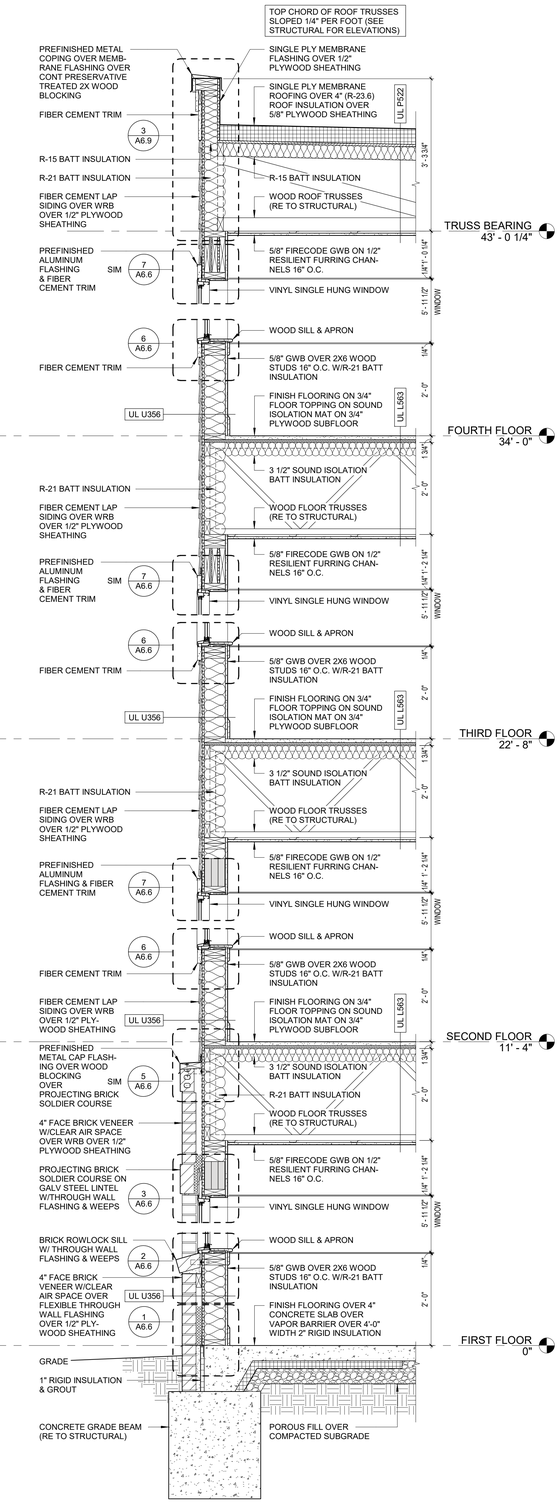
DRAWING A6.1



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



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



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

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	JAM
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

WALL SECTIONS

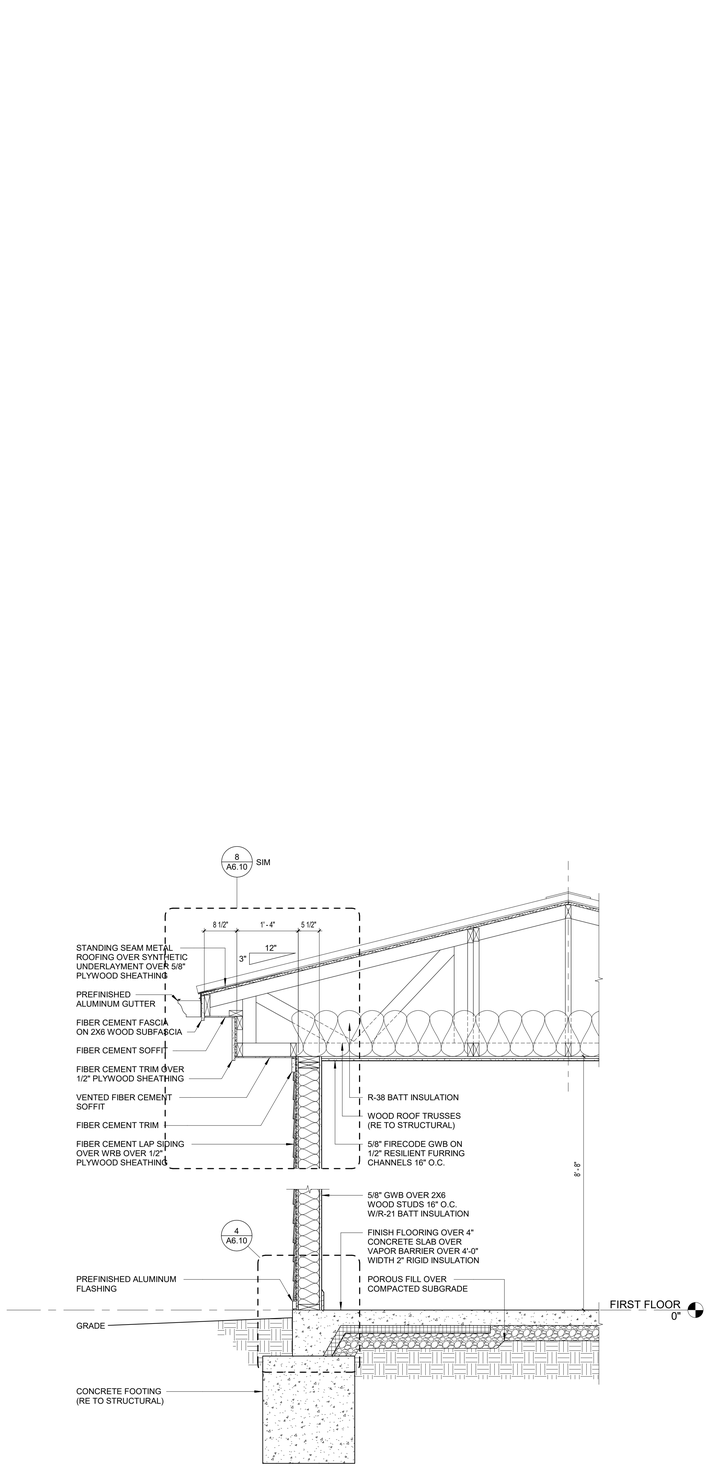
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A6.2

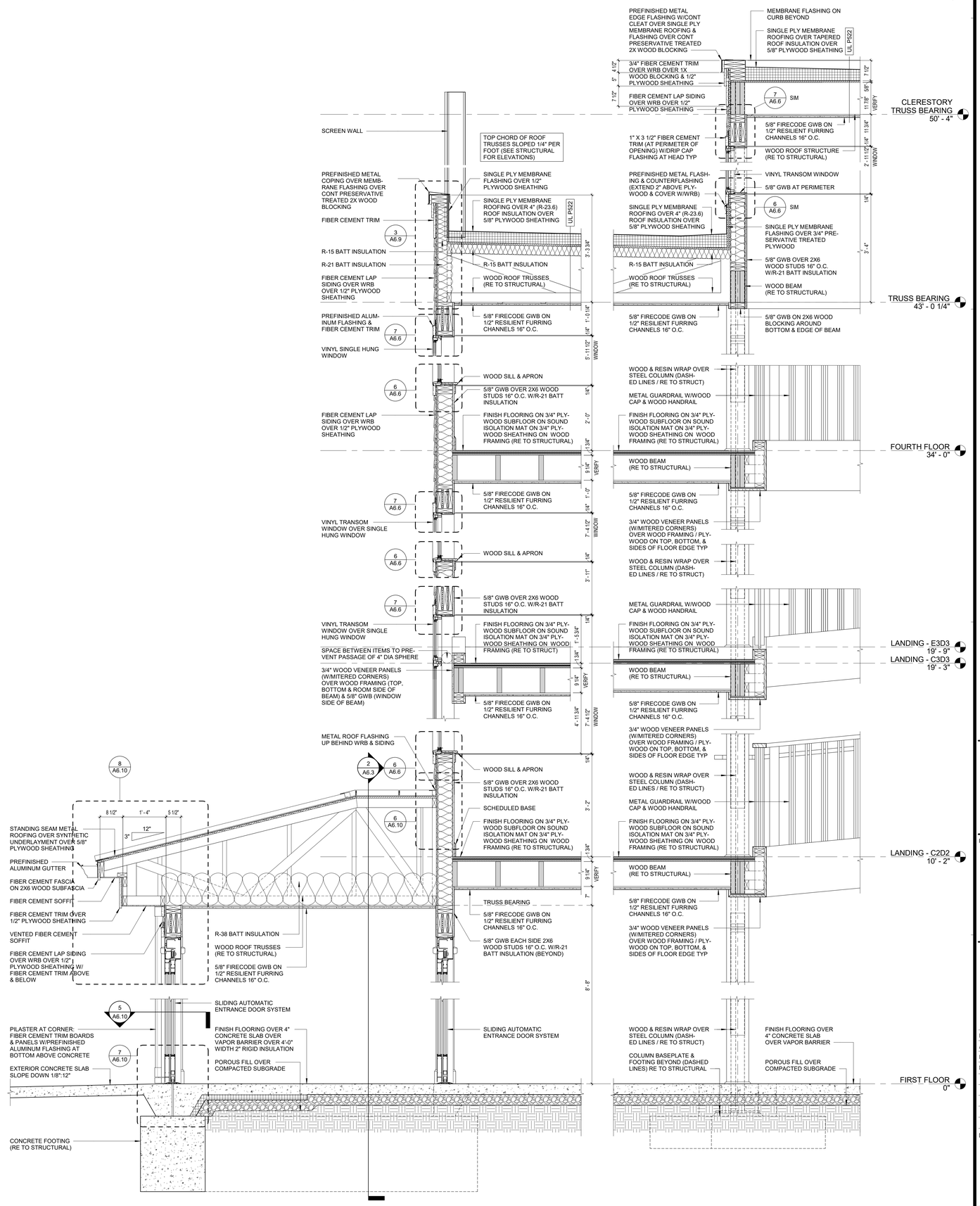
1/3/2024
9:40:53 AM

Autodesk Docs://23104.00 - John Knox Village - Lindbergh/23104.00-JKV-Courtyards-Building E-Architectural CENTRAL.rvt



2 MAIN ENTRANCE SIDE SECTION

3/4" = 1'-0"



1 MAIN ENTRANCE VESTIBULE

3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	JAM
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	

NO.	REVISION DESCRIPTION	DATE

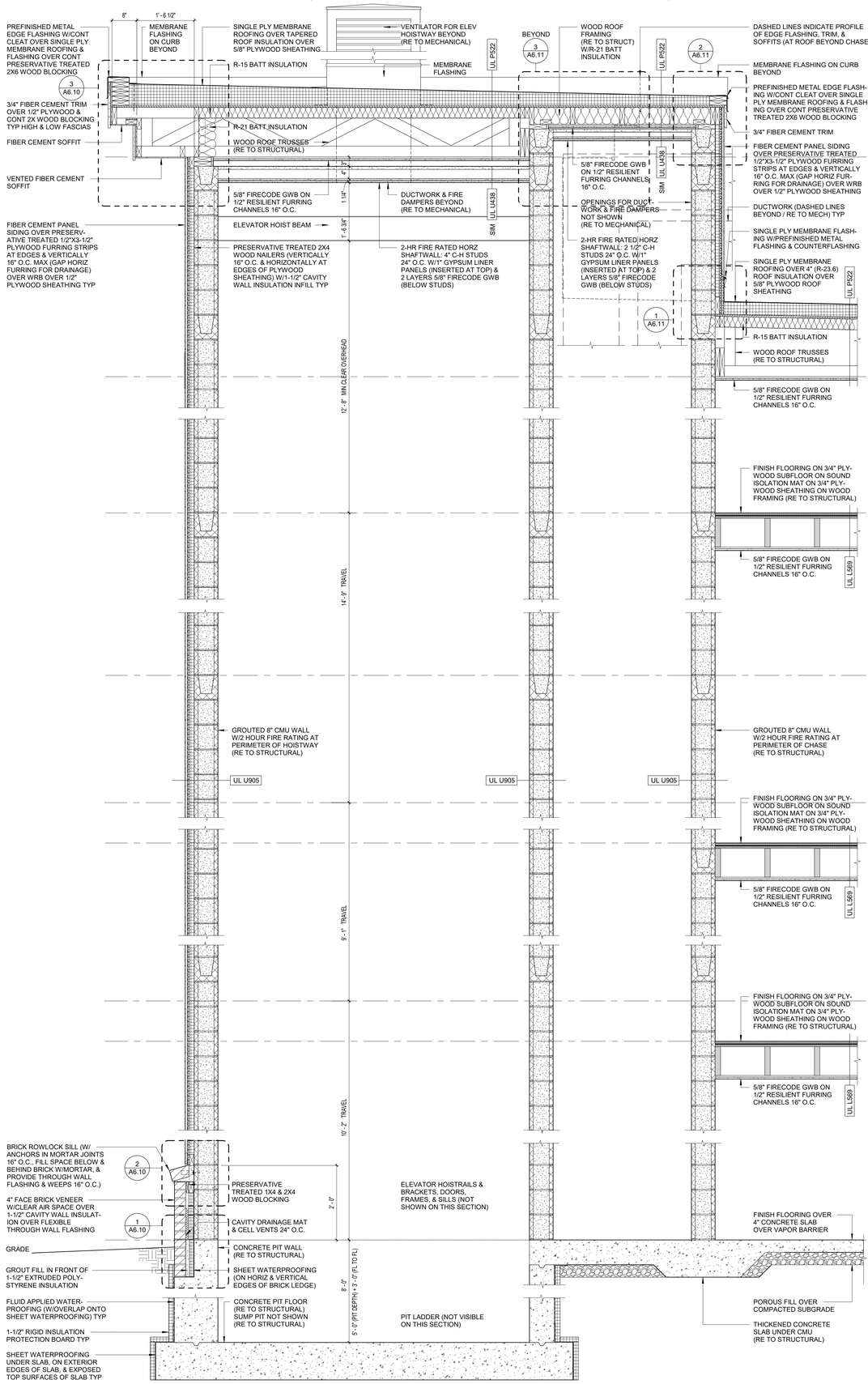
DRAWING TITLE

WALL SECTIONS

DATE: January 5, 2024

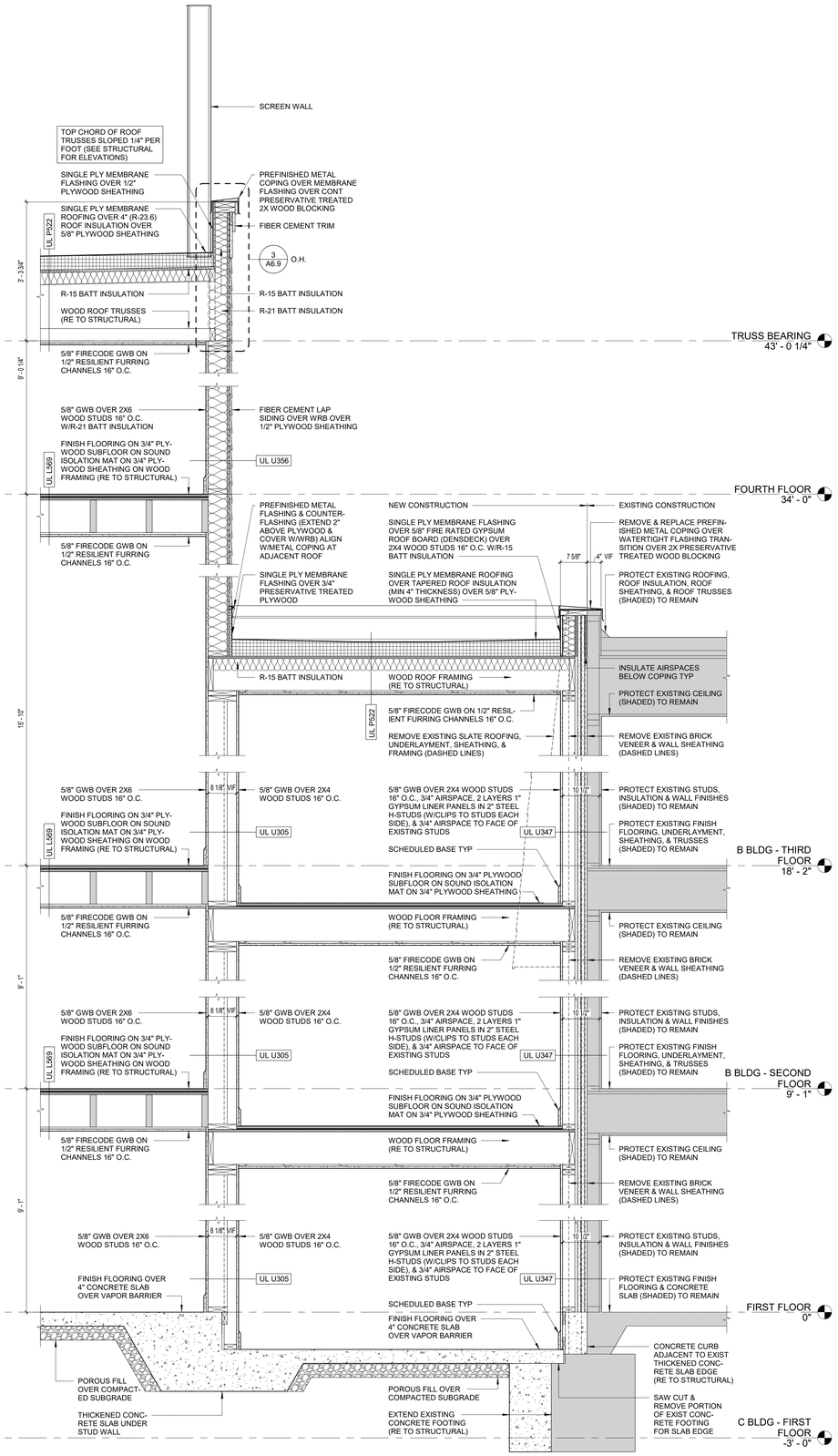
COMM. NO. 23104.00

DRAWING A6.3



2 ELEVATOR #1 HOISTWAY SECTION

3/4" = 1'-0"



1 CORRIDOR SECTION

3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-202004555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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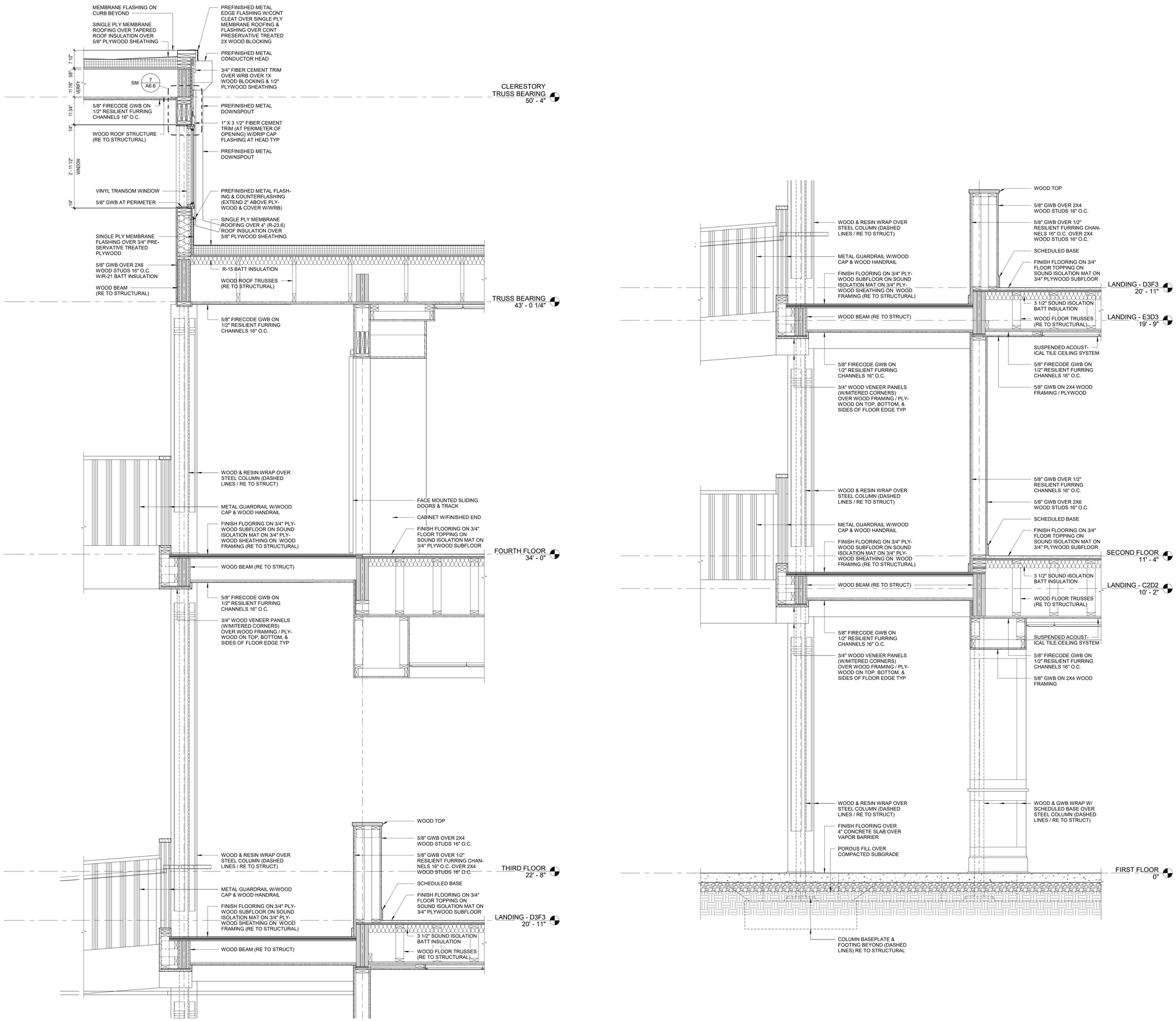
DESIGNER	: DAS	DRAWN	: JAM
ARCHITECT	: DAS	CHECKED	: AAT
ENGINEER	:	APPROVED	:

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

WALL SECTIONS

DATE:	January 5, 2024	DRAWING	A6.4
COMM. NO.	23104.00		



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

PERMIT SET

STATE OF MISSOURI
CURTIS B. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
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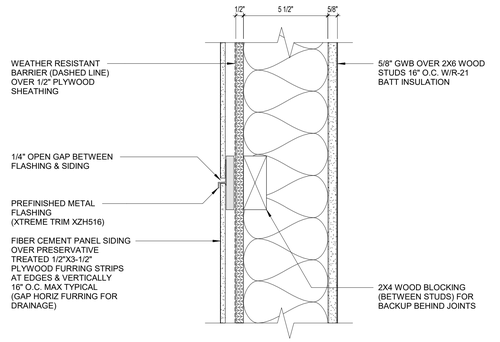
DESIGNER : DAS		DRAWN : JAM	
ARCHITECT : DAS		CHECKED : AAT	
ENGINEER :		APPROVED :	

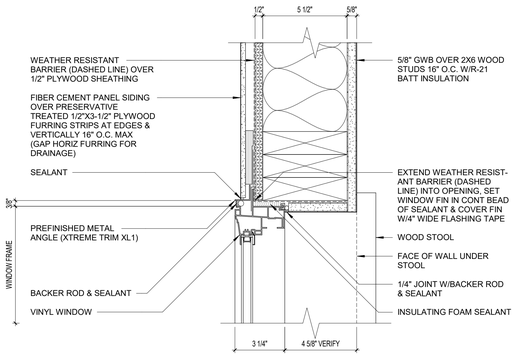
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
WALL SECTIONS

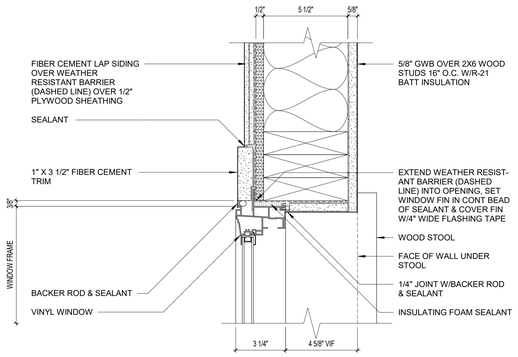
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A6.5



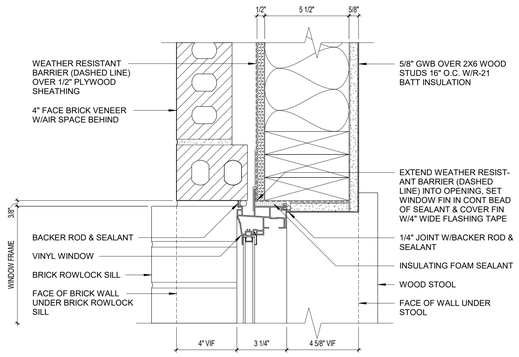
16 PANEL SIDING HORIZONTAL JOINT
3" = 1'-0"



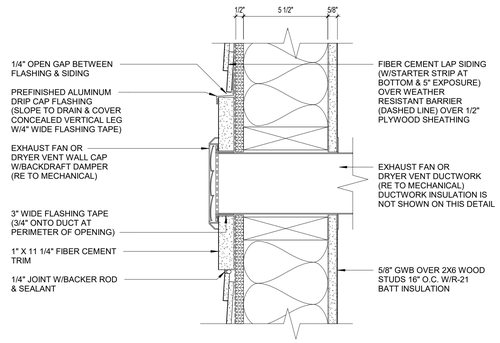
12 WINDOW JAMB AT PANEL SIDING
3" = 1'-0"



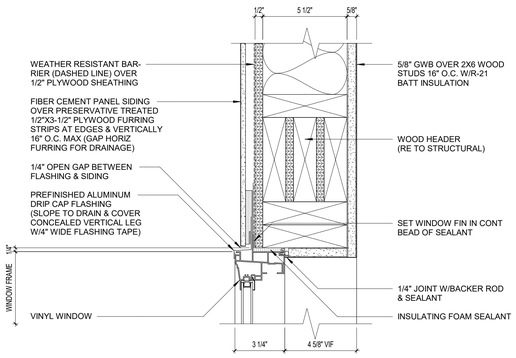
8 WINDOW JAMB AT LAP SIDING
3" = 1'-0"



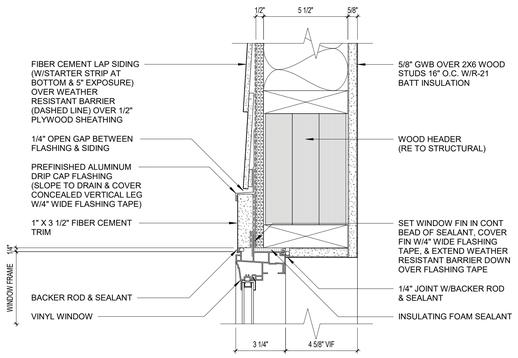
4 WINDOW JAMB AT BRICK
3" = 1'-0"



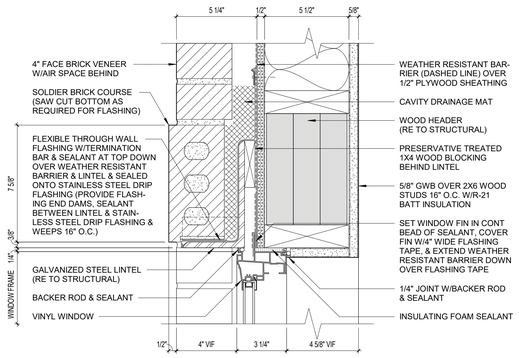
15 FAN OR DRYER VENT AT LAP SIDING
3" = 1'-0"



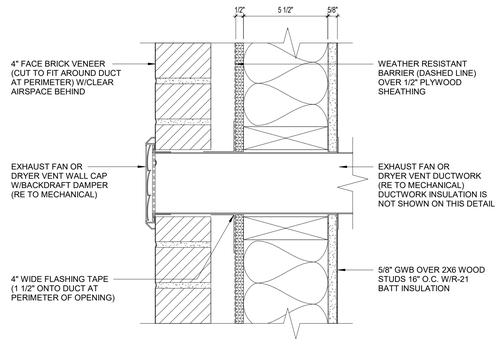
11 WINDOW HEAD AT PANEL SIDING
3" = 1'-0"



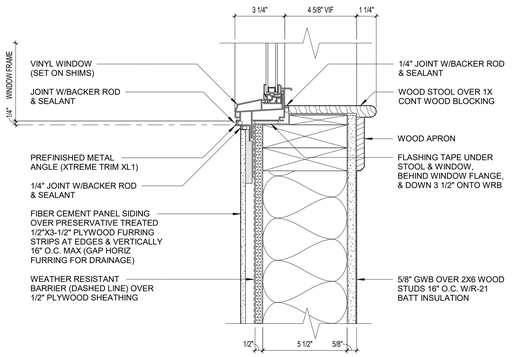
7 WINDOW HEAD AT LAP SIDING
3" = 1'-0"



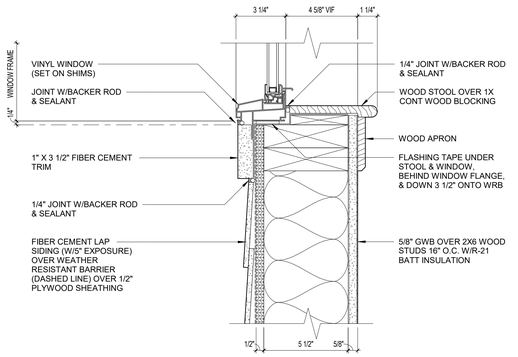
3 WINDOW HEAD / BRICK SOLDIER
3" = 1'-0"



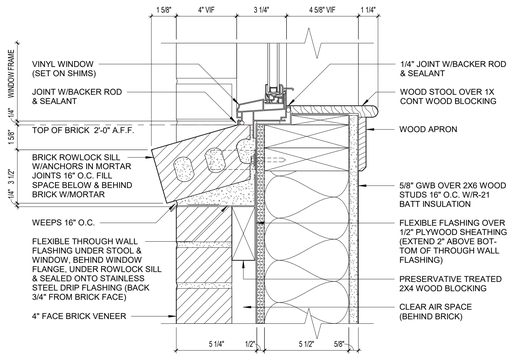
14 FAN OR DRYER VENT AT BRICK
3" = 1'-0"



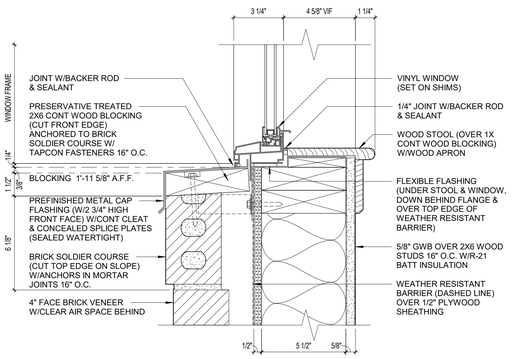
10 WINDOW SILL AT PANEL SIDING
3" = 1'-0"



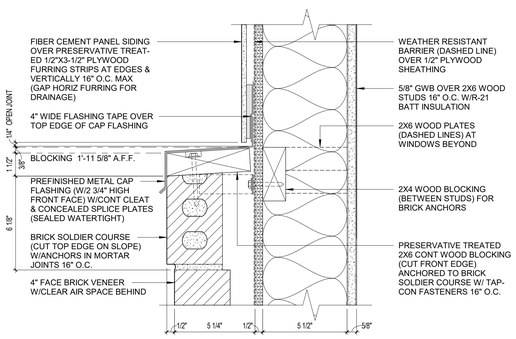
6 WINDOW SILL AT LAP SIDING
3" = 1'-0"



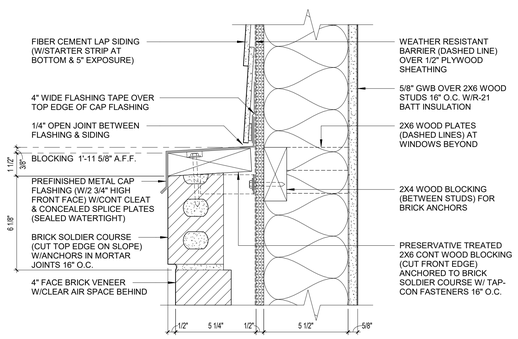
2 WINDOW SILL / BRICK ROWLOCK
3" = 1'-0"



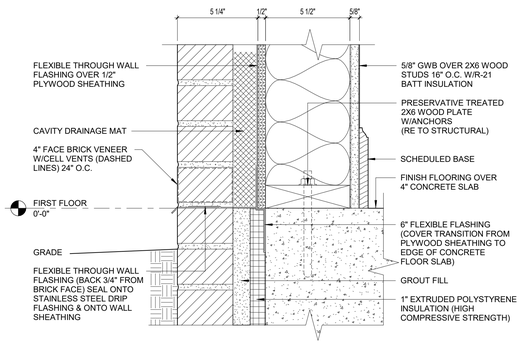
13 WINDOW SILL AT SOLDIER BRICK
3" = 1'-0"



9 PANEL SIDING AT SOLDIER BRICK
3" = 1'-0"



5 LAP SIDING AT SOLDIER BRICK
3" = 1'-0"



1 BRICK WALL AT GRADE
3" = 1'-0"

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2022034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
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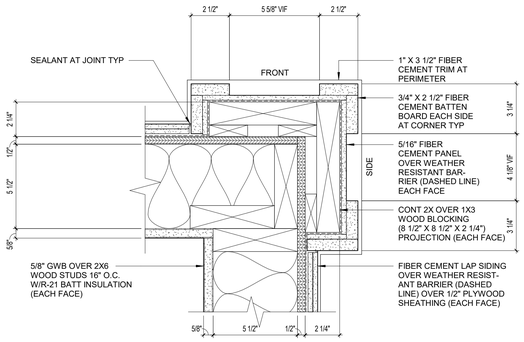
DESIGNER	DAS	DRAWN	JAM
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	

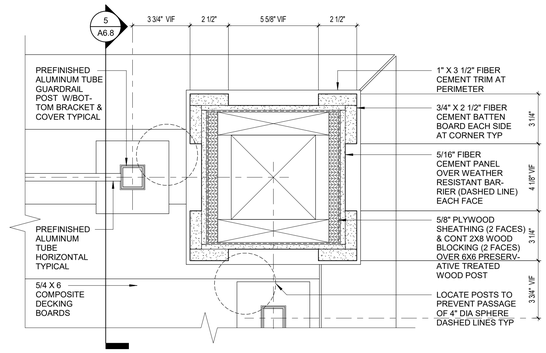
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
EXTERIOR DETAILS

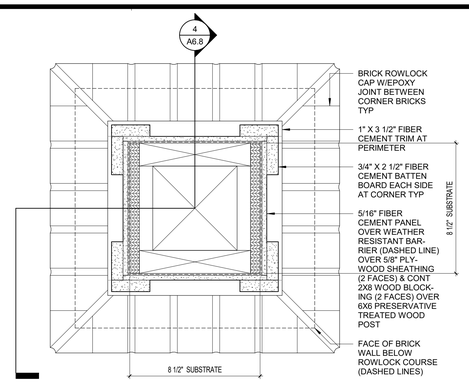
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A6.6



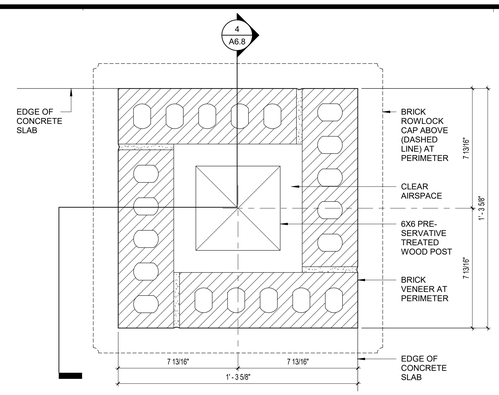
14 PILASTER AT ENTRANCE VESTIBULE
3" = 1'-0"



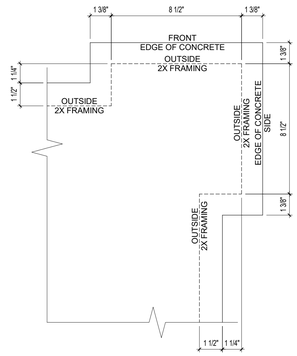
12 COLUMN PLAN ABOVE DECK
3" = 1'-0"



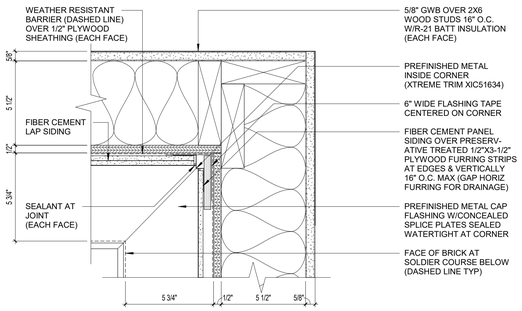
8 COLUMN PLAN ABOVE BRICK BASE
3" = 1'-0"



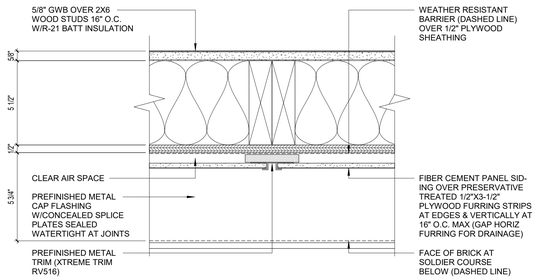
4 COLUMN PLAN AT BRICK BASE
3" = 1'-0"



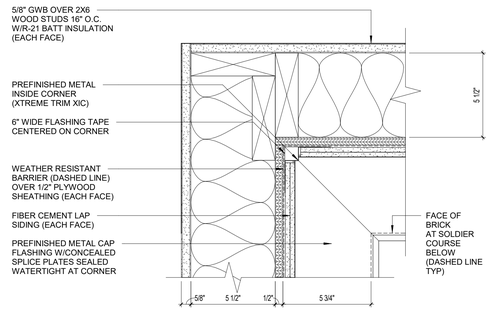
13 EDGE OF CONCRETE AT PILASTER
3" = 1'-0"



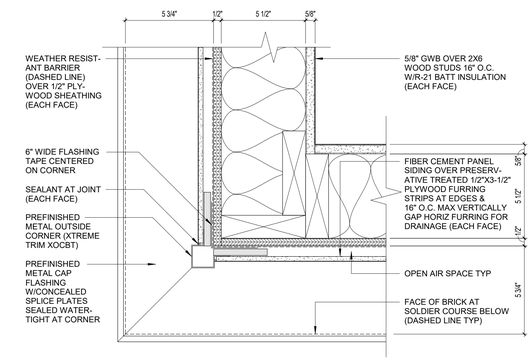
11 LAP - PANEL SIDING INSIDE CORNER
3" = 1'-0"



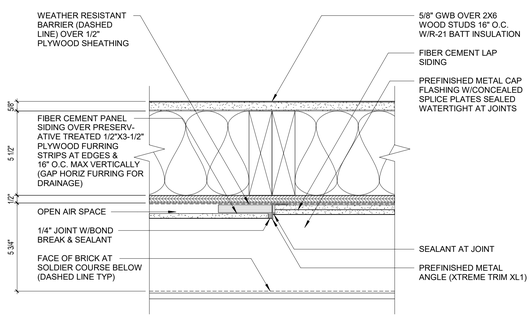
7 PANEL SIDING / PANEL SIDING
3" = 1'-0"



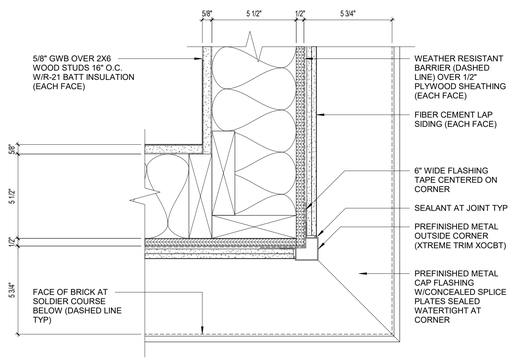
3 LAP SIDING INSIDE CORNER
3" = 1'-0"



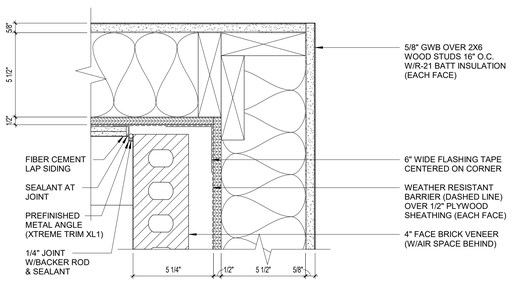
10 PANEL SIDING OUTSIDE CORNER
3" = 1'-0"



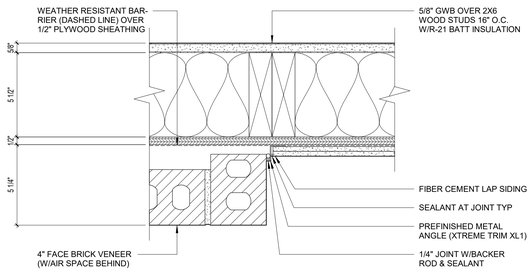
6 PANEL SIDING / LAP SIDING
3" = 1'-0"



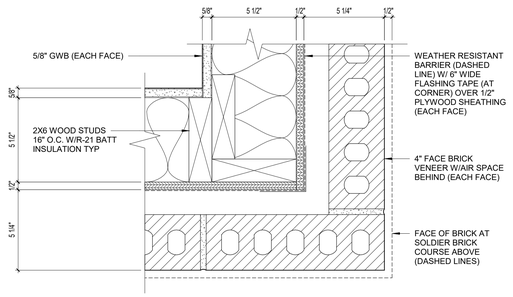
2 LAP SIDING OUTSIDE CORNER
3" = 1'-0"



9 LAP SIDING / BRICK INSIDE CORNER
3" = 1'-0"



5 BRICK VENEER / LAP SIDING
3" = 1'-0"



1 BRICK VENEER OUTSIDE CORNER
3" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2022034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

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DESIGNER	DAS	DRAWN	JAM
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

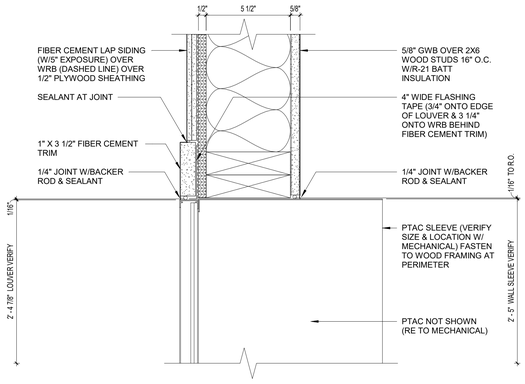
DRAWING TITLE

EXTERIOR DETAILS

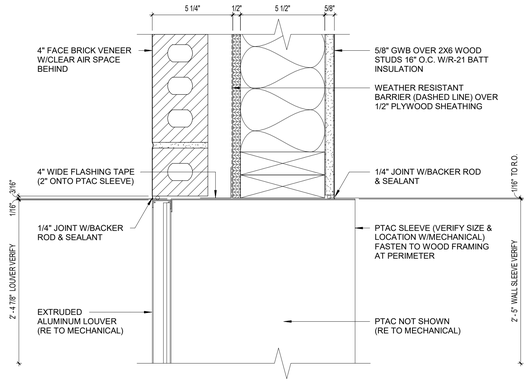
DATE: January 5, 2024

COMM. NO. 23104.00

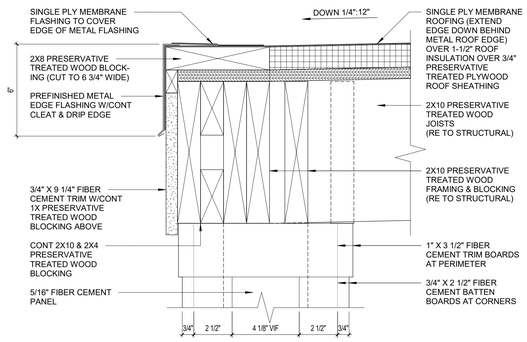
DRAWING A6.7



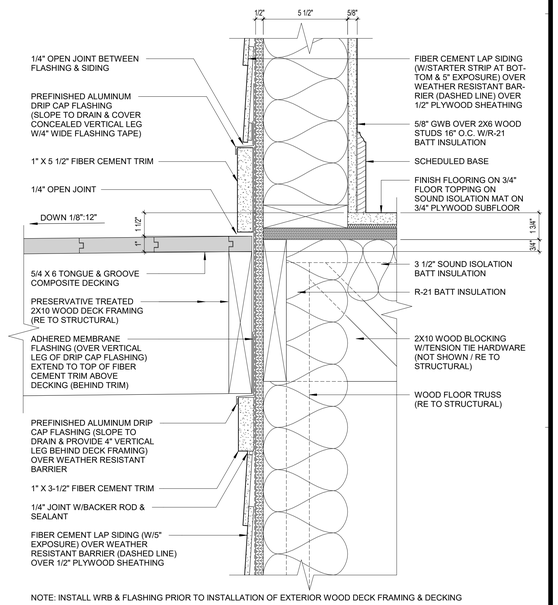
15 PTAC LOUVER IN SIDING AT JAMB
3" = 1'-0"



11 PTAC LOUVER IN BRICK AT JAMB
3" = 1'-0"

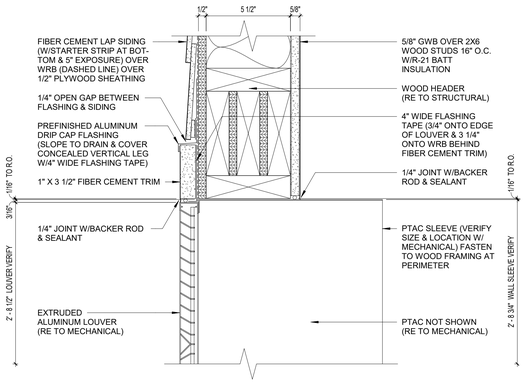


7 EDGE OF BALCONY ROOF
3" = 1'-0"

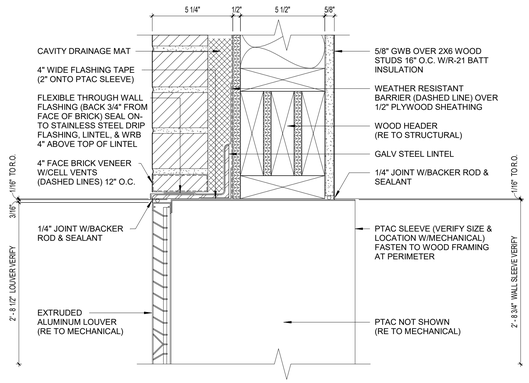


NOTE: INSTALL WRB & FLASHING PRIOR TO INSTALLATION OF EXTERIOR WOOD DECK FRAMING & DECKING

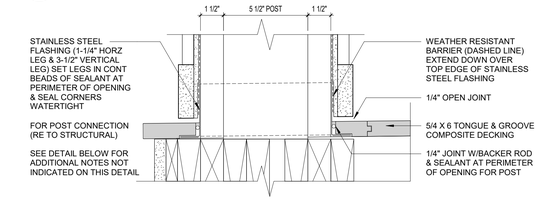
3 BALCONY DECK ABOVE SIDING
3" = 1'-0"



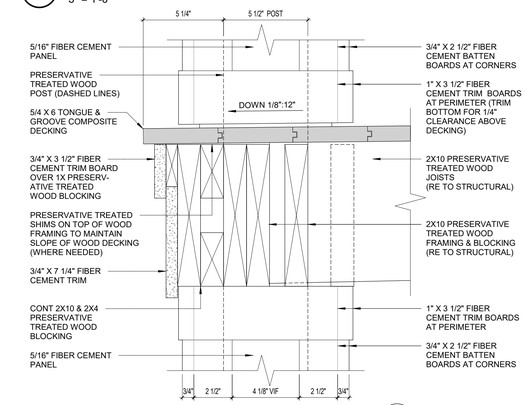
14 PTAC LOUVER IN SIDING AT HEAD 2
3" = 1'-0"



10 PTAC LOUVER IN BRICK AT HEAD 2
3" = 1'-0"

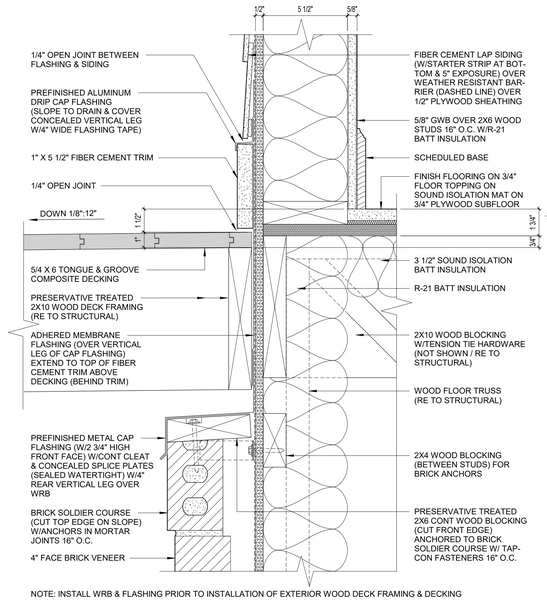


6 BALCONY DECK AT POST BASE
3" = 1'-0"



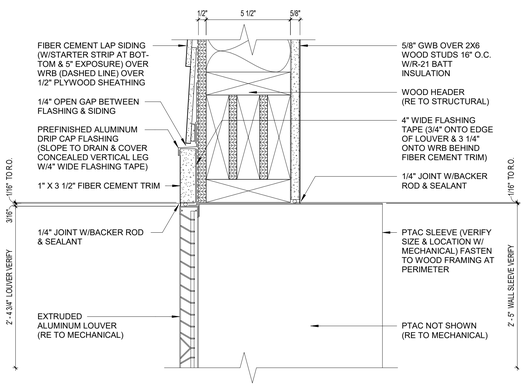
NOTE: GUARDRAILS AT EDGE & END OF DECK ARE NOT SHOWN ON THIS DETAIL (SEE 5/A6.11)

5 EDGE OF BALCONY DECK
3" = 1'-0"

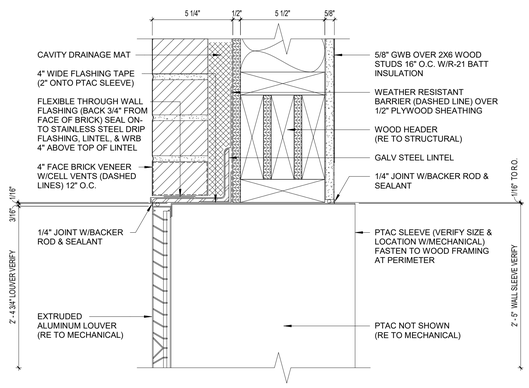


NOTE: INSTALL WRB & FLASHING PRIOR TO INSTALLATION OF EXTERIOR WOOD DECK FRAMING & DECKING

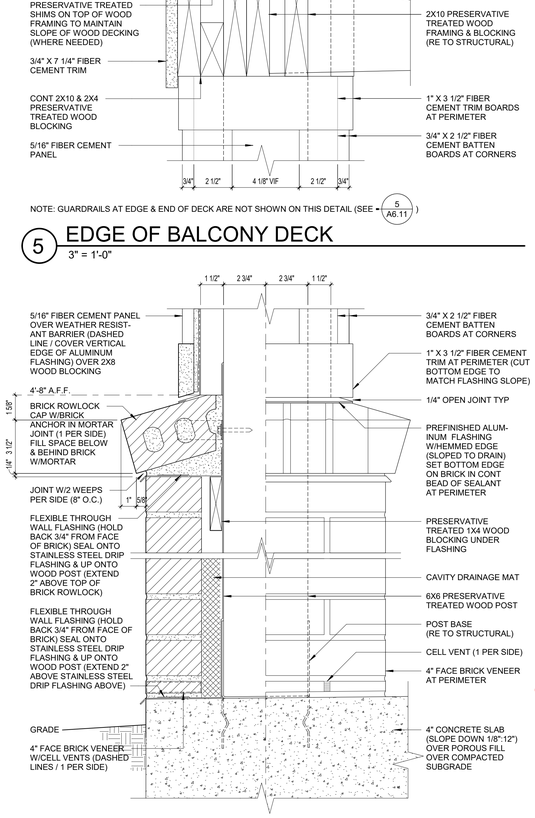
2 BALCONY DECK ABOVE BRICK
3" = 1'-0"



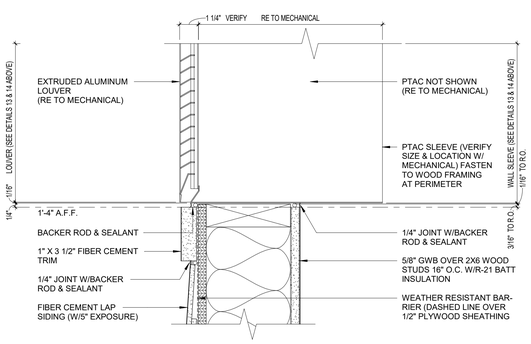
13 PTAC LOUVER IN SIDING AT HEAD 1
3" = 1'-0"



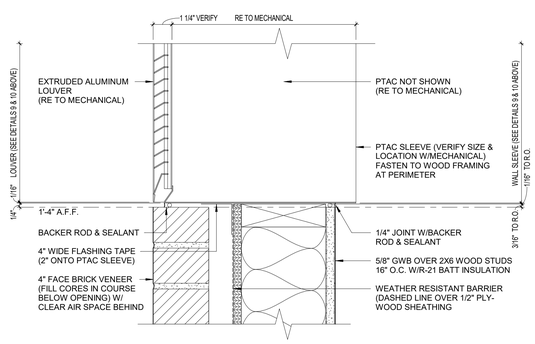
9 PTAC LOUVER IN BRICK AT HEAD 1
3" = 1'-0"



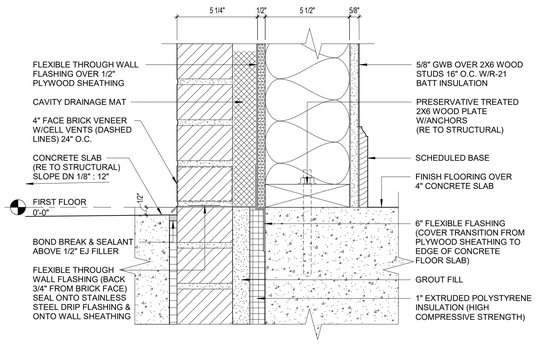
4 SECTION / EL AT BRICK BASE
3" = 1'-0"



12 PTAC LOUVER IN SIDING AT SILL
3" = 1'-0"



8 PTAC LOUVER IN BRICK AT SILL
3" = 1'-0"



1 BRICK WALL AT CONCRETE SLAB
3" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER : DAS	DRAWN : JAM
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

NO.	REVISION DESCRIPTION:	DATE

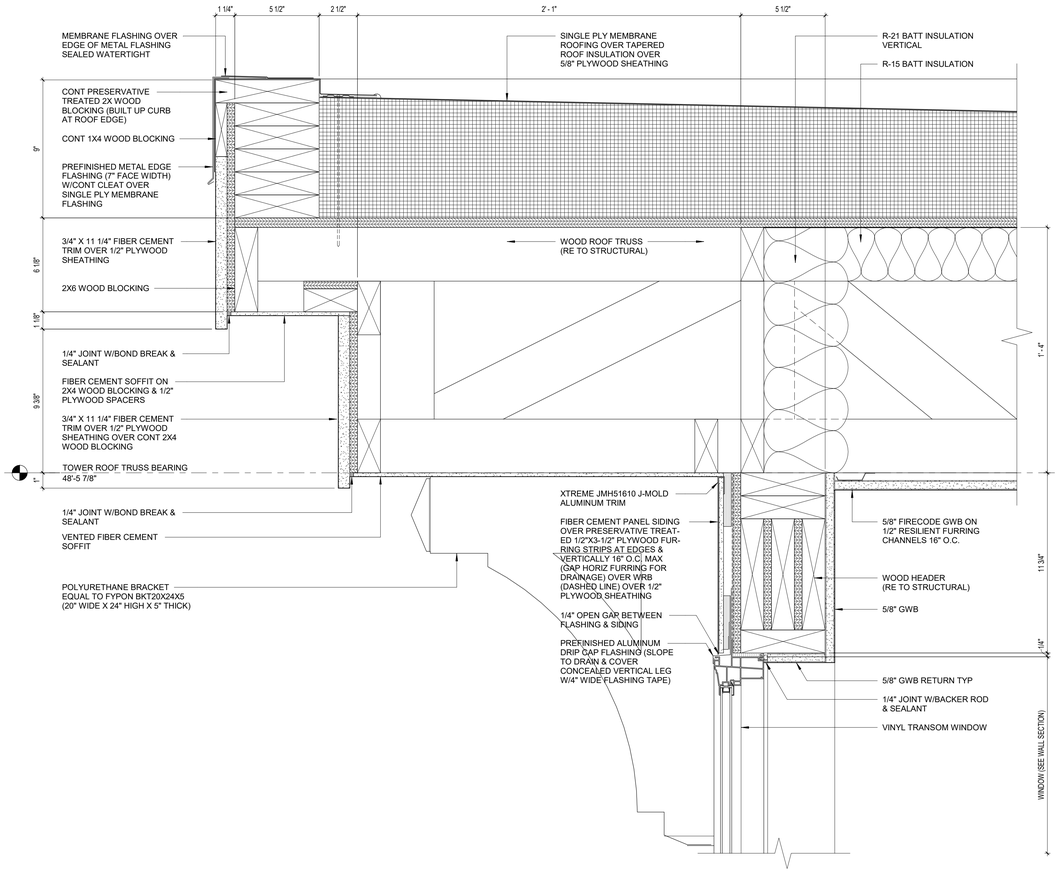
DRAWING TITLE

EXTERIOR DETAILS

DATE: January 5, 2024

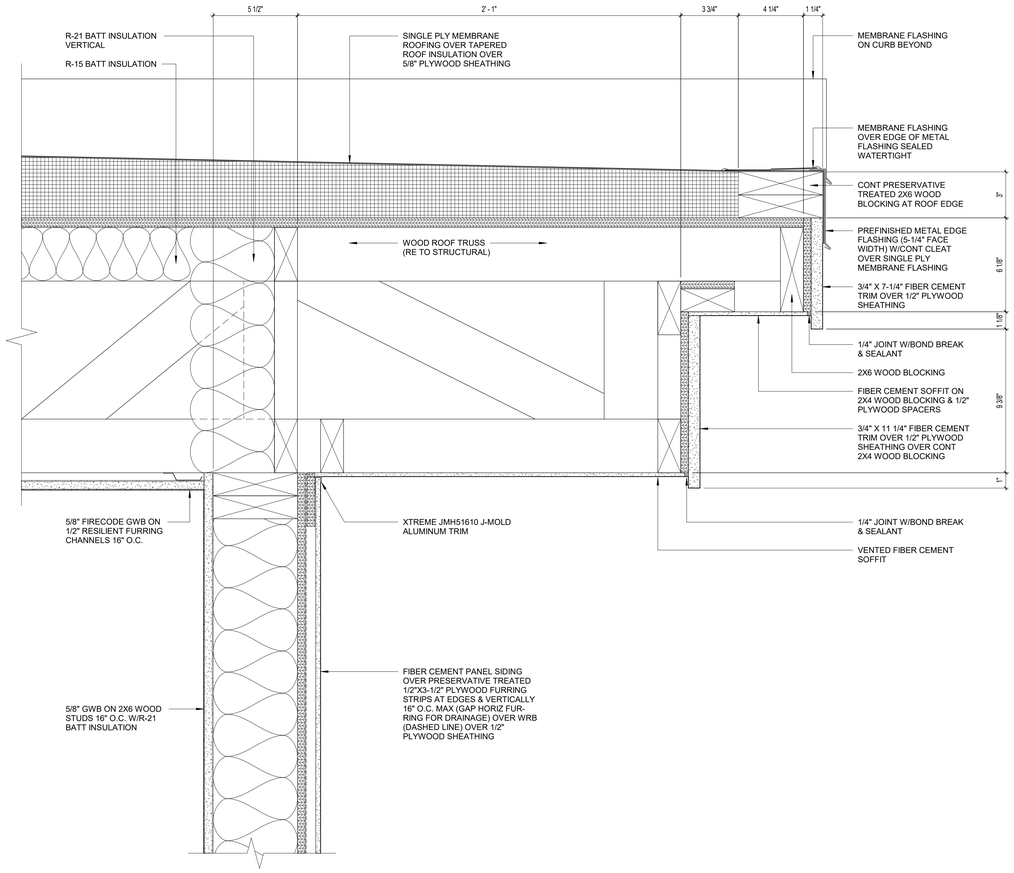
DRAWING A6.8

COMM. NO. 23104.00



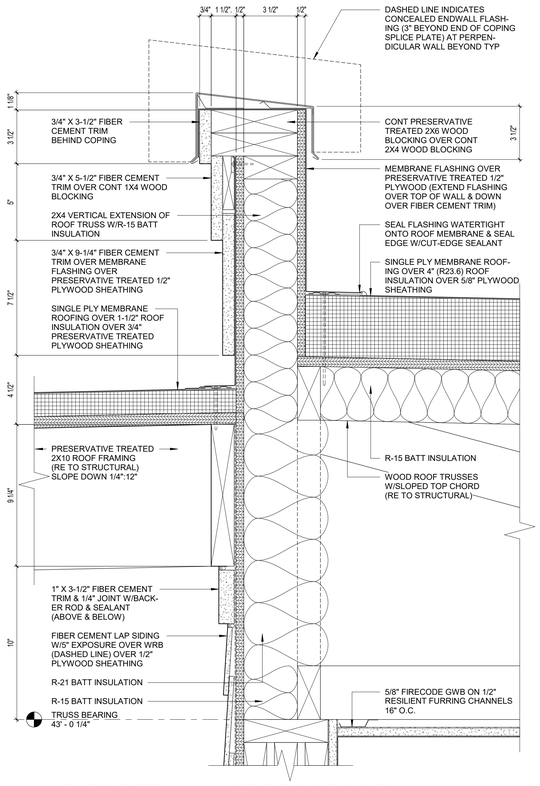
4 TOWER ROOF FRONT EDGE

3" = 1'-0"



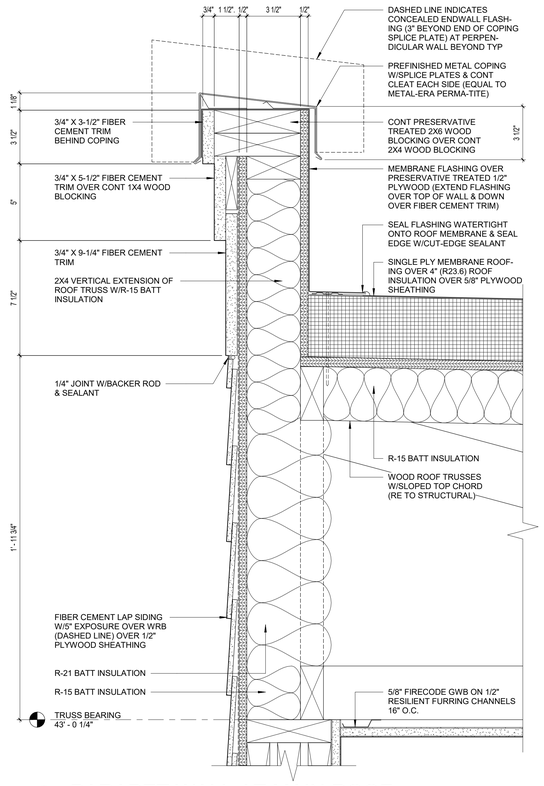
2 TOWER ROOF REAR EDGE

3" = 1'-0"



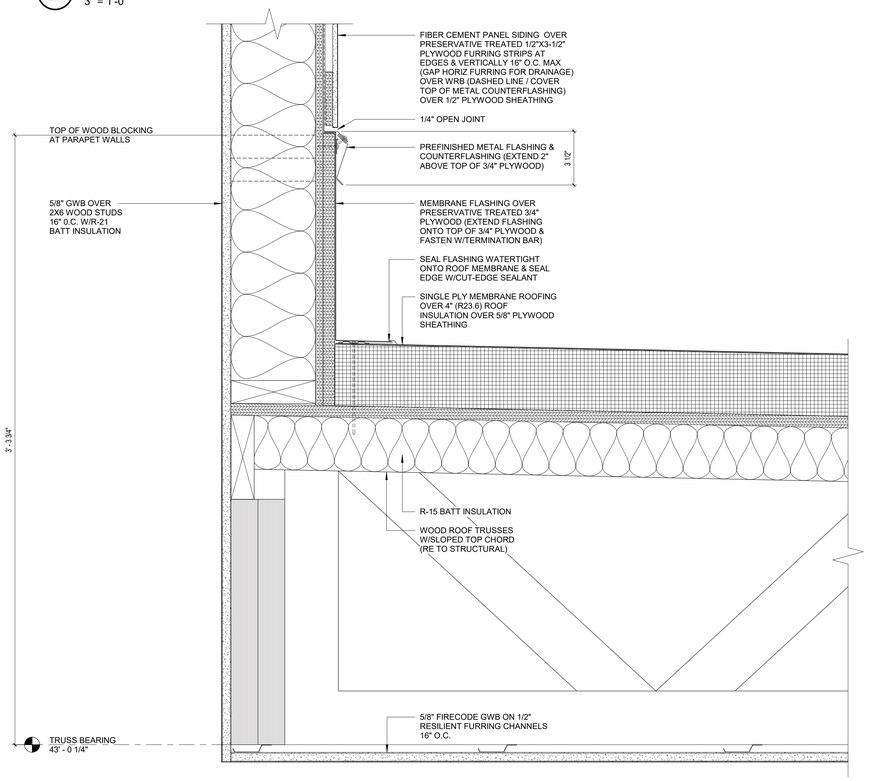
5 PARAPET WALL AT DECK ROOF

3" = 1'-0"



3 PARAPET WALL AT MAIN ROOF

3" = 1'-0"



1 TOWER WALL AT MAIN ROOF

3" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
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DESIGNER : DAS	DRAWN : JAM
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

NO.	REVISION DESCRIPTION	DATE

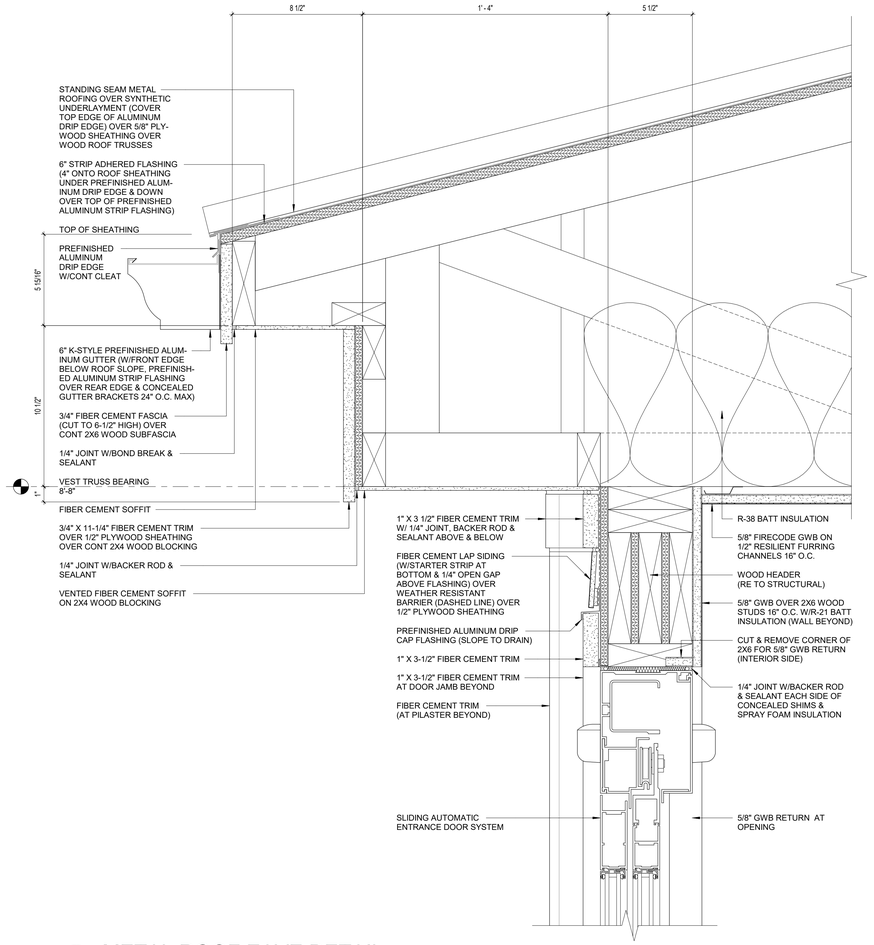
DRAWING TITLE

EXTERIOR DETAILS

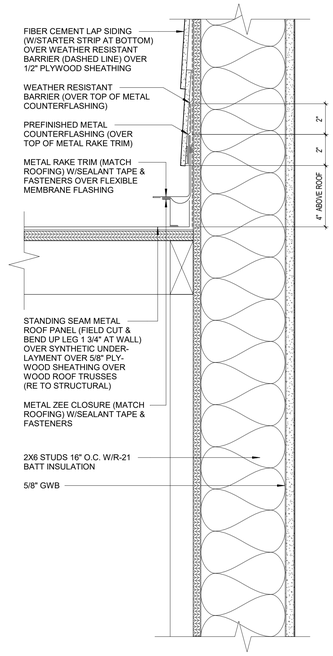
DATE: January 5, 2024

COMM. NO. 23104.00

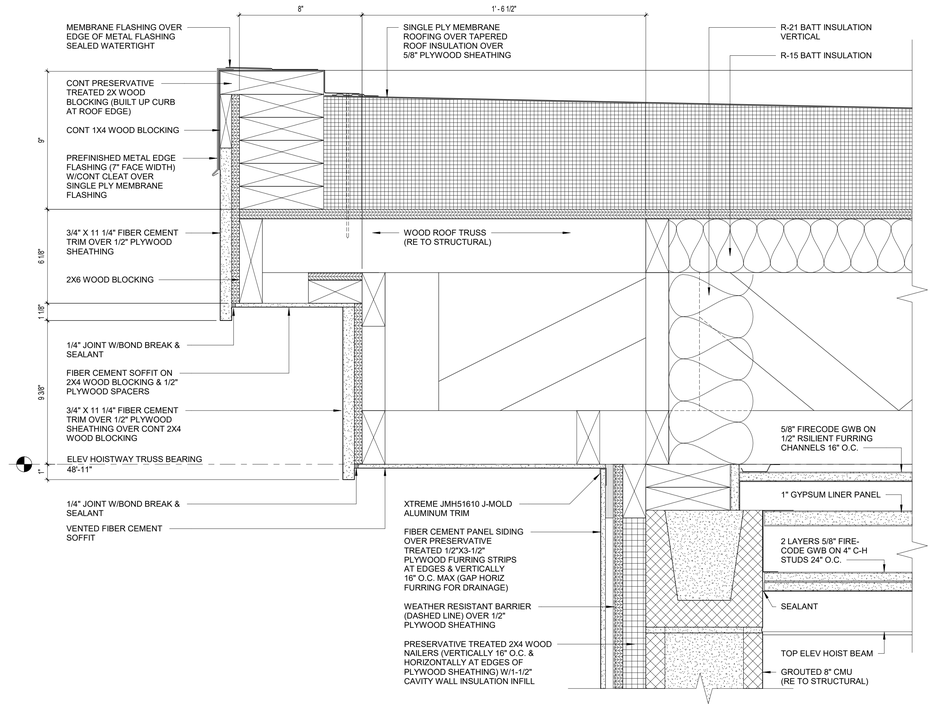
DRAWING A6.9



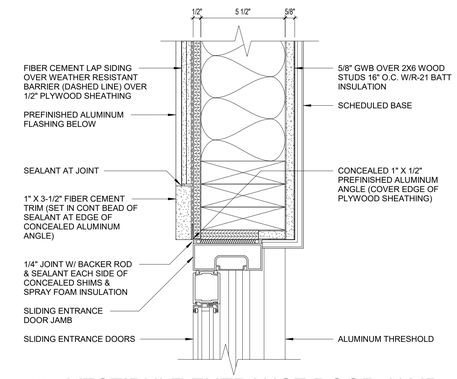
8 METAL ROOF EAVE DETAIL
3" = 1'-0"



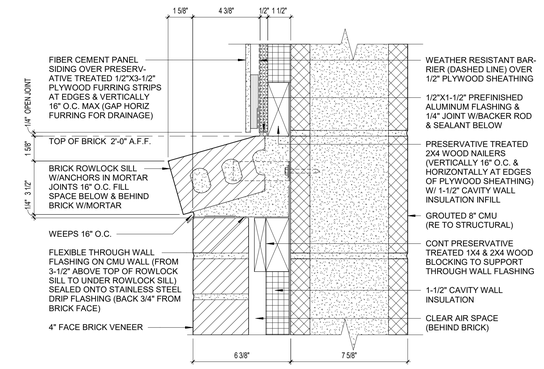
6 METAL ROOF FLASHING AT WALL
3" = 1'-0"



3 ELEV #1 HOISTWAY ROOF EDGE
3" = 1'-0"



5 VESTIBULE ENTRANCE DOOR JAMB
3" = 1'-0"



2 ELEV #1 HOISTWAY SIDING AT BRICK
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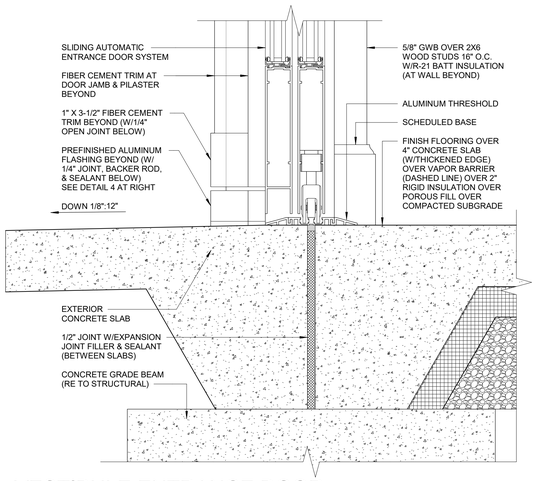

7 VESTIBULE ENTRANCE DOOR
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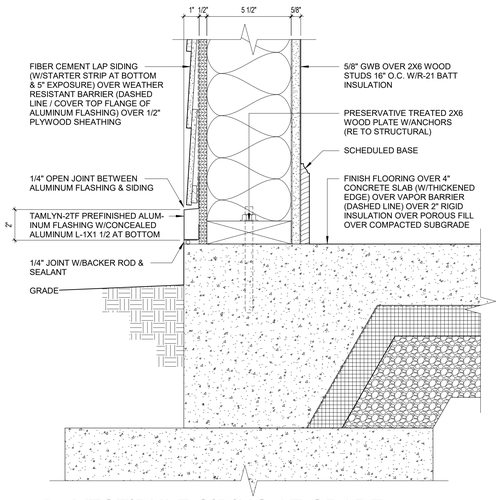
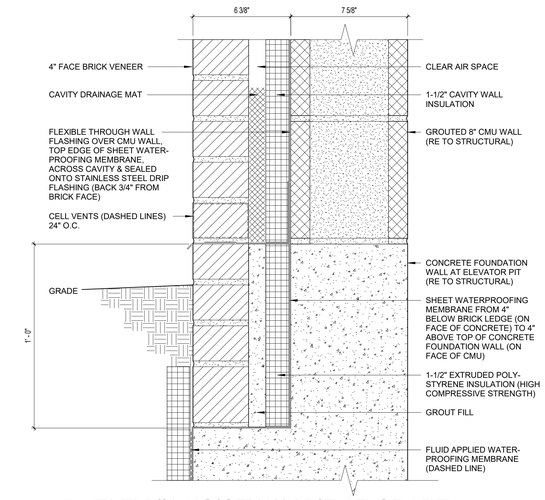


4 VESTIBULE SIDING AT GRADE
3" = 1'-0"



1 ELEV #1 HOISTWAY PIT AT GRADE
3" = 1'-0"

PERMIT SET

STATE OF MISSISSIPPI
CURTIS B. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
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DESIGNER	DAS	DRAWN	JAM
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

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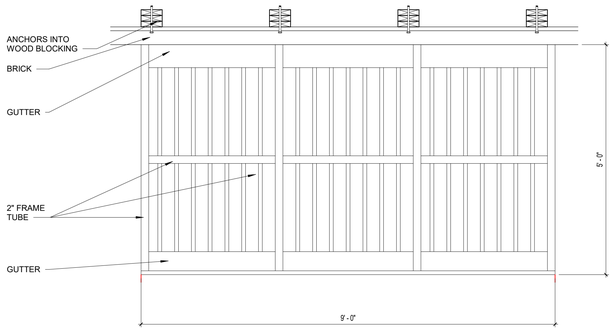
DRAWING TITLE

EXTERIOR DETAILS

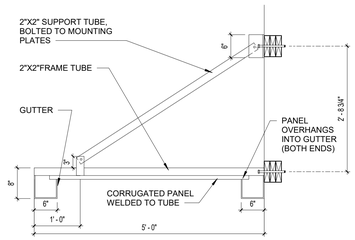
DATE: January 5, 2024

COMM. NO. 23104.00

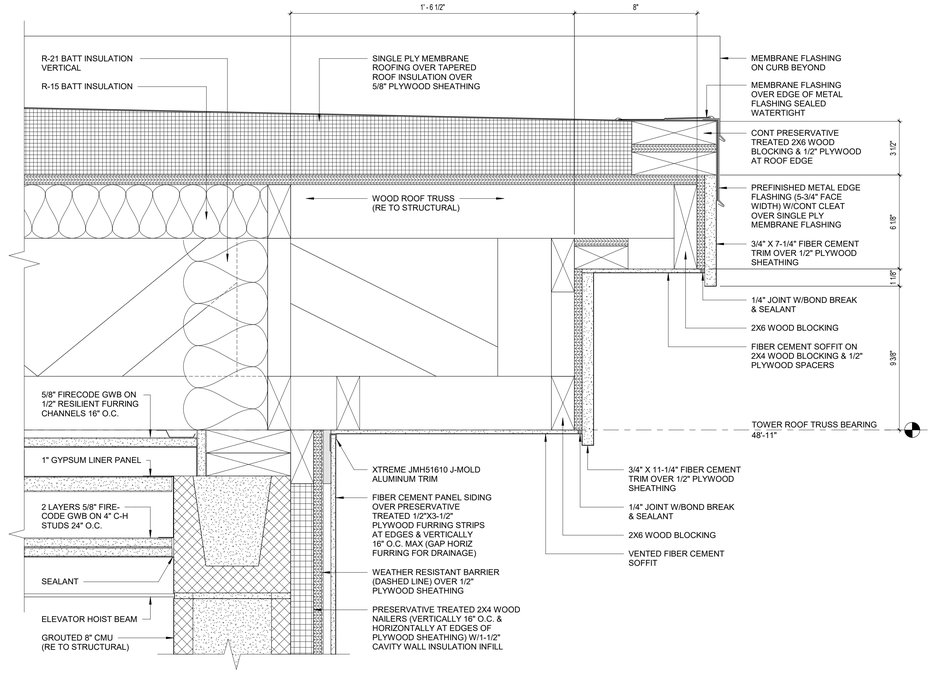
DRAWING A6.10



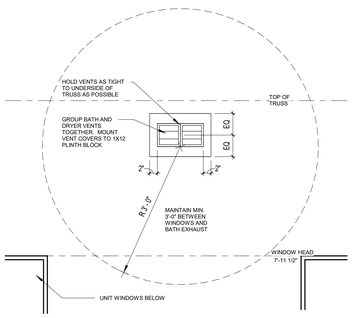
8 ALUMINUM CANOPY PLAN
3/4" = 1'-0"



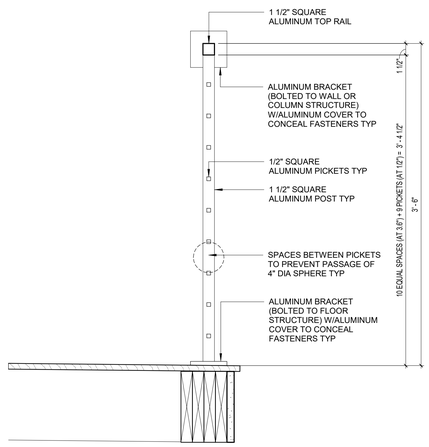
7 ALUMINUM CANOPY SECTION
3/4" = 1'-0"



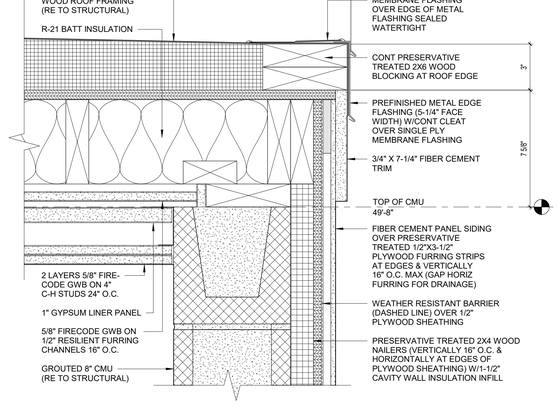
3 ELEV #1 HOISTWAY LOW ROOF EDGE
3" = 1'-0"



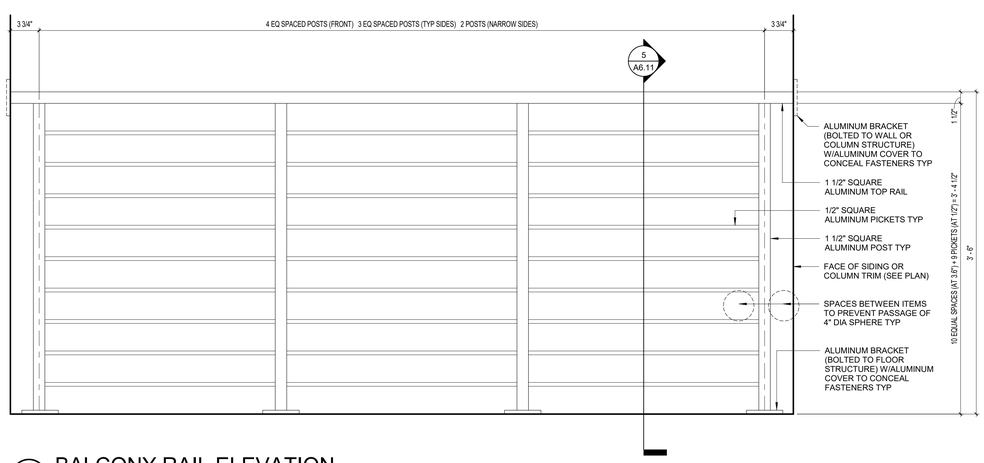
6 DRYER VENT DETAIL
3/4" = 1'-0"



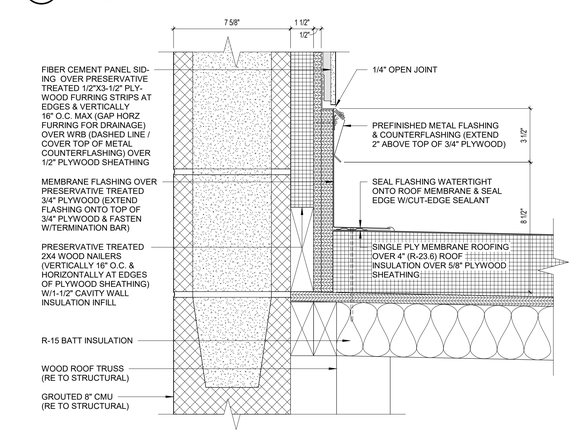
5 BALCONY RAIL SECTION
1 1/2" = 1'-0"



2 MECH CHASE LOW ROOF EDGE
3" = 1'-0"



4 BALCONY RAIL ELEVATION
1 1/2" = 1'-0"



1 MECH CHASE WALL AT ROOF
3" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
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01-05-2024

PROJECT TITLE

John Knox Village

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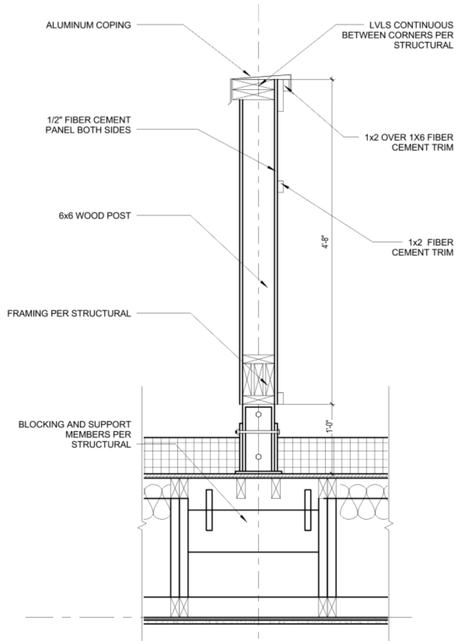
DESIGNER	DAS	DRAWN	JAM
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	

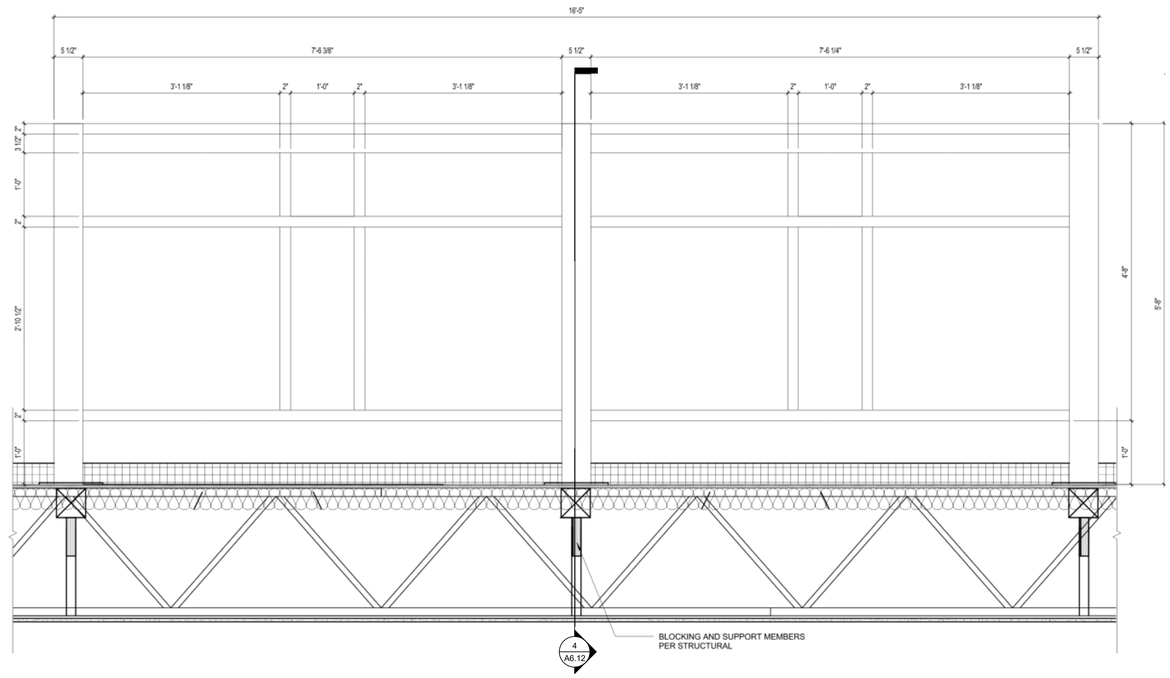
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
EXTERIOR DETAILS

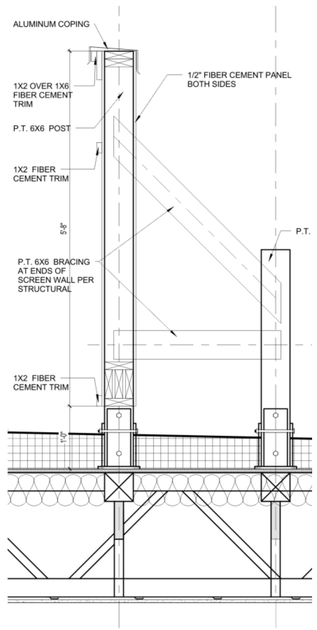
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A6.11



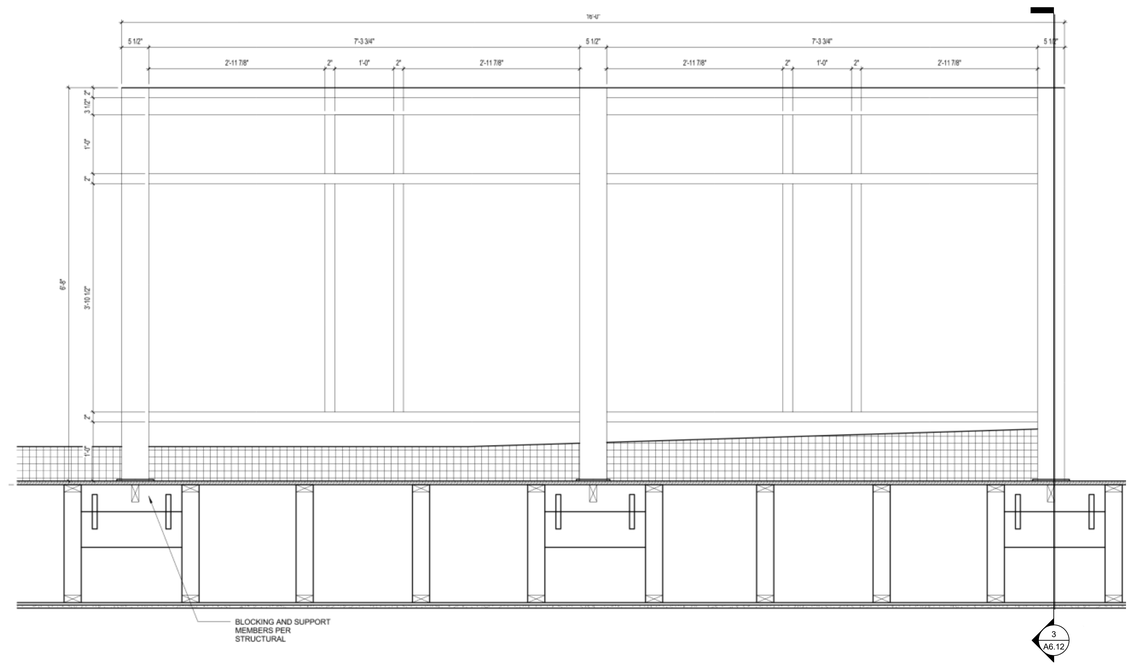
4 SCREEN WALL SECTION PERPENDICULAR TO TRUSS
3" = 1'-0"



2 SCREEN WALL ELEVATION PERPENDICULAR TO TRUSS
3" = 1'-0"



3 SCREEN WALL SECTION PARALLEL TO TRUSS
3" = 1'-0"



1 SCREEN WALL ELEVATION PARALLEL TO TRUSS
3" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

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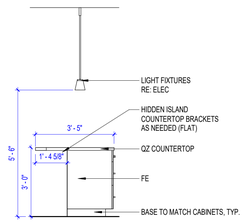
DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

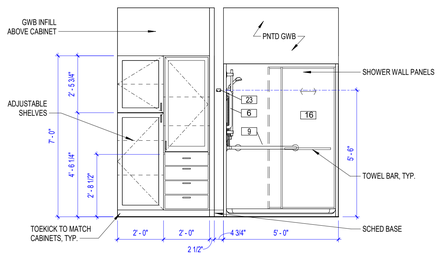
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
EXTERIOR DETAILS

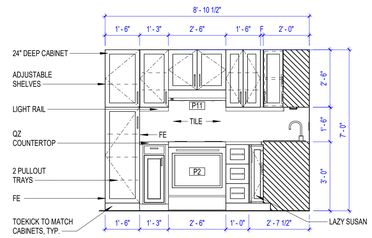
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A6.12



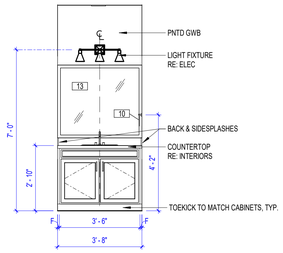
20 UNIT D1-D2-D3 KIT. ISLAND 2
3/8" = 1'-0"



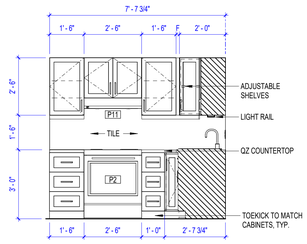
16 UNIT D1-D2-D3 PR. SHOWER
3/8" = 1'-0"



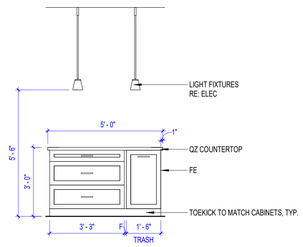
12 UNIT C KITCHEN STOVE
3/8" = 1'-0"



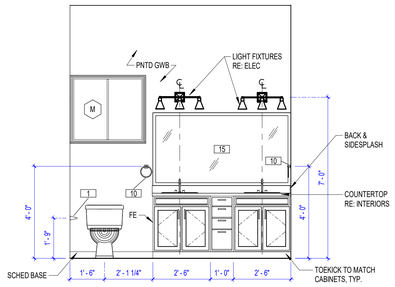
8 UNIT C HALF BATH
3/8" = 1'-0"



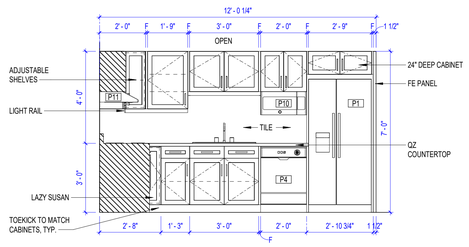
4 UNIT B KITCHEN STOVE
3/8" = 1'-0"



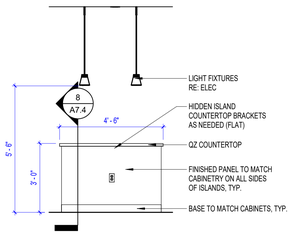
19 UNIT D1-D2-D3 KIT. ISLAND
3/8" = 1'-0"



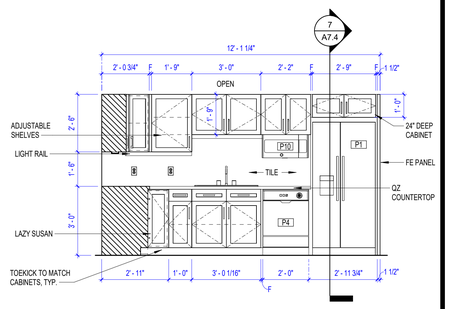
15 UNIT D1-D2-D3 PR. VANITY
3/8" = 1'-0"



11 UNIT C KITCHEN SINK
3/8" = 1'-0"



7 UNIT B-C KITCHEN ISLAND 3
3/8" = 1'-0"



3 UNIT B KITCHEN SINK
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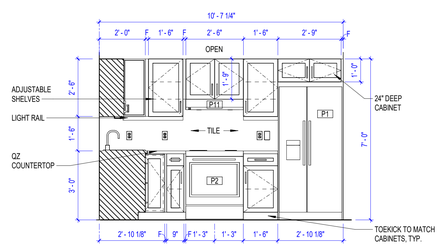
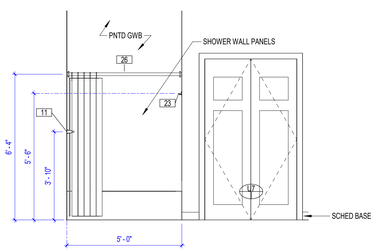
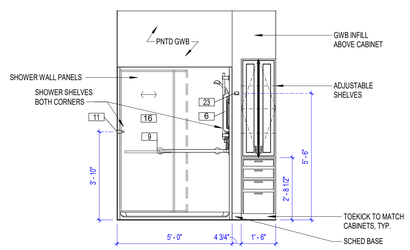


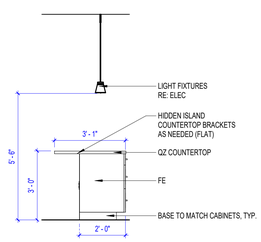
18 UNIT D1-D2-D3 KIT. STOVE
3/8" = 1'-0"



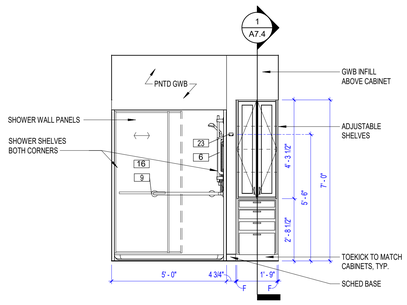
14 UNIT D1-D2-D3 BATHTUB
3/8" = 1'-0"



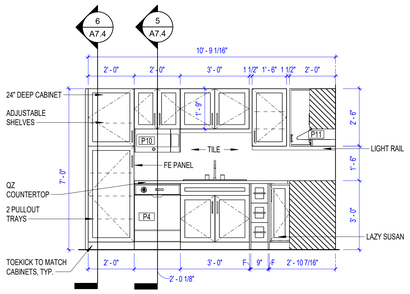
10 UNIT C SHOWER
3/8" = 1'-0"



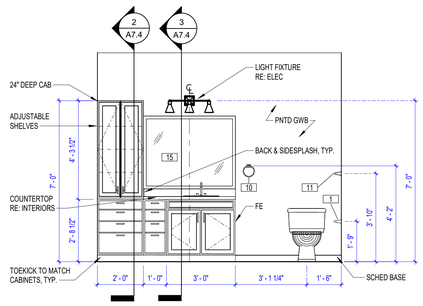
6 UNIT B-C KITCHEN ISLAND 2
3/8" = 1'-0"



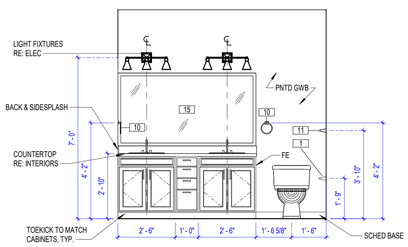
2 UNIT B SHOWER
3/8" = 1'-0"



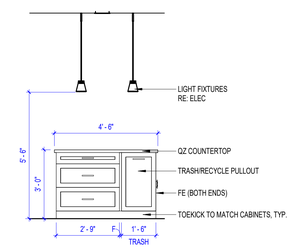
17 UNIT D1-D2-D3 KIT. SINK
3/8" = 1'-0"



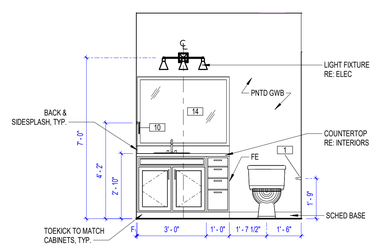
13 UNIT D1-D2-D3 BATH VAN.
3/8" = 1'-0"



9 UNIT C BATH VANITY
3/8" = 1'-0"



5 UNIT B-C KITCHEN ISLAND 1
3/8" = 1'-0"



1 UNIT B BATH VANITY
3/8" = 1'-0"

GENERAL NOTES

1. PROVIDE BLOCKING FOR FUTURE INSTALLATION OF GRAB BARS IN ALL ANSI TYPE B UNITS PER ANSI REQUIREMENTS. (ALL UNITS ARE TYPE B UNITS BESIDES 2029, WHICH IS A TYPE A UNIT)
2. PROVIDE BLOCKING AND GRAB BARS FOR 18" VERTICAL GRAB BAR AND WRAP AROUND GRAB BAR AT ALL MASTER BATHROOM SHOWERS.
3. PROVIDE GRAB BARS AT TIME OF CONSTRUCTION IN ANSI TYPE A (HC) UNIT PER ANSI REQUIREMENTS.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
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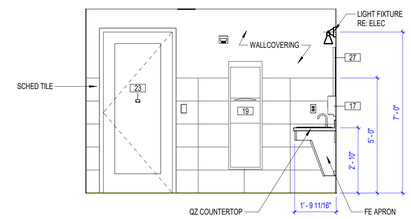
DESIGNER	DAS	DRAWN	DAS/CLH/CRW
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

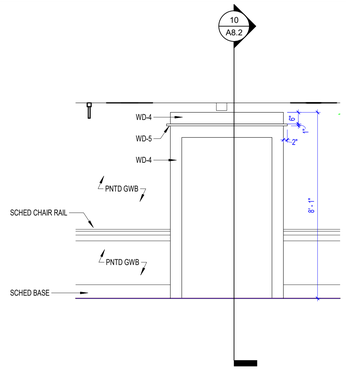
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
INTERIOR ELEVATIONS

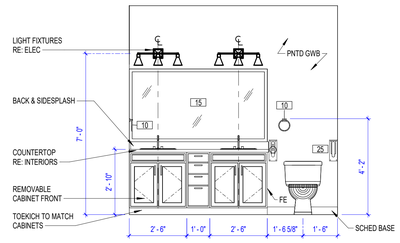
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A7.1



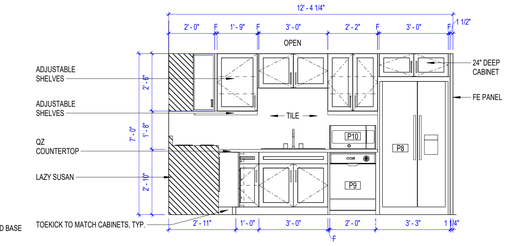
20 RESTROOMS E105/E405 4
3/8" = 1'-0"



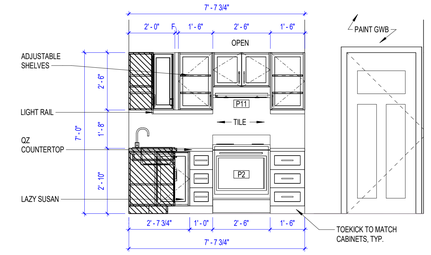
16 TYP. ELEVATOR
3/8" = 1'-0"



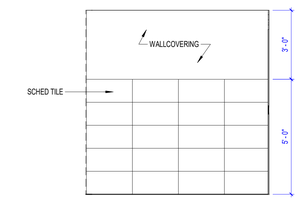
12 UNIT C (ADA) E316 - BATHROOM VANITY
3/8" = 1'-0"



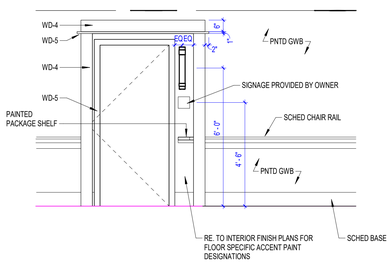
8 UNIT C (ADA) E316 KITCHEN SINK
3/8" = 1'-0"



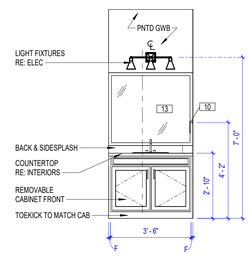
4 UNIT B (ADA) E123 KITCHEN STOVE
3/8" = 1'-0"



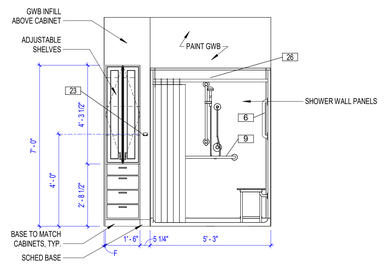
19 RESTROOMS E105/E405 3
3/8" = 1'-0"



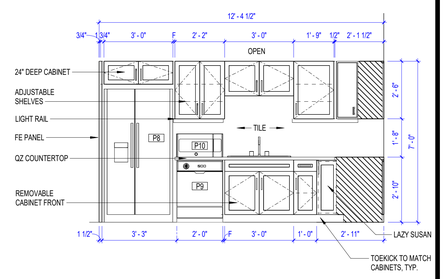
15 RESIDENT ENTRY & TYP. CORRIDOR
3/8" = 1'-0"



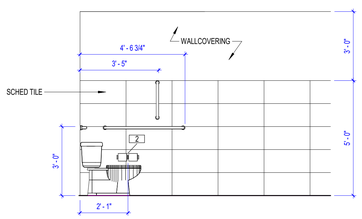
11 UNIT C (ADA) E316 HALF BATH
3/8" = 1'-0"



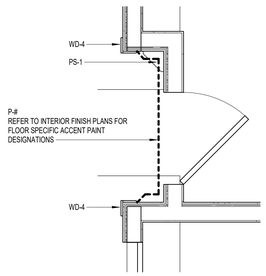
7 UNIT B (ADA) E123 BATHROOM SHOWER
3/8" = 1'-0"



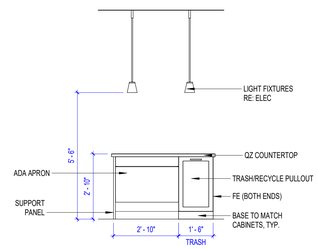
3 UNIT B (ADA) E123 KITCHEN SINK
3/8" = 1'-0"



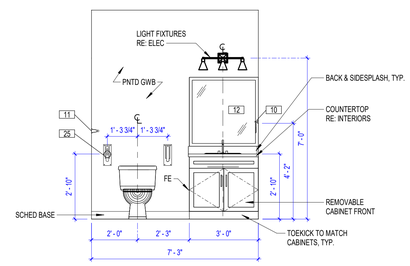
18 RESTROOMS E105/E405 2
3/8" = 1'-0"



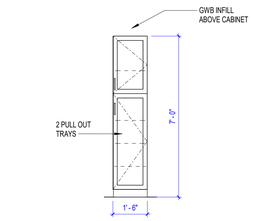
14 RESIDENT UNIT ENTRY, TYP
1/2" = 1'-0"



10 UNIT C (ADA) E316 KITCHEN ISLAND
3/8" = 1'-0"

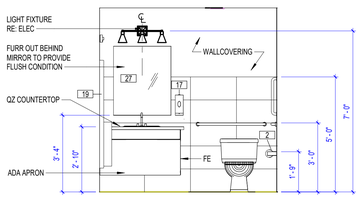


6 UNIT B (ADA) E123 BATHROOM VANITY
3/8" = 1'-0"

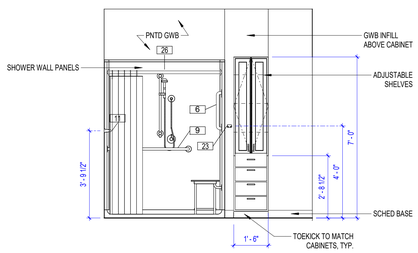


NOTE: FACE OF PANTRY TO BE FLUSH
WITH FACE OF ADJACENT WALL

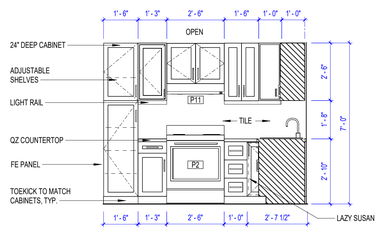
2 UNIT B - PANTRY
3/8" = 1'-0"



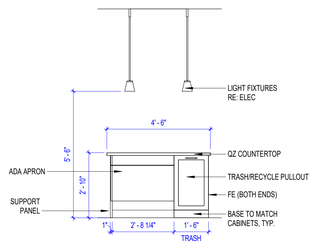
17 RESTROOMS E105/E405 1
3/8" = 1'-0"



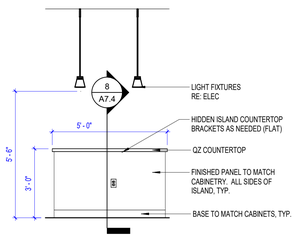
13 UNIT C (ADA) E316 - BATHROOM SHOWER
3/8" = 1'-0"



9 UNIT C (ADA) E316 KITCHEN STOVE
3/8" = 1'-0"



5 UNIT B (ADA) E123 KITCHEN ISLAND
3/8" = 1'-0"



1 UNIT D1-D2-D3 KIT. ISLAND 3
3/8" = 1'-0"

GENERAL NOTES

1. PROVIDE BLOCKING FOR FUTURE INSTALLATION OF GRAB BARS IN ALL ANSI TYPE B UNITS PER ANSI REQUIREMENTS. (ALL UNITS ARE TYPE B UNITS BESIDES 2029, WHICH IS A TYPE A UNIT)
2. PROVIDE BLOCKING AND GRAB BARS FOR 18" VERTICAL GRAB BAR AND WRAP AROUND GRAB BAR AT ALL MASTER BATHROOM SHOWERS.
3. PROVIDE GRAB BARS AT TIME OF CONSTRUCTION IN ANSI TYPE A (HC) UNIT PER ANSI REQUIREMENTS.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
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www.sfcs.com

DESIGNER	DAS	DRAWN	DAS/CLH/CRW
ARCHITECT	DAS	CHECKED	AAT
ENGINEER	DES	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

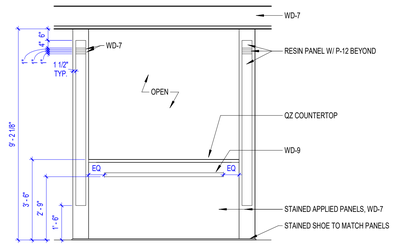
DRAWING TITLE

INTERIOR ELEVATIONS & DETAILS

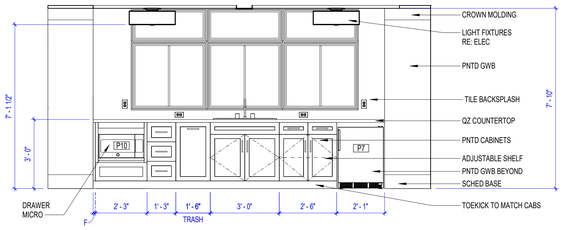
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A7.2

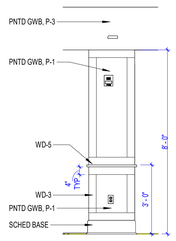


8 ATRIUM & TYP. SMALL COLUMNS
3/8" = 1'-0"

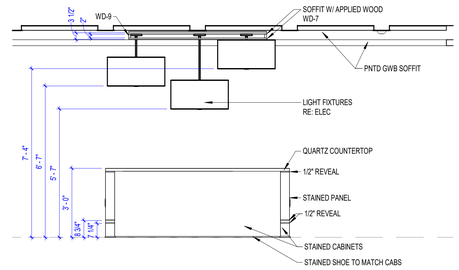


4 2ND FLOOR LOUNGE
3/8" = 1'-0"

WOOD VENEER ARCH MILLWORK

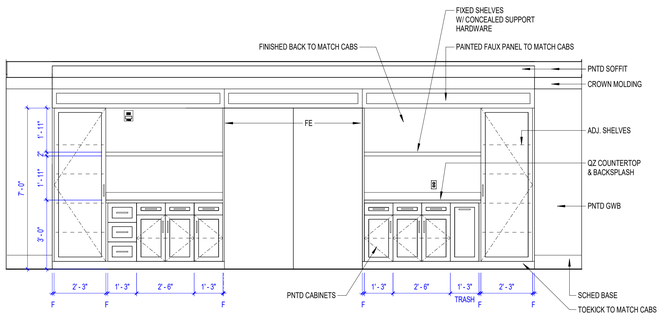


7 TYP. LARGE COLUMNS
3/8" = 1'-0"



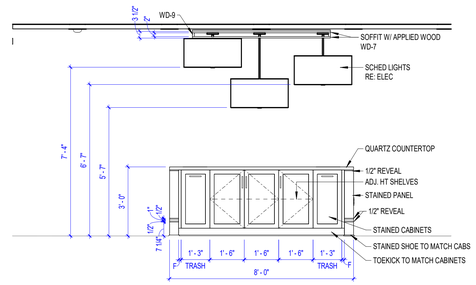
3 MAIL ROOM - LOUNGE
3/8" = 1'-0"

WOOD VENEER ARCH MILLWORK



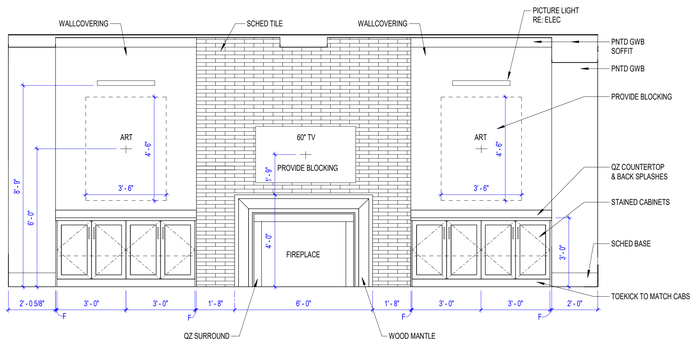
6 4TH FLOOR LOUNGE BUILT-INS
3/8" = 1'-0"

WOOD VENEER ARCH MILLWORK



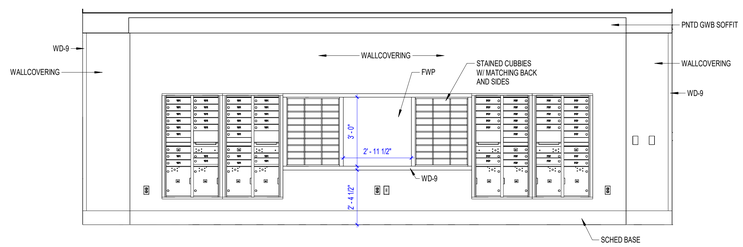
2 MAIL ROOM - SORT
3/8" = 1'-0"

WOOD VENEER ARCH MILLWORK



5 3RD FLOOR FIREPLACE
3/8" = 1'-0"

WOOD VENEER ARCH MILLWORK



1 MAIL ROOM - BOXES
3/8" = 1'-0"

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

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Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	DAS	DRAWN	DAS/CLH/CRW
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

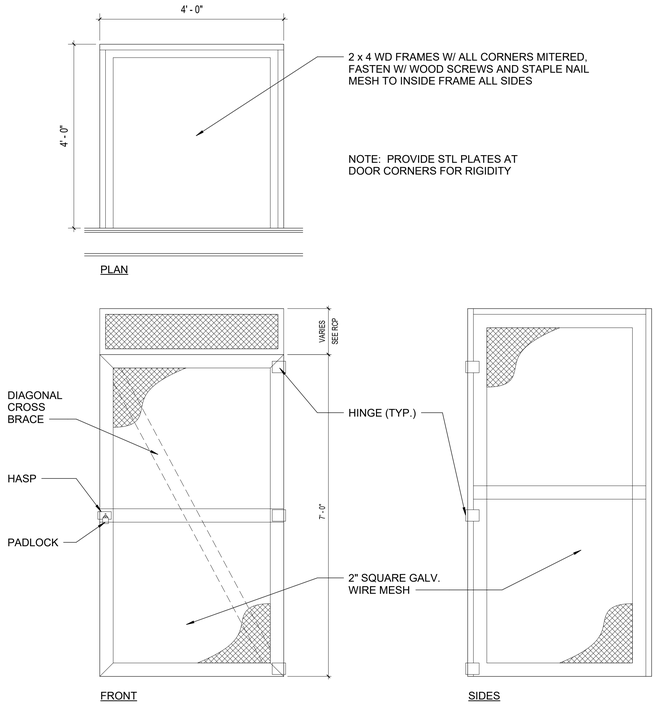
DRAWING TITLE

INTERIOR ELEVATIONS & DETAILS

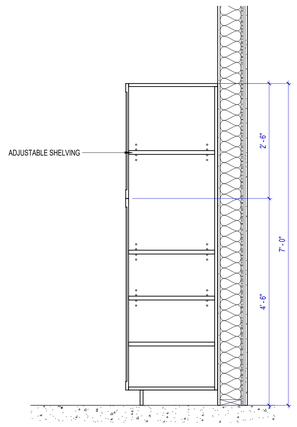
DATE: January 5, 2024

COMM. NO. 23104.00

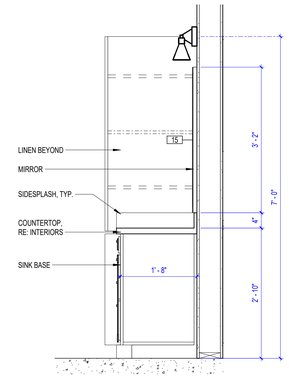
DRAWING A7.3



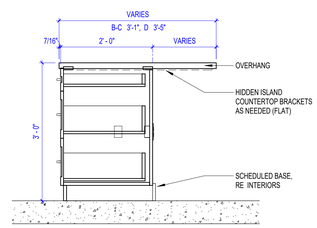
10 STORAGE LOCKERS
3/4" = 1'-0"



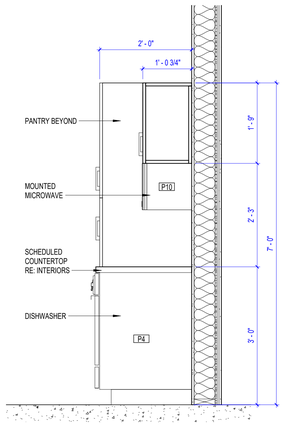
6 TYP SECTION AT PANTRY
3/4" = 1'-0"



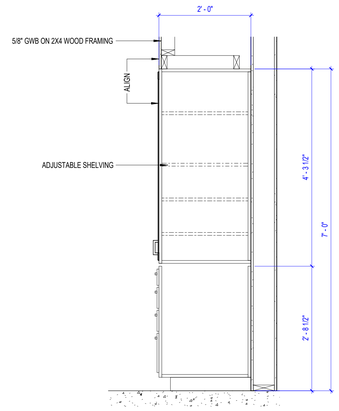
3 TYP SECTION AT BATH VANITY
3/4" = 1'-0"



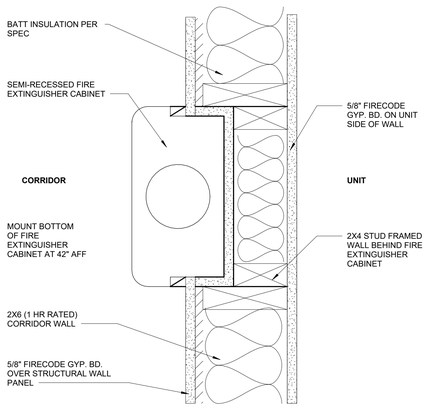
8 TYP SECTION AT KITCHEN ISLAND
3/4" = 1'-0"



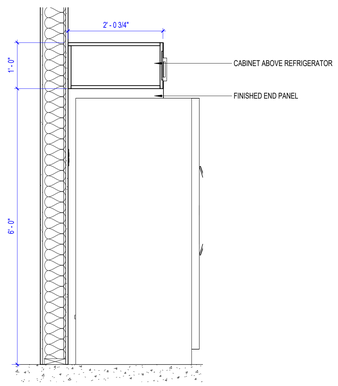
5 TYP SECTION AT DISHWASHER
3/4" = 1'-0"



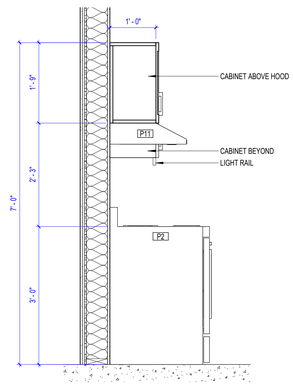
2 TYP SECTION AT BATH LINEN D
3/4" = 1'-0"



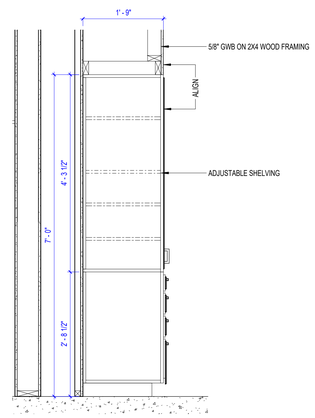
9 FIRE EXTINGUISHER CABINET
3" = 1'-0"



7 TYP SECTION AT REFRIGERATOR
3/4" = 1'-0"



4 TYP SECTION AT RANGE
3/4" = 1'-0"



1 TYP SECTION AT BATH LINEN B/C
3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

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704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	: DAS	DRAWN	: GMJ/DAS
ARCHITECT	: DAS	CHECKED	: AAT
ENGINEER	:	APPROVED	: CRJ

NO.	REVISION DESCRIPTION	DATE

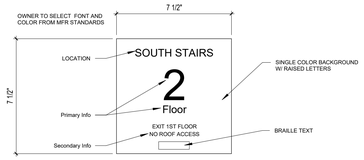
DRAWING TITLE

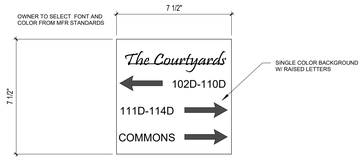
INTERIOR DETAILS

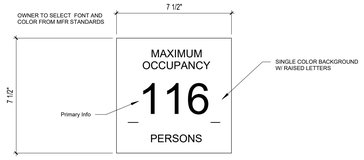
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING A7.4

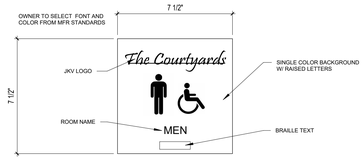


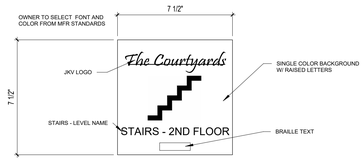




4 TYPE I-4 INFORMATION

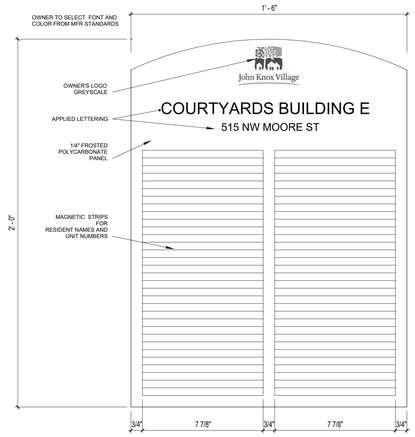
3" = 1'-0"





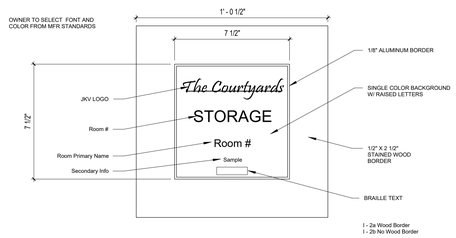
3 TYPE I-3 STAIR/RESTROOM

3" = 1'-0"



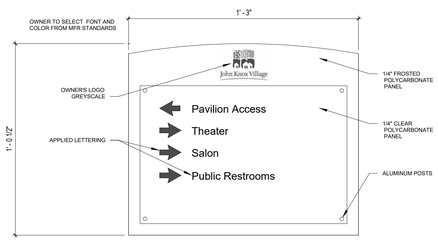
6 TYPE I-6 DIRECTORY

3" = 1'-0"



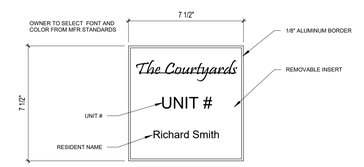
2 TYPE I-2 ROOM

3" = 1'-0"



5 TYPE I-5 WAYFINDING

3" = 1'-0"



1 TYPE I-1 UNIT

3" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-202304555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	: DAS	DRAWN	: DAS
ARCHITECT	: DAS	CHECKED	: AAT
ENGINEER	:	APPROVED	: CRJ

NO.	REVISION DESCRIPTION	DATE

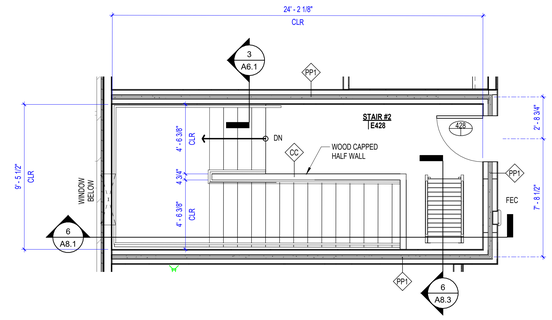
DRAWING TITLE

BUILDING SIGNAGE

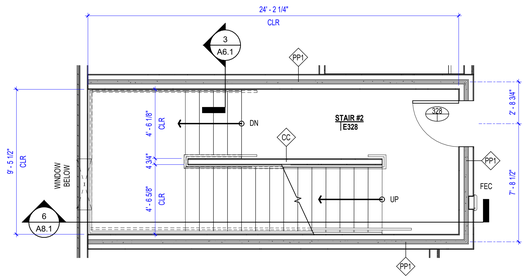
DATE: January 5, 2024

COMM. NO. 23104.00

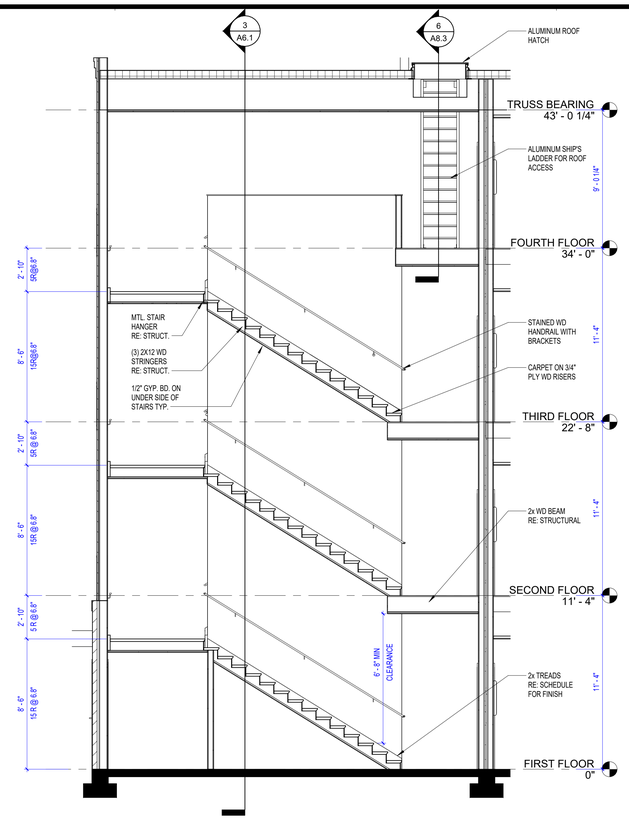
DRAWING A7.5



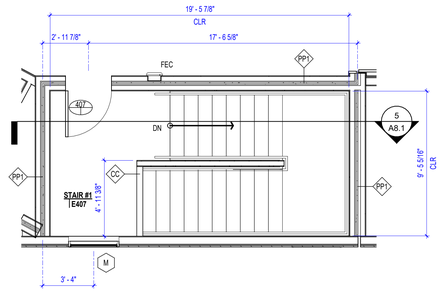
10 STAIR 2 - FOURTH FLOOR PLAN
1/4" = 1'-0"



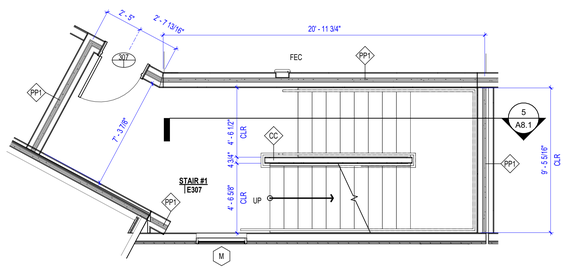
9 STAIR 2 - THIRD FLOOR PLAN
1/4" = 1'-0"



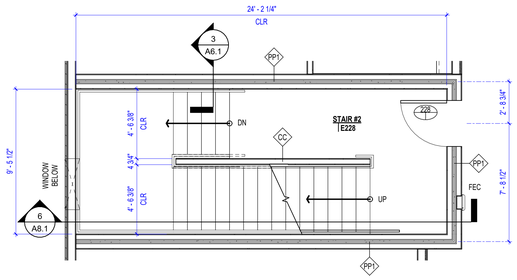
6 STAIR 2 SECTION
1/4" = 1'-0"



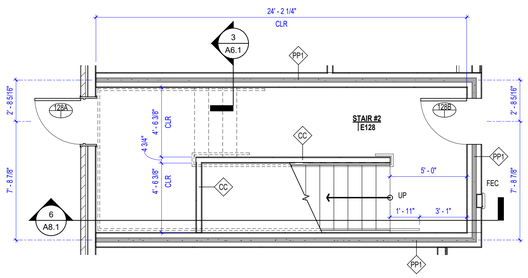
4 STAIR 1 - FOURTH FLOOR PLAN
1/4" = 1'-0"



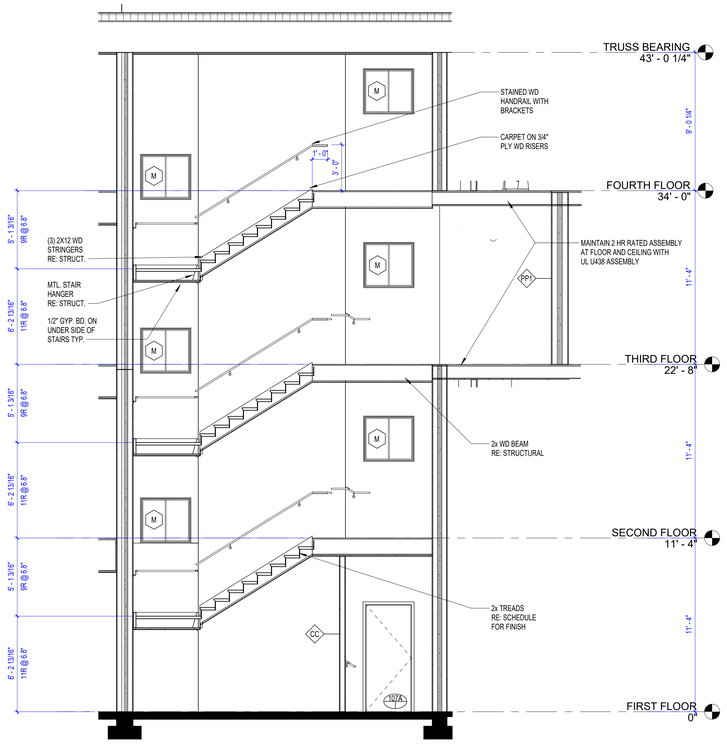
3 STAIR 1 - THIRD FLOOR PLAN
1/4" = 1'-0"



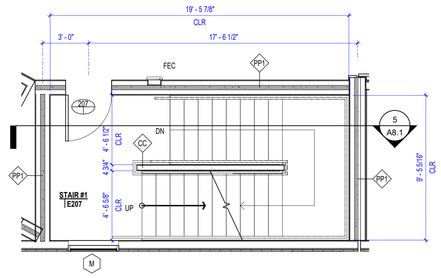
8 STAIR 2 - SECOND FLOOR PLAN
1/4" = 1'-0"



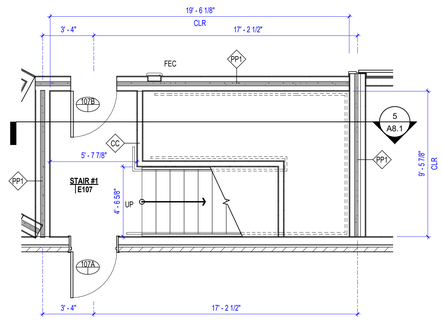
7 STAIR 2 - FIRST FLOOR PLAN
1/4" = 1'-0"



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



2 STAIR 1 - SECOND FLOOR PLAN
1/4" = 1'-0"



1 STAIR 1 - FIRST FLOOR PLAN
1/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS B. JENNINGS III
NUMBER
A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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Architecture
Engineering
Planning
Interiors
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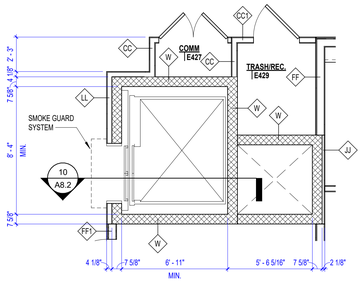
DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	CHK
ENGINEER	DES	APPROVED	APP

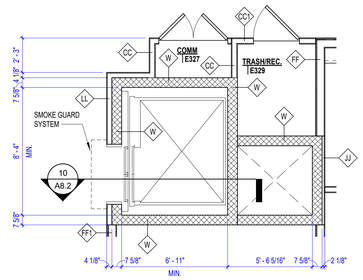
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
STAIR PLANS & SECTONS

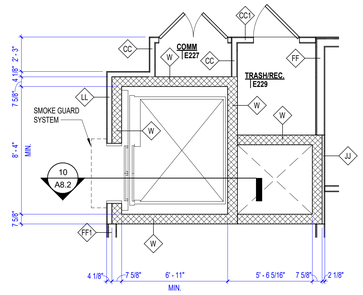
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A8.1



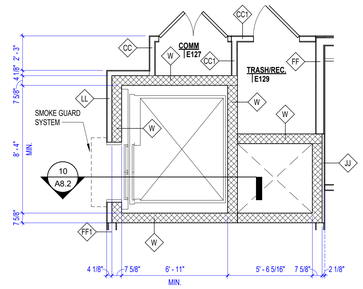
9 ELEV 2 - FOURTH FLOOR PLAN
1/4" = 1'-0"



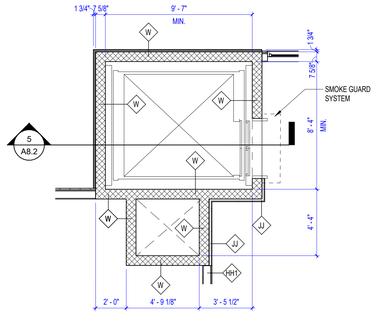
8 ELEV 2 - THIRD FLOOR PLAN
1/4" = 1'-0"



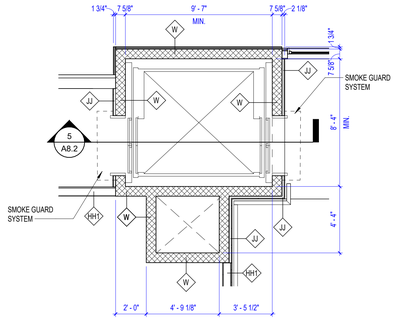
7 ELEV 2 - SECOND FLOOR PLAN
1/4" = 1'-0"



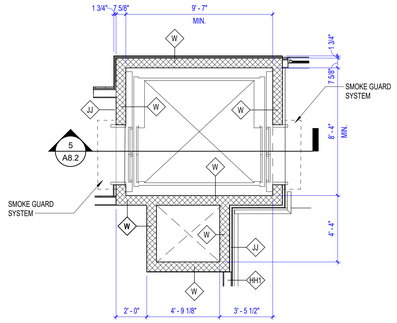
6 ELEV 2 - FIRST FLOOR PLAN
1/4" = 1'-0"



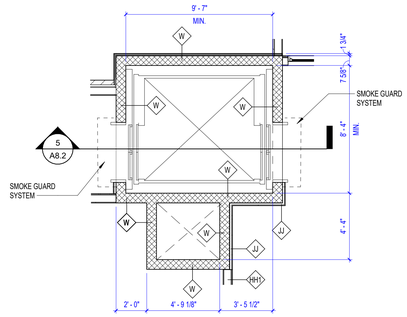
4 ELEV 1 - FOURTH FLOOR PLAN
1/4" = 1'-0"



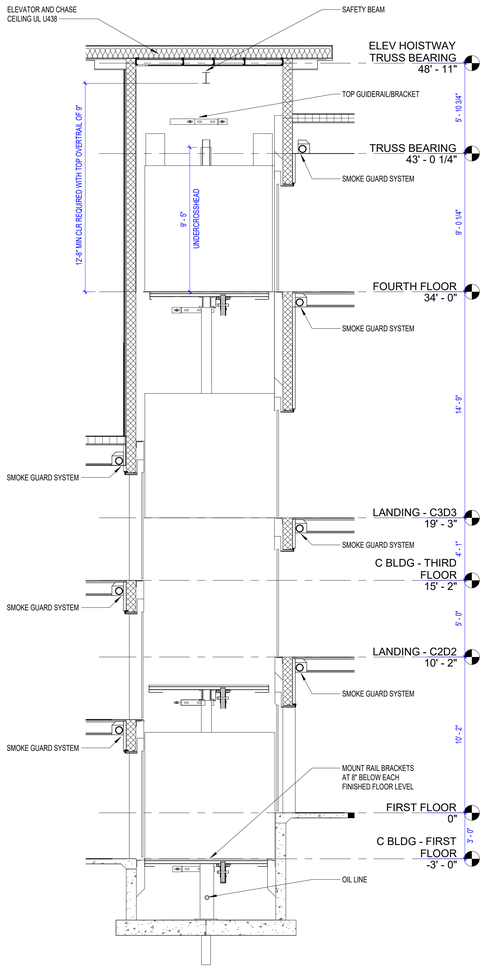
3 ELEV 1 - THIRD FLOOR PLAN
1/4" = 1'-0"



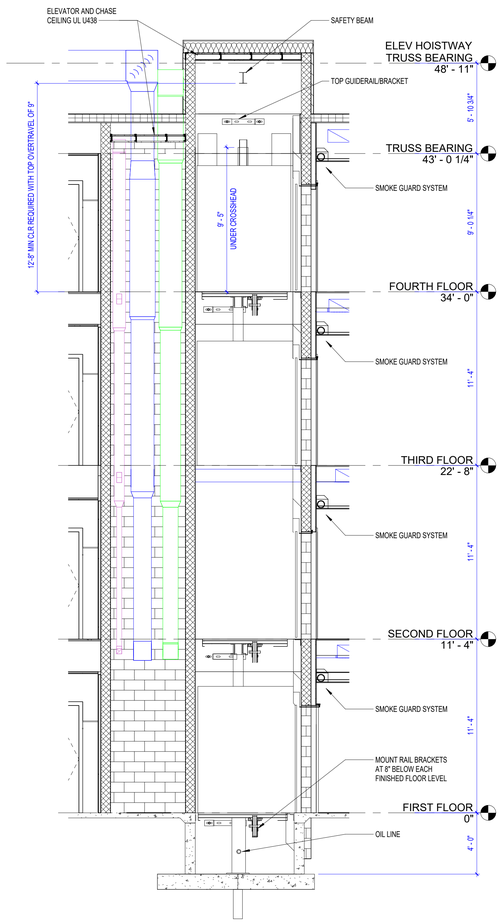
2 ELEV 1 - SECOND FLOOR PLAN
1/4" = 1'-0"



1 ELEV 1 - FIRST FLOOR PLAN
1/4" = 1'-0"



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



10 ELEV 2 - SECTION
1/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
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704.372.7327 ▪ Fax 704.372.7369
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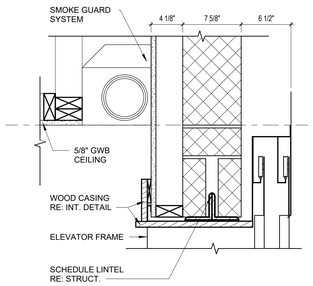
DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

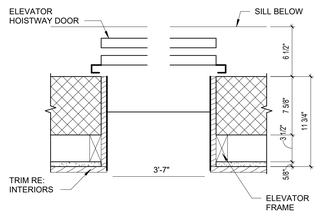
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
ELEVATOR PLANS & SECTIONS

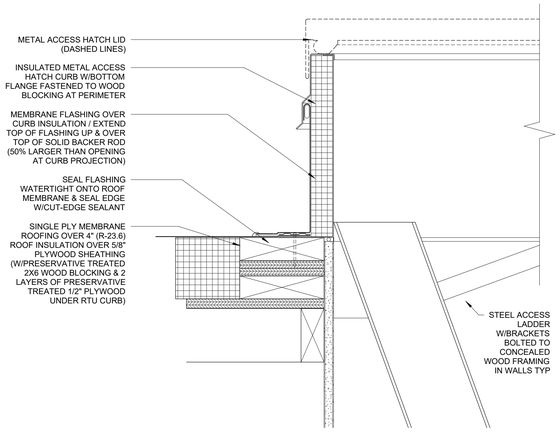
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A8.2



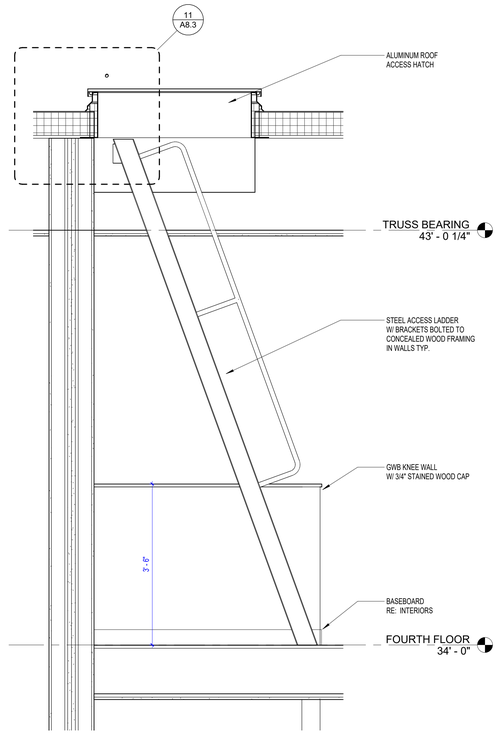
13 ELEVATOR SMOKE GUARD HEAD DETAIL
1 1/2" = 1'-0"



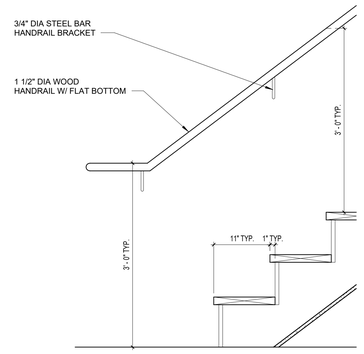
12 ELEVATOR JAMB DETAIL
1 1/2" = 1'-0"



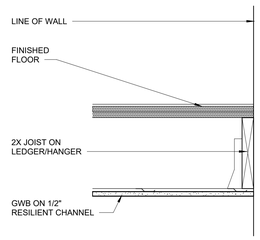
11 ROOF HATCH DETAIL
3" = 1'-0"



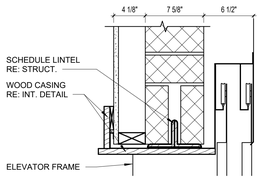
6 SHIP'S LADDER
3/4" = 1'-0"



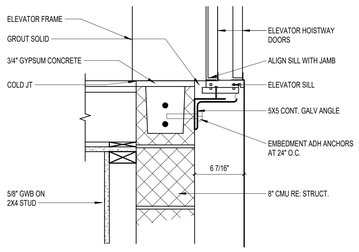
4 STAIR SECTION DETAIL
1" = 1'-0"



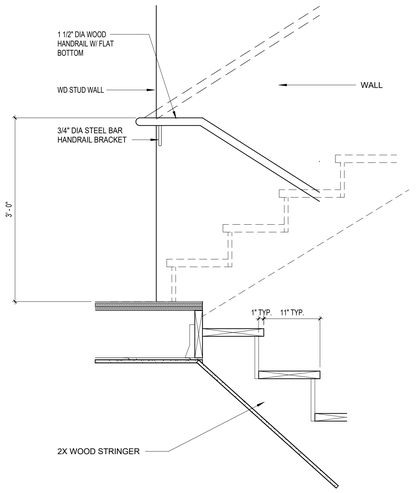
3 LANDING DETAIL
1 1/2" = 1'-0"



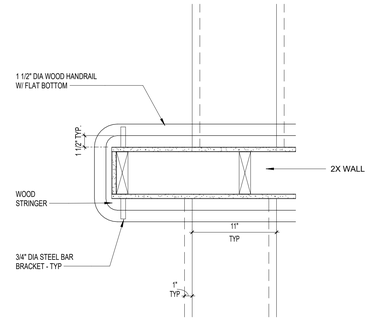
10 ELEVATOR HEAD DETAIL
1 1/2" = 1'-0"



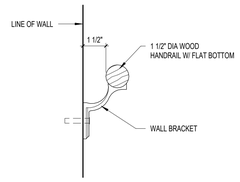
8 ELEVATOR SILL DETAIL
1 1/2" = 1'-0"



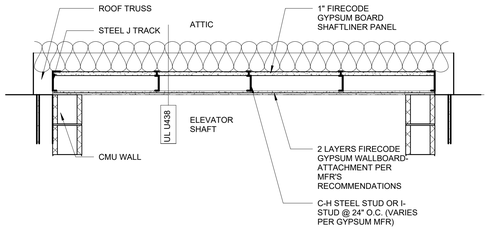
5 LANDING SECTION
1" = 1'-0"



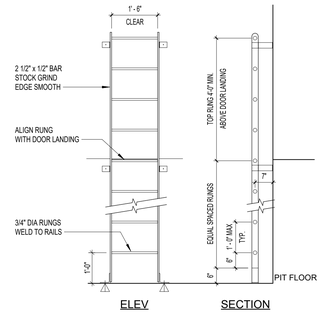
2 CENTER RAIL PLAN
1 1/2" = 1'-0"



1 STAIR HANDRAIL DETAIL
3" = 1'-0"



9 DETAIL AT 2 HOUR SHAFT LID
3/4" = 1'-0"



7 PIT LADDER DETAIL
1/2" = 1'-0"

GENERAL NOTES

NOTE 1: 1/2" GAP BETWEEN STRINGERS. GUARDRAILS SHALL BE MOUNTED ON STRINGER CENTERLINES. PROVIDE 1 1/2" CLEAR DIMENSION FROM HANDRAIL TO GUARDRAIL.

PERMIT SET

STATE OF MISSOURI
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PROJECT TITLE

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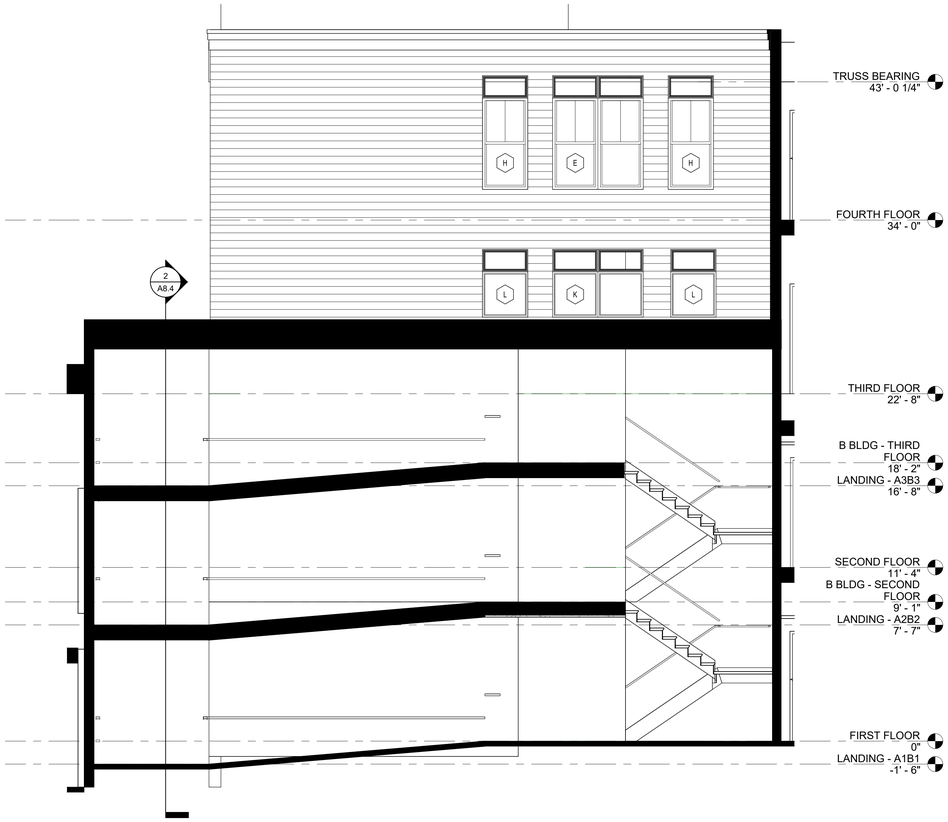
DESIGNER : DAS	DRAWN : DAS
ARCHITECT : DAS	CHECKED : AAT
ENGINEER :	APPROVED : CRJ

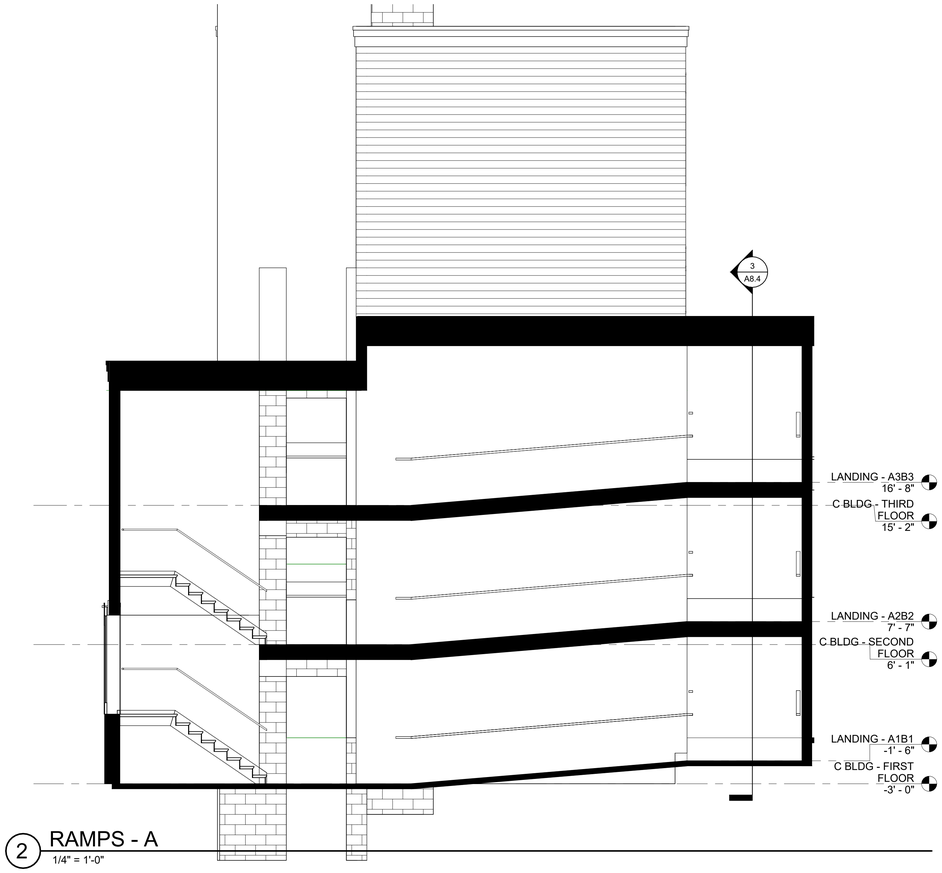
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
STAIR & ELEVATOR DETAILS

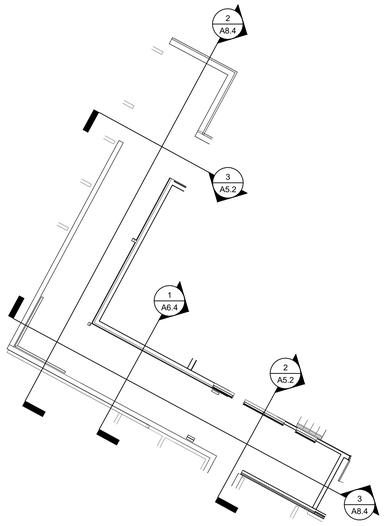
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A8.3



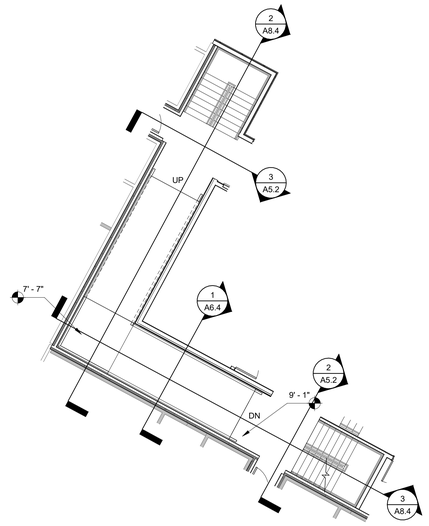
3 RAMPS - B
1/4" = 1'-0"



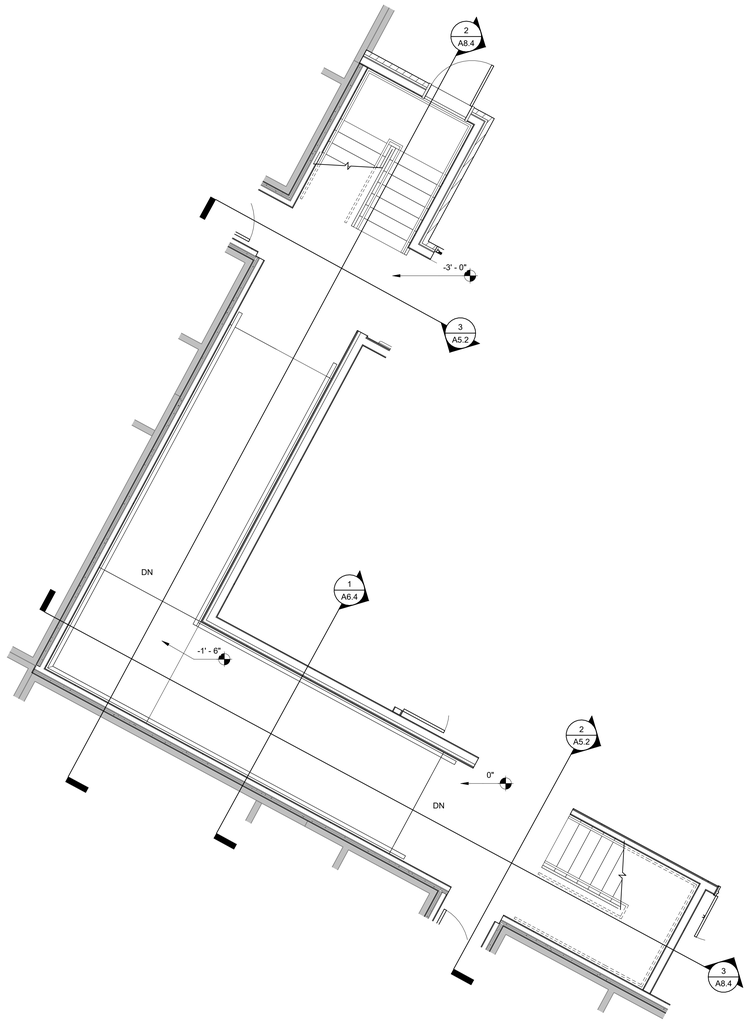
2 RAMPS - A
1/4" = 1'-0"



5 ATRIUM - RAMPS A & B - THIRD FLOOR
1/8" = 1'-0"



4 ATRIUM - RAMPS A & B - SECOND FLOOR
1/8" = 1'-0"



1 ATRIUM - RAMPS A & B - FIRST FLOOR
1/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
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NUMBER
A-2023034555
ARCHITECT
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PROJECT TITLE

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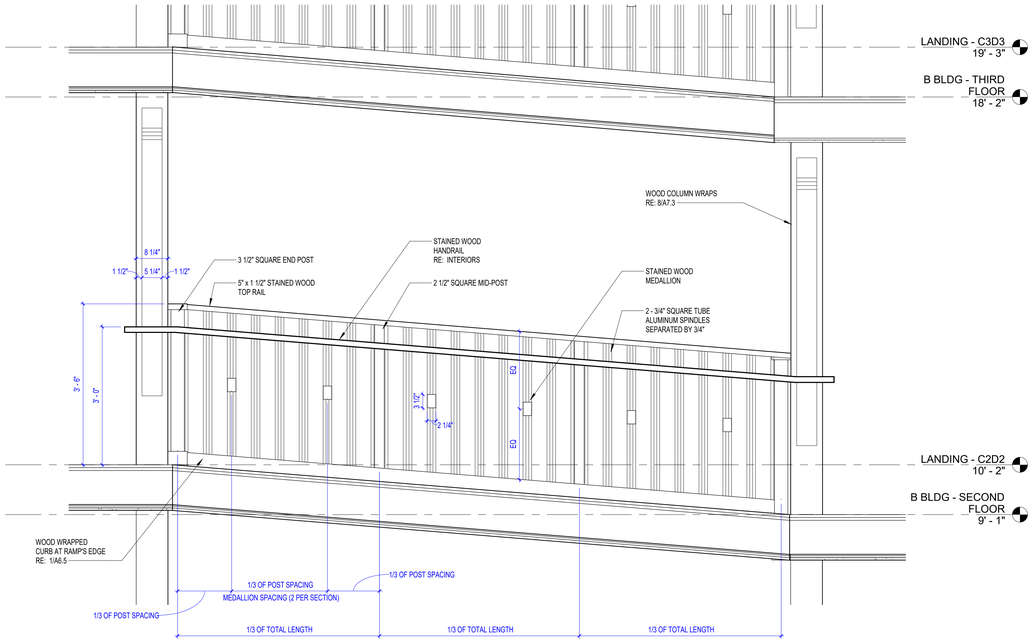
DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
RAMPS A & B

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A8.4



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

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

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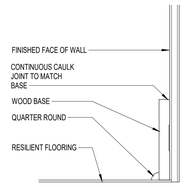
DESIGNER	DAS	DRAWN	DAS
ARCHITECT	DAS	CHECKED	AAT
ENGINEER		APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
ATRIUM DETAILS

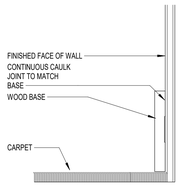
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING A8.5

FLOOR BASE DETAILS



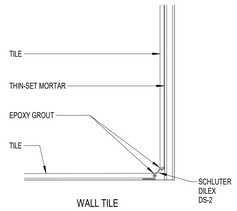
WOOD BASE ON HARD SURFACE FLOORING

NOTE: GENERIC BASE PROFILE SHOWN FOR REFERENCE ONLY

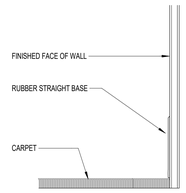


WOOD BASE ON CARPET FLOORING

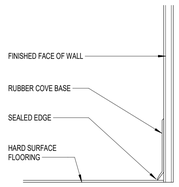
NOTE: GENERIC BASE PROFILE SHOWN FOR REFERENCE ONLY



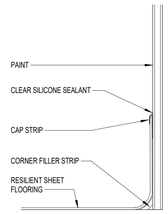
WALL TILE



CARPET

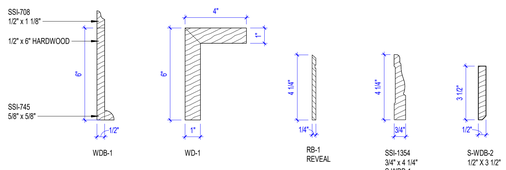


RESILIENT FLOORING



RESILIENT SHEET TO PAINT

TRIM PROFILES



FINISH KEY PLAN

BASE
WALL
CEILING
REF:

* AN ASTERISK FOLLOWING ANY FINISH AS NOTED ABOVE SIGNALS TO LOOK FOR MORE INFORMATION ON EITHER CURRENT SHEET OR ANOTHER SHEET, TYPICALLY MEANS THAT THERE IS MORE THAN ONE FINISH ON A GIVEN WALL/BASE/CEILING

EX: P/ CR/ WC

IF ANY FINISH BOX AS SHOWN IN THE KEY ABOVE CONTAINS MORE THAN ONE FINISH CODE THE PROGRESSION OF FINISHES GOES FROM THE FLOOR TO THE CEILING

S-T-1A GUIDE TO READING IL FINISH CODES. THE FIRST DIGIT INDICATED WHETHER A FINISH IS A "S"- STANDARD / "U" - UPGRADE / "P" - PREMIUM PACKAGE FINISH. THE NEXT GROUPING INDICATES A SPECIFIC FINISH AND NUMBER "T-1", THE LAST DIGIT WILL INDICATE WHICH PALETTE PACKAGE THE RESIDENT HAS SELECTED, "A", "B", ETC. THIS LAST DIGIT IS NOT INCLUDED ON FLOOR PLANS. MOST PLANS WILL INDICATE STANDARD FINISH LOCATIONS. FOR EXAMPLES S-T-1.

FLOOR 1
FLOOR 2
INDICATES A CHANGE OF MATERIALS, REFERENCE TRANSITION SCHEDULE FOR DETAILS

INDICATES EXTENTS OF *WALL FINISH

INDICATES THE WALL FINISH ASSOCIATED WITH A DASHED LINE

CNTR CAB
INDICATES COUNTER / CABINETRY FINISHES

DIRECTION OF GRAIN

CG-#
INDICATES A CORNERGUARD

NOT IN CONTRACT

NOTE: THESE ARE STANDARD SYMBOLS AND ALL SYMBOLS NOTED ON THIS SHEET MAY NOT APPLY.

INTERIOR ABBREVIATIONS

ACT	ACOUSTICAL CEILING TILE
ADJ	ADJUSTABLE
AP	ACOUSTICAL PANEL
B	BLINDS
BAR	BALLET BARRE
BB	BEADBOARD
BOH	BACK OF HOUSE
BQ	BANQUETTE
BR	BRICK
CAB	WOOD CUSTOM CABINET
CAS	RESIDENTIAL CASEWORK
CC	CUBICLE CURTAIN
CG	CORNER GUARD
CM	CULTURED MARBLE
CMP	TOILET COMPARTMENT
CONT.	CONTINUOUS/CONTINUED
CORR.	CORRIDOR
CPT	CARPET
CR	CHAIR RAIL
CRM	CROWN MOULDING
CT	CURTAIN
DM	DECORATIVE METAL
DP	DEEP
DS	DIVIDER STRIP
EFS	ENTRY FLOOR SYSTEM
EQ	EQUAL / EQUIPMENT
EVS	ELEVATOR FINISH
EXIST	EXISTING
F	FILLER
FE	FINISHED END
FL	FLOOR
FRP	FIBER REINFORCED PANEL
FWP	FABRIC WRAPPED PANEL
G	GROUT
GF	GLASS FILM
GR	GRANITE
GL	GLASS
HP	HARDIE PLANK
HR	HAND RAIL
HRD	DOOR HARDWARE
HT	HEIGHT
HW	CABINET HARDWARE
ID	INTERIOR DESIGN
INT	INTERIOR
LL	LOWER LEVEL
LOC	LOCKER
LR	LEAN RAIL
MI	MIRROR
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
PAR	PARTITION
PATN	PATTERN
PL	PLASTIC LAMINATE
PLAM	PLASTIC LAMINATE
PNTD	PAINTED
P	PAINT
QZ	QUARTZ
RB	RUBBER BASE
RBT	RUBBER STAIR TREAD
REF	REFERENCE
RES	RESINOUS FLOORING
RF	RESILIENT FLOORING
RM	ROOM
RS	ROLLER SHADE
RUB	RUBBER FLOORING
SC	SEALED CONCRETE
SCHED	SCHEDULED
SH	SHOWER CURTAIN
SN	STONE
SP	SPECIALITY WALL PANEL
SPEC	SPECIFICATION
SS	SOLID SURFACE
ST / STND	STAIN
STD	STANDARD
STC	STAINED CONCRETE
STR	STAIR RISER
STS	STAIR STRETCHER
T	TILE
TBD	TO BE DETERMINED
TR	TOILET ROOM
TRM	TRIM
TYP	TYPICAL
TZ	TERRAZZO
TZB	TERRAZZO BASE
UNO	UNLESS NOTED OTHERWISE
W/	WITH
WDB	WOOD BASE
WDF	WOOD FLOORING
WC	WALL COVERING
WD	WOOD TRIM
WDC	WOOD CEILING
WOC	WALK OFF CARPET
W/O	WITHOUT
WP	WALL PROTECTION
WT	WINDOW TREATMENT

NOTE: THESE ARE STANDARD ABBREVIATIONS AND ALL ABBREVIATIONS NOTED ON THIS SHEET MAY NOT APPLY.

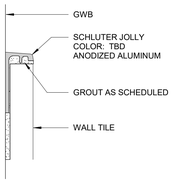
GENERAL ID NOTES

1. REFER TO FINISH LEGEND FOR MATERIAL SPECIFICATIONS.
2. REFER TO FINISH PLANS AND ELEVATIONS FOR EXTENTS OF FLOOR PATTERNS, WALL FINISHES AND CABINET MATERIALS.
3. ALL PRODUCTS / MATERIALS TO BE SOURCED FROM SAME LOTS TO ENSURE COLOR MATCH.
4. ALL PRODUCTS INSTALLED PER MANUFACTURERS REQUIREMENTS AND RECOMMENDATIONS.
5. CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL EXTENTS OF MATERIALS IN THE FIELD WITH EXISTING CONDITIONS AND ADVISE THE ARCHITECT OF ANY CONFLICT.
6. CONTRACTOR TO COORDINATE MEP REQUIREMENTS WITH ALL NEW/AND/OR REUSED EQUIPMENT/FIXTURES AND ADVISE THE ARCHITECT OF ANY CONFLICT.
7. ALL PAINT TO BE EGGSHELL FOR WALLS U.N.O., FLAT FINISH FOR CEILING U.N.O., & SEMI-GLOSS FOR TRIM U.N.O. & ALL PAINT TO BE EPOXY FOR WALLS IN WET AREAS AS SPECIFIED ON FINISH PLANS U.N.O.
8. CORNER GUARDS TO INSTALL FROM (FLOOR) (TOP OF BASE) TO UNDERSIDE OF CHAIR RAIL/LEAN RAIL ON SPLIT FINISH WALLS AND FULL HEIGHT ON WALLS WITH ONLY ONE FINISH. FIRE RATED CORNER GUARDS TO BE INSTALLED IN FIRE RATED WALLS. GC TO ADVISE OF ANY CONFLICTS.
9. FINISHES NOTES IN CORRIDORS ARE TYPICAL CONDITIONS THAT ARE TO BE USED THROUGH REMAINING CORRIDOR.
10. REFER TO DOOR SCHEDULE FOR DOOR TYPE, DOOR FINISH, JAMB AND HARDWARE FINISH SPECIFICATION.
11. CHAIR RAIL IS TO EXTEND AROUND ENTIRE PERIMETER OF A SPACE IN ORDER TO CREATE A CLEAN SEPARATION FOR SPLIT WALL FINISHES.
12. WHERE CABINET BASE MEETS HARD SURFACE FLOOR, INSTALL QUARTER ROUND TO MATCH CABINET FINISH.
13. ALL ARCHITECTURAL MILLWORK AND RESIDENTIAL CASEWORK TO HAVE DECORATIVE HARDWARE AS NOTED IN FINISH LEGEND PER CAB OR PLAM SPECIFICATIONS.
14. TOE KICK SHALL MATCH CABINET FINISH.
15. CABINET CROWN MOLDING IS TO MATCH CABINET FINISH, U.N.O.
16. ALL EXPOSED END PANELS, BACK PANELS AND INTERIOR SIDE PANELS SHALL BE FINISHED TO MATCH CABINETS.
17. ALL EXPOSED INTERIOR OF CABINETS TO MATCH CABINET FACE.
18. REFER TO REFLECTED CEILING PLANS FOR EXTENT OF CROWN MOLDING.
19. ALL MECHANICAL, ELECTRICAL PANELS, DIFFUSERS & GRILLES ARE TO BE PAINTED TO MATCH ADJACENT FINISH IN PUBLIC/ COMMON AREAS.
20. ANY EXPOSED PIPING AND GRILLES TO MATCH ADJACENT WALL FINISH.
21. FIELD VERIFY LOCATION OF ALL WIRING DEVICES WITH ARCHITECT PRIOR TO ROUGH-IN.
22. ALL OUTSIDE EDGES AND CORNERS OR MID WALL TERMINATION OF TILE TO RECEIVE A DIVIDER/TRANSITION STRIP, REFERENCE FINISH LEGEND.
23. ALL CERAMIC TILE SHALL HAVE NECESSARY ACCESSORIES TO MATCH (SATIN NICKEL FINISH) U.N.O.
24. CONTRACTOR TO DETERMINE THE APPROPRIATE HEIGHT PRODUCT FOR THE TRANSITIONING MATERIALS HEIGHT IN ORDER TO HAVE A FLUSH TRANSITION.
25. TRANSITIONS ARE TO BE USED WITH A CONCEALED RUBBER SUBFLOOR LEVELER SYSTEM SCORED AT APPROPRIATE DEPTH FOR SMOOTH, FLUSH TRANSITION FROM ONE MATERIAL TO ANOTHER.
26. HEAVY SEAM SEAL CARPET EDGE AT TRANSITION.
27. REFER TO LEGEND FOR TRANSITION FINISH SELECTION.

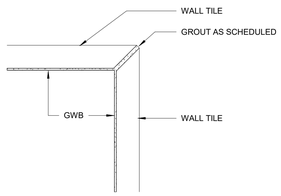
EDGE PROFILE

EASED EDGE

WALL TILE TERMINATION DETAIL



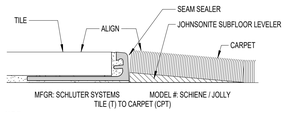
TERMINATION: STRAIGHT EDGE
DS-1



TERMINATION: MITERED CORNER
T-1 & T-2

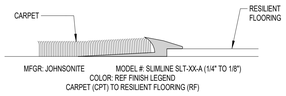
FLOOR TRANSITION SCHEDULE

DS-3



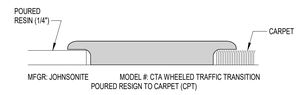
N.T.S.

DS-4 & DS-7



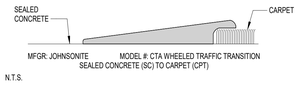
N.T.S.

DS-5



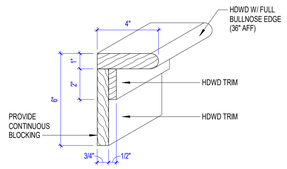
N.T.S.

DS-6

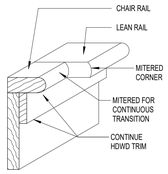


N.T.S.

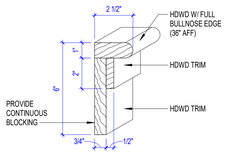
LEAN RAIL DETAILS



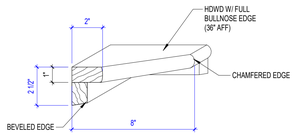
LEAN RAIL (LR-1)



CHAIR RAIL TO LEAN RAIL TRANSITION

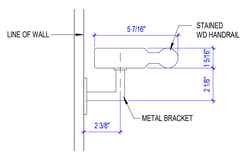


CHAIR RAIL (CR-1)



PACKAGE SHELF (PS-1)

HAND RAIL DETAILS



PROJECT NOTES

1. IF ADDITIONAL RESILIENT TILE FLOORING IS SELECTED IN CUSTOMIZATION WITHIN RESIDENT UNITS, REFER TO ARCH DRAWINGS FOR ADDITIONAL SOUND PROOFING REQUIREMENTS.

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	DAS	DRAWN	CLH, CRW
ARCHITECT	DAS	CHECKED	KED
ENGINEER	DES	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

GENERAL NOTES, FINISH KEY AND ABBREVIATIONS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING I0.0

COMMONS FINISH LEGEND

Code	Rev. Date	Manufacturer	Pattern	Color	Details	Remarks
DIVISION 06: WOODS, PLASTICS, AND COMPOSITES						
060660 Translucent Resin Panel System						
SP-1		3-Form	Varia - Pattern TBD	TBD	1/4" Gauge	Railing & Column Accents
062023 Interior Finish Carpentry						
WD-1		Custom		P-1	Refer I0.0 for details	Crown
WD-2		Realstone	Reclaimed Wood	Dark Panel	12"x24" Panel, Vertical Install	Accent Wall
WD-3		1" X 4"		P-1	Paintable hardwood	Columns
WD-4		1" x 6"		P-1	Paintable hardwood	Door Casing
WD-5		1" x 2"		P-1	Paintable hardwood	Door Casing
WD-7		3/4" x varies		ST-1	Stained Hardwood	Atrium Applied Accent
WD-8		Custom		ST-1	Stained Hardwood; Ref: A7.3 for dimensions/details	Atrium Column Wraps
WD-9		1 x 2"		ST-1	Stained Hardwood	Mail Room Trim
WD-10		1" x 1'-2"		P-1	Paintable hardwood w/ bullnose edge, 1/2" overhang	Wood topcap
WDB-1		Custom		P-1	Ref: I0.0 for dimensions/details	General Base
CR-1		Custom		P-1	Ref: I0.0 for dimensions/details	Chair Rail
LR-1		Custom		P-1	Ref: I0.0 for dimensions/details	Lean Rail
PS-1		Custom		P-1	Ref: I0.0 for dimensions/details	Package Shelf
HR-1		Tague Lumber	TL-4048	ST-1	Turn horizontal; Bracket Basis-of-Design Inline Design Magnetar Square Slim, Oil Rubbed Bronze	Handrail
064113 Wood-Veneer-Faced Architectural Cabinets (As noted on Interior Elevations as - WOOD VENEER ARCH MILLWORK)						
CAB-1		Custom to match Merillat Masterpiece	To match Portrait w/ 5 piece drawer	Translucent Driftwood	Species: Maple Hardware: Richelieu Modern Metal Pull 107 Brushed Nickel 4"	Mail Room & 3rd Floor Lounge, Restrooms
CAB-2		Custom to match Merillat Classic	To match Portrait w/ 5 piece drawer	Midnight	Species: Maple Hardware: Richelieu Modern Metal Pull 107 Brushed Nickel 4"	2nd Floor Lounge
CAB-3		Custom to match Merillat Classic	To match Portrait w/ 5 piece drawer	Cotton	Species: Maple Hardware: Richelieu Modern Metal Pull 107 Brushed Nickel 4"	4th Lounge
DIVISION 09: FINISHES						
093013 Ceramic Tiling						
T-1		Mosaic Tile	Organic Clay	45ORGTAU210G	2"x10" Glossy, 70%, random mix throughout with T-2, Miter edges at outside corners	3rd Floor Lounge Fireplace
T-2		Mosaic Tile	Organic Clay	45ORGTAU210	2"x10" Matte 30% random mix throughout with T-1, Miter edges at outside corners	3rd Floor Lounge Fireplace
T-3		Mosaic Tile	Urban Living	04URLSAN2448C	12"x24", Chiseled, Stacked, 5' H UNO	Restroom
T-4		Marazzi	Treverkchic	Americano	6"x48", Running bond install	Atrium & Restroom
T-5		Marazzi	Treverkchic	Francese	6"x48", Running bond install	Atrium Border
T-6		Garden State Tile	Hexagon Mix	Cotton Candy Mix GSPHXCCMIXSAM	1" Hex Fabric Mix	2nd Floor Backsplash
G-1		Custom Building Products		#5004 Bahama Beige	Unsanded	T-1 & T-2
G-2		Custom Building Products		#172 Urban Putty	Epoxy	T-3
G-3		Custom Building Products		#59 Saddle Brown	Epoxy	T-4, T-5
G-4		Custom Building Products		#386 Oyster Gray	Epoxy	T-6
DS-1		Schluter	Schiene / Jolly	Brushed Nickel	Use accompaning inside/outside 90 degree corner pieces and connectors to ensure there are no sharp edges. All metal edges to be sanded and sealed with no sharp edges.	Wall Tile Termination
DS-2		Schluter	Dilex	Brushed Nickel	Use accompaning inside/outside 90 degree corner pieces and connectors to ensure there are no sharp edges.	Cove base between tile floors and tile walls.
095113 Acoustical Panel Ceilings						
ACT-1		Armstrong	Ultima Tegular 1902	White	24"x24", AirGuard, 9/16" Suprafine XL Grid, White	Commons
ACT-2		Armstrong	Fine Fissured Square Lay-In 1728	White	24"x24", 15/16" Prelude XL Grid, White	BOH
096513 Resilient Base and Accessories						
RB-1		Johnsonite	Reveal MW-XX-F	TBD	4" coil	BOH
DS-3		Schluter	Scheine			CPT to T
DS-4		Johnsonite	Slim Line SLT-XX-A	TBD		VCT to CPT
DS-5		Johnsonite	Wheeled Traffic Transition CTA-XX-D			Epoxy Floor to CPT
DS-6		Johnsonite	Wheeled Traffic Transition CTA-XX-JL	TBD		CPT to SC
DS-7		Johnsonite	Slim Line SLT-XX-A	TBD		CPT to RF (Vinyl Tile)
096516 Resilient Sheet Flooring						
RF-2		Mannington	Paradigm Intersect	Basis PAR100	Heat weld with matching seams, Integral 4" cove	BOH
096519 Resilient Tile Flooring						
RF-1		Tarkett	VCT II	556 Sandstone W	12"x12"	Resident Closet
RF-3		Cobalt Surfaces	Katanga K12-802	Sand Dune	7"x48"; Glue-down;	2nd & 4th Floor Lounge
096816 Sheet Carpeting						
CPT-1		Tarkett	TBD	TBD		Border
CPT-2		Tarkett	Lido 40033	Spring Azure	12' 6" roll, 32 oz	Stairs
CPT-3		Tarkett	Buccato 40030	Spring Azure-01950	12' 6" roll, 32 oz	Inserts, Lounges
CPT-4		Tarkett	Vetro 40032	Spring Azure-01950	12' 6" roll, 32 oz	Ramps, Corridors
CPT-5		Custom Sbemco International Inc.	#176 #178	Fossil Thundercloud	Sbemco Quote #26401	Vestibules
097200 Wall Covering						
WC-1		Innovations Wallcovering	Glint GLN-009	Ore	54"W, Type II, 20 oz; Non-match repeat, microperferated	Mail Room
WC-2		MDC	Eclipse JEC6010	Goldfinger	54"W, Type II, 20 oz; Reversible half drop match, 3.5"Vertical repeat, microperferated	Restrooms
WC-3		Momentum	Stella 2VSTL-08	Cognac	54"W, Type II, 20 oz; Straight match	3rd Floor Lounge
097723 Fabric-Wrapped Panel						
FWP-1			Maharam - Lumen	TBD	1/2" Fabric Wrapped Homasote Tackboard	Mail Room
099123 Interior Painting						
P-1		Sherwin Williams	SW7551	Greek Villa	Semi-Gloss	General Trim, Columns
P-2		Sherwin Williams	SW7551	Greek Villa	1/2"	General Ceiling
P-3		Sherwin Williams	SW7638	Jogging Path	Eggshell	General Wall
P-4		Sherwin Williams	SW7638	Jogging Path	Semi-Gloss	BOH Wet Areas
P-5		Sherwin Williams	SW6370	Saucy Gold	Eggshell	1st Floor Resident Corridor Accent
P-6		Sherwin Williams	SW6342	Spicy Hue	Eggshell	2nd Floor Resident Corridor Accent
P-7		Sherwin Williams	SW7604	Smoky Blue	Eggshell	3rd Floor Resident Corridor Accent
P-8		Sherwin Williams	SW6286	Mature Grape	Eggshell	4th Floor Resident Corridor Accent
P-9		Sherwin Williams	SW7631	City Loft	Eggshell	2nd Floor Lounge
P-10		Sherwin Williams	SW7605	Gale Force	Eggshell	4th Floor Lounge
P-11		Sherwin Williams	SW7507	Stone Lion	Semi-Gloss	Stairwell Handrails
P-12		Sherwin Williams	TBD	TBD	TBD	Column Accent
P-13		Sherwin Williams	SW9183	Dark Clove	Eggshell	Paint behind WD-2
099300 Staining and Transparent Finishings						
ST-1		Custom		Match CAB-1		Lounge Built-Ins, Columns, Railing Handrail
DIVISION 12: FURNISHINGS						
122113 Horizontal Louver Blinds						
B-1		SWF Contract	Graber Lake Forest	5304 Textured Milky Way	2" Faux Wood, 2 1/2" Classic Valance	Windows
123661.19 Quartz Agglomerate Countertops						
QZ-1		Cambria		New Quay	3cm, Eased Edge	Restrooms, 3rd & 4th Floor Lounge
QZ-2		Cambria		Brittanicca Gold Warm	3cm, Eased Edge	Mail Room & 2nd Floor Lounge
QZ-3		Cambria		TBD	2cm	Fireplace Surround
DIVISION 14: CONVEYING EQUIPMENT						
142400 Machine Room-Less Hydraulic Elevators						
EVS-1		Formica	8826	Neutral Twill		Elevator Wall Panels

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER
A-202034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT	DAS	CHECKED	KED
ENGINEER	DES	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

FINISH LEGEND

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING I0.1

FINISH LEGEND - PACAKGE A (SAND PALETTE)

Code	Rev. Date	Manufacturer	Pattern	Color	Details	Remarks
DIVISION 06: WOODS, PLASTICS, AND COMPOSITES						
062023 Interior Finish Carpentry						
S-WDB-1		SSI Wood Products	SSI-1354	P-1	3/4" x 4 1/4"	Unit Base
S-CAS-1		1" x 3"		P-1	Hardwood, paint grade	Unit Door Casing
S-WD-1		Tague Lumber	TL-1167	P-1	1" x 5 1/2"; Hardwood, paint grade	Unit Window Sill
S-WD-2		Custom		P-1	1/2" x 3 1/2"; Hardwood, paint grade	Unit Window Apron
DIVISION 09: FINISHES						
093013 Ceramic Tiling						
S-T-1A		Daltile	Classic Color Wheel	Arctic White	3" x 6", Gloss, Brick Install	Backsplash
S-T-2A		Daltile	Classic Color Wheel	Biscuit	3" x 6", Gloss, Brick Install	Backsplash
S-T-3A		Emser Tile	Influence Hex	Gray	1" Hexagon	Backsplash
S-T-4A		Emser Tile	Influence Hex	White	1" Hexagon	Backsplash
S-G-1A		Mapei		5221 Moonbeam	Unsanded	ST-T-1A, ST-T-4A
S-G-2A		Mapei		5014 Biscuit	Unsanded	ST-T-2A
S-G-3A		Mapei		5093 Warm Gray	Unsanded	ST-T-3A
DS-1		Schluter	Schiene / Jolly	Brushed Nickel	Use accompaning inside/outside 90 degree corner pieces and connectors to ensure there are no sharp edges. All metal edges to be sanded and sealed with no sharp edges.	Wall Tile Termination
096516 Resilient Sheet Flooring						
S-RF-2A		Patcraft	Sense I624V	Ease 001000	78.72", Heat weld with matching seams	Bathroom
096519 Resilient Tile Flooring						
S-RF-1A		Mohawk	Vivid Step Wood CR705	Vintage Oak W723	6" x 48", 2mm, 1/3 Brick Install	Kitchen
096816 Sheet Carpeting						
S-CPT-1A		Tarkett	Influence	Enchant 859	12' , cushion per owner's standard	Living Room & Bedroom
099123 Interior Painting						
S-P-1A		Sherwin Williams	SW7551	Greek Villa	Semi-Gloss	General Trim
S-P-2A		Sherwin Williams	SW7551	Greek Villa	Flat	General Ceiling
S-P-3A		Sherwin Williams	SW7036	Accessible Beige	Eggshell	General Wall
S-P-4A		Sherwin Williams	SW7036	Accessible Beige	Semi-Gloss	Bathroom
DIVISION 12: FURNISHINGS						
122113 Horizontal Louver Blinds						
S-B-1A		SWF Contract	Graber Lake Forest	5304 Textured Milky Way	2" Faux Wood, 2 1/2" Classic Valance	All unit windows
123530 Residential Casework (As noted on Interior Elevations as - RESIDENTIAL CASEWORK)						
S-CAS-1A		Merillat	Portrait	Cotton	Maple, Franklin Brass Lombard 3" Hardware, Brushed Nickel	Kitchen & Bath
S-CAS-2A		Merillat	Portrait	Pecan	Maple, Franklin Brass Lombard 3" Hardware, Brushed Nickel	Kitchen & Bath
123661.13 Cultured Marble Countertops						
S-CM-1A		Virginia Marble		White Vein on White	3cm, Eased Edge, Polished	Bathroom
123661.19 Quartz Agglomerate Countertops						
S-QZ-1A		Consentino	Silestone	Etheral Glow	3cm, Eased Edge, Polished	Kitchen & Bath
S-QZ-2A		Consentino	Silestone	Lusso	3cm, Eased Edge, Polished	Kitchen & Bath

FINISH LEGEND - PACAKGE B (RAIN PALETTE)

Code	Rev. Date	Manufacturer	Pattern	Color	Details	Remarks
DIVISION 06: WOODS, PLASTICS, AND COMPOSITES						
062023 Interior Finish Carpentry						
S-WDB-1		SSI Wood Products	SSI-1354	P-1	3/4" x 4 1/4"	Unit Base
S-CAS-1		1" x 3"		P-1	Hardwood, paint grade	Unit Door Casing
S-WD-1		Tague Lumber	TL-1167	P-1	1" x 5 1/2"; Hardwood, paint grade	Unit Window Sill
S-WD-2		Custom		P-1	1/2" x 3 1/2"; Hardwood, paint grade	Unit Window Apron
DIVISION 09: FINISHES						
093013 Ceramic Tiling						
S-T-1A		Daltile	Classic Color Wheel	Arctic White	3" x 6", Gloss, Brick Install	Backsplash
S-T-2A		Daltile	Classic Color Wheel	Desert Gray	3" x 6", Gloss, Brick Install	Backsplash
S-T-3A		Emser Tile	Influence Hex	Gray	1" Hexagon	Backsplash
S-T-4A		Emser Tile	Influence Hex	White	1" Hexagon	Backsplash
S-G-1A		Mapei		5221 Moonbeam	Unsanded	ST-T-1A, ST-T-4A
S-G-2A		Mapei		5027 Silver	Unsanded	ST-T-2A
S-G-3A		Mapei		5093 Warm Gray	Unsanded	ST-T-3A
DS-1		Schluter	Schiene / Jolly	Brushed Nickel	Use accompaning inside/outside 90 degree corner pieces and connectors to ensure there are no sharp edges. All metal edges to be sanded and sealed with no sharp edges.	Wall Tile Termination
096516 Resilient Sheet Flooring						
S-RF-2A		Patcraft	Sense I624V	Engage 00550	78.72", Heat weld with matching seams	Bathroom
096519 Resilient Tile Flooring						
S-RF-1A		Mohawk	Vivid Step Wood CR705	Grounded Hatch W132	6" x 48", 2mm, 1/3 Brick Install	Kitchen
096816 Sheet Carpeting						
S-CPT-1A		Tarkett	Influence	Enchant 859	12' , cushion per owner's standard	Living Room & Bedroom
099123 Interior Painting						
S-P-1A		Sherwin Williams	SW7551	Greek Villa	Semi-Gloss	General Trim
S-P-2A		Sherwin Williams	SW7551	Greek Villa	Flat	General Ceiling
S-P-3A		Sherwin Williams	SW7029	Agreeable Gray	Eggshell	General Wall
S-P-4A		Sherwin Williams	SW7029	Agreeable Gray	Semi-Gloss	Bathroom
DIVISION 12: FURNISHINGS						
122113 Horizontal Louver Blinds						
S-B-1A		SWF Contract	Graber Lake Forest	5304 Textured Milky Way	2" Faux Wood, 2 1/2" Classic Valance	All unit windows
123530 Residential Casework (As noted on Interior Elevations as - RESIDENTIAL CASEWORK)						
S-CAS-1A		Merillat	Portrait	Cotton	Maple, Franklin Brass Lombard 3" Hardware, Brushed Nickel	Kitchen & Bath
S-CAS-2A		Merillat	Portrait	Basalt	Maple, Franklin Brass Lombard 3" Hardware, Brushed Nickel	Kitchen & Bath
123661.13 Cultured Marble Countertops						
S-CM-1A		Virginia Marble		White Vein on White	3cm, Eased Edge, Polished	Bathroom
123661.19 Quartz Agglomerate Countertops						
S-QZ-1A		Consentino	Silestone	Pietra	3cm, Eased Edge, Polished	Kitchen & Bath
S-QZ-2A		Consentino	Silestone	Helix	3cm, Eased Edge, Polished	Kitchen & Bath

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	: DAS	DRAWN	: CLH, CRW
ARCHITECT	: DAS	CHECKED	: KED
ENGINEER	: DES	APPROVED	: APP

NO.	REVISION DESCRIPTION	DATE

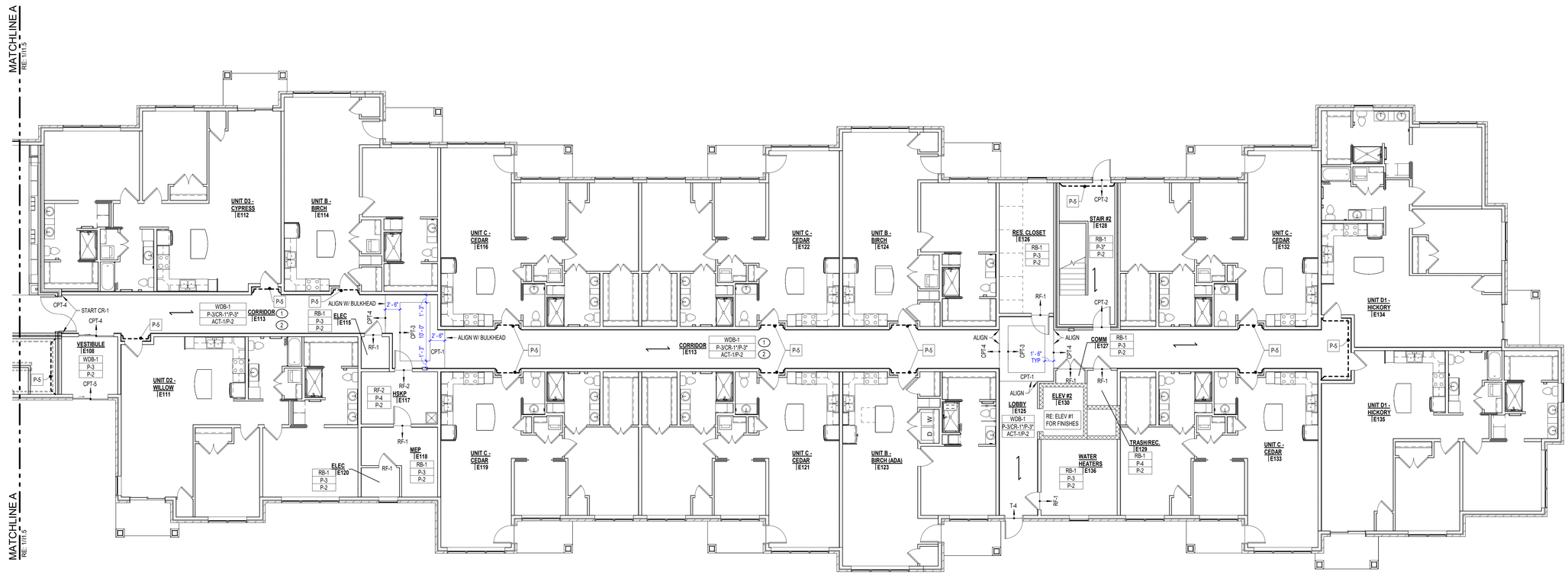
DRAWING TITLE

FINISH LEGEND CONTINUED

DATE: January 5, 2024

COMM. NO. 23104.00

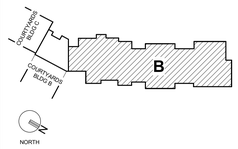
DRAWING I0.2



1 FIRST FLOOR PLAN - IL UNITS
1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. REFER TO I0.0 FOR GENERAL NOTES, FINISH KEY, AND ABBREVIATIONS.
2. REFER TO I0.1 FOR COMMONS FINISH LEGEND.
3. REFER TO I0.2 FOR UNIT FINISH LEGEND.

PLAN NOTES

1. LEAN RAIL TO BE INSTALLED ON PLAN NORTH WALL OF CORRIDOR.
2. VERTICAL PORTION OF BULKHEAD TO MATCH ROOM WALL COLOR.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT	DAS	CHECKED	KED
ENGINEER	ENG	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

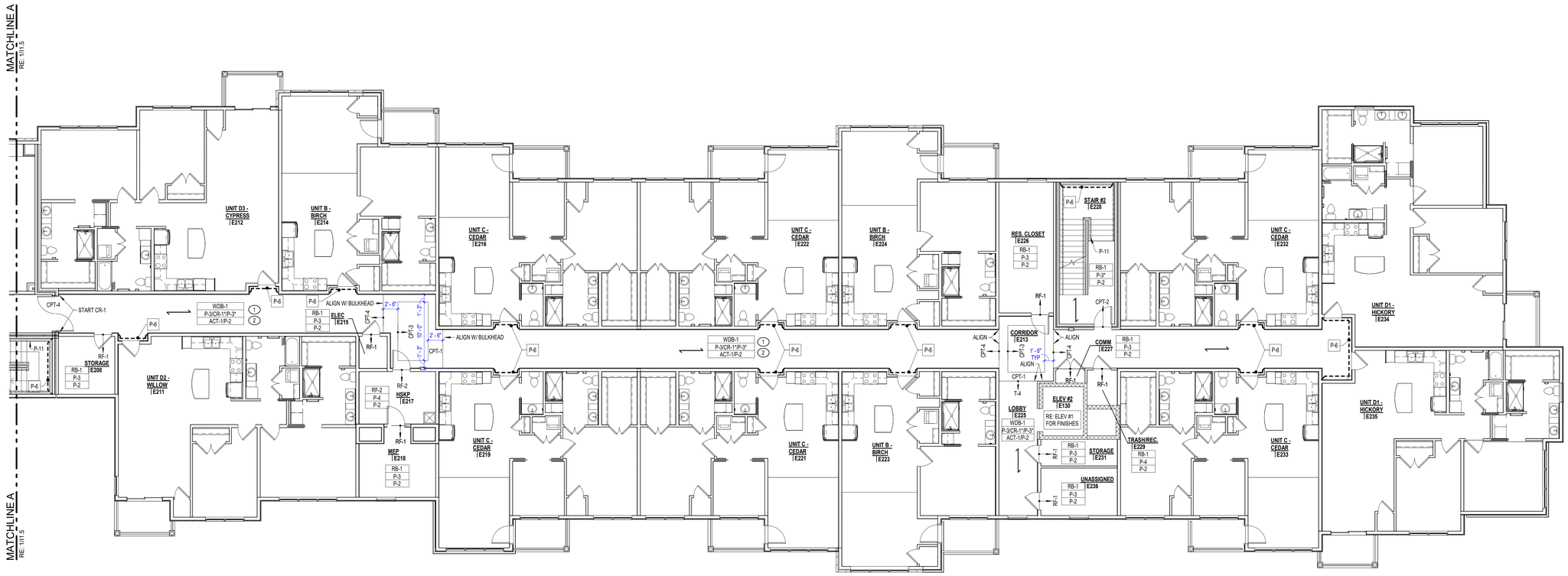
DRAWING TITLE

FIRST FLOOR FINISH PLAN - IL UNITS

DATE: January 5, 2024

DRAWING I1.1

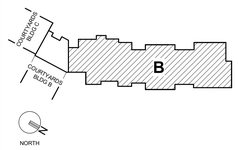
COMM. NO. 23104.00



1 SECOND FLOOR PLAN - IL UNITS
1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. REFER TO I0.0 FOR GENERAL NOTES, FINISH KEY, AND ABBREVIATIONS.
2. REFER TO I0.1 FOR COMMONS FINISH LEGEND.
3. REFER TO I0.2 FOR UNIT FINISH LEGEND.

PLAN NOTES

1. LEAN RAIL TO BE INSTALLED ON PLAN NORTH WALL OF CORRIDOR.
2. VERTICAL PORTION OF BULKHEAD TO MATCH ROOM WALL COLOR.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

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ARCHITECT	DAS	CHECKED	KED
ENGINEER	DES	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

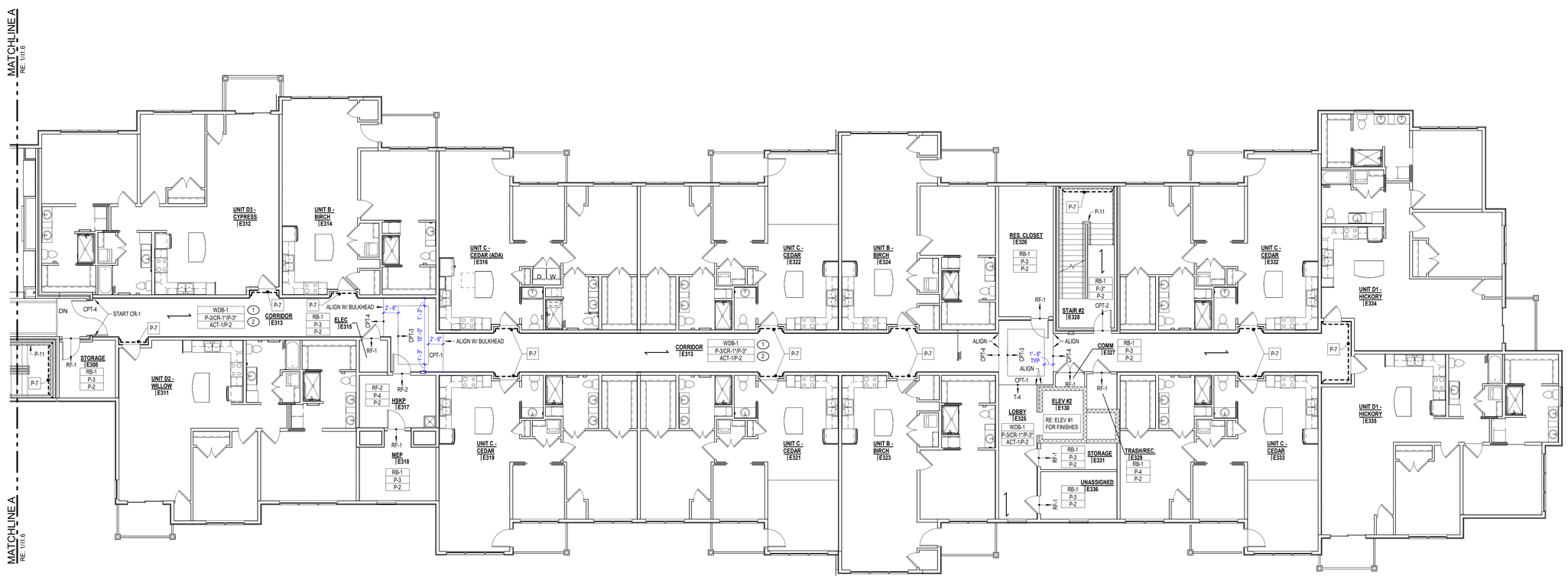
DRAWING TITLE

SECOND FLOOR FINISH PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

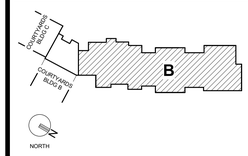
DRAWING I1.2



1 THIRD FLOOR PLAN - IL UNITS

1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. REFER TO I0.0 FOR GENERAL NOTES, FINISH KEY, AND ABBREVIATIONS.
2. REFER TO I0.1 FOR COMMONS FINISH LEGEND.
3. REFER TO I0.2 FOR UNIT FINISH LEGEND.

PLAN NOTES

1. LEAN RAIL TO BE INSTALLED ON PLAN NORTH WALL OF CORRIDOR.
2. VERTICAL PORTION OF BULKHEAD TO MATCH ROOM WALL COLOR.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT	DAS	CHECKED	KED
ENGINEER	DES	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

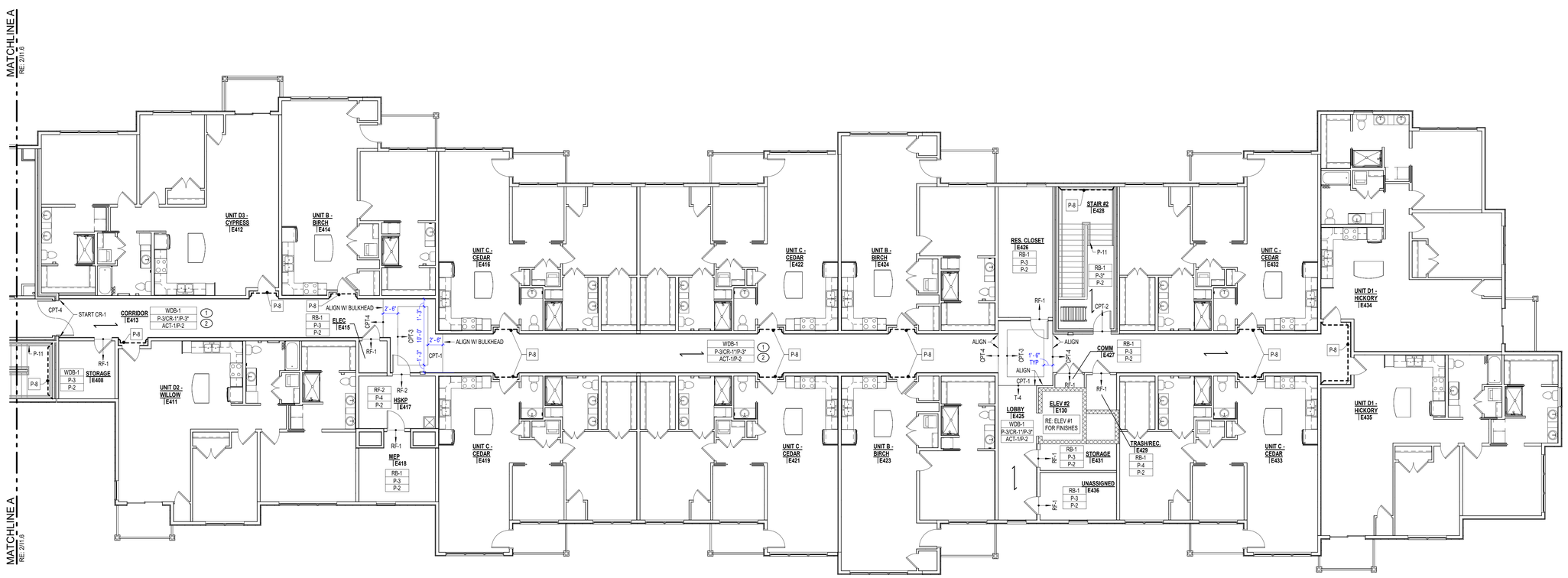
DRAWING TITLE

THIRD FLOOR FINISH PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING I1.3

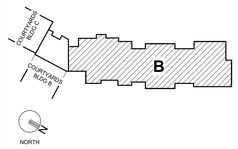


FOURTH FLOOR FINISH PLAN - IL UNITS

1 1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. REFER TO I0.0 FOR GENERAL NOTES, FINISH KEY, AND ABBREVIATIONS.
2. REFER TO I0.1 FOR COMMONS FINISH LEGEND.
3. REFER TO I0.2 FOR UNIT FINISH LEGEND.

PLAN NOTES

1. LEAN RAIL TO BE INSTALLED ON PLAN NORTH WALL OF CORRIDOR.
2. VERTICAL PORTION OF BULKHEAD TO MATCH ROOM WALL COLOR.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

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ARCHITECT	: DAS	CHECKED	: KED
ENGINEER	: DES	APPROVED	: CRJ

NO.	REVISION DESCRIPTION	DATE

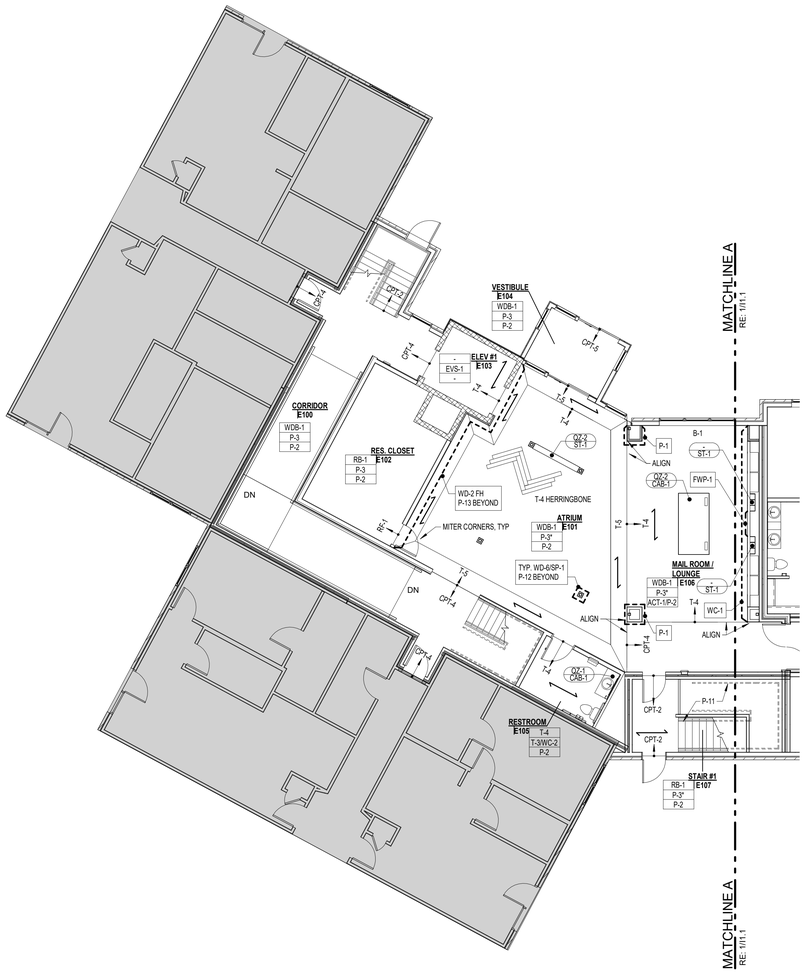
DRAWING TITLE

FOURTH FLOOR FINISH PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING I1.4



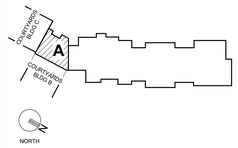
1 FIRST FLOOR FINISH PLAN - ATRIUM

1/8" = 1'-0"

2 SECOND FLOOR FINISH PLAN - ATRIUM

1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. REFER TO I0.0 FOR GENERAL NOTES, FINISH KEY, AND ABBREVIATIONS.
2. REFER TO I0.1 FOR COMMONS FINISH LEGEND.
3. REFER TO I0.2 FOR UNIT FINISH LEGEND.

PLAN NOTES

1. LEAN RAIL TO BE INSTALLED ON PLAN NORTH WALL OF CORRIDOR.
2. VERTICAL PORTION OF BULKHEAD TO MATCH ROOM WALL COLOR.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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Engineering
Planning
Interiors
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DESIGNER	DAS	DRAWN	CLH, CRW
ARCHITECT	DAS	CHECKED	KED
ENGINEER	Designer	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

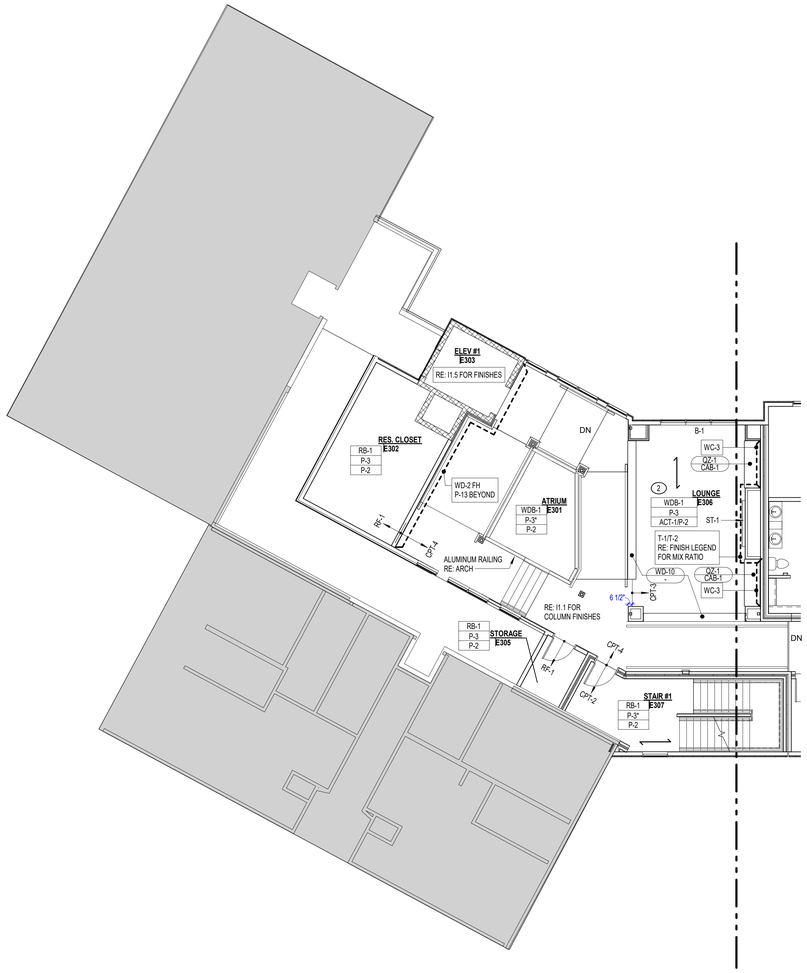
FIRST AND SECOND FLOOR FINISH PLANS - ATRIUM

DATE: January 5, 2024

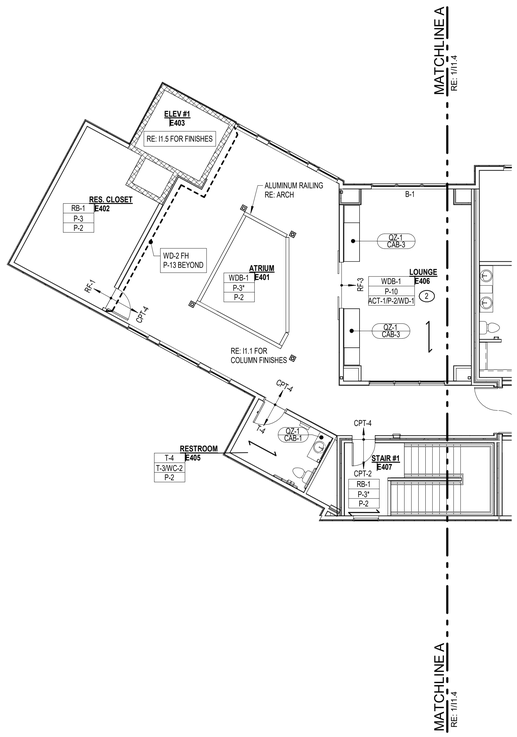
DRAWING I1.5

COMM. NO. 23104.00

NORTH



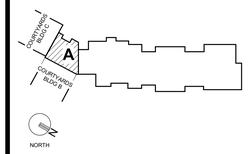
1 THIRD FLOOR FINISH PLAN - ATRIUM
1/8" = 1'-0"



2 FOURTH FLOOR FINISH PLAN - ATRIUM
1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. REFER TO I0.0 FOR GENERAL NOTES, FINISH KEY, AND ABBREVIATIONS.
2. REFER TO I0.1 FOR COMMONS FINISH LEGEND.
3. REFER TO I0.2 FOR UNIT FINISH LEGEND.

PLAN NOTES

1. LEAN RAIL TO BE INSTALLED ON PLAN NORTH WALL OF CORRIDOR.
2. VERTICAL PORTION OF BULKHEAD TO MATCH ROOM WALL COLOR.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER: A-2002034585
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	: DAS	DRAWN	: CLH, CRW
ARCHITECT	: DAS	CHECKED	: KED
ENGINEER	: Designer	APPROVED	: CRJ

NO.	REVISION DESCRIPTION	DATE

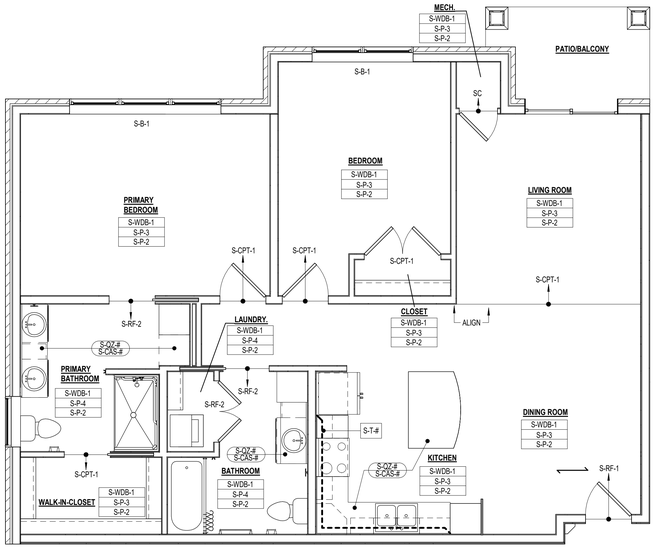
DRAWING TITLE

THIRD & FOURTH FLOOR FINISH PLANS - ATRIUM

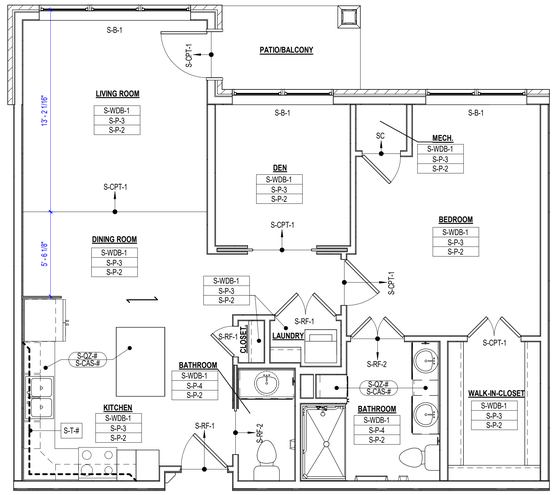
DATE: January 5, 2024

COMM. NO. 23104.00

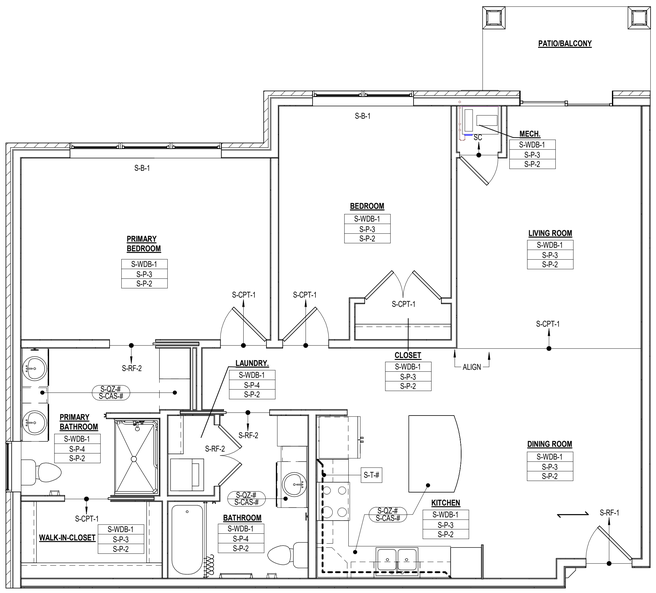
DRAWING I1.6



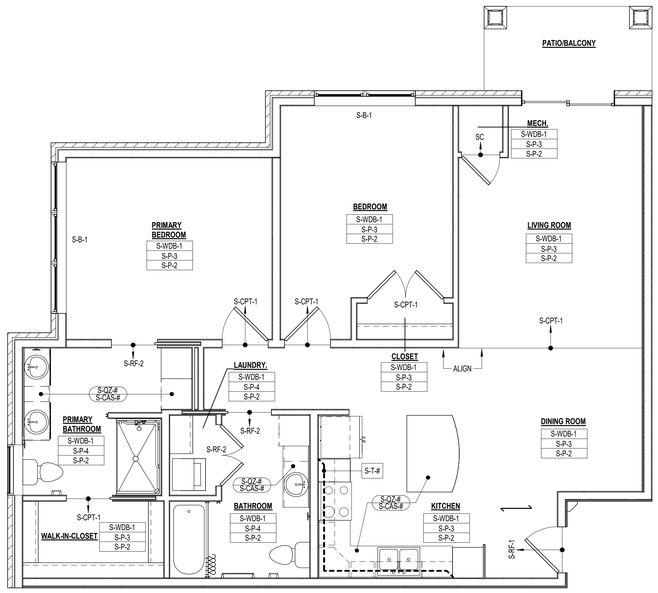
4 UNIT D2 - WILLOW
1/4" = 1'-0"



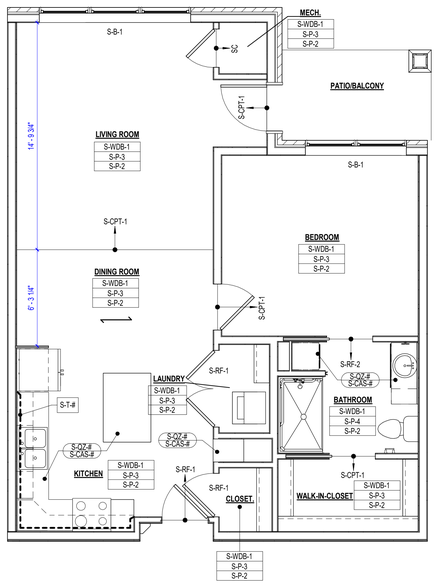
2 UNIT C - CEDA
1/4" = 1'-0"



5 UNIT D3 - CYPRESS
1/4" = 1'-0"



3 UNIT D1 - HICKORY
1/4" = 1'-0"



1 UNIT B - BIRCH
1/4" = 1'-0"

GENERAL NOTES

1. REFER TO I0.0 FOR GENERAL NOTES, FINISH KEY, AND ABBREVIATIONS.
2. REFER TO I0.1 FOR COMMONS FINISH LEGEND.
3. REFER TO I0.2 FOR UNIT FINISH LEGEND.
4. APARTMENT FINISHES ARE SHOWN AS STANDARD PACKAGE FOR PRICING. FINAL FINISH PACKAGE TO BE DETERMINED BY RESIDENT PER EACH UNIT.

PLAN NOTES

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2002034555
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER	DAS	DRAWN	CLH, CRW
ARCHITECT	DAS	CHECKED	KED
ENGINEER	DES	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

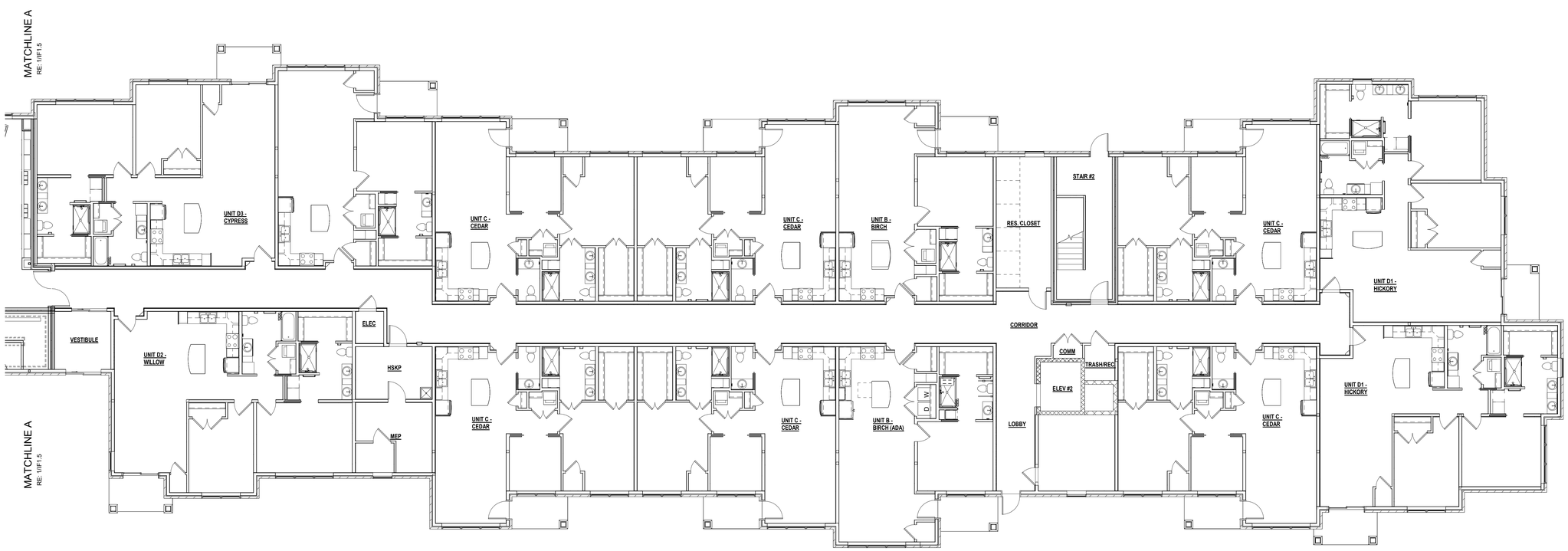
DRAWING TITLE

ENLARGED FINISH PLANS - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING I2.1

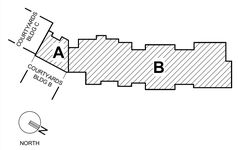


1 FIRST FLOOR FURNITURE PLAN - IL UNITS

1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. FURNITURE N.I.C.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2023034555
ARCHITECT
01-05-2024

PROJECT TITLE

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ENGINEER	Designer	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

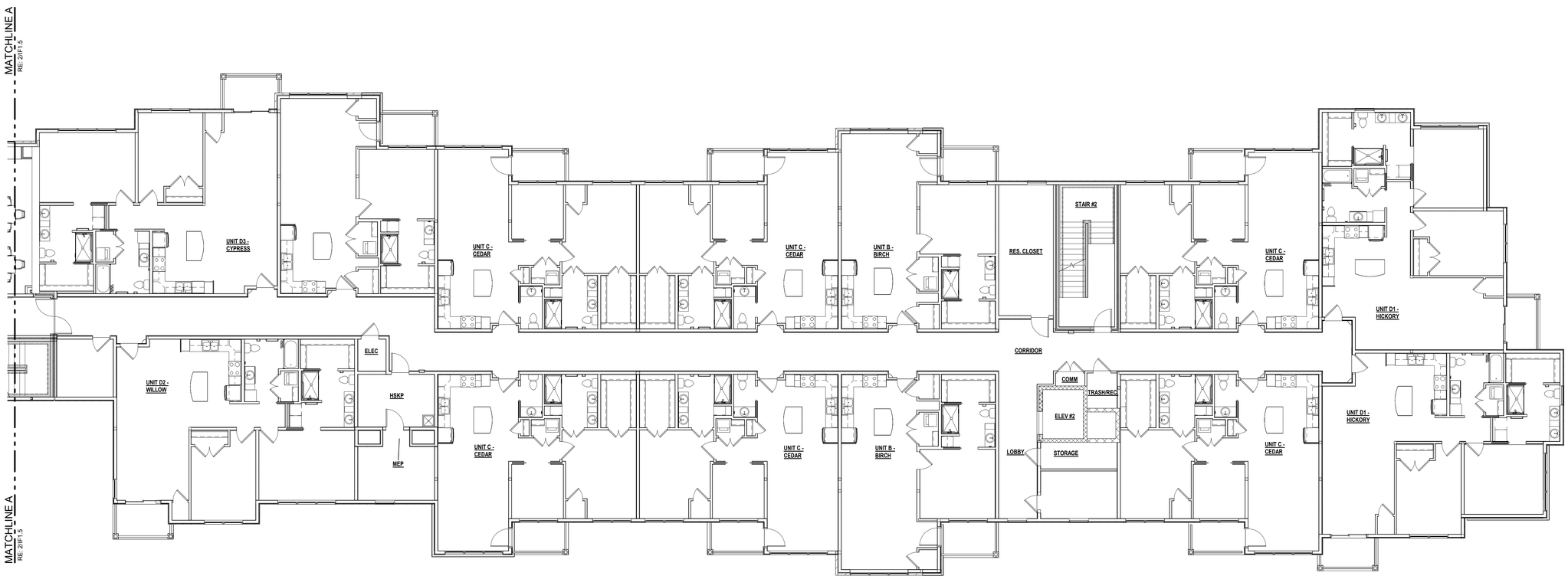
DRAWING TITLE

FIRST FLOOR FURNITURE PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING IF1.1

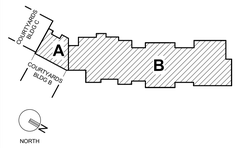


1 SECOND FLOOR FURNITURE PLAN - IL UNITS

1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. FURNITURE N.I.C.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-202304455
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

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DESIGNER	DAS	DRAWN	CLH, CRW
ARCHITECT	DAS	CHECKED	KED
ENGINEER	Designer	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

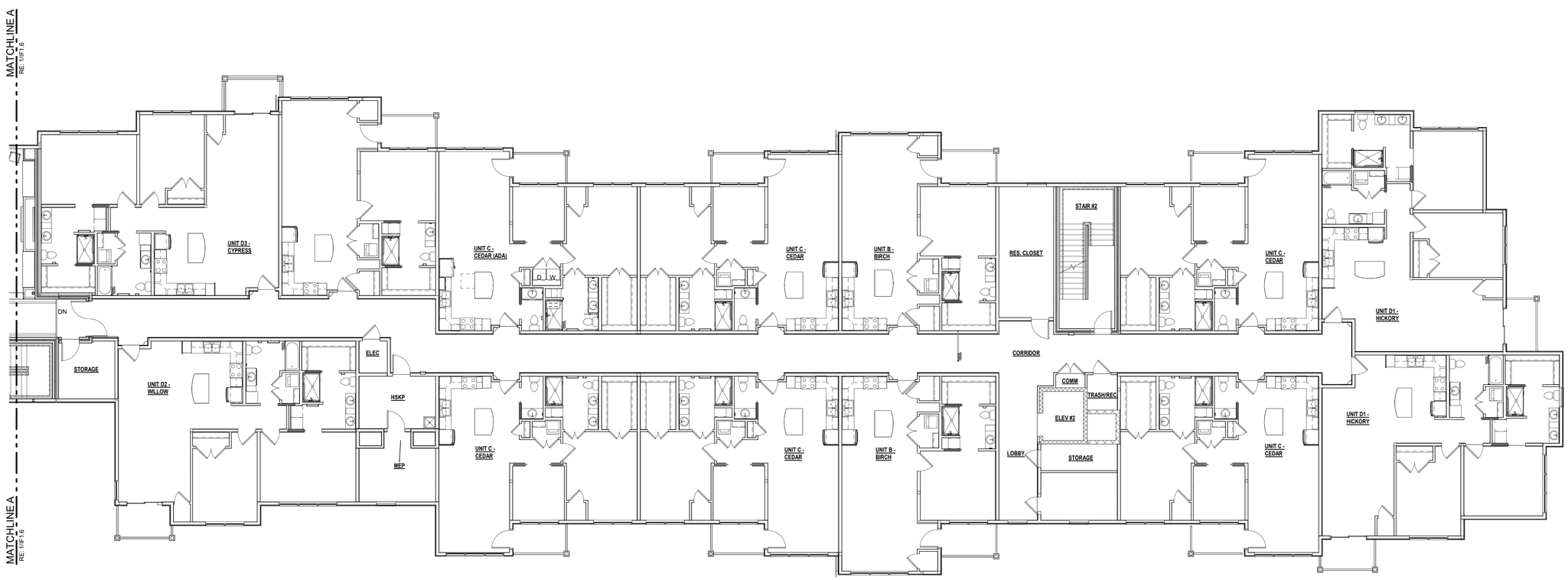
DRAWING TITLE

SECOND FLOOR FURNITURE PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING IF1.2

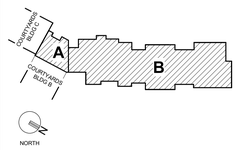


1 THIRD FLOOR FURNITURE PLAN - IL UNITS

1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. FURNITURE N.I.C.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
NUMBER A-2020034855
ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

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DESIGNER	: DAS	DRAWN	: CLH, CRW
ARCHITECT	: DAS	CHECKED	: KED
ENGINEER	: Designer	APPROVED	: CRJ

NO.	REVISION DESCRIPTION	DATE

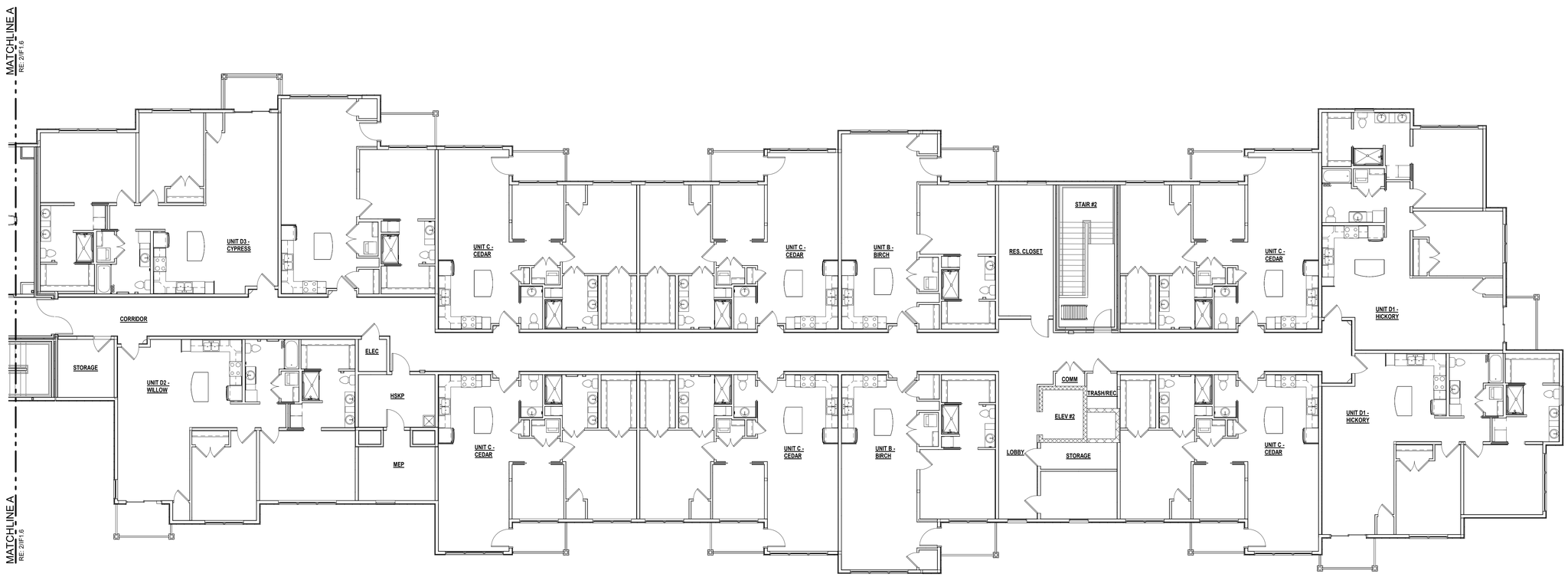
DRAWING TITLE

THIRD FLOOR FURNITURE PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING IF1.3

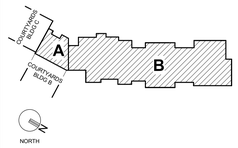


1 FOURTH FLOOR FURNITURE PLAN - IL UNITS

1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. FURNITURE N.I.C.

PERMIT SET

STATE OF MISSOURI
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PROJECT TITLE

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ENGINEER	Designer	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

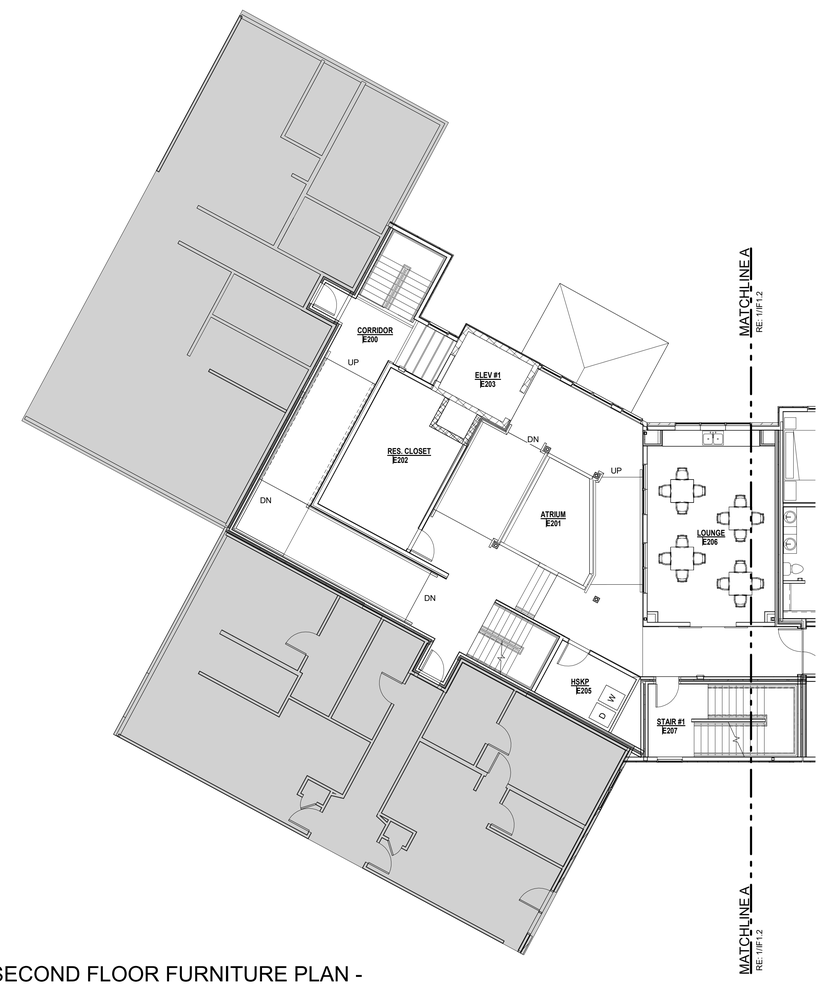
FOURTH FLOOR FURNITURE PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING IF1.4

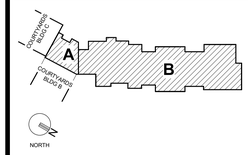
1 FIRST FLOOR FURNITURE PLAN - ATRIUM
1/8" = 1'-0"



2 SECOND FLOOR FURNITURE PLAN - ATRIUM
1/8" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. FURNITURE N.I.C.

PERMIT SET

STATE OF MISSOURI
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NUMBER
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ARCHITECT
01-05-2024

PROJECT TITLE

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DESIGNER	: DAS	DRAWN	: CLH, CRW
ARCHITECT	: DAS	CHECKED	: KED
ENGINEER	: Designer	APPROVED	: CRJ

NO.	REVISION DESCRIPTION	DATE

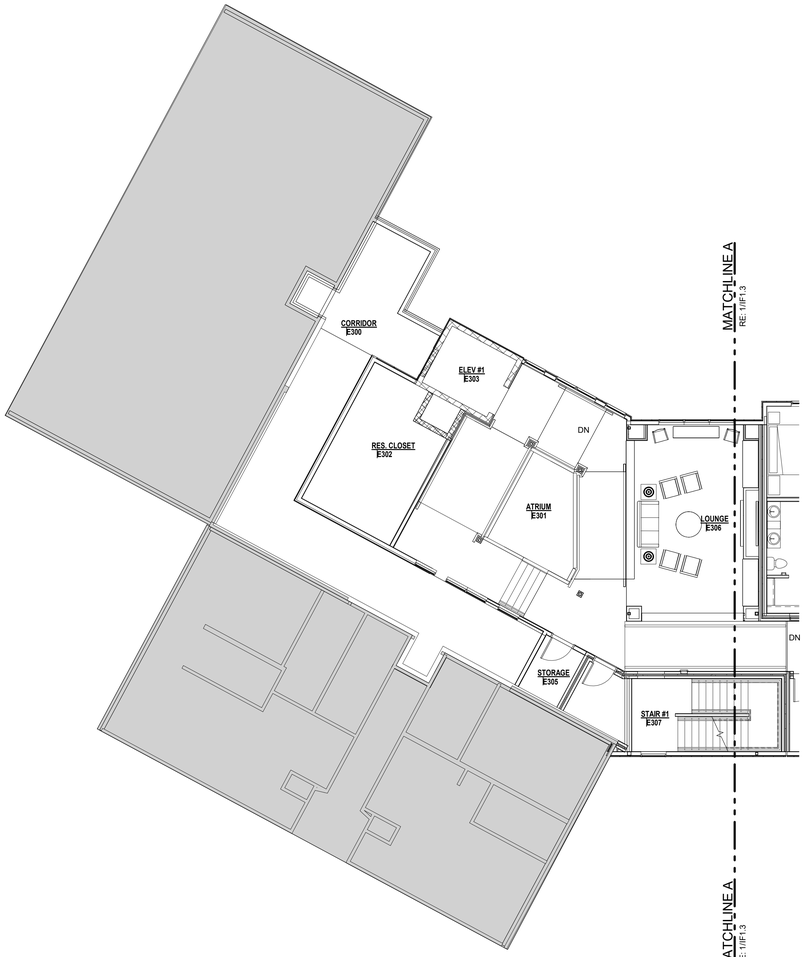
DRAWING TITLE

FIRST AND SECOND FLOOR FURNITURE PLANS - ATRIUM

DATE: January 5, 2024

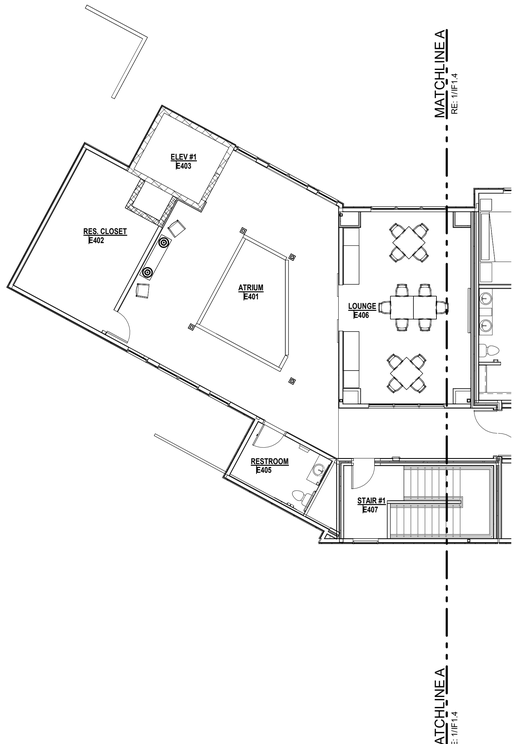
COMM. NO. 23104.00

DRAWING IF1.5



1 THIRD FLOOR FURNITURE PLAN - ATRIUM

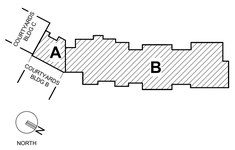
1/8" = 1'-0"



2 ATRIUM - FOURTH FLOOR FURNITURE PLAN

1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. FURNITURE N.I.C.

PERMIT SET

STATE OF MISSOURI
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ARCHITECT	: DAS	CHECKED	: KED
ENGINEER	: Designer	APPROVED	: CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

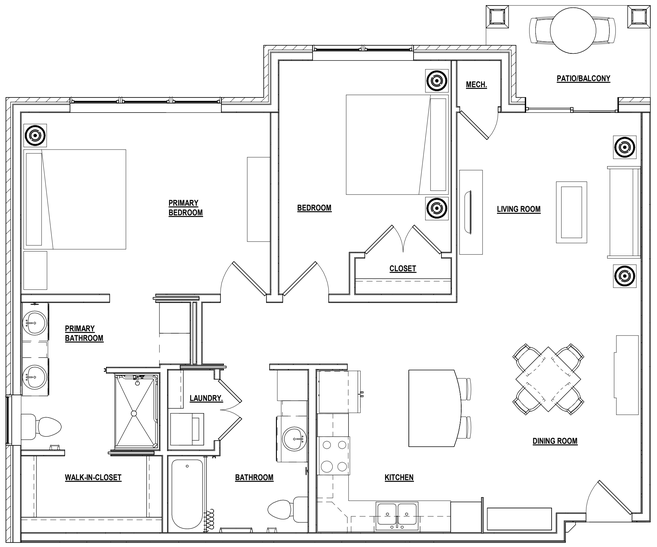
THIRD AND FOURTH FLOOR FURNITURE PLANS - ATRIUM

DATE: January 5, 2024

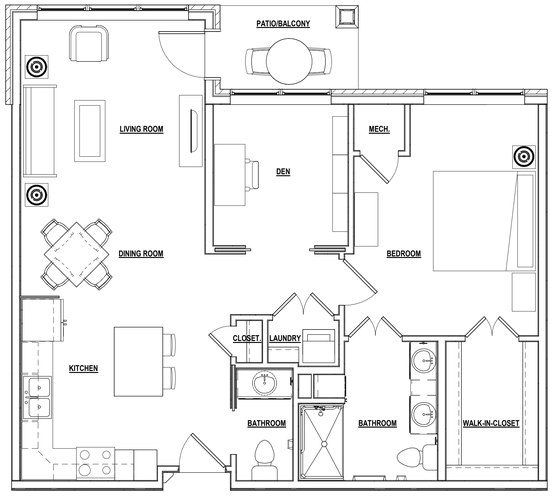
COMM. NO. 23104.00

DRAWING IF1.6

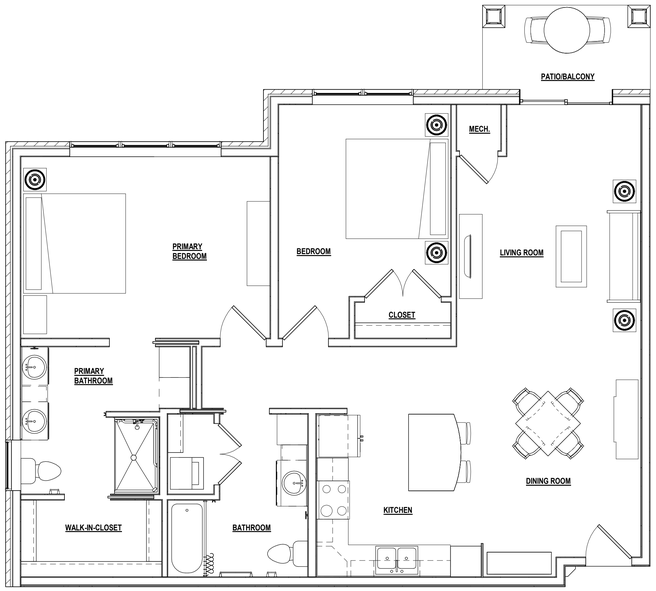
NORTH



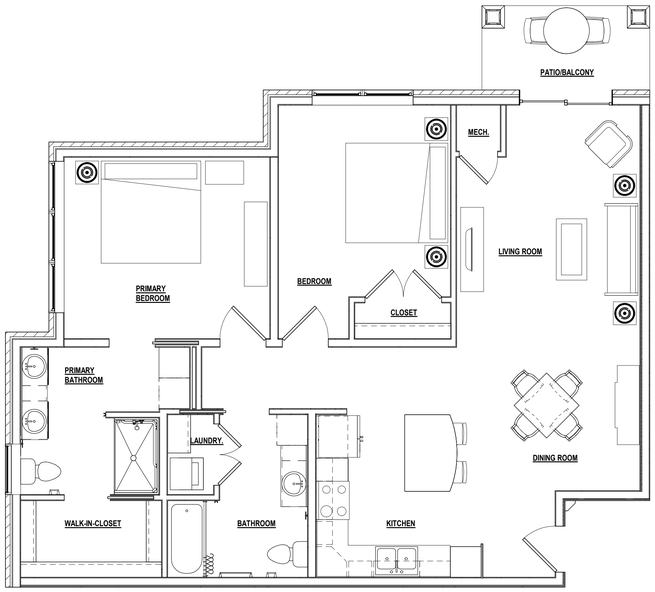
4 UNIT D2 - WILLOW
1/4" = 1'-0"



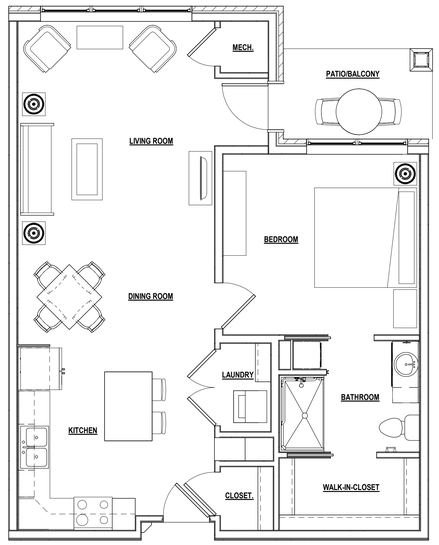
2 UNIT C - CEDA
1/4" = 1'-0"



5 UNIT D3 - CYPRESS
1/4" = 1'-0"



3 UNIT D1 - HICKORY
1/4" = 1'-0"



1 UNIT B - BIRCH
1/4" = 1'-0"

GENERAL NOTES

1. FURNITURE N.I.C.

PERMIT SET

STATE OF MISSOURI
CURTIS R. JENNINGS III
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ARCHITECT
01-05-2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	CLH, CRW
ARCHITECT	DAS	CHECKED	KED
ENGINEER	Designer	APPROVED	CRJ

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

ENLARGED FURNITURE PLANS - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING IF2.1

GENERAL STRUCTURAL NOTES

BASIS OF DESIGN

DESIGN IS IN ACCORDANCE WITH THE 2018 INTERNATIONAL BUILDING CODE (ASCE 7-16).

DESIGN OF CONCRETE STRUCTURES IS BASED ON THE REQUIREMENTS OF ACI 318 "BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE," EDITION AS REFERENCED IN GOVERNING BUILDING CODE.

DESIGN OF STRUCTURAL STEEL IS BASED ON THE REQUIREMENTS OF AISC 360 "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS," EDITION AS REFERENCED IN GOVERNING BUILDING CODE AND AISC MANUAL OF STEEL CONSTRUCTION, 14TH EDITION.

DESIGN OF MASONRY STRUCTURES IS BASED ON THE REQUIREMENTS OF TMS 402 "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" AND TMS 602 "SPECIFICATIONS FOR MASONRY STRUCTURES," EDITIONS AS REFERENCED IN GOVERNING BUILDING CODE.

DESIGN OF WOOD STRUCTURES IS BASED ON THE REQUIREMENTS OF ANSI/AF&PA NDS "NATIONAL DESIGN SPECIFICATION FOR WOOD CONSTRUCTION" AND AWC SDPWS "SPECIAL DESIGN PROVISIONS FOR WIND AND SEISMIC," EDITION AS REFERENCED IN GOVERNING BUILDING CODE.

DESIGN LOADS:

FLOOR LIVE LOAD

CORRIDORS	100 PSF
RESIDENTIAL	55 PSF (INCLUDES 15 PSF PARTITION LOAD)
BALCONY	60 PSF
STORAGE AREAS	125 PSF

UNIFORM LIVE LOADS HAVE BEEN REDUCED.

ROOF LIVE LOAD: FLAT: 30 PSF.

ROOF SNOW LOAD
GROUND SNOW LOAD (Pg): 20 PSF
FLAT-ROOF SNOW LOAD (Pf): 14 PSF+5 PSF RAIN ON SNOW SURCHARGE
SNOW EXPOSURE FACTOR (Ce): 1.0
THERMAL FACTOR (Ct): 1.0
SNOW LOAD IMPORTANCE FACTOR (I): 1.0

WIND DESIGN DATA
ULTIMATE WIND SPEED, Vult: 109 MPH (3-SECOND GUST)
NOMINAL WIND SPEED, Vasd: 85 MPH (3-SECOND GUST)
RISK CATEGORY: II
EXPOSURE CATEGORY: B
INTERNAL PRESSURE COEFFICIENT (GCpi): +/- 0.18
COMPONENTS AND CLADDING DESIGN PRESSURES (ULTIMATE, FOR REFERENCE ONLY. SPECIFIC DESIGN PRESSURES FOR EACH COMPONENT SHALL BE CALCULATED BY THE LICENSED PROFESSIONAL ENGINEER RESPONSIBLE FOR THE COMPONENT'S DESIGN):
ROOF PRESSURES:

	EFFECTIVE WIND AREA (SF)		
ZONE	10	50	100
1	+16/-36	+16/-32	+16/-30
1'	+16/-22	+16/-22	+16/-22
2	+16/-50	+16/-43	+16/-40
3	+16/-68	+16/-53	+16/-47

WALL PRESSURES:

	EFFECTIVE WIND AREA (SF)		
ZONE	10	50	100
4	+22/-24	+20/-22	+19/-21
5	+22/-29	+20/-25	+19/-23

SEE ASCE 7 FOR ZONE LOCATIONS. EDGE DISTANCE "0.2h" = 8.6 FT.

EARTHQUAKE DESIGN DATA
SEISMIC IMPORTANCE FACTOR (I): 1.0
RISK CATEGORY: II
MAPPED SPECTRAL RESPONSE ACCELERATIONS: Ss: 9.9%g S1: 6.8%g
SITE CLASS: C
DESIGN SPECTRAL RESPONSE ACCELERATIONS: SDS: 8.6%g SDI: 6.8%g
SEISMIC DESIGN CATEGORY: B
BASIC SEISMIC-FORCE-RESISTING SYSTEM: LIGHT FRAMED WALLS SHEATHED WITH WOOD STRUCTURAL PANELS
DESIGN BASE SHEAR: 44 KIPS
SEISMIC RESPONSE COEFFICIENT, Cs: 0.0132
RESPONSE MODIFICATION COEFFICIENT, R: 6.5
ANALYSIS PROCEDURE – EQUIVALENT LATERAL FORCE PROCEDURE

RAIN DESIGN DATA
i=RAIN INTENSITY= 3.67 IN/HOUR
R= RAIN DESIGN LOAD=19 PSF

MECHANICAL EQUIPMENT LOADS SHOWN ARE DESIGN MINIMUMS. NO PROVISIONS HAVE BEEN MADE FOR MECHANICAL EQUIPMENT LOADS EXCEPT AS SHOWN. CONTRACTOR SHALL ESTABLISH AND COORDINATE ACTUAL LOADS OF ALL SELECTED EQUIPMENT. SUBMIT ALL SELECTED EQUIPMENT AND ALL ADDITIONAL EQUIPMENT REQUIREMENTS FOR APPROVAL. COORDINATE ALL EQUIPMENT LOADS WITH MATERIAL FABRICATORS.

DESIGN INCLUDES NO PROVISION FOR FUTURE VERTICAL EXPANSION OF THE STRUCTURE. FUTURE HORIZONTAL CONSTRUCTION SHALL BE STRUCTURALLY INDEPENDENT AND SEPARATED BY A BUILDING JOINT.

SPECIAL INSPECTIONS

TESTING AND INSPECTION OF THE FOLLOWING BUILDING ELEMENTS IS TO BE PROVIDED IN ACCORDANCE WITH THE 2018 INTERNATIONAL BUILDING CODE, CHAPTER 17. (SEE SPECIFICATIONS FOR DETAILED INSPECTION REQUIREMENTS):

1. PREPARED FILL: SITE PREPARATION, FILL PLACEMENT, AND EVALUATION OF IN-PLACE DENSITY.
2. CONCRETE CONSTRUCTION: MATERIALS, REINFORCING STEEL, FOUNDATION SUBGRADE AND PLACMENT OPERATIONS.
3. MASONRY CONSTRUCTION: MATERIALS, STRENGTH, AND CONSTRUCTION OPERATIONS.
4. WOOD CONSTRUCTION: FLOOR AND ROOF TRUSS FABRICATION.
5. STRUCTURAL STEEL CONSTRUCTION: MATERIALS AND ERECTION, INCLUDING CONNECTIONS, BOLTING AND WELDING.

GENERAL REQUIREMENTS AND CONDITIONS

WHERE A SECTION OR DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY TO ALL LIKE CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE PLANS.

DIMENSIONS AND ELEVATIONS SHOWN FOR EXISTING CONSTRUCTION ARE BASED ON EXISTING CONSTRUCTION DRAWINGS AND ARE NOT FIELD-MEASURED. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS, ELEVATIONS, AND GEOMETRY AT EXISTING CONSTRUCTION. REPORT DISCREPANCIES TO THE ARCHITECT IMMEDIATELY.

WHERE ATTACHMENTS (BOLTS, WELDS, STRAPS, ETC…) ARE DENOTED AS "ON-CENTER" ALONG A MEMBER LENGTH, IT IS IMPLIED THAT AT LEAST ONE (1) ATTACHMENT IS PLACED AT THE BEGINNING AND END OF SUCH MEMBER (WITHIN 6", UNLESS NOTED OTHERWISE).

THE CONTRACTOR SHALL PROTECT THE STRUCTURE DURING CONSTRUCTION AGAINST EARTH PRESSURE, WIND AND OTHER FORCES UNTIL PERMANENT SUPPORTS ARE IN PLACE.

RELATED WORK SPECIFIED OR SHOWN ELSEWHERE
REFER TO PROJECT SPECIFICATIONS AND OTHER PROJECT DRAWINGS FOR RELATED WORK SPECIFIED OR SHOWN ELSEWHERE INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. PENETRATIONS, SLEEVES, OPENINGS.
2. INSERTS, EMBEDS, ANCHOR BOLTS AND ANCHORAGE FOR ATTACHMENT OF NON-STRUCTURAL ITEMS.
3. SIZE AND LOCATION OF EQUIPMENT FOUNDATIONS AND PADS
4. ROOF CURBS FOR ROOF MOUNTED EQUIPMENT.
5. RETAINING WALLS, UTILITY STRUCTURES, PAVEMENT, WALKS AND OTHER STRUCTURES OUTSIDE THE BUILDING LINE.
6. FLOOR DEPRESSIONS, FLOOR SLOPES, AND FLOOR SLOPES TO DRAIN.
7. STAIRS, STAIR DETAILS AND STAIR DIMENSIONS.

FOUNDATIONS

STRIP AND SPREAD FOOTINGS ARE DESIGNED IN ACCORDANCE WITH THE RECOMMENDATIONS FOUND IN THE "REPORT OF GEOTECHNICAL EXPLORATION; JKV COURTYARD E BUILDING" PREPARED BY KRUGER TECHNOLOGIES, INC DATED SEPTEMBER 25, 2023. KTI PROJECT NUMBER: 223164G.

SPREAD FOOTINGS ARE DESIGNED FOR AN ALLOWABLE SOIL BEARING PRESSURE OF 2500 PSF.

THE PREPARED FOUNDATION BEARING SOILS SHALL NOT BE LEFT EXPOSED DURING INCLEMENT WEATHER OR OPEN AND EXPOSED LONGER THAN 24 HOURS. PLACE A 2-1/2" THICK UNREINFORCED CONCRETE PAD OVER BEARING SOILS IF EXCAVATION WILL BE OPEN MORE THAN 24 HOURS OR INCLEMENT WEATHER IS EXPECTED.

ALL FOUNDATIONS SHALL BE CENTERED UNDER SUPPORTED WALLS AND COLUMNS, UNLESS NOTED OTHERWISE.

STRUCTURAL FILL MATERIAL AND COMPACTION PROCEDURES SHALL CONFORM TO THE ABOVE-REFERENCED GEOTECHNICAL REPORT.

CONCRETE

AS FOLLOWS:

DESCRIPTION	UNIT WEIGHT (P C F)	F'C AT 28 DAYS (P S I)
FOOTINGS AND GRADE BEAMS	150	3000
SLABS ON GRADE	150	3000
EXTERIOR FLAT WORK	150	4500

REINFORCING STEEL SHALL MEET ASTM A615, GRADE 60, DEFORMED.

MINIMUM LAP SPLICES FOR REINFORCING BARS SHALL BE CLASS B, TENSION LAP CONFORMING TO ACI 318. STAGGER LAP SPLICES, UNLESS INDICATED OTHERWISE.

PROVIDE THE FOLLOWING MINIMUM CONCRETE COVER FOR REINFORCING BARS:
CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH: 3"
CONCRETE EXPOSED TO EARTH OR WEATHER:
#6 AND LARGER: 2"
#5 AND SMALLER: 1-1/2 "
CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
SLABS, WALLS
#11 AND SMALLER: ¾"

CONCRETE WALLS INTERSECTING CONCRETE PIERS SHALL BE CAST MONOLITHICALLY WITH PIERS, UNLESS INDICATED OTHERWISE.

CONCRETE MASONRY UNITS

CONCRETE UNIT MASONRY SHALL DEVELOP AN INSTALLED COMPRESSIVE STRENGTH (f'm) AT 28 DAYS OF 2000 PSI.

GROUT FOR CONCRETE UNIT MASONRY SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2000 PSI.

GROUT SOLID ALL CELLS BELOW GRADE.

GROUT SOLID ALL CELLS BETWEEN FOOTINGS AND SLAB ON GRADE.

IN ALL GROUTED AND/OR REINFORCED MASONRY, PROVIDE MASONRY UNITS WHICH HAVE CORES THAT ALIGN VERTICALLY TO PROVIDE CONTINUOUS UNOBSTRUCTED CELLS FOR GROUTING AND REINFORCING STEEL PLACEMENT.

WHERE MASONRY IS INDICATED TO BE FULLY GROUTED OR GROUTED SOLID, ALL CORES WITH AND WITHOUT REINFORCEMENT SHALL BE GROUTED.

LAP SPLICE REINFORCEMENT IN CONCRETE UNIT MASONRY AS FOLLOWS:

BAR SIZE	LAP LENGTH
#3	18"
#4	24"
#5	30"
#6	43"

ALL CONCRETE MASONRY UNIT WALLS SHALL HAVE CONTINUOUS HORIZONTAL JOINT REINFORCEMENT AS SPECIFIED.

STRUCTURAL STEEL

STRUCTURAL STEEL SHALL CONFORM TO THE FOLLOWING:
"W" SHAPES, BEAMS AND COLUMNS: ASTM A992.
COLD-FORMED STRUCTURAL STEEL TUBING: ASTM A 500, GRADE C.
OTHER SHAPES, PLATES AND BARS: ASTM A36, (Fy=36KSI).

ALL BOLTS SHALL BE ¾" DIAMETER, ASTM A325-N, TYPE 1, UNLESS NOTED OTHERWISE.

MINIMUM WELDS SHALL BE 3/16" FILLET WELD ALL AROUND UNLESS INDICATED OTHERWISE.

ALL BEAM CONNECTIONS SHALL BE DOUBLE-ANGLE OR SINGLE-PLATE SHEAR CONNECTIONS DESIGNED FOR THE MINIMUM FACTORED END REACTIONS INDICATED, OR WHERE NO REACTION IS INDICATED, DESIGNED FOR LESS THAN FIFTEEN (15) KIPS.

ALL STRUCTURAL STEEL BELOW GRADE SHALL HAVE 3" CONCRETE PROTECTION.

DO NOT USE THERMAL CUTTING OF STRUCTURAL STEEL DURING ERECTION.
DO NOT ENLARGE UNFAIR HOLES IN MEMBERS BY BURNING OR BY USING DRIFT PINS.

PROVIDE CAP PL 3/8" AT ALL STEEL COLUMNS UNLESS NOTED OTHERWISE.

ROUGH CARPENTRY AND ENGINEERED LUMBER PRODUCTS

LUMBER: NOMINAL SIZES ARE INDICATED, EXCEPT AS SHOWN BY DETAIL DIMENSIONS. PROVIDE DRESSED LUMBER, S4S, UNLESS NOTED OTHERWISE. PROVIDE LUMBER WITH 19 PERCENT MOISTURE CONTENT AT TIME OF DRESSING AND SHIPMENT FOR SIZES 2" OR LESS IN NOMINAL THICKNESS, UNLESS NOTED OTHERWISE.

DIMENSION LUMBER (SPECIES AND GRADE):
LOAD BEARING STUDS: NO.1/ NO. 2 SPRUCE PINE FIR
STRUCTURAL FRAMING AND SILL AND TOP PLATES: SOUTHERN PINE NO. 2, KILN DRIED

ALL STUD-FRAMED WALLS SHALL BE FRAMED CONTINUOUS, WITHOUT INTERRUPTION, FROM FOUNDATION TO FLOOR OR ROOF MEMBER BEARING (PLATFORM FRAMED).

ALL 4x4 AND 6x6 WOOD POSTS SHALL BE PRESSURE-TREATED SOUTHERN PINE NO. 2, UNO.

LAMINATED VENEER LUMBER (LVL) PRODUCTS SHALL MEET OR EXCEED ALL MATERIAL PROPERTIES FOR I-LEVEL BY WEYERHAUSER: E=1900 KSI (1.9E).

LAMINATED STRAND LUMBER (LSL) PRODUCTS SHALL MEET OR EXCEED ALL MATERIAL PROPERTIES FOR TIMBERSTRAND BY WEYERHAUSER: E=1550 KSI (1.55E).

PARALLEL STRAND LUMBER (PSL) PRODUCTS SHALL MEET OR EXCEED ALL MATERIAL PROPERTIES FOR I-LEVEL BY WEYERHAUSER: E=2000 KSI (2.0E) FOR BEAMS AND HEADERS, AND E=1800 KSI (1.8E) FOR COLUMNS.

ALL FASTENERS, FRAMING HARDWARE, AND CONNECTOR PLATES FASTENING PRESSURE PRESERVATIVE-TREATED (PT) LUMBER SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL IN ACCORDANCE WITH SPECIFICATION 061000-ROUGH CARPENTRY.

ALL NAILS SHALL BE CONSIDERED "COMMON NAILS" UNLESS NOTED OTHERWISE.

WOOD SHEATHING

CONSTRUCTION STANDARD: PS1 "US PRODUCT STANDARD FOR CONSTRUCTION AND INDUSTRIAL PLYWOOD" FOR PLYWOOD PANELS AND WITH AMERICAN PLYWOOD ASSOCIATION (APA) "PERFORMANCE STANDARD AND POLICIES FOR STRUCTURAL-USE PANELS."

EXTERIOR WALL SHEATHING:	APA RATED SHEATHING, EXPOSURE I, SPAN RATING 32/16.
INTERIOR WALL SHEATHING:	APA RATED SHEATHING, EXPOSURE I, SEE SCHEDULE FOR SPAN RATING
FLOOR SHEATHING:	APA RATED TONGUE-AND-GROOVE STURD-I-FLOOR, EXPOSURE 1, SPAN RATING 24" OC.
ROOF SHEATHING:	APA RATED SHEATHING, EXPOSURE I, SPAN RATING 40/20.
PLYWOOD CLIPS:	18-GAUGE, HOT-DIPPED GALVANIZED "H" CLIPS.

ATTACH SHEARWALL WALL SHEATHING TO FRAMING AS INDICATED IN SHEARWALL SCHEDULE. ATTACH REMAINING WALL, FLOOR, AND ROOF SHEATHING TO FRAMING WITH 8d COMMON NAILS @ 6" OC AT PANEL PERIMETER AND 12" OC IN FIELD. PROVIDE BLOCKING AT HORIZONTAL PANEL EDGES OF WALL SHEATHING.

PREFABRICATED WOOD TRUSSES

TRUSSES SHALL BE DESIGNED FOR ALL LOADS AS REQUIRED BY ABOVE REFERENCED BUILDING CODE, INCLUDING WIND, SNOW AND SEISMIC BUT SHALL NOT BE LESS THAN THE FOLLOWING MINIMUM LOADS:
ROOF LIVE LOADS:
TOP CHORD, LIVE LOAD: VARIES, SEE "BASIS OF DESIGN" ABOVE
BOTTOM CHORD, LIVE LOAD: 10 PSF, NONCONCURRENT WITH ROOF LIVE LOAD
FLOOR LIVE LOADS:
TOP CHORD, LIVE LOAD: VARIES, SEE "BASIS OF DESIGN" ABOVE

ROOF SUPERIMPOSED DEAD LOADS:
DEAD LOADS SHALL BE COMPUTED FOR BUILDING MATERIALS AS INDICATED AND SHALL NOT BE LESS THAN:
TOP CHORD, DEAD LOAD: 15 PSF
BOTTOM CHORD, DEAD LOAD: 10 PSF
FLOOR SUPERIMPOSED DEAD LOADS:
DEAD LOADS SHALL BE COMPUTED FOR BUILDING MATERIALS AS INDICATED AND SHALL NOT BE LESS THAN:
TOP CHORD, DEAD LOAD: 20 PSF
BOTTOM CHORD, DEAD LOAD: 10 PSF

TRUSS DESIGN SHALL ACCOUNT FOR SPECIAL LOADING CONDITIONS THAT REQUIRE APPLICATION OF ADDITIONAL DISTRIBUTED AND CONCENTRATED LOADS FROM MECHANICAL EQUIPMENT, DORMERS, VALLEY FRAMING, OVER BUILDING, AND DRIFTING SNOW. DRIFTING SNOW LOADS SHALL BE COMPUTED BASED ON THE GROUND SNOW LOAD LISTED ABOVE.

TRUSS BOTTOM CHORD DOES RECEIVE CONTINUOUS SHEATHING

ROOF TRUSSES SHALL BE SPACED AT 24" O.C. MAXIMUM, UNLESS INDICATED OTHERWISE.

FLOOR TRUSSES SHALL BE SPACED AT 16" O.C. MAXIMUM, UNLESS INDICATED OTHERWISE.

ROOF TRUSSES SHALL BE CONNECTED TO BEARING PLATE WITH SIMPSON TYPE H HURRICANE TIES OR OTHER HOLD DOWN ANCHOR DEVICES FOR THE REACTION SHOWN ON THE TRUSS SHOP DRAWINGS, BUT NOT LESS THAN ONE SIMPSON H3 HURRICANE ANCHOR PER BEARING LOCATION, UNLESS NOTED OTHERWISE.
MULTIPLE ANCHORS ARE ACCEPTABLE AT LOCATIONS WHERE REACTION EXCEEDS CAPACITY OF SINGLE CONNECTOR.

ALL TRUSSES WHICH CANNOT BE SHIPPED WHOLE AND REQUIRE A FIELD CONNECTION SHALL BE DESIGNED, DETAILED AND FABRICATED WITH BOLTED OR PLYWOOD GUSSETED JOINTS.

STEEL LINTELS AT BRICK AND CMU

ALL LINTELS SHALL CONFORM TO ARCHITECTURAL HEAD DETAILS.

UNLESS NOTED OTHERWISE, PROVIDE ONE L4x3-1/2x1/4" FOR SPANS LESS THAN 6'-0" AND ONE L6x3-1/2"x3/8" FOR SPANS BETWEEN 6'-0" AND 11'-6" FOR EACH NOMINAL 4" MASONRY THICKNESS AS LINTELS FOR BRICK OPENINGS, AND OVER ALL OPENINGS IN CMU WALLS AT DOORS, DUCTS, RECESSED HEATING UNITS, PANELS, GRILLS OR LOUVERS.

LINTELS SUPPORTING BRICK AND LINTELS SUPPORTING EXTERIOR CMU SHALL BE HOT-DIPPED GALVANIZED.

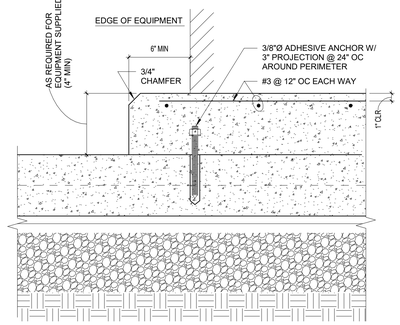
SUBMIT SHOP DRAWINGS FOR APPROVAL SHOWING SCHEDULES, DETAILS, SIZE AND LOCATION FOR ALL STEEL LINTELS.

EXPANSION & ADHESIVE ANCHORS

ALL EXPANSION ANCHORS SHALL BE 5/8" DIAMETER WITH 4" MINIMUM EMBEDMENT UNLESS NOTED OTHERWISE. INSTALL PER MANUFACTURER'S REQUIREMENTS IN CONCRETE OR FULLY GROUTED MASONRY.

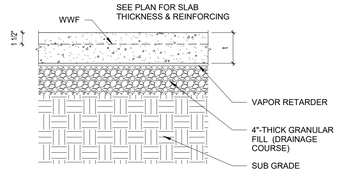
ALL ADHESIVE ANCHORS SHALL BE 5/8" DIAMETER WITH 5" MINIMUM EMBEDMENT UNLESS NOTED OTHERWISE. INSTALL PER MANUFACTURER'S REQUIREMENTS IN CONCRETE OR FULLY GROUTED MASONRY.

NO ANCHOR SHALL BE INSTALLED PRIOR TO RECEIVING PROPER INSTALLATION TRAINING FROM A MANUFACTURER'S REPRESENTATIVE. ALL ANCHORS SHALL BE INSTALLED BY PERSONNEL TRAINED BY MANUFACTURER'S REPRESENTATIVE.

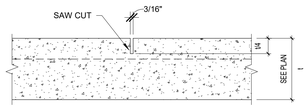


NOTES:
1. SEE MECHANICAL, PLUMBING & ELECTRICAL DRAWINGS FOR EQUIPMENT LOCATIONS REQUIRING EQUIPMENT PADS.

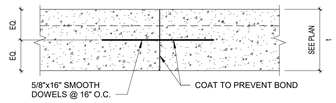
8 S0.1 TYP INTERIOR EQUIPMENT PAD
1 1/2" = 1'-0"



4 S0.1 TYP SLAB ON GRADE
1 1/2" = 1'-0"



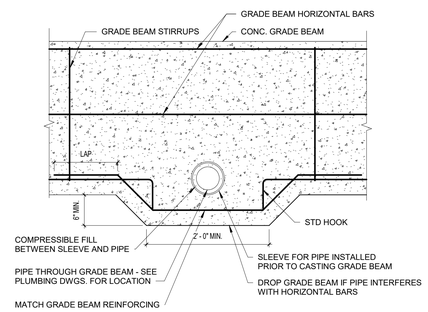
CONTRACTION JOINT (SAW CUT)



CONSTRUCTION JOINT

NOTE:
LOCATE JOINTS LESS THAN 15'-0" APART, WITH THE LENGTH OF A SLAB PANEL NOT EXCEEDING THE WIDTH BY MORE THAN 50%. SUBMIT JOINT LAYOUT FOR APPROVAL PER SPECIFICATIONS.

3 S0.1 TYP SLAB ON GRADE JOINTS
3" = 1'-0"

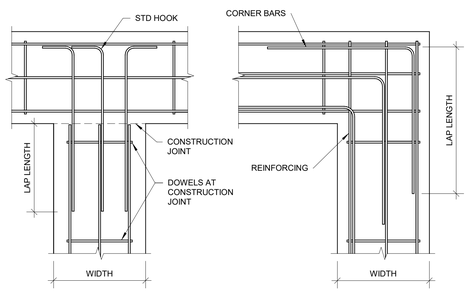


7 S0.1 TYP PIPE THROUGH GRADE BEAM
1" = 1'-0"

TENSION LAP SPLICE LENGTH				
BAR SIZE	f'c = 3000psi		f'c = 4000psi	
	TOP BAR	OTHER BAR	TOP BAR	OTHER BAR
#3	28	22	25	19
#4	38	29	32	25
#5	47	36	41	31
#6	56	43	49	37
#7	81	63	71	54
#8	93	72	81	62
#9	105	81	91	70
#10	116	90	101	78
#11	128	98	111	85

TOP BARS ARE HORIZONTAL BARS WITH 12" OR MORE OF FRESH CONCRETE CAST BENEATH THE BARS.

2 S0.1 TENSION LAP SPLICE LENGTH SCHED
1 1/2" = 1'-0"

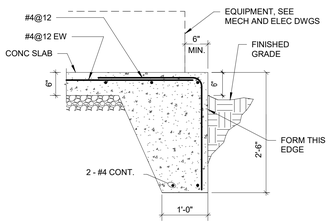


PLAN DETAIL - INTERSECTION

PLAN DETAIL - CORNER

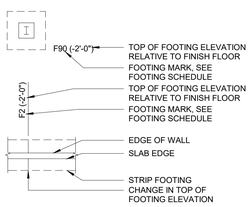
1. LAP REINFORCING AT SPLICES ACCORDING TO SCHEDULE 2/S0.1.
2. PROVIDE CORNER BARS TO MATCH SIZE AND NUMBER OF REINFORCING BAR AT ALL GRADE BEAM CORNERS

6 S0.1 TYP GRADE BEAM DETAILS
3/4" = 1'-0"



SEE ELECTRICAL DRAWINGS FOR PAD SIZE AND LOCATION.

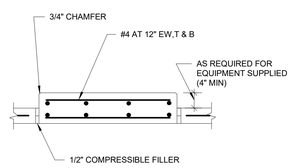
10 S0.1 TYP GENERATOR EQUIPMENT PAD
3/4" = 1'-0"



5 S0.1 FOUNDATION LEGEND
N.T.S.

ABV	ABOVE	JST	JOIST
ADH AHR	ADHESIVE ANCHOR	JT	JOINT
ADJ	ADJACENT		
AFF	ABOVE FINISHED FLOOR	K	KIP (1000 POUNDS)
APPROX	APPROXIMATE	KSI	KIPS PER SQUARE INCH
ARCH.	ARCHITECTURAL		
		LBS	POUNDS
BLDG	BUILDING	LLH	LONG LEG HORIZONTAL
BLW	BELOW	LLV	LONG LEG VERTICAL
BM	BEAM		
BOT	BOTTOM	MAX	MAXIMUM
BRG	BEARING	MECH	MECHANICAL
BTWN	BETWEEN	MEP	MECHANICAL, ELECTRICAL, PLUMBING
CIP	CAST-IN-PLACE	MFR	MANUFACTURER
CJ	CONTROL JOINT	MID	MIDDLE
CL	CENTERLINE	MIN	MINIMUM
CLR	CLEAR	MTL	METAL
CMU	CONCRETE MASONRY UNITS		
COL	COLUMN	NTS	NOT TO SCALE
CONC	CONCRETE		
CONN	CONNECTION	OC (O/C)	ON CENTER
CONT	CONTINUOUS	OPNG	OPENING
DIA	DIAMETER	PAF	POWER-ACTUATED FASTENER
DIAG	DIAGONAL	PERP	PERPENDICULAR
DIM.	DIMENSION	PL	PLATE
DWG(S)	DRAWING(S)	PSF	POUNDS PER SQUARE FOOT
		PSI	POUNDS PER SQUARE INCH
EA	EACH	PT	POINT
EF	EACH FACE		
EJ	EXPANSION JOINT	R	RADIUS
ELEC	ELECTRICAL	REINF	REINFORCEMENT, REINFORCED
ELEV	ELEVATION	REQ'D	REQUIRED
EMBED	EMBEDMENT		
EOS	EDGE OF SLAB	SCHED	SCHEDULE
EQ	EQUAL	SHT	SHEET
EQUIP.	EQUIPMENT	SIM	SIMILAR
EW	EACH WAY	SOG	SLAB ON GRADE
EXST	EXISTING	STD	STANDARD
EXT	EXTERIOR	STIFF.	STIFFENER
EXPN AHR	EXPANSION ANCHOR	STL	STEEL
		STRL	STRUCTURAL
FIN. FLR	FINISHED FLOOR	SYM	SYMMETRICAL
FFE	FINISHED FLOOR ELEVATION		
FLG	FLANGE	T&B	TOP AND BOTTOM
FRMG	FRAMING	THK	THICK
FTG	FOOTING	TOF	TOP OF FOOTING
		TOS	TOP OF STEEL
GA	GAUGE	TRANSV	TRANSVERSE
GALV	GALVANIZED	TYP	TYPICAL
GB	GRADE BEAM		
		UNO	UNLESS NOTED OTHERWISE
HDU	HOLD DOWN UNIT		
HORIZ	HORIZONTAL	VERT	VERTICAL
		VIF	VERIFY IN FIELD
INFO	INFORMATION		
INT	INTERIOR	W/	WITH
		WP	WORKING POINT
		WWF	WELDED WIRE FABRIC

1 S0.1 STRUCTURAL ABBREVIATIONS
N.T.S.



NOTE: SEE MECHANICAL AND ELECTRICAL DRAWINGS FOR TYPE, SIZE, AND LOCATION OF EQUIPMENT PADS.

9 S0.1 TYP ISOLATED EQUIP PAD DETAIL
3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2012006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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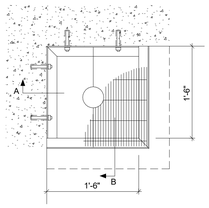
DESIGNER	DAS	DRAWN	BSW
ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

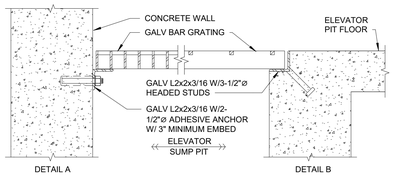
DRAWING TITLE

GENERAL NOTES AND TYPICAL DETAILS

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING S0.1



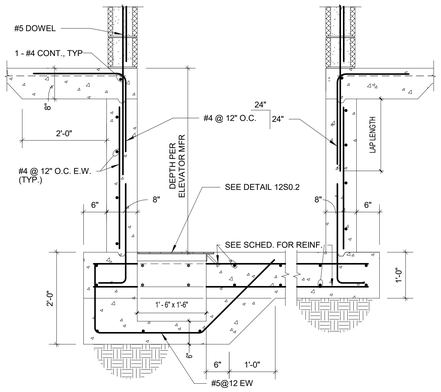
ELEVATOR PIT PARTIAL PLAN



TYPICAL SUMP PIT GRATE DETAILS

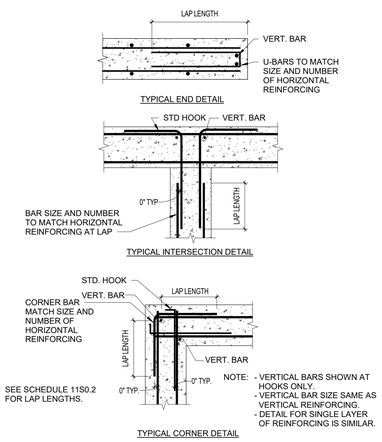
12 / S0.2 TYPICAL SUMP PIT AND GRATE DETAIL

1" = 1'-0"



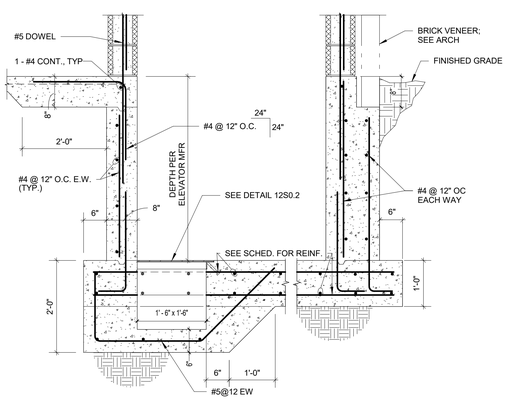
14 / S0.2 ELEVATOR 2 PIT SECTION

3/4" = 1'-0"



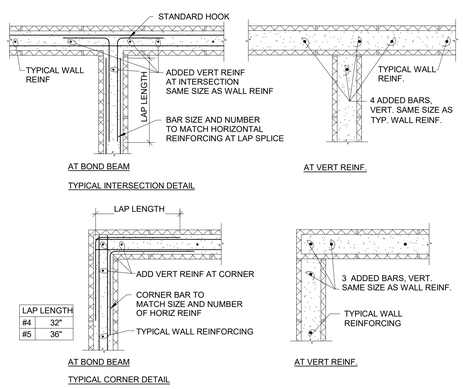
11 / S0.2 TYP CONC WALL REINF. @ END, CORNER & INTERSECTION

1" = 1'-0"



13 / S0.2 ELEVATOR 1 PIT SECTION

3/4" = 1'-0"



LAP LENGTH	
#4	32"
#5	36"

NOTE:
AT WALL ENDS, TERMINATE BOND BEAM BARS WITH STANDARD HOOK AND PROVIDE VERTICAL BAR IN THE FIRST 2 END CELLS.

10 / S0.2 CMU BOND BEAM REINF DETAILS

3/4" = 1'-0"

HEADER SCHEDULE

MARK	SIZE	JAMB STUD	KING STUD
H1	(2)-1.75X9.25 LVL	2-2x6	3-2x6
H2	(2)-1.75X9.25 LVL	2-2x6	2-2x6
H3	(2)-1.75X9.25 LVL	2-2x6	1-2x6
H4	(3)-1.75X11.25 LVL	2-2x6	1-2x6
H5	(2)-2x8	2-2x6	1-2x6
H6	(2)-2x10	2-2x6	1-2x6
H7	(3)-2x8	2-2x6	1-2x6
H8	(3)-2x8	2-2x6	2-2x6
H9	(3)-2x10	2-2x6	1-2x6
H10	(3)-2x16	1-2x6	3-2x6

9 / S0.2 HEADER SCHEDULE

N.T.S.

LINTEL SCHEDULE

MARK		SIZE	BEARING
L1		8" WIDE x 8" DEEP CMU LINTEL W/ 2 - #5 BOTTOM	8"

LINTEL NOTES:
1. ALL LINTELS SHALL CONFORM TO ARCHITECTURAL HEAD DETAILS.

8 / S0.2 CMU LINTEL SCHEDULE

N.T.S.

POST SCHEDULE

MARK	SIZE
P1	6 X 6 SOUTHERN PINE
P2	5.25 X 5.25 PSL
P3	3.5 X 3.5 PSL
P4	7 X 7 PSL

7 / S0.2 WOOD POST SCHEDULE

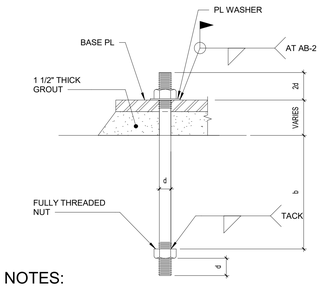
N.T.S.

LOAD-BEARING WALL STUD SCHEDULE

LOCATION	STORY	STUD SIZE & SPACING	WOOD SPECIES AND GRADE
EXTERIOR WALLS	ALL FLOORS	2X6 @ 16" OC	SPRUCE PINE FIR, NO. 1/NO. 2
STAIR SHAFT WALLS AT CORRIDOR	1ST FLOOR	2-2X4 @ 16" OC	
OTHER STAIR SHAFT WALLS	ALL FLOORS	2X4 @ 16" OC	
CORRIDOR WALLS	2ND, 3RD & 4TH FLOORS	2X6 @ 16" OC	
	1ST FLOOR	2-2X6 @ 16" OC	
2X4 CORRIDOR WALLS	2ND, 3RD & 4TH FLOORS	2X4 @ 16" OC	
	1ST FLOOR	2-2X4 @ 16" OC	
OTHER INTERIOR WALLS	ALL	2X6 @ 16" OC	

6 / S0.2 BEARING WALL STUD SCHEDULE

N.T.S.

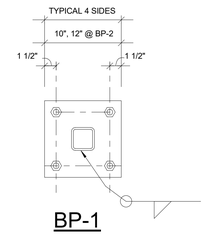


NOTES:
1) ANCHOR BOLTS - ASTM F1554
2) NUTS - ASTM A563, GRADE A, HEAVY HEX
3) PLATE - ASTM A36
4) PROVIDE HOLE IN PLATE WASHER = BOLT DIAMETER + 1/16".

MARK	d	b	PLATE WASHER SIZE	HOLE DIA @ BASE PL
AB-1 AB-2	3/4" DIA	8"	STD WASHER	1 5/16" DIA

5 / S0.2 STEEL COL ANCHOR BOLTS

3/4" = 1'-0"



4 / S0.2 STEEL COLUMN BASE PLATES

1 1/2" = 1'-0"

COLUMN SCHEDULE

MARK	DESCRIPTION	BASE PLATE	BASE PL THK	ANCHOR BOLT	REMARKS
C1	HSS 4x4x3/8	BP-1	3/4"	AB-1	--
C2	HSS 6x6x1/2	BP-2	3/4"	AB-2	--

3 / S0.2 STEEL COLUMN SCHEDULE

N.T.S.

GRADE BEAM SCHEDULE

MARK	SIZE (WIDTH X DEPTH)	REINFORCING
GB-1	16" X 28"	SEE SECTION 4/S2.1
GB-2	24" X 28"	SEE SECTION 2/S2.1
GB-26	30" X 28"	SEE SECTION 3/S2.1

2 / S0.2 GRADE BEAM SCHEDULE

N.T.S.

FOOTING SCHEDULE

MARK	SIZE	THICKNESS	REINFORCING (BOTTOM U.N.O.)
F3.0	3'-0" SQUARE	12"	3 - #5 EA WAY
F4.0	4'-0" SQUARE	12"	4 - #5 EA WAY
F5.0	5'-0" SQUARE	14"	5 - #5 EA WAY
MAT #1	SEE PLAN	12"	#5@12 EA WAY, TOP & BOTTOM

1 / S0.2 FOOTING SCHEDULE

3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2012006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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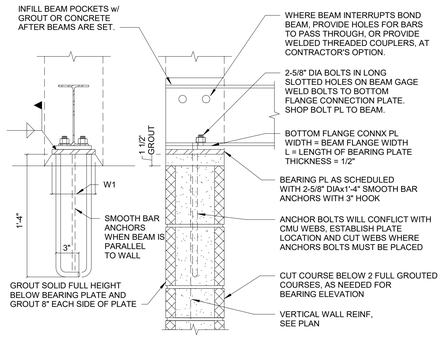
ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
TYPICAL SECTIONS AND DETAILS

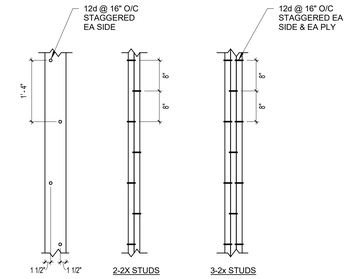
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING S0.2



BEARING PLATE SCHEDULE				
BEARING PLATE MARK	BEARING PLATE THICKNESS	W1	L	REMARKS
W8	1/2"	7"	7"	----

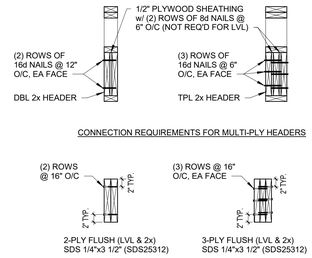
7 / S0.3 BEARING PLATE SCHEDULE

N.T.S.



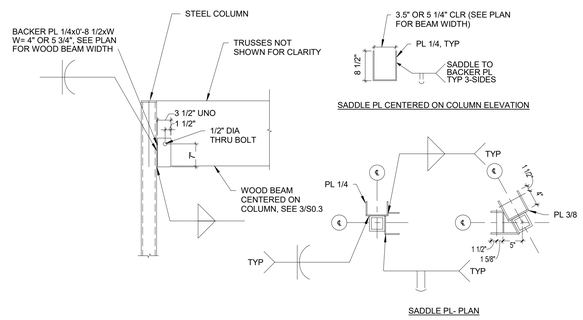
4 / S0.3 TYP BUILT-UP COLUMN STUDS

3/4" = 1'-0"



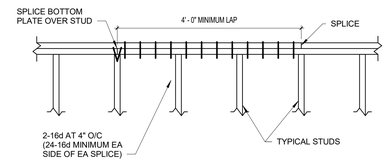
3 / S0.3 MULTI PLY FLUSH BEAMS

3/4" = 1'-0"



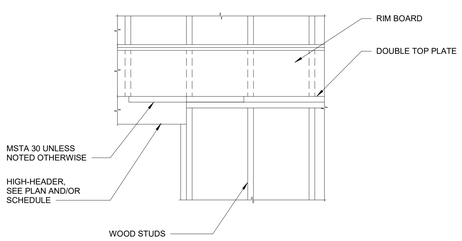
6 / S0.3 TYP WOOD BEAM TO STL COL

3/4" = 1'-0"



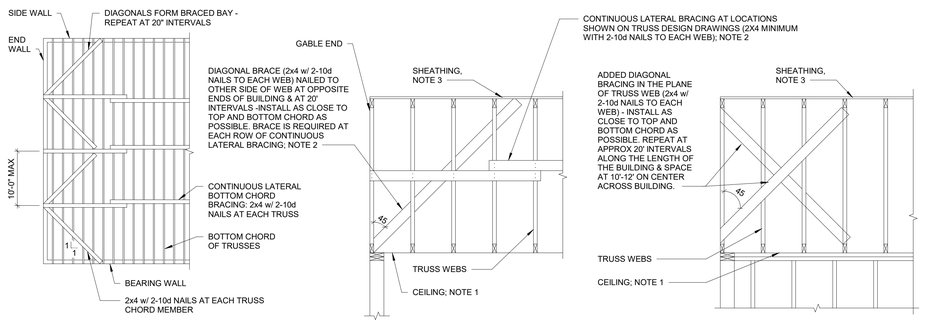
2 / S0.3 TYPICAL TOP PLATE SPLICE

3/4" = 1'-0"



8 / S0.3 TYPICAL HEADER INTERRUPTING TOP PLATE

3/4" = 1'-0"



PERMANENT BOTTOM CHORD BRACING
SEE NOTE 1

PERMANENT BRACING FOR WEBS

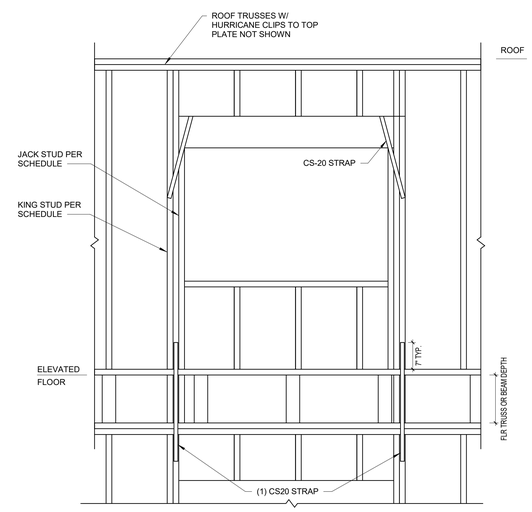
PERMANENT BRACING FOR SPECIAL CONDITIONS
SEE NOTE 4

NOTES:

1. BOTTOM CHORD BRACING IS NOT REQUIRED WHERE 5/8" GYPSUM IS DIRECTLY FASTENED AT 12" OC OR LESS TO TRUSS BOTTOM CHORD OR WHERE RESILIENT CHANNEL IS SPACED 12" OC OR LESS WITH 5/8" GYPSUM FASTENED AT 12" OC OR LESS.
2. PERMANENT DIAGONAL BRACING BRACING IS FOR OVERALL BUILDING STABILITY AND SHALL BE INSTALLED IN ADDITION TO THE CONTINUOUS PERMANENT LATERAL BRACING AT LOCATIONS SHOWN BY THE DELEGATED TRUSS DESIGNER TO RESIST BUCKLING OF COMPRESSION TRUSS MEMBERS. SEE BCSI-B3 FOR ALTERNATIVE WEB REINFORCEMENT OPTIONS WHEN INSTALLING CONTINUOUS LATERAL BRACING AND DIAGONAL BRACING IS NOT PRACTICAL OR DESIRED.
3. WHERE TRUSSES DO NOT RECIEVE CONTINUOUS PLYWOOD SHEATHING NAILED TO THE TOP CHORD, PROVIDE TOP CHORD BRACING PER BCSI-B3.
4. SWAY BRACING IS REQUIRED AT TRUSSES WHERE CONTINUOUS LATERAL BRACING AND DIAGONAL BRACING ARE NOT PROVIDED.

5 / S0.3 PERMANENT LATERAL BRACING FOR WOOD TRUSSES

N.T.S.



1 / S0.3 TYPICAL HEADERS AT ROOF

3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2022006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

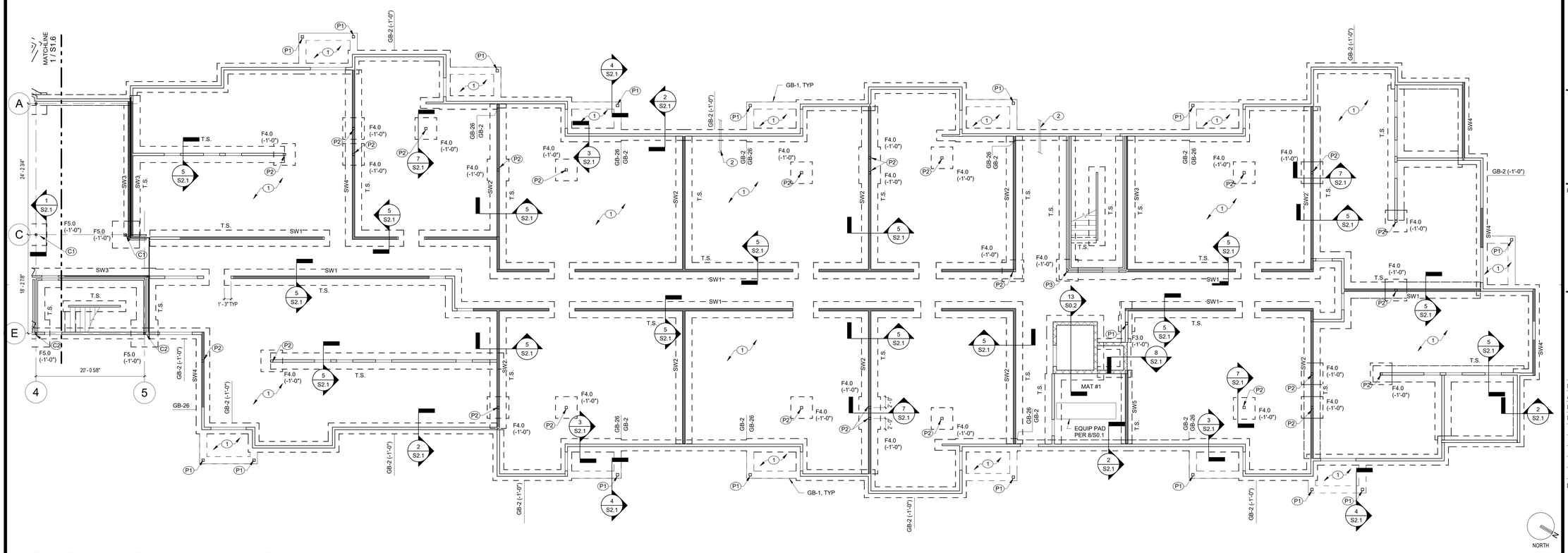
DRAWING TITLE

TYPICAL SECTIONS AND DETAILS

DATE: January 5, 2024

COMM. NO. 23104.00

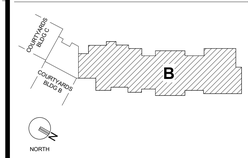
DRAWING S0.3



1 S1.1 FOUNDATION PLAN - IL UNITS

1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. REFERENCE FIRST FLOOR CONCRETE SLAB ELEVATION = (+0'-0"), UNLESS NOTED OTHERWISE.
2. TOP OF GRADE BEAM ELEVATION= (-1'-0") BELOW REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE.
3. REINFORCE ALL CMU WALLS WITH #5 VERTICAL BARS AT 32" OC, UNLESS NOTED OTHERWISE.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL DETAILS AND HOLDOWN LOCATIONS.
5. SEE S0.2 FOR LOAD BEARING WALL STUD, STEEL COLUMN, WOOD POST, FOOTING, AND GRADE BEAM SCHEDULES.
6. "T.S." INDICATES THICKENED SLAB UNDER WALL OR STAIR STRINGER, SEE SECTION 5/S2.1, 6/S2.1 AND 8S2.1.

PLAN NOTES

1. 4"-THICK CONCRETE SLAB ON GRADE ON VAPOR RETARDER AND GRANULAR FILL, REINFORCED WITH 6x6-W1.4xW1.4 WELDED WIRE FABRIC. VAPOR RETARDER NOT REQUIRED AT EXTERIOR SLABS.
2. UNDERGROUND UTILITY. SEE S0.1 AND PLUMBING DRAWINGS. THICKEN GRADE BEAM TO MAINTAIN 8" CONCRETE BELOW BOTTOM OF PIPE.

PERMIT SET

STATE OF MISSOURI
LINDSEY B FASNACHT
NUMBER PE-2022006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

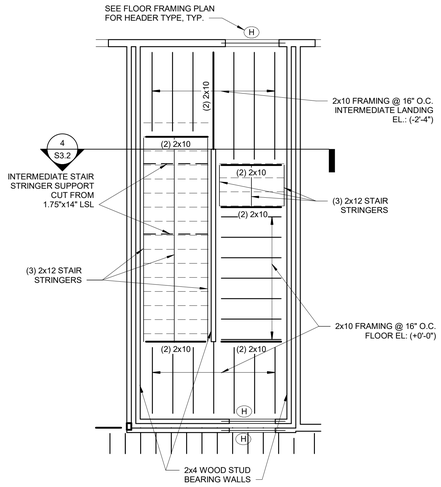
DRAWING TITLE

FOUNDATION PLAN - IL UNITS

DATE: January 5, 2024

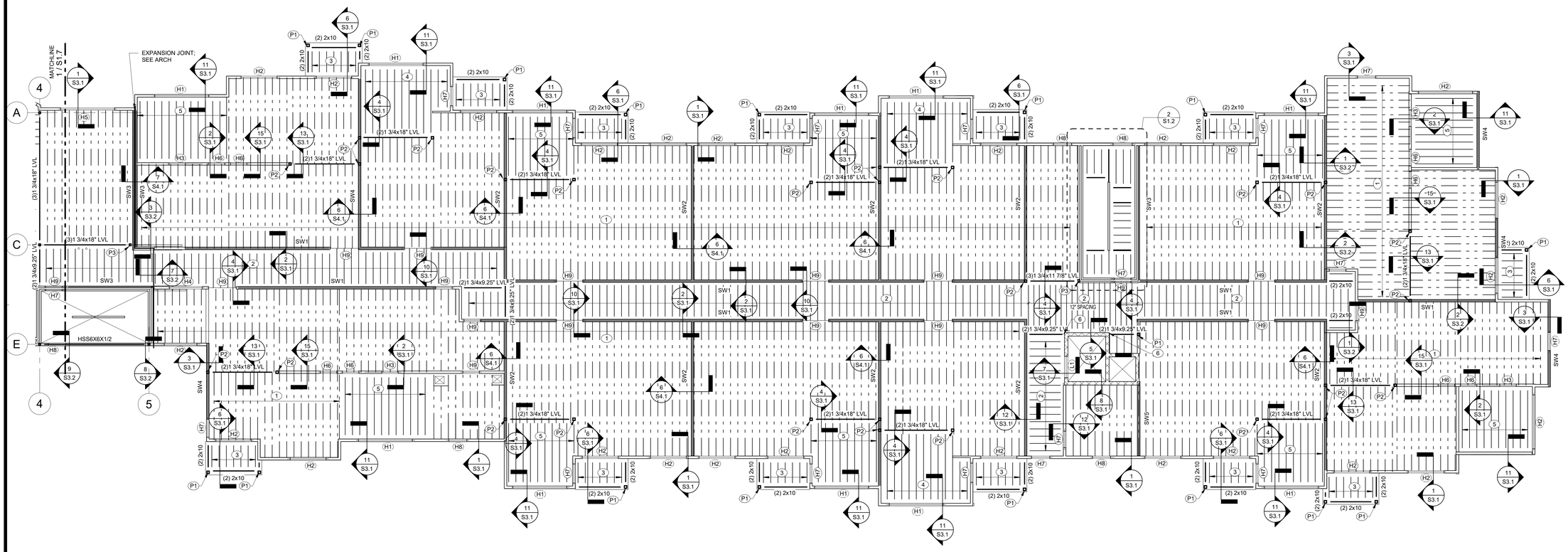
COMM. NO. 23104.00

DRAWING S1.1



2 S1.2 TYPICAL STAIR FRAMING

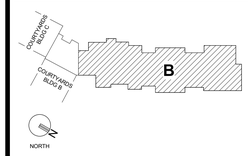
1/4" = 1'-0"



1 S1.2 SECOND FLOOR FRAMING PLAN - IL UNITS

1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. FINISHED SECOND FLOOR ELEVATION= (+11'-4") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. TOP OF SECOND FLOOR PLYWOOD ELEV= (-0'-1") BELOW FINISHED FLOOR ELEVATION.
2. TOP OF WOOD BEAM ELEV. AT BALCONIES= SEE ARCH. TOP OF WOOD BEAMS AT APARTMENT FLOORS = (-0'-6 1/4") BELOW FINISHED FLOOR ELEVATION, U.N.O.
3. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
5. CONTRACTOR SHALL COORDINATE ALL FLOOR FRAMING INTERFERENCES WITH MEP. ADD HEADERS AS REQUIRED TO PROVIDE NECESSARY CLEARANCES.
6. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
7. SEE S0.2 FOR BEARING WALL SCHEDULE AND HEADER SCHEDULE. PROVIDE H7 HEADER AT LOUVERS WITH 2'-8" MAX ROUGH OPENING.
8. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS, UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE.

PLAN NOTES

1. TYPICAL FLOOR CONSTRUCTION: 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 24" DEEP FLOOR TRUSSES @ 16" O/C MAX UNLESS NOTED OTHERWISE.
2. TYPICAL CORRIDOR CONSTRUCTION: 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2X10 @ 16" O/C, UNLESS NOTED OTHERWISE.
3. TYPICAL BALCONY CONSTRUCTION: 5/4" COMPOSITE DECKING ON SLOPED TREATED 2X10 JOISTS @ 16" O/C UNLESS NOTED OTHERWISE.
4. 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 1.75X9.25 LVL JOISTS @ 16" O/C MAX UNLESS NOTED OTHERWISE.
5. 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2x12 JOISTS @ 16" O/C MAX UNLESS NOTED OTHERWISE.
6. SIMPSON HUC48 HANGER AT BEAM TO CMU WITH (14) TNT25214H TITEN TURBO MASONRY SCREW ANCHORS.

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2022006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER : DAS	DRAWN : BSW
ARCHITECT : DAS	CHECKED : BDT
ENGINEER : LBF	APPROVED : Approver

NO.	REVISION DESCRIPTION	DATE

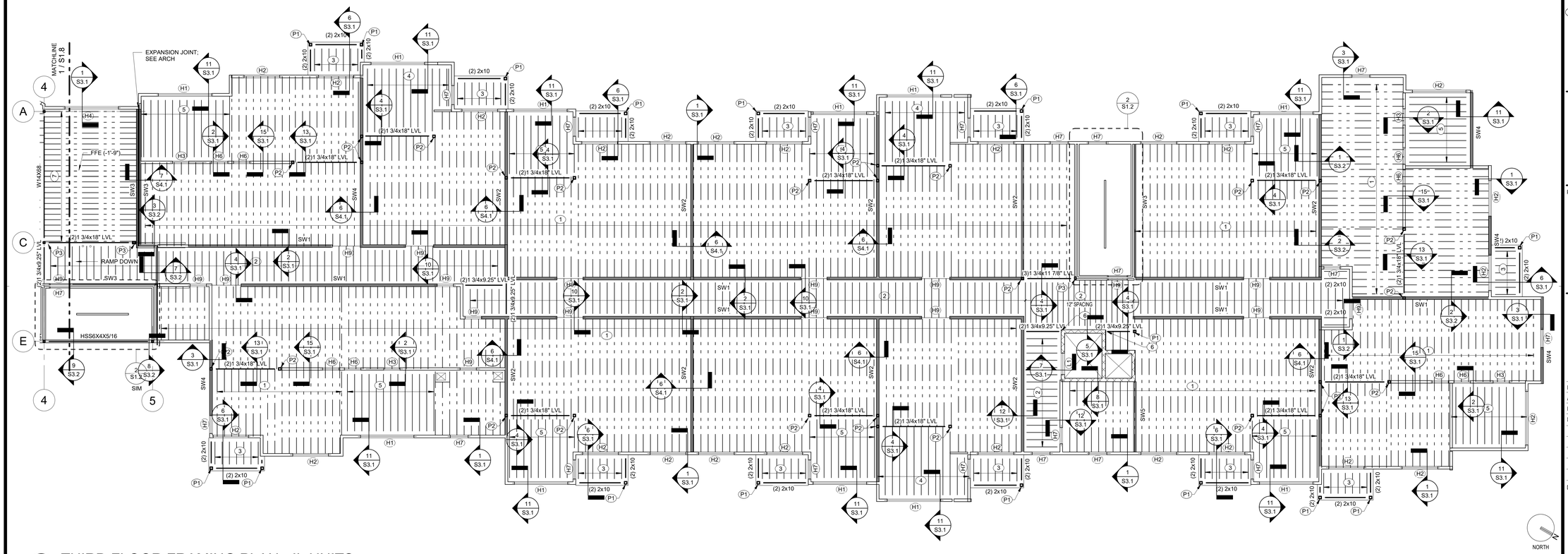
DRAWING TITLE

SECOND FLOOR FRAMING PLAN - IL UNITS

DATE: January 5, 2024

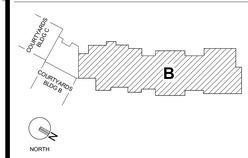
COMM. NO. 23104.00

DRAWING S1.2



1 THIRD FLOOR FRAMING PLAN - IL UNITS
S1.3 1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. FINISHED THIRD FLOOR ELEVATION= (+22'-8") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. TOP OF THIRD FLOOR PLYWOOD ELEV= (-0'-1") BELOW FINISHED FLOOR ELEVATION.
2. TOP OF WOOD BEAM ELEV. AT BALCONIES= SEE ARCH. TOP OF WOOD BEAMS AT APARTMENT FLOORS = (-0'-6 1/4") BELOW FINISHED FLOOR ELEVATION, U.N.O.
3. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
5. CONTRACTOR SHALL COORDINATE ALL FLOOR FRAMING INTERFERENCES WITH MEP, ADD HEADERS AS REQUIRED TO PROVIDE NECESSARY CLEARANCES.
6. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
7. SEE S0.2 FOR BEARING WALL SCHEDULE AND HEADER SCHEDULE. PROVIDE H7 HEADER AT LOUVERS WITH 2'-8" MAX ROUGH OPENING.
8. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS, UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE. POSTS SHOWN ARE BELOW 3RD FLOOR.

PLAN NOTES

1. TYPICAL FLOOR CONSTRUCTION: 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 24" DEEP FLOOR TRUSSES @ 16" O/C MAX UNLESS NOTED OTHERWISE.
2. TYPICAL CORRIDOR CONSTRUCTION: 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2X10 @ 16" O/C, UNLESS NOTED OTHERWISE.
3. TYPICAL BALCONY CONSTRUCTION: 5/4" COMPOSITE DECKING ON SLOPED TREATED 2X10 JOISTS @ 16" O/C UNLESS NOTED OTHERWISE.
4. 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 1.75X9.25 LVL JOISTS @ 16" O/C MAX UNLESS NOTED OTHERWISE.
5. 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2x12 JOISTS @ 16" O/C MAX UNLESS NOTED OTHERWISE.
6. SIMPSON HUC48 HANGER AT BEAM TO CMU WITH (14) TNT25214H TITEN TURBO MASONRY SCREW ANCHORS.
7. 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 16" DEEP FLOOR TRUSSES @ 12" O/C MAX UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2012006433
PROFESSIONAL ENGINEER
01/05/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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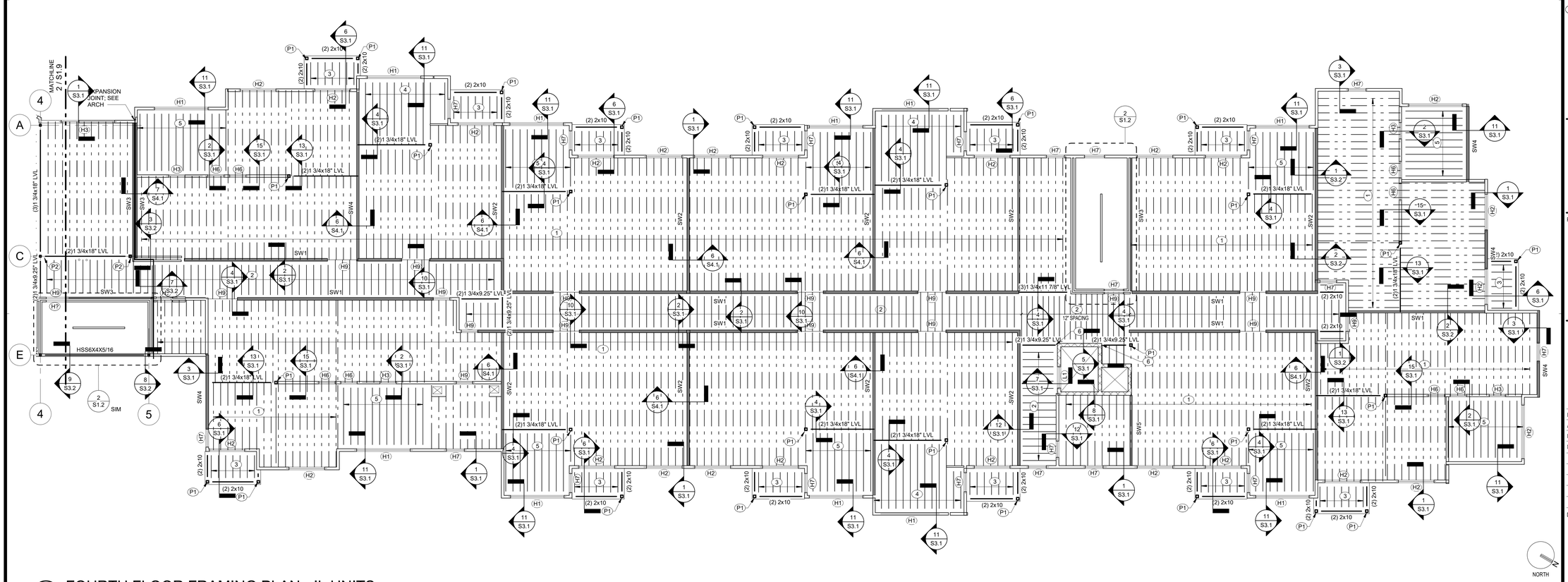
DESIGNER	DAS	DRAWN	BSW
ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

THIRD FLOOR FRAMING PLAN - IL UNITS

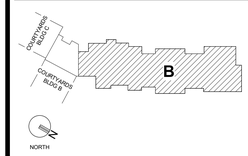
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING S1.3



1 S1.4 FOURTH FLOOR FRAMING PLAN - IL UNITS

1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. FINISHED FOURTH FLOOR ELEVATION= (+34'-0") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. TOP OF FOURTH FLOOR PLYWOOD ELEV= (-0'-1") BELOW FINISHED FLOOR ELEVATION.
2. TOP OF WOOD BEAM ELEV. AT BALCONIES= SEE ARCH. TOP OF WOOD BEAMS AT APARTMENT FLOORS = (-0'-6 1/4") BELOW FINISHED FLOOR ELEVATION, U.N.O.
3. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
5. CONTRACTOR SHALL COORDINATE ALL FLOOR FRAMING INTERFERENCES WITH MEP, ADD HEADERS AS REQUIRED TO PROVIDE NECESSARY CLEARANCES.
6. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
7. SEE S0.2 FOR BEARING WALL SCHEDULE AND HEADER SCHEDULE. PROVIDE H7 HEADER AT LOUVERS WITH 2'-8" MAX ROUGH OPENING.
8. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS. UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE.

PLAN NOTES

1. TYPICAL FLOOR CONSTRUCTION: 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 24" DEEP FLOOR TRUSSES @ 16" O/C MAX UNLESS NOTED OTHERWISE.
2. TYPICAL CORRIDOR CONSTRUCTION: 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2X10 @ 16" O/C, UNLESS NOTED OTHERWISE.
3. TYPICAL BALCONY CONSTRUCTION: 5/4" COMPOSITE DECKING ON SLOPED TREATED 2X10 JOISTS @ 16" O/C UNLESS NOTED OTHERWISE.
4. 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 1.75X9.25 LVL JOISTS @ 16" O/C MAX UNLESS NOTED OTHERWISE.
5. 3/4" SELF-LEVELING GYPCRETE TOPPING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2x12 JOISTS @ 16" O/C MAX UNLESS NOTED OTHERWISE.
6. SIMPSON HUC48 HANGER AT BEAM TO CMU WITH (14) TNT25214H TITEN TURBO MASONRY SCREW ANCHORS.

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2023006533
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PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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DESIGNER	DAS	DRAWN	BSW
ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

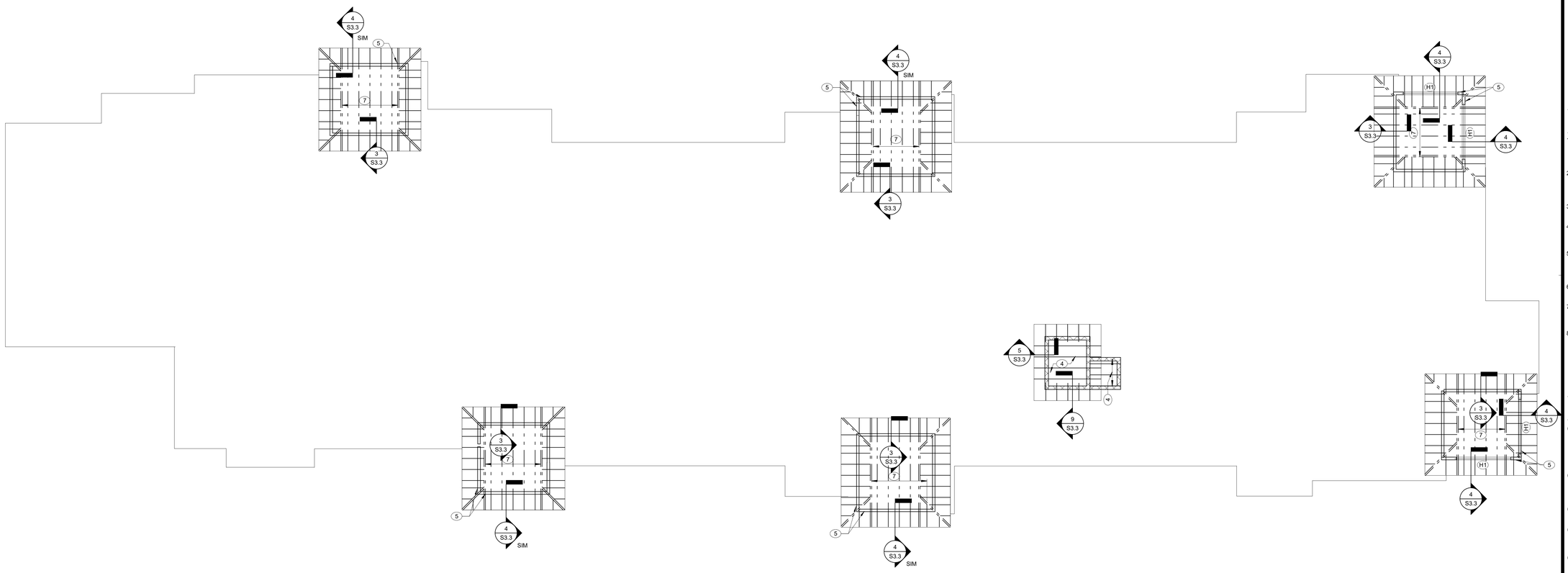
DRAWING TITLE

FOURTH FLOOR FRAMING PLAN - IL UNITS

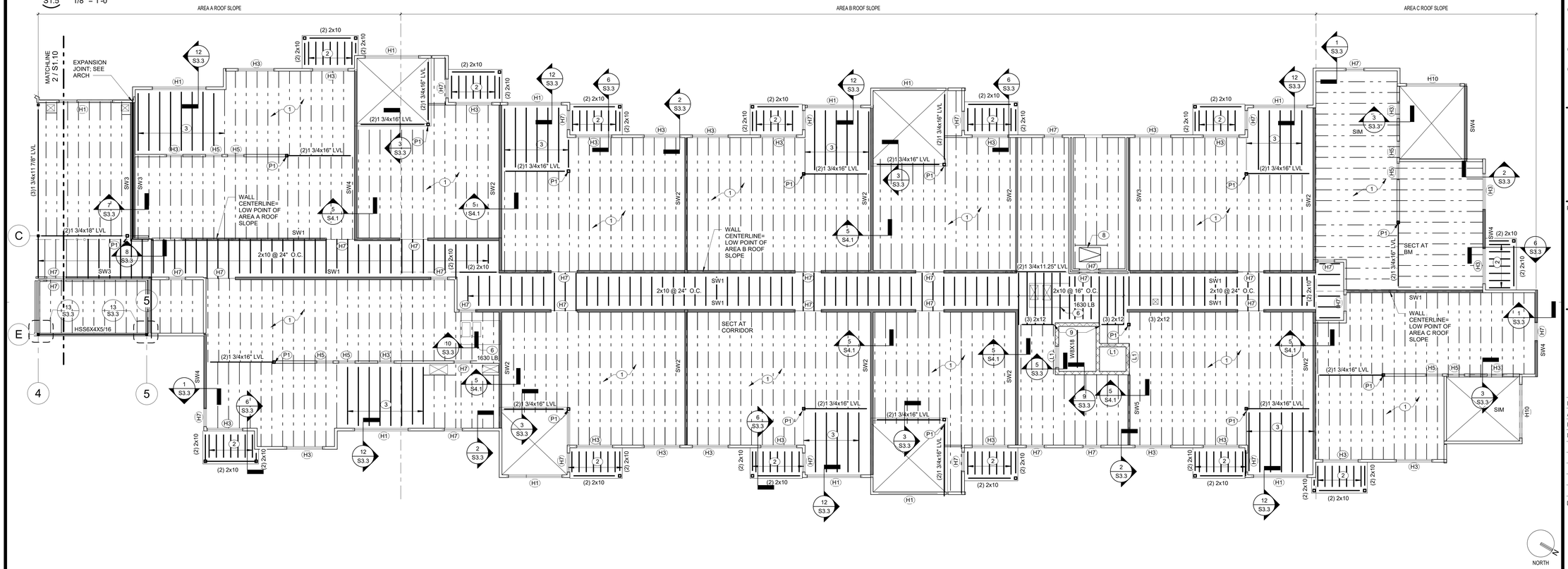
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING S1.4

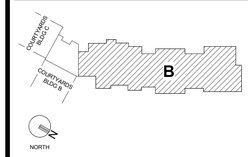


2 HIGH ROOF FRAMING PLAN
S1.5 1/8" = 1'-0"



1 ROOF FRAMING PLAN
S1.5 1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

1. ROOF TRUSS BEARING ELEVATION= (+43'-0 1/4") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. HIGH ROOF TRUSS BEARING ELEVATION= (+ 48'-5 7/8"), U.N.O.
2. TOP OF WOOD BEAM ELEV. AT BALCONIES= (+44'-6 1/4"), U.N.O. AT INTERIOR BEAMS. BOTTOM OF BEAM= ROOF TRUSS BEARING ELEVATION. TOP OF STL AT HOIST BEAM= (+45'-4 5/8").
3. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
5. CONTRACTOR SHALL COORDINATE ALL ROOF TRUSS FRAMING INTERFERENCES WITH MEP, ADD GIRDER TRUSSES AND HEADERS AS REQUIRED TO PROVIDE NECESSARY CLEARANCES.
6. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
7. SEE S0.2 FOR BEARING WALL SCHEDULE AND HEADER SCHEDULE. PROVIDE H7 HEADER AT LOUVERS WITH 2'-8" MAX ROUGH OPENING.
8. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS, UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE.

PLAN NOTES

1. TYPICAL ROOF FRAMING: 5/8" THICK PLYWOOD ROOF SHEATHING ON PRE-ENGINEERED WOOD ROOF TRUSSES WITH TOP CHORD AT 1/4"/FOOT SLOPE SPACED @ 24" OC MAX SPACING, UNLESS NOTED OTHERWISE. MINIMUM TRUSS DEPTH AT ROOF DRAINS= 16" DEEP.
2. 5/8" THICK PLYWOOD ROOF SHEATHING ON 2X10 JOISTS @ 16" OC MAX SPACING SLOPED AT 1/4"/FOOT. TREATED SHEATHING AND 2X AT BALCONIES.
3. 5/8" THICK PLYWOOD ROOF SHEATHING ON 2X12 JOISTS @ 24" OC MAX SPACING.
4. 5/8" THICK PLYWOOD ROOF SHEATHING ON 2X10 JOISTS @ 24" OC MAX SPACING OVER HORIZONTAL SHAFTLINER CAP; SEE ARCH. DWGS.
5. WALL STUDS ARE CONTINUOUS FROM 4TH FLOOR TO HIGH TRUSS BEARING. PROVIDE SIMPSON H10A HURRICANE TIES MINIMUM THIS WALL.
6. DESIGN TRUSSES FOR RTU WEIGHT INDICATED ON PLAN. FINAL LOCATION OF POINT LOADS SHALL BE COORDINATED WITH ACTUAL SELECTED RTU CURB DIMENSIONS. SEE 10/S3.3 AT CURB.
7. TYPICAL HIGH ROOF FRAMING: 5/8" THICK PLYWOOD ROOF SHEATHING ON PRE-ENGINEERED WOOD ROOF TRUSSES SPACED @ 24" OC MAX SPACING, UNLESS NOTED OTHERWISE. TRUSS DEPTH= 16" DEEP.
8. FRAME AROUND ROOF HATCH WITH GIRDER TRUSSES; SEE ARCH FOR LOCATION.
9. SIMPSON HUC210-3 HANGER AT BEAM TO CMU WITH (14) TNT25214H TITEN TURBO MASONRY SCREW ANCHORS

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2022006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

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ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

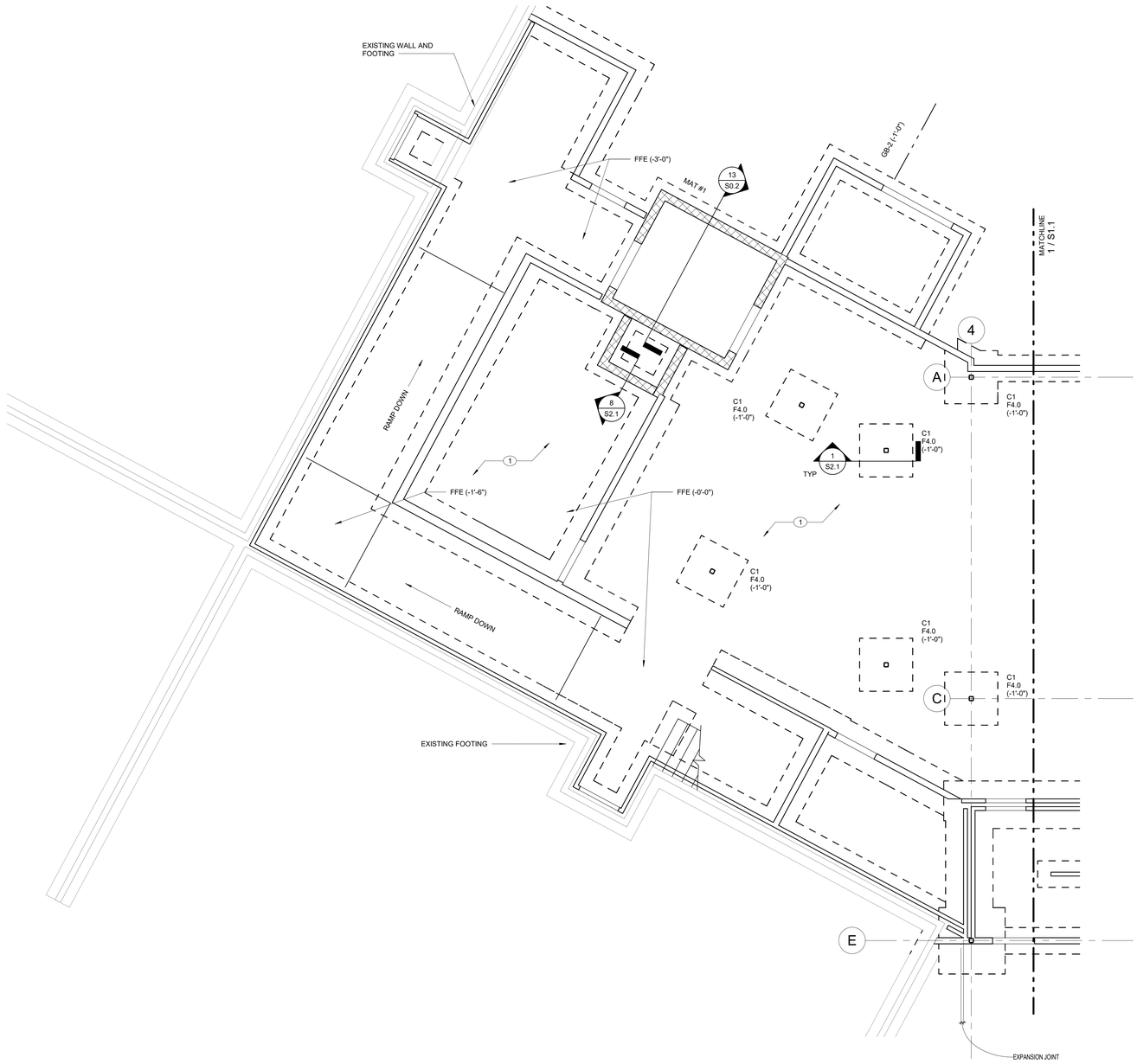
DRAWING TITLE

ROOF FRAMING PLAN - IL UNITS

DATE: January 5, 2024

COMM. NO. 23104.00

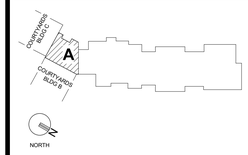
DRAWING S1.5



1 S1.6 ATRIUM - FIRST FLOOR PLAN

1/4" = 1'-0"

KEYPLAN



GENERAL NOTES

1. TOP OF FIRST FLOOR CONCRETE SLAB ELEVATION = (+0'-0"), UNLESS NOTED OTHERWISE.
2. TOP OF FOOTING ELEVATION= (-1'-0") BELOW REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE.
3. FINISHED SECOND FLOOR ELEVATION= (+11'-4") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. TOP OF SECOND FLOOR PLYWOOD ELEV= (-0'-1") BELOW FINISHED FLOOR ELEVATION.
4. TRUSS BEARING ELEV. AT VESTIBULE VARIES WITH LANDING ELEVATIONS, AS REFERENCE FROM BUILDING E SECOND FLOOR ELEVATION. SEE PLAN.
5. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
6. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
7. CONTRACTOR SHALL COORDINATE ALL FLOOR FRAMING INTERFERENCES WITH MEP. ADD HEADERS AS REQUIRED TO PROVIDE NECESSARY CLEARANCES.
8. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
9. SEE 6S0.2 FOR BEARING WALL SCHEDULE.
10. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS, UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE.
11. "T.S." INDICATES THICKENED SLAB UNDER WALL OR STAIR STRINGER.

PLAN NOTES

1. 4"-THICK CONCRETE SLAB ON GRADE ON VAPOR RETARDER AND GRANULAR FILL, REINFORCED WITH 6x6-W1.4xW1.4 WELDED WIRE FABRIC.
2. 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2X10 @ 16" O/C, UNLESS NOTED OTHERWISE.
3. 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 1.75X9.25" LVL @ 16" O/C, UNLESS NOTED OTHERWISE.

PERMIT SET

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ARCHITECT : DAS	CHECKED : BDT
ENGINEER : LBF	APPROVED : Approver

NO.	REVISION DESCRIPTION	DATE

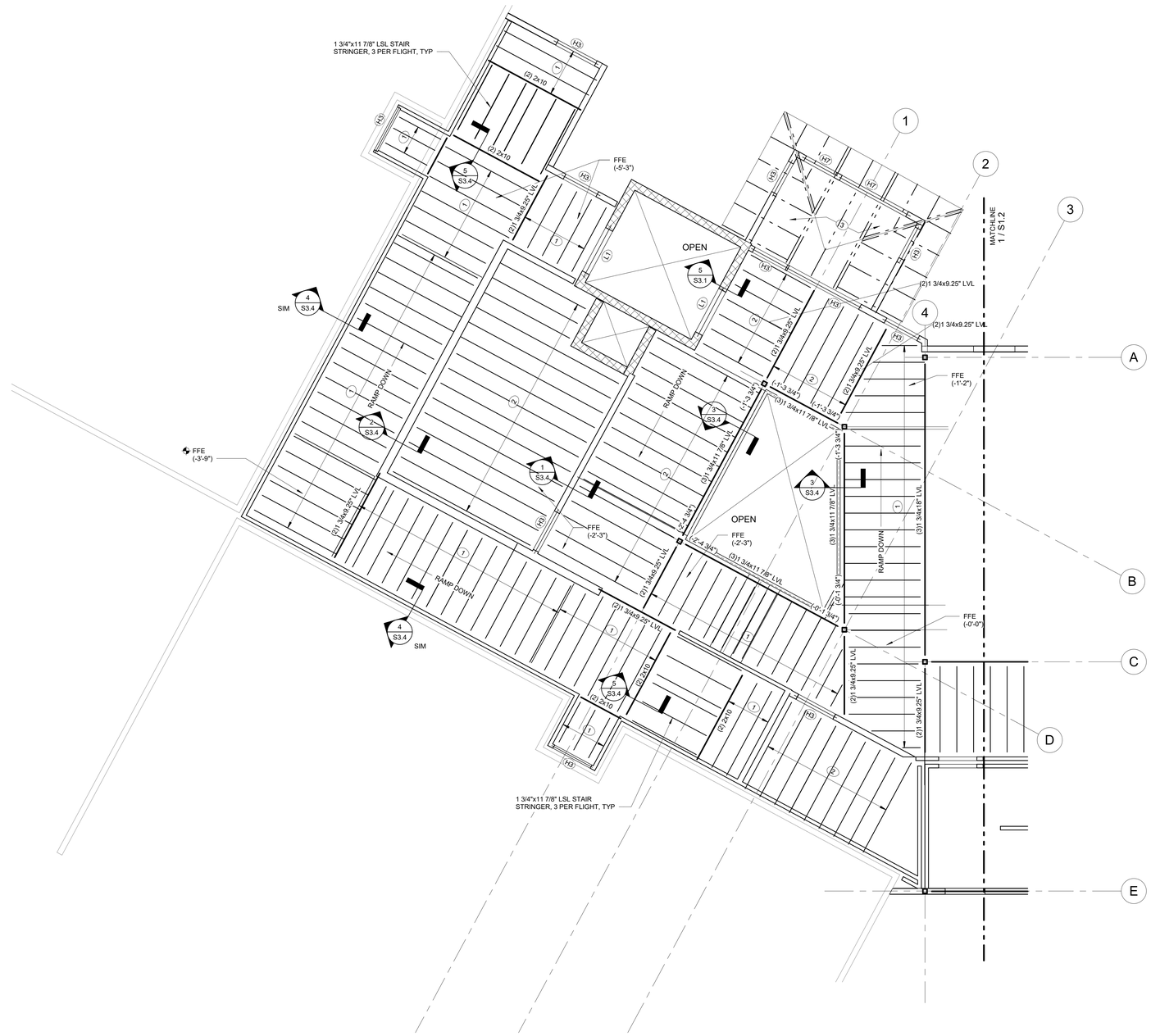
DRAWING TITLE

FOUNDATION PLAN - ATRIUM

DATE: January 5, 2024

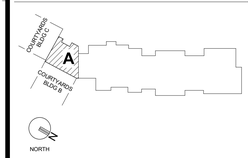
COMM. NO. 23104.00

DRAWING S1.6



1 SECOND FLOOR FRAMING PLAN - ATRIUM
S1.7 1/4" = 1'-0"

KEYPLAN



GENERAL NOTES

1. FINISHED SECOND FLOOR ELEVATION= (+11'-4") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. TOP OF SECOND FLOOR PLYWOOD ELEV= (-0'-1") BELOW FINISHED FLOOR ELEVATION.
2. TOP OF BEAM=TOP OF JOIST=(-0'-1 3/4") BELOW FINISHED FLOOR. FINISHED FLOOR ELEVATION VARIES. SEE PLAN FOR FINISHED FLOOR ELEVATION REFERENCED TO FINISHED THIRD FLOOR ELEVATION.
3. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
5. CONTRACTOR SHALL COORDINATE ALL FLOOR FRAMING INTERFERENCES WITH MEP. ADD HEADERS AS REQUIRED TO PROVIDE NECESSARY CLEARANCES.
6. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
7. SEE 6S0.2 FOR BEARING WALL SCHEDULE.
8. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS, UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE.
9. SIMPSON LU28 OR HU28 SKEWED BEAM HANGER AT 2X10 JOISTS TO BEAM. SIMPSON HUS1.81/10 AT LVL JOISTS TO BEAM.

PLAN NOTES

1. 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2X10 @ 16" O/C, UNLESS NOTED OTHERWISE.
2. 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 1.75/9.25" LVL @ 16" O/C, UNLESS NOTED OTHERWISE.
3. TYPICAL ROOF FRAMING: 5/8" THICK PLYWOOD ROOF SHEATHING ON PRE-ENGINEERED WOOD ROOF TRUSSES SPACED @ 24" O/C MAX SPACING, UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSOURI
LINDSEY B FASNACHT
NUMBER PE-2022006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ARCHITECT : DAS	CHECKED : BDT
ENGINEER : LBF	APPROVED : Approver

NO.	REVISION DESCRIPTION	DATE

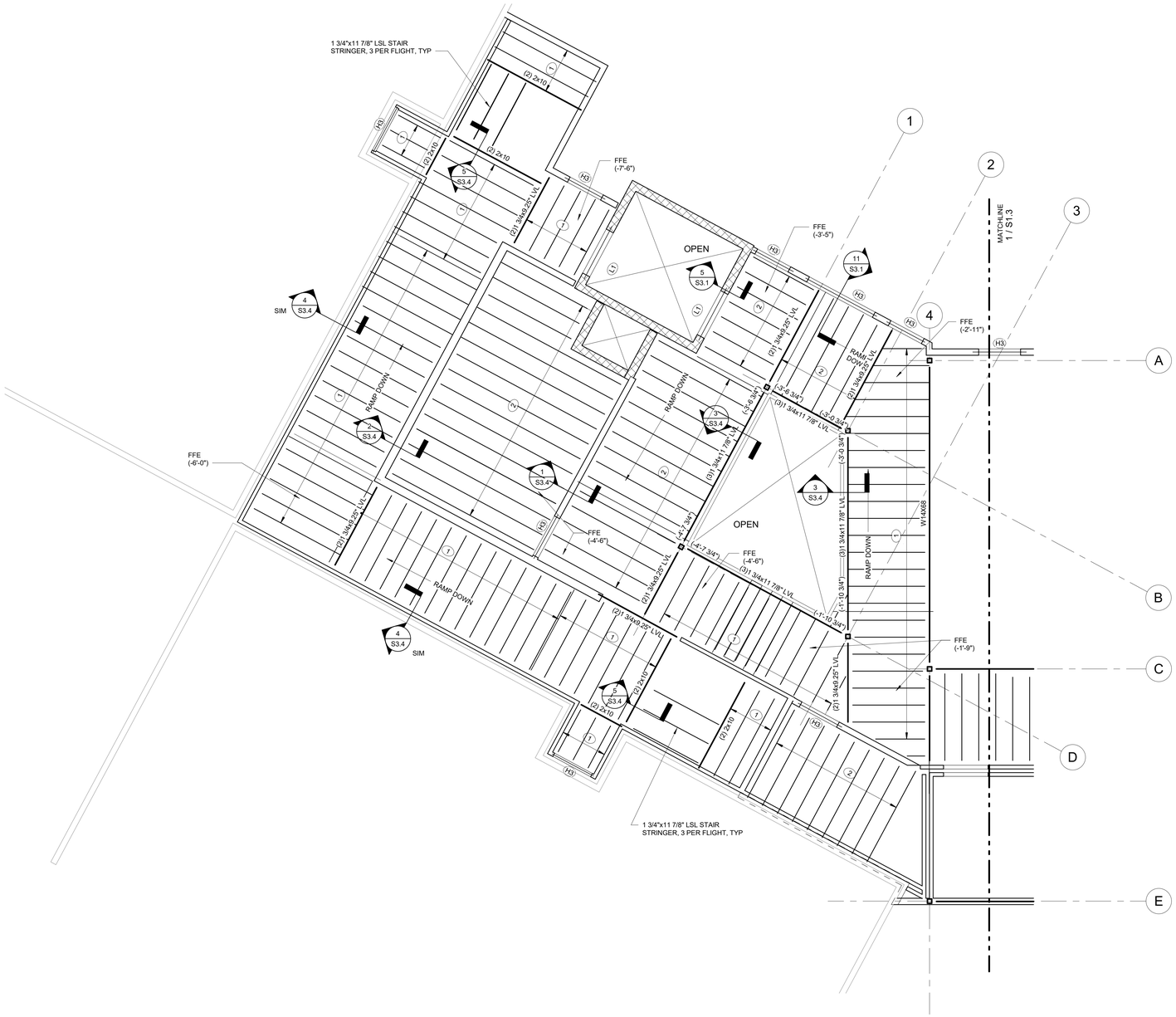
DRAWING TITLE

SECOND FLOOR FRAMING PLAN - ATRIUM

DATE: January 5, 2024

COMM. NO. 23104.00

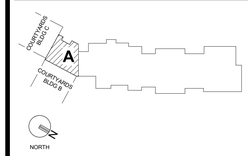
DRAWING S1.7



1 S1.8 THIRD FLOOR FRAMING PLAN - ATRIUM

1/4" = 1'-0"

KEYPLAN



GENERAL NOTES

1. FINISHED THIRD FLOOR ELEVATION= (+22'-8") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. TOP OF THIRD FLOOR PLYWOOD ELEV= (-0'-1") BELOW FINISHED FLOOR ELEVATION.
2. TOP OF BEAM=TOP OF JOIST=(-0'-1 3/4") BELOW FINISHED FLOOR. FINISHED FLOOR ELEVATION VARIES. SEE PLAN FOR FINISHED FLOOR ELEVATION REFERENCED TO FINISHED THIRD FLOOR ELEVATION.
3. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
5. CONTRACTOR SHALL COORDINATE ALL FLOOR FRAMING INTERFERENCES WITH MEP. ADD HEADERS AS REQUIRED TO PROVIDE NEGESSARY CLEARANCES.
6. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
7. SEE 6S0.2 FOR BEARING WALL SCHEDULE.
8. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS, UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE.
9. SIMPSON LU28 OR HU28 SKEWED BEAM HANGER AT 2X10 JOISTS TO BEAM. SIMPSON HUS1.81/10 AT LVL JOISTS TO BEAM.

PLAN NOTES

1. 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2X10 @ 16" O/C, UNLESS NOTED OTHERWISE.
2. 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 1.75X9.25" LVL @ 16" O/C, UNLESS NOTED OTHERWISE.

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2022006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ARCHITECT : DAS	CHECKED : BDT
ENGINEER : LBF	APPROVED : Approver

NO.	REVISION DESCRIPTION	DATE

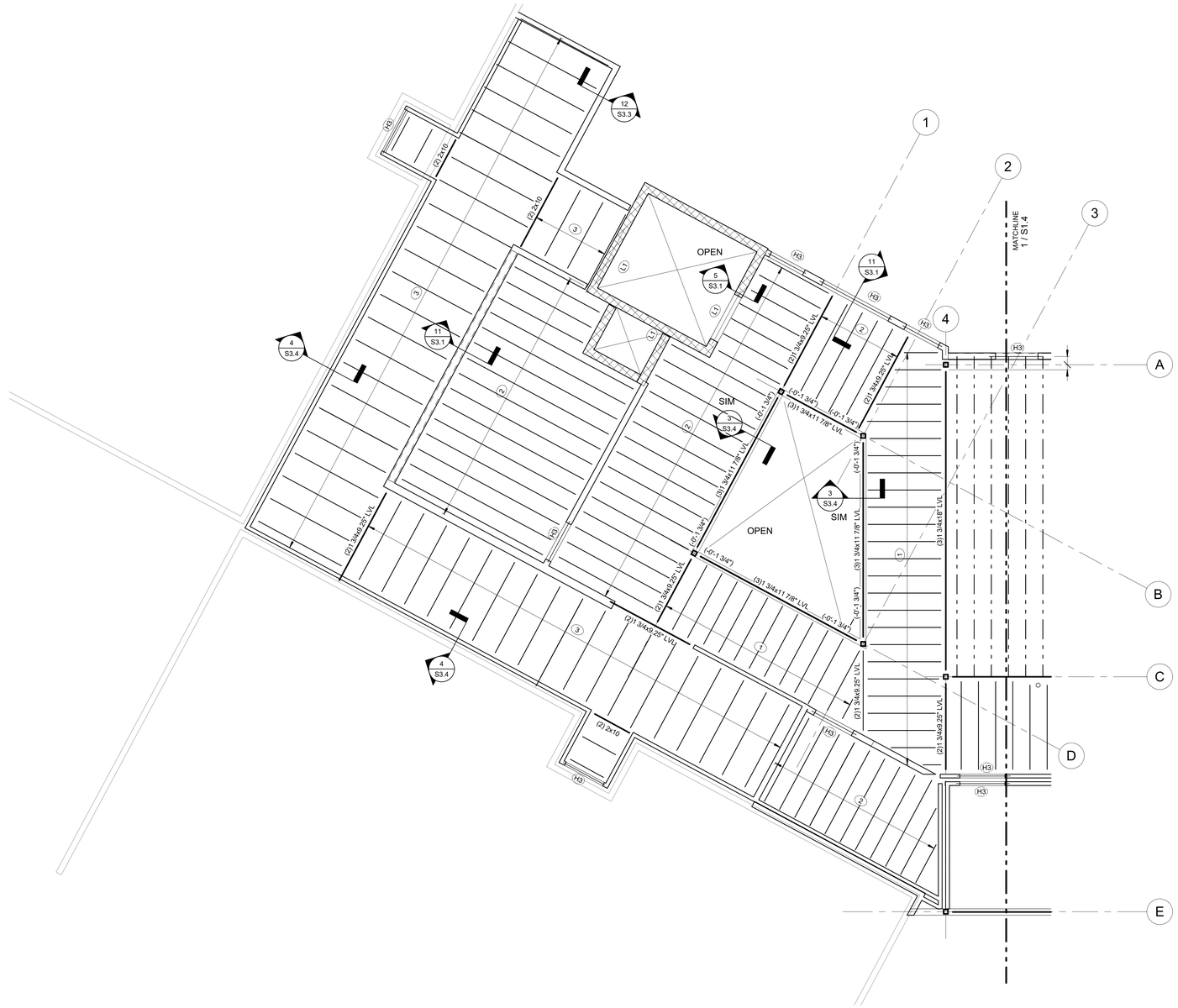
DRAWING TITLE

THIRD FLOOR FRAMING PLAN - ATRIUM

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING S1.8

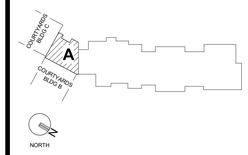


2 S1.9 FOURTH FLOOR FRAMING PLAN - ATRIUM

1/4" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. FINISHED FOURTH FLOOR ELEVATION= (+34'-0") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. TOP OF FOURTH FLOOR PLYWOOD ELEV= (-0'-1") BELOW FINISHED FLOOR ELEVATION.
2. TOP OF BEAM=TOP OF JOIST=(-0'-1 3/4") BELOW FINISHED FLOOR.
3. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
5. CONTRACTOR SHALL COORDINATE ALL FLOOR FRAMING INTERFERENCES WITH MEP, ADD HEADERS AS REQUIRED TO PROVIDE NECESSARY CLEARANCES.
6. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
7. SEE 6S0.2 FOR BEARING WALL SCHEDULE.
8. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS, UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE.
9. SIMPSON LU28 OR HU28 SKEWED BEAM HANGER AT 2X10 JOISTS TO BEAM. SIMPSON HUS1.81/10 AT LVL JOISTS TO BEAM.

PLAN NOTES

1. 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 2X10 @ 16" O/C, UNLESS NOTED OTHERWISE.
2. 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING ON 1/4" SOUND MAT ON 3/4" THICK TONGUE AND GROOVE PLYWOOD SHEATHING SUPPORTED BY 1.75X9.25" LVL @ 16" O/C, UNLESS NOTED OTHERWISE.
3. 5/8" THICK PLYWOOD SHEATHING ON 2X10 JOISTS @ 24" O/C, UNLESS NOTED OTHERWISE. LOW ROOF JOIST BEARING=(+26'-0 3/4") ABOVE REFERENCED FIRST FLOOR.

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STATE OF MISSOURI
LINDSEY B FASNACHT
NUMBER PE-2022006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT : DAS	CHECKED : BDT
ENGINEER : LBF	APPROVED : Approver

NO.	REVISION DESCRIPTION	DATE

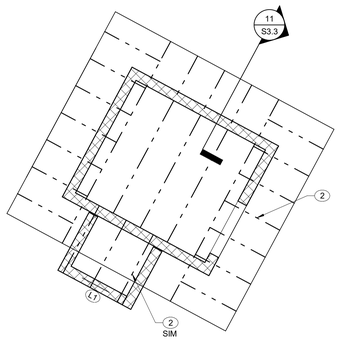
DRAWING TITLE

FOURTH FLOOR FRAMING PLAN - ATRIUM

DATE: January 5, 2024

COMM. NO. 23104.00

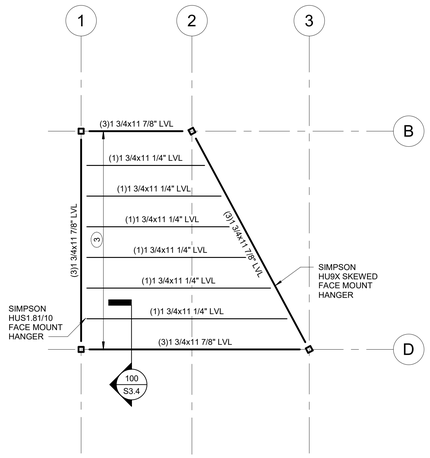
DRAWING S1.9



TOP OF CMU AT ELEVATOR HOISTWAY=(+48'-8").
TOP OF CMU AT SHAFT=(+49'-8")

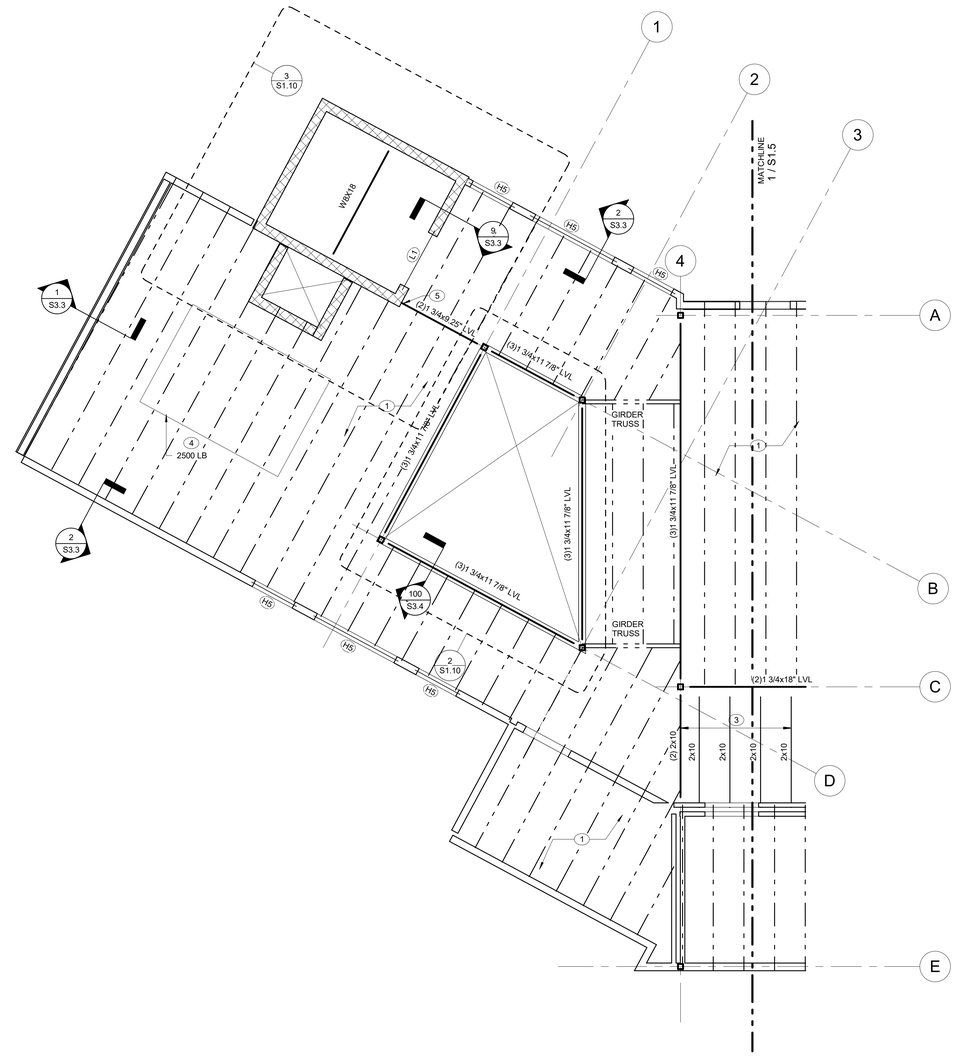
3 S1.10 ELEVATOR HOISTWAY ROOF

1/4" = 1'-0"



2 S1.10 CLERESTORY ROOF FRAMING

1/4" = 1'-0"

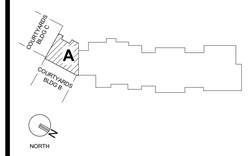


1 S1.10 ROOF FRAMING PLAN - ATRIUM

1/4" = 1'-0"

NORTH

KEYPLAN



GENERAL NOTES

1. ROOF TRUSS BEARING ELEVATION= (+43'-0 1/4") ABOVE REFERENCE FIRST FLOOR, UNLESS NOTED OTHERWISE. CLERESTORY JOIST BEARING ELEVATION=(+50'-4"), U.N.O. ELEVATOR HOISTWAY JOIST BEARING=(+48'-11").
2. BOTTOM OF WOOD BEAM= ROOF TRUSS BEARING ELEVATION. TOP OF STL AT HOIST BEAM= (+45'-4").
3. REINFORCE ALL CMU WALLS W/ #5 VERTICAL @ 32" O/C, U.N.O.
4. SHADING INDICATES SHEARWALL LOCATION. SEE S4.1 FOR SHEARWALL ELEVATIONS AND LOCATIONS OF SIMPSON HOLDDOWN AT EACH END OF SHEARWALL.
5. CONTRACTOR SHALL COORDINATE ALL ROOF TRUSS FRAMING INTERFERENCES WITH MEP, ADD GIRDER TRUSSES AND HEADERS AS REQUIRED TO PROVIDE NECESSARY CLEARANCES.
6. SEE SECTION 6S0.3 FOR WOOD BEAM TO STEEL COLUMN CONNECTION.
7. SEE 6S0.2 FOR BEARING WALL SCHEDULE.
8. BEAMS SHALL BE SUPPORTED BY 3-2X WALL STUDS, UNLESS NOTED OTHERWISE. SEE 7S0.2 FOR POST SCHEDULE.

PLAN NOTES

1. TYPICAL ROOF FRAMING: 5/8" THICK PLYWOOD ROOF SHEATHING ON PRE-ENGINEERED WOOD ROOF TRUSSES WITH TOP CHORD AT 1/4"/FOOT SLOPE SPACED @ 24" O/C MAX SPACING, UNLESS NOTED OTHERWISE. MINIMUM TRUSS DEPTH=16" DEEP.
2. TYPICAL HIGH ROOF FRAMING: 5/8" THICK PLYWOOD ROOF SHEATHING ON PRE-ENGINEERED WOOD ROOF TRUSSES SPACED @ 24" OC MAX SPACING OVER HORIZONTAL SHAFTLINER CAP. SEE ARCH. TRUSS DEPTH= 16" DEEP. 2X6 @ 24" OC AT SIM.
3. 5/8" THICK PLYWOOD ROOF SHEATHING ON JOISTS @ 24" OC MAX SPACING.
4. DESIGN TRUSSES FOR RTU WEIGHT INDICATED ON PLAN. FINAL LOCATION OF POINT LOADS SHALL BE COORDINATED WITH ACTUAL SELECTED RTU CURB DIEMSNICNS. SEE 10/S3.3 AT CURB.
5. SIMPSON HUC48 HANGER AT BEAM TO CMU WITH (14) TNT25214H TITEN TURBO MASONRY SCREW ANCHORS

PERMIT SET

STATE OF MISSOURI
LINDSEY B FASNACHT
NUMBER PE-2022006433
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PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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DESIGNER	DAS	DRAWN	BSW
ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

ROOF FRAMING PLAN - ATRIUM

DATE: January 5, 2024

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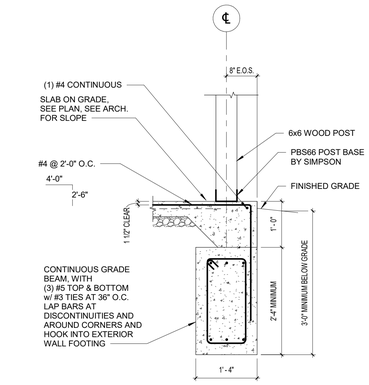
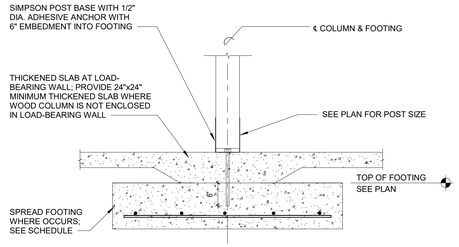
DRAWING S1.10



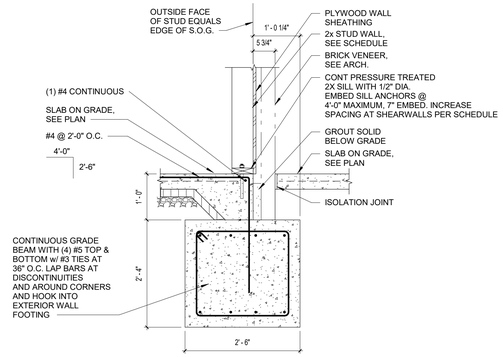
4 S2.1 TYP PORCH POST ON GRADE BEAM

3/4" = 1'-0"



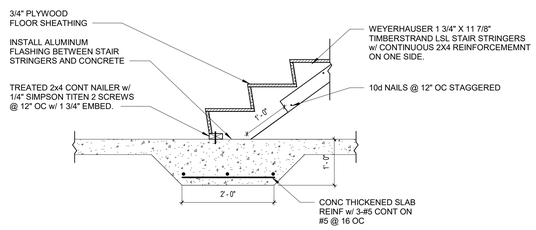
7 S2.1 TYP INTERIOR POST FOOTING

3/4" = 1'-0"



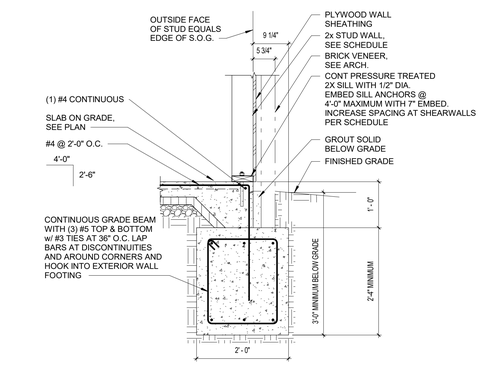
3 S2.1 TYP GRADE BEAM WITH EXTERIOR SLAB

3/4" = 1'-0"



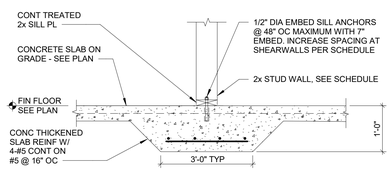
6 S2.1 STAIR ATTACHMENT TO SLAB

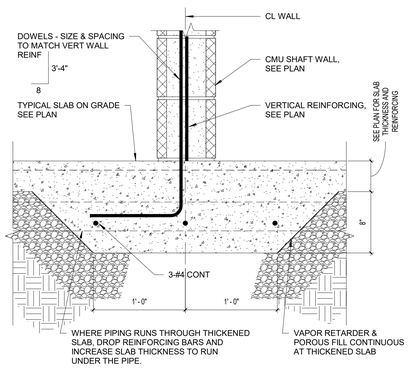
3/4" = 1'-0"



2 S2.1 TYP BEARING WALL ON PERIMETER GRADE BEAM

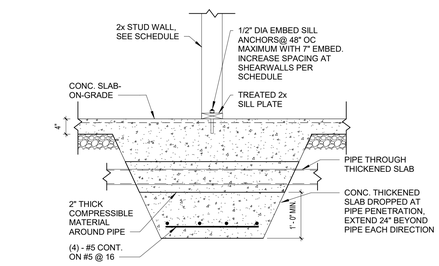
3/4" = 1'-0"





8 S2.1 TYP THICKENED SLAB AT CMU

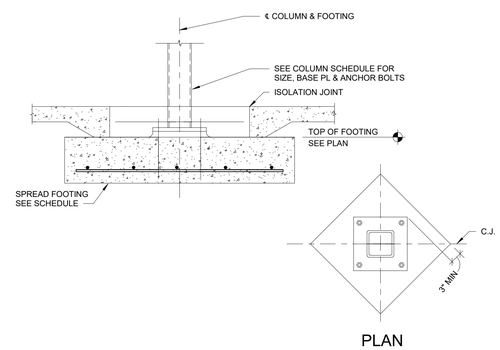
1 1/2" = 1'-0"



TYP THK SLAB UNDER WOOD STUD BEARING WALL

5 S2.1

3/4" = 1'-0"



PLAN

1 S2.1 TYP STEEL COLUMN ON INTERIOR FOOTING

3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
LINDSEY B FASNACHT
NUMBER PE-2022006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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DESIGNER	DAS	DRAWN	BSW
ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

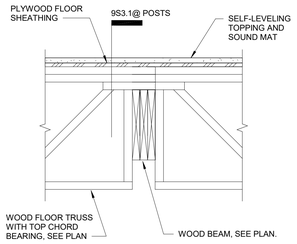
DRAWING TITLE

FOUNDATION SECTIONS AND DETAILS

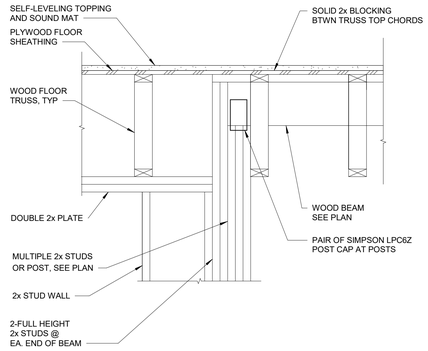
DATE: January 5, 2024

COMM. NO. 23104.00

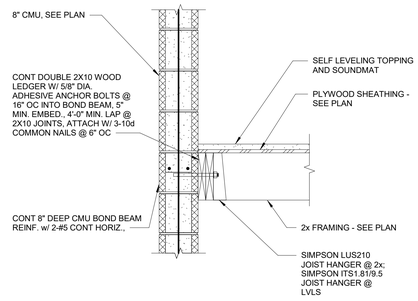
DRAWING S2.1



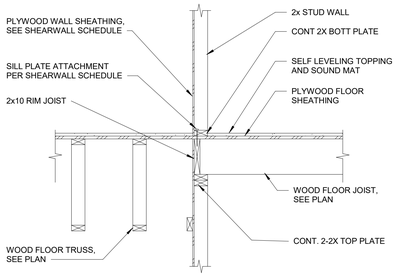
13 S3.1 SECTION
1" = 1'-0"



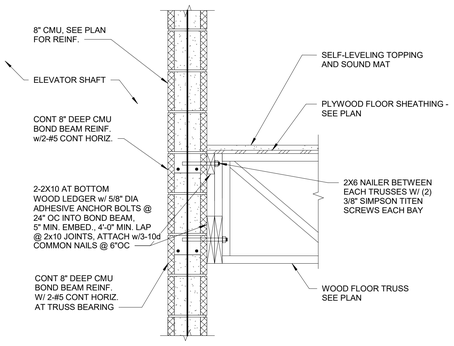
9 S3.1 TYP BEAM BEARING
1" = 1'-0"



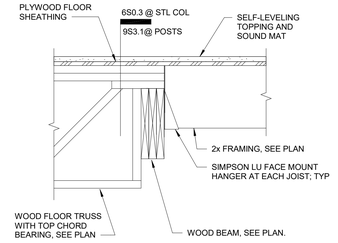
5 S3.1 TYP CORRIDOR FRAMING AT CMU WALL
1" = 1'-0"



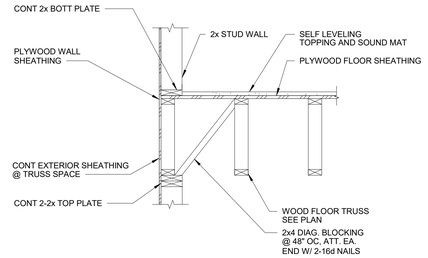
12 S3.1 SECTION
3/4" = 1'-0"



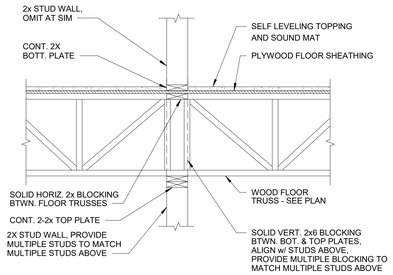
8 S3.1 TYP TRUSS AT CMU WALL
1" = 1'-0"



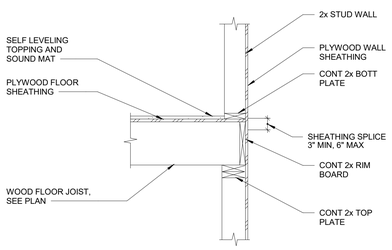
4 S3.1 SECTION
1" = 1'-0"



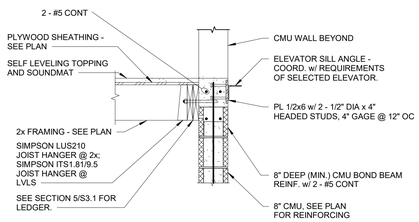
3 S3.1 TYP TRUSS PARALLEL TO BRG WALL
3/4" = 1'-0"



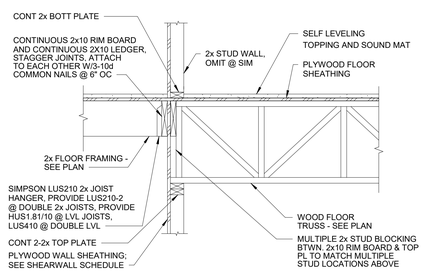
15 S3.1 SECTION
3/4" = 1'-0"



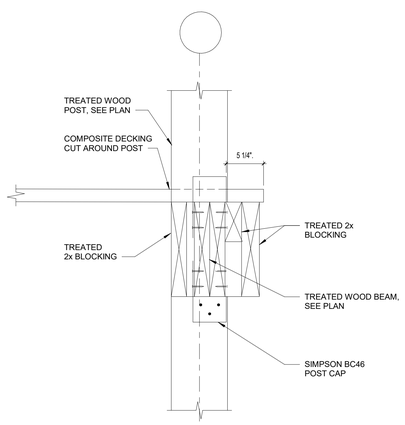
11 S3.1 SECTION
3/4" = 1'-0"



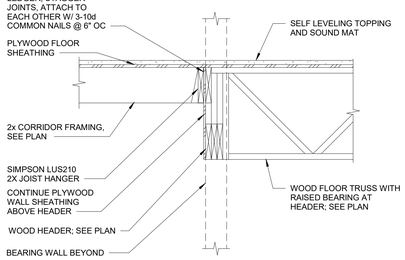
7 S3.1 TYP ELEVATOR DOOR
3/4" = 1'-0"



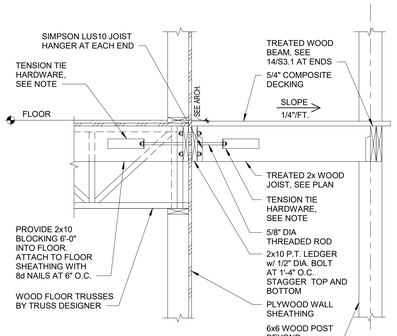
2 S3.1 SECTION
3/4" = 1'-0"



14 S3.1 PORCH BEAM AT POST
1" = 1'-0"

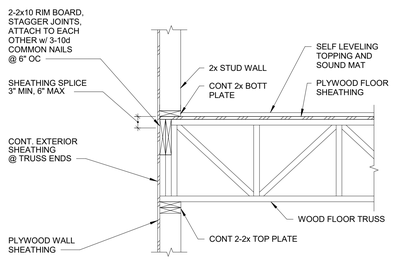


10 S3.1 TYPICAL CORRIDOR WALL OPENING
3/4" = 1'-0"



NOTE:
PROVIDE A MINIMUM OF TWO TENSION TIES. HARDWARE SHALL BE HTT4 BY SIMPSON OR EQUIVALENT LOCATE TENSION TIE ON JOIST OVER EXTERIOR BALCONY POSTS IF POSSIBLE.

6 S3.1 TYP BALCONY WALL
3/4" = 1'-0"



1 S3.1 TYP TRUSS PERP TO BEARING WALL
3/4" = 1'-0"

PERMIT SET

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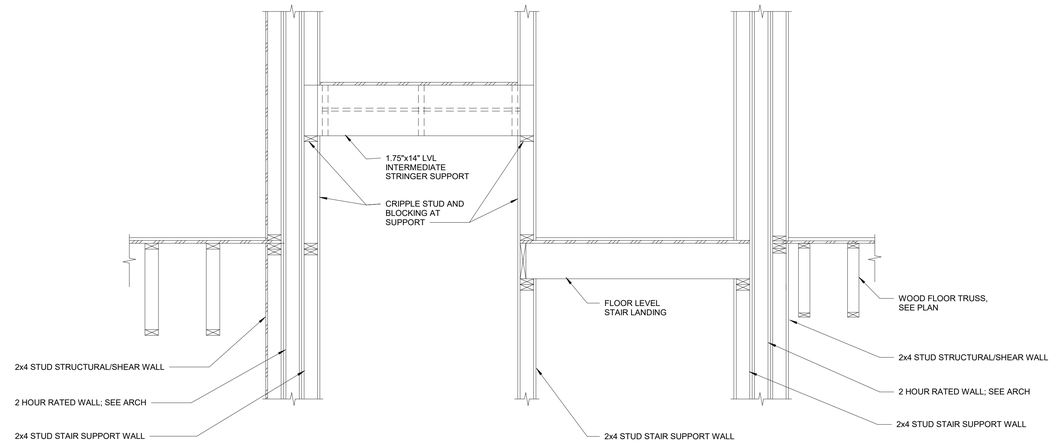
DESIGNER	DAS	DRAWN	BSW
ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

NO.	REVISION DESCRIPTION	DATE

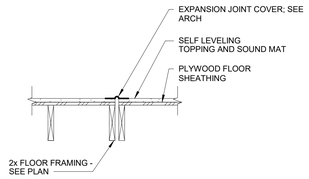
DRAWING TITLE
FRAMING SECTIONS AND DETAILS

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING S3.1



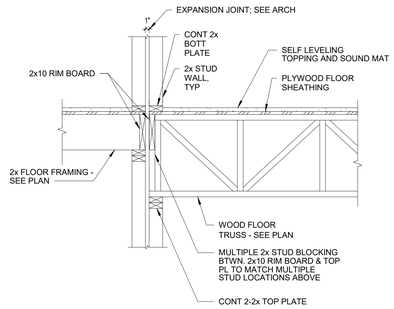
4 / S3.2 SECTION AT STAIRS

3/4" = 1'-0"



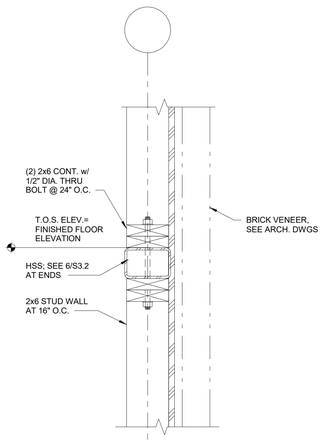
7 / S3.2 TYP FLOOR EXPANSION JOINT

3/4" = 1'-0"



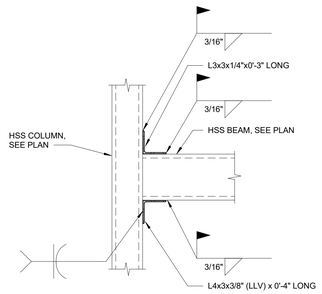
3 / S3.2 TYP EXPANSION JOINT AT CORRIDOR WALL

3/4" = 1'-0"



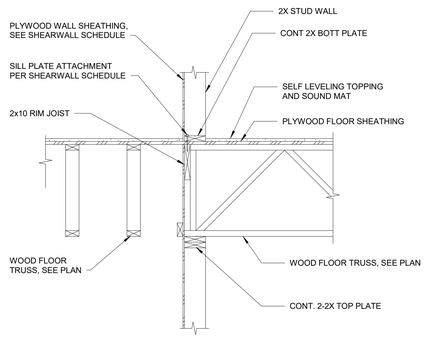
9 / S3.2 WIND GIRT IN STAIR WALL

1 1/2" = 1'-0"



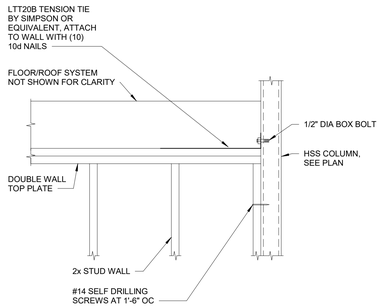
6 / S3.2 SECTION

3/4" = 1'-0"



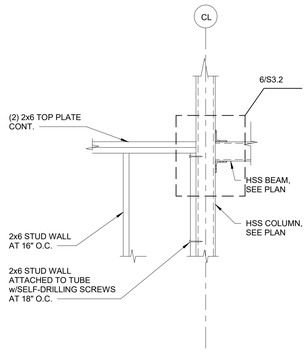
2 / S3.2 SECTION

3/4" = 1'-0"



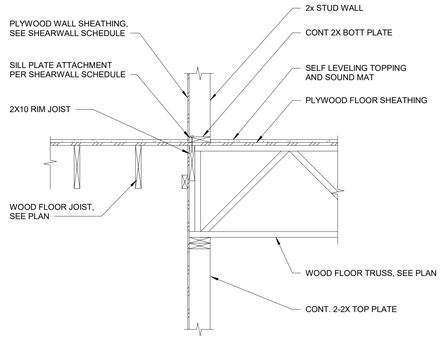
8 / S3.2 SECTION

1/2" = 1'-0"



5 / S3.2 SECTION

3/4" = 1'-0"



1 / S3.2 SECTION

3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
LINDSEY B. EASNACHT
NUMBER PE-2022006433
PROFESSIONAL ENGINEER
01/05/24

PROJECT TITLE

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DESIGNER : DAS	DRAWN : BSW
ARCHITECT : DAS	CHECKED : BDT
ENGINEER : LBF	APPROVED : Approver

NO.	REVISION DESCRIPTION	DATE

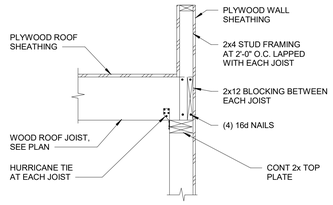
DRAWING TITLE

FRAMING SECTIONS AND DETAILS

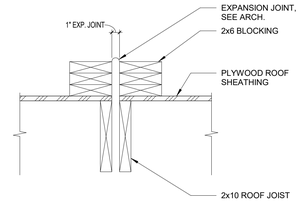
DATE: January 5, 2024

COMM. NO. 23104.00

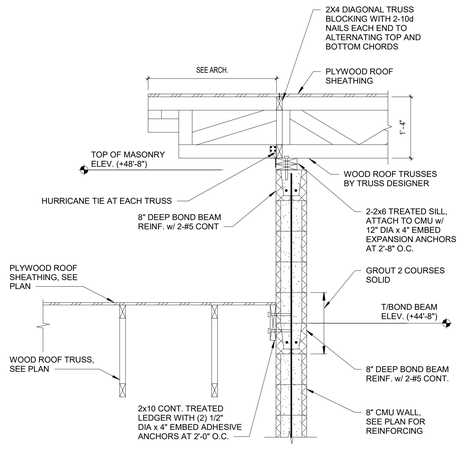
DRAWING S3.2



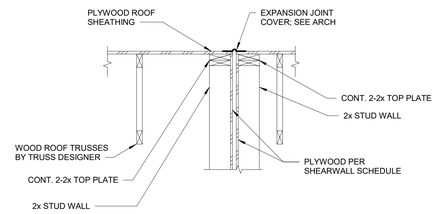
12 S3.3 SECTION
3/4" = 1'-0"



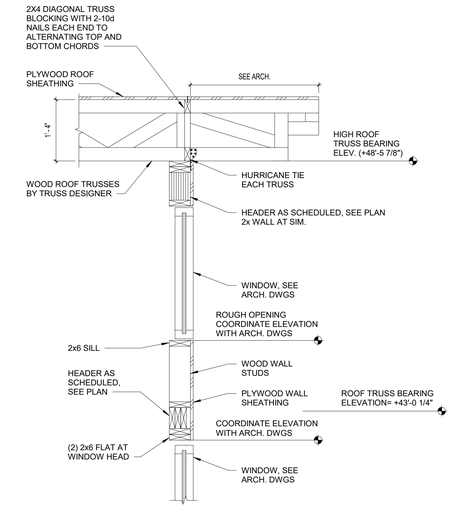
8 S3.3 SECTION
3/4" = 1'-0"



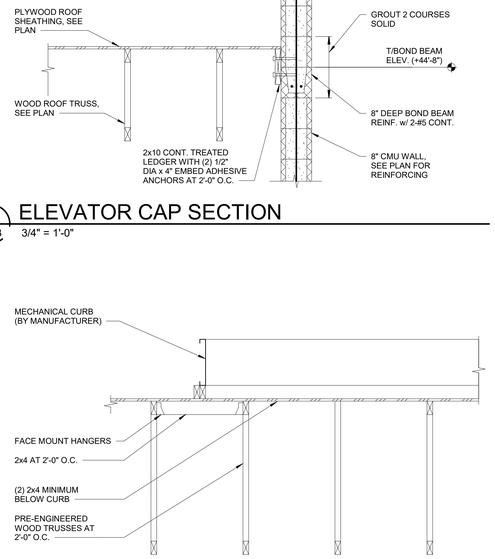
11 S3.3 ELEVATOR CAP SECTION
3/4" = 1'-0"



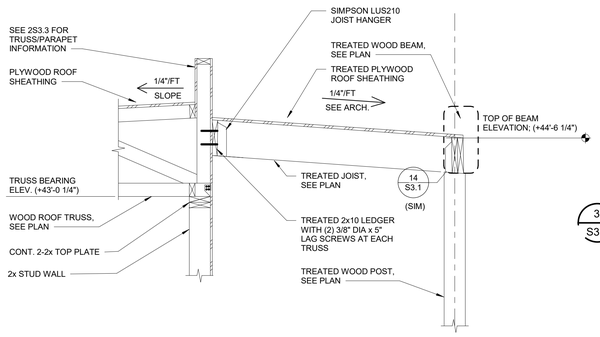
7 S3.3 TYP ROOF EXPANSION JOINT
3/4" = 1'-0"



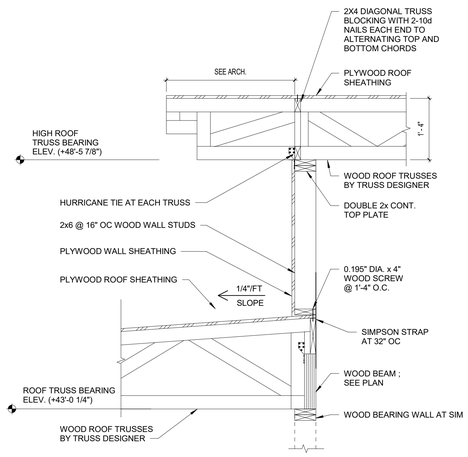
4 S3.3 TYP EXT. WALL HIGH ROOF TRUSS BRG
3/4" = 1'-0"



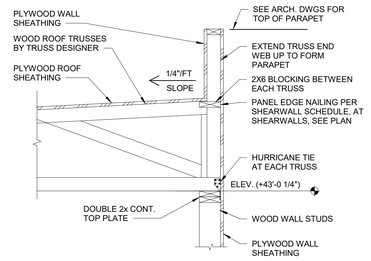
10 S3.3 TYPICAL ROOF CURB
3/4" = 1'-0"



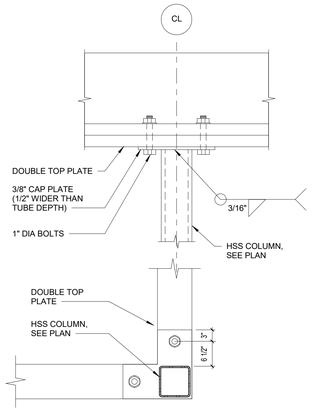
6 S3.3 BALCONY ROOF SECTION
3/4" = 1'-0"



3 S3.3 TYP INT WALL HIGH ROOF TRUSS BRG
3/4" = 1'-0"

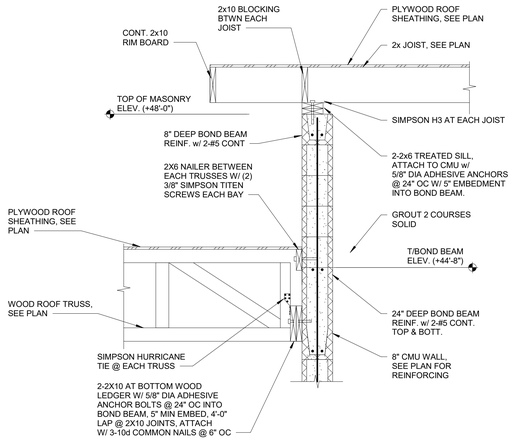


2 S3.3 TYP ROOF TRUSS ON BRG WALL
3/4" = 1'-0"

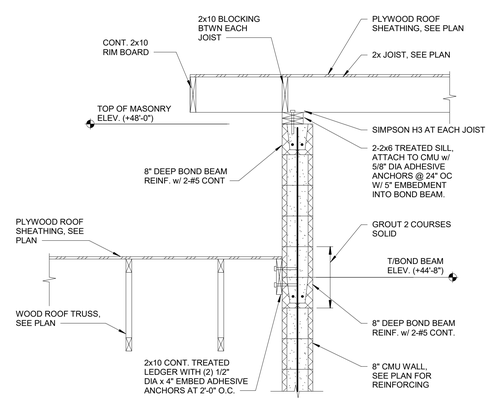


PLAN DETAIL AT CORNER COLUMN

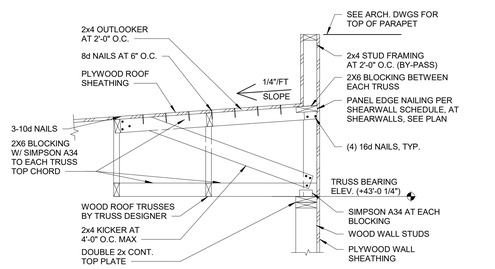
13 S3.3 DETAIL
3/4" = 1'-0"



9 S3.3 ELEVATOR CAP SECTION
3/4" = 1'-0"



5 S3.3 ELEVATOR CAP SECTION
3/4" = 1'-0"



1 S3.3 TYP ROOF TRUSS PARALLEL TO BRG WALL
3/4" = 1'-0"

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2012006433
01/05/24
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS
Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
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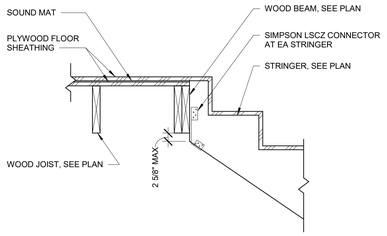
DESIGNER	DAS	DRAWN	BSW
ARCHITECT	DAS	CHECKED	BDT
ENGINEER	LBF	APPROVED	Approver

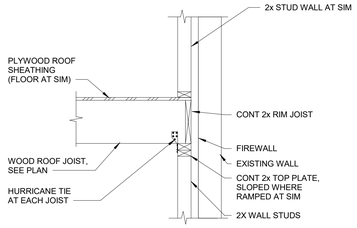
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
FRAMING SECTIONS AND DETAILS

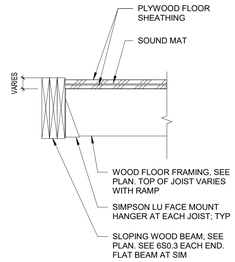
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING S3.3



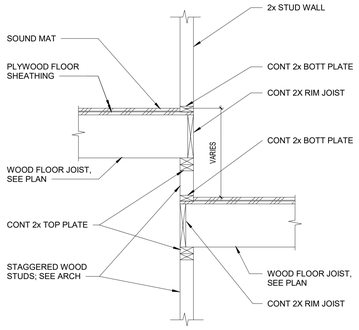
5 S3.4 SECTION AT STAIR
1" = 1'-0"



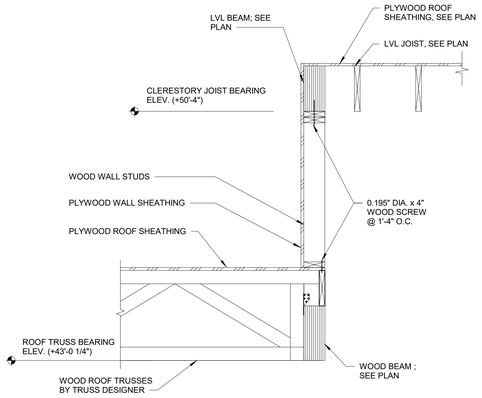
4 S3.4 SECTION
3/4" = 1'-0"



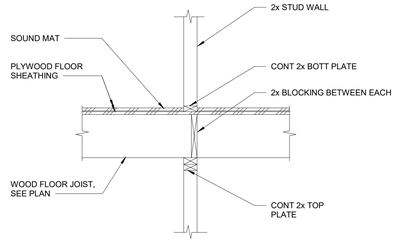
3 S3.4 SECTION
1" = 1'-0"



2 S3.4 SECTION
3/4" = 1'-0"



100 S3.4 TYP HIGH ROOF TRUSS BRG
3/4" = 1'-0"



1 S3.4 SECTION
3/4" = 1'-0"

PERMIT SET

STATE OF MISSOURI
LINDSEY B. FASNACHT
NUMBER PE-2022006433
01/05/24
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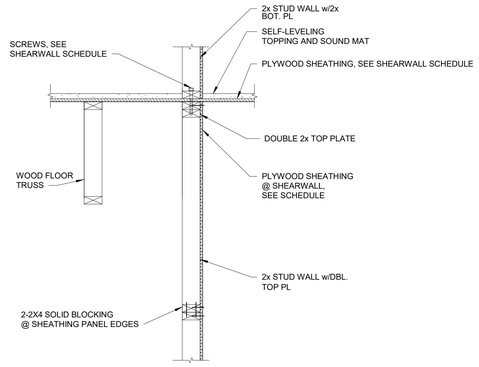
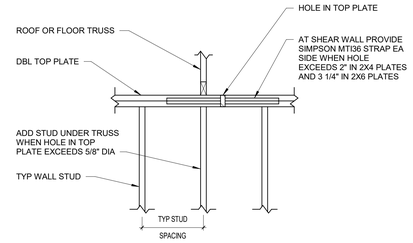


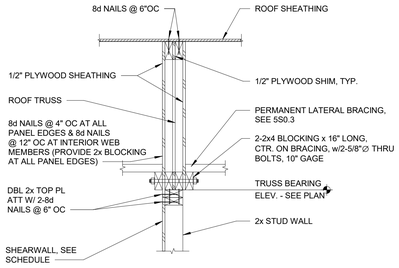
6 S4.1 TYP SHEARWALL PARALLEL TO FLOOR TRUSS

1" = 1'-0"



3 S4.1 TYPICAL TOP & BOTT PLATE PENETRATION IN SHEARWALL

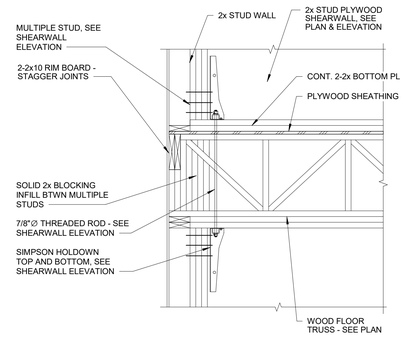
3/4" = 1'-0"



NOTE: AT CONTRACTOR'S OPTION, A DRAG TRUSS MAY BE PROVIDED IN LIEU OF SHEATHED TRUSS. CONNECTION TO TOP PLATE BY TRUSS DESIGNER. EXTEND DRAG TRUSS FULL LENGTH OF DIAPHRAGM AND DESIGN DRAG TRUSS FOR 300 PLF (ALLOWABLE WIND).

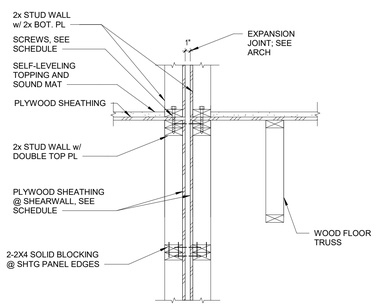
5 S4.1 TYP SHEARWALL PARALLEL TO ROOF TRUSS

1" = 1'-0"



2 S4.1 TYP HOLDOWN BETWEEN FLOORS

3/4" = 1'-0"



7 S4.1 TYP SHEARWALL PARALLEL TO EJ

1" = 1'-0"

SHEARWALL SCHEDULE

	SW1	SW2	SW3	SW4	SW5
PLYWOOD SHEATHING	3/8" 24/0 SPAN RATING	3/8" 24/0 SPAN RATING	3/8" 24/0 SPAN RATING	15/32" 32/16 SPAN RATING	15/32" 32/16 SPAN RATING
WALL TYPE	UNBLOCKED, TYPE II	TYPE I	TYPE I	TYPE II	TYPE I
NAILING AT PANEL EDGES [1]	8d @ 6" OC	8d @ 4" OC	8d @ 4" OC	10d @ 4" OC	10d @ 4" OC
ASD ALLOWABLE UNIT SHEAR CAPACITY [2]	283 PLF	412 PLF	412 PLF	594 PLF	594 PLF
SILL PLATE CONNECTION @ 2ND & 3RD FLOOR [3]	1/4 DIA X 6" LAG SCREW @ 16" OC	1/4 DIA X 6" LAG SCREW @ 8" OC	1/4 DIA X 6" LAG SCREW @ 8" OC	3/8 DIA X 6" LAG SCREW @ 8" OC	3/8 DIA X 6" LAG SCREW @ 8" OC
SILL PLATE CONNECTION @ 4TH FLOOR [3]	1/4 DIA X 6" LAG SCREW @ 32" OC	1/4 DIA X 6" LAG SCREW @ 16" OC	1/4 DIA X 6" LAG SCREW @ 16" OC	1/4 DIA X 6" LAG SCREW @ 8" OC	1/4 DIA X 6" LAG SCREW @ 16" OC
ANCHOR BOLTS [4]	1/2" DIA @ 32" OC	1/2" DIA @ 16" OC	1/2" DIA @ 16" OC	1/2" DIA @ 16" OC	1/2" DIA @ 16" OC
POST & HDU @ 1ST FLOOR [5]	(3)-2X6	(3)-2X6 W/ HDU8	2-(3)-2X4, 12" APART, W/ HDU8	(3)-2X6 W/ HDU14	2-(3)-2X6 W/ 2-HDU8, 12" APART
POST & HDU @ 2ND FLOOR [5]	(3)-2X6	(3)-2X6 W/ HDU8	2-(3)-2X4, 12" APART, W/ HDU8	(3)-2X6 W/ HDU8	(3)-2X6 W/ HDU8
POST & HDU @ REMAINING FLOORS [5]	(3)-2X6	(3)-2X6 W/ HDU8	(3)-2X4 W/ HDU8	(3)-2X6 W/ HDU8	(3)-2X6 W/ HDU8

[1] NAILING PATTERN INDICATES SIZE AND SPACING AT PANEL EDGES, TOP PLATE, SILL PLATE, AND RIM BOARDS. PROVIDE 12" OC SPACING AT INTERMEDIATE FRAMING. USE 8d OR 10d COMMON NAILS BASED ON SCHEDULE WITH 1 3/8" (8d) OR 1 1/2" (10d) PENETRATION IN FRAMING MEMBER OR BLOCKING.

[2] ALLOWABLE UNIT SHEAR CAPACITY FOR WIND, DOES NOT INCLUDE ADJUSTMENT FACTORS.

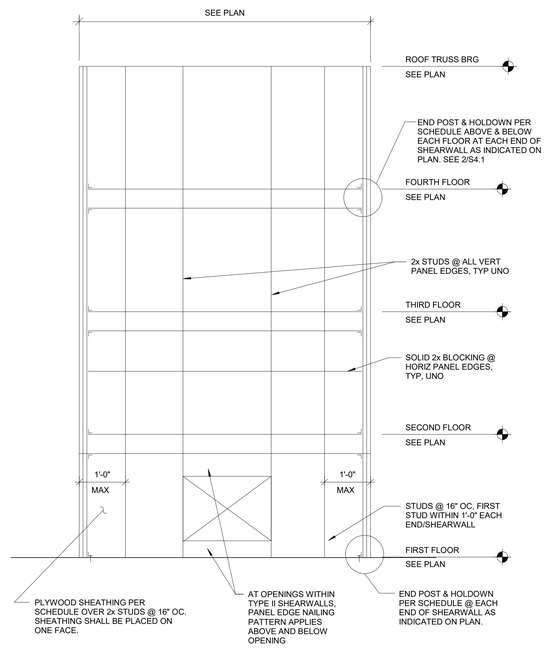
[3] MAINTAIN 3/8" MINIMUM EDGE DISTANCES.

[4] PROVIDE 7" EMBEDMENT AND PLATE WASHERS NOT LESS THAN 0.229" x 3" x 3". THE PLATE WASHER SHALL EXTEND TO WITHIN 1/2" OF THE EDGE OF THE BOTTOM PLATE ON THE SIDE WITH SHEATHING.

[5] BASIS OF DESIGN ARE SIMPSOM HDU. PROVIDE 7/8" DIA ANCHOR ROD WITH HDU8 AND 1" DIA ANCHOR ROD WITH HDU14.

4 S4.1 SHEARWALL SCHEDULE

N.T.S.



TYPICAL SHEARWALL ELEVATION

1 S4.1 SHEARWALL ELEVATION

3/16" = 1'-0"

PERMIT SET

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SHEARWALL DETAILS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING S4.1

DUCTWORK, AIR DISTRIBUTION

RECTANGULAR DUCT — DOUBLE 12x6
ROUND DUCT — 6Ø
FLAT OVAL DUCT — 12/6
DUCT WITH ACOUSTIC LINING
SUPPLY GRILLE OR REGISTER
RETURN/EXHAUST GRILLE OR REGISTER
CEILING DIFFUSER - SQUARE (ROUND SIMILAR) (FLOW ARROWS INDICATE DIRECTION OF THROW FOUR WAY FLOW IF NO ARROWS SHOWN)
RETURN/EXHAUST GRILLE OR REGISTER
SUPPLY DUCT UP
SUPPLY DUCT DOWN
RETURN DUCT UP
RETURN DUCT DOWN
EXHAUST DUCT UP
EXHAUST DUCT DOWN
CHANGE OF ELEVATION RISE (R) DROP (D) — R
TRANSITION - RECTANGULAR OR ROUND
TRANSITION - RECTANGULAR TO ROUND
BRANCH DUCT - STANDARD (45º ENTRY)
BRANCH DUCT WITH SPLITTER — SD
BRANCH DUCT WITH AIR EXTRACTOR — AE
BRANCH DUCT, STRAIGHT LATERAL, ROUND
BRANCH DUCT, STRAIGHT TEE, ROUND
BRANCH DUCT, LO-LOSS TEE, ROUND
BRANCH DUCT, CONICAL TEE, ROUND
BRANCH DUCT, CONICAL TEE, FLEX TAKE OFF, SPIN-IN COLLAR W/DAMPER
FLEXIBLE DUCT
WATERTIGHT DUCT
CONTROL DAMPER (MOD OR MVD) — MOD or MVD
SAFETY DAMPER (FDR OR SDR) — FDR
SQUARE ELBOW WITH TURNING VANES
FLEXIBLE DUCT CONNECTION

PIPING - GENERAL

DIRECTION OF FLOW
DIRECTION OFSLOPE DOWN
PIPE TURNING UP
PIPE TURNING DOWN
BRANCH CONNECTION - TOP
BRANCH CONNECTION - BOTTOM
BRANCH CONNECTION - SIDE
PIPE ANCHOR
PIPE ALIGNMENT GUIDE
SERVICE VALVE (GATE, BALL OR BUTTERFLY)
GLOBE VALVE
CHECK VALVE
BALANCING COCK
UNION
VALVE IN RISER
PIPE CAP OR BLIND FLANGE
OUTLETS (G, A, V, OX, CW, HW)
EXPANSION JOINT
PRESSURE REDUCING VALVE
PRESSURE RELIEF VALVE
PRESSURE GAUGE
THERMOMETER
FLEXIBLE PIPE CONNECTION OR JOINT
STRAINER
CLEANOUT PLUG — CO OR CO
FLOOR CLEANOUT — CO
WALL CLEANOUT — CO
FLOW SWITCH — FS
PRESSURE SWITCH — PS

PIPING - HVAC

STEAM (NUMBER DENOTES PRESSURE) — 10
STEAM CONDENSATE RETURN (SCR) — 10
BOILER BLOWDOWN — BBD
PUMPED CONDENSATE — PC
COLD WATER
DRIP STATION — DS
THERMOSTATIC TRAP — T
FLOAT AND THERMOSTATIC TRAP — F
BUCKET TRAP — B
HEATING WATER SUPPLY — HWS
HEATING WATER RETURN — HWR
CHILLED WATER SUPPLY — CWS
CHILLED WATER RETURN — CWR
CONDENSER WATER SUPPLY — C
CONDENSER WATER RETURN — CR
CONDENSATE DRAIN — D
CONTROL VALVE (2-WAY)
CONTROL VALVE (3-WAY)
AUTOMATIC FLOW CONTROL VALVE
CALIBRATED BALANCING VALVE
TRIPLE DUTY VALVE (PUMP DISCHARGE)
PRESSURE/TEMPERATURE FITTING
REFRIGERANT SUCTION — RS
REFRIGERANT DISCHARGE — RD
REFRIGERANT LIQUID — RL
HEAT PUMP WATER SUPPLY — HPS
HEAT PUMP WATER RETURN — HPR
DUAL TEMP SUPPLY — DTS
DUAL TEMP RETURN — DTR

PIPING - SPECIAL

COMPRESSED AIR — A
GAS — G
FUEL OIL SUPPLY — FOS
FUEL OIL RETURN — FOR
GLYCOL SUPPLY — GS
GLYCOL RETURN — GR

MISCELLANEOUS

LIMIT OF DEMOLITION
CONNECT NEW TO EXISTING
ELECTRIC THERMOSTAT (OR SENSOR) — T
PNEUMATIC THERMOSTAT — T
DIAMETER — Ø
HUMIDISTAT — H
FAN SPEED SWITCH — S
DUCT - MOUNTED SMOKE DETECTOR — SMD
PIPE AND DUCT RISER REFERENCE — S - SUPPLYING DUCT; R - RETURN DUCT; E - EXHAUST DUCT; H - H/C WATER PIPING — H 1 — RISER NO.
AQUASTAT
GAS COCK
BACKFLOW PREVENTER — BFP
NEW WORK
EXISTING TO REMAIN
EXISTING TO BE REMOVED

ABBREVIATIONS

AAV	AUTOMATIC AIR VENT
AD	ACCESS DOOR
AE	AIR EXTRACTOR
AFCV	AUTOMATIC FLOW CONTROL VALVE
APD	AIR PRESSURE DROP, IN. WG.
AQ	AQUASTAT
ATD	AIR TRANSFER DUCT
BG	BOTTOM GRILLE
BHP	BRAKE HORSEPOWER
BOD	BOTTOM OF DUCT
BR	BOTTOM REGISTER
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNIT/HOUR
CAD	CEILING ACCESS DOOR
CD	CEILING DIFFUSER, CONDENSATE DRAIN
CFM	CUBIC FEET PER MINUTE
CG	CEILING GRILLE
CO	CLEANOUT
CR	CEILING REGISTER
CRD	CEILING RADIATION DAMPER
CW	COLD WATER
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
DAD	DUCT ACCESS DOOR
DB	DRY BULB ºF, DECIBEL
DG	DOOR GRILLE
DWD	DOUBLE WALLED DUCT
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ESA	EQUIPMENT SERVICE AREA
EWT	ENTERING WATER TEMPERATURE
FD	FLOOR DRAIN
FDR	FIRE DAMPER
FG	FLOOR GRILLE
FR	FROM
FSDR	FIRE/SMOKE DAMPER
GAL	GALLON
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
HB	HOSE BIBB
HP	HORSEPOWER
HPR	HIGH PRESSURE STEAM RETURN
HPS	HIGH PRESSURE STEAM SUPPLY
HW	HOT WATER
HWR	HEATING/HOT WATER RETURN
HWS	HEATING WATER SUPPLY
HZ	FREQUENCY (CYCLES/SOUND)
KW	KILOWATT
KWH	KILOWATT HOUR
LAT	LEAVING AIR TEMPERATURE
LB/HR	POUNDS PER HOUR
LD	LINEAR DIFFUSER
LG	LINEAR GRILLE
LR	LINEAR RETURN
LWT	LEAVING WATER TEMPERATURE
MAV	MANUAL AIR VENT
MBH	BTU PER HOUR (THOUSANDS)
MOD	MOTOR OPERATED DAMPER
MPR	MEDIUM PRESSURE STEAM RETURN
MPS	MEDIUM PRESSURE STEAM SUPPLY
MVD	MANUAL VOLUME DAMPER
NC	NOISE CRITERIA
OED	OPEN END DUCT
OFD	OVERFLOW DRAIN
OA	OUTSIDE AIR
OBD	OPPOSED BLADE DAMPER
OT	OVERRIDE TIMER
OTCP	OPEN TO CEILING PLENUM
PIV	POST INDICATOR VALVE
PVR	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
RA	RETURN AIR
RC	RAIN CONDUCTOR
RD	ROOF DRAIN
RH	RELATIVE HUMIDITY
RPM	REVOLUTIONS PER MINUTE
SA	SUPPLY AIR
SD	SHOWER DRAIN, SPLITTER DAMPER, STORM DRAIN
SDR	SMOKE DAMPER
SMD	SMOKE DETECTOR
SP	STATIC PRESSURE
SS	SANITARY SEWER
S/S	STAINLESS STEEL
SV	SERVICE VALVE
SW	SWITCH
TC	TIME CLOCK
TEMP	TEMPERATURE
TD	TEMPERATURE DIFFERENTIAL
TG	TOP GRILLE, TRANSFER GRILLE
TR	TOP REGISTER, TONS OF REFRIGERATION
T'STAT	THERMOSTAT
UC	DOOR UNDERCUT
V	VOLT, VENT
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VTR	VENT THROUGH ROOF
W	WASTE, WATTS
WB	WET BULB, ºF
WG	WATER GAUGE (FEET OR INCHES)
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WPD	WATER PRESSURE DROP, FT. WG
WS	WATER STOP
WTD	WATER TEMPERATURE DROP, ºF
WTR	WATER TEMPERAURE RISE, ºF
WWM	WOVEN WIRE MESH
Z	ZONE

THESE SYMBOLS AND ABBREVIATIONS ARE MECHANICAL DEPARTMENT STANDARDS AND MAY NOT NECESSARILY BE APPLICABLE TO OR APPEAR ON THESE DRAWINGS. HOWEVER, WHEREVER THESE SYMBOLS DO OCCUR ON THE DRAWINGS, THE ITEM SHALL BE PROVIDED AND INSTALLED. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL SYMBOLS AND ABBREVIATIONS.

HVAC ABBREVIATIONS AND LEGEND

EXHAUST FAN SCHEDULE

MARK	LOCATION	TYPE	CFM	APPROX...	DRIVE	FAN RPM	ELECTRICAL DATA: WATTS	H.P.	VOLTAGE/PHASE	MANUFACTURER	ACCESSORIES	CONTROLS
EF-1	BATHROOM	EXHAUST	80	0.25"	DIRECT	950	80	-	120/1	GREENHECK SP-B110	A, B, E, F, G	1
EF-2	RES. STORAGE	EXHAUST	100	0.25	DIRECT	1350	-	1/64	120/1	GREENHECK SE1-8-DGEX-QD	A, B, E. H	2
F-1	ROOF - IL	EXHAUST	300	0.375"	DIRECT	1050	-	1/4	120/1	GREENHECK GB-081-4	A, B, C, D	2
F-2	ROOF - ATRIUM	EXHAUST	150	0.375"	DIRECT	1550	-	1/20	120/1	GREENHECK G-080-D	A, B, C, D	2
SEVF-1	ROOF - ATRIUM	SMOKE EVACUATION	5200	1.0	DIRECT W/ VFD	1800	-	2.0	208/3	GREENHECK SWD 200 VERTICAL UTILITY SET	A, B, C, D	3

ROVIDED ACCESSORIES:
A: DISCONNECT SWITCH
B: GRAVITY BACKDRAFT DAMPER
C: PREFAB ROOF CURB
D: BIRDSCREEN
E: HANGING BRACKETS WITH VIBRATION ISOLATION
F: EXHAUST GRILLE
G: RADIATION DAMPER
H: WEATHER HOOD

CONTROLS:
1: WALL MOUNTED ON/OFF SWITCH (PROVIDE INDIVIDUAL CONTROL FOR BOTH FAN AND LIGHT)
2: CONTINUOUS OPERATION
3. INTERFACE W/ FIRE ALARM SYSTEM AND SMOKE DETECTORS IN SPACE.

ROOF TOP UNIT SCHEDULE (DX COOLING & NAT GAS HEAT)

MARK	CFM	NOMINAL TONAGE	O.A. CFM	E.S.P	COOLING CAPACITY: TC (BTUH)	SHC (BTUH)	EFFICIENCY: EER	SEER	HEATING CAPACITY: INPUT (BTUH)	OUTPUT (BTUH)	EFFICIENCY AFUE	COMPRESSOR (EA): NO	RLA	SYS.KW	COND. FM: QTY	FLA	EVAP. FM FLA	COMB. FAN FLA	POWER SUPPLY: MCA	MOCP	VOLTAGE/PH	WEIGHT	MANUFACTURER	RTU MODEL
RTU-1	3970	12.5	400	1.5"	134,520	95,310	10.8	15.8	250,000	202,500	81%	2	28.4 / 14.10	16.14	1	4.3	11.0	1	71.0	90.0	208/3	1627 LBS.	TRANE	YHJ150A3
RTU-2	3970	12.5	400	1.5"	134,520	95,310	10.8	15.8	250,000	202,500	81%	2	28.4 / 14.10	16.14	1	4.3	11.0	1	71.0	90.0	208/3	1627 LBS.	TRANE	YHJ150A3
RTU-3	5200	15.0	1040	1.5	161,000	134,200	11.9	12.5	320,000	260,000	81%	2	30.8 / 16.4	16.36	2	2.3	8.9	1	83.0	110.0	208/3	2502 LBS.	TRANE	YHJ180A3

NOTES:

PROVIDED ACCESSORIES:
1. ROOF CURB
2. SUPPLY FAN VFD
3. NON-FUSED, UNIT MOUNTED DISCONNECT SWITCH
4. HOT GAS BYPASS ON LEADING REFRIGERANT CIRCUIT
5. ECONOMIZER
6. FAN MOTORS WITH SHAFT GROUNDING RINGS
7. SINGLE SOURCE POWER CONNECTION

VERTICAL PACKAGED TERMINAL AIR CONDITIONER UNITS (THRU WALL)

MARK	CFM	ESP	OA CFM	NOMINAL COOLING CAPACITY (BTUH)	HEATING CAP (BTUH)	COMPRESSOR: RLA	LRA	OUTSIDE FAN: HP	RLA	INDOOR...: HP	RLA	POWER SUPPLY: MCA	MOCP	V / P	MANUFACTURER	MODEL
VPTAC-1	630	0.5	100	18,000	24,500	6.7	37.5	1/8	0.9	1/3	1	34.3	35	208/1	MAGIC-PAK	7MCE4-12-181FP
VPTAC-2	800	0.5	100	24,000	24,500	8.7	38	1/8	0.9	1/3	1.8	34.8	35	208/1	MAGIC-PAK	7MCE4-12-241FP
VPTAC-3	930	0.5	100	30,000	32,700	13.4	72.5	1/4	1.6	1/2	1.2	45.2	50	208/1	MAGIC-PAK	10MCE-12-301FP

NOTES:
1. UNIT OA FLOW RATE SHALL BE BALANCED TO MATCH COMBINED DWELLING UNIT BATHROOM EXHAUST RATE, OR MAXIMUM UNIT OA CAPACITY, WHICHEVER IS LOWER.

ELECTRIC HEATER

MARK	LOCATION	BTUH	CFM	HEATER: KW	AMPS	VOLTAGE/PH	MANUFACTURE - MODEL	ACCESSORIES
EWH-1	STAIRCASE	10,200	245	3.0	14.4	208/1	MARKEL - MODEL F3423T	A,B,C,D

NOTES:
1. HEATING CAPACITY BASED ON 65°F. E.A.T.

ACCESSORIES
A: DISCONNECT SWITCH
B: BUILT-IN THERMOSTAT
C: ARCHITECTURAL PENCIL PROOF LOUVER
D: CABINET FOR SURFACE MOUNTING

GRILLE & DIFFUSER SCHEDULE

MARK	SERVICE	DESCRIPTION	FACE SIZE	NECK SIZE	CFM	BASIS OF DESIGN MANUF. AND MODEL
CD-1	SUPPLY	DOUBLE DEFLECTION	---	8X4	0 - 120	PRICE: 520-FR
CD-2	SUPPLY	DOUBLE DEFLECTION	---	8X6	125 - 180	PRICE: 520-FR
CD-3	SUPPLY	DOUBLE DEFLECTION	---	10X6	185 - 220	PRICE: 520-FR
CD-4	SUPPLY	PLAQUE	24X24	8"	0 - 175	PRICE: SPD
CD-5	SUPPLY	PLAQUE	24X24	10"	180 - 270	PRICE: SPD
CD-6	SUPPLY	DOUBLE DEFLECTION	---	14X8	275 - 390	PRICE: 520
CR-1	RETURN OR...	SINGLE DEFLECTION	---	8X6	60 - 130	PRICE: 530
CR-2	RETURN OR...	EGG CRATE W/ FILTER	24X24	12X12	325 - 450	PRICE: 80FF
CR-3	RETURN OR...	EGG CRATE W/ FILTER	24X24	22X22	890 - 1400	PRICE: 80FF
CR-4	RETURN OR...	SINGLE DEFLECTION W/ FILTER	14X28	14X28	490 - 1225	PRICE: 630FF
CR-5	RETURN OR...	SINGLE DEFLECTION W/ FILTER	40X24	40X24	1250 - 3125	PRICE: 630
CR-6	RETURN OR...	SINGLE DEFLECTION W/ FILTER	10X12	10X12	200 - 550	PRICE: 630FF

CONTRACTOR NOTE:

THE LISTED MANUFACTURER'S AND EQUIPMENT HAVE BEEN USED AS THE BASIS OF DESIGN OF THIS PROJECT AND ARE LISTED TO ESTABLISH A STANDARD OF QUALITY AND TO DEFINE CONNECTION AND CLEARANCE REQUIREMENTS. ALL OTHER MANUFACTURERS AND EQUIPMENT OF EQUAL OR BETTER QUALITY MAY BE ACCEPTED UPON REVIEW BY THE ENGINEER, HOWEVER, IF THESE SUBSTITUTIONS ARE MADE, THE CONTRACTOR IS REQUIRED TO COMPLY WITH ALL REQUIREMENTS OF DIVISION 1, ASSUME FULL RESPONSIBILITY FOR ALL COORDINATION ISSUES, AND SHALL SUBMIT WITH THE SHOP DRAWINGS A DETAILED DRAWING SHOWING ALL CHANGES IN THE EQUIPMENT SIZE AND LOCATION, DUCTWORK, PIPING, ELECTRICAL WIRING CONNECTIONS, CLEARANCES, ETC. IF ANY REQUIRED CHANGES INVOLVE OTHER TRADES, THE MECHANICAL SUBCONTRACTOR SHALL INCLUDE WITH THE SHOP DRAWINGS A LETTER INDICATING THAT THE OTHER TRADES HAVE BEEN ADVISED OF THE PROPOSED CHANGES AND SHALL ALSO INCLUDE A STATEMENT AS TO HOW, BY WHOM, AND THE ARRANGEMENT WHEREBY THESE CHANGES WILL BE ACCOMPLISHED. ALL ADDITIONAL COSTS AND PERFORMANCE ISSUES RESULTING FROM THE SUBSTITUTION WILL BE THE RESPONSIBILITY OF THE MECHANICAL SUBCONTRACTOR. THE SUBSTITUTED EQUIPMENT WILL NOT BE PERMITTED TO ADD ELECTRICAL LOAD TO THE PROJECT.

HVAC GENERAL NOTES

1. FOR GENERAL AND ARCHITECTURAL ABBREVIATIONS AND SYMBOLS, SEE SHEET A0.0
2. DUCT WORK INSTALLATION, CONNECTIONS AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST APPLICABLE SMACNA STANDARDS.
3. EQUIPMENT INSTALLATIONS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. COPY OF INSTRUCTIONS SHALL BE ON JOB SITE AT TIME OF BUILDING INSPECTIONS.
4. DUCT DIMENSIONS INDICATED ARE ACTUAL SHEET METAL SIZES. WHERE ACOUSTIC LINING IS INDICATED (IF SHOWN), THE DUCT SIZES WERE ADJUSTED TO COMPENSATE FOR THE LINING.
5. DUCTWORK AND PIPING LAYOUTS ARE SCHEMATIC. ALL DROPS, RISES, OR OFFSETS REQUIRED BUT NOT SHOWN SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
6. DUCT CONNECTIONS TO SIDE WALL OR DUCT MOUNTED REGISTERS AND GRILLES SHALL BE MADE WITH RIGID DUCT. DUCT CONNECTIONS TO CEILING-MOUNTED DIFFUSERS, REGISTERS, AND GRILLES MAY BE WITH RIGID OR FLEXIBLE DUCT (CONTRACTOR OPTION). PROVIDE SMOOTH BENDS IN FLEXIBLE DUCT SECTIONS.
7. ALL TEMPERATURE AND HUMIDITY SENSORS (NON-SPACE ADJUSTABLE) IN PUBLIC AREAS SHALL BE MOUNTED AT 5'-0" AFF. THERMOSTATS FOR NON-PUBLIC, NON-RESIDENTIAL AREAS SHALL BE MOUNTED AT 5'-0" AFF WITH AN 18" LONG LOOP OF SURPLUS CONTROL WIRE IN WALL CAVITY TO PERMIT THE OWNER TO LOWER THE CONTROL DEVICE IN THE FUTURE IF REQUIRED FOR HANDICAP ACCESS. MOUNT THERMOSTATS AT 48" AFF IN ALL AREAS DESIGNATED AS "ADA-HANDICAP ACCESSIBLE".
8. ALL DUCTWORK SHALL BE SEALED ACCORDING TO SMACNA CLASS "A". DUCTWORK SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE FOLLOWING PRESSURE CLASSIFICATIONS:

   SEVF-1 EXHAUST AND ROOFTOP AC UNITS: ±2", ALL OTHER SUPPLY, RETURN AND EXHAUST: ±1"
9. DUCT CONNECTIONS TO ALL AIR HANDLING UNITS, INCLUDING FAN COIL UNITS, INLINE FANS, ETC. SHALL BE MADE USING FLEXIBLE DUCT CONNECTION. ALSO, PROVIDE FLEXIBLE DUCT CONNECTIONS WHERE DUCTWORK CROSSES BUILDING EXPANSION JOINTS.
10. LOCATE CEILING AIR DIFFUSERS, REGISTERS AND GRILLES IN THE CENTER OF 2'x2' AND AT THE QUARTER POINT OF 2'x4' ACOUSTICAL TILE CEILING MODULES UNLESS SPECIFICALLY INDICTED OTHERWISE ON THE ARCHITECTURAL REFLECTED CEILING PLANS. REFER TO DIFFUSER, REGISTER, AND GRILLE EQUIPMENT INSTRUCTIONS RELATED TO RADIATION DAMPERS AND FIRE-RATED CEILING INSTALLATIONS.
11. PIPING AND EQUIPMENT HANGERS SHALL BE SPACED IN A SYSTEMATIC RANDOM PATTERN AS REQUIRED TO ELIMINATE OVERLOADING INDIVIDUAL STRUCTURAL MEMBERS. THE ESTIMATED WEIGHT ASSIGNED TO PIPE AND EQUIPMENT HANGERS SHALL BE DETERMINED BY THE MECHANICAL CONTRACTOR AND SUBMITTED TO THE GENERAL CONTRACTOR FOR REVIEW, COORDINATION AND APPROVAL PRIOR TO INSTALLATION. THIS REQUIREMENT APPLIES TO ALL MECHANICAL WORK, INCLUDING PLUMBING AND FIRE PROTECTION.
12. HEATING/COOLING DESIGN CONDITIONS: LEE'S SUMMIT, MISSOURI
    WINTER 5ºF OAT, 75ºF, 35% RH INDOORS (ADJUSTED HIGHER THAN ASHRAE TEMPERATURE TO ACCOMMODATE ELDERLY RESIDENTS.)
    SUMMER 100.0ºF DB/80.0ºF WB OAT; 75ºF, 50% RH INDOORS
13. WHERE MORE THAN ONE SIDE WALL REGISTER IS INSTALLED IN A ROOM, THE CENTERLINE ELEVATION OF EACH REGISTER SHALL BE THE SAME DISTANCE FROM AND LEVEL TO THE PLANE OF THE CEILING.
14. MANY OF THE CEILING SPACES ARE EXTREMELY CONGESTED AND WILL REQUIRE SIGNIFICANT ON-SITE FIELD COORDINATION BETWEEN THE CONSTRUCTION TRADES. CONTRACTOR GENERATED COORDINATION DRAWINGS ARE REQUIRED FOR ALL SUCH AREAS AND SHOULD INDICATE STRUCTURE, CEILING FEATURES, LIGHT FIXTURES, PLUMBING AND FIRE SERVICE PIPING AND ALL MECHANICAL EQUIPMENT, PIPING AND DUCTWORK.
15. ALL PIPE AND DUCT PENETRATIONS THRU FIRE-RATED WALLS OR FLOOR ASSEMBLIES SHALL BE IN ACCORDANCE WITH AN APPROVED UL AND FIRESTOP SYSTEM FOR THE CONDITIONS ENCOUNTERED AS DEFINED IN THE UL BUILDING MATERIAL DIRECTORY.
16. THE ROUTING OF LARGER SIZE SUPPLY AIR DUCTS SHALL TAKE PRECEDENCE OVER SMALLER DUCTS, AND OVER RETURN AND EXHAUST AIR DUCTS. PROVIDE DUCT OFFSETS, RISES AND DROPS AS REQUIRED TO INSTALL DUCTWORK AS CLOSELY TO THE LAYOUT SHOWN ON THESE DOCUMENTS AS POSSIBLE.
17. SEE ARCHITECTURAL FIRE PROTECTION DRAWINGS FOR DETAILS OF FIRE AND SMOKE SEALING REQUIREMENTS AT PENETRATIONS OF ALL UL LISTED FIRE AND SMOKE RATED WALL, FLOOR AND ROOF/CEILING ASSEMBLIES.

PLAN NOTES

PERMIT SET
STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

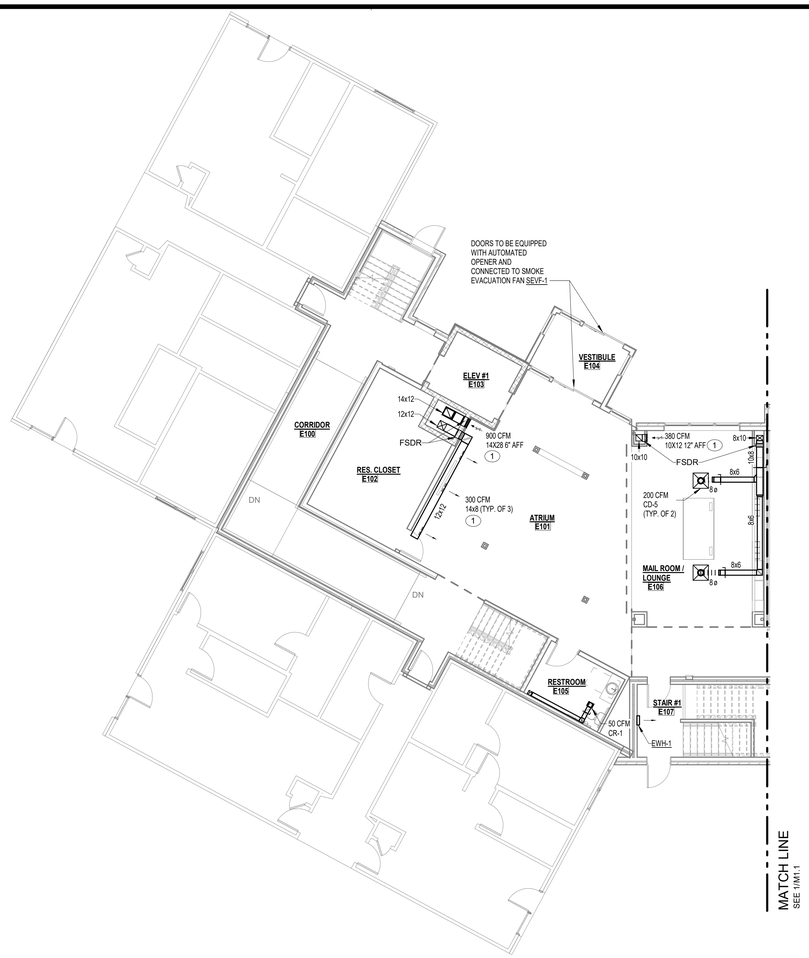
SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
540.344.6664 ▪ Fax 540.343.6925
www.sfcs.com

DESIGNER : DAS	DRAWN : JEB
ARCHITECT : DAS	CHECKED : MAP
ENGINEER : KFY	APPROVED : AJM

NO.	REVISION DESCRIPTION	DATE

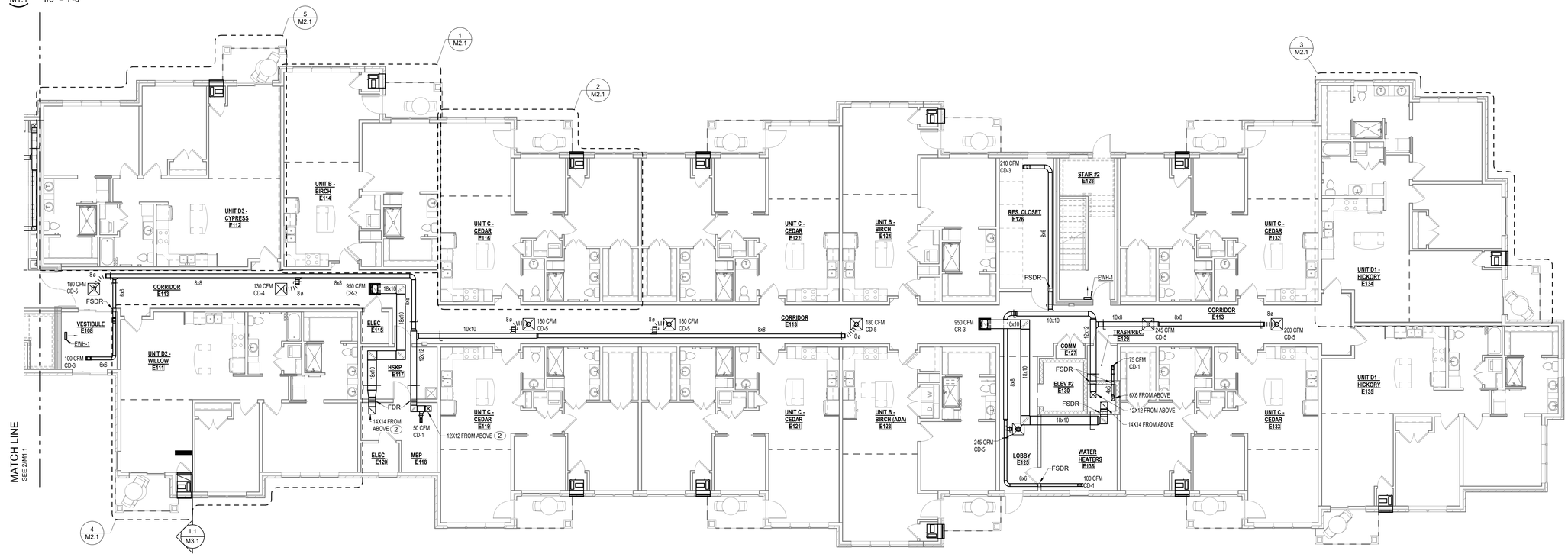
DRAWING TITLE
ABBREVIATIONS, LEGENDS, NOTES, AND EQUIPMENT SCHEDULES - HVAC

DATE: January 5, 2024
DRAWING M0.0
COMM. NO. 23104.00



2 M1.1 ATRIUM FIRST FLOOR PLAN - HVAC

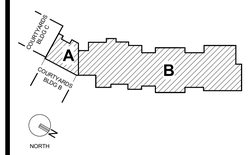
1/8" = 1'-0"



1 M1.1 FIRST FLOOR PLAN - IL UNITS - HVAC

1/8" = 1'-0"

KEY PLAN



PLAN NOTES

1. PROVIDE FACE OPERATED DAMPER.
2. PROVIDE COMBINATION FIRE SMOKE DAMPER (FSDR) AT DECK OF SECOND FLOOR WHERE VERTICAL DUCT EXITS RATED SHAFT.

PERMIT SET

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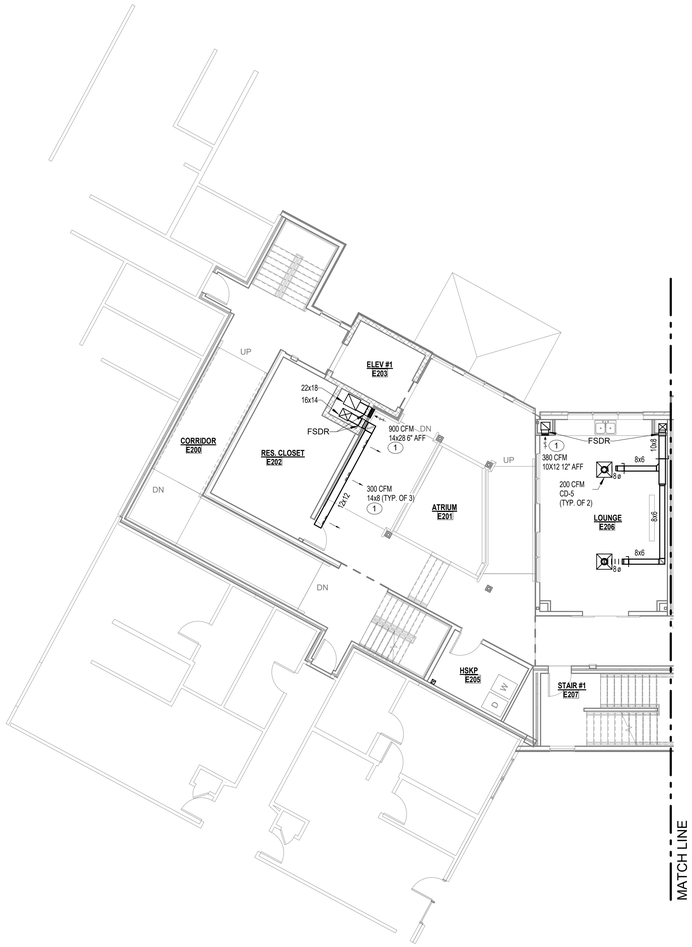
DRAWING TITLE

FIRST FLOOR PLANS - HVAC

DATE: January 5, 2024

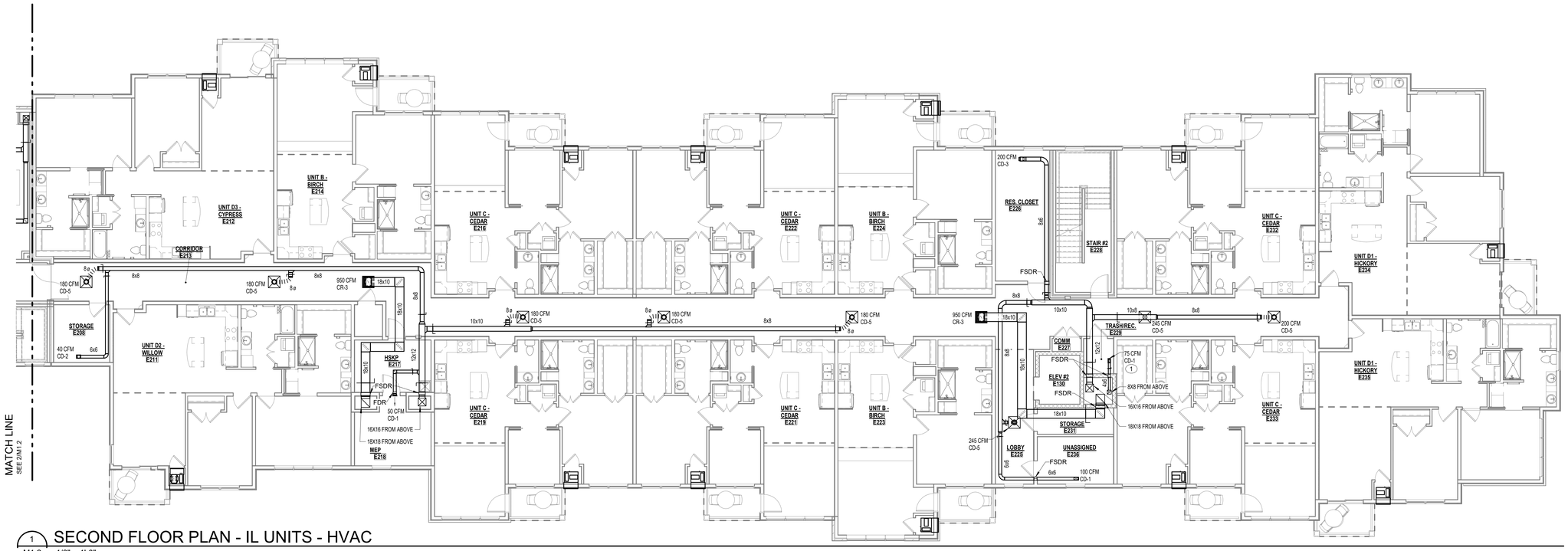
COMM. NO. 23104.00

DRAWING M1.1



2 M1.2 ATRIUM SECOND FLOOR PLAN - HVAC

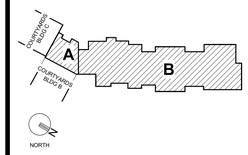
1/8" = 1'-0"



1 M1.2 SECOND FLOOR PLAN - IL UNITS - HVAC

1/8" = 1'-0"

KEY PLAN



PLAN NOTES

1 PROVIDE FACE OPERATED DAMPER.

PERMIT SET

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ENGINEER	: KFY	APPROVED	: AJM

NO.	REVISION DESCRIPTION	DATE

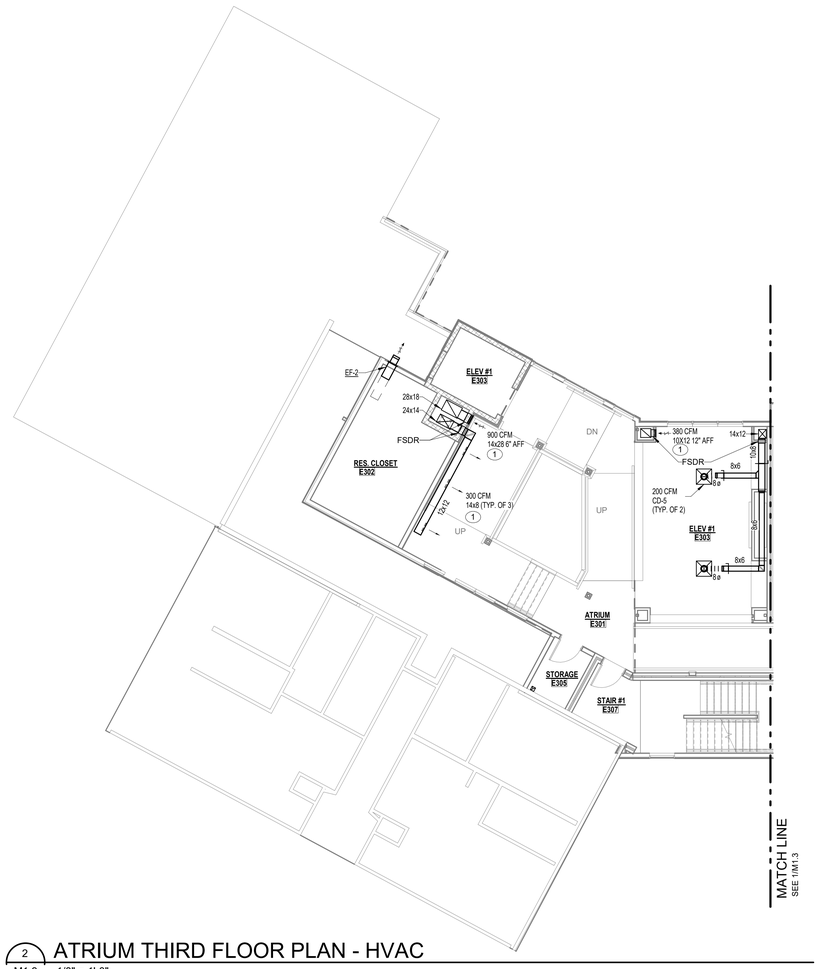
DRAWING TITLE

SECOND FLOOR PLANS - HVAC

DATE: January 5, 2024

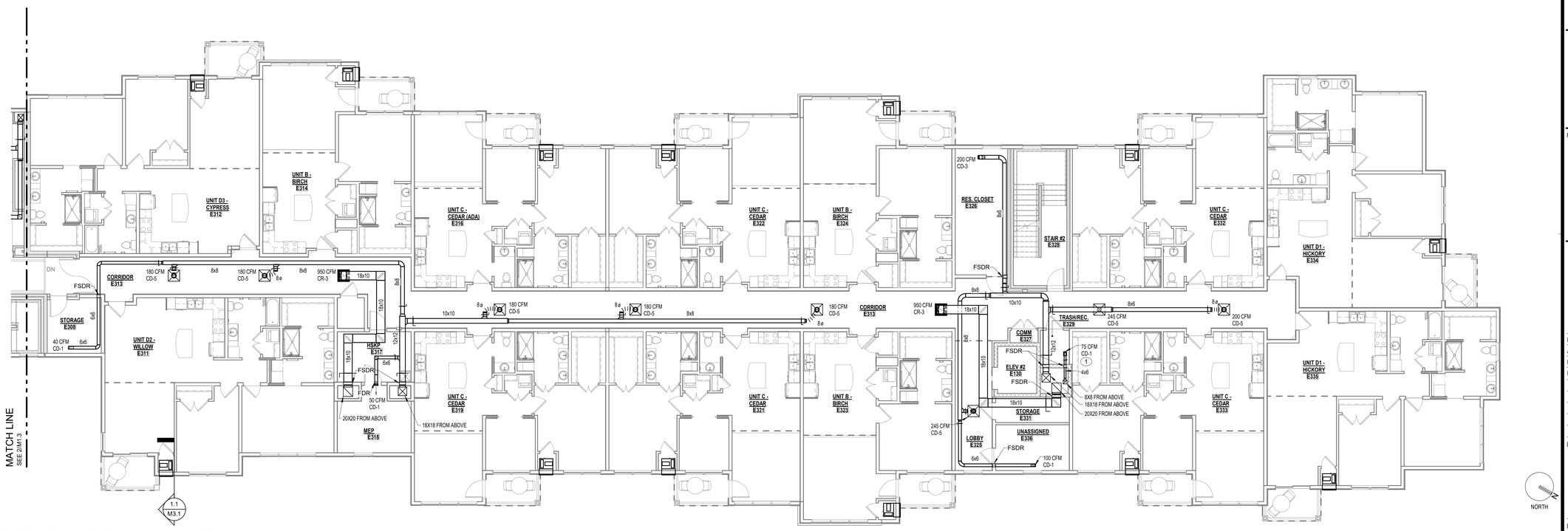
COMM. NO. 23104.00

DRAWING M1.2



2 M1.3 ATRIUM THIRD FLOOR PLAN - HVAC

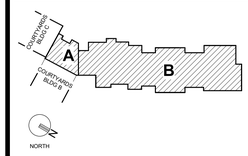
1/8" = 1'-0"



1 M1.3 THIRD FLOOR PLAN - IL UNITS - HVAC

1/8" = 1'-0"

KEY PLAN



PLAN NOTES

1 PROVIDE FACE OPERATED DAMPER.

PERMIT SET

STATE OF MISSOURI
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ENGINEER	KFY	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

THIRD FLOOR PLANS - HVAC

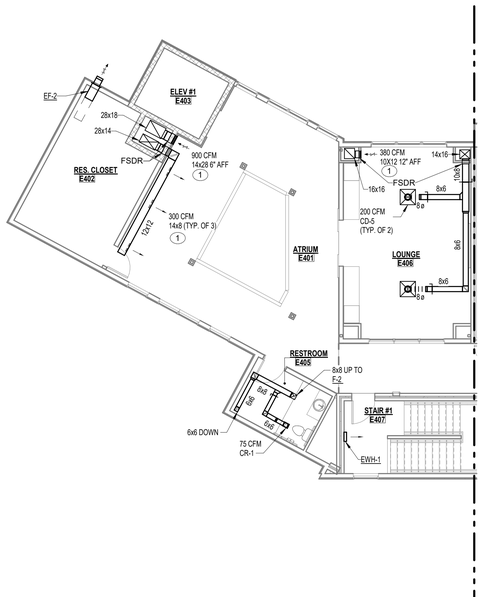
DATE: January 5, 2024

COMM. NO. 23104.00

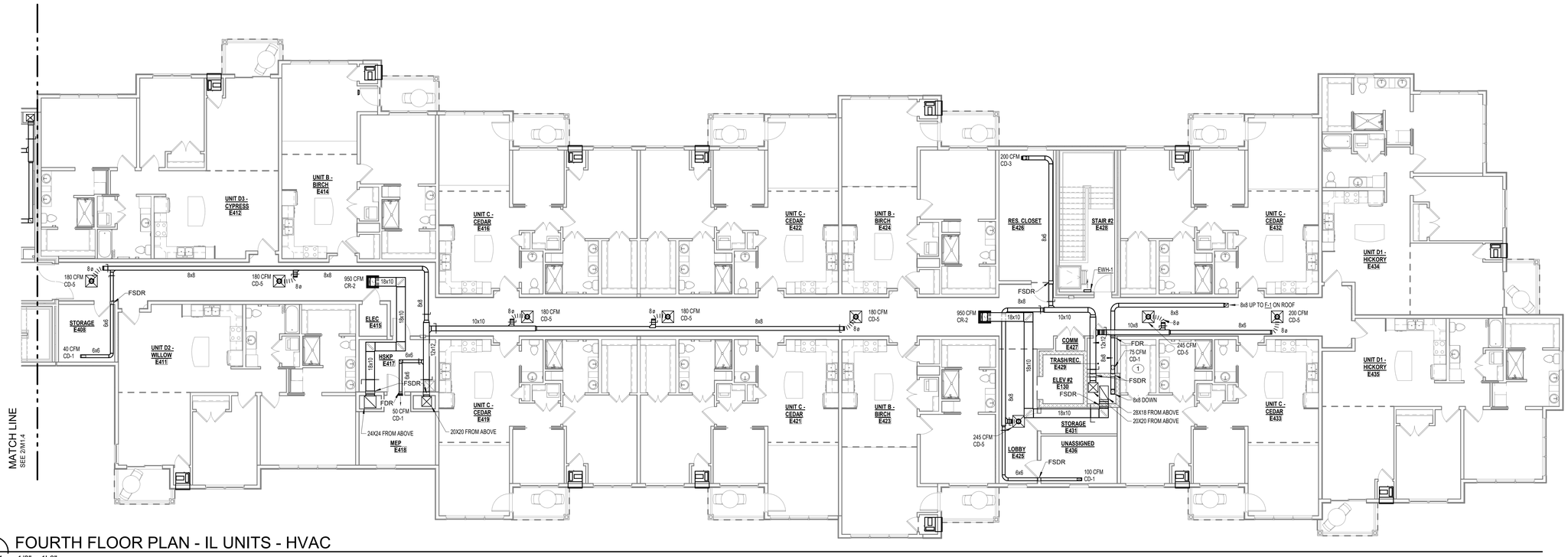
DRAWING M1.3

1/5/2024
10:31:29 AM

Autodesk Docs://23104.00 - John Knox Village - Lindbergh/23104.00-JKV-Courtyards-Building E-Mechanical CENTRAL.rvt

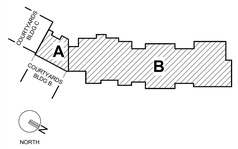


2 ATRIUM FOURTH FLOOR PLAN - HVAC
M1.4 1/8" = 1'-0"



1 FOURTH FLOOR PLAN - IL UNITS - HVAC
M1.4 1/8" = 1'-0"

KEY PLAN



GENERAL NOTES

1 PROVIDE FACE OPERATED DAMPER.

PERMIT SET

STATE OF MISSOURI
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ENGINEER	KFY	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

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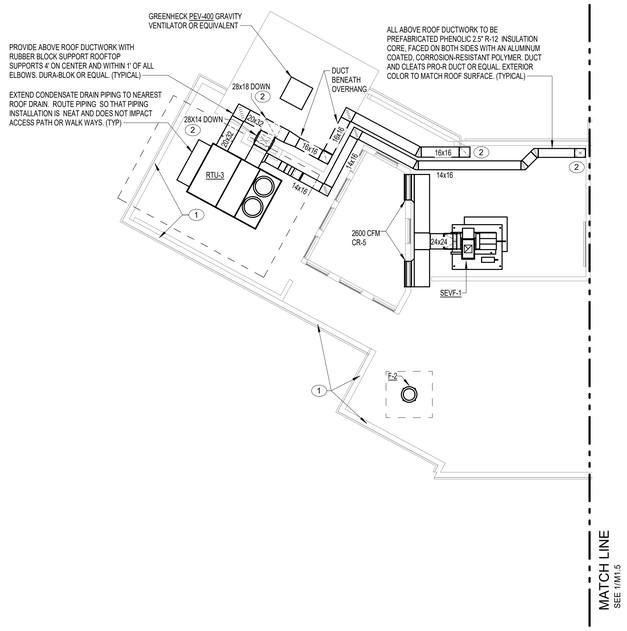
FOURTH FLOOR PLANS - HVAC

DATE: January 5, 2024

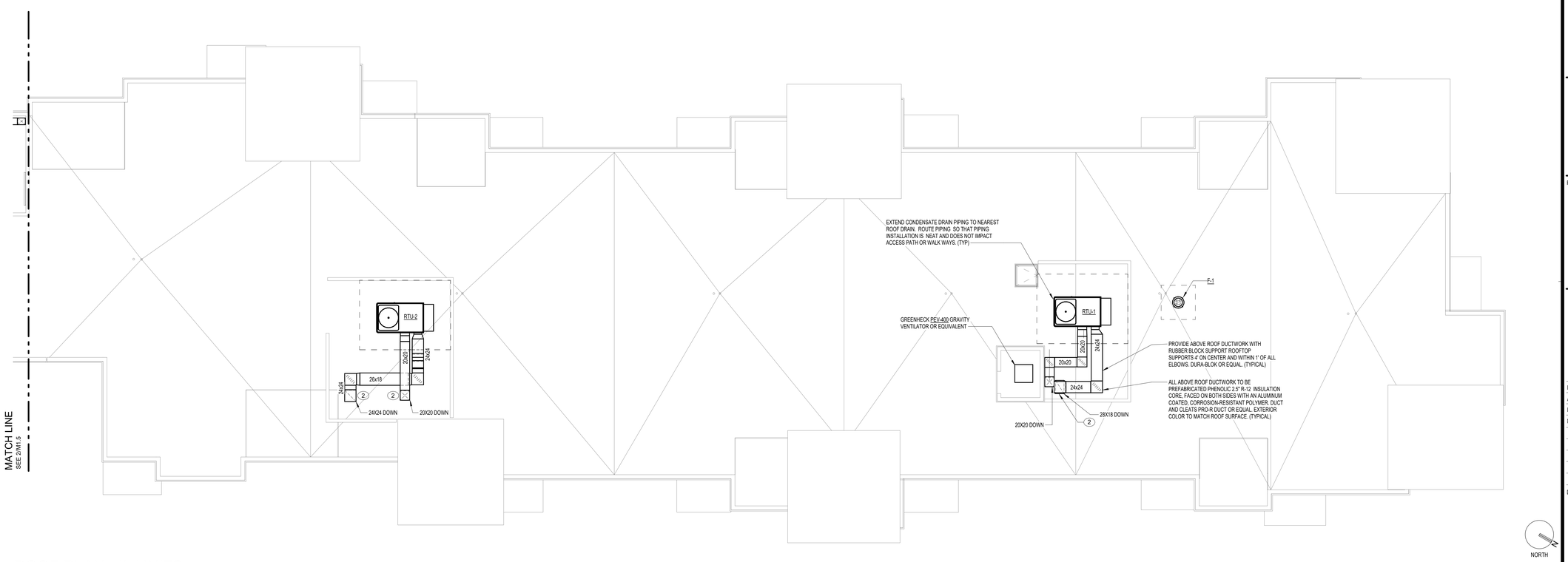
COMM. NO. 23104.00

DRAWING M1.4



2 ROOF PLAN - ATRIUM

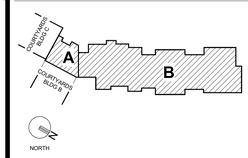
M1.5 1/8" = 1'-0"



1 ROOF PLAN - IL UNITS

M1.5 1/8" = 1'-0"

KEY PLAN



PLAN NOTES

1. PROVIDE 30" TALL SAFETY RAILING AT ROOF EDGE IN COMPLIANCE WITH LOCAL MECHANICAL CODE. CONTRACTOR TO COORDINATE WITH ARCHITECTURE FOR RAILING MATERIAL AND COLOR. TYPICAL FOR ANY LOCATION WHERE ROOFTOP EQUIPMENT IS INSTALLED WITHIN 10' HORIZONTALLY FROM ROOF EDGE.
2. PROVIDE ROOF DUCT PENETRATION. COORDINATE WITH ROOFING CONTRACTOR. TYPICAL.

PERMIT SET

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ENGINEER	KFY	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

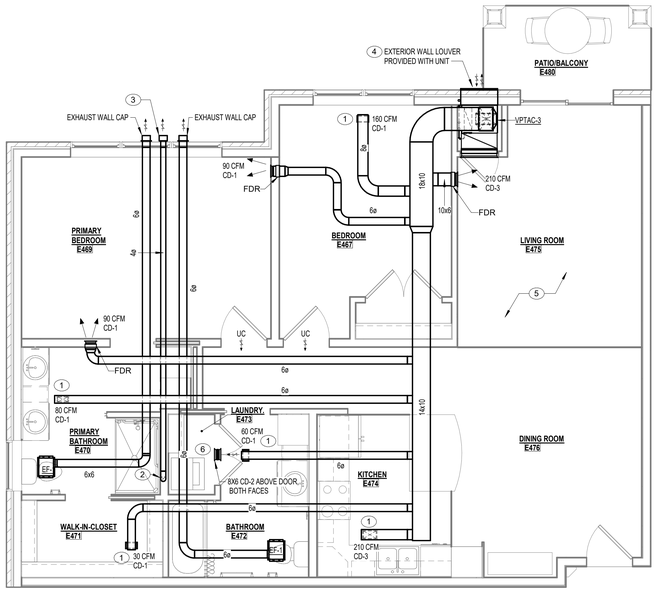
DRAWING TITLE

ROOF PLAN

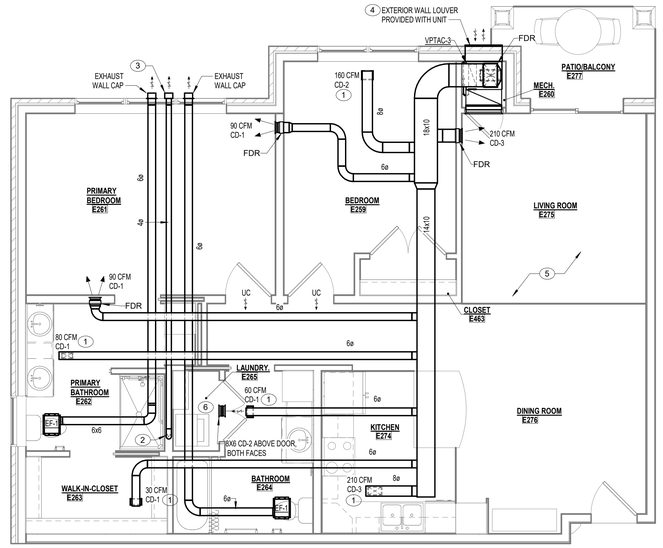
DATE: January 5, 2024

COMM. NO. 23104.00

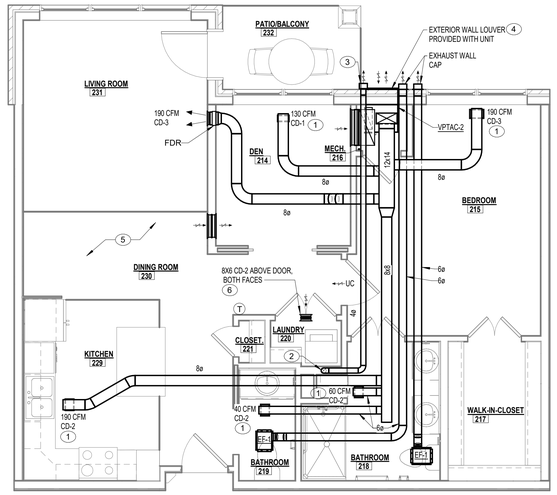
DRAWING M1.5



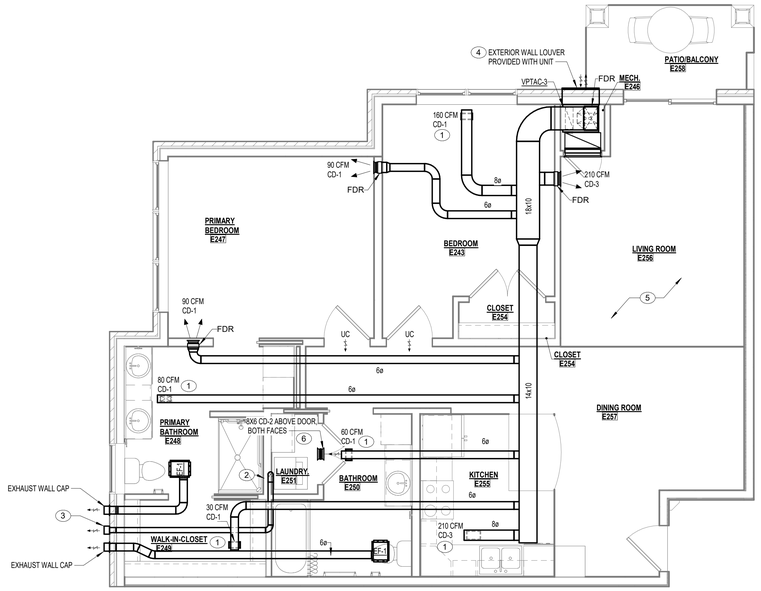
5 UNIT D3 - HVAC
M2.1 1/4" = 1'-0"



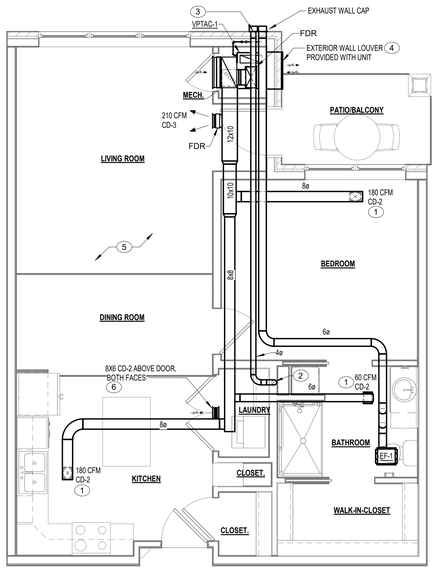
4 UNIT D2 - HVAC
M2.1 1/4" = 1'-0"



2 UNIT C - HVAC
M2.1 1/4" = 1'-0"



3 UNIT D1 - HVAC
M2.1 1/4" = 1'-0"



1 UNIT B - HVAC
M2.1 1/4" = 1'-0"

PLAN NOTES

1. PROVIDE CEILING RADIATION DAMPER. TYPICAL OF ALL AIR DEVICE PENETRATIONS IN RESIDENT UNIT CEILINGS.
2. 4"ø RIGID DRYER VENT DOWN TO DRYER
3. DRYER VENT WALL CAP WITH BACKDRAFT DAMPER
4. VTAC OA FLOW RATE SHALL MATCH COMBINED DWELLING UNIT BATHROOM EXHAUST OR MAXIMUM UNIT OA VALUE, WHICHEVER IS LESS.
5. PROVIDE FACE OPERATED BALANCING DAMPERS FOR ALL SUPPLY AIR DEVICES.
6. PROVIDE TRANSFER DUCT ABOVE LAUNDRY ROOM DOOR. UTILIZE 8X6 CD-2 ON BOTH FINISHED SURFACES. MOUNTING HEIGHT AFF SHALL MATCH OTHER SIDEWALL DEVICES VISIBLE IN SAME SPACE. TYPICAL OF ALL RESIDENT UNIT LAUNDRY ROOMS.

PERMIT SET

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ALLEN J. MCNUTT
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ARCHITECT	DAS	CHECKED	MAP
ENGINEER	KFY	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

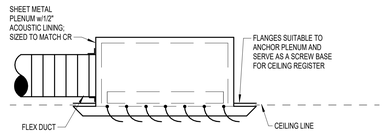
DRAWING TITLE

ENLARGED PLANS - HVAC

DATE: January 5, 2024

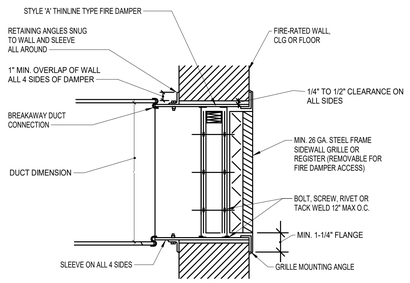
COMM. NO. 23104.00

DRAWING M2.1



4 M3.1 CEILING REGISTER DETAIL

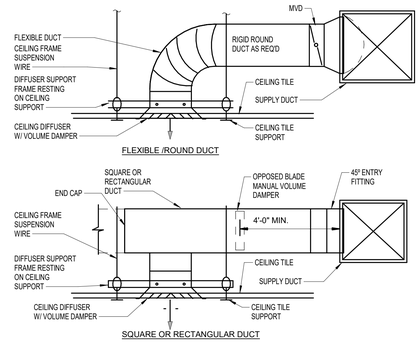
N.T.S.



NOTE:
1. THE DETAIL ABOVE IS PICTORIAL IN NATURE AND NOT ABSOLUTELY CORRECT FOR ALL SITUATIONS. FIRE DAMPERS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S UL APPROVED REQUIREMENTS. (EQUIVALANT TO RUSKIN STYLE G GRILLE/FIRE DAMPER INSTALLATION DESIGN).
2. OMIT REGISTER DAMPER WHERE MANUAL VOLUME DAMPER IS INSTALLED IN DUCT RUNOUT TO REGISTER.

7 M3.1 GRILLE/FIRE DAMPER INSTALLATION

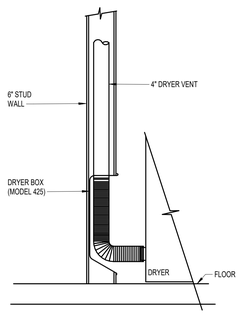
N.T.S.



NOTE: SEE SPECIFICATIONS FOR INSULATION AND ACOUSTIC LINE REQUIREMENTS

3 M3.1 CEILING DIFFUSER BRANCH DUCTS

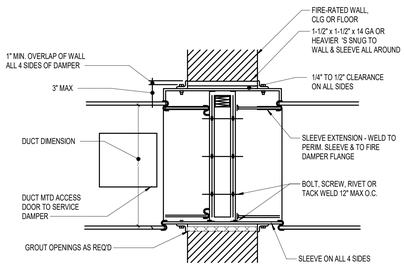
N.T.S.



NOTE: DRYER BOX MAY BE USED AT ANY LOCATION WITH A 6" STUD WALL AND CAN BE USED TO ELIMINATE 1-ELBOW AND REDUCE THE MEASURED LENGTH OF THE DRYER VENT USE FOR DIRECT VENTING ONLY. NOT SUITABLE FOR SHARED RISER CONNECTIONS.

9 M3.1 DRYER EXHAUST VENT CONNECTION

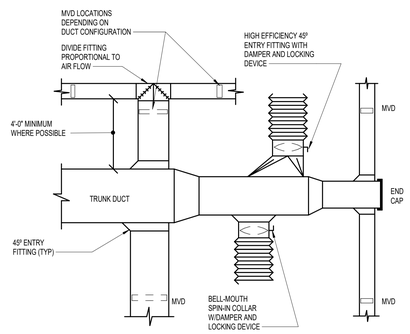
12" = 1'-0"



NOTE:
THE DETAIL ABOVE IS PICTORIAL IN NATURE AND NOT ABSOLUTELY CORRECT FOR ALL SITUATIONS. FIRE DAMPERS SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S UL APPROVED REQUIREMENTS.

6 M3.1 FIRE DAMPER INSTALLATION

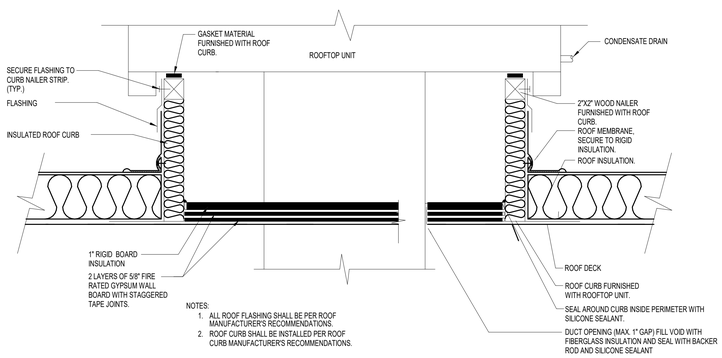
N.T.S.



NOTE: THIS DETAIL IS GENERAL IN NATURE AND APPLIES WHERE CEILING ACCESS IS READILY AVAILABLE. DO NOT INSTALL BALANCING DAMPERS ABOVE "HARD" CEILINGS" UNLESS BOTH DAMPERS AND ACCESS DOORS ARE INDICATED ON THE DRAWINGS. ASK IF THERE IS DOUBT AS TO THE DESIGNERS INTENT.

2 M3.1 BRANCH DUCT TAKE-OFF OPTIONS

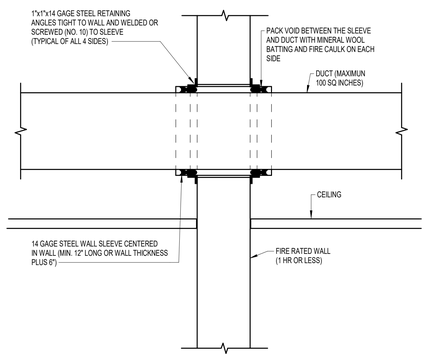
N.T.S.



NOTES:
1. ALL ROOF FLASHING SHALL BE PER ROOF MANUFACTURER'S RECOMMENDATIONS.
2. ROOF CURB SHALL BE INSTALLED PER ROOF CURB MANUFACTURER'S RECOMMENDATIONS.

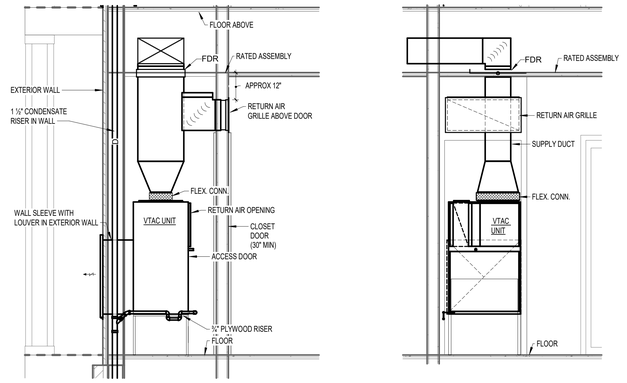
8 M3.1 DETAIL - RTU & DOA UNIT CURB

N.T.S.



5 M3.1 DUCT PENETRATION OF FIRE RATED PARTITION

N.T.S.



1 M3.1 VERTICAL PTAC UNIT DETAIL

N.T.S.

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ARCHITECT	DAS	CHECKED	MAP
ENGINEER	KFY	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

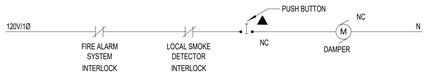
DRAWING TITLE

DETAILS - HVAC

DATE: January 5, 2024

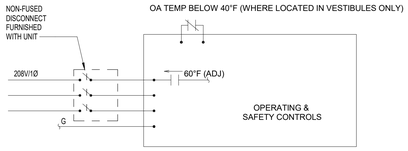
COMM. NO. 23104.00

DRAWING M3.1

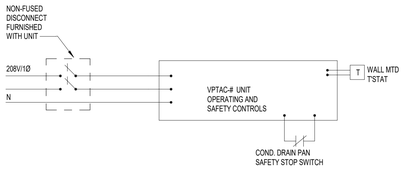


NOTES: 1. SMOKE DAMPER MAY BE A COMBINATION FIRE/SMOKE IN LIEU OF SMOKE DAMPER ONLY. FOR DETAILS SEE DRAWING M3.0.

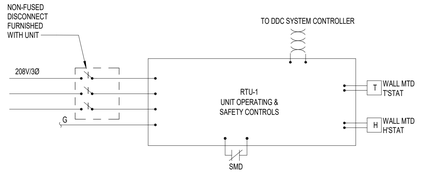
SMOKE DAMPERS & FIRE/SMOKE DAMPERS (TYPICAL)



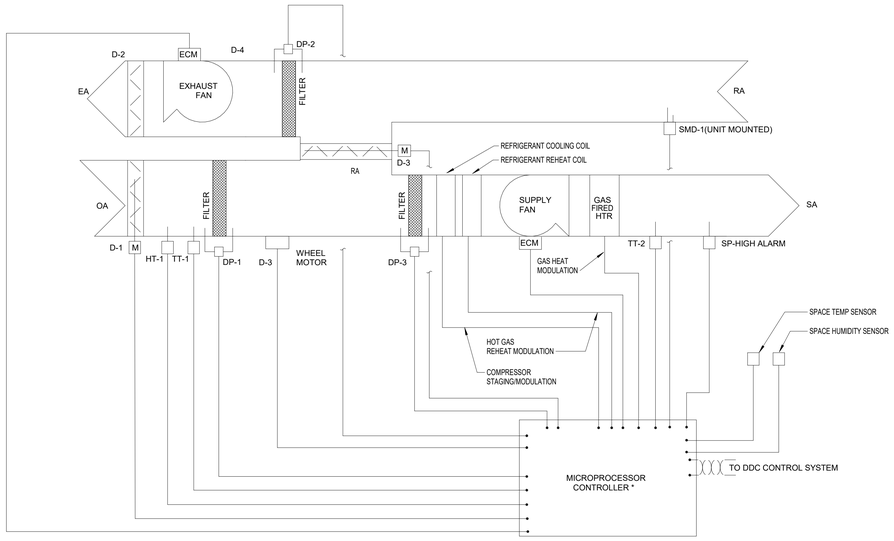
ELECTRIC WALL HEATERS (EWH)



VERTICAL PACKAGED TERMINAL AIR CONDITIONER UNITS



PACKAGED ROOFTOP AC UNIT (RTU)



PACKAGED ROOFTOP AC UNIT, RTU-1, 2 & 3

* CONTROLLER FURNISHED BY UNIT MANUFACTURER AND FACTORY INSTALLED

NOTE: UNIT SHALL OPERATE ON A TIME-OF-DAY SCHEDULE AS DETERMINED BY OWNER

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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DESIGNER	DAS	DRAWN	Author
ARCHITECT	DAS	CHECKED	MAP
ENGINEER	Designer	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

ELECTRONIC SEQUENCE CONTROLS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING M4.1

PLUMBING FIXTURE SCHEDULE

TAG	DESCRIPTION	MINIMUM CW	MINIMUM HW	MINIMUM TRAP	MINIMUM SOIL OR WASTE	MINIMUM VENT
	WATER CLOSETS:					
P-10	AMERICAN STANDARD "CADET PRO" MODEL 2154A.104 ELONGATED BOWL, ADA COMPLIANT, FLOOR MOUNTED; WHITE, TANK TYPE, 1.28 GPF BOLT CAPS AND WHITE CLOSED FRONT SEAT WITH COVER, WITH SLOW CLOSE STAINLESS STEEL CHECK HINGES AND ANGLE SUPPLY WITH WHEEL HANDLE STOPS.	1/2"	-	-	3"	1-1/2"
	LAVATORIES: PROVIDE COMPLETE UNDER LAVATORY ANTI-MICROBIAL WASTE AND WATER PIPING PROTECTION INSULATION KITS AS MANUFACTURERED BY PLUMBEREX SPECIALTY PRODUCTS, INC., OR TRUEBRO, INC. ON ALL HANDICAPPED LAVATORIES.					
P-30	LAVATORY BOWL: INTEGRAL WITH COUNTERTOP. SEE ARCHITECTURAL FINISH SPECIFICATIONS. FAUCET: MOEN "ADLER" MODEL WSL84502 SINGLE LEVER HANDLE, 1.2 GPM, BRUSHED NICKEL FINISH ACCESSORIES: POP UP DRAIN, WATTS MODEL LFUSG-B-M2 POINT OF USE THERMOSTATIC MIXING VALVE CONFORMING TO ASSE 1070, WITH INTEGRAL CHECK VALVES. SET MAXIMUM OUTLET TEMPERATURE TO 110 DEGREES.	1/2"	1/2"	1-1/4"	1-1/2"	1-1/2"
	SINKS: PROVIDE COMPLETE UNDER SINK ANTI-MICROBIAL WASTE AND WATER PIPING PROTECTION INSULATION KITS AS MANUFACTURERED BY PLUMBEREX SPECIALTY PRODUCTS, INC., OR TRUEBRO, INC. ON ALL HANDICAPPED SINKS.					
P-40	MOP SINK: FIAT MODEL MSB-2424, MOLDED STONE. 3" QUICK DRAIN CONNECTOR, 24" WIDE X 24" LONG X 10" DEEP. FAUCET: CHICAGO MODEL 897-CRCF SERVICE SINK FAUCET WITH VACUUM BREAKER AND INTEGRAL CHECK VALVES AND INTEGRAL STOPS. ACCESSORIES: HOSE AND HOSE BRACKET, MOP HANGER, ADJUSTABLE WALL BRACE, PAIL HOOK, STAINLESS STEEL BUMPERGUARDS ON ALL CURBS AND STAINLESS STEEL WALL GUARDS ON ALL ADJACENT WALLS.	1/2"	1/2"	3"	3"	1-1/2"
P-41	BASIN: ELKAY MODEL ELUH3118, STAINLESS STEEL, DOUBLE BOWL, UNDERMOUNT SINK, 30-3/4" WIDE X 18-1/2" LONG X 7-7/8" DEEP. FAUCET: PFISTER "PASEDENA" MODEL F-529-7PDS(SS), SINGLE HOLE, SINGLE LEVER HANDLE, HIGH ARC SPOUT, PULL DOWN SPRAY, 1.8 GPM, CERAMIC CATRIDGE, STAINLESS STEEL FINISH ACCESSORIES: BASKET STRAINER DRAIN ASSEMBLY. DO NOT INSTALL INCLUDED SOAP DISPENSER OR DECKPLATE. PROVIDE WATER HAMMER ARRESTOR, WATER AND WASTE CONNECTIONS FOR ADJACENT DISHWASHER.	1/2"	1/2"	1-1/2"	2"	1-1/2"
	SHOWERS/TUB/BATHING UNITS: SHOWERS SHALL HAVE A MAXIMUM FLOW RATE OF 2.5 GALLONS PER MINUTE. UNITS SHALL BE CONFIGURED LEFT-HAND AND RIGHT-HAND UNITS AS REQUIRED BY FLOOR PLAN LAYOUT. PROVIDE INLET CHECK STOPS ON ALL SHOWER VALVES THAT ARE CONNECTED TO HAND-HELD SHOWER WANDS WITH ON/OFF CAPABILITY.					
P-60	SURROUND: BEST BATH MODEL LSS65533A75B, ONE PIECE, ADA COMPLIANT, ROLL-IN, GELCOAT/FIBERGLASS SHOWER MODULE WITH SEMI-PERMANENT THRESHOLD AND T-SHAPED WATER STOPPER. SHOWER TRIM: MOEN "KINGSLEY", MODEL T31118N PRESSURE-BALANCED MIXING SHOWER VALVE WITH FIELD INSTALLED CHECK STOPS, MODEL T4311 TRANSFER VALVE, MODEL A726SRN 69 INCH ULTRAFLEX HOSE, MODEL 8349EP17CBN 1.75 GPM HAND SHOWER WITH PAUSE FEATURE, VACUUM BREAKER, AND SLIDE BAR, MODEL 5263EP17CBN SINGLE FUNCTION 1.75GPM SHOWER HEAD, BRUSHED NICKEL FINISH. PROVIDE ALL REQUIRED MATCHING MANUFACTURER ACCESSORIES. GRAB BAR: MOEN "KINGSLEY" MODEL YG5430BN, BRUSHED NICKEL FINISH, 30 INCHES. DRAIN: PROVIDE 2" BRUSHED NICKEL FINISH SHOWER DRAIN.	1/2"	1/2"	2"	2"	1-1/2"
	MISCELLANEOUS:					
P-70	WASHING MACHINE CONNECTION BOX: UNIT SHALL BE RECESSED TYPE, BOX AND FACE PLATE SHALL BE CONSTRUCTED OF 16 GAUGE STEEL WITH EPOXY FINISH, OR HEAVY-DUTY PLASTIC ABS, UNIT SHALL BE FITTED WITH 2-INCH DRAIN CONNECTION WITH OVERFLOW, BOTTOM SUPPLY HOSE CONNECTIONS, AS REQUIRED, WATER HAMMER ARRESTORS CONFORMING TO ASSE 1010. BOXES LOCATED ON RATED CORRIDOR OR RATED UNIT SEPARATION WALL SHAL BE A FIRE-RATED BOX ASSEMBLY APPROVED FOR FIRE-RATED INSTALLATION.	1/2"	1/2"	2"	3"	1-1/2"
P-71	ICE MAKER CONNECTION BOX: UNIT SHALL BE RECESSED TYPE, BOX AND FACE PLATE SHALL BE CONSTRUCTED OF 16 GAUGE STEEL WITH EPOXY FINISH, OR HEAVY-DUTY PLASTIC ABS, UNIT SHALL BE FITTED WITH CHROME PLATED SUPPLY VALVE. BOXES LOCATED ON RATED CORRIDOR OR RATED UNIT SEPARATION WALL SHALL BE A FIRE-RATED BOX ASSEMBLY APPROVED FOR FIRE-RATED INSTALLATION. MOUNT BOTTOM OF BOX ABOVE TRIM/BASEBOARD.	1/2"	-	-	-	-
WH	FREEZE PROOF, AUTOMATIC DRAINING CHROME-PLATED WALL HYDRANT EQUAL TO WOODFORD MODEL #65. MOUNTED 24" ABOVE FINISHED GRADE.	3/4"	-	-	-	-
TP	PROVIDE BRONZE TRAP PRIMER VALVE WITH AUTOMATIC VACUUM BREAKER COMPLYING WITH ASSE 1018 WITH 1/2" CONNECTIONS MATCHING PIPING SYSTEM. PROVIDE TRAP PRIMERS BY PRECISION PLUMBING PRODUCTS, INC.; JOSAM, MFG. CO.; ZURN INDUSTRIES INC.; SMITH MFG. CO; OR WATTS DRAINAGE.	1/2"	-	-	-	-
HB-1	EQUAL TO WOODFORD MODEL NO. 26, ROUGH BRASS FINISH, WITH 3/4" HOSE CONNECTION, VACUUM BREAKER, AND LOOSE KEY HANDLE.	1/2"	-	-	-	-
PH	ZURN Z1395 ROOF POST HYDRANT, NON FREEZE, WITH VACUUM BREAKER, 3/4" HOSE CONNECTION. DEPTH OF BURY TO BE BASED UPON 4 FEET SO THAT DRAIN PORT IS LOCATED BELOW ATTIC INSULATION IN CEILING SPACE OF ROOM BELOW. FIELD VERIFY DEPTH OF BURY PRIOR TO ORDERING.	3/4"	-	-	-	-
WHA	EQUAL TO ZURN Z1700 WATER HAMMER ARRESTOR.	3/4"	-	-	-	-

1. FIXTURES SHALL BE PROVIDED WITH ALL ITEMS, ARTICLES, MATERIALS AND INCIDENTALS, AS REQUIRED, INCLUDING ALL LABOR NECESSARY FOR A COMPLETE PLUMBING INSTALLATION.
2. THE PLUMBING CONTRACTOR SHALL CLEAN ALL FIXTURES, POLISH ALL METAL PARTS, CHECK AND ADJUST ALL FITTINGS, FAUCETS AND VALVES. ALL OPERATING INSTRUCTIONS SHALL BE TURNED OVER TO THE GENERAL CONTRACTOR FOR PRESENTATION TO THE OWNER.
3. PROVIDE INDIVIDUAL STOPS ON ALL PLUMBING FIXTURES.
4. ALL LAVATORY, SINK, LAUNDRY TUB, WATER COOLER AND SIMILAR FIXTURE TRAPS, INCLUDING THOSE MOUNTED IN CASEWORK, SHALL BE CHROME PLATED, CAST BRASS, MINIMUM 17-GAUGE, ADJUSTABLE TYPE WITH CLEANOUT PLUG.
5. PROVIDE CHROME PLATED ANGLE STOPS WITH WHEEL HANDLES AT FIXTURE SUPPLY THROUGH WALLS, INCLUDING THOSE MOUNTED IN CASEWORK.
6. ALL EXPOSED SUPPLY PIPES, STOPS, FLEXIBLE RISERS, INCLUDING THOSE MOUNTED IN CASEWORK, SHALL HAVE A POLISHED CHROME PLATED FINISH AND BE OF THE SAME MANUFACTURER THROUGHOUT THE JOB.
7. ALL EXPOSED SUPPLY PIPES, STOPS, P-TRAP, AND ANY WASTE PIPE IN ADA ACCESSIBLE LOCATIONS SHALL HAVE ADA COMPLIANT UNDER-SINK PROTECTION.
8. PROVIDE CHROME PLATED ESCUTCHEONS AT ALL FIXTURE SUPPLY AND WASTE PIPE PENETRATIONS THROUGH WALLS, INCLUDING THOSE MOUNTED IN CASEWORK.
9. ALL WATER CLOSET FLUSHING MECHANISMS ON HANDICAP WATER CLOSETS SHALL BE INSTALLED ON THE "WIDE SIDE" OF EACH WATER CLOSET TO MAINTAIN ADA ACCESSIBILITY.
10. PROVIDE INLET CHECK STOPS ON ALL FIXTURES (I.E. MOP SINKS, KITCHEN PRE-RINSE SPRAY UNITS, SHOWER VALVES, SPA BATHING UNITS AND SIMILAR FIXTURE(S) SUSCEPTIBLE TO BACKFLOW/CROSS CONNECTION SITUATIONS.
11. PROVIDE CONCEALED FIXTURE CARRIERS AND SUPPORTS OF PROPER TYPE AND DESIGN TO SUIT JOB CONDITIONS. PROVIDE CARRIERS BY J.R. SMITH MFG. CO.; ZURN INDUSTRIES, INC.; JOSAM MFG. CO.; WADE DIVISION/TYLER PIPE.
12. PLUMBING FIXTURE COLORS SHALL BE SELECTED BY ARCHITECT/OWNER AT A LATER DATE FROM STANDARD FACTORY COLORS, UNLESS OTHERWISE NOTED TO BE DESIGNER COLOR IN SCHEDULE.
13. PLUMBING FIXTURES AND TRIM SPECIFIED IN THIS SCHEDULE ARE TO ESTABLISH A STANDARD LEVEL OF QUALITY. OTHER MANUFACTURERS MAY BE CONSIDERED EQUAL. SEE LISTINGS BELOW FOR SOME MANUFACTURERS CONSIDERED EQUALS. OTHER MANUFACTURERS NOT LISTED BELOW MAY ALSO BE CONSIDERED WITH WRITTEN APPROVALS OBTAINED FROM ARCHITECT AND/OR ENGINEER PRIOR TO TEN DAYS BEFORE BIDS ARE DUE.
    - A. VITREOUS CHINA PLUMBING FIXTURES: AMERICAN STANDARD, SLOAN, KOHLER, PROFLO, ZURN
    - B. MOP SINKS, LAUNDRY TUBS: FIAT, E.L. MUSTEE, PROFLO, STERN WILLIAMS
    - C. STAINLESS STEEL SINKS: ELKAY, DAYTON, JUST, PROFLO
    - D. FAUCETS, SHOWER VALVES AND TRIM, FLUSH VALVES: AMERICAN STANDARD, KOHLER, SLOAN, ELKAY, MOEN, T&S BRASS, DELTA, CHICAGO, PROFLO
    - E. SHOWER AND TUBS: COMFORT DESIGNS, BEST BATH, AQUA BATH, AQUARIUS, AMERICAN STANDARD, KOHLER, AQUATIC (LASCO)
14. PROVIDE SHOP DRAWING/SUBMITTAL AND OPERATIONS MANUAL FOR ALL ITEMS LISTED ABOVE IN PLUMBING FIXTURE SCHEDULE.
15. MINIMUM SIZES IN SCHEDULE ABOVE REPRESENT MINIMUM PLUMBING FIXTURE CONNECTIONS ALLOWED AND DOES NOT REFLECT SPECIAL SITUATIONS SUCH AS WET VENTING, WASTE STACK VENTS, COMBINATION WASTE AND VENT SYSTEMS, ETC. REFER TO PLANS AND/OR RISER DIAGRAMS FOR PIPE SIZES AND ADDITIONAL INFORMATION.

PLUMBING DRAINS/CLEANOUT SCHEDULE

PROVIDE SHOP DRAWING/SUBMITTAL AND OPERATIONS MANUAL FOR ALL ITEMS LISTED BELOW.	
	CLEANOUTS: CLEANOUTS SHALL BE LINE SIZE UP TO 4". FOR PIPE SIZES LARGER THAN 4" PROVIDE A 4" CLEANOUT, WHERE ALLOWED BY CODE AND AUTHORITY HAVING JURISDICTION. ALL EXTERIOR AND INLINE CLEANOUTS SHALL BE TWO-WAY.
CO	EXPOSED HORIZONTAL OR VERTICAL CLEANOUT IN PIPING EXPOSED OR CONCEALED ABOVE ACCESSIBLE CEILINGS.
FCO	(REFER TO ARCHITECTURAL DRAWINGS FOR FLOOR FINISH INFORMATION. PROVIDE CLEANOUTS AS DESCRIBED BELOW.) 1. WHERE SHEET VINYL FLOORING SIMILAR TO ALTRO, PROTECTALL AND ETC. IS INSTALLED, PROVIDE WATTS MODEL CO-200-RFC7 FLOOR CLEANOUT WITH SURFACE MEMBRANE CLAMP. 2. FOR AREAS WHERE CARPET WILL BE INSTALLED PROVIDE ROUND ADJUSTABLE CLEANOUT WITH CARPET MARKER. 3. BACK OF HOUSE AREAS (I.E. KITCHEN, UTILITY ROOMS, LAUNDRY ROOMS AND SIMILAR SPACES) WHERE TILE FLOORS ARE TO BE INSTALLED, PROVIDE SQUARE ADJUSTABLE CLEANOUT WITH STAINLESS STEEL COVER. 4. IN PUBLIC AREAS (I.E. DINING ROOMS, CORRIDORS, OFFICES, CONFERENCE ROOMS AND SIMILAR SPACES) WHERE TILE FLOORS ARE TO BE INSTALLED, PROVIDE SQUARE ADJUSTABLE CLEANOUT WITH RECESS TILE COVER. 5. IN AREAS SUBJECT TO TRAFFIC (I.E. PARKING GARAGES, PARKING SPACES AND SIMILAR SPACES) PROVIDE HEAVY DUTY/TRAFFIC RATED CLEANOUT COVER.
GCO	CLEANOUT TO GRADE WITH HEAVY DUTY ACCESS COVER CAST IN A 12" X 12" X 4" THICK CONCRETE PAD. (PAD MAY BE ELIMINATED IN POURED CONCRETE SIDEWALKS, DRIVEWAYS, PATIOS, ETC.)
WCO	PROVIDE CLEANOUT IN VERTICAL PIPE WITH STAINLESS STEEL ACCESS COVER. (WHERE PIPES ARE CONCEALED IN WALLS OR CHASES.)
	ROOF/OVERFLOW DRAINS: ACCEPTABLE MANUFACTURERS: ZURN, WATTS, JOSAM, JAY R. SMITH, FROET INDUSTRIES.
RD	ROOF DRAIN - EQUAL TO ZURN 100. DRAIN SHALL HAVE DURA-COATED CAST IRON BODY WITH POLY-DOME, COMBINATION MEMBRANE FLASHING CLAMP/GRAVEL GUARDS, SUMP RECEIVER, UNDERDECK CLAMPING DEVICE, EXTENSION COLLAR TO SUIT THICKNESS OF INSULATION.
OD	OVERFLOW DRAIN - EQUAL TO ZURN Z100-W2. DRAIN SHALL HAVE DURA-COATED CAST IRON BODY WITH POLY-DOME, INTERNAL OVERFLOW WATER DAM, COMBINATION MEMBRANE FLASHING CLAMP/GRAVEL GUARDS, SUMP RECEIVER, UNDERDECK CLAMPING DEVICE, EXTENSION COLLAR TO SUIT THICKNESS OF INSULATION.
FD-1	(GENERAL PURPOSE, BACK OF HOUSE, CONCRETE FLOORS) - FLOOR DRAIN EQUAL TO ZURN ZN415B. DURA-COATED CAST IRON BODY WITH INVERTIBLE MEMBRANE CLAMP AND ADJUSTABLE COLLAR WITH SEEPAGE SLOTS. TYPE "B" ROUND NICKEL BRONZE STRAINER; 5" STRAINER FOR 2" OUTLET, 6" STRAINER FOR 2" OUTLET AND 8" STRAINER FOR 4" SEEPAGE SLOTS. TYPE "B" ROUND NICKEL BRONZE STRAINER; 5" STRAINER FOR 2" OUTLET, 6" STRAINER FOR 3" OUTLET AND 8" STRAINER FOR 4" OUTLET.

EQUIPMENT SCHEDULE

PROVIDE SHOP DRAWING/SUBMITTAL AND OPERATIONS MANUAL FOR ALL ITEMS LISTED BELOW. PROVIDE EQUIPMENT TAGS PER SPECIFICATIONS FOR ALL ITEMS LISTED IN THIS SCHEDULE.	
WTR HTR-1 WTR HTR-2	WATER HEATER - EQUAL TO A.O. SMITH MODEL NO. BTH-250 NATURAL GAS FIRED ASME WATER HEATER WITH GLASS TANK LINING AND CONDENSATE NEUTRILIZING KIT. HEATER TO HAVE 100 GALLON NOMINAL STORAGE CAPACITY WITH RECOVERY CAPACITY OF 327 GPH AT 88°F TEMPERATURE RISE. 250 CFH INPUT RATING; 120V ELECTRICAL CONNECTION.
ET-1	THERMAL EXPANSION COMPENSATOR - EQUAL TO AMTROL ST-25V-C, ASME RATED, 10.3 GALLON CAPACITY.
TMV-1	THERMOSTATIC MIXING VALVE - EQUAL TO LEONARD VALVE "NUCLEUS" MODEL NV-200-LF, 115 GPM AT 10 PSIG PRESSURE LOSS, 200 PSIG MAXIMUM OPERATING PRESSURE, TEMPERATURE OUTLET RANGE OF 85°F - 180°F, WITH ABILITY TO CONTROL TEMPERATURE +/-2°F OF SETPOINT, PROVIDE WALL MOUNTING BRACKET.
SP-1 SP-2	ELEVATOR SUMP PUMP - EQUAL TO STANCOR SE-50 ELEVATOR SUMP PUMP, 1/2 HP, 120V, 1 PHASE. PROVIDE WITH WATER LEVEL PROBE AND CONTROL PANEL.
BFP-1 BFP-2	BACKFLOW PREVENTER - EQUAL TO ZURN MODEL NO. 975XL3 WITH 2" CONNECTIONS. PROVIDE WITH AIR GAP ASSEMBLY, BALL VALVES, AND WYE STRAINER ON INLET SIDE OF VALVE.
CP-1	120 HOT WATER RECIRCULATION PUMP - EQUAL TO BELL AND GOSSETT ECOCIRC MODEL 36-45, VARIABLE SPEED ECM MOTOR WITH CAPACITY OF 20 GPM @ 20 FT/HEAD, 1/6 HP, 115V, 1 PHASE, STAINLESS STEEL CONSTRUCTION, "PROPORTIONAL PRESSURE" SETTING.

PLUMBING SYMBOLS AND ABBREVIATIONS LEGEND

DIRECTION OF FLOW	
PIPE TURNING UP	
PIPE TURNING DOWN	
BRANCH CONNECTION - TOP	
BRANCH CONNECTION - BOTTOM	
BRANCH CONNECTION - SIDE	
SERVICE VALVE (BALL OR GATE)	
SERVICE VALVE (BUTTERFLY)	
CHECK VALVE	
DI-ELECTRIC UNION	
PIPE CAP OR BLIND FLANGE	
OUTLETS/FIXTURE STOPS (GAS, AIR, VACUUM, OXYGEN)	
PRESSURE REDUCING VALVE	
FLEXIBLE PIPE CONNECTION OR JOINT	
HOSE BIBB OR FREEZEPROOF WALL HYDRANT	HB / WH
GAS SHUT-OFF VALVE	
GAS SOLENOID VALVE	
CONNECT NEW TO EXISTING	
POINT OF DISCONNECTION	
COLD WATER PIPING	
HOT WATER SUPPLY (NUMBER DENOTES TEMPERATURE; NO NUMBER INDICATES 120°F TEMPERATURE SYSTEM)	140
HOT WATER RETURN (NUMBER DENOTES TEMPERATURE; NO NUMBER INDICATES 120°F TEMPERATURE SYSTEM)	140
SANITARY SEWER PIPING	
VENT PIPING	
ROOF DRAIN STORM PIPING	RD
OVERFLOW DRAIN STORM PIPING	OD
GREASE WASTE PIPING	GW
NATURAL GAS PIPING	G
PIPE REFERENCE	D / R; G - GAS, D - DWV, W - WATER, S- STORM, RISER NUMBER

SOME SYMBOLS ABOVE MAY BE SHOWN WITH DOUBLE LINE PIPING IN LIEU OF SINGLE LINE PIPING AND MAY NOT APPEAR AS INDICATED ABOVE. THESE SYMBOLS WILL BE NOTED ON PLANS WHERE APPLICABLE.

AAV	AIR ADMITTANCE VALVE
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
BFP	BACKFLOW PREVENTER
BP	BOOSTER PUMP
BTUH	BRITISH THERMAL UNIT/HOUR
CFH	CUBIC FEET PER HOUR
CLG	CEILING
CO	CLEANOUT
CP	CIRCULATION PUMP
CW	COLD WATER
DD	DECK DRAIN
DN	DOWN
DWV	DRAINAGE, WASTE AND VENT
EA	EACH
ET	EXPANSION TANK
EX	EXISTING
F	FAHRENHEIT
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FFE	FINISHED FLOOR ELEVATION
FL	FLOOR
FT	FEET
FU	FIXTURE UNIT
G	GAS
GAL	GALLON
GCO	GRADE CLEANOUT
GPD	GALLONS PER DAY
GPH	GALLONS PER HOUR
GPM	GALLONS PER MINUTE
GW	GREASE WASTE
HB	HOSE BIBB
HD	HEAD
HP	HORSEPOWER
HTR	HEATER
HW	HOT WATER
HWR	HOT WATER RETURN
IE	INVERT ELEVATION
KW	KILOWATT
L	LAVATORY
MIN	MINIMUM
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
OD	OVERFLOW DRAIN
PD	PARKING DRAIN
PRV	PRESSURE REDUCING VALVE
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
RAC	ROUTE ABOVE CEILING
RBF	ROUTE BELOW FLOOR
RD	ROOF DRAIN
SD	STORM DRAIN
SEP	SEWAGE EJECTOR PUMP
SF	SQUARE FEET
SH	SHOWER
SP	SUMP PUMP
SS	SANITARY SEWER
S/S	STAINLESS STEEL
TD	TRENCH DRAIN
TMV	THERMOSTATIC MIXING VALVE
TP	TRAP PRIMER
V	VENT
VTR	VENT THRU ROOF
W	WASTE
WC	WATER COLUMN
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WHA	WATER HAMMER ARRESTOR
WTR	WATER

THESE SYMBOLS AND ABBREVIATIONS ARE PLUMBING DEPARTMENT STANDARDS AND MAY NOT NECESSARILY BE APPLICABLE TO, OR APPEAR ON THESE DRAWINGS. HOWEVER, WHERE THESE SYMBOLS DO OCCUR ON THE DRAWINGS, THE ITEM SHALL BE PROVIDED AND INSTALLED. SEE ARCHITECTURAL DRAWINGS FOR ADDITIONAL ABBREVIATIONS.

GENERAL PLUMBING NOTES

1. THE PLUMBING CONTRACTOR SHALL DETERMINE NECESSARY INVERT ELEVATIONS FOR PROPER DRAINAGE AND CONNECTION INTO SEWERS. ALL INVERT ELEVATIONS SHALL BE SET PRIOR TO INSTALLATION.
2. ALL PIPING PASSING THROUGH FIRE RATED OR FIRE AND SMOKE RATED ASSEMBLIES SHALL BE SLEEVED AND FIRESTOPPED. FIRESTOPPING SHALL COMPLY WITH U.L. LISTING AND REQUIREMENTS FOR ASSEMBLY TYPE BEING PENETRATED.
3. PLUMBING CONTRACTOR SHALL NOT CORE DRILL OR DISTURB ANY STRUCTURAL MEMBERS WITHOUT WRITTEN AUTHORIZATION BY THE ARCHITECT AND/OR STRUCTURAL ENGINEER.
4. PLUMBING CONTRACTOR SHALL COORDINATE PIPING LOCATIONS AND ROUTING WITH OTHER PIPING DUCTWORK AND ELECTRICAL CONDUIT INSTALLATIONS. PLUMBING CONTRACTOR SHALL REVIEW ARCHITECTURAL DRAWINGS TO ESTABLISH WHERE FURR-DOWNS AND SOFFITS OCCUR AND DIMENSIONS OF SAME SO THAT DISTANCES AND PIPING ROUTING CAN BE PROPERLY COORDINATED. ALL PIPING SHALL BE ROUTED IN A CONCEALED MANNER.
5. PLUMBING CONTRACTOR SHALL AVOID LOCATING HW/CW PIPING IN LOCATIONS WHERE POSSIBILITY OF FREEZING OF SAME EXISTS. CONTRACTOR SHALL ADVISE ENGINEER WHERE THIS CONDITION MAY OCCUR PRIOR TO ROUGH-IN.
6. ALL ADA ACCESSIBLE LAVATORIES AND SINKS WITH EXPOSED WATER AND DRAIN PIPES SHALL BE INSULATED TO PROTECT AGAINST CONTACT PER ADA REQUIREMENTS. THERE SHALL BE NO SHARP OR ABRASIVE SURFACES.
7. ALL PLUMBING WORK SHALL BE INSTALLED IN COMPLIANCE WITH ALL STATE AND LOCAL CODES.
8. COORDINATE ROUTING OF ALL PIPING WITH THE ELECTRICAL CONTRACTOR SO AS NOT TO ROUTE ANY PLUMBING LINES OVER ELECTRICAL PANELS, SWITCHGEAR, ETC.
9. REFER TO SPECIFICATION SECTION 231123 FACILTY NATURAL-GAS PIPING FOR GAS PIPING AND INSTALLATION INFORMATION.
10. ACCESS DOORS TO VALVES, CLEANOUTS AND ETC. TO BE EQUAL TO "ACUDOR" DW OR FW SERIES, ACCESS DOORS FOR DRYWALL INSERTS. PROVIDE FIRE RATED ACCESS DOORS WHERE REQUIRED. COORDINATE WITH GENERAL CONTRACTOR AND VERIFY EXACT LOCATIONS AND SIZES ON SITE. PAINT TO MATCH CEILING OR WALL.
11. PLASTIC PIPING SHALL NOT BE INSTALLED IN ANY SPACE THAT IS A RETURN AIR PLENUM. COORDINATE WITH MECHANICAL CONTRACTOR FOR PLENUM LOCATIONS PRIOR TO INSTALLATION OF ANY PIPING. ONLY PLASTIC PIPING THAT IS APPROVED FOR PLENUM SPACES AND IS APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION MAY BE INSTALLED IN RETURN AIR PLENUMS.
12. PIPING AND EQUIPMENT HANGERS SHALL BE SPACED IN A SYSTEMATIC RANDOM PATTERN AS REQUIRED TO ELIMINATE OVERLOADING INDIVIDUAL STRUCTURAL MEMBERS. THE ESTIMATED WEIGHT ASSIGNED TO PIPE AND EQUIPMENT HANGERS SHALL BE DETERMINED BY THE PLUMBING CONTRACTOR AND SUBMITTED TO THE GENERAL CONTRACTOR FOR REVIEW, COORDINATION AND APPROVAL PRIOR TO INSTALLATION. THIS REQUIREMENT APPLIES TO ALL PLUMBING PIPING.

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
03/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

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ARCHITECT : DAS	CHECKED : DPW/MAH
ENGINEER : AJM	APPROVED : AJM

NO.	REVISION DESCRIPTION	DATE

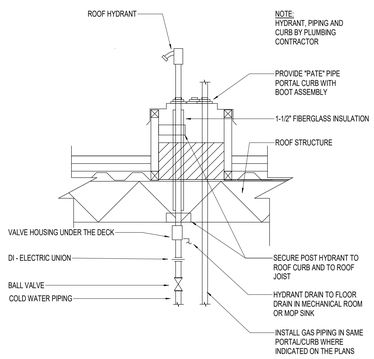
DRAWING TITLE

PLUMBING - LEGENDS, ABBREVIATIONS AND SCHEDULES

DATE: January 5, 2024

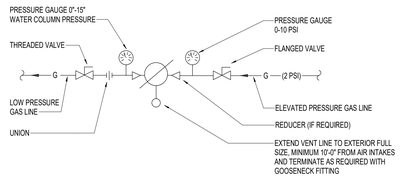
COMM. NO. 23104.00

DRAWING P0.0



12 / P0.1 ROOF HYDRANT DETAIL

N.T.S.

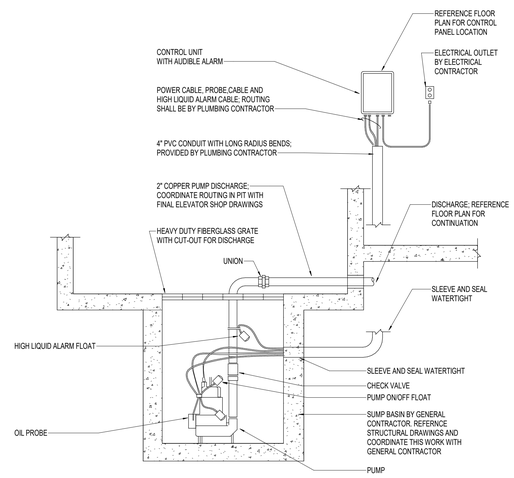


NATURAL GAS REGULATOR SCHEDULE				
TAG	INLET PRESSURE	OUTLET PRESSURE	MIN. CFH CAPACITY	SHEET LOCATION
REG-1	2 PSI	11" WC	500 CFH	P4.1
REG-2	2 PSI	11" WC	250 CFH	P3.1
REG-3	2 PSI	11" WC	250 CFH	P3.1
REG-4	2 PSI	11" WC	320 CFH	P3.1
REG-5	2 PSI	11" WC	650 CFH	P2.1

NOTES:
1. VERIFY MAXIMUM GAS INLET PRESSURES ALLOWED TO EQUIPMENT PROVIDED. ADJUST REGULATOR OUTLET PRESSURES AS REQUIRED.
2. PROVIDE EQUIPMENT TAGS FOR EACH REGULATOR LISTED IN ACCORDANCE WITH SPECIFICATIONS.
3. THE LINE PRESSURE REGULATOR FOR THE GENERATOR IS SIZED FOR MINIMUM OF 1.5X THE INPUT RATING OF THE GENERATOR PER THE MANUFACTURES REQUIREMENTS.

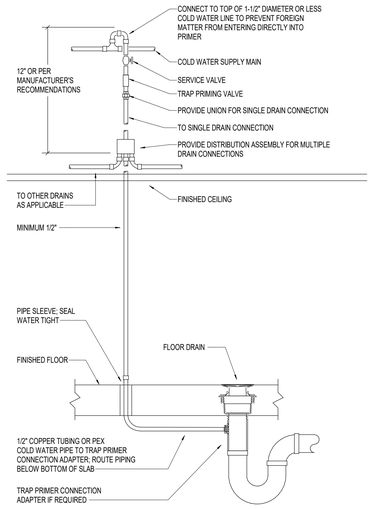
8 / P0.1 NG PRESSURE REGULATOR PIPING & SCHEDULE

N.T.S.



4 / P0.1 ELEVATOR SUMP PUMP DETAIL

N.T.S.



3 / P0.1 DRAIN WITH TRAP PRIMER DETAIL

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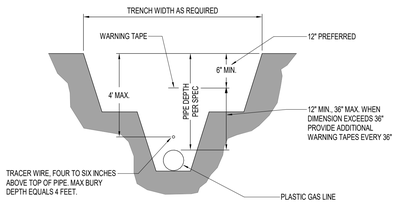
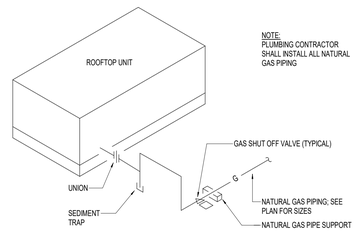


TRENCH SECTION

WARNING: TAPE AND TRACER WIRE DETAIL. NO SCALE

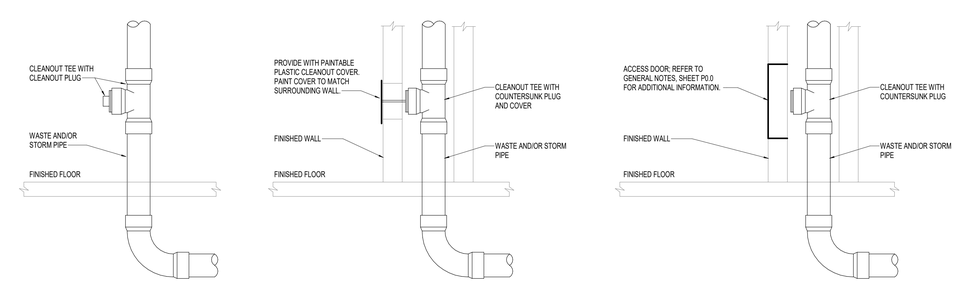
11 / P0.1 WARNING TAPE AND TRACER WIRE DETAIL

N.T.S.



7 / P0.1 NATURAL GAS RTU CONNECTION

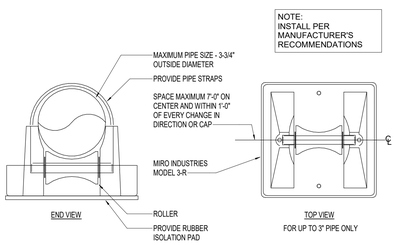
N.T.S.



EXPOSED LOCATIONS — CONCEALED LOCATIONS — CONCEALED LOCATIONS

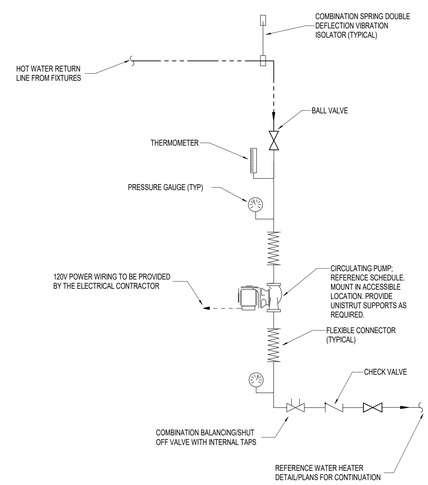
2 / P0.1 CLEANOUT AT BASE OF STACK DETAIL

N.T.S.



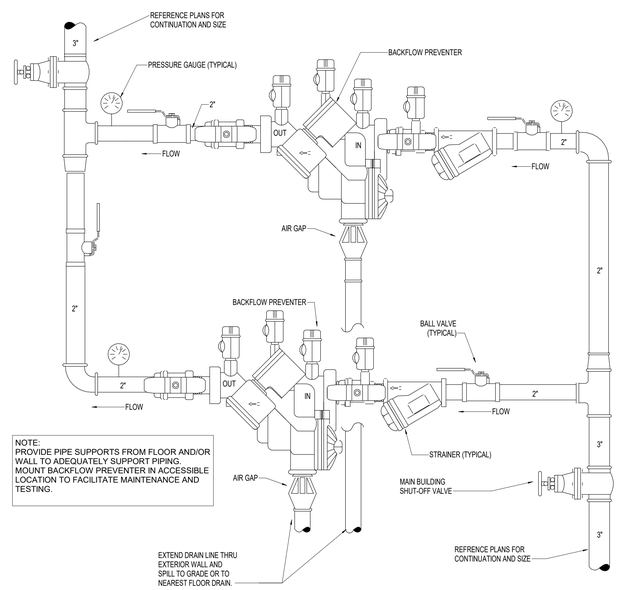
10 / P0.1 NATURAL GAS PIPE SUPPORT

N.T.S.



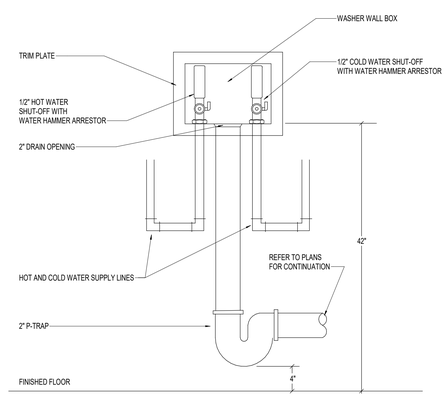
6 / P0.1 IN-LINE RECIRCULATION PUMP PIPING DIAGRAM

N.T.S.



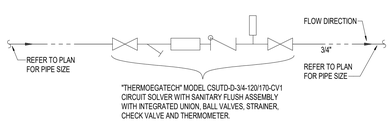
1 / P0.1 BACKFLOW PREVENTER - DUPLEX DETAIL

N.T.S.



9 / P0.1 WASHER BOX

N.T.S.



5 / P0.1 HWR CIRCUIT "SOLVER" PIPING DIAGRAM

N.T.S.

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STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
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PROJECT TITLE

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ARCHITECT : DAS	CHECKED : DPW/MAH
ENGINEER : AJM	APPROVED : AJM

NO.	REVISION DESCRIPTION	DATE

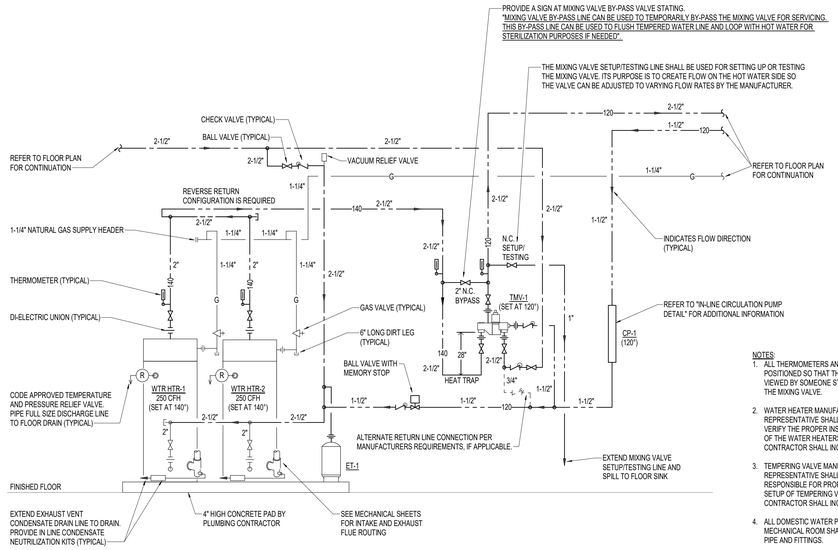
DRAWING TITLE

DETAILS - PLUMBING

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING P0.1



NOTES:

1. ALL THERMOMETERS AND GAUGES SHALL BE POSITIONED SO THAT THEY CAN BE EASILY VIEWED BY SOMEONE STANDING IN FRONT OF THE MIXING VALVE.
2. WATER HEATER MANUFACTURER'S REPRESENTATIVE SHALL VISIT JOB SITE AND VERIFY THE PROPER INSTALLATION AND SETUP OF THE WATER HEATERS. PLUMBING CONTRACTOR SHALL INCLUDE THIS COST IN BID.
3. TEMPERING VALVE MANUFACTURER'S REPRESENTATIVE SHALL VISIT JOB SITE AND BE RESPONSIBLE FOR PROPER INSTALLATION AND SETUP OF TEMPERING VALVE. PLUMBING CONTRACTOR SHALL INCLUDE THIS COST IN BID.
4. ALL DOMESTIC WATER PIPING WITHIN MECHANICAL ROOM SHALL BE TYPE "L" COPPER PIPE AND FITTINGS.
5. FIELD VERIFY EXACT PIPING CONNECTION POINTS BASED ON ACTUAL EQUIPMENT SELECTED. CONNECTION POINTS SHOWN ARE SCHEMATIC AND FOR DESIGN INTENT ONLY.

1 / P0.2 WATER HEATER SYSTEM SCHEMATIC PIPING DIAGRAM

N.T.S.

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01/05/2024
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ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

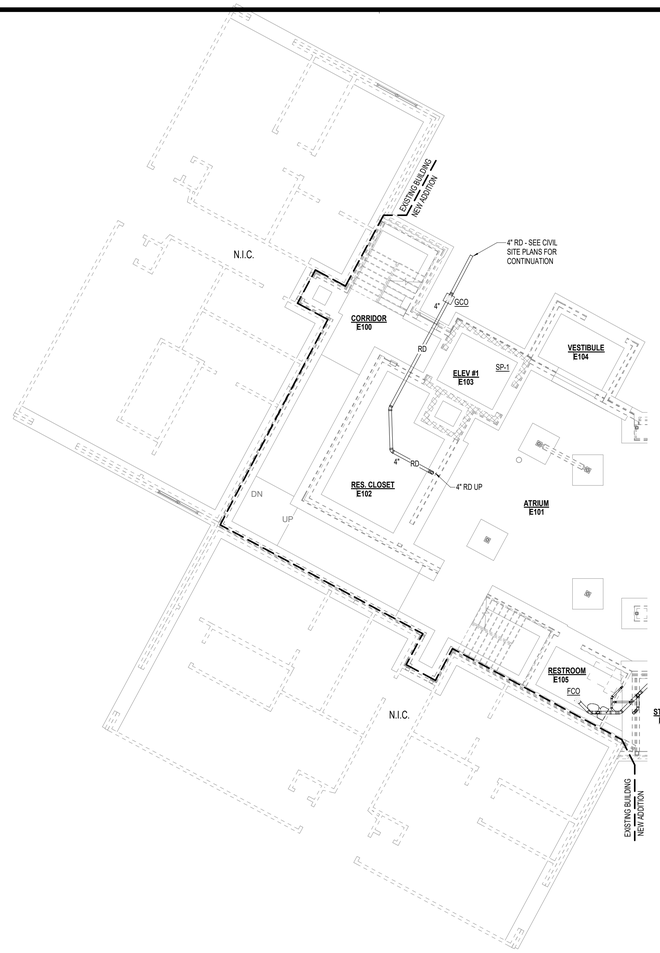
DRAWING TITLE

DETAILS - PLUMBING

DATE: January 5, 2024

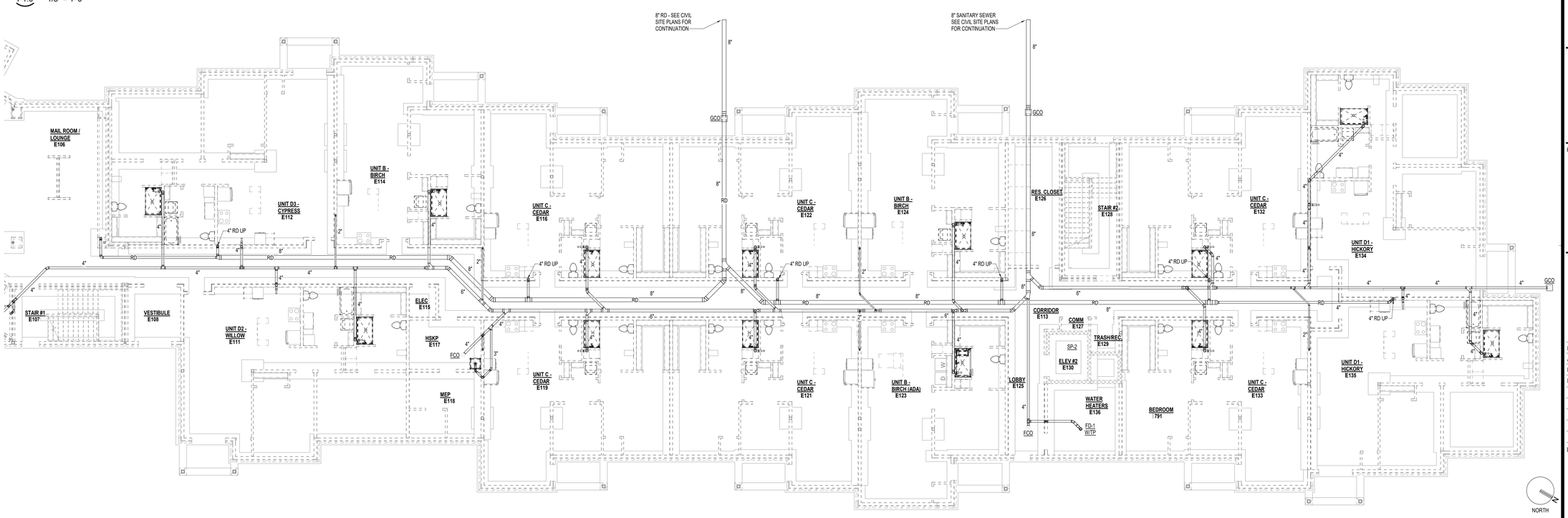
COMM. NO. 23104.00

DRAWING P0.2



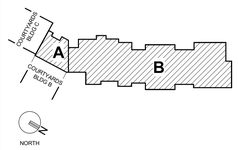
2 P1.0 FOUNDATION PLAN - WASTE, VENT AND STORM - ATRIUM

1/8" = 1'-0"



1 P1.0 FOUNDATION PLAN - WASTE, VENT AND STORM - IL UNITS

1/8" = 1'-0"



GENERAL NOTES

1. ALL PIPING INDICATED ON THIS SHEET IS TO BE ROUTED BELOW SLAB, UNLESS NOTED OTHERWISE. COORDINATE ROUTING OF PIPING BELOW SLAB WITH STRUCTURAL FOOTINGS TO AVOID CONFLICT WHERE POSSIBLE.

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NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

FOUNDATION PLAN - WASTE, VENT AND STORM

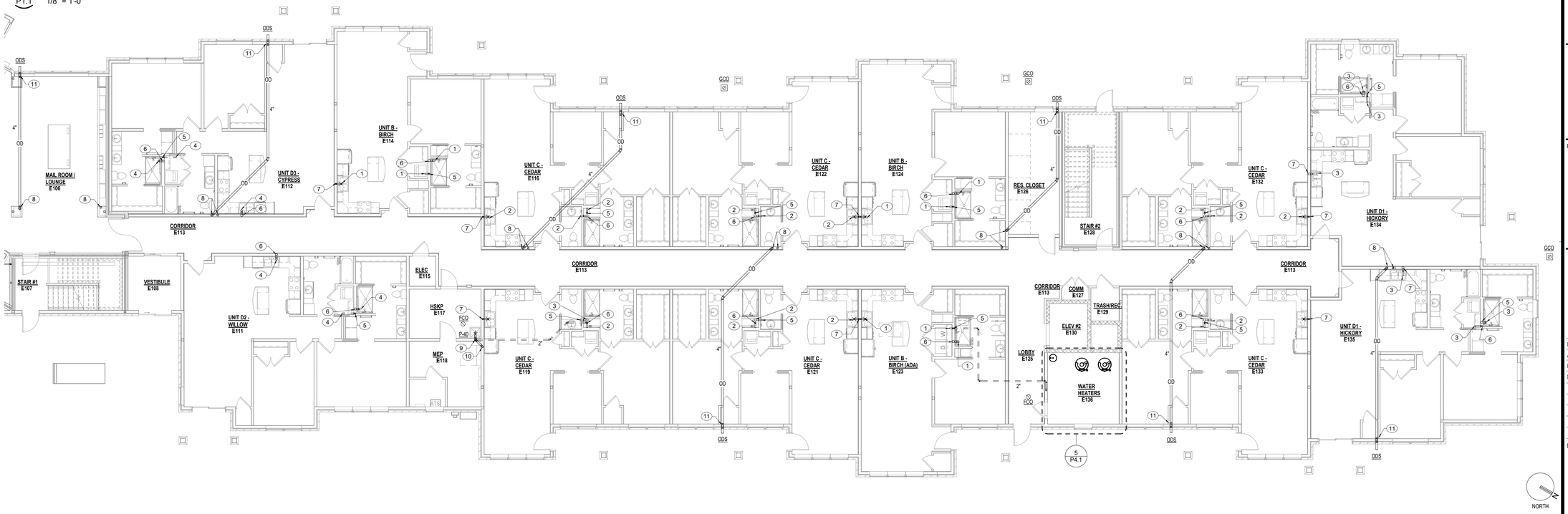
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING P1.0

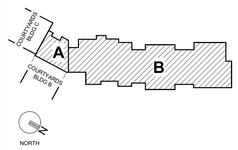
2 P1.1 FIRST FLOOR PLAN - WASTE, VENT AND STORM - ATRIUM

1/8" = 1'-0"



1 P1.1 FIRST FLOOR PLAN - WASTE, VENT AND STORM - IL UNITS

1/8" = 1'-0"



PLAN NOTES

1. SEE DETAIL 1/P4.1 FOR CONTINUATION.
2. SEE DETAIL 2/P4.1 FOR CONTINUATION.
3. SEE DETAIL 3/P4.1 FOR CONTINUATION.
4. SEE DETAIL 4/P4.1 FOR CONTINUATION.
5. 2" VENT RISER UP.
6. 4" WASTE RISER UP.
7. 2" WASTE RISER UP.
8. 4" STORM AND 4" OVERFLOW STORM RISERS UP.
9. 2" VENT LINE DOWN.
10. 3" WASTE RISER UP AND DOWN.
11. 4" OVERFLOW STORM LINE DOWN TO OVERFLOW DRAIN SPOUT.

PERMIT SET

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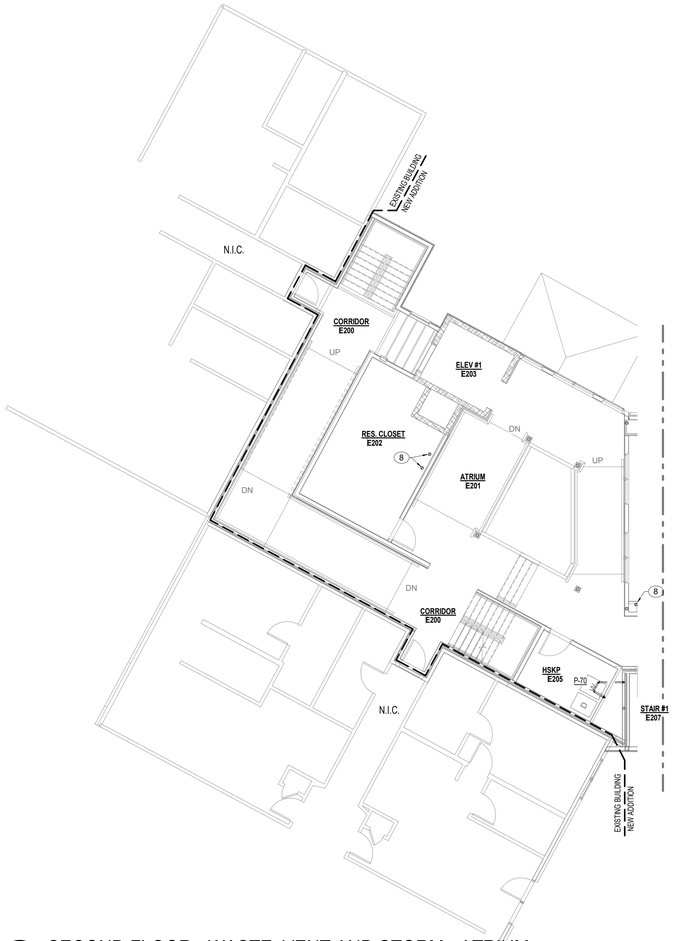
DRAWING TITLE

FIRST FLOOR PLAN - WASTE, VENT AND STORM

DATE: January 5, 2024

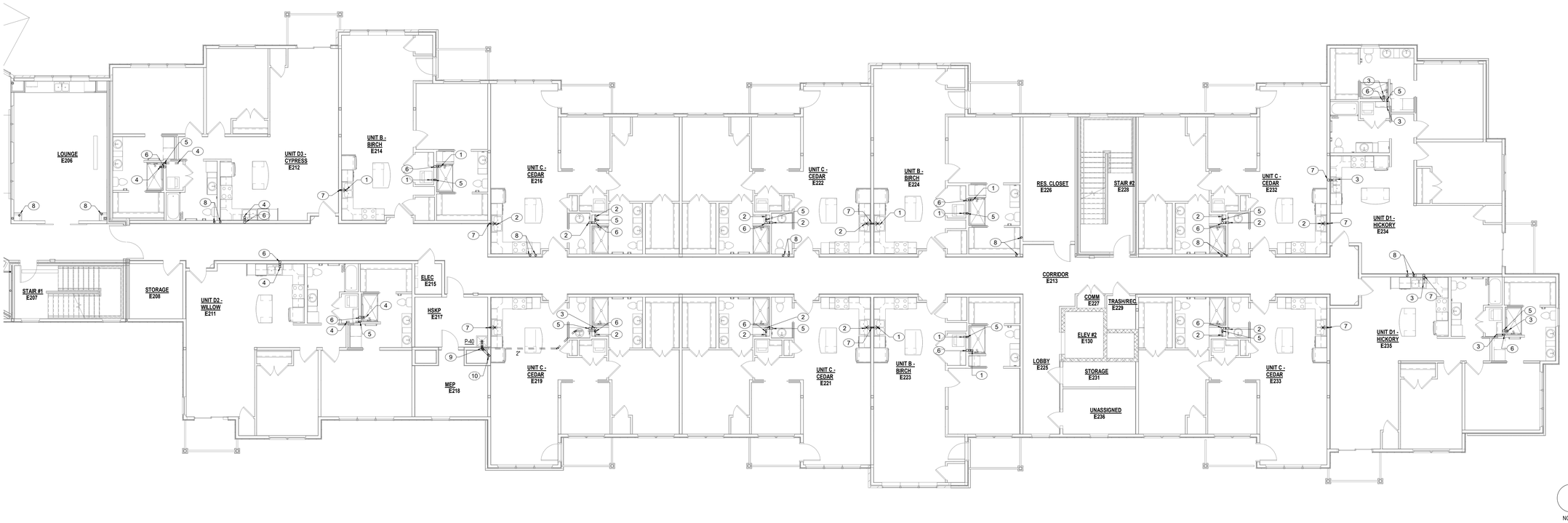
COMM. NO. 23104.00

DRAWING P1.1



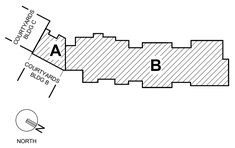
2 P1.2 SECOND FLOOR - WASTE, VENT AND STORM - ATRIUM

1/8" = 1'-0"



1 P1.2 SECOND FLOOR - WASTE, VENT AND STORM - IL UNITS

1/8" = 1'-0"



PLAN NOTES

1. SEE DETAIL 1/P4.1 FOR CONTINUATION.
2. SEE DETAIL 2/P4.1 FOR CONTINUATION.
3. SEE DETAIL 3/P4.1 FOR CONTINUATION.
4. SEE DETAIL 4/P4.1 FOR CONTINUATION.
5. 2" VENT RISER UP AND DOWN.
6. 4" WASTE RISER UP AND DOWN.
7. 2" WASTE RISER UP AND DOWN.
8. 4" STORM AND 4" OVERFLOW STORM RISERS UP AND DOWN.
9. 2" VENT LINE DOWN.
10. 3" WASTE RISER UP AND DOWN.

PERMIT SET

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DESIGNER	DAS	DRAWN	RCK
ARCHITECT	DAS	CHECKED	DPW/MAH
ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

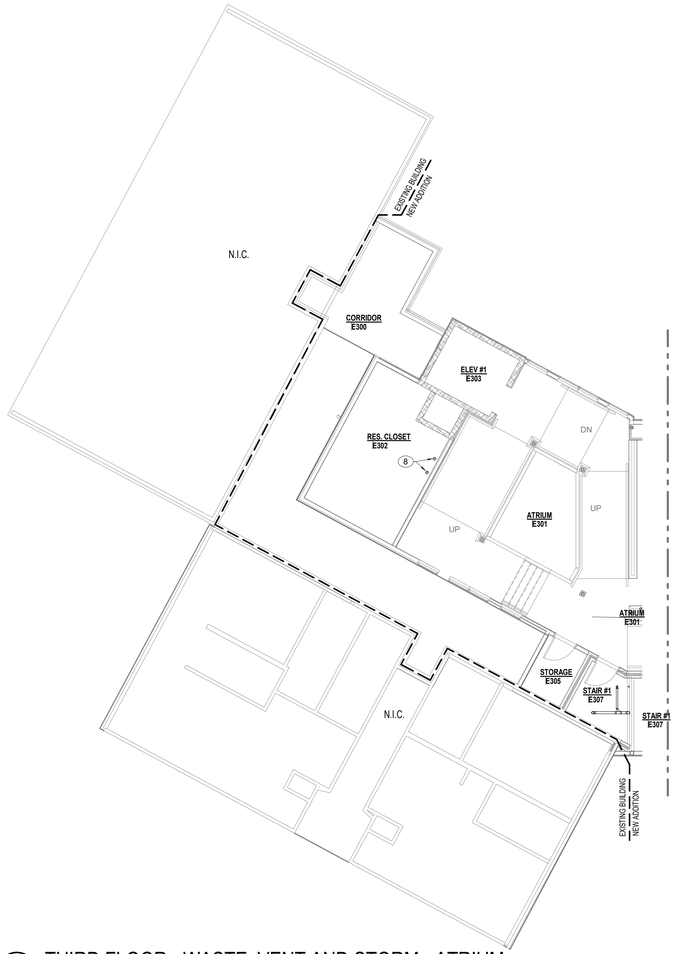
DRAWING TITLE

SECOND FLOOR PLAN - WASTE, VENT AND STORM

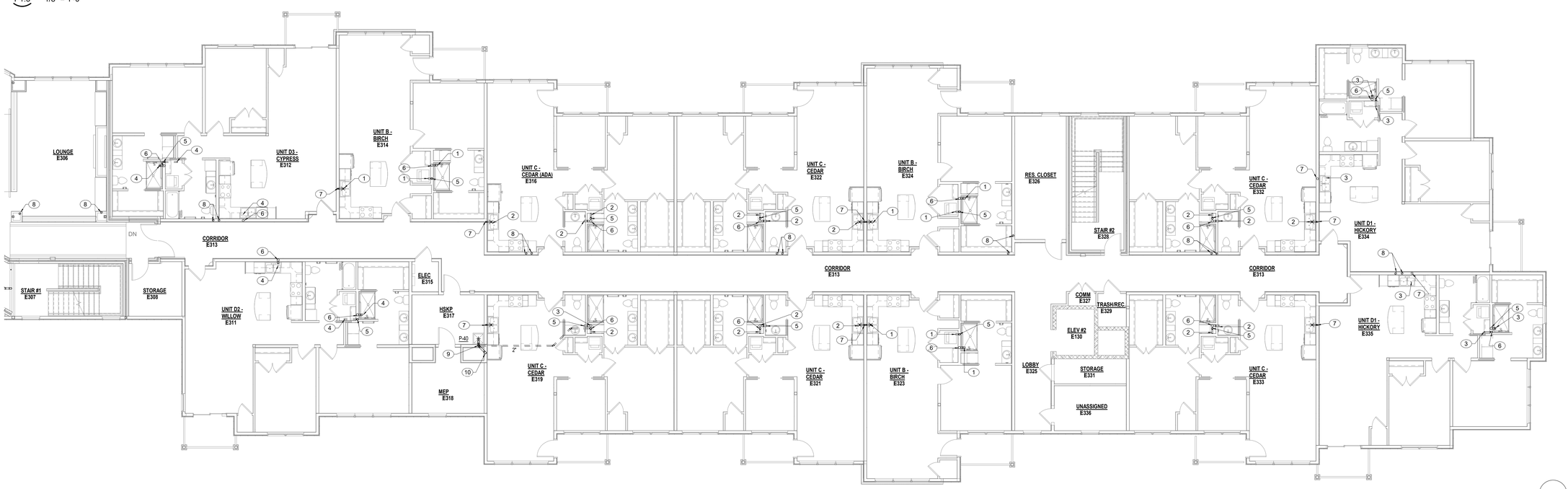
DATE: January 5, 2024

COMM. NO. 23104.00

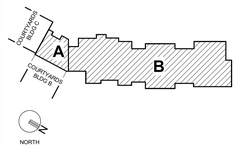
DRAWING P1.2



2 THIRD FLOOR - WASTE, VENT AND STORM - ATRIUM
P1.3 1/8" = 1'-0"



1 THIRD FLOOR - WASTE, VENT AND STORM - IL UNITS
P1.3 1/8" = 1'-0"



PLAN NOTES

1. SEE DETAIL 1/P4.1 FOR CONTINUATION.
2. SEE DETAIL 2/P4.1 FOR CONTINUATION.
3. SEE DETAIL 3/P4.1 FOR CONTINUATION.
4. SEE DETAIL 4/P4.1 FOR CONTINUATION.
5. 2" VENT RISER UP AND DOWN.
6. 4" WASTE RISER UP AND DOWN.
7. 2" WASTE RISER UP AND DOWN.
8. 4" STORM AND 4" OVERFLOW STORM RISERS UP AND DOWN.
9. 2" VENT LINE DOWN.
10. 3" WASTE RISER UP AND DOWN.

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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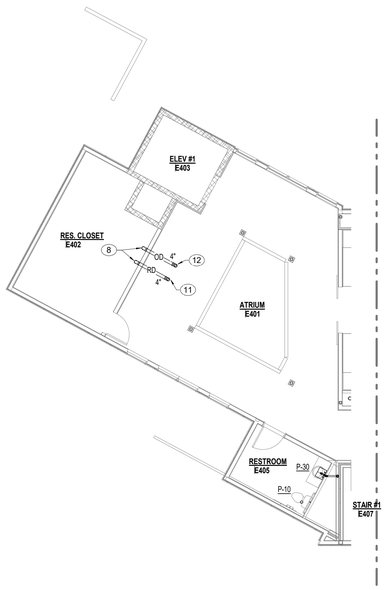
ARCHITECT	DAS	CHECKED	DPW/MAH
ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

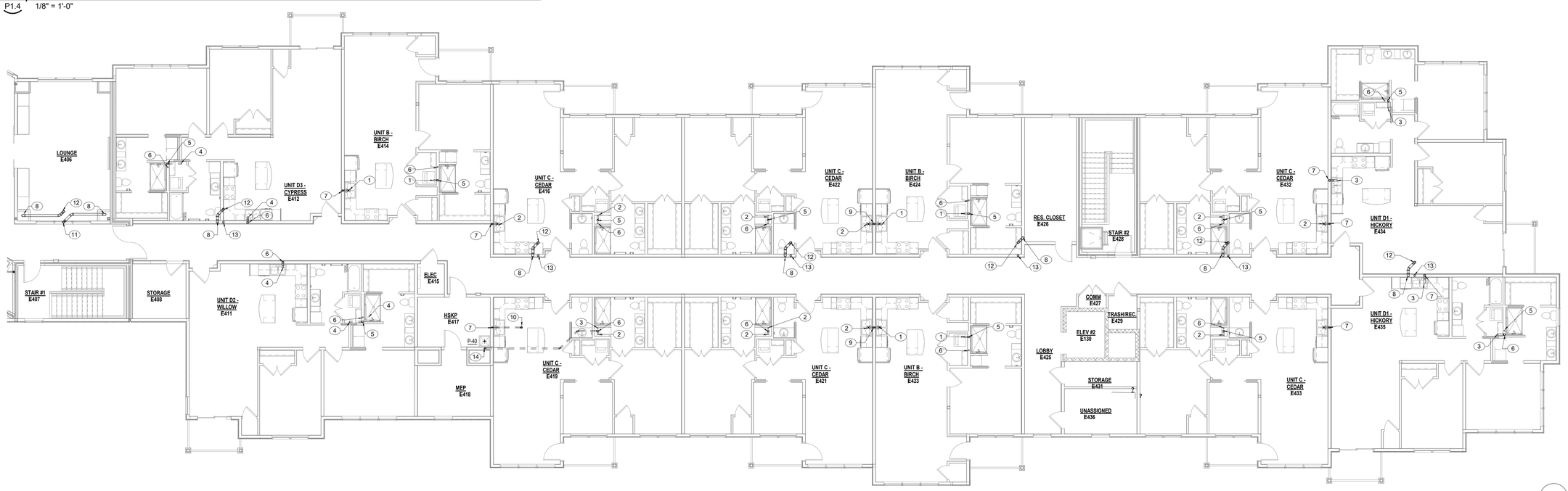
THIRD FLOOR PLAN - WASTE, VENT AND STORM

DATE:	January 5, 2024	DRAWING	P1.3
COMM. NO.	23104.00		



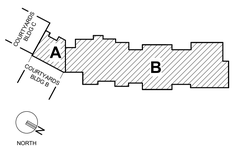
2 P1.4 FOURTH FLOOR - WASTE, VENT AND STORM - ATRIUM

1/8" = 1'-0"



1 P1.4 FOURTH FLOOR - WASTE, VENT AND STORM - IL UNITS

1/8" = 1'-0"



PLAN NOTES

1. SEE DETAIL 1/P4.1 FOR CONTINUATION.
2. SEE DETAIL 2/P4.1 FOR CONTINUATION.
3. SEE DETAIL 3/P4.1 FOR CONTINUATION.
4. SEE DETAIL 4/P4.1 FOR CONTINUATION.
5. 2" VENT RISER DOWN. 2" VENT RISER UP TO 3" VENT THROUGH ROOF.
6. 4" WASTE RISER DOWN.
7. 2" WASTE RISER DOWN. 1-1/2" STACK VENT UP TO 3" VENT THROUGH ROOF.
8. 4" STORM AND 4" OVERFLOW STORM RISERS DOWN.
9. 2" WASTE RISER DOWN. 2" STACK VENT UP TO 3" VENT THROUGH ROOF.
10. 2" VENT UP TO 3" VENT THROUGH ROOF.
11. 4" STORM UP TO ROOF DRAIN.
12. 4" OVERFLOW STORM UP TO ROOF DRAIN.
13. 4" STORM RISER UP TO ROOF DRAIN. 4" STORM RISER DOWN.
14. 2" VENT LINE DOWN.

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

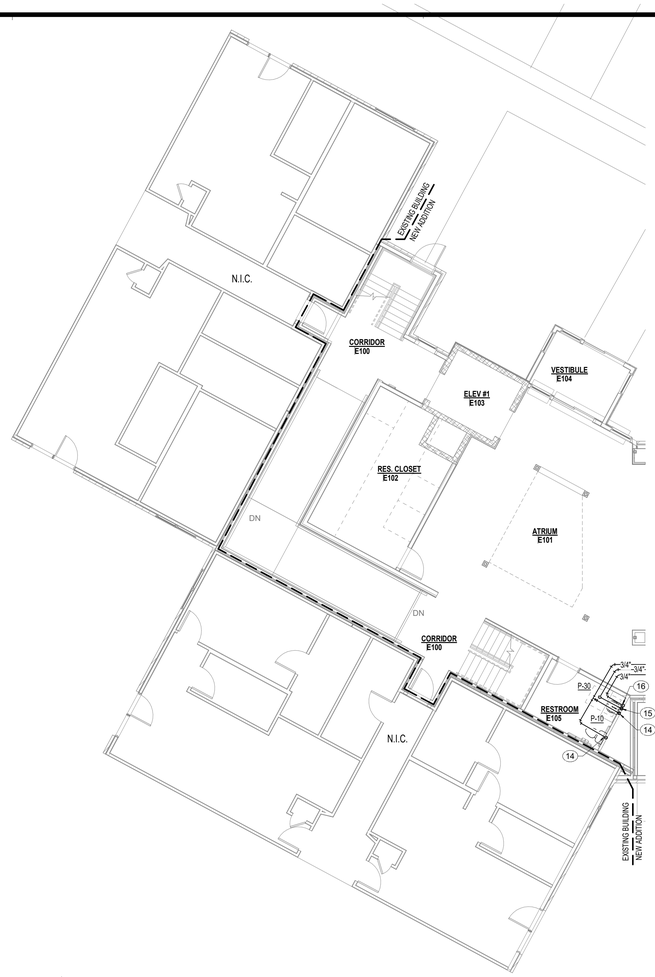
DRAWING TITLE

FOURTH FLOOR PLAN - WASTE, VENT AND STORM

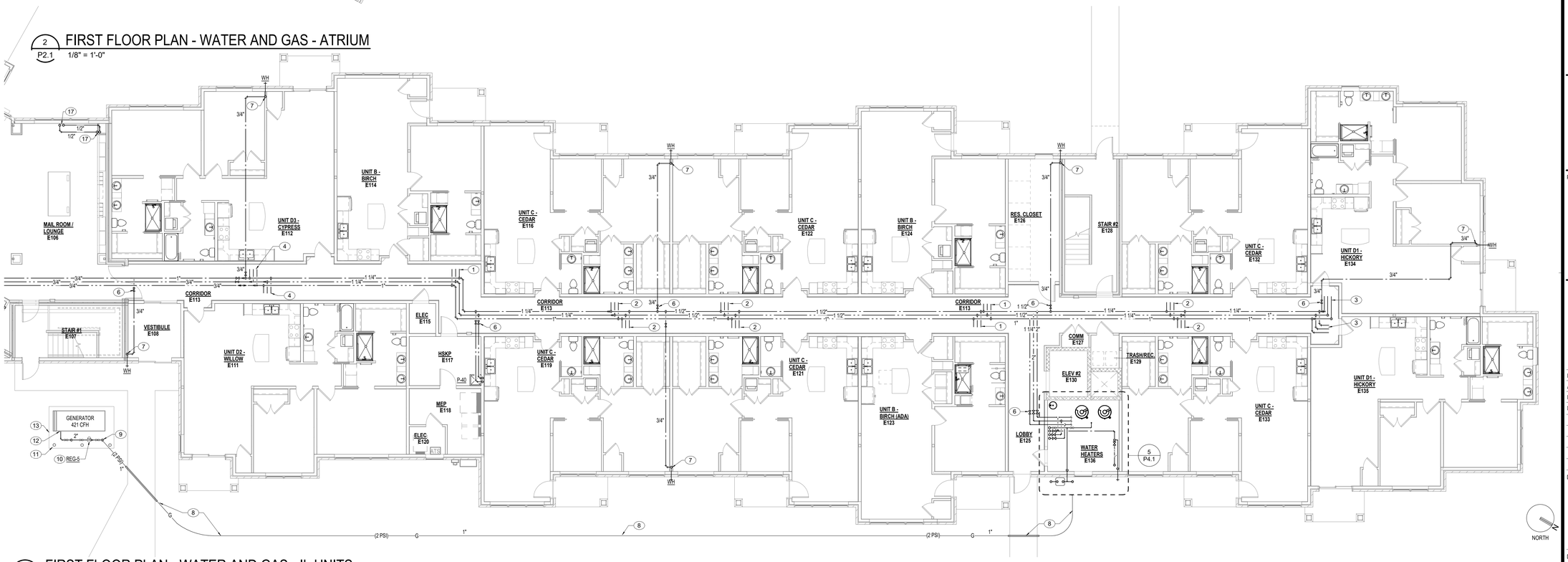
DATE: January 5, 2024

COMM. NO. 23104.00

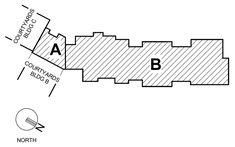
DRAWING P1.4



2 P2.1 FIRST FLOOR PLAN - WATER AND GAS - ATRIUM
1/8" = 1'-0"



1 P2.1 FIRST FLOOR PLAN - WATER AND GAS - IL UNITS
1/8" = 1'-0"



PLAN NOTES

1. REFER TO TYPICAL ENLARGED UNIT PLAN BIRCH DETAIL 1/P4.1 FOR WATER PIPING SERVING UNIT.
2. REFER TO TYPICAL ENLARGED UNIT PLAN CEDAR DETAIL 2/P4.1 FOR WATER PIPING SERVING UNIT.
3. REFER TO TYPICAL ENLARGED UNIT PLAN HICKORY DETAIL 3/P4.1 FOR WATER PIPING SERVING UNIT.
4. REFER TO TYPICAL ENLARGED UNIT PLAN WILLOW/CYPRESS DETAIL 4/P4.1 FOR WATER PIPING SERVING UNIT.
5. HOT WATER RETURN CIRCUIT SOLVER BALANCING VALVE. LOCATE ABOVE ACCESSIBLE LAY-IN CEILING. REFER TO DETAIL 5/P0.1 FOR ADDITIONAL INFORMATION.
6. PROVIDE VALVES IN ACCESSIBLE LOCATION ABOVE CEILING.
7. 3/4" CW LINE DOWN IN WALL TO WALL HYDRANT.
8. 1" POLYETHYLENE (2 PSI) GAS LINE ROUTED BELOW GRADE. PROVIDE MINIMUM OF 24" OF COVER AND SCHEDULE 40 PVC PIPE SLEVES AT SIDEWALKS, PAVING, ETC. PROVIDE TRACER WIRE AND WARNING TAPE IN TRENCH ABOVE PIPING. REFER TO WARNING TAPE TRACER WIRE DETAIL SHEET P0.1.
9. 1" (2 PSI) POLYETHYLENE GAS LINE UP FROM BELOW GRADE. PROVIDE ANODELESS RISER ASSEMBLY AND TERMINATE TRACER WIRE ON STEEL PIPING AS REQUIRED.
10. PROVIDE GAS PRESSURE REGULATOR. REFER TO GAS PRESSURE SCHEDULE AND DETAIL SHEET P0.1.
11. PROVIDE 6" SCHEDULE 40 STEEL PIPE BOLLARDS TO PROTECT GAS PIPING. PIPE BOLLARDS TO BE 6'-0" LONG BURIED 2'-0" FILLED WITH CONCRETE WITH DOMED TOP. PAINT WITH 2 COATS OF RUST INHIBITING PAINT. COLOR TO BE AS DIRECTED BY OWNER.
12. 2" GAS LINE FOR CONNECTION TO GAS GENERATOR. VERIFY EXACT CONNECTION LOCATION ON SITE. PROVIDE GAS VALVE, UNION AND DIRT LEG IN CONNECTION.
13. CONCRETE PAD. REFER TO STRUCTURAL PLANS FOR ADDITIONAL INFORMATION.
14. 1/2" CW LINE DOWN IN WALL TO FIXTURE.
15. 3/4" HW LINE DOWN IN WALL TO FIXTURE.
16. 3/4" HWR LINE DOWN IN WALL. CONNECT LINE TO HW LINE WITHIN 2'-0" OF TEE TO LAVIATORY CONNECTION.
17. 1/2" CW, HW LINES UP.

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STATE OF MISSOURI
ALLEN J. MCHUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ARCHITECT	DAS	CHECKED	DPW/MAH
ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

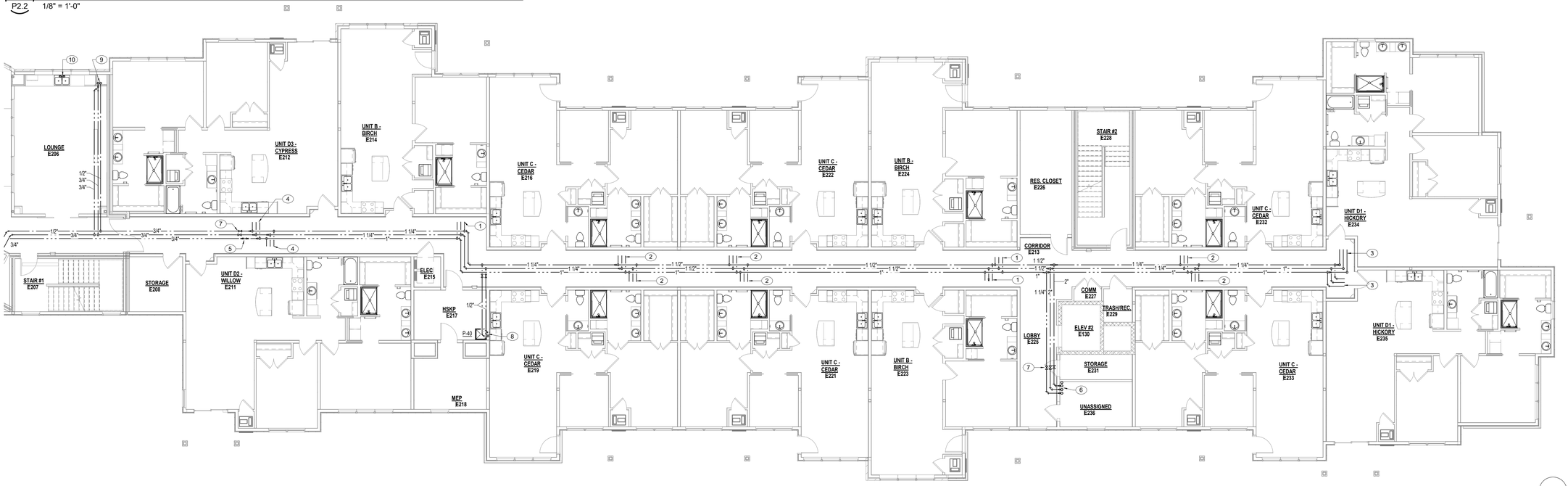
FIRST FLOOR PLAN - WATER AND GAS

DATE: January 5, 2024

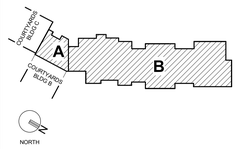
COMM. NO. 23104.00

DRAWING P2.1

2 SECOND FLOOR - WATER AND GAS - ATRIUM
P2.2 1/8" = 1'-0"



1 SECOND FLOOR - WATER AND GAS - IL UNITS
P2.2 1/8" = 1'-0"



PLAN NOTES

1. REFER TO TYPICAL ENLARGED UNIT PLAN BIRCH DETAIL 1/P4.1 FOR WATER PIPING SERVING UNIT.
2. REFER TO TYPICAL ENLARGED UNIT PLAN CEDAR DETAIL 2/P4.1 FOR WATER PIPING SERVING UNIT.
3. REFER TO TYPICAL ENLARGED UNIT PLAN HICKORY DETAIL 3/P4.1 FOR WATER PIPING SERVING UNIT.
4. REFER TO TYPICAL ENLARGED UNIT PLAN WILLOW/CYPRESS DETAIL 4/P4.1 FOR WATER PIPING SERVING UNIT.
5. HOT WATER RETURN CIRCUIT SOLVER BALANCING VALVE. LOCATE ABOVE ACCESSIBLE LAY-IN CEILING. REFER TO DETAIL 5/P0.1 FOR ADDITIONAL INFORMATION.
6. 1-1/4" NATURAL GAS UP AND DOWN, 2-1/2" COLD WATER UP AND DOWN, 2-1/2" HOT WATER UP AND DOWN, AND 1-1/4" HOT WATER RECIRCULATION UP AND 1-1/2" HOT WATER RECIRCULATION DOWN.
7. PROVIDE SHUT-OFF VALVES IN AN ACCESSIBLE LOCATION ABOVE LAY-IN CEILING. LOCATION OF VALVES SHOWN IS BASED ON LAY-IN CEILING LOCATIONS. (TYPICAL FOR ALL SHUT-OFF VALVES SHOWN ON THIS SHEET, UNLESS NOTED OTHERWISE).
8. 1/2" CW, HW LINES DOWN IN WALL TO FIXTURE AND CONNECT.
9. 1/2" CW, HW LINES DOWN IN CHASE TO FIRST FLOOR CEILING.
10. 1/2" CW, HW LINES UP FROM BELOW TO FIXTURE AND CONNECT.

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER
PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ARCHITECT : DAS	CHECKED : DPW/MAH
ENGINEER : AJM	APPROVED : AJM

NO.	REVISION DESCRIPTION	DATE

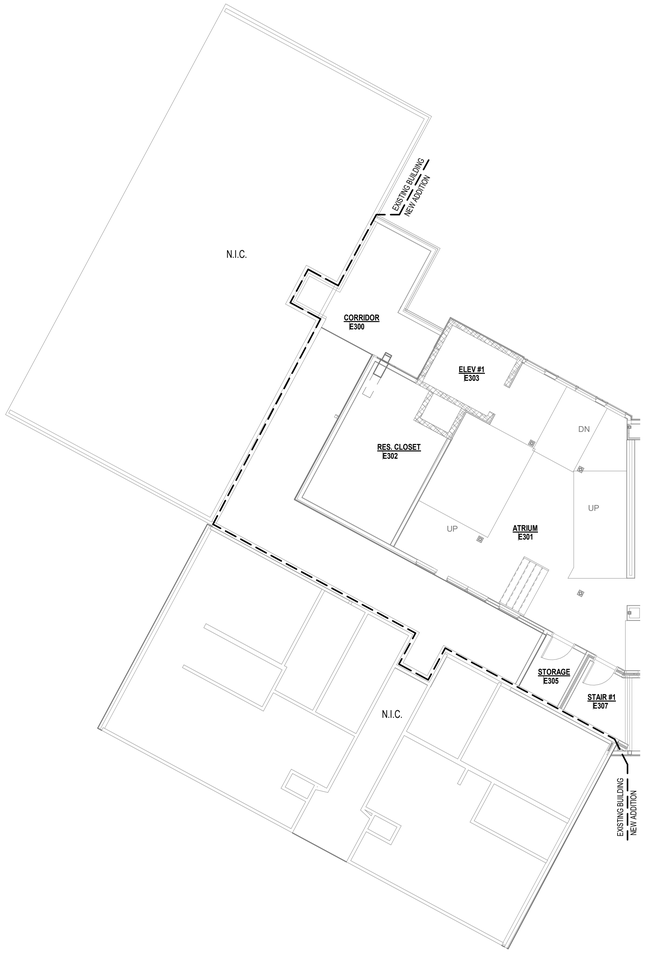
DRAWING TITLE

SECOND FLOOR PLAN - WATER AND GAS

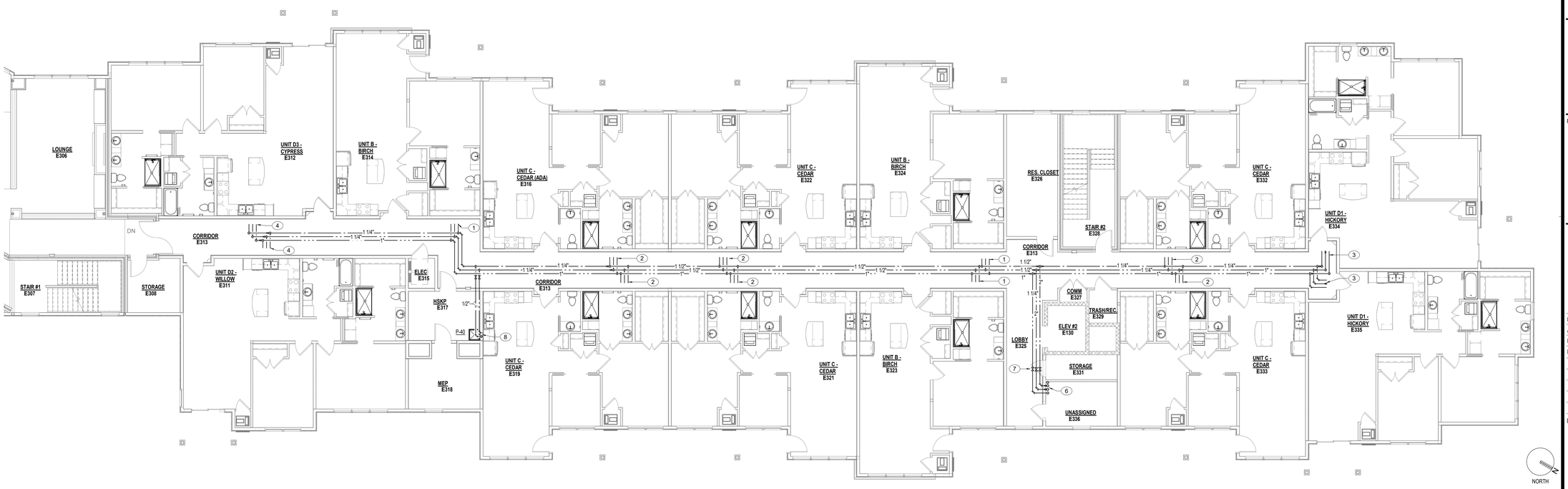
DATE: January 5, 2024

COMM. NO. 23104.00

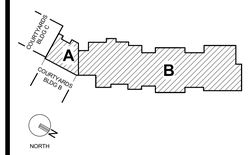
DRAWING P2.2



2 THIRD FLOOR - WATER AND GAS - ATRIUM
P2.3 1/8" = 1'-0"



1 THIRD FLOOR - WATER AND GAS - IL UNITS
P2.3 1/8" = 1'-0"



PLAN NOTES

1. REFER TO TYPICAL ENLARGED UNIT PLAN BIRCH DETAIL 1/P4.1 FOR WATER PIPING SERVING UNIT.
2. REFER TO TYPICAL ENLARGED UNIT PLAN CEDAR DETAIL 2/P4.1 FOR WATER PIPING SERVING UNIT.
3. REFER TO TYPICAL ENLARGED UNIT PLAN HICKORY DETAIL 3/P4.1 FOR WATER PIPING SERVING UNIT.
4. REFER TO TYPICAL ENLARGED UNIT PLAN WILLOW/CYPRESS DETAIL 4/P4.1 FOR WATER PIPING SERVING UNIT.
5. HOT WATER RETURN CIRCUIT SOLVER BALANCING VALVE. LOCATE ABOVE ACCESSIBLE LAY-IN CEILING. REFER TO DETAIL 5/P0.1 FOR ADDITIONAL INFORMATION.
6. 1-1/4" NATURAL GAS UP AND DOWN, 2" COLD WATER UP AND 2-1/2" COLD WATER DOWN, 2" HOT WATER UP AND 2-1/2" HOT WATER DOWN, AND 1-1/4" HOT WATER RECIRCULATION UP AND DOWN.
7. PROVIDE SHUT-OFF VALVES IN AN ACCESSIBLE LOCATION ABOVE LAY-IN CEILING. LOCATION OF VALVES SHOWN IS BASED ON LAY-IN CEILING LOCATIONS. (TYPICAL FOR ALL SHUT-OFF VALVES SHOWN ON THIS SHEET, UNLESS NOTED OTHERWISE).
8. 1/2" CW, HW LINES DOWN IN WALL TO FIXTURE AND CONNECT.

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
03/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

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ARCHITECT	DAS	CHECKED	DPW/MAH
ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

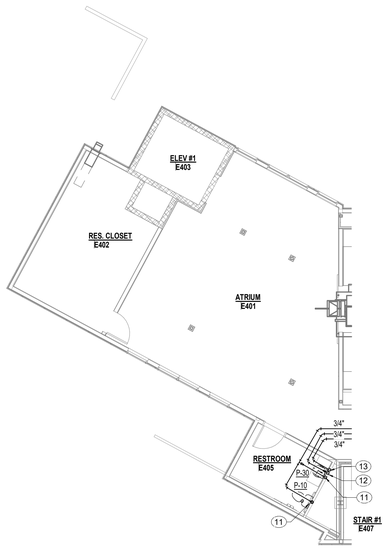
DRAWING TITLE

THIRD FLOOR PLAN - WATER AND GAS

DATE: January 5, 2024

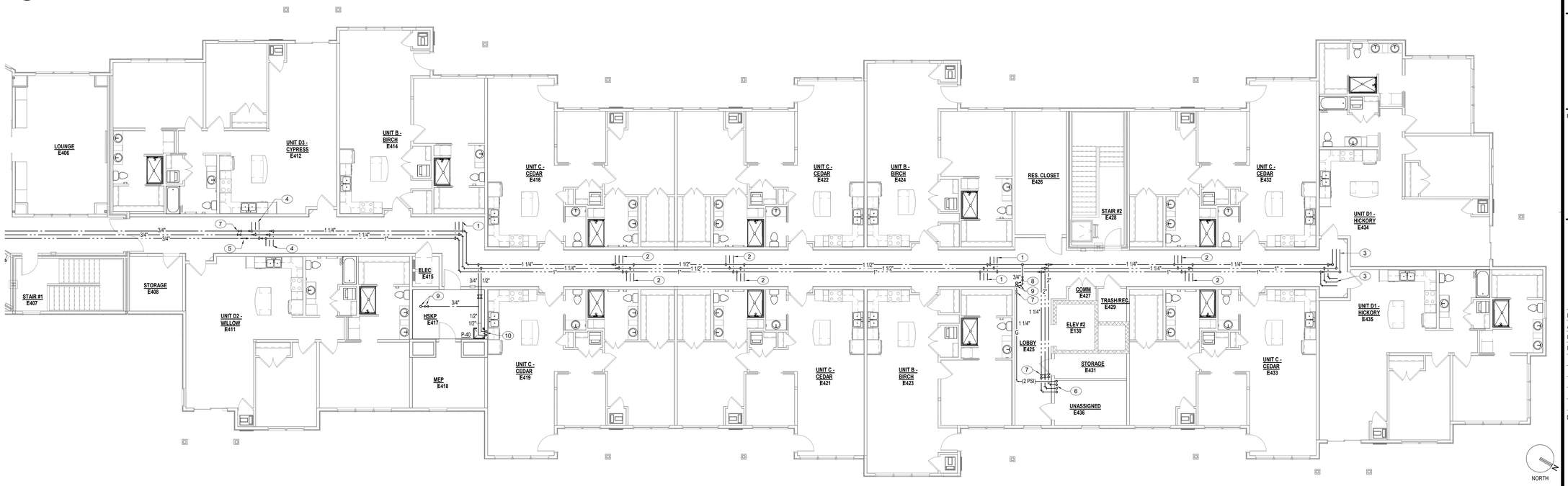
COMM. NO. 23104.00

DRAWING P2.3



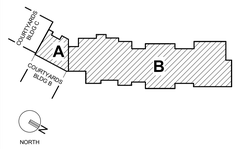
2 P2.4 FOURTH FLOOR - WATER AND GAS - ATRIUM

1/8" = 1'-0"



1 P2.4 FOURTH FLOOR - WATER AND GAS - IL UNITS

1/8" = 1'-0"



PLAN NOTES

1. REFER TO TYPICAL ENLARGED UNIT PLAN BIRCH DETAIL 1/P4.1 FOR WATER PIPING SERVING UNIT.
2. REFER TO TYPICAL ENLARGED UNIT PLAN CEDAR DETAIL 2/P4.1 FOR WATER PIPING SERVING UNIT.
3. REFER TO TYPICAL ENLARGED UNIT PLAN HICKORY DETAIL 3/P4.1 FOR WATER PIPING SERVING UNIT.
4. REFER TO TYPICAL ENLARGED UNIT PLAN WILLOW/CYPRESS DETAIL 4/P4.1 FOR WATER PIPING SERVING UNIT.
5. HOT WATER RETURN CIRCUIT SOLVER BALANCING VALVE. LOCATE ABOVE ACCESSIBLE LAY-IN CEILING. REFER TO DETAIL 5/P0.1 FOR ADDITIONAL INFORMATION.
6. 1-1/4" NATURAL GAS DOWN, 2" COLD WATER DOWN, 2" HOT WATER DOWN, AND 1" HOT WATER RECIRCULATION DOWN.
7. PROVIDE SHUT-OFF VALVES IN AN ACCESSIBLE LOCATION ABOVE LAY-IN CEILING. LOCATION OF VALVES SHOWN IS BASED ON LAY-IN CEILING LOCATIONS. (TYPICAL FOR ALL SHUT-OFF VALVES SHOWN ON THIS SHEET, UNLESS NOTED OTHERWISE).
8. 1-1/4" GAS LINE UP.
9. 3/4" CW LINE UP TO ROOF HYDRANT. PROVIDE SHUT-OFF VALVE IN LINE.
10. 1/2" CW, HW LINES TO FIXTURE AND CONNECT.
11. 1/2" CW LINE DOWN IN WALL TO FIXTURE.
12. 3/4" HW LINE DOWN IN WALL TO FIXTURE.
13. 3/4" HWR LINE DOWN IN WALL. CONNECT LINE TO HW LINE WITHIN 2'-0" OF TEE TO LAVATORY CONNECTION.

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ENGINEER	AJM	APPROVED	AJM

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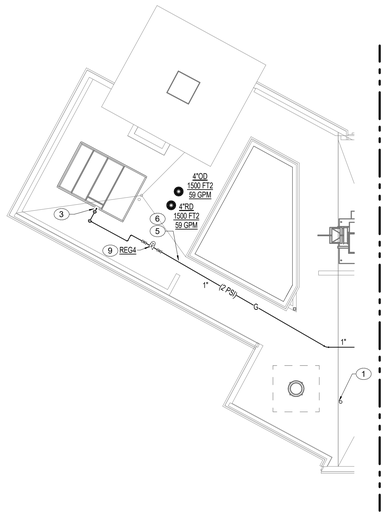
DRAWING TITLE

FOURTH FLOOR PLAN - WATER AND GAS

DATE: January 5, 2024

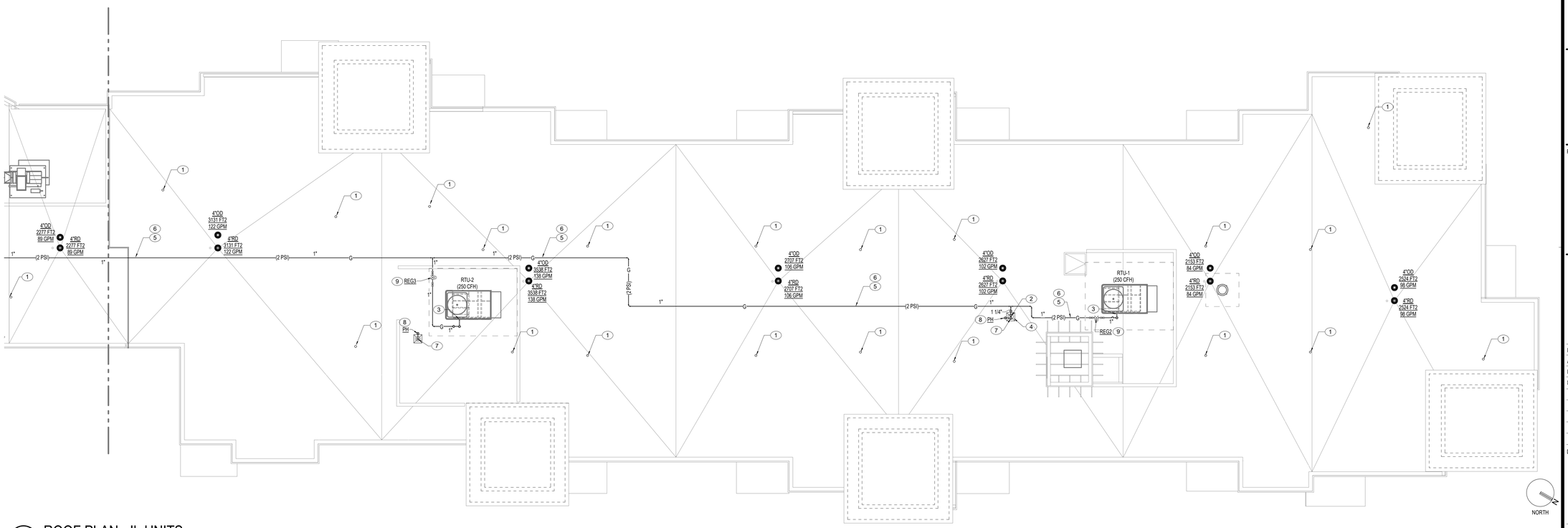
COMM. NO. 23104.00

DRAWING P2.4



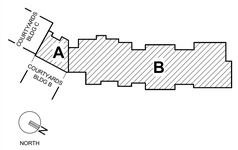
2 P3.1 ROOF PLAN - ATRIUM

1/8" = 1'-0"



1 P3.1 ROOF PLAN - IL UNITS

1/8" = 1'-0"



GENERAL NOTES

ALL ROOF DRAIN AND OVERFLOW DRAIN STORM PIPING INDICATED ON PLUMBING DRAWINGS IS BASED ON 1/8" PER FOOT SLOPE, UNLESS NOTED OTHERWISE.

PLAN NOTES

1. 3" VENT THROUGH ROOF.
2. 1-1/4" (2 PSI) NATURAL GAS DOWN THROUGH PIPE PORTAL.
3. CONNECT 1" NATURAL GAS LINE TO ROOFTOP UNIT. SEE DETAIL 7/P0.1 AND MECHANICAL SHEETS FOR MORE INFORMATION.
4. PROVIDE PIPE PORTAL FOR WATER AND OR GAS LINE. REFER TO DETAIL SHEET P0.1 FOR ADDITIONAL INFORMATION.
5. GAS LINE ROUTED ON ROOF. PROVIDE PIPE SUPPORTS. REFER TO PIPE SUPPORT DTAIL SHEET P0.1 FOR ADDITIONAL INFORMATION.
6. PAINT GAS PIPING WITH 2 COATS OF RUST INHIBITING PRIMER AND 2 COATS OF RUST INHIBITING PAINT.
7. 3/4" WATER LINE FOR ROOF POST HYDRANT DOWN THROUGH PIPE PORTAL.
8. PROVIDE ROOF POST HYDRANT. REFER TO DETAIL SHEET P0.1 FOR ADDITIONAL INFORMATION.
9. PROVIDE GAS PRESSURE REGULATOR. REFER TO SCHEDULE AND DETAIL SHEET P0.1 FOR ADDITIONAL INFORMATION

PERMIT SET

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ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ARCHITECT	DAS	CHECKED	DPW/MAH
ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

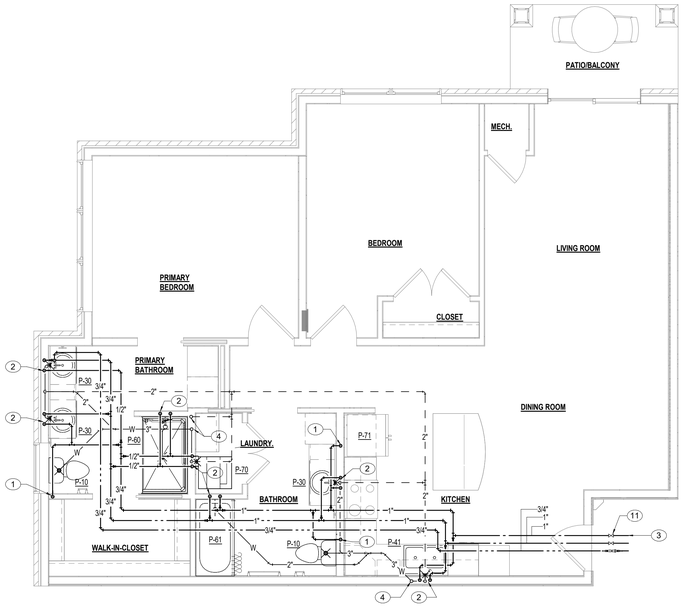
DRAWING TITLE

ROOF PLAN - PLUMBING

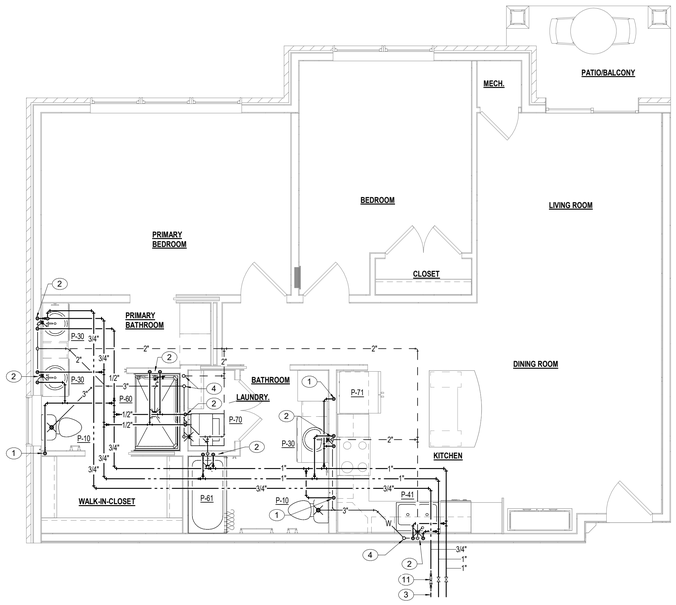
DATE: January 5, 2024

COMM. NO. 23104.00

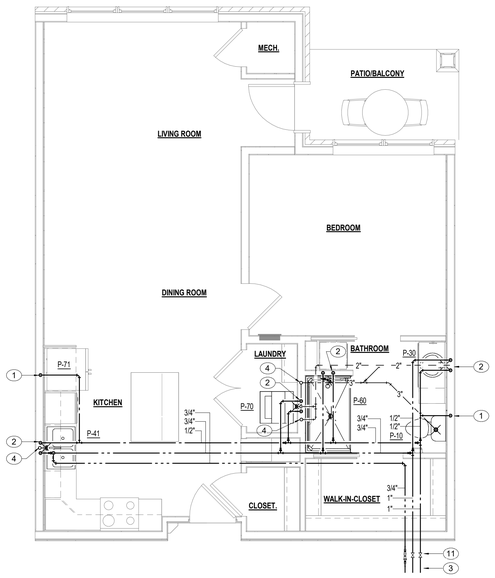
DRAWING P3.1



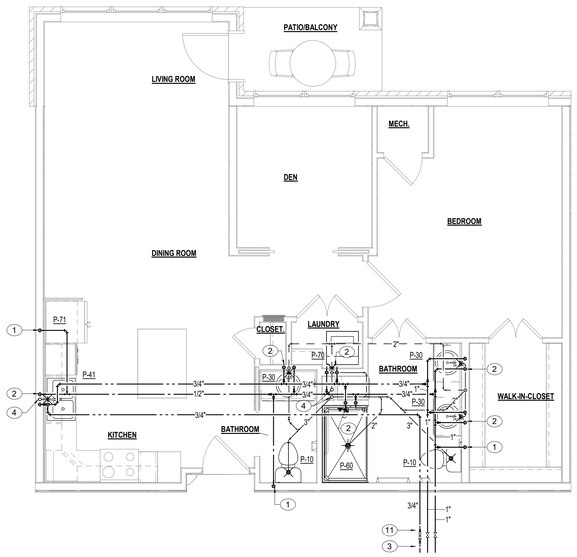
3 P4.1 UNIT PLUMBING PLAN - HICKORY
1/4" = 1'-0"



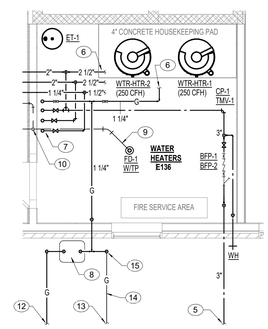
4 P4.1 UNIT PLUMBING PLAN - CYPRESS & WILLOW
1/4" = 1'-0"



1 P4.1 UNIT - BIRCH
1/4" = 1'-0"



2 P4.1 UNIT PLUMBING PLAN - CEDAR
1/4" = 1'-0"



5 P4.1 WATER HEATERS E136
1/4" = 1'-0"

GENERAL NOTES

1. REFER TO FLOOR PLANS FOR ORIENTATION OF UNIT PLANS. UNIT PIPING MAY BE MIRRORED AND/OR OPPOSITE HAND BASED ON THE LOCATION AND CONFIGURATION OF THE UNIT IN THE BUILDING.
2. PIPING ROUTED IN JOIST SPACE AND THROUGH JOISTS SHALL BE INSTALLED AND LOCATED IN ACCORDANCE WITH JOIST MANUFACTURERS RECOMMENDATIONS. COORDINATE PIPE ROUTING WITH GENERAL CONTRACTOR PRIOR TO ROUGH-IN. PIPING SHOWN IS SCHEMATIC AND INDICATED FOR DESIGN INTENT.

PLAN NOTES

1. 1/2" CW LINE DOWN TO FIXTURE AND CONNECT.
2. 1/2" CW, 1/2" HW LINES DOWN TO FIXTURE(S) AND CONNECT.
3. REFER TO FLOOR PLAN FOR CONTINUATION OF CW, HW LINES AND UNIT SHUT-OFF VALVE LOCATIONS.
4. SEE FLOOR PLANS FOR SANITARY WASTE AND VENT RISER SIZING.
5. 3" DOMESTIC WATER SERVICE. SEE CIVIL SITE PLANS FOR CONTINUATION.
6. DOMESTIC WATER AND NATURAL GAS CONNECTIONS TO WATER HEATERS. SEE DETAIL 1/P0.2 FOR MORE INFORMATION.
7. 2-1/2" COLD WATER, 2-1/2" HOT WATER, 1-1/2" HOT WATER RETURN, AND 1-1/4" NATURAL GAS PIPING UP.
8. NATURAL GAS METER BY UTILITY. 2 PSIG SERVICE PRESSURE.
9. 3" WASTE ROUTED BELOW SLAB.
10. 2" VENT DOWN.
11. PROVIDE SHUT-OFF VALVES IN AN ACCESSIBLE LOCATION ABOVE LAY-IN CEILING. LOCATION OF VALVES SHOWN IS BASED ON LAY-IN CEILING LOCATIONS. (TYPICAL FOR ALL SHUT-OFF VALVES SHOWN ON THIS SHEET, UNLESS NOTED OTHERWISE).
12. NATURAL GAS OUT TO SITE. REFER TO CIVIL ENGINEERS PLANS FOR CONTINUATION.
13. REFER TO FIRST FLOOR WATER AND GAS PLAN FOR CONTINUATION OF GAS PIPING TO GENERATOR.
14. 1" POLYETHYLENE (2 PSI) GAS LINE ROUTED BELOW GRADE. PROVIDE MINIMUM OF 24" OF COVER. PROVIDE TRACER WIRE AND WARNING TAPE IN TRENCH ABOVE PIPING. REFER TO WARNING TAPE TRACER WIRE DETAIL SHEET P0.1.
15. 1" (2 PSI) POLYETHYLENE GAS LINE UP FROM BELOW GRADE. PROVIDE ANODELESS RISER ASSEMBLY AND TERMINATE TRACER WIRE ON STEEL PIPING AS REQUIRED.

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ALLEN J. MCNUTT
NUMBER PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

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ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

ENLARGED PLANS - PLUMBING

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING P4.1

GENERAL FIRE SUPPRESSION NOTES

A. ALL PIPE SIZES INDICATED ON PLANS ARE MINIMUM PIPE SIZES. THE FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING ALL PIPE SIZES, PIPING CONFIGURATIONS, AND ETC. AS REQUIRED TO MEET SYSTEM HYDRAULIC CALCULATIONS, BUILDING CONDITIONS, ALL APPLICABLE NFPA STANDARDS AND BUILDING CODES/LOCAL ORDINANCES.

B. CONTRACTOR SHALL FURNISH AND INSTALL A COMPLETE FIRE PROTECTION SYSTEM TO PROVIDE COVERAGE FOR THE ENTIRE PREMISES. INCLUDE ALL PIPING AND ACCESSORIES PER THE REQUIREMENTS OF ALL APPLICABLE CODES, NFPA-13, NFPA-13R NFPA-14, NFPA 24 AND OWNER'S FIRE AND CASUALTY INSURER.

C. THE SPRINKLER SYSTEM SHALL BE INSTALLED ACCORDING TO ALL FEDERAL, STATE, LOCAL, AND NFPA STANDARDS. ANY WORK INDICATED ON PLANS THAT IS ABOVE AND BEYOND REGULATIONS SHALL BE INSTALLED AS INDICATED ON PLANS OR IN SPECS.

D. THE FIRE PROTECTION CONTRACTOR SHALL AVOID CONFLICT WITH DUCTWORK, LIGHTS, CONDUITS, PIPING, STRUCTURAL MEMBERS, AND ETC. AND REROUTE LINES AS REQUIRED.

E. SPRINKLER HEADS LOCATED IN LAY-IN CEILINGS SHALL BE LOCATED IN CENTER OF TILES, ONE DIRECTION AND NO CLOSER THAN 12" IN THE OTHER DIRECTION IN 2X4 TILES. SPRINKLER HEADS LOCATED IN DRYWALL CEILINGS SHALL BE LOCATED SYMMETRICALLY WITH OTHER ITEMS IN CEILING.

F. FIRE PROTECTION CONTRACTOR SHALL VERIFY EXACT LOCATIONS OF ELECTRICAL PANELS, SWITCHES, MOTOR CONTROL CENTERS, AND ETC. REWORK LINES AND HEADS AS REQUIRED TO AVOID HAVING THEM DIRECTLY ABOVE ELECTRICAL EQUIPMENT.

G. THE FIRE PROTECTION CONTRACTOR SHALL CONSIDER ALL LOCATIONS OF LIGHTS, DIFFUSERS, RETURN GRILLES, SPRINKLER HEADS, AND ETC. TO BE APPROXIMATE LOCATIONS AND SHOULD BE VERIFIED ON SITE BEFORE ANY WORK IS BEGUN. REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

H. HANGERS AND SUPPORTS SHALL BE NFPA APPROVED FOR CONSTRUCTION USE. ALSO, SAME SHALL MEET NFPA AND PIPE MANUFACTURER'S REQUIREMENTS FOR INSTALLATION, LOCATIONS AND SPACING. HANGERS AND SUPPORTS SHALL BE RATED AND INSTALLED FOR SEISMIC REQUIREMENTS.

I. PIPING PASSING THROUGH FIRE RATED SURFACES SHALL BE PROVIDED WITH SCHEDULE 40 CARBON STEEL SLEEVES FIRE-STOPPED WITH FIRE SEALANT APPROVED BY AUTHORITY HAVING JURISDICTION FOR ASSEMBLY BEING PENETRATED.

J. DRAINS, DRAIN VALVES, FLUSHING CONNECTIONS, TEST CONNECTIONS, GAUGES, GUARDS, SHIELDS, AND SIMILAR ITEMS NECESSARY TO COMPLY WITH APPLICABLE CODES, STANDARDS AND/OR NFPA-13 SHALL BE FURNISHED AND INSTALLED.

K. WHERE REQUIRED BY LOCAL AND STATE CODES, CONTRACTOR SHALL FURNISH AND INSTALL DEFLECTOR SHIELD ON SPRINKLER HEADS ADJACENT TO ELECTRIC PANELS, TELEPHONE BOARDS AND ELECTRICAL EQUIPMENT.

L. PRIOR TO INSTALLATION, CONTRACTOR SHALL SUBMIT PRINTS OF FIRE PROTECTION DESIGN TO OWNERS FIRE AND CASUALTY INSURER FOR APPROVAL. CONTRACTOR SHALL OBTAIN ALL APPROVALS FROM APPLICABLE STATE AND LOCAL AUTHORITIES. CONTRACTOR SHALL ALSO SUBMIT FIRE PROTECTION DESIGN TO ARCHITECT AND ENGINEER FOR REVIEW.

M. ALL PIPING SHALL BE CONCEALED, WHERE APPLICABLE AND PITCHED FOR POSITIVE DRAINAGE.

N. SPRINKLER CONTRACTOR SHALL INCLUDE NECESSARY ARCHITECTURAL ACCESS DOORS WITH APPROPRIATE FIRE RATING AND SHALL MATCH ARCHITECTURAL FINISH WHERE NECESSARY FOR ACCESS TO VALVES, ETC. THESE ACCESS DOORS SHALL BE INDICATED ON SHOP DRAWINGS.

O. WHERE SIDEWALL SPRINKLER HEADS ARE INSTALLED THRU WALL/SOFFIT, CONTRACTOR SHALL INSTALL ESCUTCHEON PLATES FLUSH WITH WALL/SOFFIT.

P. REFER TO ARCHITECTURAL DRAWINGS FOR ADDITIONAL FIRE RATED WALL AND CEILING INFORMATION.

Q. OVERHANGS AND CANOPIES SHALL BE PROVIDED WITH SPRINKLER COVERAGE WHERE REQUIRED BY NFPA-13, STATE AND LOCAL CODES.

R. ALL CEILING CAVITES WITH COMBUSTIBLE CONSTRUCTION MATERIALS SHALL BE PROVIDED WITH SPRINKLER COVERAGE WHERE REQUIRED BY NFPA-13 AND ALL STATE/LOCAL CODES.

S. REFER TO SPECIFICATIONS FOR HAZARD CLASSIFICATIONS FOR VARIOUS AREAS THROUGHOUT BUILDING.

T. PIPING AND EQUIPMENT HANGERS SHALL BE SPACED IN A SYSTEMATIC RANDOM PATTERN AS REQUIRED TO ELIMINATE OVERLOADING INDIVIDUAL STRUCTURAL MEMBERS. THE ESTIMATED WEIGHT ASSIGNED TO PIPE AND EQUIPMENT HANGERS SHALL BE DETERMINED BY THE FIRE PROTECTION CONTRACTOR AND SUBMITTED TO THE GENERAL CONTRACTOR FOR REVIEW, COORDINATION AND APPROVAL PRIOR TO INSTALLATION. THIS REQUIREMENT APPLIES TO ALL FIRE PROTECTION PIPING.

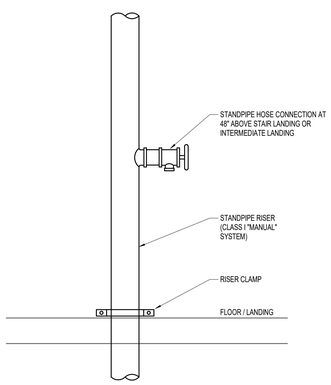
U. WHERE BACKFLOW PREVENTER IS REQUIRED, CONTRACTOR SHALL PROVIDE FORWARD FLOW TESTING PROVISION IN ACCORDANCE WITH NFPA REQUIREMENTS.

SPRINKLER HEAD SCHEDULE

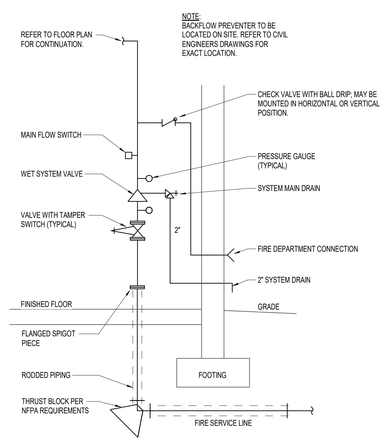
TYPE	LOCATION
QUICK RESPONSE, CONCEALED TYPE SPRINKLER HEAD WITH WHITE COVER PLATE	PUBLIC AREAS WITH DRYWALL OR HARD CEILINGS
QUICK RESPONSE, CONCEALED TYPE SPRINKLER HEAD WITH WHITE COVER PLATE	CORRIDORS, LOBBY AND SIMILAR SPACES WITH SUSPENDED ACOUSTICAL TILE CEILINGS
QUICK RESPONSE, UPRIGHT TYPE SPRINKLER HEAD (MAY USE PENDANT WHERE APPLICABLE)	MECHANICAL ROOMS, STORAGE ROOMS AND SIMILAR SPACES WITHOUT CEILINGS

FLOW TEST INFORMATION

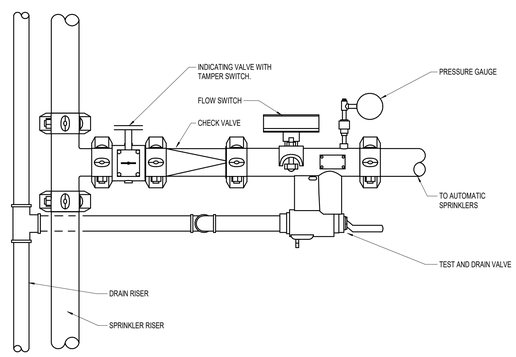
FLOW TEST PERFORMED BY:	CITY OF LEE'S SUMMIT
FLOW TEST PERFORMED ON:	3-19-2021
STATIC PRESSURE:	94 PSI
RESIDUAL PRESSURE:	56 PSI
FLOW:	1800 GPM



3 SP0.1 HOSE VALVE DETAIL
N.T.S.



2 SP0.1 FIRE SERVICE ENTRANCE DETAIL
N.T.S.



1 SP0.1 FLOOR CONTROL STATION
N.T.S.

NOTE:
INFORMATION INDICATED ON THESE DRAWINGS IS FOR DESIGN INTENT AND INFORMATION ONLY. THE DESIGN AND LAYOUT OF THE FIRE SUPPRESSION SYSTEM FOR THIS BUILDING IS A DELEGATED DESIGN TO BE PROVIDED BY A LICENSED FIRE SUPPRESSION CONTRACTOR. ALL TAMPER SWITCHES, FLOW SWITCHES, PRESSURE SWITCHES AND ELECTRICAL CONNECTIONS ASSOCIATED WITH THE SYSTEM ARE NOTED ON THESE DOCUMENTS TO ASSIST THE DELEGATED DESIGN FIRE SUPPRESSION AND FIRE ALARM CONTRACTORS IN PREPARING THEIR DOCUMENTS. FIRE SUPPRESSION CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE EXACT QUANTITIES AND LOCATIONS OF ALL POINTS TO BE MONITORED WITH FIRE ALARM CONTRACTOR.

NOTE:
FIRE SUPPRESSION SHOP DRAWINGS, PRODUCT DATA AND HYDRAULIC CALCULATIONS SHALL BE SUBMITTED AS ONE COMPLETE SUBMITTAL PACKAGE. INFORMATION INCLUDED IN SUBMITTAL SHALL BE PROJECT SPECIFIC AND CLEARLY IDENTIFIED.

PERMIT SET

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ENGINEER	AJM	APPROVED	AJM

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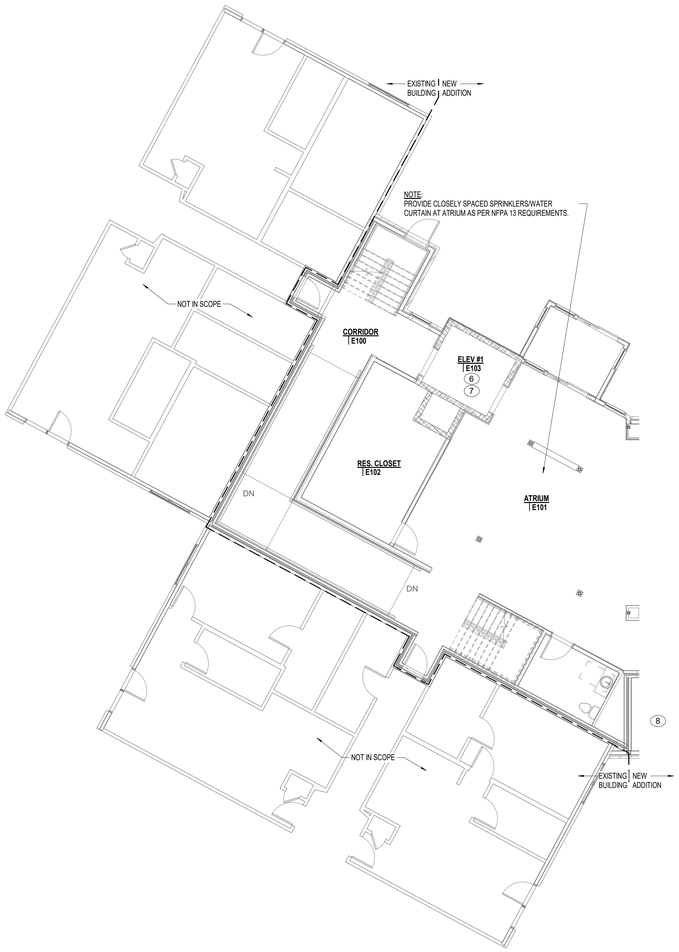
DRAWING TITLE

FIRE SUPPRESSION INFORMATION

DATE: January 5, 2024

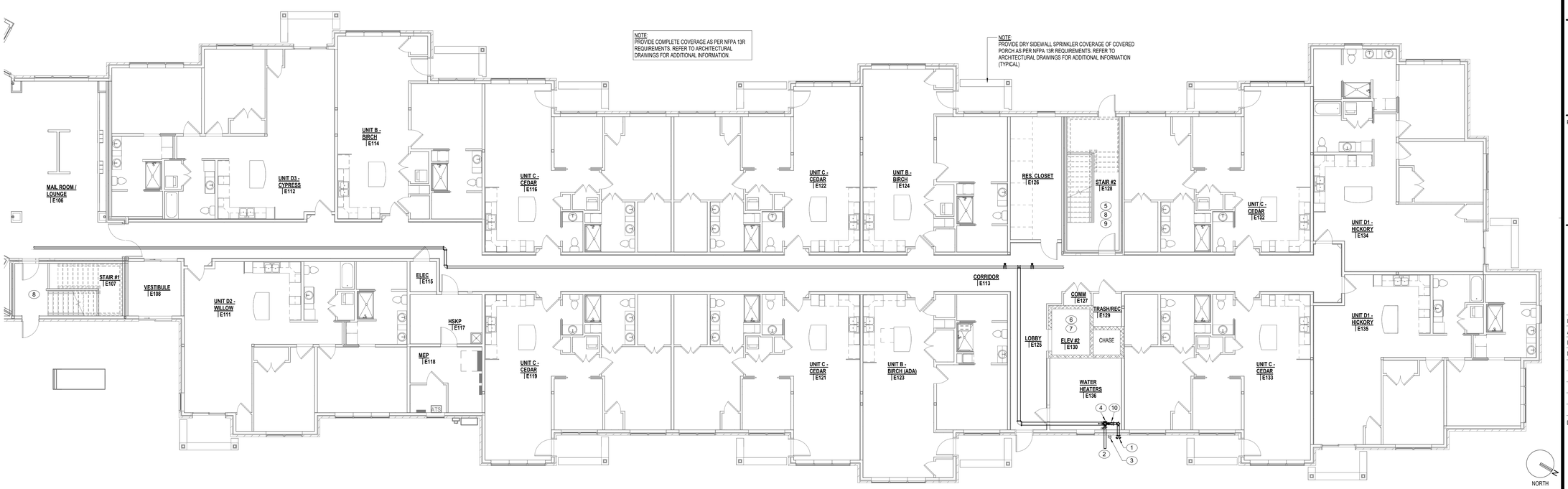
COMM. NO. 23104.00

DRAWING SP0.1



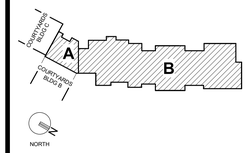
2 SP1.1 FIRST FLOOR PLAN - FIRE SUPPRESSION - ATRIUM

1/8" = 1'-0"



1 SP1.1 FIRST FLOOR PLAN - FIRE SUPPRESSION - IL UNITS

1/8" = 1'-0"



PLAN NOTES

1. FIRE DEPARTMENT CONNECTION. COORDINATE EXACT LOCATION, TYPE AND THREADS WITH LOCAL FIRE DEPARTMENT.
2. FIRE SERVICE OUT TO SITE 5'-0". REFER TO CIVIL ENGINEERS PLANS FOR CONTINUATION.
3. 120 VOLT ELECTRIC BELL/HORN/STROBE FOR SPRINKLER SYSTEM. MOUNT ON EXTERIOR WALL.
4. WET SYSTEM ALARM VALVE RISER WITH TAMPER SWITCH, FLOW SWITCH AND ALL REQUIRED ACCESSORIES PER NFPA REQUIREMENTS. SIZE OF WET SYSTEM TO BE CONFIRMED BASED ON HYDRAULIC CALCULATIONS.
5. FLOOR CONTROL STATION WITH TAMPER AND FLOW SWITCH. REFER TO DETAIL FOR ADDITIONAL INFORMATION. LOCATE IN AN ACCESSIBLE LOCATION ABOVE LAY-IN CEILING.
6. PROVIDE VALVE WITH TAMPER SWITCH AND FLOW SWITCH IN AN ACCESSIBLE LOCATION ABOVE CEILING IN LINE TO SPRINKLER SERVING ELEVATOR PIT.
7. EXTEND SPRINKLER BRANCH LINE DOWN TO ELEVATOR PIT AND PROVIDE HORIZONTAL SIDEWALL SPRINKLER HEAD LOCATED NO MORE THAN 2'-0" ABOVE BOTTOM OF PIT.
8. 4" SPRINKLER RISER UP. 2-1/2" FIRE DEPARTMENT CONNECTION HOSE VALVE WITH CAP AND CHAIN. REFER TO DETAIL FOR ADDITIONAL INFORMATION. LOCATE STANDPIPE AND HOSE VALVE AS TIGHT TO CORNER AS POSSIBLE. MAINTAIN EGRESS CLEARANCE IN STAIRWELL. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATION ON SITE.
9. 2" DRAIN RISER UP. PROVIDE DRAIN AT LOW POINT OF STANDPIPE PIPING. EXTEND DRAIN LINE TO EXTERIOR AND SPILL TO GRADE.
10. PROVIDE CHECK VALVE WITH BALL DRIP IN AN ACCESSIBLE LOCATION.

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ARCHITECT	DAS	CHECKED	DPW/MAH
ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

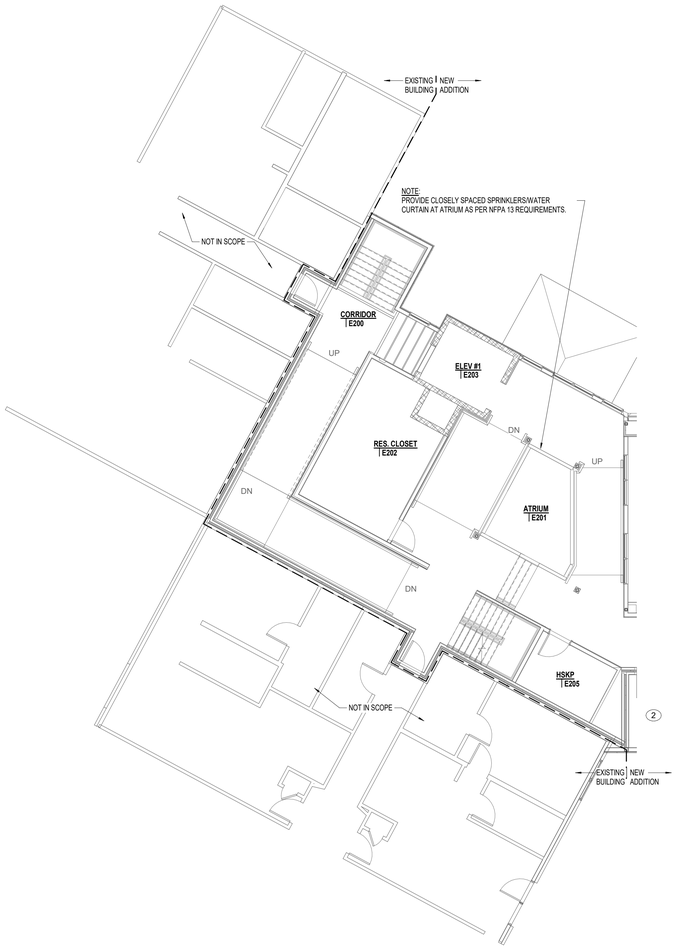
DRAWING TITLE

FIRST FLOOR PLAN - FIRE SUPPRESSION

DATE: January 5, 2024

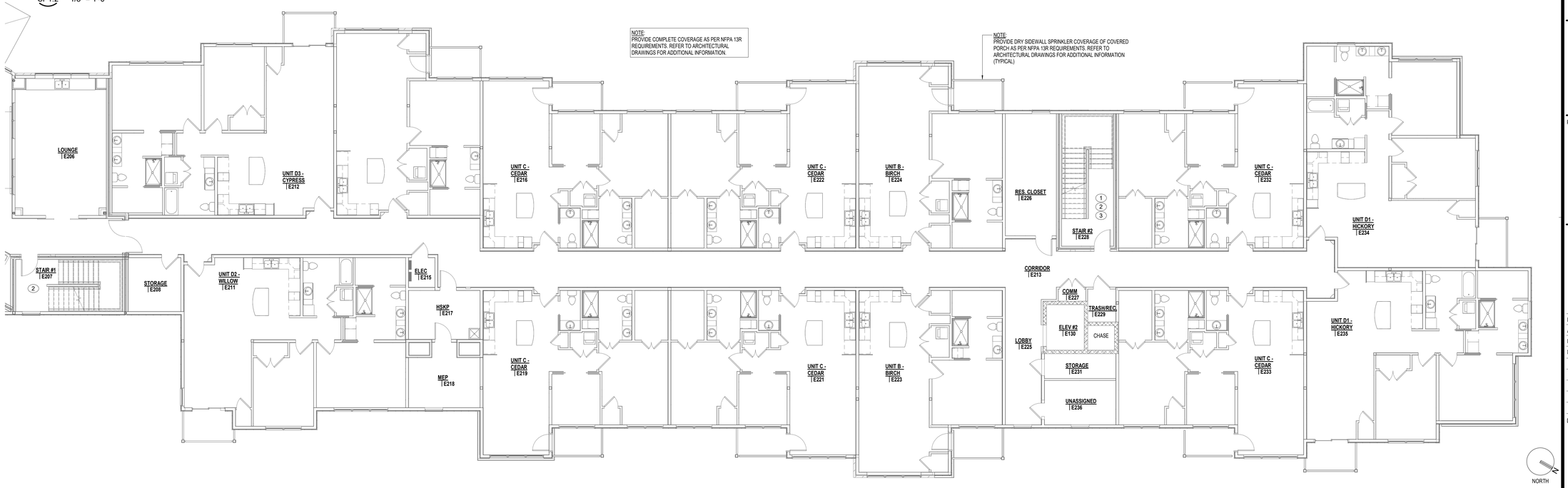
COMM. NO. 23104.00

DRAWING SP1.1



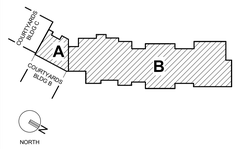
2 SP1.2 SECOND FLOOR PLAN - FIRE SUPPRESSION - ATRIUM

1/8" = 1'-0"



1 SP1.2 SECOND FLOOR PLAN - FIRE SUPPRESSION - IL UNITS

1/8" = 1'-0"



PLAN NOTES

1. FLOOR CONTROL STATION WITH TAMPER AND FLOW SWITCH. REFER TO DETAIL FOR ADDITIONAL INFORMATION. LOCATE IN AN ACCESSIBLE LOCATION.
2. 4" RISER UP AND DOWN. 2-1/2" FIRE DEPARTMENT CONNECTION HOSE VALVE WITH CAP AND CHAIN. REFER TO DETAIL FOR ADDITIONAL INFORMATION. LOCATE STANDPIPE AND HOSE VALVE AS TIGHT TO CORNER AS POSSIBLE. MAINTAIN EGRESS CLEARANCE IN STAIRWELL. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATION ON SITE.
3. 2" DRAIN RISER UP AND DOWN.

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ENGINEER	AJM	APPROVED	AJM

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

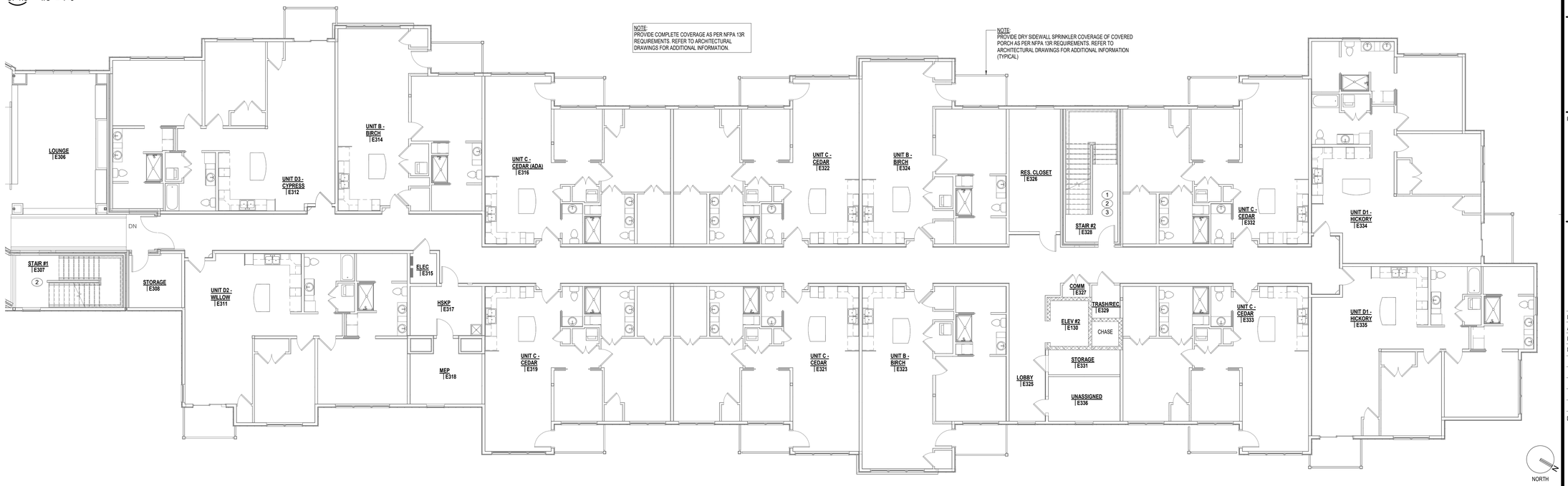
SECOND FLOOR PLAN - FIRE SUPPRESSION

DATE: January 5, 2024

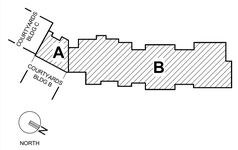
COMM. NO. 23104.00

DRAWING SP1.2

2 THIRD FLOOR PLAN - FIRE SUPPRESSION - ATRIUM
SP1.3 1/8" = 1'-0"



1 THIRD FLOOR PLAN - FIRE SUPPRESSION - IL UNITS
SP1.3 1/8" = 1'-0"



PLAN NOTES

1. FLOOR CONTROL STATION WITH TAMPER AND FLOW SWITCH. REFER TO DETAIL FOR ADDITIONAL INFORMATION. LOCATE IN AN ACCESSIBLE LOCATION.
2. 4" RISER UP AND DOWN. 2-1/2" FIRE DEPARTMENT CONNECTION HOSE VALVE WITH CAP AND CHAIN. REFER TO DETAIL FOR ADDITIONAL INFORMATION. LOCATE STANDPIPE AND HOSE VALVE AS TIGHT TO CORNER AS POSSIBLE. MAINTAIN EGRESS CLEARANCE IN STAIRWELL. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATION ON SITE.
3. 2" DRAIN RISER UP AND DOWN. PROVIDE DRAIN AT LOW POINT OF STANDPIPE PIPING.

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ARCHITECT : DAS		CHECKED : DPW/MAH	
ENGINEER : AJM		APPROVED : AJM	

NO.	REVISION DESCRIPTION	DATE

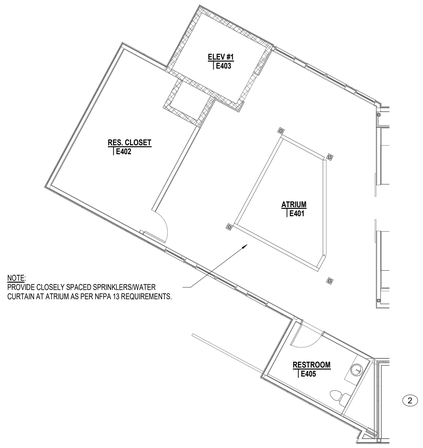
DRAWING TITLE

THIRD FLOOR PLAN - FIRE SUPPRESSION

DATE: January 5, 2024

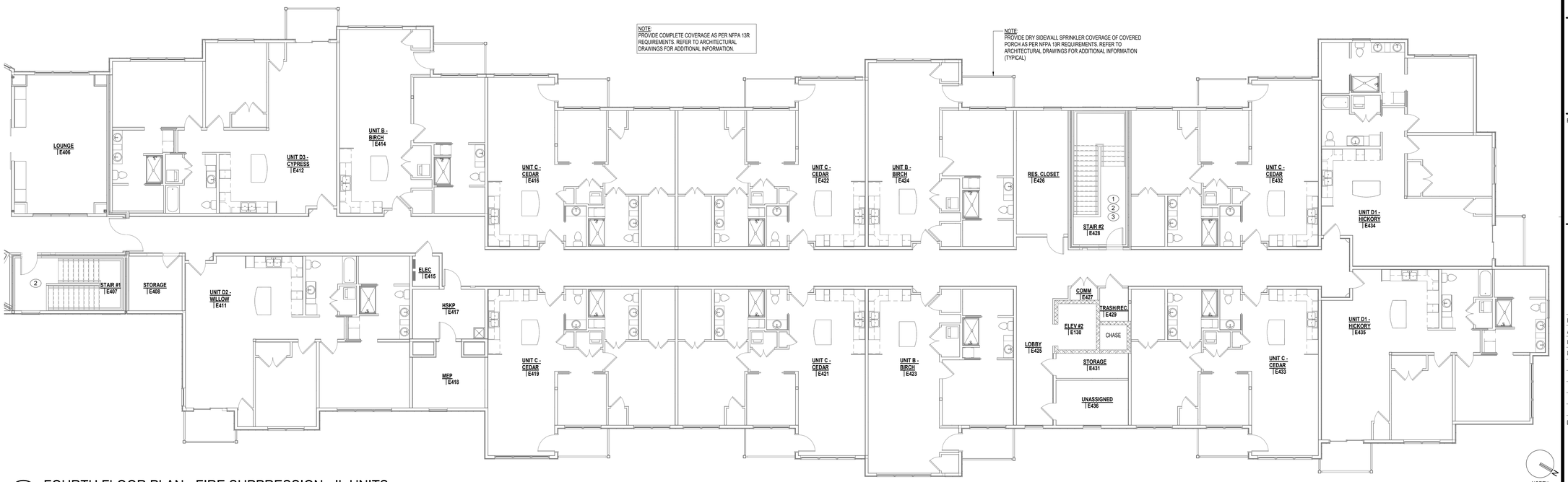
COMM. NO. 23104.00

DRAWING SP1.3



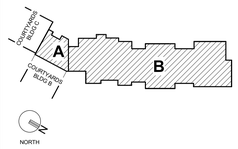
2 SP1.4 FOURTH FLOOR PLAN - FIRE SUPPRESSION - ATRIUM

1/8" = 1'-0"



1 SP1.4 FOURTH FLOOR PLAN - FIRE SUPPRESSION - IL UNITS

1/8" = 1'-0"



PLAN NOTES

1. FLOOR CONTROL STATION WITH TAMPER AND FLOW SWITCH. REFER TO DETAIL FOR ADDITIONAL INFORMATION. LOCATE IN AN ACCESSIBLE LOCATION.
2. 4" RISER UP FROM BELOW. PROVIDE 2-1/2" FIRE DEPARTMENT CONNECTION HOSE VALVE WITH CAP AND CHAIN. REFER TO DETAIL FOR ADDITIONAL INFORMATION. LOCATE STANDPIPE AND HOSE VALVE AS TIGHT TO CORNER AS POSSIBLE. MAINTAIN EGRESS CLEARANCE IN STAIRWELL. REFER TO ARCHITECTURAL PLANS FOR ADDITIONAL INFORMATION. COORDINATE EXACT LOCATION ON SITE.
3. 2" DRAIN RISER DOWN FROM FLOOR CONTROL STATION.

PERMIT SET

STATE OF MISSOURI
ALLEN J. MCNUTT
NUMBER
PE-2023009252
01/05/2024
PROFESSIONAL ENGINEER

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

FOURTH FLOOR PLAN - FIRE SUPPRESSION

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING SP1.4

ELECTRICAL SYMBOL LEGEND (NOTE 1)

FIRE ALARM

MTG. HGT. (NOTE 2)	SYMBOL (NOTES 3 & 4)	DESCRIPTION
	S	SMOKE DETECTOR, CEILING. "CO" = COMBINATION CARBON MONOXIDE DETECTOR "SB" = SOUNDER BASE, LOW FREQUENCY TYPE, UON "D" = SMOKE DETECTOR, DUCT TYPE. SEE MECHANICAL DRAWINGS FOR EXACT LOCATION (NOTE 7). "S" = SINGLE STATION TYPE "LF" = LOW FREQUENCY
6'-8"	S	SMOKE DETECTOR, WALL. (NOTE 7) "CO" = COMBINATION CARBON MONOXIDE DETECTOR "SB" = SOUNDER BASE TYPE "D" = SMOKE DETECTOR, DUCT TYPE. SEE MECHANICAL DRAWINGS FOR EXACT LOCATION (NOTE 7). "S" = SINGLE STATION TYPE (NOTE 7)
	H	HEAT DETECTOR, CEILING.
6'-8"	H	HEAT DETECTOR, WALL. (NOTE 7)
	F	FLAME DETECTOR, CEILING.
4'-0"	F	FIRE ALARM MANUAL PULL STATION.
5'-6"	F	FIRE ALARM FIRE FIGHTER TWO-WAY COMMUNICATION OUTLET JACK WALL UNIT.
	S	FIRE ALARM SPEAKER WITH INTEGRAL VISUAL DEVICE.
NOTE 7	F	FIRE ALARM HORN OR SPEAKER WITH INTEGRAL VISUAL DEVICE. "LF" = LOW FREQUENCY TYPE "S" = DIGITAL SPEAKER TYPE
NOTE 7	F	FIRE ALARM BELL.
NOTE 7	F	FIRE ALARM VISUAL DEVICE.
NOTE 7	F	FIRE ALARM CHIME.
	F	FIRE ALARM HORN OR SPEAKER WITH INTEGRAL VISUAL DEVICE.
	S	FIRE ALARM SPEAKER FOR AUDIBLE TONE. CEILING/PENDANT MOUNT.
	S	FIRE ALARM SPEAKER/STROBE. CEILING/PENDANT MOUNT.
	AOM	ADDRESSABLE OUTPUT MODULE.
	IAM	INDIVIDUAL ADDRESSABLE MONITOR MODULE.
	IM	SIGNALING LINE CIRCUIT ISOLATION MODULE.
7'-4"		SMOKE, HEAT OR FLAME DETECTOR REMOTE ALARM LIGHT, WALL.
		SMOKE, HEAT OR FLAME DETECTOR REMOTE ALARM LIGHT, CEILING.
	FS OR W	SPRINKLER SYSTEM WATER FLOW DETECTOR SWITCH. (NOTE 7)
	PS OR X	SPRINKLER SYSTEM PRESSURE SWITCH. (NOTE 7)
	TS OR Y	SPRINKLER SYSTEM VALVE SUPERVISORY SWITCH. (NOTE 7)
5'-0"	FAA	FIRE ALARM ANNUNCIATOR PANEL
6'-0"	FACP	FIRE ALARM CONTROL PANEL
6'-0"	D	MAGNETIC DOOR HOLDER
	NAC	FIRE ALARM NOTIFICATION APPL. CKT PANEL
5'-0"	ARA	AREA OF RESCUE BASE STATION/CONTROL PANEL.
5'-0"	ARC	AREA OF RESCUE CALL STATION.
5'-0"	FAMP	FIRE ALARM AUDIO AMPLIFIER
5'-0"	FAPS	FIRE ALARM POWER SUPPLY

LOW VOLTAGE

MTG. HGT. (NOTE 2)	SYMBOL (NOTES 3 & 4)	DESCRIPTION
1'-6"		WALL MOUNTED DATA OUTLET. "W" = WALL DATA OUTLET MOUNTED 54" AFF.
1'-6"		WALL MOUNTED PHONE OUTLET "W" = MOUNTED AT 54" AFF.
1'-6"		WALL MOUNTED COMBINATION PHONE AND DATA OUTLET, "W" = MOUNTED AT 54" AFF.
		TELEDATA OUTLET, FLOOR.
		PHONE OUTLET, FLOOR.
		COMBINATION PHONE & DATA OUTLET, FLOOR.
1'-6" UON	TV	RECESSED WALL MOUNTED COMBINATION RECEPTACLE, DATA & TV OUTLETS IN 2-GANG OUTLET BOX WITH VOLTAGE BARRIER.
	TV	COMBINATION RECEPTACLE, DATA & TV OUTLET WITH VOLTAGE BARRIER, FLOOR.
6'-8"		BELL, WALL.
6'-8"		BUZZER, WALL.
6'-8"		CHIME, WALL.
4'-0"		PUSHBUTTON, WALL. "DB" = DOOR BELL, "GD" = GARAGE DOOR.
	ST	SIGNAL TRANSFORMER.
		SECURITY VIDEO CAMERA, CEILING OR SOFFIT MOUNTED.
3'-10"	N	NURSES' CALL PATIENT STATION, WALL.
3'-10"	N E	NURSES' CALL EMERGENCY STATION, WALL.
3'-10"	N S	NURSES' CALL STAFF STATION, WALL.
3'-10"	N D	NURSES' CALL DUTY STATION, WALL.
	N MS	NURSES' CALL MASTER STATION.
7'-4"	N Z	NURSES' CALL ZONE LIGHT, WALL.
	N Z	NURSES' CALL ZONE LIGHT, CEILING.
7'-4"	N C	NURSES' CALL CORRIDOR DOME LIGHT, WALL.
	N C	NURSES' CALL CORRIDOR DOME LIGHT, CEILING.
3'-10"	E	EMERGENCY CALL SWITCH, WALL.
	E C	EMERGENCY CALL CORRIDOR DOME LIGHT, CEILING.
7'-4"	E C	EMERGENCY CALL CORRIDOR DOME LIGHT, WALL.
12'-0"		SOUND SYSTEM SPEAKER, WALL. LETTER, WHERE SHOWN, INDICATES TYPE.
		SOUND SYSTEM SPEAKER, CEILING.
20'-0"		SOUND SYSTEM HORN SPEAKER, WALL.
7'-4"		INTERCOM SYSTEM SPEAKER, WALL.
		INTERCOM SYSTEM SPEAKER, CEILING.
20'-0"		INTERCOM SYSTEM HORN SPEAKER, WALL.
1'-6"	M	MICROPHONE OUTLET, WALL.
	M	MICROPHONE OUTLET, FLOOR.
1'-6"	A	AUXILIARY OUTLET FOR SOUND SYSTEM, WALL.
	A	AUXILIARY OUTLET FOR SOUND SYSTEM, FLOOR.
3'-10"	V	VOLUME CONTROL, WALL.
3'-10"	I	INTERCOM SYSTEM CALL-IN STATION, WALL.
	I	INTERCOM SYSTEM CALL-IN STATION, FLOOR.
	I MS	INTERCOM SYSTEM MASTER STATION.
	S	SECURITY SYSTEM DOOR SWITCH.
7'-0"	C	CLOCK HANGER OUTLET, WALL.
7'-0"	A	CLOCK, WALL. LETTER, WHERE SHOWN, INDICATES TYPE.

LIGHTING

MTG. HGT. (NOTE 2)	SYMBOL (NOTES 3 & 4)	DESCRIPTION
	OR	CEILING MOUNTED RECESSED LUMINAIRE. (NOTE 6)
		CEILING SURFACE MOUNTED LUMINAIRE. (NOTE 6)
		WALL MOUNTED LUMINAIRE. (NOTE 6)
		CEILING MOUNTED LUMINAIRE. (NOTE 6)
		CEILING MOUNTED LUMINAIRE, SINGLE WALL-WASHER TYPE. POINTED SIDE INDICATES DIRECTION OF MAXIMUM LIGHT DISTRIBUTION.
		CEILING MOUNTED LUMINAIRE, DOUBLE WALL-WASHER TYPE. POINTED SIDES INDICATE DIRECTION OF MAXIMUM LIGHT DISTRIBUTION.
		SURFACE OR PENDANT CEILING MOUNTED LUMINAIRE. (NOTE 6)
	OR	WALL MOUNTED LUMINAIRE. (NOTE 6)
		FAN, CEILING MOUNTED WITH LUMINAIRE ACCESSORY.
	H	CEILING MOUNTED RECESSED COMBINATION UNIT. "H" = INFRARED HEAT LAMP.
	H	CEILING MOUNTED RECESSED COMBINATION UNIT. "H" = INFRARED HEAT LAMP.
	(12)	LIGHT TRACK. " " INDICATES QUANTITY OF FIXTURES PER TRACK. NUMBER INDICATES NOMINAL LENGTH IN FEET.
		POST ARM MOUNTED LIGHTING FIXTURE. LUMINAIRE(S) SHOWN FOR QUANTITY AND ORIENTATION. (NOTE 5)
		POST TOP MOUNTED LIGHTING FIXTURE. (NOTE 5)
		LANDSCAPE LIGHTING FIXTURE, GROUND MOUNTED. (NOTE 5)
		LANDSCAPE LIGHTING FIXTURE, FLUSH IN-GROUND. (NOTE 5)
		CEILING MOUNTED EXIT SIGN. SHADED QUADRANT(S) INDICATES FACE(S). PROVIDE ARROWS AS INDICATED ON DRAWINGS. LUMINAIRE TYPE "X1", UNO.
		WALL MOUNTED EXIT SIGN. SHADED QUADRANT(S) INDICATES FACE(S). PROVIDE ARROWS AS INDICATED ON DRAWINGS. LUMINAIRE TYPE "X1", UNO.
		SELF-CONTAINED EMERGENCY LIGHTING UNIT, WALL.
3'-10"	$a	GENERAL USE SWITCH, SINGLE POLE. LOWER CASE ALPHABETIC SUBSCRIPT,WHERE SHOWN, INDICATES LOADS CONTROLLED. (TYP FOR ALL SWITCHES.)
3'-10"	$$	TWO SINGLE-POLE SWITCHES IN A 2-GANG BOX. EACH SWITCH TO CONTROL A SEPARATE BALLAST IN A LUMINAIRE, REFER TOLUMINAIRE SCHEDULE AND/OR DRAWINGS.
3'-10"	$2	GENERAL USE SWITCH, DOUBLE POLE.
3'-10"	$3	GENERAL USE SWITCH, THREE WAY.
3'-10"	$$3	ONE 3-WAY SWITCH AND ONE SINGLE-POLE SWITCH IN A 2-GANG BOX. EACH SWITCH TO CONTROL A SEPARATE BALLAST IN A LUMINAIRE, REFER TO LUMINAIRE SCHEDULE AND/OR DRAWINGS.
3'-10"	3 $$3	TWO 3-WAY SWITCHES IN A 2-GANG BOX. EACH SWITCH TO CONTROL A SEPARATE BALLAST IN A LUMINAIRE, REFER TO LUMINAIRE SCHEDULE AND/OR DRAWINGS.
3'-10"	$4	GENERAL USE SWITCH, FOUR WAY.
3'-10"	$P	GENERAL USE SWITCH, PILOT LIGHT TYPE. PILOT LIGHT IS "ON" WHEN SWITCH IS "ON".
3'-10"	$K	GENERAL USE SWITCH, KEY OPERATED.
3'-10"	$T	TIMER SWITCH, WALL-BOX MOUNTED.
3'-10"	$F	FAN/LIGHT CONTROL SWITCH, FOUR POSITION FOR SEPERATE CONTROL OF FAN AND FAN LIGHT KIT. SWITCH FURNISHED WITH FAN BY FAN MANUFACTURER.
3'-10"		OCCUPANCY SENSOR SWITCH, WALL MOUNTED. DUAL TECHNOLOGY TYPE UNLESS INDICATED OTHERWISE. SUBSCRIPT : "R" = INFRARED TYPE. "U" =ULTRASONIC TYPE. "2" = 2-POLE DUAL RELAYS; "D" = DIMMER LOWERCASE ALPHABETIC SUBSCRIPT, WHERE SHOWN, INDICATES LOADS CONTROLLED. SET TIME DELAY TO AUTOMATIC UNLESS INDICATED OTHERWISE. SET TO MANUAL ON/ AUTO-OFF OPERATION UNLESS INDICATED OTHERWISE.
	OS	OCCUPANCY SENSOR SWITCH, CEILING MOUNTED. DUAL TECHNOLOGY TYPE UNLESS INDICATED OTHERWISE. SUBSCRIPT : "R" = INFRARED TYPE. "U" =ULTRASONIC TYPE. "2" = 2-POLE DUAL RELAYS; LOWERCASE ALPHABETIC SUBSCRIPT, WHERE SHOWN, INDICATES LOADS CONTROLLED. SET TIME DELAY TO AUTOMATIC UNLESS INDICATED OTHERWISE. SET TO AUTO-ON OPERATION UNLESS INDICATED OTHERWISE.
3'-10"	D	DIMMER SWITCH, COMPATIBLE WITH LOAD TYPE. SUBSCRIPT : "3" = THREE-WAY
	R	UL 924 LISTED EMERGENCY TRANSFER RELAY DEVICE CAPABLE OF SENSING AND SWITCHING FROM NORMAL TO EMERGENCY POWER UPON LOSS.

GENERAL

MTG. HGT. (NOTE 2)	SYMBOL (NOTES 3 & 4)	DESCRIPTION
	1	PLAN NOTE DESIGNATION.
	1	KITCHEN EQUIPMENT DESIGNATION.
	1	LUMINAIRE TYPE DESIGNATION.

POWER

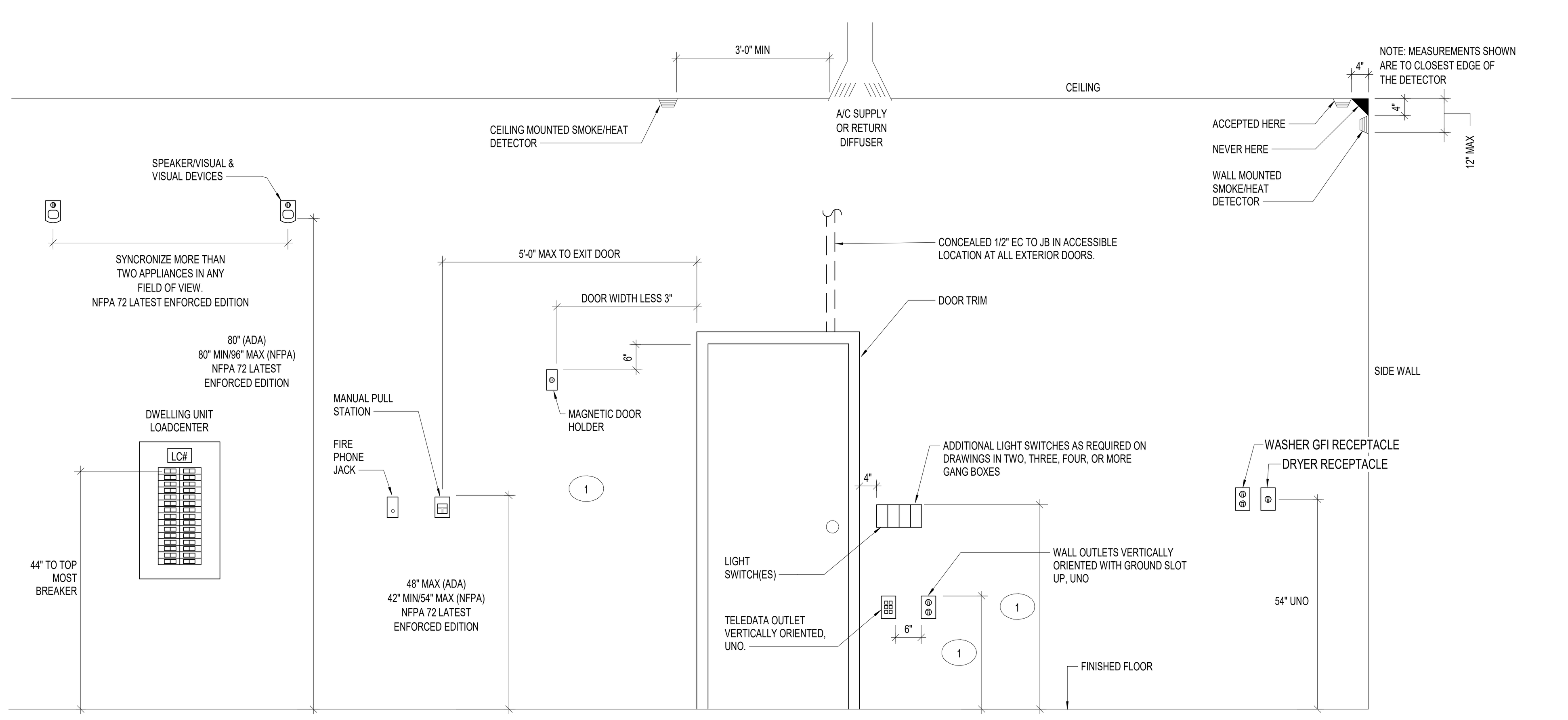
MTG. HGT. (NOTE 2)	SYMBOL (NOTES 3 & 4)	DESCRIPTION
1'-6"		DECORATOR DUPLEX RECEPTACLE, WALL MOUNTED. ALPHA-NUMERIC OR NUMERIC SUBSCRIPT INDICATES PANELBOARD CIRCUIT. (TYPICAL FOR ALL RECEPTACLES). "GF" = GROUND FAULT DECORATOR RECEPTACLE. "WP" = WEATHERPROOF WHILE-IN-USE DEVICE, DECORATOR RECEPTACLE MOUNTED IN (NEMA-3R) WALLPLATE. "HG" = HOSPITAL GRADE. "C" = MOUNT RECEPTACLE 44"AFF TO CENTER OF BOX OR BOTTOM 0'-1" ABOVE BACKSPLASH/COUNTER, "H" = MOUNT RECEPTACLE HORIZONTALLY (ALL RECEPTACLE SHALL BE MOUNTED VERTICALLY UNLESS NOTED BY AN "H"). "U" = USB DEVICE, (LEVITON T5832) "T" = TAMPER RESISTANT DEVICE, "MC" = PROVIDE A MIRRORED COVERPLATE FOR RECEPTACLE MOUNTED IN MIRRORS. "AF" = ARC FAULT CIRCUIT INTERRUPTER DEVICE "E" = INDICATES EMERGENCY DEVICE IF DEVICE NOT SHADED.
		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE. MOUNT AT 44" AFF TO CENTER OF BOX OR BOTTOM AT 1" ABOVE BACKSPLASH OR COUNTER TOP.
1'-6"		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE. GROUND FAULT DEVICE.
		WALL MOUNTED DECORATOR DUPLEX RECEPTACLE. GROUND FAULT DEVICE. WALL MOUNTED DECORATOR DUPLEX RECEPTACLE. MOUNT AT 44" AFF TO CENTER OF BOX OR BOTTOM AT 1" ABOVE BACKSPLASH OR COUNTER TOP.
		SHADED DEVICE SYMBOL INDICATES EMERGENCY.(TYPICAL FOR ALL RECEPTACLES)
		DUPLEX RECEPTACLE, FLOOR.
		DUPLEX RECEPTACLE AND TELEPHONE OR DATA OUTLET IN A TWO-COMPARTMENT FLUSH FLOOR BOX.
	C	DUPLEX RECEPTACLE, CEILING.
0'-6"		DUPLEX RECEPTACLE IN A CAST "FS" BOX MOUNTED ON (2) RIGID CONDUITS FROM FLOOR.
1'-6"		SPLIT WIRED TAMPER-RESISTANT DECORATOR DUPLEX RECEPTACLE, WALL MOUNTED. BOTTOM PLUG SHALL BE WIRED THRU A SWITCH. TOP PLUG IS NOT SWITCHED.
1'-6"		TWO DUPLEX RECEPTACLES IN A TWO GANG OUTLET BOX, WALL.PROVIDE BARRIER BETWEEN RECEPTACLES UNLESS CONNECTED TO SAME BRANCH CIRCUIT.
		TWO DUPLEX RECEPTACLES IN A TWO GANG OUTLET BOX, FLOOR.
	C	TWO DUPLEX RECEPTACLES IN A TWO GANG OUTLET BOX, CEILING.
1'-6"		SINGLE RECEPTACLE, WALL.
		SINGLE RECEPTACLE, FLOOR.
	C	SINGLE RECEPTACLE, CEILING.
1'-6"	OR	SPECIAL PURPOSE RECEPTACLE, WALL. "D" = DRYER (NEMA 14-30R), "R" = RANGE (NEMA 14-50R), UNO.
		SPECIAL PURPOSE RECEPTACLE (TYPE AS NOTED), FLOOR.
	C	SPECIAL PURPOSE RECEPTACLE (TYPE AS NOTED), CEILING.
1'-6"	J	JUNCTION BOX, WALL.
	J	JUNCTION BOX, FLOOR.
	J C	JUNCTION BOX, CEILING.
		DIRECT CONNECTION TO EQUIPMENT.
		GROUND CONNECTION.
	GR	GROUND ROD
	M	ELECTRIC MOTOR CONNECTION.
	$M	MOTOR RATED SWITCH.
3'-10"	P	POWERED DOOR OPERATOR, WALL.
1'-6" UON	TV	RECESSED WALL MOUNTED COMBINATION RECEPTACLE, DATA & TV OUTLETS IN 2-GANG OUTLET BOX WITH VOLTAGE BARRIER. COORDINATE BLOCKING W/ARCHITECT WHERE WALL MOUNT TV IS REQUIRED.
6'-0" TO TOP	FLUSH / SURFACE	208/120 VOLT PANELBOARD.
6'-0" TO TOP	FLUSH / SURFACE	480/277 VOLT PANELBOARD.
		TRANSFORMER, SIZE AND TYPE AS INDICATED ON DRAWING.
5'-0" TO TOP	3/30/240/3R/F	DISCONNECT SWITCH. DESIGNATION INDICATES: FUSED "F" OR NON-FUSED "NF"; NEMA ENCLOSURE RATING; VOLTAGE; AMPACITY RATING; NO. OF POLES
5'-0" TO TOP	CB 3/30/240/3R/F	ENCLOSED CIRCUIT BREAKER. DESIGNATION INDICATES: FUSED "F" OR NON-FUSED "NF"; NEMA ENCLOSURE RATING; VOLTAGE; AMPACITY RATING; NO. OF POLES
	VFD	VARIABLE FREQUENCY DRIVE
5'-0" TO TOP		MANUAL MOTOR STARTER WITH PILOT LIGHT, SURFACE MOUNTED. "F" = FLUSH MOUNTED.
5'-0" TO TOP		MAGNETIC MOTOR STARTER, SURFACE MOUNTED. "F" = FLUSH MOUNTED.
5'-0" TO TOP		COMBINATION MAGNETIC MOTOR STARTER AND FUSED DISCONNECT SWITCH.
5'-0"	RAA	GENERATOR REMOTE ANNUNCIATOR PANEL
		CONDUIT CONCEALED IN OR BELOW FLOOR SLAB OR BELOW GRADE.
		CONDUIT EXPOSED OR CONCEALED IN WALL OR ABOVE CEILING.
		CONDUIT TURNED UP.
		CONDUIT TURNED DOWN.

HOMERUN TO PANEL: PANEL NAME (CIRCUIT #)

PANEL NAME (CIRCUIT #)
CONDUIT BARS INDICATE CONDUCTORS
EQUIPMENT GROUND
NEUTRAL (GROUND)
PHASE (HOT)

ELECTRICAL ABBREVIATIONS (NOTE 8)

A OR AMP	AMPERE
ABV	ABOVE
AC	ALTERNATING CURRENT
ACB	ABOVE COUNTER BACKSPLASH
AFCI	ARC FAULT CIRCUIT INTERRUPTER
AFD	ADJUSTABLE FREQUENCY DRIVE
AFF	ABOVE FINISHED FLOOR
AIC	AMPERES INTERRUPTING CAPACITY
AL	ALUMINUM
AM	AMMETER
AMPL	AMPLIFIER
ASYM	ASYMMETRICAL
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAGE
BEL	BELOW
BD	BUS DUCT
BOTT	BOTTOM
BRKR	BREAKER
C	COUNTERTOP
CA	CABLE
CAB	CABINET
CATV	COMMUNITY ANTENNA TELEVISION OR CABLE TELEVISION
CB	CIRCUIT BREAKER
CCTV	CLOSED CIRCUIT TELEVISION
CF	COMPACT FLUORESCENT
CKT	CIRCUIT
CLG	CEILING
CND	CONDUIT
CNTR	CENTER
COMB	COMBINATION
COND	CONDUCTOR
CONN	CONNECTION
CONT	CONTACTOR
CT	CURRENT TRANSFORMER
CTRL	CONTROL
CU	COPPER
CW	COLD WATER
DB	DOOR BELL
DC	DIRECT CURRENT
DIM	DIMENSION
DISC	DISCONNECT
DR	DOOR RELEASE SERVICE
DS	DOOR SWITCH
DWG	DRAWING
E OR EMER	EMERGENCY
EL	EXISTING TO BE RELOCATED
ELEC	ELECTRIC(AL)
ELEV	ELEVATION/ELEVATOR
EM	EXISTING TO BE REMOVED
EML	EXIST REMOVED AND RELOCATED TO THIS POSITION
EMN	EXISTING TO BE REMOVED AND NEW INSTALLED
EMT	ELECTRICAL METALLIC TUBING
ENCL	ENCLOSURE
ENG	ENGINE
EP	EXPLOSIONPROOF
EQUIP	EQUIPMENT
ER	EXISTING TO REMAIN
ERC	ELEVATOR RECALL
EWC	ELECTRIC WATER COOLER
EXIST	EXISTING
EXT	EXTERIOR
FA	FIRE ALARM
FACP	FIRE ALARM CONTROL PANEL
FDR	FEEDER
FC	FOOTCANDLE
FLUOR	FLUORESCENT
FSDR	MOTOR OPERATED FIRE/SMOKE DAMPER
FSS	FUSIBLE SAFETY SWITCH
FXTR	FIXTURE
GD	GARAGE DOOR
GEN	GENERATOR
GF OR GFI	GROUND FAULT
GND	GROUND
H	HORIZONTAL
HG	HOSPITAL GRADE
HGT	HIGH INTENSITY DISCHARGE
HID	HEIGHT
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER OR HEAT PUMP
HPF	HIGH POWER FACTOR
HPS	HIGH PRESSURE SODIUM
HTR	HEATER
HW	HOT WATER
HZ	HERTZ
IC	INTERCOM OR INTERRUPTING CAPACITY
IG	ISOLATED GROUND
IMC	INTERMEDIATE METAL CONDUIT
INC	INCANDESCENT
INIT	INITIAL
JB	JUNCTION BOX
KO	KNOCKOUT
KV	KILOVOLT
KVA	KILOVOLT-AMPERE
KVAR	KILOVOLT-AMPERE REACTIVE
KW	KILOWATT
KWH	KILOWATT-HOUR
LA	LIGHTNING ARRESTER
LC	LOADCENTER
LPS	LOW PRESSURE SODIUM
LTG	LIGHTING
LUM	LUMENS
MAG	MAGNETIC
MAN	MANUAL
MATV	MASTER ANTENNA TELEVISION
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MCM	THOUSAND CIRCULAR MILS
M/G	MOTOR/GENERATOR
MH	METAL HALIDE OR MOUNTING HEIGHT
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOD	MOTOR OPERATED DAMPER
MOT	MOTOR
MS	MAGNETIC STARTER
MTG	MOUNTED OR MOUNTING
MTR	METER
MV	MERCURY VAPOR
NEC	NATIONAL ELECTRICAL CODE
NEUT	NEUTRAL
NFSS	NON-FUSIBLE SAFETY SWITCH
NO	NUMBER
OH	OVERHEAD
P	POLE
PB	PULL BOX OR PUSHBUTTON
PBS	PUSHBUTTON STATION
PH( )	PHASE
PNL	PANEL
PNLBD	PANELBOARD
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
QTY	QUANTITY
RECPT	RECEPTACLE
REFRIG	REFRIGERATOR
RSC	RIGID STEEL CONDUIT
SCC	SHORT CIRCUIT CURRENT
SDR	MOTOR OPERATED SMOKE DAMPER
SEC	SECONDARY
SMR	SURFACE METAL RACEWAY
SPKR	SPEAKER
SR	SURFACE RACEWAY
SS	SURGE SUPPRESSOR/ ISOLATED GROUND
STR	STARTER
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
SYM	SYMMETRICAL
S/N	SOLID NEUTRAL
TC	TIME CLOCK
TEL	TELEPHONE
TV	TELEVISION
TYP	TYPICAL
UF	UNDERFLOOR
UG	UNDERGROUND
UL	UNDERWRITERS' LABORATORIES
UNO	UNLESS NOTED OTHERWISE
V	VOLT
VA	VOLT-AMPERE
VAR	VOLT-AMPERE REACTIVE
VM	VOLTMETER
W	WATT OR WIRE
WP	WEATHERPROOF
XFER	TRANSFER
XFMR	TRANSFORMER



ELEVATIONS - ELECTRICAL & FIRE ALARM DEVICES

NO SCALE

(1) REFER TO SYMBOL LEGEND ON THIS SHEET FOR EXACT HEIGHT OF DEVICES INDICATED.

GENERAL NOTES

NOTES (ELECTRICAL SYMBOL LEGEND)

1. THESE ARE STANDARD SYMBOLS AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS. HOWEVER, WHEREVER THIS SYMBOL APPEARS ON THE PROJECT DRAWINGS, THE ITEM SHALL BE FURNISHED AND INSTALLED.
2. UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET. WHERE THE MOUNTING HEIGHT INDICATED ON PLAN IS DIFFERENT FROM THE LEGEND, THE PLAN TAKES PREDEDENT.
3. INSTALL RECEPTACLE AND TELEPHONE OUTLET BOXES (OR OTHER OUTLET BOXES SUCH AS TV, COMPUTER, ETC.) 6" APART (EDGE TO EDGE) WHERE SHOWN SIDE BY SIDE ON WALL.
4. SEE ELECTRICAL ABBREVIATIONS FOR ALPHABETIC SUBSCRIPT WITH SYMBOL, UNO.
5. ARROW(S) INDICATE DIRECTION OF MAXIMUM LIGHT DISTRIBUTION.
6. " " = SHADED LUMINAIRE CONNECTED TO EMERGENCY CIRCUIT.
7. INSTALL DETECTOR BETWEEN 0'-4" AND 1'-0" DOWN FROM THE CEILING TO THE TOP OF THE DETECTOR, UNO. FIRE ALARM VISUAL DEVICE (STAND-ALONE OR INTEGRAL STROBE) SHALL BE LOCATED 80 INCHES TO THE BOTTOM ABOVE OF HIGHEST FLOOR LEVEL WITHIN THE SPACE OR 6" TO THE TOP BELOW CEILING, W HEVER IS LOWER.
8. REFER TO THE OTHER ABBREVATION LISTS ELSEWHERE IN THESE DOCUMENTS FOR ABBREVIATIONS NOT LISTED HERE.
9. MOUNT ALL SINGLE AND DUPLEX WALL MOUNT RECEPTACLES VERICALLY WITH GROUND PIN SLOT UP, EXCEPT RECEPTACLES MOUNTED HORIZONTALLY WITH GROUND PIN SLOT TO THE LEFT.

CODE SUMMARY

- 2012 INTERNATIONAL BUILDING CODE
- 2015 xxx CONSERVATION CODE
- 2011 NFPA 70 - NATIONAL ELECTRIC CODE
- 2015 NFPA 101 - LIFE SAFETY CODE
- 2012 NFPA 99 - HEALTH CARE FACILITIES CODE
- 2015 NFPA 72
- 2010 NFPA 110 - STANDARD FOR EMERGENCY AND STANDBY POWER SYSTEMS
- 2010 FGI GUIDELINES

SHEET LIST - ELECTRICAL

SHEET NUMBER	SHEET NAME
E0.0	ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS
E0.1	ELECTRICAL DETAILS
E0.2	LUMINAIRE SCHEDULES & LIGHTING CONTROLS DETAILS
E0.3	MECHANICAL & PLUMBING EQUIPMENT ELECTRICAL CONNECTION SCHEDULE
E0.4	ELECTRICAL SITE PLAN
E1.1	FIRST FLOOR PLAN - LIGHTING
E1.2	SECOND FLOOR PLAN - LIGHTING
E1.3	THIRD FLOOR PLAN - LIGHTING
E1.4	FOURTH FLOOR PLAN - LIGHTING
E2.1	FIRST FLOOR PLAN - POWER
E2.2	SECOND FLOOR PLAN - POWER
E2.3	THIRD FLOOR PLAN - POWER
E2.4	FOURTH FLOOR PLAN - POWER
E2.5	ROOF PLAN - POWER
E3.1	ENLARGED PLANS - ELECTRICAL
E3.2	ENLARGED PLANS - ELECTRICAL
E3.3	ENLARGED PLANS - ELECTRICAL
E4.1	ELECTRICAL ONE-LINE DIAGRAM
E4.2	LIGHTING CONTROL DIAGRAMS
E5.1	PANELBOARD SCHEDULES
E5.2	PANELBOARD SCHEDULES
E5.3	PANELBOARD SCHEDULES
E5.4	PANELBOARD SCHEDULES
E6.1	FIRST FLOOR PLAN - FIRE ALARM
E6.2	SECOND FLOOR PLAN - FIRE ALARM
E6.3	THIRD FLOOR PLAN - FIRE ALARM
E6.4	FOURTH FLOOR PLAN - FIRE ALARM
E6.5	FIRE ALARM RISER
E6.6	FIRE ALARM DETAILS

PERMIT SET

STATE OF MISSOURI · JAMES S. KIDWELL · NUMBER E-25237 · REGISTERED PROFESSIONAL ENGINEER · 1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
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ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

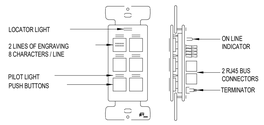
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

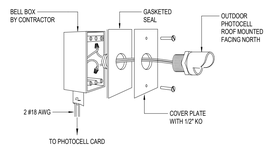
ELECTRICAL SYMBOL LEGEND & ABBREVIATIONS

DATE: January 5, 2024 — DRAWING E0.0

COMM. NO. 23104.00



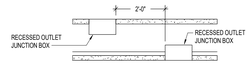
DIGITALSWITCH



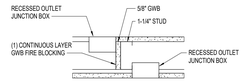
OUTDOOR PHOTOCELL

NOTES:
1. SWITCH BUTTONS ARE FACTORY ENGRAVED.
2. PUSH BUTTONS MAY CONTROL ANY RELAY(S) IN ANY COMBINATION.
3. LED PILOT LIGHTS INDICATE STATUS.
4. SWITCH LINKED TO THE GR 2400 DIGITAL BUS VIA CAT. 5 PATCH CABLE WITH RJ45 CONNECTORS.
5. DECORA STYLE FACE PLATE BY CONTRACTOR.

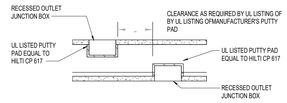
92 E0.1 PHOTOCELL DETAILS
N.T.S.



MINIMUM 24" CODE REQUIREMENT - PLAN VIEW



FIREBLOCKING DETAIL - PLAN VIEW

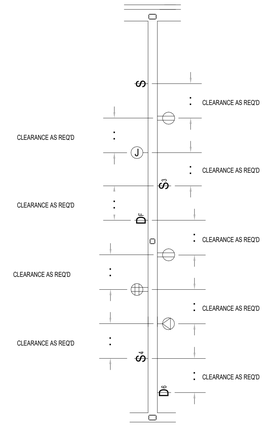


UL LISTED PUTTY PAD DETAIL - PLAN VIEW

NOTE:
RECESSED ELECTRICAL BOXES IN RATED ASSEMBLIES ARE MEMBRANE PENETRATIONS AND MUST COMPLY WITH 714.3.2 OF THE 2012 IBC CODE. RECESSED OUTLET BOXES ON OPPOSITE SIDES OF THE WALL MUST BE SEPARATED BY 24" HORIZONTAL DISTANCE. SOLID FIREBLOCKING, OR WITH UL LISTED PUTTY PADS.

DETAILS FOR MEMBRANE PENETRATIONS IN FIRE & ACOUSTICAL RATED ASSEMBLIES

91 E0.1 N.T.S.

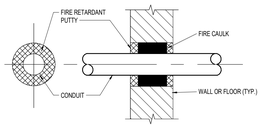


NOTE:
TYPICAL OF RECESSED WALL MOUNTED ELECTRICAL DEVICES LOCATED AT FIRE AND ACCOUSTICAL RATED PARTITIONS. REFER TO "DETAILS FOR MEMBRANE PENETRATIONS IN FIRE & ACCOUSTICAL RATED WALLS" ON THIS DRAWING AND TO SPECIFICATIONS.

PARTIAL FIRE OR ACCOUSTICAL RATED PARTITION

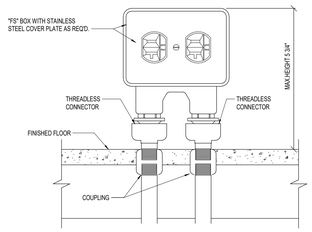
89 E0.1 N.T.S.

UL SYSTEM NO. W-L-1054



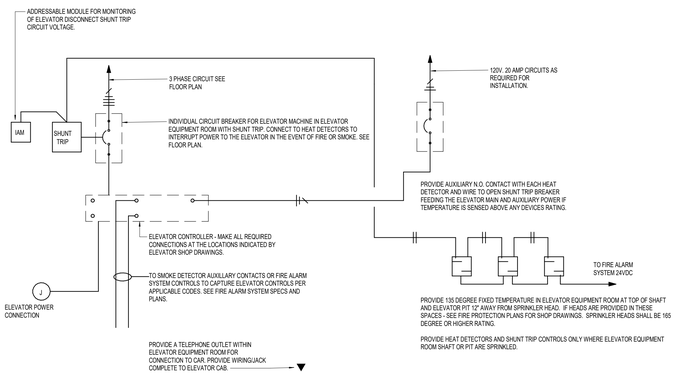
FIRESTOP INSTALLATION DETAIL

93 E0.1 N.T.S.



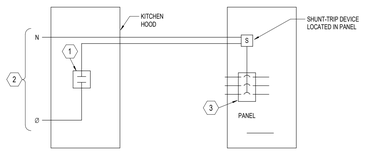
KITCHEN WATERPROOF PEDESTAL RECEPTACLE DETAIL

95 E0.1 N.T.S.



ELEVATOR POWER WIRING DIAGRAM

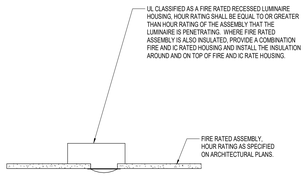
97 E0.1 N.T.S.



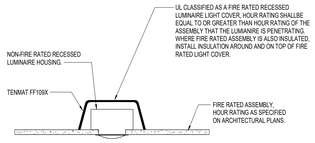
NOTES:
1. CONTACT CLOSURE (FUSIBLE LINK) ACTIVATED BY HEAT OR FIRE. PROVIDED WITH HOOD.
2. 120V. TO SERVE FIRE PROTECTION SYSTEM IN HOOD.
3. CIRCUIT BREAKER FOR TYP. EQUIP. UNDER THE HOOD.

KITCHEN HOOD SHUNT TRIP WIRING DETAIL

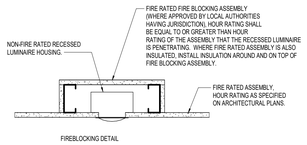
96 E0.1 N.T.S.



UL CLASSIFIED FIRE RATED HOUSING DETAIL



UL CLASSIFIED FIRE RATED TENT DETAIL

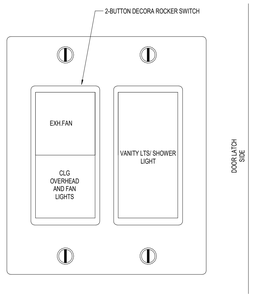


FIREBLOCKING DETAIL

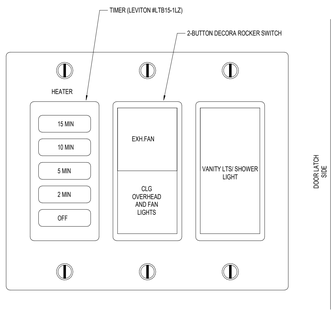
NOTE:
RECESSED LUMINAIRES IN FIRE-RESISTANCE-RATED HORIZONTAL ASSEMBLIES ARE MEMBRANE PENETRATIONS AND MUST COMPLY WITH 714.4.1.1.1 OR 714.4.1.1.2 OF THE 2012 IBC CODE.
RECESSED LUMINAIRES SHALL BE INSTALLED SUCH THAT THE REQUIRED FIRE RESISTANCE WILL NOT BE REDUCED.

DETAILS FOR LUMINAIRE PENETRATIONS IN FIRE RATED ASSEMBLIES

90 E0.1 N.T.S.



SYMBOL: TIMER CONTROL SWITCH = $ T3



SYMBOL: TIMER CONTROL SWITCH = $ T4

DWELLING UNIT BATHROOM COMBINATION TIMER AND SINGLE POLE SWITCHES

1 E0.1 12" = 1'-0"

GENERAL NOTES

PERMIT SET

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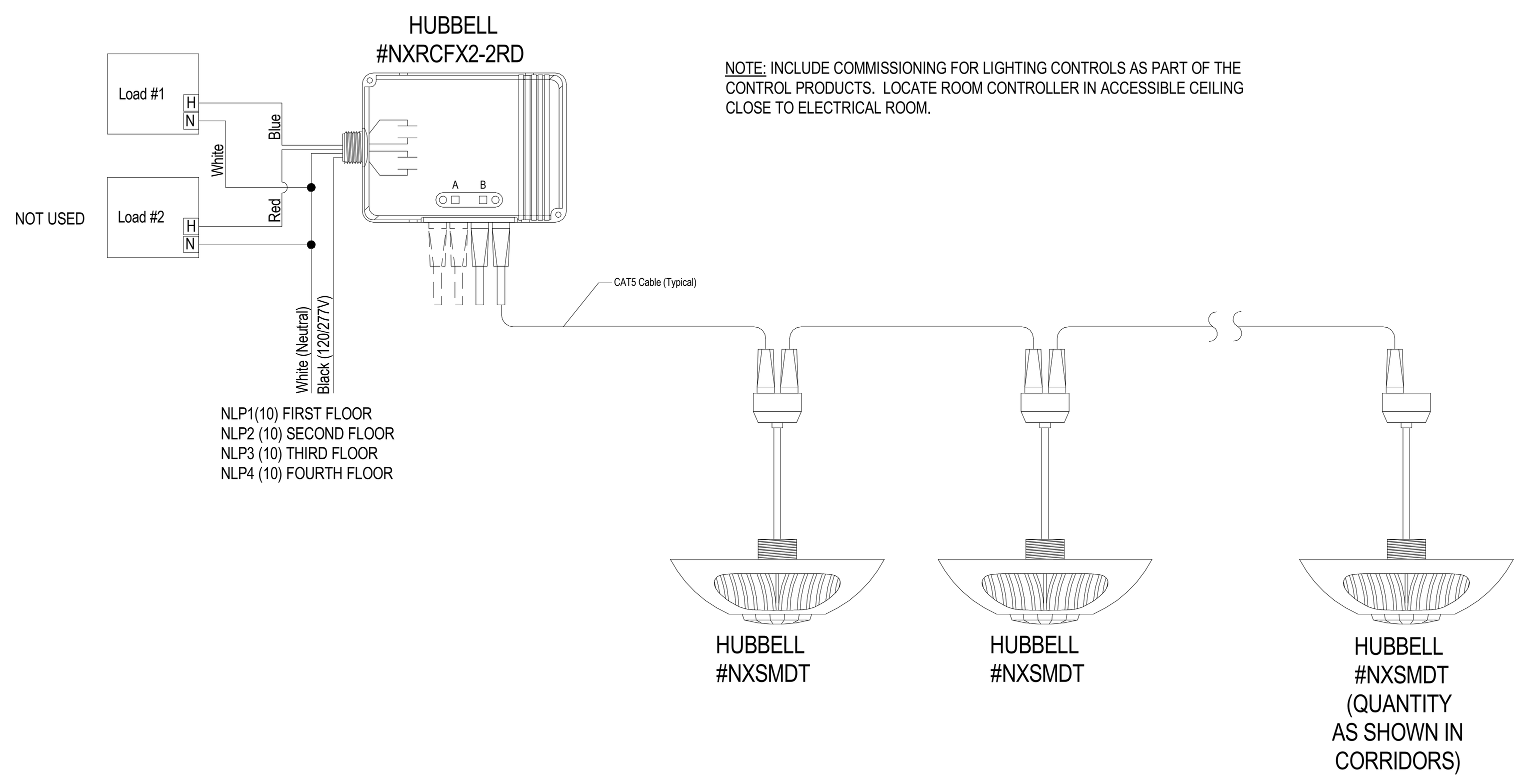
DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

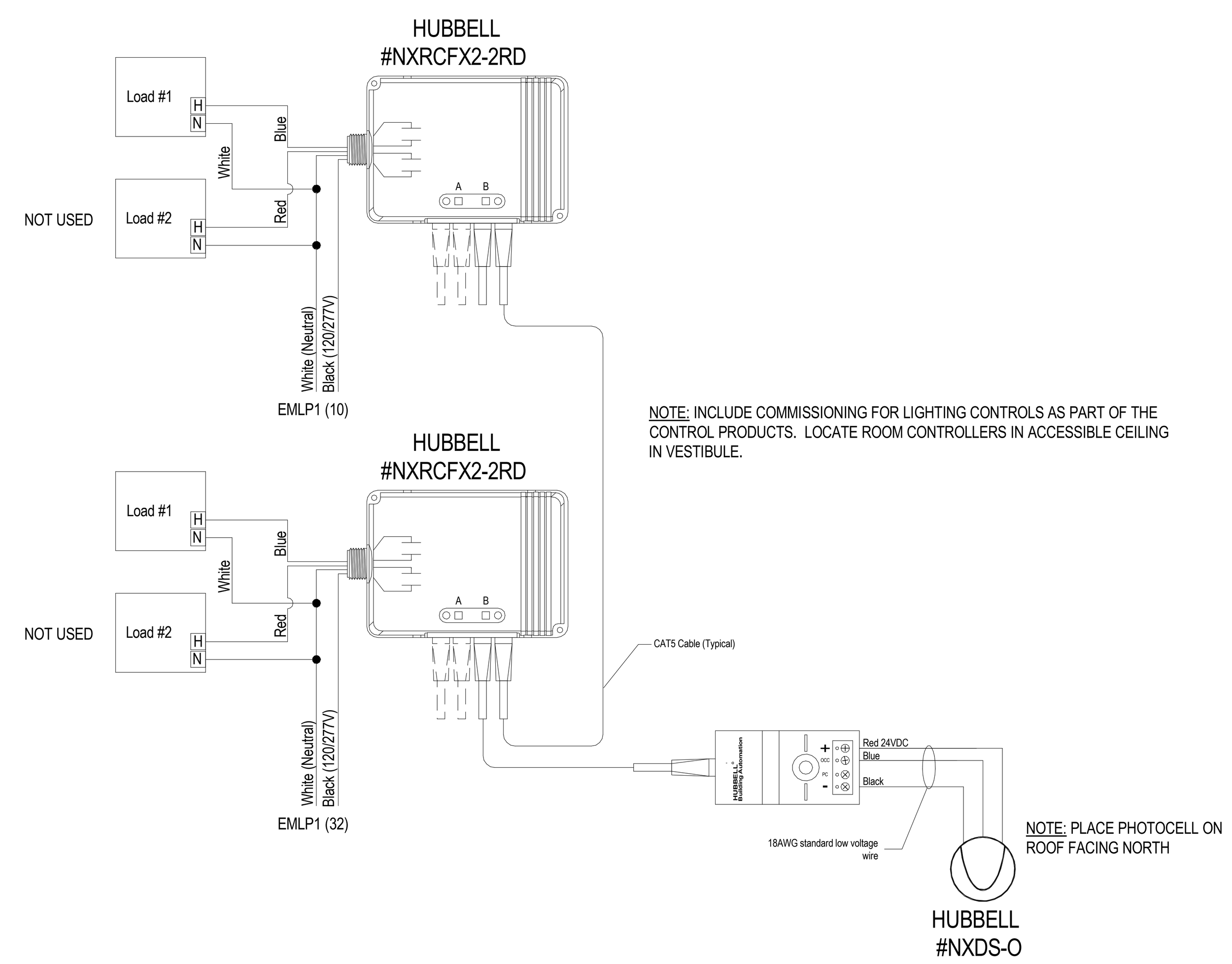
DRAWING TITLE
ELECTRICAL DETAILS

DATE: January 5, 2024
DRAWING E0.1
COMM. NO. 23104.00



CORRIDOR LIGHTING CONTROL DIAGRAM

(TYPICAL FOR EACH FLOOR)



EMERGENCY EXTERIOR LIGHTING CONTROL DIAGRAM

(CONTROLLING ALL "TYPE 7" FIXTURES AT ENTRY AND EXIT DOORS)

LUMINAIRE SCHEDULE

LUMINAIRE TYPE	DESCRIPTION			LAMPS					VOLTS	TOTAL CONNECTED WATTS	MOUNTING	FINISH	REMARKS
	LUMINAIRE DESCRIPTION	MANUFACTURER	LUM CATALOG NUMBER	QTY	TYPE	NOM. WATTS	INITIAL LUMENS	TEMP. COLOR (KELVINS)					
1	2X2 DIRECT/INDIRECT RECESSED. FIELD ADJUSTABLE LUMEN AND CCT SELECTORS. 0-10V DIMMABLE.	ORACLE LIGHTING	22 OEVHP LED 3000 DIM10 MVOLT 35K 85	1	LED	21	3178	3500	MVOLT	21	RECESSED		
2	6" LED DOWNLIGHT, CLEAR SPECULAR, 0-10V DIMMING	PRESCOLITE	HOUSING #LTR-6RD-H- ML- 25L DM1 NXE TRIM# LTR-6RD-T ML 30K9 WD S WT	1	LED	28	2500	3000	MVOLT	28	RECESSED	CLEAR SPECULAR WITH WHITE FLANGE	
3	4'-0"L LED STRIPLIGHT W/ FROSTED LENS	COLUMBIA	MPS 4 30 ML F W U	1	LED	40	4800	3000	MVOLT	40	SURFACE OR CHAIN	FROSTED LENS	
4	SURFACE MOUNT LED WALL BRACKET (STAIR) WITH INTEGRAL OCCUPANCY SENSOR OPTION	LITHONIA	WL4 30L EZ1 LP30 XADNS7 DIM10	1	LED	28	3952	3000	120/277	28	SURFACE	SURFACE WALL AT 7'-6" TO CL OF JBOX	LIGHT OUTPUT DIMS TO 10% IN UNOCCUPIED MODE. FIXTURES SHALL BE CAPABLE OF COMMUNICATION WITH NEIGHBORING FIXTURES TO ALLOW FOR ILLUMINATION OF ALL FIXTURES IN STAIRWELL UPON DETECTION OF MOVEMENT.
5	2'-0 LONG LED WALL MOUNT VAPORPROOF LED ELEVATOR PIT LIGHT ACRYLIC DIFFUSER	LITHONIA	DMW2 L24 4000LM MD AFL MVOLT GZ1 30K 80CRI	1	LED	40	5000	3000	120/277	40	SURFACE WALL	GASKETED VAPORPROOF	MOUNT FIXTURE AT APPROXIMATELY 5'-0" AG
6	7" ROUND LED SLIM SURFACE MOUNT DOWNLIGHT	ELITE LIGHTING	RL791-900L-DIMTR-120-30K-90-WH	1	LED	14	900	3000	120	14	SURFACE	WHITE	
7	EXTERIOR WALL PACK FOR EGRESS LIGHTING, DUAL DRIVERS	CURRENT	QSP2-160L-75-4K7-3-UNV-BLT-2PF	2	LED	72	9996	4000	120/277	72	SURFACE WALL AT 10'-0"AFG	BLACK	DUAL DRIVER. DUAL FEED PER CODE
X1	EDGE LIT LED EXIT SIGN. 2-CIRCUIT	LITHONIA	EDG-1 (OR 2)-RMR-X2	--	LED	2.5	N/A	N/A	120/277	2.5	UNIVERSAL, CEILING/WALL	MIRRORED FACE RED LETTERS	REFER TO LIGHTING FLOOR PLANS FOR # OF FACES AND DIRECTIONAL CHEVRONS. PROVIDE TWO CIRCUITS, ONE TO NORMAL LTG BRANCH CIRCUIT IN AREA THE OTHER TO THE EMERGENCY BRANCH CIRCUIT INDICATED.
X2	WHITE THERMOPLASTIC LED EXIT SIGN. 2-CIRCUIT	LITHONIA	LQM S W 3 R 120/277 X2	--	LED	2.5	N/A	N/A	120/277	2.5	UNIVERSAL, CEILING/WALL	RED LETTERS	REFER TO LIGHTING FLOOR PLANS FOR # OF FACES AND DIRECTIONAL CHEVRONS. PROVIDE TWO CIRCUITS, ONE TO NORMAL LTG BRANCH CIRCUIT IN AREA, THE OTHER TO THE EMERGENCY BRANCH CIRCUIT INDICATED.
X3	WET LOCATION LISTED LED EXIT SIGN. 2-CIRCUIT	LITHONIA	WLTE W 1 R	--	LED	5	N/A	N/A	120/277	5	UNIVERSAL, CEILING/WALL	RED LETTERS	REFER TO LIGHTING FLOOR PLANS FOR # OF FACES AND DIRECTIONAL CHEVRONS. PROVIDE EMERGENCY BRANCH CIRCUIT INDICATED.

NOTES - APPLY TO ALL LUMINAIRE SCHEDULES:

ALL DECORATIVE LIGHT FIXTURE FINISHES SHALL BE DETERMINED BY AND COORDINATED WITH INTERIOR DESIGNER.

COORDINATE THE FINISHED CEILING HEIGHTS WITH THE ARCHITECT/INTERIOR DESIGNER DRAWINGS FOR APPROPRIATE STEM LENGTHS OF PENDANT MOUNTED FIXTURES. NO FIXTURES SHALL EXTEND BELOW 7'-6" ABOVE FINISHED FLOOR, UNLESS SO DIRECTED BY ARCHITECT.

ALL EMERGENCY LIGHT FIXTURES AND EXIT SIGNS SHALL MEET N.F.P.A. LIFE SAEFTY REQUIREMENTS.

INTERIOR / EXTERIOR FIXTURES FINISHES' SUBJECT TO APPROVAL / CHANGE BY ARCHITECT. VERIFY PRIOR TO RELEASE OF ORDER AND SHOP DRAWING SUBMITTAL.

VERIFY NECESSARY MOUNTING TRIMS WITH ARCHITECTURAL REFLECTED CEILING PLAN FOR EXACT CEILING TYPES. PROVIDE FLANGE KITS FOR RECESSED LIGHTING WHERE NEEDED. PROVIDE ARLINGTON T-BOX FOR SUSPENDED CEILING T-GRID WHERE FIXTURES ARE MOUNTED AT T-GRID RAILS.

ELECTRICAL CONTRACTOR SHALL COORDINATE ALL INDUSTRIAL STRIP LIGHT FIXTURE IN ALL MECHANICAL ROOMS WITH MECHANICAL EQUIPMENT, DUCTWORK, PIPING, ETC. PRIOR TO ROUGH-IN AND FINAL INSTALLATION. LIGHT FIXTURES ARE TO BE ARRANGED TO PROVIDE THE SPACE WITH ADEQUATE LIGHTING FOR MECHANICAL EQUIPMENT ACCESS AND GENERAL EQUIPMENT MAINTENANCE.

DECORATIVE LUMINAIRE SCHEDULE

LUMINAIRE TYPE	DESCRIPTION			LAMPS					VOLTS	TOTAL CONNECTED WATTS	MOUNTING	FINISH	REMARKS
	LUMINAIRE DESCRIPTION	MANUFACTURER	LUM CATALOG NUMBER	QTY	TYPE	NOM. WATTS	INITIAL LUMENS	TEMP. COLOR (KELVINS)					
D1	30" DIA. IL CORRIDOR PENDANT.	LITETOPS	SS5-JKVC-DF10	3	GU24 LED	12	-	3000	120	36	PENDANT	STANDARD POWDER COAT BRONZE	ORDER WITH OPAL MATTE ACRYLIC DIFFUSER/ OFF WHITE LINEN/ CHOCOLATE TRIM. PROVIDE FIXTURE WITH DIMMABLE LED LAMPS COMPARABLE TO 60W INCANDESCENT
D2	1ST FLOOR VESTIBULES FLUSH MOUNT	ULTRALIGHT	CUSTOM CABLE HUNG DRUM PENDANT DF4	4	GU24 LED	12	-	3000	120	48	FLUSH MOUNT	STANDARD POWDER COAT FINISH W/ OPAL ACRYLIC DIFFUSER	PROVIDE FIXTURE WITH DIMMABLE LED LAMPS COMPARABLE TO 60W INCANDESCENT
D3	IL CORRIDOR DWELLING UNIT ENTRY WALL SCONCE	HUBBARDTON FORGE	BANDED SCONCE #205812-1074	1	A19 - LED	10	-	3000	120	10	SURFACE WALL	OIL RUBBED BRONZE	PROVIDE A ALLOWANCE OF $300 PER WALL SCONCE
D4	36" DIA. CHANDELIER AT TOP OF ATRIUM.	METROPOLITAN LIGHTNIG FIXTURE CO.	N6967-1-267B	5	E26 - MED LED	12	-	3000	120	60	PENDANT	CIMARRON BRONZE	PROVIDE FIXTURE WITH DIMMABLE LED LAMPS COMPARABLE TO 60W INCANDESCENT
D5	30" DIA LOUNGE PENDANTS. MOUNTED AT VARIOUS HEIGHTS INDICATED ON FLOOR PLANS.	METROPOLITAN LIGHTNIG FIXTURE CO.	N6965-1-267B	4	E26 - MED LED	12	-	3000	120	48	PENDANT	CIMARRON BRONZE	PROVIDE FIXTURE WITH DIMMABLE LED LAMPS COMPARABLE TO 60W INCANDESCENT
D6	24" DIA. 2ND & 4TH FLOOR LOUNGE PENDANT.	ULTRALIGHT	TAMBOUR 13223-24	3	LED	12	-	3000	120	30	PENDANT	CAST BRONZE W/ OPAL SHADE	PROVIDE FIXTURE WITH DIMMABLE LED LAMPS COMPARABLE TO 60W INCANDESCENT
D7	ATRIUM DECORATIVE WALL SCONCE	RENAISSANCE LIGHTING	RL-4-0708-ADA	1	LED	15	-	3000	120	15	SURFACE WALL	MEDIUM BRONZE PC W/ FROSTED WHITE ACRYLIC SHADE	PROVIDE FIXTURE WITH DIMMABLE LED LAMPS COMPARABLE TO 60W INCANDESCENT
D8	30" WIDE WALL FIXTURE DESIGNED AS A PICTURE LIGHT	HINKLEY	ARTI LARGE ADJUSTABLE ACCENT LIGHT ITEM # 47095HB	2	EE6/T14/LED	4.5	350	2700	120V	10	WALL PPICTURE LIGHT	HERITAGE BRASS	PICTURE LIGHT. VERIFY MOUNTING HEIGHT WITH INTERIORS PRIOR TO INSTALLATION.

RESIDENT DWELLING UNIT LUMINAIRE SCHEDULE

LUMINAIRE TYPE	DESCRIPTION			LAMPS					VOLTS	TOTAL CONNECTED WATTS	MOUNTING	FINISH	REMARKS
	LUMINAIRE DESCRIPTION	MANUFACTURER	LUM CATALOG NUMBER	QTY	TYPE	NOM. WATTS	INITIAL LUMENS	TEMP. COLOR (KELVINS)					
U1	6" LED WAFER DOWNLIGHT, DIMMABLE	COOPER LIGHTNIG	SLD606-9-30-WH	1	LED	13	800	3000	120	13	RECESSED CEILING	WHITE	
U2	BAHTROOM VANITY LIGHT WITH ETCHED GLASS SHADES	PROGRESS LIGHTNIG	P300160-009	3	LED - E26	7	-	3000	120	21	SURFACE WALL AT 7'-0" TO CL OF JBOX	BRUSHED NICKEL	PROVIDE DIMMABLE LED LAMPING EQUIVALENT TO 100W INCANDESCENT WITH FIXTURE. LOCATE ABOVE VANITY MIRROR.
U3	BEDROOM / DEN 54" 5 BLADE CEILING FAN W/ LIGHT KIT	HARBOR BREEZE	SAILOR BAY 52" BRUSHED NICKEL LED INDOOR DOWNROD	3	LED A15	7	-	3000	120	21	SURFACE	BRUSHED NICKEL	
U4	MINI-PENDANT ABOVE KITCHEN ISLAND	PROGRESS LIGHTNIG	P500125-009	1	LED-E26	16	-	3000	120	16	PENDANT, 5'-6" TO BOTTOM OF SHADE	BRUSHED NICKEL	PENDANT MOUNT OVER COUNTER - COORDINATE OAH WITH ARCHITECTURAL AND INTERIOR ELEVATIONS. PROVIDE DIMMABLE LED LAMPING EQUIVALENT TO 100W INCANDESCENT WITH FIXTURE. REFR TO ELEVATIONS FOR MTG. HT.
U5	4' LED STRIP WITH LENS	HE WILLIAMS	75S-4-L30-830-DIM-UNV	1	LED	19.6	2830	3000	120/277	19.6	SURFACE	WHITE	MOUNT FIXTURE ON CEILING DIRECTLY ABOVE DOOR IN SMALL CLOSETS, OTHER LOCATIONS AS SHOWN ON PLANS.
U6	FLUSH MOUNT IN DWELLING UNIT CORRIDOR	PROGRESS LIGHTNIG	P3852-09	2	LED-E26	16	-	3000	120	32	FLUSH MOUNT	BRUSHED NICKEL	PROVIDE WITH DIMMABLE LED LAMP
U7	4" LED RECESSED DOWNLIGHT-SHOWERLIGHT WITH FLUSH NON-CONDUCTIVE LENS	HE WILLIAMS	4DR-TL-L10-8-35-DIM1-UNV-S-W-OF-WH-AD-N-F1	1	LED	9	1000	3500	120	9	RECESSED	WHITE	STANDARD WITH AD DIFFUSE ACRYLIC LENS AND IP/WET STANDARD OPTION
U8	EXTERIOR LANTERN ON DWEELING UNIT PATIO/ BALCONY	PROGRESS LIGHTNIG	P6052-20	1	LED	10	-	3000	120	10	SURFACE WALL AT 7'-10" TO CTR OF JBOX ABOVE PATIO DOOR	BLACK	PROVIDE DIMMABLE LED LAMPING EQUIVALENT TO 100W INCANDESCENT WITH FIXTURE. INSTALL AT 6'-8" TO BOTTOM OF FIXTURE.
U9	2' LED STRIP WITH LENS	HE WILLIAMS	75S-2-L20-830-DIM-UNV	1	LED	14.5	1976	3000	120/277	14.5	SURFACE	WHITE	MOUNT FIXTURE ON WALL DIRECTLY ABOVE DOOR IN SMALL CLOSETS, OTHER LOCATIONS AS SHOWN ON PLANS.
U10	FLUSH MOUNT ABOVE DINING TABLE.	PROGRESS LIGHTNIG	P3852-09	2	LED-E26	16	-	3000	120	32	FLUSH MOUNT	BRUSHED NICKEL	PROVIDE WITH DIMMABLE LED LAMP
U11A	18" LED UNDERCABINET FIXTURE	ELITE LIGHTING	EU-LED-18-450L-DIMTR-120-30K-WH	1	LED	7	600	3000	120	7	UNDERCABINET	WHITE	DETERMINE WHICH LENGTH TO USE WITH THE WIDTH OF THE UPPER CABINET
U11B	12" LED UNDERCABINET FIXTURE	ELITE LIGHTING	EU-LED-12-450L-DIMTR-120-30K-WH	1	LED	4.6	450	3000	120	5	UNDERCABINET	WHITE	DETERMINE WHICH LENGTH TO USE WITH THE WIDTH OF THE UPPER CABINET

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. KIDWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

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DESIGNER : DAS		DRAWN : MAW, DKW	
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NO.	REVISION DESCRIPTION		DATE

DRAWING TITLE

LUMINAIRE SCHEDULES & LIGHTING CONTROLS DETAILS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING E0.2

MECHANICAL & PLUMBING EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

Load Name	Description	Load (VA)	Voltage	# of Poles	Wire Size	Conduit Size	# of Runs	Disconnect	Panel	Circuit Number	Rating	Remarks
CP-1	CIRCULATION PUMP	528 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	2P, 30A, 240V, DISCONNECT SWITCH IN NEMA 1 ENCLOSURE.	NLDP1	36	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
EF-1 (UNIT B)	EXHAUST FAN	80 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	LC-B	20	20 A	THIS EXHAUST FAN IS CIRCUITED TO UNIT TYPE B THIS INFORMATION IS TYPICAL FOR THE EF-1 SERVING DWELLING UNITS #E114, E123, E124, E214, E223, E224, E314, E323, E324, E414, E423 & E424 ALL FED FROM THEIR OWN LC-B LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
EF-1 (UNIT C)	EXHAUST FAN	160 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	LC-C	22	20 A	THIS EXHAUST FAN IS CIRCUITED TO UNIT TYPE C THIS INFORMATION IS TYPICAL FOR THE EF-1 SERVING DWELLING UNITS #E116, E119, E121, E122, E132, E133, E216, E219, E221, E222, E232, E233, E316, E319, E321, E322, E332, E333, E416, E419, E421, E422, E432 & E433 ALL FED FROM THEIR OWN LC-C LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
EF-1 (UNIT D1)	EXHAUST FAN	160 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	LC-D1	22	20 A	THIS EXHAUST FAN IS CIRCUITED TO UNIT TYPE D1 THIS INFORMATION IS TYPICAL FOR THE EF-1 SERVING DWELLING UNITS #E134, E135, E234, E235, E334, E335, E434 & E435 ALL FED FROM THEIR OWN LC-D1 LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VERIFY LOCATION AND CONN
EF-1 (UNIT D2)	EXHAUST FAN	160 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	LC-D2	22	20 A	THIS EXHAUST FAN IS CIRCUITED TO UNIT TYPE D2 THIS INFORMATION IS TYPICAL FOR THE EF-1 SERVING DWELLING UNITS #E111, E211, E311, E411 ALL FED FROM THEIR OWN LC-D2 LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VE
EF-1 (UNIT D3)	EXHAUST FAN	160 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	LC-D3	22	20 A	THIS EXHAUST FAN IS CIRCUITED TO UNIT TYPE D3 THIS INFORMATION IS TYPICAL FOR THE EF-1 SERVING DWELLING UNITS #E112, E212, E312, E412 ALL FED FROM THEIR OWN LC-D3 LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VE
EF-2 (RES. CLOSET #E302)	EXHAUST FAN	528 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	NLDP3	25	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
EF-2 (RES. CLOSET #E402)	EXHAUST FAN	528 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	NLDP4	36	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
EWH-1 (STAIRWELL #1 , 4TH FLOOR)	ELECTRIC WALL HEATER	3000 VA	208 V	2	2-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	NLP4	9,11	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
EWH-1 (STAIRWELL #1, 1ST FLOOR)	ELECTRIC WALL HEATER	3000 VA	208 V	2	2-#10, 1-#10, 1-#10	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	NLDP1	30,32	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
EWH-1 (STAIRWELL #2, 4TH FLOOR)	ELECTRIC WALL HEATER	3000 VA	208 V	2	2-#10, 1-#10, 1-#10	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	NLP4	13,15	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
EWH-1 (STAIRWELL #2, 1ST FLOOR)	ELECTRIC WALL HEATER	3000 VA	208 V	2	2-#10, 1-#10, 1-#10	3/4"	1	MANUFACTURER PROVIDED NON-FUSED DISCONNECT SWITCH.	NLDP1	26,31	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
F-1 (IL - ROOF)	EXHAUST FAN	700 VA	120 V	1	1-#10, 1-#10, 1-#10	3/4"	1	MANUFACTURER PROVIDED DISCONNECT SWITCH.	NLDP4	25	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
F-2 (ATRIUM ROOF)	EXHAUST FAN	528 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	MANUFACTURER PROVIDED DISCONNECT SWITCH.	NLDP4	27	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
RTU-1	ROOF TOP UNIT (DX COOLING & NAT GAS HEAT	25560 VA	208 V	3	3-#3, 1-#3, 1-#8	1"	1	3P, 80A, 240V, DISCONNECT SWITCH IN NEMA 3R ENCLOSURE.	NLDP4	29,31,33	90 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
RTU-2	ROOF TOP UNIT (DX COOLING & NAT GAS HEAT	25560 VA	208 V	3	3-#3, 1-#3, 1-#8	1"	1	3P, 80A, 240V, DISCONNECT SWITCH IN NEMA 3R ENCLOSURE.	NLDP4	30,32,34	90 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
RTU-3	ROOF TOP UNIT (DX COOLING & NAT GAS HEAT	39880 VA	208 V	3	3-#3, 1-#3, 1-#6	1"	1	3P, 150A, 240V, DISCONNECT SWITCH IN NEMA 3R ENCLOSURE.	NLDP4	35,37,39	110 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
SEVF-1	SMOKE EXHAUST FAN	2746 VA	208 V	3	3-#12, 1-#12, 1-#12	1"	1	MANUFACTURER PROVIDED DISCONNECT SWITCH AND VFD	EMLP1	9,11,13	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN. VFD LOCATED IN MEP ROOM E118
SP-1	SUMP PUMP	1176 VA	120 V	1	1-#8, 1-#8, 1-#8	3/4"	1	12P, 30A, 240V, DISCONNECT SWITCH IN NEMA 3R ENCLOSURE.	NLDP1	25	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
SP-2	SUMP PUMP	1176 VA	120 V	1	1-#10, 1-#10, 1-#10	3/4"	1	1P, 30A, 240V, DISCONNECT SWITCH IN NEMA 3R ENCLOSURE.	NLDP1	27	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
TMV-1 (CONTROLS)	THERMOSTATIC MIXING VALVE	240 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	JUNCTION BOX	NLDP1	34	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
VPTAC-1 (UNIT B)	VERTICAL PACKAGED TERMINAL AIR CONDITIONER UNITS (THRU WALL)	7280 VA	208 V	2	2-#8, 1-#8, 1-#10	1"	1	2P, 30A, 240V, DISCONNECT SWITCH IN NEMA 1 ENCLOSURE.	LC-B	19,21	40 A	THIS PTAC IS CIRCUITED TO UNIT TYPE B THIS INFORMATION IS TYPICAL FOR THE VPTAC-1 SERVING DWELLING UNITS #E114, E123, E124, E214, E223, E224, E314, E323, E324, E414, E423 & E424 ALL FED FROM THEIR OWN LC-B LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
VPTAC-2 (UNIT C)	VERTICAL PACKAGED TERMINAL AIR CONDITIONER UNITS (THRU WALL)	7280 VA	208 V	2	2-#8, 1-#8, 1-#10	1"	1	2P, 30A, 240V, DISCONNECT SWITCH IN NEMA 1 ENCLOSURE.	LC-C	21,23	40 A	THIS PTAC IS CIRCUITED TO UNIT TYPE C THIS INFORMATION IS TYPICAL FOR THE VPTAC-2 SERVING DWELLING UNITS #E116, E119, E121, E122, E132, E133, E216, E219, E221, E222, E232, E233, E316, E319, E321, E322, E332, E333, E416, E419, E421, E422, E432 & E433 ALL FED FROM THEIR OWN LC-C LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
VPTAC-3 (UNIT D1)	VERTICAL PACKAGED TERMINAL AIR CONDITIONER UNITS (THRU WALL)	9568 VA	208 V	2	2-#6, 1-#6, 1-#10	1"	1	2P, 30A, 240V, DISCONNECT SWITCH IN NEMA 1 ENCLOSURE.	LC-D1	21,23	50 A	THIS PTAC IS CIRCUITED TO UNIT TYPE D1 THIS INFORMATION IS TYPICAL FOR THE VPTAC-3 SERVING DWELLING UNITS #E134, E135, E234, E235, E334, E335, E434 & E435 ALL FED FROM THEIR OWN LC-D1 LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VERIFY LOCATION AND CONNECTI
VPTAC-3 (UNIT D2)	VERTICAL PACKAGED TERMINAL AIR CONDITIONER UNITS (THRU WALL)	9568 VA	208 V	2	2-#6, 1-#6, 1-#10	1"	1	2P, 30A, 240V, DISCONNECT SWITCH IN NEMA 1 ENCLOSURE.	LC-D2	21,23	50 A	THIS PTAC IS CIRCUITED TO UNIT TYPE D2 THIS INFORMATION IS TYPICAL FOR THE VPTAC-3 SERVING DWELLING UNITS #E111, E211, E311 & E411 ALL FED FROM THEIR OWN LC-D2 LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
VPTAC-3 (UNIT D3)	VERTICAL PACKAGED TERMINAL AIR CONDITIONER UNITS (THRU WALL)	9568 VA	208 V	2	2-#6, 1-#6, 1-#10	1"	1	2P, 30A, 240V, DISCONNECT SWITCH IN NEMA 1 ENCLOSURE.	LC-D3	21,23	50 A	THIS PTAC IS CIRCUITED TO UNIT TYPE D3 THIS INFORMATION IS TYPICAL FOR THE VPTAC-3 SERVING DWELLING UNITS #E112, E212, E312, E412 ALL FED FROM THEIR OWN LC-D3 LOAD CENTERS SHOWN ON ENLARGED UNIT PLANS. VE
WTR-HTR-1 (CONTROLS)	WATER HEATER	240 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	JUNCTION BOX	NLDP1	33	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
WTR-HTR-2 (CONTROLS)	WATER HEATER	240 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	JUNCTION BOX	NLDP1	35	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
WTR-HTR-3 (CONTROLS)	WATER HEATER	240 VA	120 V	1	1-#12, 1-#12, 1-#12	3/4"	1	JUNCTION BOX	NLDP1	37	20 A	VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. WHELAN
NUMBER E-25237
PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

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DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

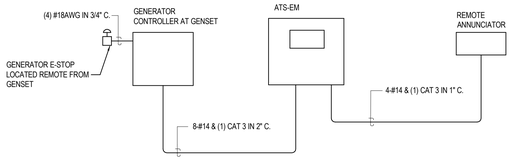
DRAWING TITLE

MECHANICAL & PLUMBING EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

DATE: January 5, 2024

COMM. NO. 23104.00

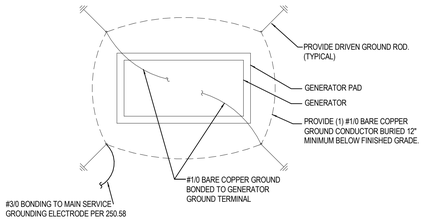
DRAWING E0.3



NOTE: CONFIRM NUMBER OF REQUIRED MONITOR/CONTROL WIRES AND CABLES WITH GENERATOR SUPPLIER.

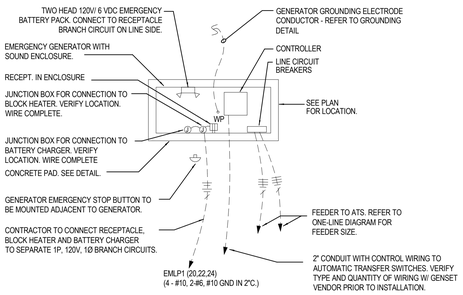
3 GENERATOR MONITOR/ CONTROL WIRING DIAGRAM

SCALE: NONE



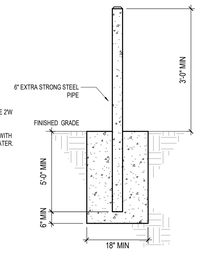
4 GENERATOR GROUNDING DETAIL

SCALE: NONE



5 GENERATOR INSTALLATION DETAIL

SCALE: NONE

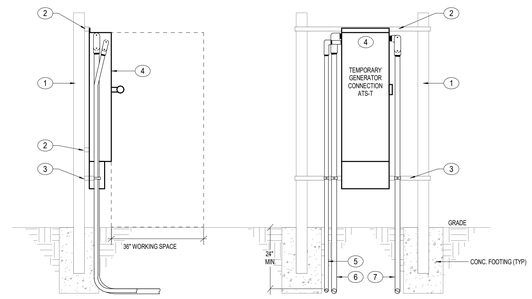


NOTES:

1. HOLES FOR STEEL PIPE MAY BE DUG ROUND OR SQUARE 2W X 3D.
2. 6"OF EXTRA STRONG SCH. 40 STEEL PIPE TO BE FILLED WITH CONCRETE AND ROUNDED OFF AT THE TOP TO SHED WATER.
3. (2)COATS GALV. PRIME, THEN GALV. PAINT (2) COATS OF BRIGHT YELLOW.

2 PROTECTIVE BOLLARD INSTALLATION

1/2" = 1'-0"



LEFT SIDE VIEW

FRONT VIEW

EQUIPMENT ELEVATION DETAILS GENERAL NOTES:

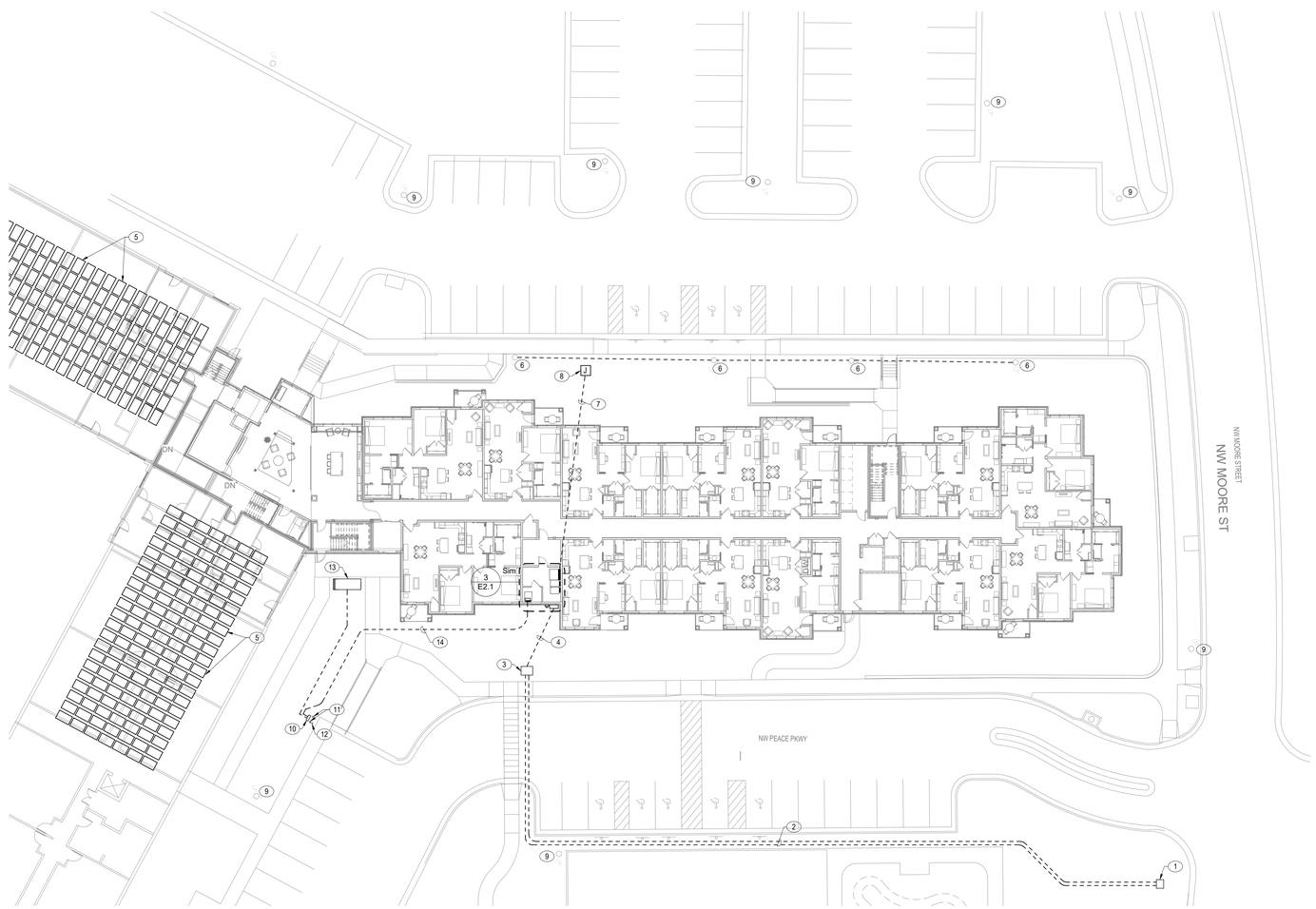
GRSC EXPOSED OUTSIDE AND SCHEDULE 40 PVC BELOW GRADE.

EQUIPMENT ELEVATION DETAILS PLAN NOTES:

1. MINIMUM 4" GALVANIZED STRUCTURAL STEEL CHANNEL OR 4" RIGID GALVANIZED CONDUIT.
2. 1-5/8" 12 GAUGE, SLOTTED BACK, GALVANIZED-ZINC UNISTRUT.
3. (2) STACKED 1-5/8", 12 GAUGE, SLOTTED BACK, GALVANIZED-ZINC UNISTRUT WITH CONDUIT STRAPS.
4. PROVIDE EATON #DT403JRKGNLC-F.I.X. MANUAL TRANSFER SWITCH WITH CAM LOCKS FOR CONNECTION OF TEMPORARY EMERGENCY SYSTEM GENERATOR, 100A, 4P, 240V, NEMA 3R.
5. 1" C. GRSC WITH STEEL THREADED TYPE CONNECTORS AND PVC SCH. 40. FOR COMMUNICATION CABLES.
6. GRSC WITH STEEL THREADED TYPE CONNECTORS AND PVC SCH. 40. FEEDER TO GENERATOR.
7. GRSC WITH STEEL THREADED TYPE CONNECTORS AND PVC SCH. 40. FEEDER TO BUILDING.

1 QUICK-CONNECT ELEVATION

12" = 1'-0"



3 ELECTRICAL SITE PLAN

E0.4 1" = 20'-0"

GENERAL NOTES

PLAN NOTES #

1. EXISTING UTILITY PAD MOUNTED SWITCH
2. TWO (2) 4" SCH. 40 PVC FOR PRIMARY PROVIDED AND INSTALLED BY UTILITY.
3. PAD MOUNTED UTILITY SERVICE TRANSFORMER PROVIDED AND INSTALLED BY UTILITY. E.C. TO PROVIDE AND INSTALL CONCRETE TRANSFORMER PAD PER UTILITY REQUIREMENTS.
4. UNDERGROUND SERVICE LATERAL. – 4 SETS OF (4 - #500 KCMIL ALUMINUM IN 3 ½"C.)
5. EXISTING SOLAR ARRAY AND DISTRIBUTION ON EXISTING BUILDING ROOF TO BE RELOCATED OR REMOVE.
6. TO BE RELOCATED. PROVIDE NEW UNDERGROUND WIRING AND RECONNECT TO EXISTING CIRCUIT.
7. PROVIDE AND INSTALL TWO (2) 2" SCH 40 PVC WITH PULL STRING FROM PANEL NLDP1 TO PULLBOX
8. PROVIDE AND INSTALL 12"X12" PULLBOX FOR FUTURE EXPANSION.
9. EXISTING LIGHTING POLES TO REMAIN.
10. ROLL-UP TEMPORARY GENERATOR CONNECTION CABINET ON STRUT FRAME. REF: ONE-LINE DIAGRAM, E4.1, AND DETAIL ON THIS SHEET
11. PROTECTIVE BOLLARD. REF: ONE-LINE DIAGRAM AND DETAIL ON THIS SHEET
12. GENERATOR EMERGENCY STOP BUTTON. TAMPER RESISTANT. MOUNTED AT 48"AFF ADJACENT TO OPENING OF GENERATOR DOOR. INTERFACE WITH GENERATOR CONTROLS TO SHUT GENERATOR DOWN WHEN OPERATED.
13. 125 KW EMERGENCY GAS GENERATOR SET WITH CONCRETE PAD. REFER TO DETAILS ON THIS SHEET FOR ADDITIONAL GENERATOR RELATED CONNECTIONS, DETAILS AND INFORMATION. REFER TO ONE-LINE DIAGRAM SHEET E4.1

    UNDERGROUND FEEDER FROM EMERGENCY GAS
14. GENERATOR TO ATS-EM IN ELEC. ROOM #E120. INSTALL 36" BELOW GRADE. REFER TO ONE-LINE DIAGRAM SHEET E4.1.

PERMIT SET

STATE OF MISSOURI
JAMES S. WHELAN
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

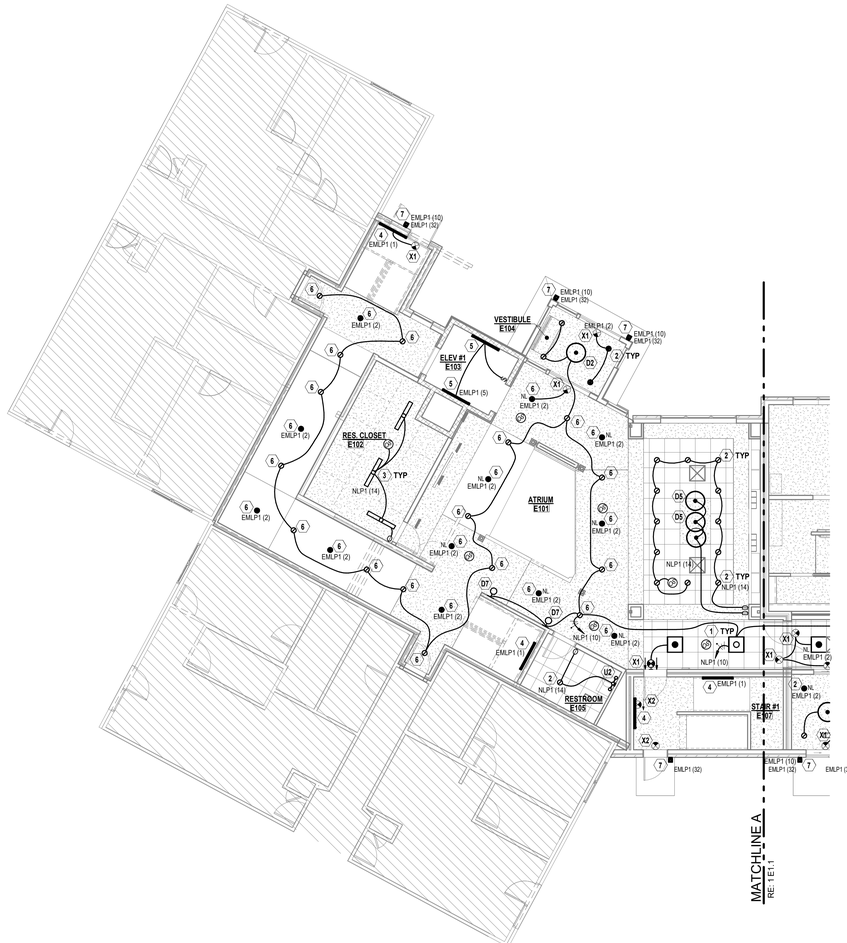
DRAWING TITLE

ELECTRICAL SITE PLAN

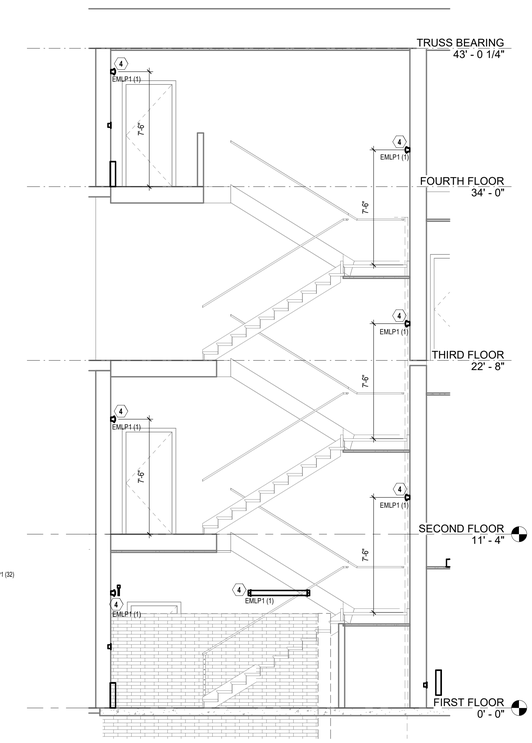
DATE: January 5, 2024

COMM. NO. 23104.00

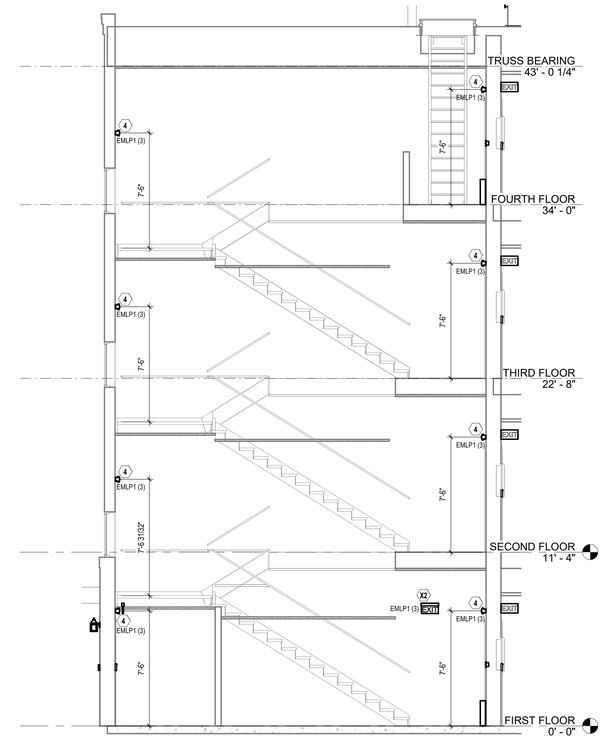
DRAWING E0.4



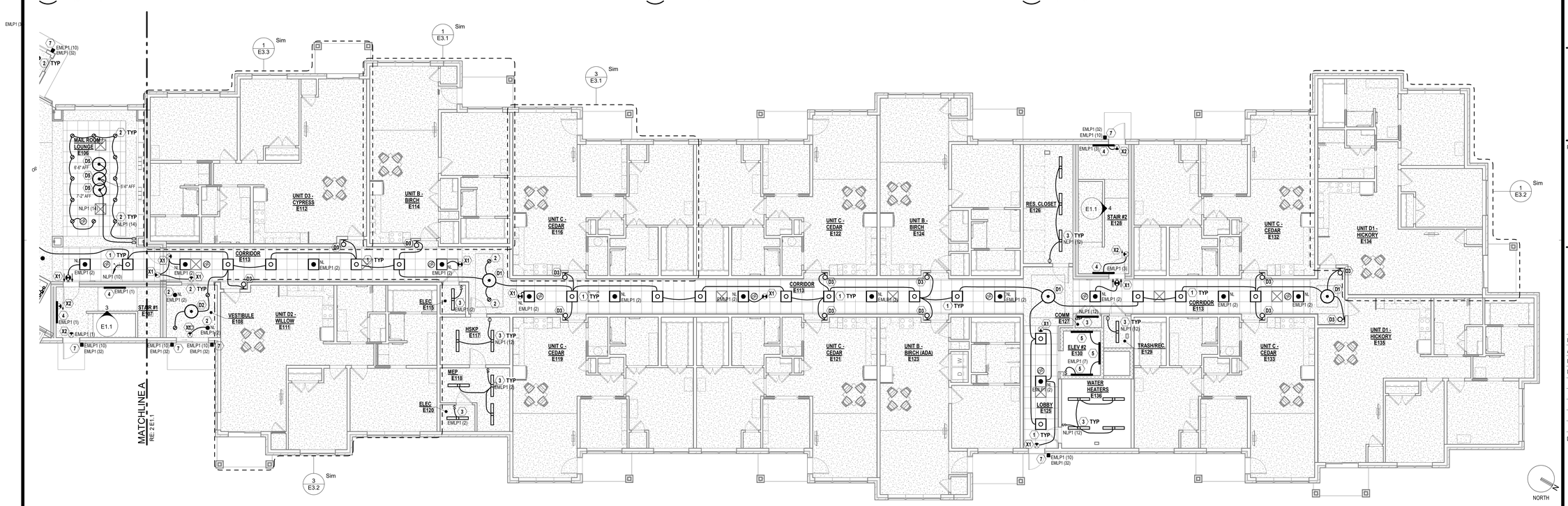
2 FIRST FLOOR ATRIUM - LIGHTING
E1.1 1/8" = 1'-0"



3 STAIRWELL #1 - LIGHTING ELEVATION
E1.1 1/4" = 1'-0"

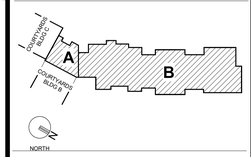


4 STAIRWELL #2 - LIGHTING ELEVATION
E1.1 1/4" = 1'-0"



1 FIRST FLOOR IL UNITS - LIGHTING
E1.1 1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. SHADED LUMINAIRE OR (E) TAG INDICATES LUMINAIRE EQUIPPED WITH EMERGENCY BATTERY BACKUP OR CONNECTED TO EMERGENCY BRANCH CIRCUIT.
B. COMMON AREAS, CORRIDOR SPACES SHALL BE CONTROLLED VIA LIGHTING CONTROL PANEL.
C. ALL EXIT SIGNS SHALL BE TWO (2) CIRCUIT TYPE UON. CONNECT EXIT SIGNS TO EMERGENCY CIRCUIT INDICATED AS WELL AS TO LOCAL "NORMAL" BRANCH CIRCUIT. "NORMAL" CIRCUIT CONNECTED TO EMERGENCY EXIT SIGNS SHALL BE UNSWITCHED. CONNECT EXIT SIGNS AHEAD OF LIGHT SWITCH AND EXTEND ADDITIONAL "HOT" CONDUCTOR TO KEEP DEVICES UNSWITCHED
D. COORDINATE WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND CASEWORK DETAILS FOR LOCATIONS OF UNDERCABINET LIGHTING. PROVIDE FIXTURES WITH LOCAL WALL SWITCH.
E. COORDINATE LUMINAIRE PLACEMENT WITH ARCHITECTURAL PLANS AND OTHER TRADES.
F. COORDINATE LUMINAIRE TYPE AND ACCESSORIES FOR INSTALLATION IN CEILING TYPES SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS.
G. LUMINAIRES SHALL BE CONTROLLED BY SWITCHES SHOWN IN EACH SPACE AND CONNECTED TO LIGHTING PANELS WITH THE REQUIRED QUANTITY OF WIRES FOR PROPER OPERATION.
H. LUMINAIRES INDICATED WITH MULTI-LEVEL SWITCHING SHALL HAVE SIMILAR LAMPS CONTROLLED TOGETHER, I.E. INBOARD AND OUTBOARD LAMPS OR RIGHT AND LEFT HAND LAMPS.
I. CONNECT EXIT LIGHTS, EMERGENCY BATTERIES, AND NIGHT LIGHTS TO UNSWITCHED LEG OF CIRCUIT. THE UNSWITCHED LEG SHALL BYPASS ANY LIGHTING CONTROL DEVICES INCLUDING RELAYS, SWITCHES, OCCUPANCY SENSORS, OR DAYLIGHT CONTROL DEVICES.
J. TEST SWITCHES FOR EMERGENCY BATTERIES SHALL BE INTEGRAL TO LUMINAIRE. COORDINATE WITH SUPPLIER AS FACTORY INSTALLED BATTERIES MAY BE NECESSARY TO MEET THIS REQUIREMENT.
K. LOCATE EXIT SIGNS FOR MAXIMUM VIEWING AREA TO IDENTIFY EGRESS PATHS AS INDICATED ON PLANS. COORDINATE LOCATIONS SUCH THAT ARCHITECTURAL FEATURES OR EQUIPMENT FROM OTHER TRADES DO NOT OBSTRUCT VIEW.
L. INSTALL SWITCHES AND OTHER CONTROL DEVICES WITHIN 12" OF LATCH SIDE OF DOOR, SIDELIGHT, OR DOOR SWING IN OPEN POSITION. DO NOT INSTALL DEVICES BEHIND DOOR SWING. COORDINATE WITH ACTUAL DOOR ASSEMBLY PRIOR TO ROUGH-IN.
M. LOCATE OCCUPANCY SENSORS FOR MAXIMUM COVERAGE AND TO LIMIT FALSE TRIPPING. FOLLOW MANUFACTURER'S RECOMMENDATIONS FOR ALLOWABLE PROXIMITY TO MECHANICAL DIFFUSERS.
N. INSTALL POWER PACKS OR OTHER CONTROL RELAYS ABOVE ACCESSIBLE CEILINGS. LABEL DEVICE AND AREA CONTROLLED.
O. LOCATE PHOTOCELLS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS FOR OPTIMAL RESPONSE TO NATURAL LIGHT IN SPACE AND TO MINIMIZE FALSE READINGS.
P. ADJUST SENSITIVITY, COVERAGE AREA, AND TIME DELAY FOR LIGHTING CONTROL DEVICES DURING CONSTRUCTION. PROVIDE FOLLOW UP VISIT THREE WEEKS AFTER OWNER HAS OCCUPIED SPACE TO MAKE ADDITIONAL ADJUSTMENTS TO ACCOUNT FOR FURNITURE LAYOUTS AND USER INPUT.
Q. COORDINATE WITH MECHANICAL CONTRACTOR FOR INTEGRATION OF OCCUPANCY SENSORS WITH MECHANICAL SYSTEM CONTROLS. PROVIDE ADDITIONAL RELAYS AS REQUIRED.
R. RECESSED LUMINAIRES SHALL BE SECURED SUCH THAT THE FORCE REQUIRED TO INSERT LAMPS, TRIMS, LENSES, LOUVERS, OR DOOR FRAMES DOES NOT SHIFT HOUSING.

PLAN NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. WHITLOW
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
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DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

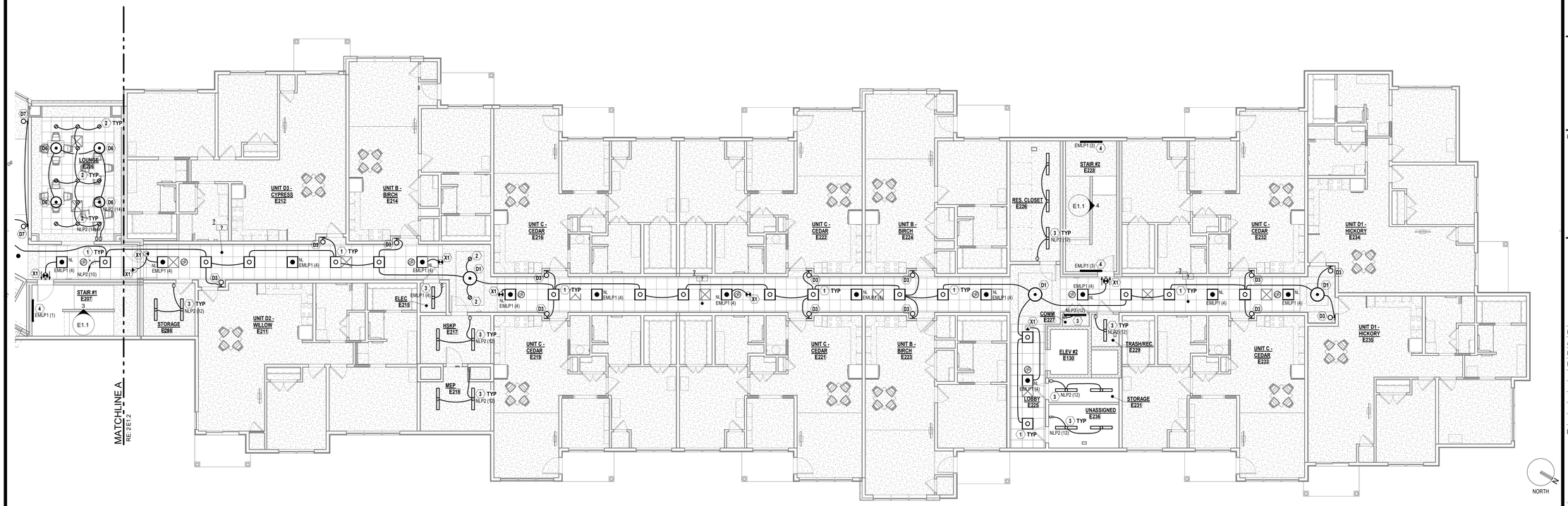
FIRST FLOOR PLAN - LIGHTING

DATE: January 5, 2024

COMM. NO. 23104.00

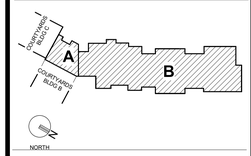
DRAWING E1.1

2 SECOND FLOOR ATRIUM - LIGHTING
E1.2 1/8" = 1'-0"



1 SECOND FLOOR IL UNITS - LIGHTING
E1.2 1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. SHADED LUMINAIRE OR (E) TAG INDICATES LUMINAIRE EQUIPPED WITH EMERGENCY BATTERY BACKUP OR CONNECTED TO EMERGENCY BRANCH CIRCUIT.
B. COMMONS AREAS, CORRIDOR SPACES SHALL BE CONTROLLED VIA LIGHTING CONTROL PANEL.
C. ALL EXIT SIGNS SHALL BE TWO (2) CIRCUIT TYPE UON. CONNECT EXIT SIGNS TO EMERGENCY CIRCUIT INDICATED AS WELL AS TO LOCAL "NORMAL" BRANCH CIRCUIT. "NORMAL" CIRCUIT CONNECTED TO EMERGENCY EXIT SIGNS SHALL BE UNSWITCHED. CONNECT EXIT SIGNS AHEAD OF LIGHT SWITCH AND EXTEND ADDITIONAL "HOT" CONDUCTOR TO KEEP DEVICES UNSWITCHED
D. COORDINATE WITH ARCHITECTURAL FLOOR PLANS, ELEVATIONS AND CASEWORK DETAILS FOR LOCATIONS OF UNDERCABINET LIGHTING. PROVIDE FIXTURES WITH LOCAL WALL SWITCH.
E. COORDINATE LUMINAIRE PLACEMENT WITH ARCHITECTURAL PLANS AND OTHER TRADES.
F. COORDINATE LUMINAIRE TYPE AND ACCESSORIES FOR INSTALLATION IN CEILING TYPES SHOWN ON ARCHITECTURAL REFLECTED CEILING PLANS.
G. LUMINAIRES SHALL BE CONTROLLED BY SWITCHES SHOWN IN EACH SPACE AND CONNECTED TO LIGHTING PANELS WITH THE REQUIRED QUANTITY OF WIRES FOR PROPER OPERATION.
H. LUMINAIRES INDICATED WITH MULTI-LEVEL SWITCHING SHALL HAVE SIMILAR LAMPS CONTROLLED TOGETHER, I.E. INBOARD AND OUTBOARD LAMPS OR RIGHT AND LEFT HAND LAMPS.
I. CONNECT EXIT LIGHTS, EMERGENCY BATTERIES, AND NIGHT LIGHTS TO UNSWITCHED LEG OF CIRCUIT. THE UNSWITCHED LEG SHALL BYPASS ANY LIGHTING CONTROL DEVICES INCLUDING RELAYS, SWITCHES, OCCUPANCY SENSORS, OR DAYLIGHT CONTROL DEVICES.
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PLAN NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. HOWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER : DAS	DRAWN : MAW, DKW
ARCHITECT : DAS	CHECKED : MAW
ENGINEER : MAW	APPROVED : JSK

NO.	REVISION DESCRIPTION	DATE

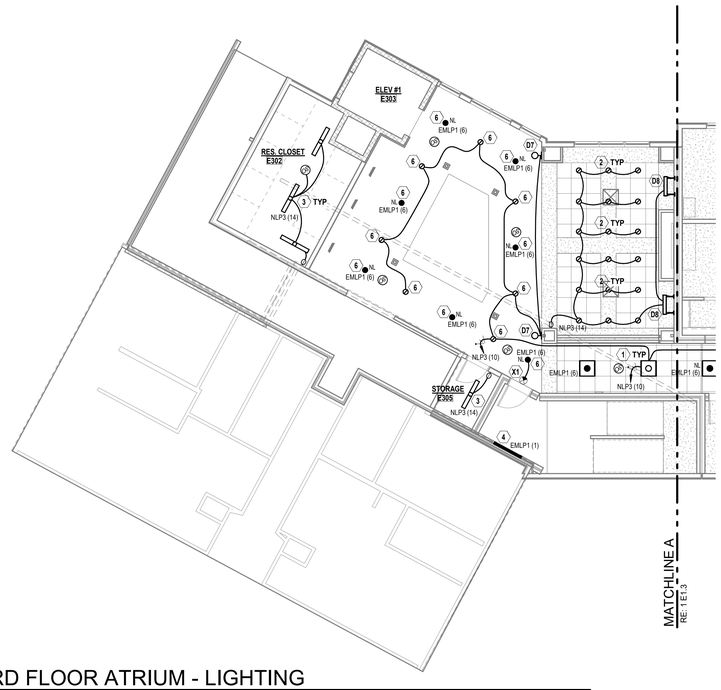
DRAWING TITLE

SECOND FLOOR PLAN - LIGHTING

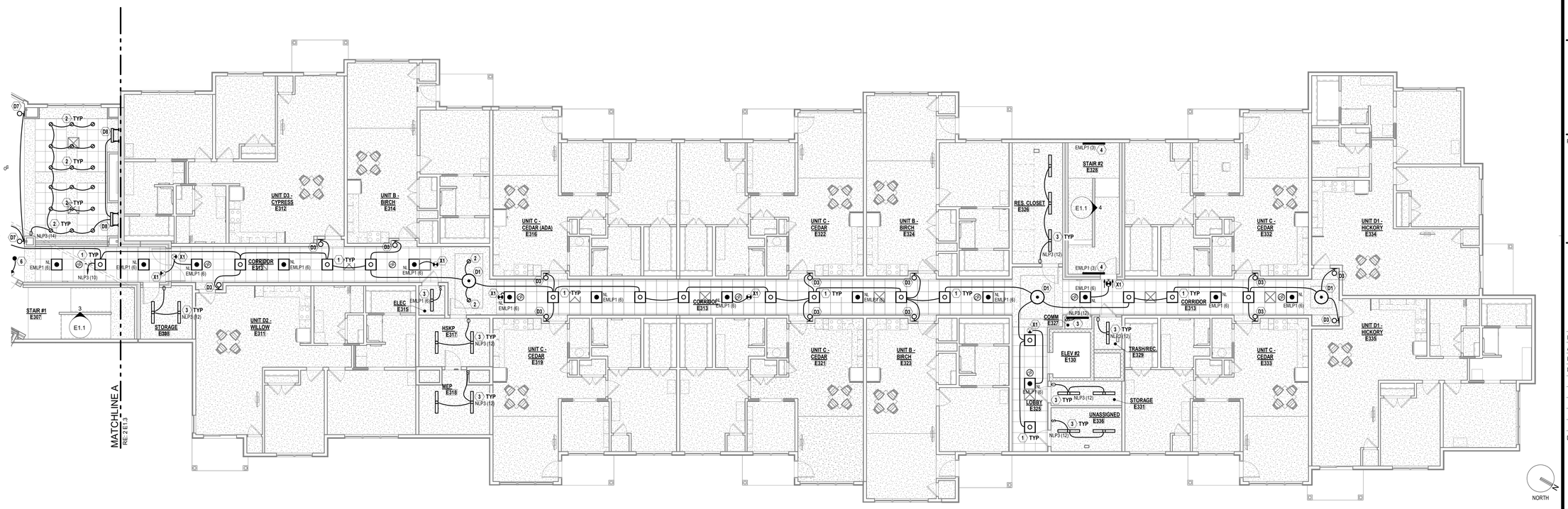
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING E1.2

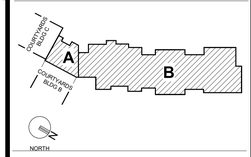


2 E1.3 THIRD FLOOR ATRIUM - LIGHTING
1/8" = 1'-0"



1 E1.3 THIRD FLOOR IL UNITS - LIGHTING
1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

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PLAN NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. KIRKWOOD
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
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Roanoke, Virginia 24011.2003
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DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

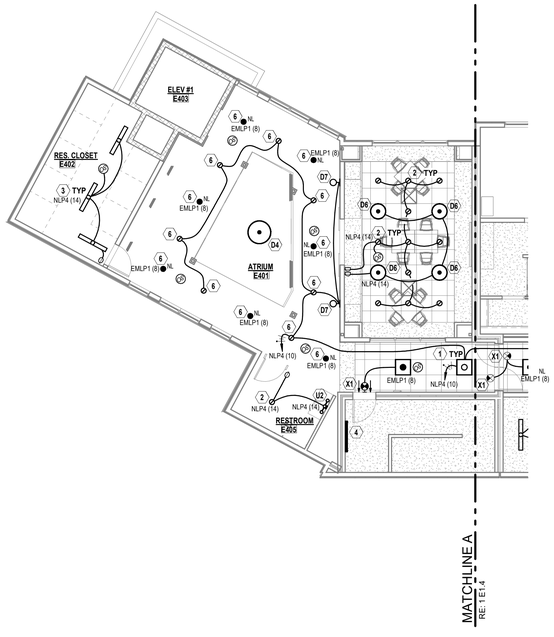
DRAWING TITLE

THIRD FLOOR PLAN - LIGHTING

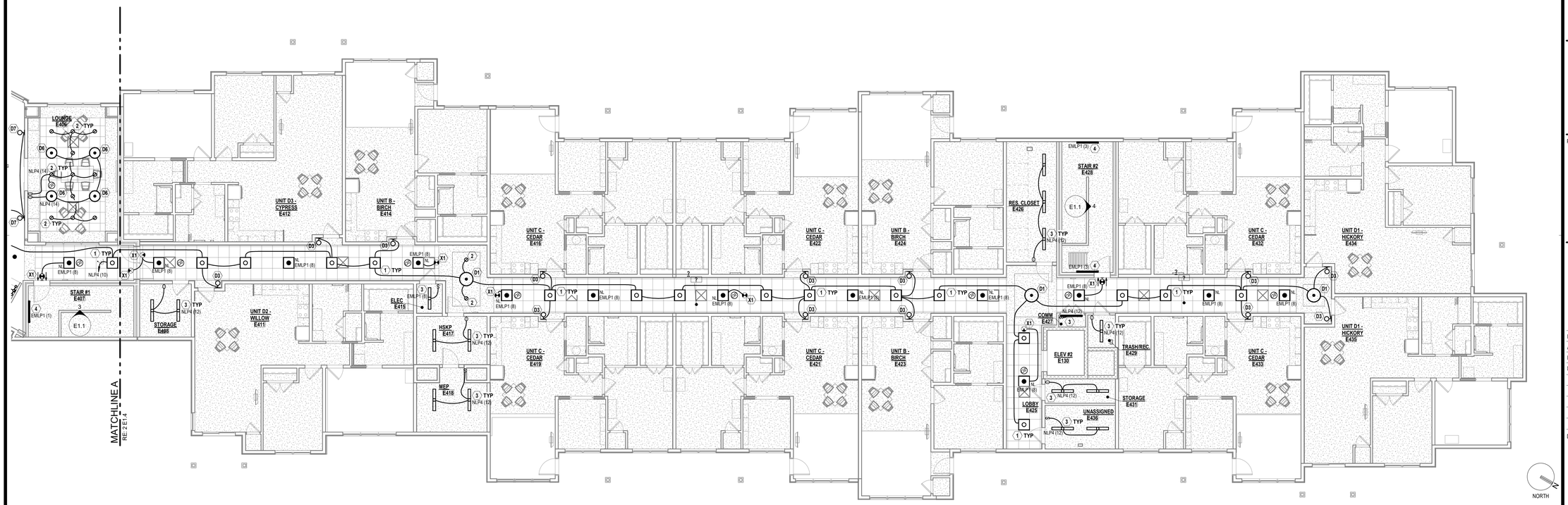
DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING E1.3

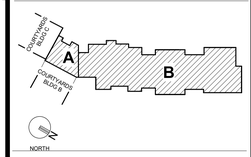


2 E1.4 FOURTH FLOOR ATRIUM - LIGHTING
1/8" = 1'-0"



1 E1.4 FOURTH FLOOR IL UNITS - LIGHTING
1/8" = 1'-0"

KEYPLAN



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PLAN NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. WHITNEY
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

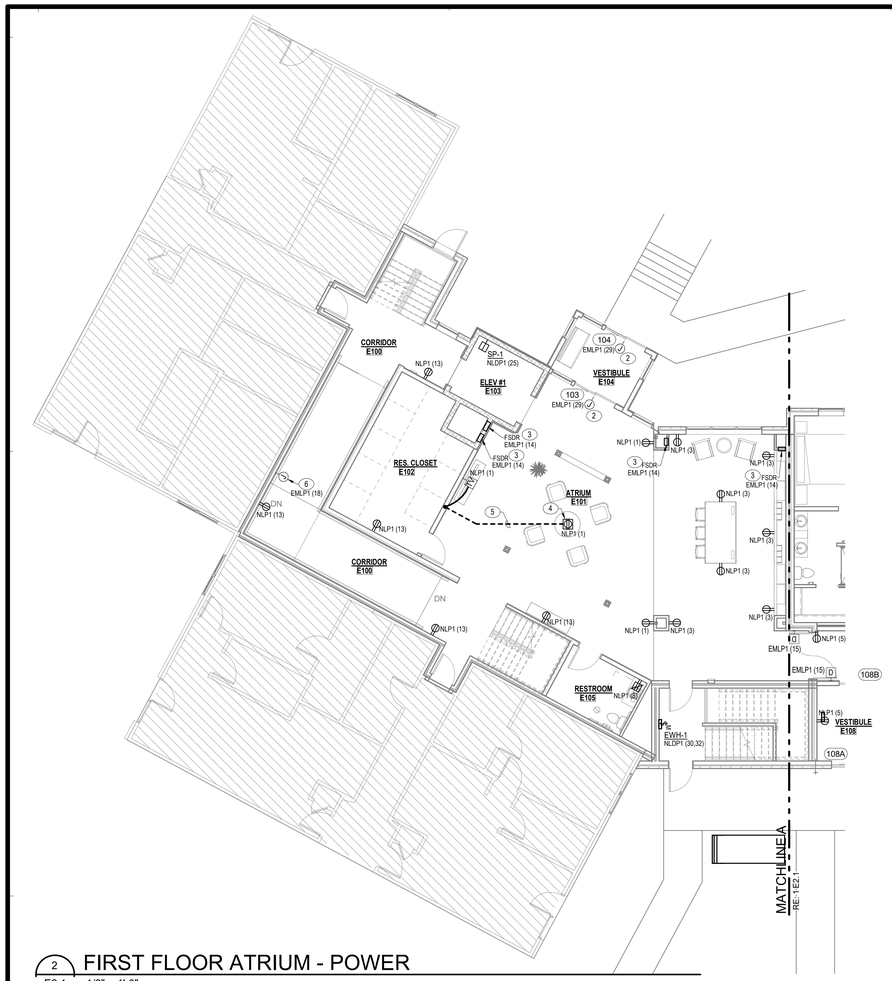
DRAWING TITLE

FOURTH FLOOR PLAN - LIGHTING

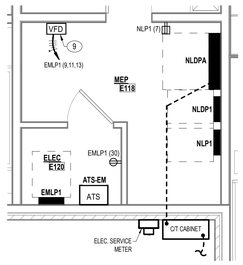
DATE: January 5, 2024

COMM. NO. 23104.00

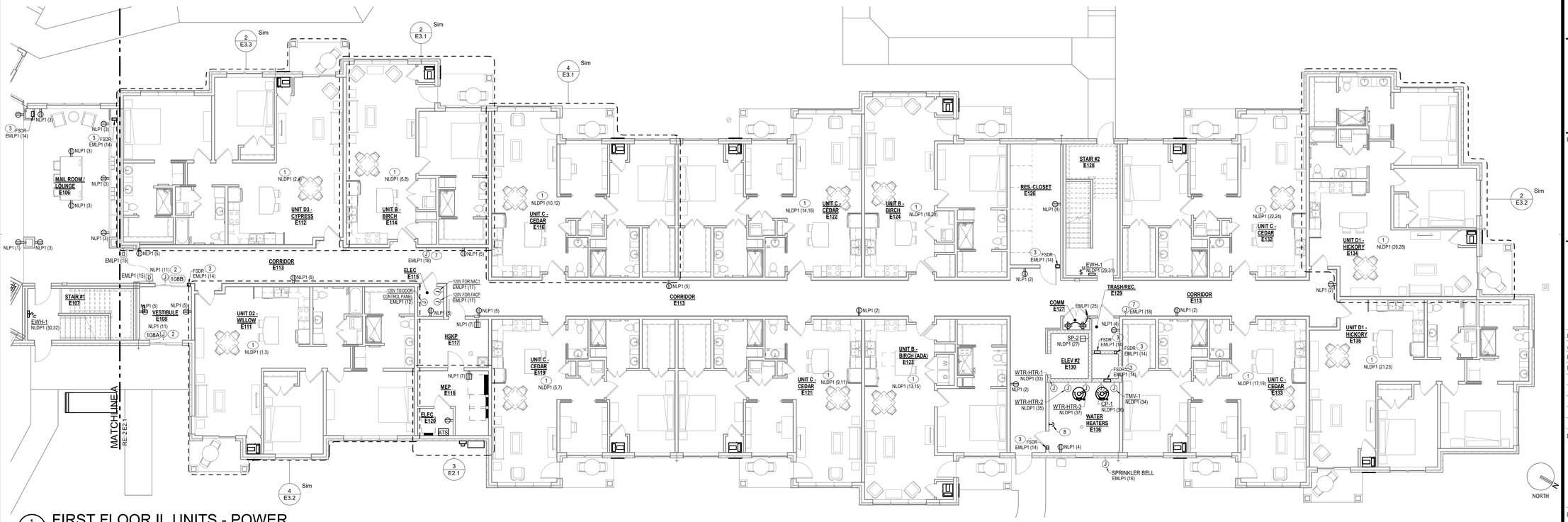
DRAWING E1.4



2 FIRST FLOOR ATRIUM - POWER
E2.1 1/8" = 1'-0"

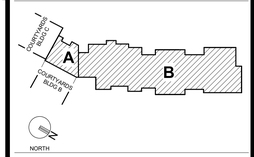


3 ENLARGED PLAN - MEP RM. #E118 & ELEC. RM. E120
E2.1 1/4" = 1'-0"



1 FIRST FLOOR IL UNITS - POWER
E2.1 1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. BRANCH CIRCUIT WIRING SERVING ALL POWER RECEPTACLES LOCATED INSIDE PATIENT TREATMENT AREAS AND RESIDENT ROOMS SHALL BE INSTALLED TO MEET REDUNDANT GROUND REQUIREMENTS AS STATED IN NEC 517.13. HOSPITAL GRADE TYPE HCF MC CABLE MAY BE USED. RECEPTACLES SHALL BE HOSPITAL GRADE TYPE.
B. REFER TO "MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE" FOR ADDITIONAL EQUIPMENT CONNECTION INFORMATION.
C. DOORS INDICATED WITH A DOOR TAG ARE CONTROLLED DOORS. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS. ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.
D. ELECTRICALLY/ELECTROMAGNETICALLY HELD OPEN DOORS SHALL BE INTERFACED WITH FIRE ALARM SYSTEM FOR RELEASE UPON FIRE ALARM SIGNAL. ELECTRICALLY LOCKED DOORS SHALL FAIL "SAFE" IN EVENT OF POWER OUTAGE.
E. REFERENCE FIRE ALARM DRAWINGS FOR ADDITIONAL DEVICES REQUIRING POWER CONNECTIONS AS WELL AS AN INTERFACE WITH FIRE ALARM SYSTEM. REFER TO MECHANICAL DRAWINGS FOR QUANITY AND LOCATION OF SMOKE DAMPERS, SMOKE/FIRE DAMPERS AND DUCT SMOKE DETECTORS. PROVIDE 120VAC CONNECTION TO SMOKE DAMPERS. FIRE/SMOKE DAMPERS AND PROVIDE WITH SMOKE DETECTOR.
F. SEE PANEL SCHEDULES AND MECHANICAL EQUIPMENT SCHEDULES FOR RELATED INFORMATION.

PLAN NOTES

1 INDICATES PANEL/CIRCUIT FROM WHICH APARTMENT LOADCENTER IS SERVED. REFER TO ENLARGED UNIT PLANS FOR LOADCENTER LOCATION WITHIN UNITS.
2 120VAC CONNECTION TO AUTOMATIC DOOR OPERATOR. PROVIDE POWER CONNECTION TO DOOR MOTOR AND PROVIDE CONTROL WIRING TO PUSHPLATE LOCATIONS.
3 LOCATION OF FIRE SMOKE DAMPER WITH 120VAC CONNECTION AND DUCT SMOKE DETECTOR. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF FIRE/ SMOKE DAMPERS. REFER TO DETAILS ON DRAWING E0.022 FOR ADDITIONAL INFORMATION.
4 FLOOR BOX HUBBELL 6261 CAST IRON OR EQUAL WITH 6230 FLANGE AND 6284 COVER WITH FLIP RECEPTACLE COVERS.
5 3/4" CONDUIT INSTALLED BELOW SLAB. ROUTE UP IN WALL 12" INTO ACCESSIBLE CEILING BRANCH CIRCUIT INDICATED.
6 PROVIDE JUNCTION BOX AT 6'-0 FOR 120V DIRECT CONNECTION FOR EMERGENCY CALL SARA SYSTEM REPEATER. VERIFY LOCATION WITH SARA SYSTEM CONTRACTOR. CONNECT TO 120V EMERGENCY CIRCUIT.
7 PROVIDE 120V DIRECT CONNECTION ABOVE ACCESSIBLE CEILING FOR EMERGENCY CALL SARA SYSTEM REPEATER. VERIFY LOCATION WITH SARA SYSTEM CONTRACTOR. CONNECT TO 120V EMERGENCY CIRCUIT.
8 EMERGENCY STOP BUTTON FOR WATER HEATERS (WTR-HTR-1 WTR-HTR-2, WTR-HTR-3). INTERFACE WITH WATER HEATERS CONTROLS TO SHUT DOWN ALL THREE WATER HEATERS WHEN OPERATED.
9 VARIABLE FREQUENCY DRIVE (VFD) SUPPLIED BY MECHANICAL CONTRACTOR INSTALLED BY ELECTRICAL CONTRACTOR. VFD IS FOR SMOKE EVACUATION EXHAUST FAN "SEVF-1" LOCATED ON ROOF OF ATRIUM. REFER TO SHEET E2.5.

PERMIT SET

STATE OF MISSOURI JAMES A. MAWELL NUMBER E-25237 REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

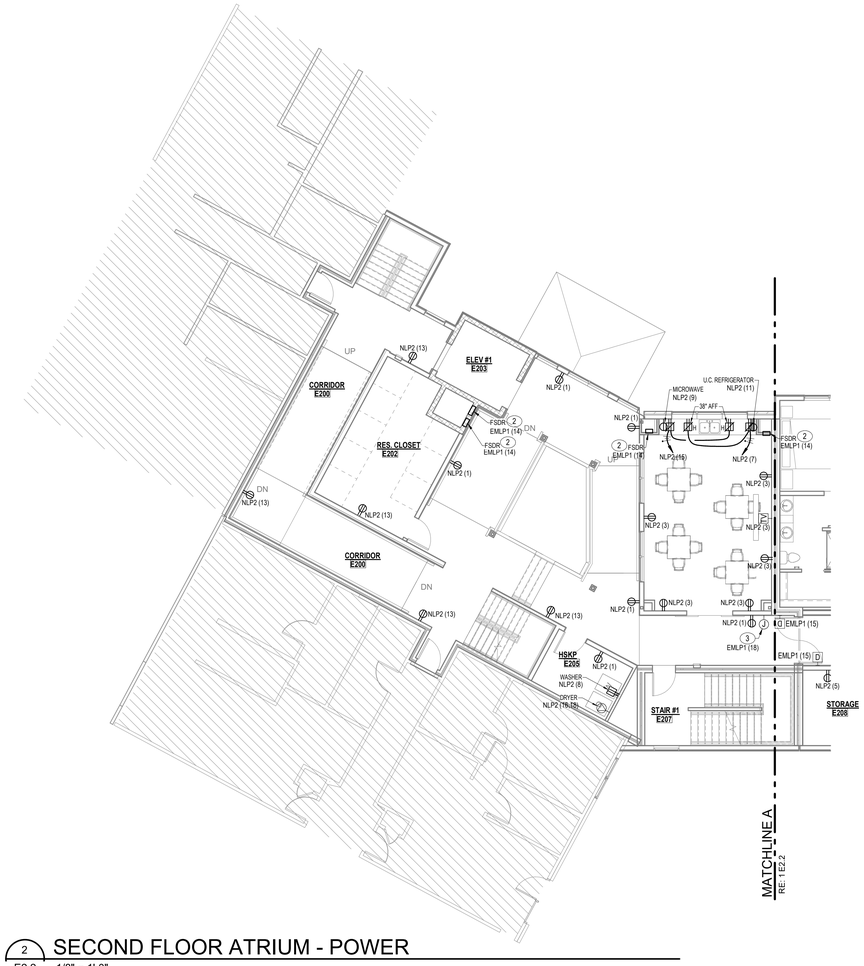
DRAWING TITLE

FIRST FLOOR PLAN - POWER

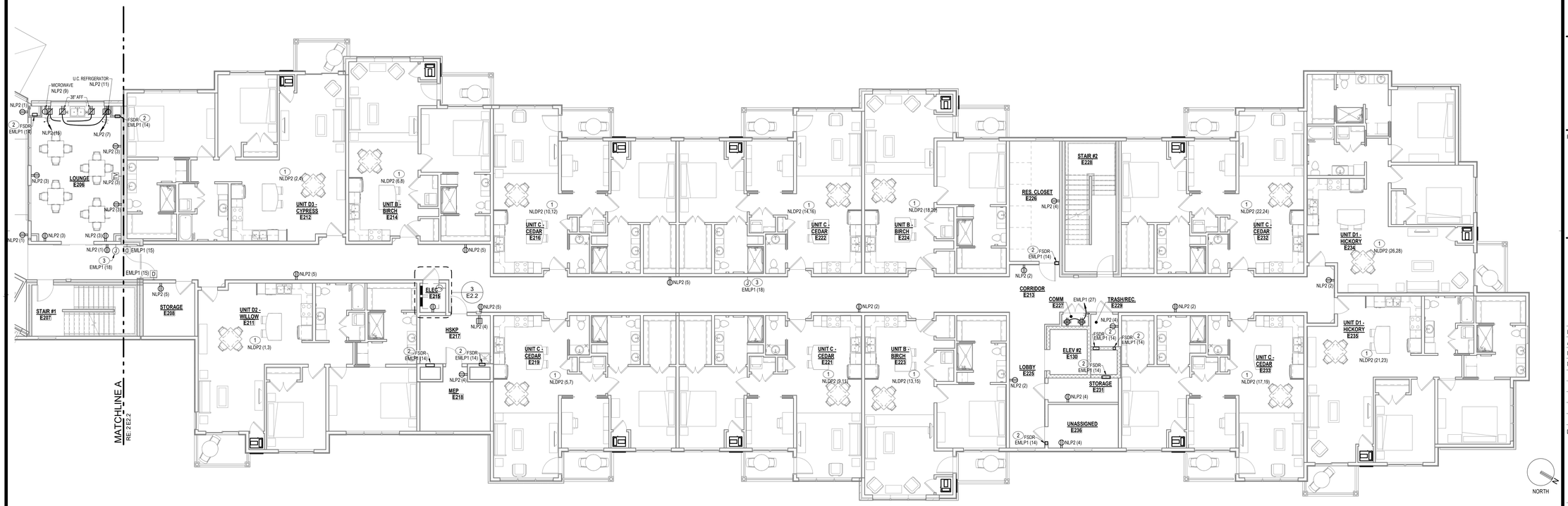
DATE: January 5, 2024

COMM. NO. 23104.00

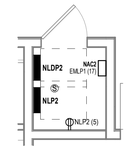
DRAWING E2.1



2 E2.2 SECOND FLOOR ATRIUM - POWER
1/8" = 1'-0"

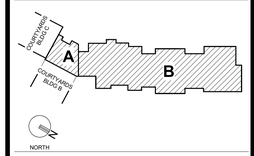


1 E2.2 SECOND FLOOR IL UNITS - POWER
1/8" = 1'-0"



3 E2.2 ENLARGED PLAN - ELEC. RM. #E215
1/4" = 1'-0"

KEYPLAN



GENERAL NOTES

A. BRANCH CIRCUIT WIRING SERVING ALL POWER RECEPTACLES LOCATED INSIDE PATIENT TREATMENT AREAS AND RESIDENT ROOMS SHALL BE INSTALLED TO MEET REDUNDANT GROUND REQUIREMENTS AS STATED IN NEC 517.13. HOSPITAL GRADE TYPE HCF MC CABLE MAY BE USED. RECEPTACLES SHALL BE HOSPITAL GRADE TYPE.
B. REFER TO "MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE" FOR ADDITIONAL EQUIPMENT CONNECTION INFORMATION.
C. DOORS INDICATED WITH A DOOR TAG ARE CONTROLLED DOORS. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS, ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.
D. ELECTRICALLY/ELECTROMAGNETICALLY HELD OPEN DOORS SHALL BE INTERFACED WITH FIRE ALARM SYSTEM FOR RELEASE UPON FIRE ALARM SIGNAL. ELECTRICALLY LOCKED DOORS SHALL FAIL "SAFE" IN EVENT OF POWER OUTAGE.
E. REFERENCE FIRE ALARM DRAWINGS FOR ADDITIONAL DEVICES REQUIRING POWER CONNECTIONS AS WELL AS AN INTERFACE WITH FIRE ALARM SYSTEM. REFER TO MECHANICAL DRAWINGS FOR QUANITY AND LOCATION OF SMOKE DAMPERS, SMOKE-FIRE DAMPERS AND DUCT SMOKE DETECTORS. PROVIDE 120VAC CONNECTION TO SMOKE DAMPERS. FIRE-SMOKE DAMPERS AND PROVIDE WITH SMOKE DETECTOR.
F. SEE PANEL SCHEDULES AND MECHANICAL EQUIPMENT SCHEDULES FOR RELATED INFORMATION.

PLAN NOTES

1 INDICATES PANEL/CIRCUIT FROM WHICH APARTMENT LOADCENTER IS SERVED. REFER TO ENLARGED UNIT PLANS FOR LOADCENTER LOCATION WITHIN UNITS.
2 LOCATION OF FIRE SMOKE DAMPER WITH 120VAC CONNECTION AND DUCT SMOKE DETECTOR. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF FIRE/ SMOKE DAMPERS. REFER TO DETAILS ON DRAWING E0.022 FOR ADDITIONAL INFORMATION.
3 PROVIDE 120V DIRECT CONNECTION ABOVE ACCESSIBLE CEILING FOR EMERGENCY CALL SARA SYSTEM REPEATER. VERIFY LOCATION WITH SARA SYSTEM CONTRACTOR. CONNECT TO 120V EMERGENCY CIRCUIT.

PERMIT SET

STATE OF MISSOURI
JAMES S. HOWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
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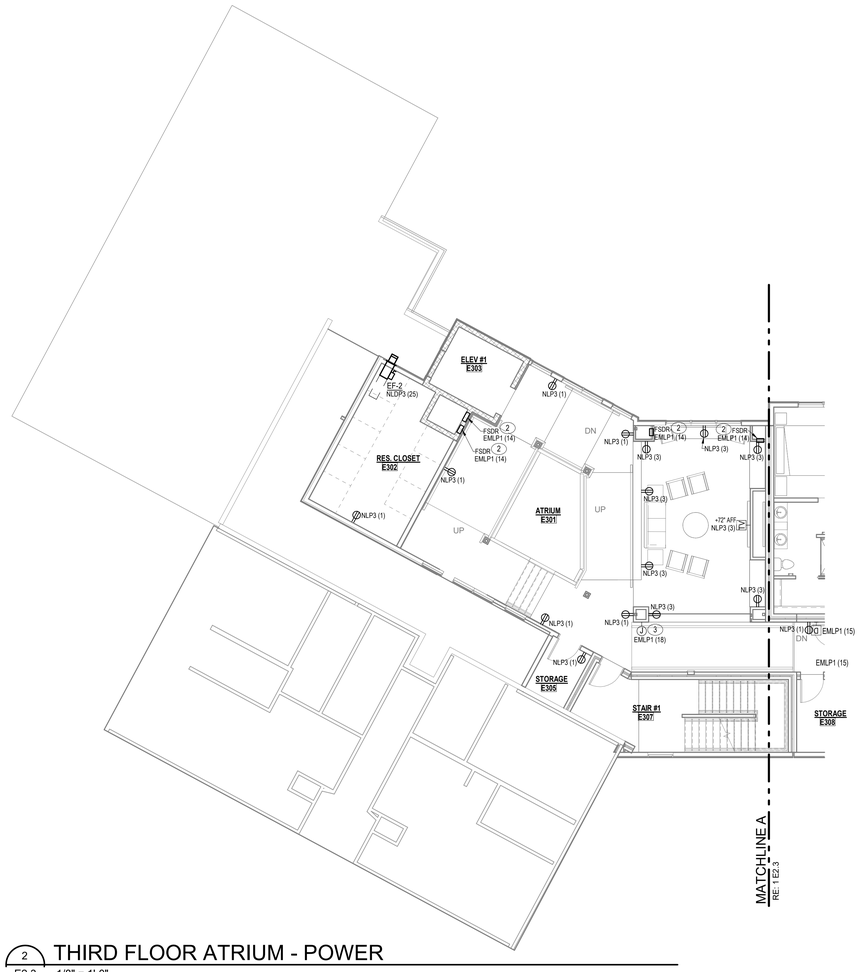
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

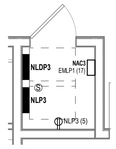
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
SECOND FLOOR PLAN - POWER

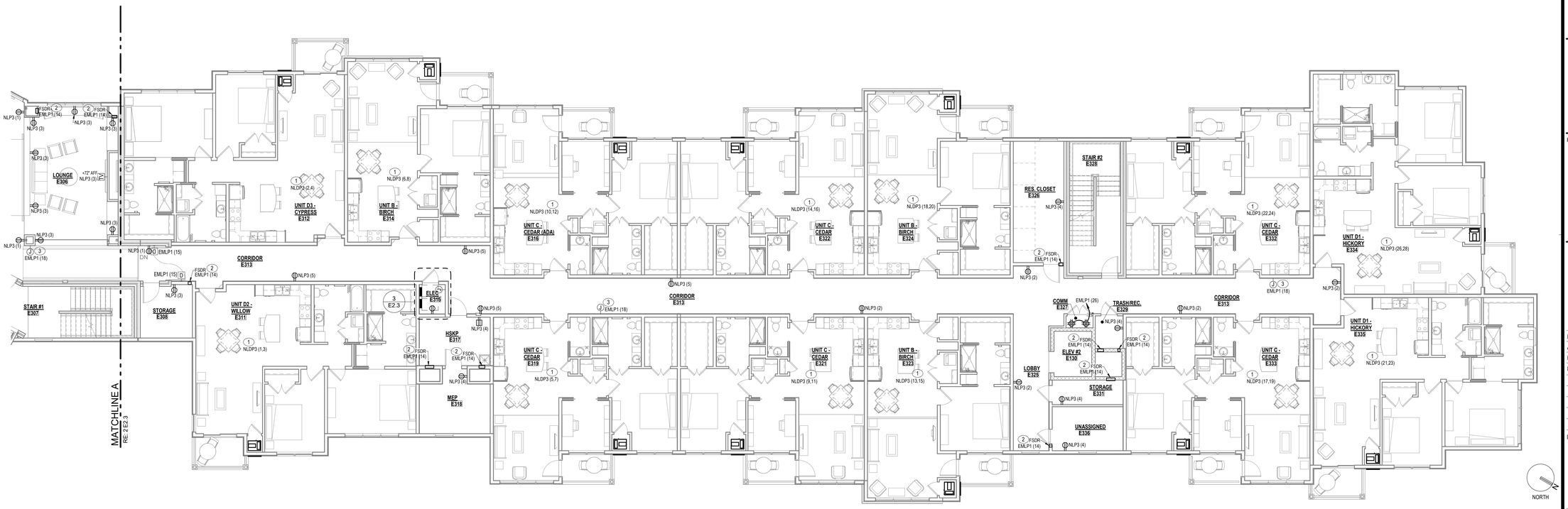
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING E2.2



2 E2.3 THIRD FLOOR ATRIUM - POWER
1/8" = 1'-0"

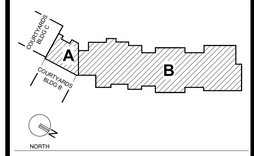


3 E2.3 ENLARGED PLAN - ELEC. RM. #E315
1/4" = 1'-0"



1 E2.3 THIRD FLOOR IL UNITS - POWER
1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. BRANCH CIRCUIT WIRING SERVING ALL POWER RECEPTACLES LOCATED INSIDE PATIENT TREATMENT AREAS AND RESIDENT ROOMS SHALL BE INSTALLED TO MEET REDUNDANT GROUND REQUIREMENTS AS STATED IN NEC 517.13. HOSPITAL GRADE TYPE HCF MC CABLE MAY BE USED. RECEPTACLES SHALL BE HOSPITAL GRADE TYPE.
B. REFER TO "MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE" FOR ADDITIONAL EQUIPMENT CONNECTION INFORMATION.
C. DOORS INDICATED WITH A DOOR TAG ARE CONTROLLED DOORS. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS, ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.
D. ELECTRICALLY/ELECTROMAGNETICALLY HELD OPEN DOORS SHALL BE INTERFACED WITH FIRE ALARM SYSTEM FOR RELEASE UPON FIRE ALARM SIGNAL. ELECTRICALLY LOCKED DOORS SHALL FAIL "SAFE" IN EVENT OF POWER OUTAGE.
E. REFERENCE FIRE ALARM DRAWINGS FOR ADDITIONAL DEVICES REQUIRING POWER CONNECTIONS AS WELL AS AN INTERFACE WITH FIRE ALARM SYSTEM. REFER TO MECHANICAL DRAWINGS FOR QUANITY AND LOCATION OF SMOKE DAMPERS, SMOKE-FIRE DAMPERS AND DUCT SMOKE DETECTORS. PROVIDE 120VAC CONNECTION TO SMOKE DAMPERS, FIRE-SMOKE DAMPERS AND PROVIDE WITH SMOKE DETECTOR.
F. SEE PANEL SCHEDULES AND MECHANICAL EQUIPMENT SCHEDULES FOR RELATED INFORMATION.

PLAN NOTES

1 INDICATES PANEL/CIRCUIT FROM WHICH APARTMENT LOADCENTER IS SERVED. REFER TO ENLARGED UNIT PLANS FOR LOADCENTER LOCATION WITHIN UNITS.
2 LOCATION OF FIRE SMOKE DAMPER WITH 120VAC CONNECTION AND DUCT SMOKE DETECTOR. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF FIRE/ SMOKE DAMPERS. REFER TO DETAILS ON DRAWING E0.022 FOR ADDITIONAL INFORMATION.
3 PROVIDE 120V DIRECT CONNECTION ABOVE ACCESSIBLE CEILING FOR EMERGENCY CALL SARA SYSTEM REPEATER. VERIFY LOCATION WITH SARA SYSTEM CONTRACTOR. CONNECT TO 120V EMERGENCY CIRCUIT.

PERMIT SET

STATE OF MISSOURI
JAMES A. WOMELDUF
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

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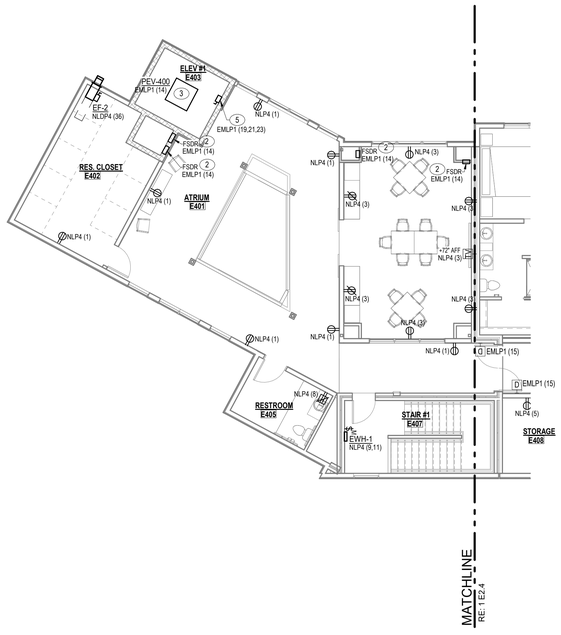
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

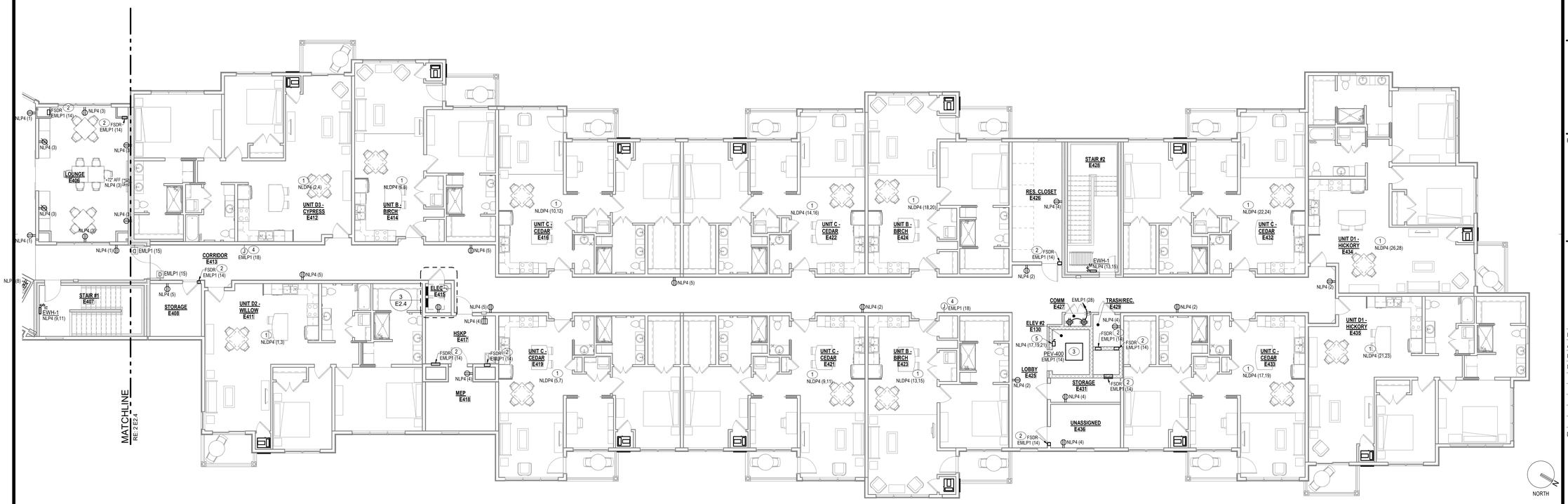
DRAWING TITLE

THIRD FLOOR PLAN - POWER

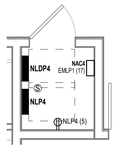
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING E2.3



2 FOURTH FLOOR ATRIUM - POWER
E2.4 1/8" = 1'-0"

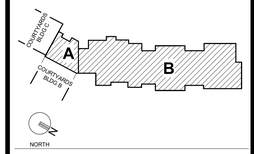


1 FOURTH FLOOR IL UNITS- POWER
E2.4 1/8" = 1'-0"



3 ENLARGED PLAN - ELEC. RM. #E415
E2.4 1/4" = 1'-0"

KEYPLAN



GENERAL NOTES

A. BRANCH CIRCUIT WIRING SERVING ALL POWER RECEPTACLES LOCATED INSIDE PATIENT TREATMENT AREAS AND RESIDENT ROOMS SHALL BE INSTALLED TO MEET REDUNDANT GROUND REQUIREMENTS AS STATED IN NEC 517.13. HOSPITAL GRADE TYPE HCF MC CABLE MAY BE USED. RECEPTACLES SHALL BE HOSPITAL GRADE TYPE.
B. REFER TO "MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE" FOR ADDITIONAL EQUIPMENT CONNECTION INFORMATION.
C. DOORS INDICATED WITH A DOOR TAG ARE CONTROLLED DOORS. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS, ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.
D. ELECTRICALLY/ELECTROMAGNETICALLY HELD OPEN DOORS SHALL BE INTERFACED WITH FIRE ALARM SYSTEM FOR RELEASE UPON FIRE ALARM SIGNAL. ELECTRICALLY LOCKED DOORS SHALL FAIL "SAFE" IN EVENT OF POWER OUTAGE.
E. REFERENCE FIRE ALARM DRAWINGS FOR ADDITIONAL DEVICES REQUIRING POWER CONNECTIONS AS WELL AS AN INTERFACE WITH FIRE ALARM SYSTEM. REFER TO MECHANICAL DRAWINGS FOR QUANITY AND LOCATION OF SMOKE DAMPERS, SMOKE-FIRE DAMPERS AND DUCT SMOKE DETECTORS. PROVIDE 120VAC CONNECTION TO SMOKE DAMPERS. FIRE-SMOKE DAMPERS AND PROVIDE WITH SMOKE DETECTOR.
F. SEE PANEL SCHEDULES AND MECHANICAL EQUIPMENT SCHEDULES FOR RELATED INFORMATION.

PLAN NOTES

1. INDICATES PANEL/CIRCUIT FROM WHICH APARTMENT LOADCENTER IS SERVED. REFER TO ENLARGED UNIT PLANS FOR LOADCENTER LOCATION WITHIN UNITS.
2. LOCATION OF FIRE SMOKE DAMPER WITH 120VAC CONNECTION AND DUCT SMOKE DETECTOR. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF FIRE/ SMOKE DAMPERS. REFER TO DETAILS ON DRAWING E0.022 FOR ADDITIONAL INFORMATION.
3. LOCATION OF GREENHECK PEV-400 PENTHOUSE ELEVATOR VENT REFER TO FOURTH FLOOR PLAN FIRE ALARM DRAWINGS.
4. PROVIDE 120V DIRECT CONNECTION ABOVE ACCESSIBLE CEILING FOR EMERGENCY CALL SARA SYSTEM REPEATER. VERIFY LOCATION WITH SARA SYSTEM CONTRACTOR. CONNECT TO 120V EMERGENCY CIRCUIT.
5. 3P, 60 AMP, 208V ENCLOSED MOLDED CASE CIRCUIT BREAKER WITH LOCK-OUT DEVICE FOR ELEVATOR CONTROLLER DISCONNECT. EXTEND FEEDER FROM LOAD SIDE OF CIRCUIT BREAKER AND TERMINATE ON ELEVATOR CONTROLLER. VERIFY EXACT OVERCURRENT PROTECTIVE DEVICE REQUIRED WITH ELEVATOR MANUFACTURER PRIOR TO ORDERING.

PERMIT SET

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

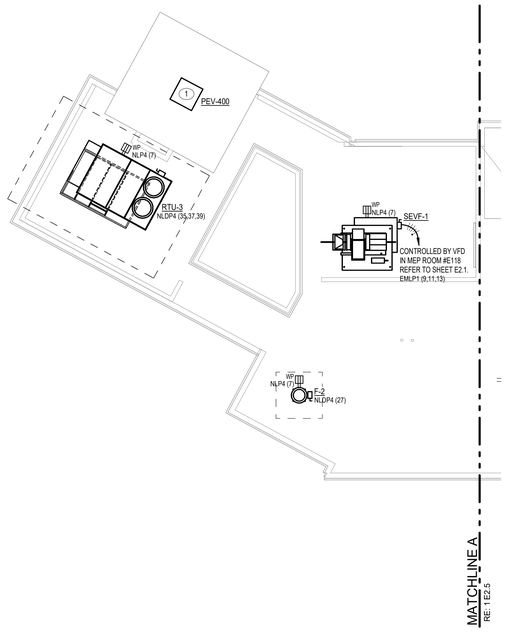
DRAWING TITLE

FOURTH FLOOR PLAN - POWER

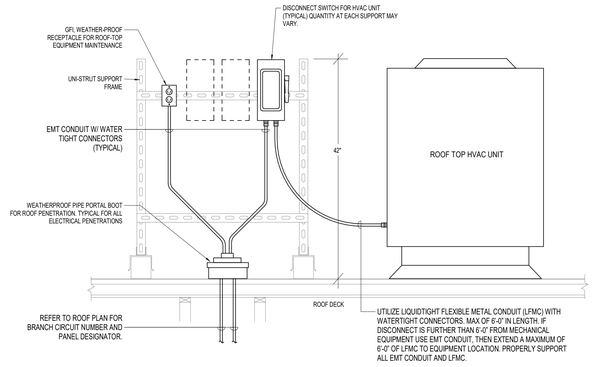
DATE: January 5, 2024

COMM. NO. 23104.00

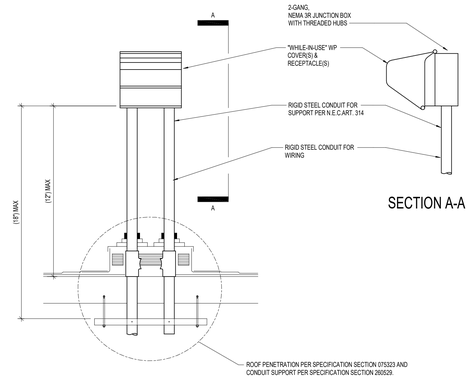
DRAWING E2.4



2 E2.5 5 - ROOF PLAN ATRIUM - POWER
1/8" = 1'-0"

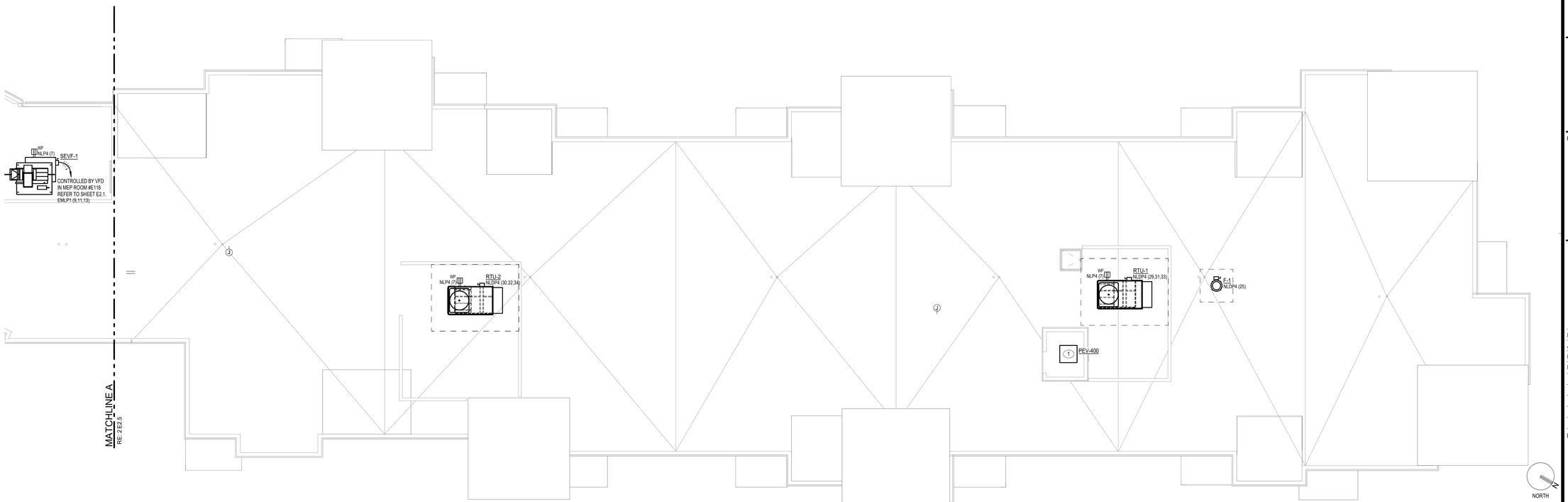


4 E2.5 ROOF HVAC EQUIP. DISCONNECT MOUNTING DETAIL
1/4" = 1'-0"



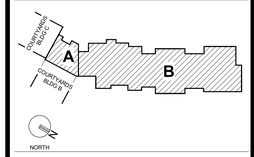
SECTION A-A

3 E2.5 ROOF MOUNTED RECEPTACLE DETAIL
1/4" = 1'-0"



1 E2.5 5- ROOF PLAN IL UNITS - POWER
1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. BRANCH CIRCUIT WIRING SERVING ALL POWER RECEPTACLES LOCATED INSIDE PATIENT TREATMENT AREAS AND RESIDENT ROOMS SHALL BE INSTALLED TO MEET REDUNDANT GROUND REQUIREMENTS AS STATED IN NEC 517.13. HOSPITAL GRADE TYPE HCF MC CABLE MAY BE USED. RECEPTACLES SHALL BE HOSPITAL GRADE TYPE.
B. REFER TO "MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE" FOR ADDITIONAL EQUIPMENT CONNECTION INFORMATION.
C. DOORS INDICATED WITH A DOOR TAG ARE CONTROLLED DOORS. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS, ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.
D. ELECTRICALLY/ELECTROMAGNETICALLY HELD OPEN DOORS SHALL BE INTERFACED WITH FIRE ALARM SYSTEM FOR RELEASE UPON FIRE ALARM SIGNAL. ELECTRICALLY LOCKED DOORS SHALL FAIL "SAFE" IN EVENT OF POWER OUTAGE.
E. REFERENCE FIRE ALARM DRAWINGS FOR ADDITIONAL DEVICES REQUIRING POWER CONNECTIONS AS WELL AS AN INTERFACE WITH FIRE ALARM SYSTEM. REFER TO MECHANICAL DRAWINGS FOR QUANITY AND LOCATION OF SMOKE DAMPERS, SMOKE-FIRE DAMPERS AND DUCT SMOKE DETECTORS. PROVIDE 120VAC CONNECTION TO SMOKE DAMPERS. FIRE-SMOKE DAMPERS AND PROVIDE WITH SMOKE DETECTOR.
F. SEE PANEL SCHEDULES AND MECHANICAL EQUIPMENT SCHEDULES FOR RELATED INFORMATION.

PLAN NOTES

1 LOCATION OF GREENHECK PEV-400 PENTHOUSE ELEVATOR VENT REFER TO FOURTH FLOOR PLAN FIRE ALARM DRAWINGS.

PERMIT SET

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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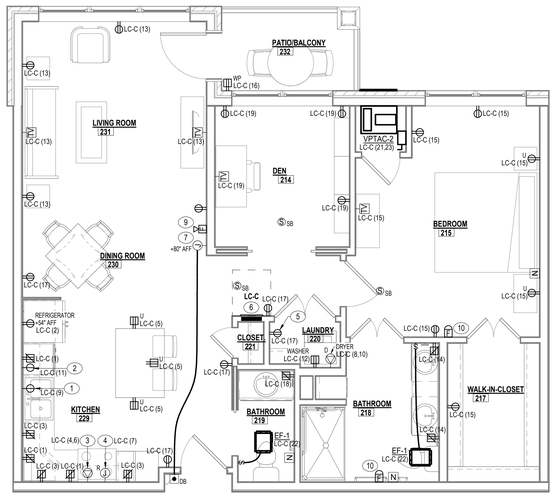
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

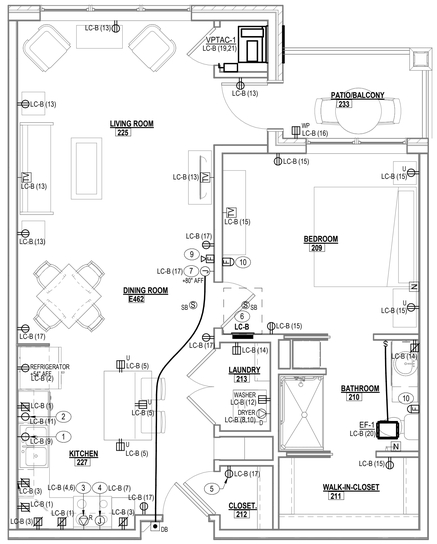
DRAWING TITLE
ROOF PLAN - POWER

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING E2.5



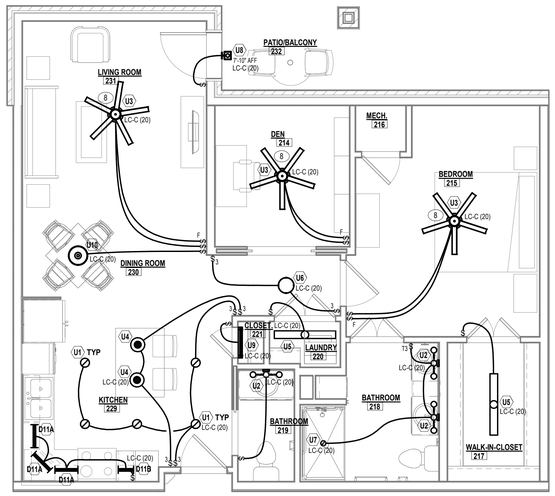
4 E3.1 UNIT C - CEDAR - POWER & FIRE ALARM

1/4" = 1'-0"



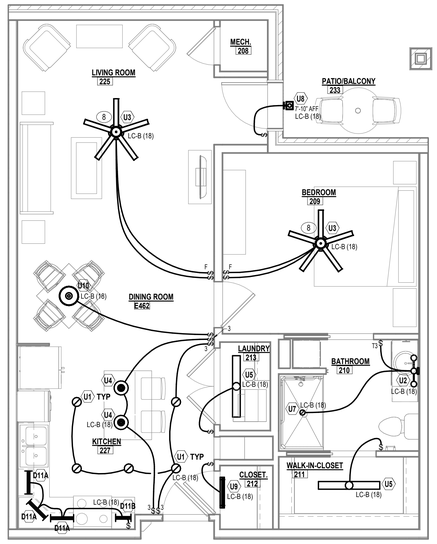
2 E3.1 UNIT B - BIRCH - POWER & FIRE ALARM

1/4" = 1'-0"



3 E3.1 UNIT C - CEDAR - LIGHTING

1/4" = 1'-0"



1 E3.1 UNIT B - BIRCH - LIGHTING

1/4" = 1'-0"

GENERAL NOTES

A. PROVIDE FOAM GASKETS FOR ALL WIRING DEVICES (RECEPTACLES, SWITCHES, AND DIMMERS) INSTALLED ON THE INTERIOR OF AN EXTERIOR BUILDING WALL. FOAM GASKETS PROVIDE ADDITIONAL INSULATION BETWEEN THE BACK BOX, WIRING DEVICE(S), AND WALLPLATE(S).
B. REFER TO ARCHITECTURAL FIRE PROTECTION PLANS FOR LOCATIONS OF FIRE RATED WALLS. ALL RECESSED ELECTRICAL JUNCTION BOXES LOCATED IN FIRE OR ACOUSTICAL RATED WALLS SHALL BE SEPERATED AS REQUIRED BY THE LATEST ENFORCED IBC.
C. WALL BOXES FOR SWITCH BOXES OR RECEPTACLES IN WALL WITH POCKET DOORS SHALL BE INSTALLED SO WALL BOX OR WIRING TO WALL BOX DOES NOT CONFLICT WITH THE OPENING OR CLOSING OF THE POCKET DOOR.
D. ALL BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT DINING ROOMS, LIVINGS, DENS, BEDROOMS, CLOSETS AND HALLWAYS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER.
E. BRANCH CIRCUIT WIRING WITHIN APARTMENTS IS TYPE MC CABLE WITH INSULATED COPPER CONDUCTORS AND AN INSULATED GROUNDING CONDUCTOR.
F. RECEPTACLES IN DWELLING UNITS SHALL BE TAMPER-PROOF TYPE AS REQUIRED PER NEC ARTICLE 406.12 AND 210.52.
G. PLACEMENT OF RECEPTACLES WITHIN DWELLING UNITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 210.
H. LIVING UNIT LOADCENTER DOORS SHALL BE PAINTED TO MATCH INTERIOR WALL COLOR.
I. RANGE HOODS SHALL BE SERVED FROM LOCAL BRANCH CIRCUIT.
J. REFER TO PANEL SCHEDULES FOR BRANCH CIRCUIT OF HVAC UNITS SERVING APARTMENTS.
K. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL APPLIANCE ELECTRICAL CORDS NOT SUPPLIED BY THE MANUFACTURER.
L. MOUNT LOAD CENTER SO THAT TOP MOST BREAKER IS NO HIGHER THAN 44" AFF.
M. ROCKER (DECORA STYLE) SWITCHES AND RECEPTACLES.
N. DEVICE AND SWITCHPLATE COLOR: WHITE, UNLESS ON EMERGENCY POWER (RED, OR DENOTE WITH RED "EMERGENCY" LABEL SIM. TO LEGRAND TPBEW).

PLAN NOTES

1. 120V SIMPLEX RECEPTACLE FOR GARBAGE DISPOSAL. VERIFY LOCATION AND INSTALL PER DISPOSAL MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN.
2. 120V SIMPLEX RECEPTACLE FOR UNDERCOUNTER DISHWASHER. VERIFY LOCATION AND INSTALL PER DISPOSAL MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN.
3. RECEPTACLE FOR ELECTRIC RANGE. VERIFY LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
4. JUNCTION BOX FOR 120V CONNECTION TO MICROWAVE. VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
5. RECEPTACLE FOR RESIDENTIAL COMMUNICATION SERVICE ENCLOSURE.
6. MOUNT LOAD CENTER(S) 48" A.F.F. TO HIGHEST BREAKER HANDLE.
7. LOCATE DOOR CHIME 6" BELOW CEILING. PROVIDE NUTONE #LA11WH WIRED DOOR CHIME WITH NUTONE #C905 TRANSFORMER.
8. PROVIDE CEILING FAN RATED BACKBOX. PROVIDE 12-3 MC CABLE FROM CEILING FAN RATED BACKBOX TO LIGHT SWITCH FOR FUTURE WIRING OF CEILING FAN.
9. ADA ACCESSIBLE UNIT OPTION ONLY. FIRE ALARM AUDIO/ VISUAL DEVICE TO COMPLY WITH ADA REQUIREMENTS REFER TO DETAILS ON SHEET E6.6.
10. ADA ACCESSIBLE UNIT OPTION ONLY. FIRE ALARM VISUAL DEVICE IN BEDROOMS TO COMPLY WITH ADA REQUIREMENTS REFER TO DETAILS ON SHEET E6.6.

PERMIT SET

STATE OF MISSOURI
JAMES S. WIDNEY
NUMBER E-28237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

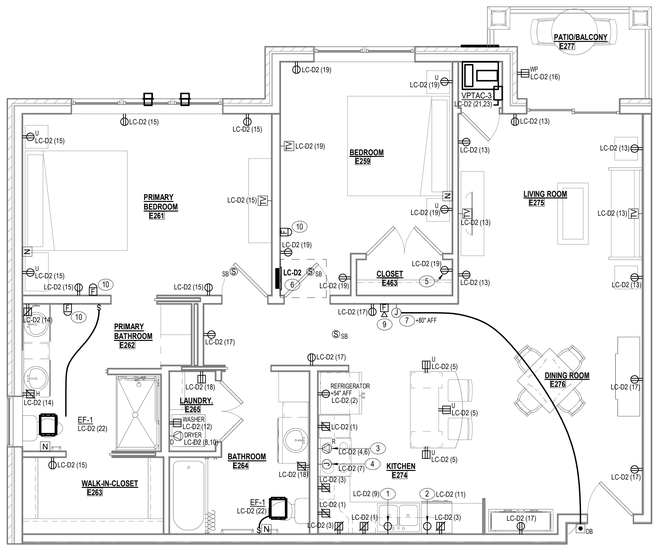
DRAWING TITLE

ENLARGED PLANS - ELECTRICAL

DATE: January 5, 2024

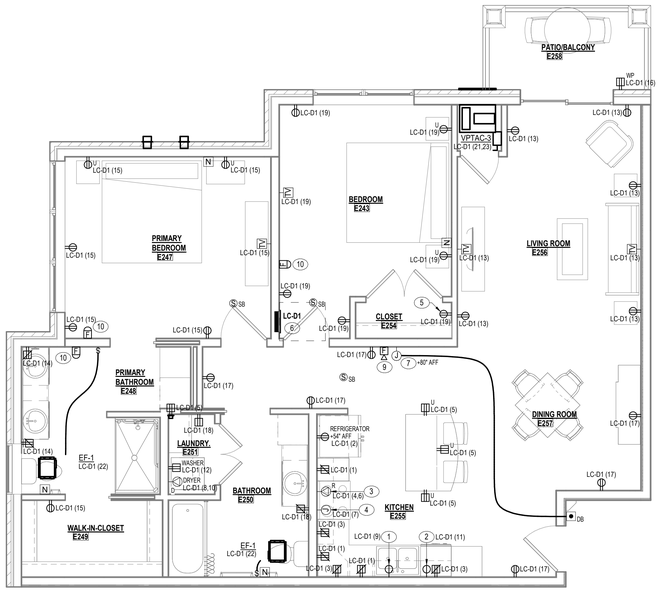
COMM. NO. 23104.00

DRAWING E3.1



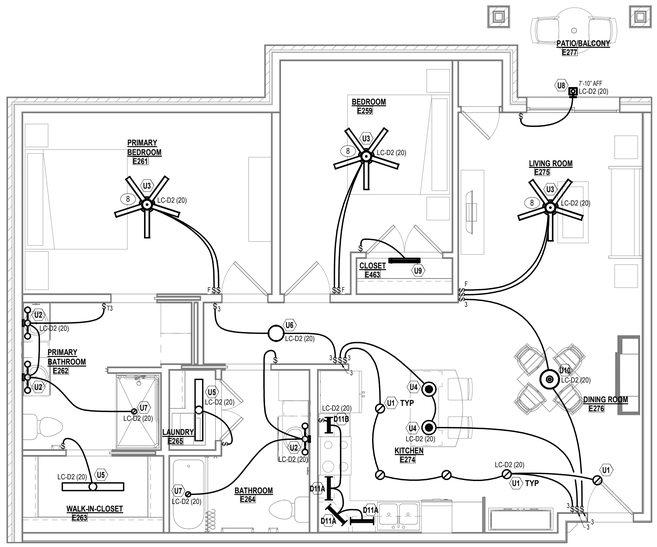
4 E3.2 UNIT D2 - WILLOW - POWER & FIRE ALARM

1/4" = 1'-0"



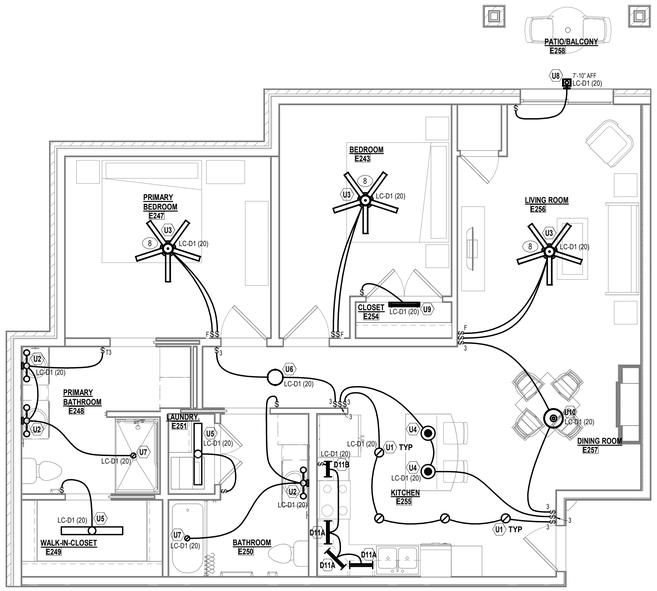
2 E3.2 UNIT D1 - HICKORY - POWER & FIRE ALARM

1/4" = 1'-0"



3 E3.2 UNIT D2 - WILLOW - LIGHTING

1/4" = 1'-0"



1 E3.2 UNIT D1 - HICKORY - LIGHTING

1/4" = 1'-0"

GENERAL NOTES

A. PROVIDE FOAM GASKETS FOR ALL WIRING DEVICES (RECEPTACLES, SWITCHES, AND DIMMERS) INSTALLED ON THE INTERIOR OF AN EXTERIOR BUILDING WALL. FOAM GASKETS PROVIDE ADDITIONAL INSULATION BETWEEN THE BACK BOX, WIRING DEVICE(S), AND WALLPLATE(S).
B. REFER TO ARCHITECTURAL FIRE PROTECTION PLANS FOR LOCATIONS OF FIRE RATED WALLS. ALL RECESSED ELECTRICAL JUNCTION BOXES LOCATED IN FIRE OR ACOUSTICAL RATED WALLS SHALL BE SEPERATED AS REQUIRED BY THE LATEST ENFORCED IBC.
C. WALL BOXES FOR SWITCH BOXES OR RECEPTACLES IN WALL WITH POCKET DOORS SHALL BE INSTALLED SO WALL BOX OR WIRING TO WALL BOX DOES NOT CONFLICT WITH THE OPENING OR CLOSING OF THE POCKET DOOR.
D. ALL BRANCH CIRCUITS SUPPLYING OUTLETS INSTALLED IN DWELLING UNIT DINING ROOMS, LIVINGS, DENS, BEDROOMS, CLOSETS AND HALLWAYS SHALL BE PROTECTED BY A LISTED ARC-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER.
E. BRANCH CIRCUIT WIRING WITHIN APARTMENTS IS TYPE MC CABLE WITH INSULATED COPPER CONDUCTORS AND AN INSULATED GROUNDING CONDUCTOR.
F. RECEPTACLES IN DWELLING UNITS SHALL BE TAMPER-PROOF TYPE AS REQUIRED PER NEC ARTICLE 406.12 AND 210.52.
G. PLACEMENT OF RECEPTACLES WITHIN DWELLING UNITS SHALL BE IN ACCORDANCE WITH NEC ARTICLE 210.
H. LIVING UNIT LOADCENTER DOORS SHALL BE PAINTED TO MATCH INTERIOR WALL COLOR.
I. RANGE HOODS SHALL BE SERVED FROM LOCAL BRANCH CIRCUIT.
J. REFER TO PANEL SCHEDULES FOR BRANCH CIRCUIT OF HVAC UNITS SERVING APARTMENTS.
K. ELECTRICAL CONTRACTOR SHALL SUPPLY AND INSTALL ALL APPLIANCE ELECTRICAL CORDS NOT SUPPLIED BY THE MANUFACTURER.
L. MOUNT LOAD CENTER SO THAT TOP MOST BREAKER IS NO HIGHER THAN 44" AFF."
M. ROCKER (DECORA STYLE) SWITCHES AND RECEPTACLES.
N. DEVICE AND SWITCHPLATE COLOR: WHITE, UNLESS ON EMERGENCY POWER (RED, OR DENOTE WITH RED "EMERGENCY" LABEL SIM. TO LEGRAND TPBEW).

PLAN NOTES

1. 120V SIMPLEX RECEPTACLE FOR GARBAGE DISPOSAL. VERIFY LOCATION AND INSTALL PER DISPOSAL MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN.
2. 120V SIMPLEX RECEPTACLE FOR UNDERCOUNTER DISHWASHER. VERIFY LOCATION AND INSTALL PER DISPOSAL MANUFACTURER REQUIREMENTS PRIOR TO ROUGH-IN.
3. RECEPTACLE FOR ELECTRIC RANGE. VERIFY LOCATION AND NEMA CONFIGURATION WITH MANUFACTURER PRIOR TO ROUGH-IN.
4. JUNCTION BOX FOR 120V CONNECTION TO MICROWAVE. VERIFY LOCATION AND CONNECTION REQUIREMENTS PRIOR TO ROUGH-IN.
5. RECEPTACLE FOR RESIDENTIAL COMMUNICATION SERVICE ENCLOSURE.
6. MOUNT LOAD CENTER(S) 48" A.F.F. TO HIGHEST BREAKER HANDLE.
7. LOCATE DOOR CHIME 6" BELOW CEILING. PROVIDE NUTONE #LA11WH WIRED DOOR CHIME WITH NUTONE #C905 TRANSFORMER.
8. PROVIDE CEILING FAN RATED BACKBOX. PROVIDE 12-3 MC CABLE FROM CEILING FAN RATED BACKBOX TO LIGHT SWITCH FOR FUTURE WIRING OF CEILING FAN.
9. ADA ACCESSIBLE UNIT OPTION ONLY. FIRE ALARM AUDIO/ VISUAL DEVICE TO COMPLY WITH ADA REQUIREMENTS REFER TO DETAILS ON SHEET E6.6.
10. ADA ACCESSIBLE UNIT OPTION ONLY. FIRE ALARM VISUAL DEVICE IN BEDROOMS TO COMPLY WITH ADA REQUIREMENTS REFER TO DETAILS ON SHEET E6.6.

PERMIT SET

STATE OF MISSOURI
JAMES S. ANDREW
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
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Charlotte, North Carolina 28203.4633
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ARCHITECT	: DAS	CHECKED	: MAW
ENGINEER	: MAW	APPROVED	: JSK

NO.	REVISION DESCRIPTION	DATE

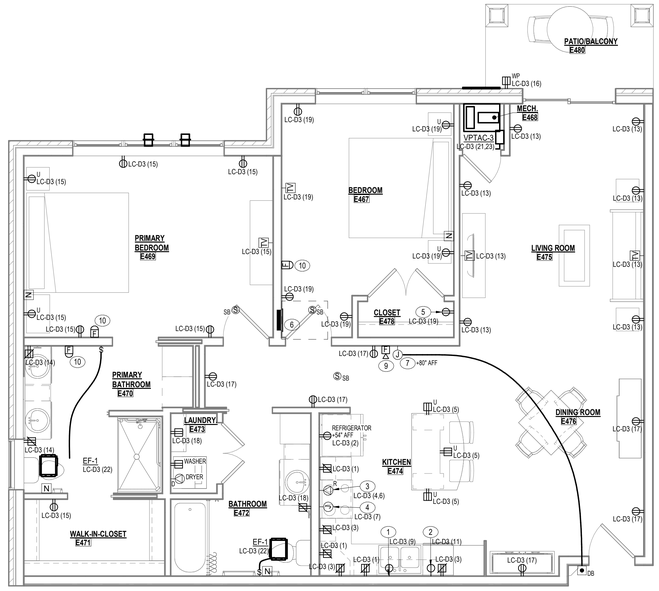
DRAWING TITLE

ENLARGED PLANS - ELECTRICAL

DATE: January 5, 2024

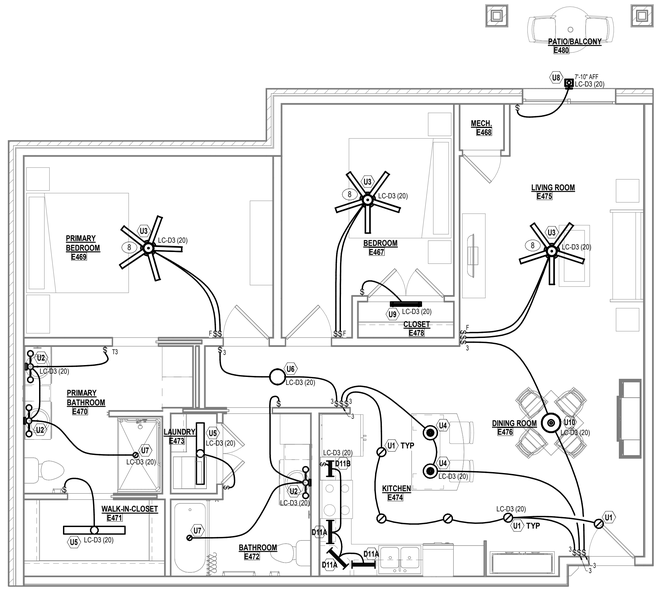
COMM. NO. 23104.00

DRAWING E3.2



2 E3.3 UNIT D3 - CYPRESS - POWER & FIRE ALARM

1/4" = 1'-0"



1 E3.3 UNIT D3 - CYPRESS - LIGHTING

1/4" = 1'-0"

GENERAL NOTES

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PERMIT SET

STATE OF MISSOURI
JAMES S. WHITNEY
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

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ARCHITECT	: DAS	CHECKED	: MAW
ENGINEER	: MAW	APPROVED	: JSK

NO.	REVISION DESCRIPTION	DATE

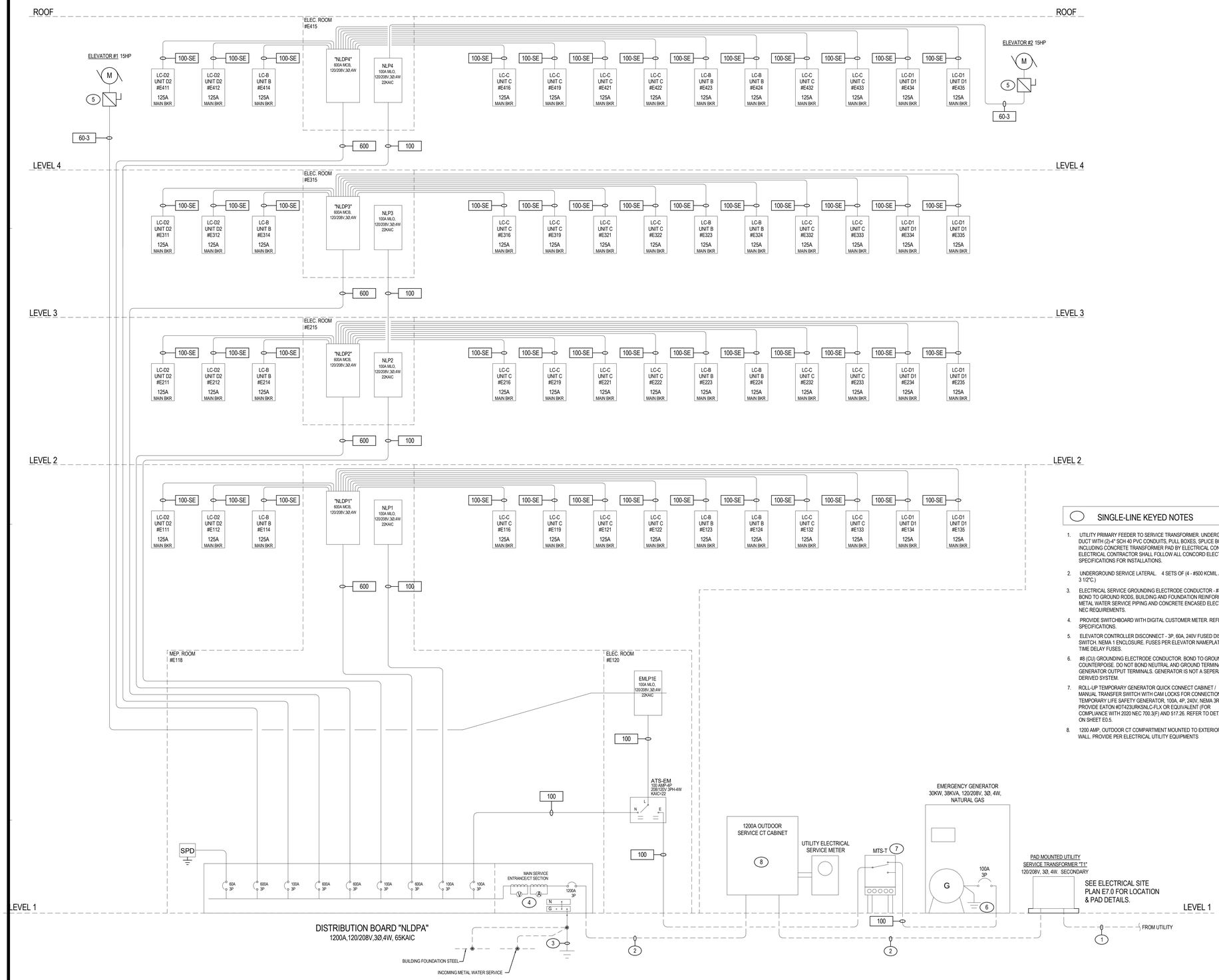
DRAWING TITLE

ENLARGED PLANS - ELECTRICAL

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING E3.3



NOTE:
REFER TO SHEET E4.1 FOR KEYED NOTES AND FEEDER SCHEDULE

ONE-LINE RISER FEEDER SCHEDULE

CABLE TAG #	CABLE AMPACITY	CONDUIT NO. SETS	CONDUIT SIZE	PHASE CONDUCTORS NO.	PHASE CONDUCTORS SIZE	PHASE CONDUCTORS CU/AL	GND. SIZE PER SET	REMARKS
20	20	1	3/4"	4	#12	CU	#12	
20-3	20	1	3/4"	3	#12	CU	#12	
25	20	1	3/4"	4	#10	CU	#10	
25-3	25	1	3/4"	3	#10	CU	#10	
30	30	1	3/4"	4	#10	CU	#10	
30-3	30	1	3/4"	3	#10	CU	#10	
40	40	1	3/4"	4	#8	CU	#10	
45-3	40	1	3/4"	3	#8	CU	#10	
50	50	1	3/4"	4	#8	CU	#10	
50-3	50	1	3/4"	3	#8	CU	#10	
60	60	1	1-1/4"	4	#4	CU	#10	
60-3	60	1	1-1/4"	3	#4	CU	#10	
70-3	70	1	1-1/4"	3	#3	CU	#8	
80	80	1	1-1/2"	4	#2	CU	#8	
80-3	80	1	1-1/2"	3	#2	CU	#8	
100	100	1	1-1/2"	4	#1	CU	#6	
100X	100	1	1-1/2"	4	#1	CU	#6 CU	
100-3	100	1	1-1/2"	3	#1	CU	#6	
100-SE	100	-	-	3	#1/0	AL	#6	3/C ALUMINUM SE RATED
125	125	1	2"	4	#2/0	AL	#4	
125-3	125	1	1-1/2"	3	#2/0	AL	#4	
150	150	1	2"	4	#3/0	AL	#4	
150-3	150	1	2"	3	#3/0	AL	#4	
150-SE	150	-	-	3	#2/0	AL	#1	3/C ALUMINUM SE RATED
175	175	1	2-1/2"	4	#4/0	AL	#4	
175-3	175	1	2"	3	#4/0	AL	#4	
200	200	1	2-1/2"	4	#250 kcmil	AL	#4	
200X	200	1	2-1/2"	4	#250 kcmil	AL	#2 CU	
200-3	200	1	2 1/2"	3	#250 kcmil	AL	#4	
200-SE	200	-	-	3	#4/0	AL	#2/0	3/C ALUMINUM SE RATED
225	225	1	3"	4	#300 kcmil	AL	#2	
225-3	225	1	2 1/2"	3	#300 kcmil	AL	#2	
250	250	1	3"	4	#350 kcmil	AL	#2	
250-3	250	1	2-1/2"	3	#350 kcmil	AL	#2 CU	
300	300	1	3-1/2"	4	#500 kcmil	AL	#2	
350	350	2	2-1/2"	4	#4/0	AL	#1	
350-3	350	2	2-1/2"	3	#4/0	AL	#1	
400	400	2	2-1/2"	4	#250 kcmil	AL	#1	
400X	400	2	2-1/2"	4	#250 kcmil	AL	#1/0 CU	
400-3	400	2	2-1/2"	3	#250 kcmil	AL	#1/0	
450-3	450	2	2-1/2"	3	#300 kcmil	AL	#1/0	
500	500	2	3"	4	#350 kcmil	AL	#1/0	
600	600	2	3-1/2"	4	#500 kcmil	AL	#2/0	
600-3	600	2	3"	3	#500 kcmil	AL	#2/0	
750-3	750	3	2-1/2"	3	#350 kcmil	AL	#3/0	
800	800	3	3"	4	#400 kcmil	AL	#3/0	
800X	800	3	3"	4	#400 kcmil	AL	#1/0 CU	
1000	1000	4	3"	4	#350 kcmil	AL	#4/0	
1200	1200	4	3-1/2"	4	#500 kcmil	AL	250 kcmil	
1600	1600	6	3"	4	#400 kcmil	AL	350 kcmil	
2000	2000	7	3-1/2"	4	#500 kcmil	AL	400 kcmil	
2500	2500	9	3-1/2"	4	#500 kcmil	AL	600 kcmil	
3000	3000	10	3-1/2"	4	#500 kcmil	AL	600 kcmil	

FEEDER SCHEDULE NOTES:

A. ALL FEEDER SIZES INDICATED IN SCHEDULE ARE BASED ON CONDUCTORS WITH A TEMPERATURE RATING OF 75° C UNLESS NOTED OTHERWISE.

B. SCHEDULE DOES NOT INCLUDE VOLTAGE DROP CONSIDERATIONS. CONTRACTOR SHALL ACCOUNT FOR VOLTAGE DROP BY UTILIZING AN NEC APPROVED CALCULATION METHOD FOR FEEDERS WITH LENGTHS GREATER THAN 200 FEET.

C. GROUND CONDUCTOR MATERIAL SHALL MATCH PHASE CONDUCTOR MATERIAL UNLESS OTHERWISE NOTED.

D. GROUNDING ELECTRODE FOR TRANSFORMERS SHALL ALWAYS BE COPPER.

SINGLE-LINE KEYED NOTES

1. UTILITY PRIMARY FEEDER TO SERVICE TRANSFORMER. UNDERGROUND DUCT WITH (2)-4" SCH 40 PVC CONDUITS, PULL BOXES, SPLICE BOXES INCLUDING CONCRETE TRANSFORMER PAD BY ELECTRICAL CONTRACTOR. ELECTRICAL CONTRACTOR SHALL FOLLOW ALL CONCORD ELECTRICAL SPECIFICATIONS FOR INSTALLATIONS.
2. UNDERGROUND SERVICE LATERAL. 4 SETS OF (4 - #500 KCMIL ALUMINUM IN 3 1/2"C.)
3. ELECTRICAL SERVICE GROUNDING ELECTRODE CONDUCTOR - #3/0 CU. BOND TO GROUND RODS, BUILDING AND FOUNDATION REINFORCING STEEL, METAL WATER SERVICE PIPING AND CONCRETE ENCASED ELECTRODE PER NEC REQUIREMENTS.
4. PROVIDE SWITCHBOARD WITH DIGITAL CUSTOMER METER. REFER TO SPECIFICATIONS.
5. ELEVATOR CONTROLLER DISCONNECT - 3P, 60A, 240V FUSED DISCONNECT SWITCH. NEMA 1 ENCLOSURE. FUSES PER ELEVATOR NAMEPLATE WITH TIME DELAY FUSES.
6. #8 (CU) GROUNDING ELECTRODE CONDUCTOR. BOND TO GROUND COUNTERPOISE. DO NOT BOND NEUTRAL AND GROUND TERMINALS OF GENERATOR OUTPUT TERMINALS. GENERATOR IS NOT A SEPERATELY DERIVED SYSTEM.
7. ROLL-UP TEMPORARY GENERATOR QUICK CONNECT CABINET / MANUAL TRANSFER SWITCH WITH CAM LOCKS FOR CONNECTION OF TEMPORARY LIFE SAFETY GENERATOR, 100A, 4P, 240V, NEMA 3R. PROVIDE EATON #DT423URKSNLC-FLX OR EQUIVALENT (FOR COMPLIANCE WITH 2020 NEC 700.3(F) AND 517.26. REFER TO DETAILS ON SHEET E0.5.
8. 1200 AMP, OUTDOOR CT COMPARTMENT MOUNTED TO EXTERIOR WALL. PROVIDE PER ELECTRICAL UTILITY EQUIPMENTS

ELECTRICAL PANEL KEY:

N L P 1 A E

SYSTEM
EM - EMERGENCY
EQ - EQUIPMENT (OPTIONAL STANDBY)
G- GENERATOR
LS - LIFE SAFETY (LEGALLY REQ'D. STANDBY)
N - NORMAL POWER

VOLTAGE
H - 277/480V
L - 120/208V

PANEL TYPE
DP- DISTRIBUTION PANEL
P - BRANCH PANEL
SD - SERVICE DISCONNECT
SW - SWITCHBOARD
T - TRANSITION ENCLOSURE

FLOOR
L - LOWER LEVEL / GARAGE
1 - 1ST FLOOR
2 - 2ND FLOOR
3 - 3RD FLOOR
4 - 4TH FLOOR
5 - 5TH FLOOR
R - ROOF

PANELBOARD SUFFIX
A, B, C...(DEPENDING ON NO. OF PANELS)

BUILDING SUFFIX
E - EAST BUILDING
W - WEST BUILDING

GENERAL NOTES

1. VOLTAGE DROP IN FEEDER CONDUCTORS SHALL NOT EXCEED 1.5%.
2. VOLTAGE DROP IN BRANCH CONDUCTORS SHALL NOT EXCEED 1.5%.

KEY NOTES

PERMIT SET

STATE OF MISSOURI JAMES A. KNOWLEN NUMBER E-25237 REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER : DAS	DRAWN : MAW, DKW
ARCHITECT : DAS	CHECKED : MAW
ENGINEER : MAW	APPROVED : JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

ELECTRICAL ONE-LINE DIAGRAM

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING E4.1

LIGHTING CONTROL PANEL LCP-1

RELAY NUMBER	AREA OF LIGHTING CONTROLLED	BRANCH CIRCUIT NUMBER
1	CORR/COMMON SPACE	NLP1(--)
2	EXTERIOR BUILDING MOUNT	NLP1(--)
3	EXTERIOR POLE LIGHTS	NLP1(--,--)
4	--	
5	EGRESS EXTERIOR BLDG LTG	LSLP1(--)
6		
7		
8		

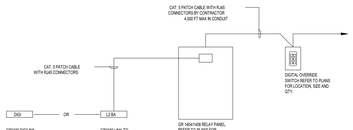
NOTE:

REFER TO THE SCHEDULES ABOVE FOR THE LOCATION OF THE LIGHTING RELAY PANELS. MAKE ALL REQUIRED CONNECTIONS DURING INSTALLATION & INCLUDE PROGRAMMING IN ACCORDANCE WITH INSTRUCTIONS & WIRING DIAGRAMS FROM MANUFACTURER.

DESIGN BASIS: ACUITY CONTROLS, HUBBELL CONTROL SOLUTIONS, LEVITON GREENMAX OR DOUGLAS LIGHTING CONTROLS EQUALS.

TYPICAL LOW VOLTAGE SINGLE LINE DRAWING

RELAY PANEL LOW VOLTAGE CONTROL SYSTEM

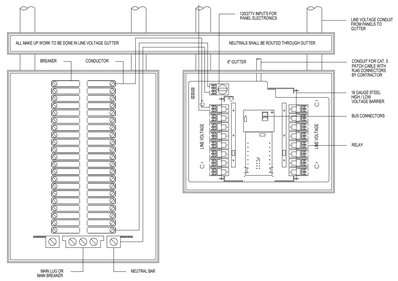


BREAKER PANEL

PANEL DETAIL

RELAY PANEL

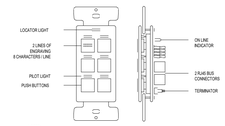
PANEL DETAIL



1 LIGHTING CONTROL RISER DIAGRAM, RELAY PANEL WIRING DETAILS AND SCHEDULES

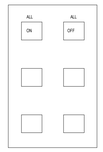
E4.2 12" = 1'-0"

CHELSEA DIGITALSWITCH



NOTES

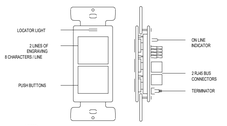
1. SWITCH BUTTONS ARE FACTORY ENGRAVED.
2. PUSH BUTTONS MAY CONTROL ANY RELAYS IN ANY COMBINATION.
3. LED PILOT LIGHTS INDICATE STATUS.
4. SWITCH LINKED TO THE GR 24EI DIGITAL BUS VIA CAT. 5 PATCH CABLE WITH RJ45 CONNECTORS.
5. DECORA STYLE FACE PLATE BY CONTRACTOR.



STAFF AREA CORRIDOR LIGHTING CONTROL SWITCH

TYPICAL

DIGITALSWITCH



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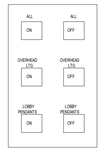
4. SWITCH LINKED TO THE RELAY PANEL DIGITAL BUS VIA CAT. 5 PATCH CABLE WITH RJ45 CONNECTORS.
5. DECORA STYLE FACE PLATE BY CONTRACTOR.



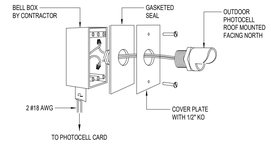
RECEPTION LIGHTING CONTROL SWITCH

GENERAL CONTROL NOTES:

A. PROVIDE 48 RELAY LIGHTING CONTROL PANELS WITH INTEGRATED TIMECLOCK AND BUILDING AUTOMATION (BAS) INTERFACE TO COMMUNICATE WITH BUILDING BAS (IF APPLICABLE). INTERIOR AND EXTERIOR LIGHTING BRANCH CIRCUITS SHALL BE WIRED THROUGH THE RELAYS AND CONTROLLED BY THE TIMECLOCK FOR SCHEDULING/HOURS OF OPERATION.
B. PROVIDE DIGITAL OVERRIDE SWITCHES FOR LOCAL OVERRIDE OF TIMECLOCK OR BAS SCHEDULING AND REDUCED NIGHT-TIME LIGHTING ON/OFF CONTROL. REFER TO FLOOR PLANS FOR LOCATION OF OVERRIDES.
C. VERIFY EXACT LOCATIONS OF SWITCHES WITH OWNER PRIOR TO ROUGH-IN.
D. PROVIDE PLENUM RATED CATS/CAT6 CABLE FROM THE RELAY PANELS TO EACH BYPASS SWITCH.
E. PROVIDE TELEPHONE JACK NEAR PANEL.
F. CONTRACTOR TO INCLUDE IN PRICING, COMMISSION AND SET UP OF PROGRAMMING BY MANUFACTURER REPRESENTATIVE.
G. RELAY PANEL BASIS OF DESIGN: ACUITY CONTROLS #GR-1404LT OR #GR-1408LT-WITH SURFACE MOUNT ENCLOSURE.
H. DAISY CHAIN SWITCHES AND PANELS WITH CAT 5 CABLE AND RJ45 CONNECTORS.

LIGHTING CONTROL PANEL OVERALL SYSTEM NOTES:

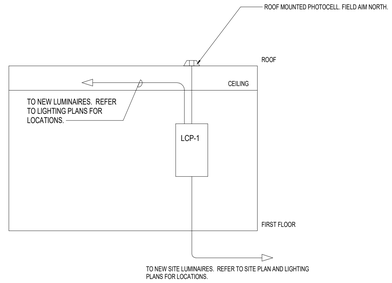
1. RELAY PANEL WITH SURFACE MOUNT ENCLOSURE.
2. DAISY CHAIN SWITCHES AND PANELS WITH CAT5/ CAT6 CABLE AND RJ45 CONNECTORS. PROVIDE PLENUM RATED CATS/CAT6 CABLE FROM THE RELAY PANELS TO EACH BYPASS SWITCH.
3. LIGHTING CONTROL SYSTEM SHALL BE DIGITAL AND CONSIST OF A RELAY PANEL WITH 4 - 8 INDIVIDUAL RELAYS, SECONDARY RELAYS, DIGITAL OVERRIDE SWITCHES (ON/OFF) AND INTERFACE CARDS. ALL SYSTEM COMPONENTS SHALL CONNECT IN A "DAISY CHAIN" STYLE CONFIGURATION AND SHALL BE CONTROLLED VIA CATEGORY 5 PATCH CABLE WITH RJ45 CONNECTORS. PROVIDING REAL-TIME TWO WAY COMMUNICATION FOR EACH SYSTEM COMPONENT. ALL CABLES SUPPLIED BY CONTRACTOR.
4. RELAY PANEL ELECTRONICS SHALL PROVIDE CURRENT VISUAL STATUS AND CONTROL OF EACH RELAY OR ZONE. ALL SYSTEM CONTROL ELECTRONICS SHALL STORE PROGRAMMING IN A NON-VOLATILE MEMORY AND PROVIDE 10 YEAR BATTERY BACK-UP FOR TIME OF DAY.
5. LIGHTING CONTROL SYSTEM SHALL CONSIST OF INDIVIDUAL PANEL CONTROLLED BY A 32-CHANNEL DIGITAL TIME CLOCK (DIGITAL TIME CLOCK) THAT CONTROLS AND PROGRAMS THE ENTIRE LIGHTING CONTROL SYSTEM. THE DIGITAL TIME CLOCK SHALL SUPPLY ALL TIME FUNCTIONS AND ACCEPT OTHER INPUTS. THE DIGITAL TIME CLOCK SHALL ACCEPT CONTROL LOCALLY USING BUILT IN BUTTON PROMPTS AND USE OF AN 8 LINE 21 LETTER DISPLAY. FROM A COMPUTER, MODEM, ETHERNET OR INTERNET. ALL COMMANDS SHALL BE IN PLAIN ENGLISH. HELP PAGES SHALL DISPLAY ON THE DIGITAL TIME CLOCK SCREEN.
6. ALL SWITCHES SHALL COMMUNICATE VIA RS 485, CAT 5 OR CAT 6 PATCH PANEL CABLE WITH RJ45 CONNECTORS. CONTACT CLOSURE STYLE SWITCHES ARE NOT ACCEPTABLE. ANY SWITCH BUTTON FUNCTION SHALL BE ABLE TO BE CHANGED LOCALLY (AT THE DIGITAL TIME CLOCK OR A PC) OR REMOTELY, VIA MODEM, ETHERNET OR INTERNET. REFER TO SINGLE LINE DIAGRAM, SHOWN ABOVE, FOR WIRING DETAILS.
7. ALL LOW VOLTAGE AND LINE VOLTAGE SHALL BE INSTALLED IN COMPLETELY SEPARATE RACEWAY.
8. ALL NORMAL AND EMERGENCY BRANCH CIRCUITS SHALL BE INSTALLED IN COMPLETELY SEPARATE RACEWAY. PROVIDE POSITIONAL BARRIER BETWEEN RELAYS IN PANEL TO ISOLATE NORMAL AND EMERGENCY POWER CIRCUITS.
9. START UP: EC SHALL CONTACT PANEL COMPANY DIRECT OR LOCAL REP TO SET UP DIAGNOSTICS AND CONFIRM SYSTEM PROGRAMMING. EC SHALL BE AVAILABLE AT TIME OF DIAGNOSTICS TO PERFORM ANY CORRECTIONS REQUIRED. EC IS RESPONSIBLE FOR COORDINATING WITH GC AND THE OWNER HOURS OF OPERATION AND SCENE CONTROL. THE INSTALLATION OF A DEDICATED PHONE JACK SHALL BE MOUNTED WITHIN 12" OF PANEL. LABEL JACK WITH PHONE NUMBER. EC SHALL CONNECT PHONE LINE FROM JACK TO PANEL. NO EXCEPTIONS.
10. TELEPHONE FACTORY DIAL-UP SUPPORT SHALL BE AVAILABLE AT NO ADDITIONAL CHARGE TO THE EC OR OWNER BOTH DURING AND AFTER THE WARRANTY PERIOD. FACTORY SHALL PREPROGRAM THE LIGHTING CONTROL MANUFACTURER AT NO ADDED COST AND SHALL PROVIDE ADDITIONAL PROGRAMMING VIA MODEM AS REQUIRED BY THE EC OR OWNER FOR THE OPERATIONAL LIFE OF THE SYSTEM. MANUFACTURER WARRANTS THAT THE TIME CLOCK SOFTWARE CAN BE UPGRADED AND MONITORED REMOTELY. NO EXCEPTION.
11. SHOP DRAWINGS: SUBMIT DRAWINGS OF LIGHTING CONTROL SYSTEM AND ACCESSORIES INCLUDING BUT NOT NECESSARILY LIMITED TO RELAY PANELS, SWITCHES, TIME CLOCK, PHOTOCELLS AND OTHER INTERFACES. DRAWINGS SHALL INDICATE EXACT LOCATION AND PROGRAMMING OF EACH DEVICE. INDICATE ALL TIME SCHEDULES AND SWITCH BUTTON ENGRAVING.
12. CONTRACTOR SHALL COMPLETE PANEL SCHEDULE AT EACH PANEL PRIOR TO LEAVING JOBSITE. REFER TO INDIVIDUAL RELAY PANEL SCHEDULES.

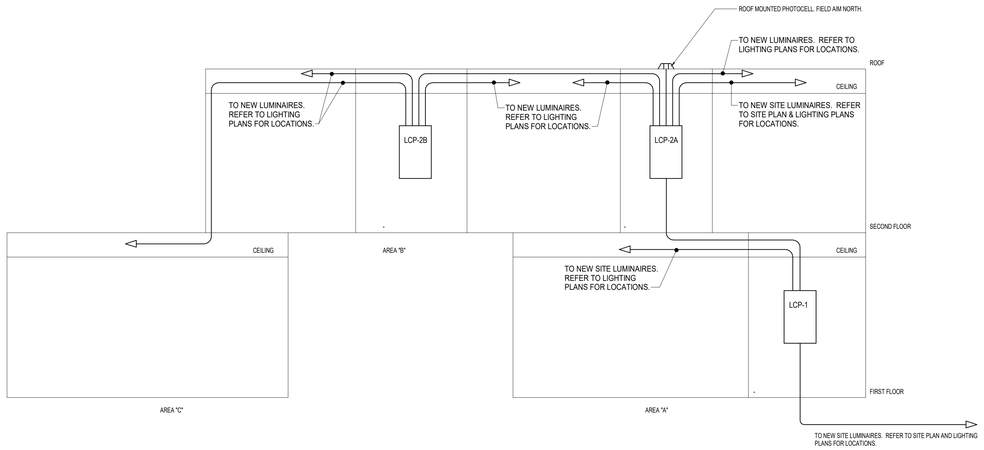


OUTDOOR PHOTOCELL

NOTES:

1. SWITCH BUTTONS ARE FACTORY ENGRAVED.
2. PUSH BUTTONS MAY CONTROL ANY RELAYS(S) IN ANY COMBINATION.
3. LED PILOT LIGHTS INDICATE STATUS.
4. SWITCH LINKED TO THE GR 24/00 DIGITAL BUS VIA CAT. 5 PATCH CABLE WITH RJ45 CONNECTORS.
5. DECORA STYLE FACE PLATE BY CONTRACTOR.





2 LIGHTING CONTROL RISER DIAGRAM

E4.2 N.T.S.

GENERAL NOTES

1. PROVIDE LIGHTING CONTROL SYSTEM WIRING PER MANUFACTURERS REQUIREMENTS.
2. PROVIDE FIRE ALARM SYSTEM WIRING AND CONDUIT PER MANUFACTURERS REQUIREMENTS.

KEY NOTES

1. REFER TO FIRE ALARM DRAWINGS E6.2 & E6.3 FOR FACP & FAA.
2. REFER TO FIRE ALARM DRAWINGS E6.2, E6.3 & E6.4 FOR INIATING AND ANNUNCIATING DEVICE LOCATIONS.
3. PROVIDE PERMANENT LABEL AFFIXED TO PANEL INDICATING CIRCUIT # AND PANEL LOCATION.
4. EXTEND TO ELEVATOR CONTROLLER FOR FIREMAN RECALL. TYPICAL FOR ALL ELEVATOR LOBBY SMOKE DETECTORS.

PERMIT SET

STATE OF MISSOURI JAMES S. WHELAN NUMBER E-25237 PROFESSIONAL ENGINEER

1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
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DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

LIGHTING CONTROL DIAGRAMS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING E4.2

Branch Panel: NLDP2

Location: ELEC E215
Supply From: NLDPA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 600 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LC-D2 - UNIT #E211	100 A	2	11044...	11044...					2	100 A	LC-D2 - UNIT #E212	2
3	--	--	--			11044...	11044...			--	--	--	4
5	LC-C - UNIT #E219	100 A	2					9930 VA	9857 VA	2	100 A	LC-B - UNIT #E214	6
7	--	--	--	9930 VA	9857 VA					--	--	--	8
9	LC-C - UNIT #E221	100 A	2			9930 VA	9930 VA			2	100 A	LC-C - UNIT #E216	10
11	--	--	--					9930 VA	9930 VA	--	--	--	12
13	LC-B - UNIT #E223	100 A	2	9857 VA	9930 VA					2	100 A	LC-C - UNIT #E222	14
15	--	--	--			9857 VA	9930 VA			--	--	--	16
17	LC-C - UNIT #E233	100 A	2					9930 VA	9857 VA	2	100 A	LC-B - UNIT #E224	18
19	--	--	--	9930 VA	9857 VA					--	--	--	20
21	LC-D1 - UNIT #E235	100 A	2			11080...	9930 VA			2	100 A	LC-C - UNIT #E232	22
23	--	--	--					11080...	9930 VA	--	--	--	24
25					11080...					2	100 A	LC-D1 - UNIT #E234	26
27							11080...			--	--	--	28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
		Total Load:		92526 VA		93823 VA		80441 VA					
		Total Amps:		787 A		797 A		670 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Residential per NEC 220.84	266789 VA	41.00%	109383 VA		
				Total Conn. Load:	266789 VA
				Total Est. Demand:	109383 VA
				Total Conn.:	741 A
				Total Est. Demand:	304 A

Notes:

Branch Panel: NLDP1

Location: MEP E118
Supply From: NLDPA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 600 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LC-D2 - UNIT #E111	100 A	2	11044...	11044...					2	100 A	LC-D2 - UNIT #E112	2
3	--	--	--			11044...	11044...			--	--	--	4
5	LC-C - UNIT #E119	100 A	2					9930 VA	9857 VA	2	100 A	LC-B - UNIT #E114	6
7	--	--	--	9930 VA	9857 VA					--	--	--	8
9	LC-C - UNIT #E121	100 A	2			9930 VA	9930 VA			2	100 A	LC-C - UNIT #E116	10
11	--	--	--					9930 VA	9930 VA	--	--	--	12
13	LC-B - UNIT #E123	100 A	2	9857 VA	9930 VA					2	100 A	LC-C - UNIT #E122	14
15	--	--	--			9857 VA	9930 VA			--	--	--	16
17	LC-C - UNIT #E133	100 A	2					9930 VA	9857 VA	2	100 A	LC-B - UNIT #E124	18
19	--	--	--	9930 VA	9857 VA					--	--	--	20
21	LC-D1 - UNIT #E135	100 A	2			11080...	9930 VA			2	100 A	LC-C - UNIT #E132	22
23	--	--	--					11080...	9930 VA	--	--	--	24
25	SP-1	20 A	1	1176 VA	11080...					2	100 A	LC-D1 - UNIT #E134	26
27	SP-2	20 A	1			1176 VA	11080...			--	--	--	28
29	EWH-1 (STAIRWELL #2, 1ST FLOOR)	20 A	2					1500 VA	1500 VA	2	20 A	EWH-1 (STAIRWELL #1, 1ST FLOOR)	30
31	--	--	--	1500 VA	1500 VA					--	--	--	32
33	WTR-HTR-1 (CONTROLS)	20 A	1			240 VA	240 VA			1	20 A	TMV-1 (CONTROLS)	34
35	WTR-HTR-2 (CONTROLS)	20 A	1					240 VA	528 VA	1	20 A	CP-1	36
37	WTR-HTR-3 (CONTROLS)	20 A	1	240 VA									38
39													40
41													42
		Total Load:		96942 VA		95479 VA		84209 VA					
		Total Amps:		822 A		810 A		702 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Heating	6000 VA	100.00%	6000 VA		
Receptacle	3840 VA	100.00%	3840 VA	**Total Conn. Load:**	276629 VA
Residential per NEC 220.84	266789 VA	41.00%	109383 VA	**Total Est. Demand:**	119223 VA
				Total Conn.:	768 A
				Total Est. Demand:	331 A

Notes:

Branch Panel: NLDPA

Location: MEP E118
Supply From:
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 25,000 AIC
Mains Type:
Mains Rating: 800 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	PANEL NLDP1	600 A	3	96942...	92526...					3	600 A	PANEL NLDP2	2
3	--	--	--			95479...	93823...			--	--	--	4
5	--	--	--					84209...	80441...	--	--	--	6
7	PANEL NLDP3	600 A	3	93054...	120226...					3	600 A	PANEL NLDP4	8
9	--	--	--			93823...	121351...			--	--	--	10
11	--	--	--					80441...	107969...	--	--	--	12
13	PANEL NLP1E	400 A	3	3671 VA	8693 VA					3	400 A	PANEL NLP4E	14
15	--	--	--			2866 VA	9470 VA			--	--	--	16
17	--	--	--					2268 VA	6628 VA	--	--	--	18
19	ATS-EM	100 A	3	10042...	0 VA					3	100 A	SPARE	20
21	--	--	--			7605 VA	0 VA			--	--	--	22
23	--	--	--					6768 VA	0 VA	--	--	--	24
25	SPARE	100 A	3	0 VA	0 VA					3	60 A	SPD	26
27	--	--	--			0 VA	0 VA			--	--	--	28
29	--	--	--					0 VA	0 VA	--	--	--	30
		Total Load:		425154 VA		424414 VA		368622 VA					
		Total Amps:		3614 A		3608 A		3072 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	85849 VA	100.00%	85849 VA		
Heating	12000 VA	100.00%	12000 VA	**Total Conn. Load:**	1218190 VA
Motor	20160 VA	100.00%	20160 VA	**Total Est. Demand:**	392320 VA
Other	74 VA	100.00%	74 VA	**Total Conn.:**	3381 A
Receptacle	21610 VA	73.14%	15805 VA	**Total Est. Demand:**	1089 A
Spare	1980 VA	100.00%	1980 VA		
Lighting	7505 VA	125.00%	9381 VA		
Power	1556 VA	100.00%	1556 VA		
Residential per NEC 220.84	1067456 VA	23.00%	245515 VA		

Notes:

Branch Panel: NLDP4

Location: ELEC E415
Supply From: NLDPA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 600 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LC-D2 - UNIT #E411	100 A	2	11044...	11044...					2	100 A	LC-D2 - UNIT #E412	2
3	--	--	--			11044...	11044...			--	--	--	4
5	LC-C - UNIT #E419	100 A	2					9930 VA	9857 VA	2	100 A	LC-B - UNIT #E414	6
7	--	--	--	9930 VA	9857 VA					--	--	--	8
9	LC-C - UNIT #E421	100 A	2			9930 VA	9930 VA			2	100 A	LC-C - UNIT #E416	10
11	--	--	--					9930 VA	9930 VA	--	--	--	12
13	LC-B - UNIT #E423	100 A	2	9857 VA	9930 VA					2	100 A	LC-C - UNIT #E422	14
15	--	--	--			9857 VA	9930 VA			--	--	--	16
17	LC-C - UNIT #E433	100 A	2					9930 VA	9857 VA	2	100 A	LC-B - UNIT #E424	18
19	--	--	--	9930 VA	9857 VA					--	--	--	20
21	LC-D1 - UNIT #E435	100 A	2			11080...	9930 VA			2	100 A	LC-C - UNIT #E432	22
23	--	--	--					11080...	9930 VA	--	--	--	24
25	F-1 (IL - ROOF)	20 A	1	700 VA	11080...					2	100 A	LC-D1 - UNIT #E434	26
27	F-2 (ATRIUM ROOF)	20 A	1			528 VA	11080...			--	--	--	28
29	RTU-1	90 A	3					8520 VA	8520 VA	3	90 A	RTU-2	30
31	--	--	--	8520 VA	8520 VA					--	--	--	32
33	--	--	--			8520 VA	8520 VA			--	--	--	34
35	RTU-3	110 A	3					9960 VA	528 VA	1	20 A	EF-2 (RES. CLOSET #E402)	36
37	--	--	--	9960 VA									38
39	--	--	--			9960 VA							40
41													42
		Total Load:		120226 VA		121351 VA		107969 VA					
		Total Amps:		1018 A		1027 A		900 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	82228 VA	100.00%	82228 VA		
Power	528 VA	100.00%	528 VA	**Total Conn. Load:**	349545 VA
Residential per NEC 220.84	266789 VA	41.00%	109383 VA	**Total Est. Demand:**	192139 VA
				Total Conn.:	970 A
				Total Est. Demand:	533 A

Notes:

Branch Panel: NLDP3

Location: ELEC E315
Supply From: NLDPA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 600 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	LC-D2 - UNIT #E311	100 A	2	11044...	11044...					2	100 A	LC-D2 - UNIT #E312	2
3	--	--	--			11044...	11044...			--	--	--	4
5	LC-C - UNIT #E319	100 A	2					9930 VA	9857 VA	2	100 A	LC-B - UNIT #E314	6
7	--	--	--	9930 VA	9857 VA					--	--	--	8
9	LC-C - UNIT #E321	100 A	2			9930 VA	9930 VA			2	100 A	LC-C - UNIT #E316	10
11	--	--	--					9930 VA	9930 VA	--	--	--	12
13	LC-B - UNIT #E323	100 A	2	9857 VA	9930 VA					2	100 A	LC-C - UNIT #E322	14
15	--	--	--			9857 VA	9930 VA			--	--	--	16
17	LC-C - UNIT #E333	100 A	2					9930 VA	9857 VA	2	100 A	LC-B - UNIT #E324	18
19	--	--	--	9930 VA	9857 VA					--	--	--	20
21	LC-D1 - UNIT #E335	100 A	2			11080...	9930 VA			2	100 A	LC-C - UNIT #E332	22
23	--	--	--					11080...	9930 VA	--	--	--	24
25	EF-2 (RES. CLOSET #E302)	20 A	1	528 VA	11080...					2	100 A	LC-D1 - UNIT #E334	26
27							11080...			--	--	--	28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
		Total Load:		93054 VA		93823 VA		80441 VA					
		Total Amps:		792 A		798 A		670 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Power	528 VA	100.00%	528 VA		
Residential per NEC 220.84	266789 VA	41.00%	109383 VA	**Total Conn. Load:**	267317 VA
				Total Est. Demand:	109911 VA
				Total Conn.:	742 A
				Total Est. Demand:	305 A

Notes:

Branch Panel: EMLP1

Location: ELEC E120
Supply From: ATS-EM
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MCB
Mains Rating: 225 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	EMERG. LTG. - STAIRWELL #1	20 A	1	339 VA	758 VA					1	20 A	NL LTG. - 1ST FLOOR CORRIDOR & ATRIUM	2
3	EMERG. LTG. - STAIRWELL #2	20 A	1			227 VA	505 VA			1	20 A	NL LTG. - 2ND FLOOR CORRIDOR & ATRIUM	4
5	EMERG. PIT LTG. - ELEV. #1	20 A	1					80 VA	452 VA	1	20 A	NL LTG. - 3RD FLOOR CORRIDOR & ATRIUM	6
7	EMERG. PIT LTG. - ELEV. #2	20 A	1	120 VA	435 VA					1	20 A	NL LTG. - 4TH FLOOR CORRIDOR & ATRIUM	8
9	SEVF-1	20 A	3			915 VA	576 VA			1	20 A	LTG. - EXTERIOR	10
11	--	--	--					915 VA	500 VA	1	20 A	DOOR CONTROL PANEL - ELEC. #E115	12
13	--	--	--	915 VA	1175 VA					1	20 A	FIRE SMOKE DAMPERS	14
15	MAGNETIC DOOR HOLDS - ALL FLOORS	20 A	1		32 VA	250 VA				1	20 A	SPRINKLER BELL	16
17	FACP & NAC'S	20 A	1					500 VA	200 VA	1	20 A	SARA SYSTEM REPEATERS	18
19	ELEVATOR #1 (15 HP)	35 A	3	3360 VA	1500 VA					1	20 A	GENERATOR BLOCK HEATER	20
21	--	--	--			3360 VA	300 VA			1	20 A	GENERATOR BATTERY CHARGER	22
23	--	--	--					3360 VA	180 VA	1	20 A	GENERATOR RECEPT	24
25	RCPT'S - COMM. #E127	20 A	1	720 VA	720 VA					1	20 A	RCPT'S - COMM. #E327	26
27	RCPT'S - COMM. #E227	20 A	1			720 VA	720 VA			1	20 A	RCPT'S - COMM. #E427	28
29	POWER AUTODOORS #104A, 104B	20 A	1					400 VA	180 VA	1	20 A	RCPT'S - ELEC. #E120	30
31	Space	--	1	--	0 VA					1	20 A	Spare	32
33	Space	--	1			--	0 VA			1	20 A	Spare	34
35	Space	--	1					--	0 VA	1	20 A	Spare	36
37	Space	--	1	--	0 VA					1	20 A	Spare	38
39	Space	--	1			--	0 VA			1	20 A	Spare	40
41	Space	--	1					--	0 VA	1	20 A	Spare	42
		Total Load:		10042 VA		7605 VA		6768 VA					
		Total Amps:		85 A		64 A		56 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
HVAC	3621 VA	100.00%	3621 VA		
Motor	10080 VA	100.00%	10080 VA	**Total Conn. Load:**	24414 VA
Other	32 VA	100.00%	32 VA	**Total Est. Demand:**	25110 VA
Receptacle	4410 VA	100.00%	4410 VA	**Total Conn.:**	68 A
Spare	1980 VA	100.00%	1980 VA	**Total Est. Demand:**	70 A
Lighting	3491 VA	125.00%	4364 VA		
Power	500 VA	100.00%	500 VA		
Residential per NEC 220.84	300 VA	41.00%	123 VA		

Notes:

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. MOWREY
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER : DAS	DRAWN : MAW, DKW
ARCHITECT : DAS	CHECKED : MAW
ENGINEER : MAW	APPROVED : JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

PANELBOARD SCHEDULES

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING E5.1

Branch Panel: NLP4

Location: ELEC E415
Supply From: NLDPA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RCPT'S - ATRIUM #E401	20 A	1	1260 VA	900 VA					1	20 A	RCPT'S - CORRIDOR #E413	2
3	RCPT'S - LOUNGE #E406	20 A	1			1260 VA	1080 VA			1	20 A	RCPT'S - RM. #E417, E418, E426, E429, E431,...	4
5	RCPT'S - CORRIDOR #E413 & ELEC #E415	20 A	1					1080 VA	0 VA	1	20 A	SPARE	6
7	GFI / WP RCPT - ROOFTOP	20 A	1	900 VA	180 VA					1	20 A	GFI RCPT'S - RESTROOM #E405	8
9	EWH-1 (STAIRWELL #1 , 4TH FLOOR)	20 A	2			1500 VA	770 VA			1	20 A	LTG. - 4TH FLOOR CORRIDOR & ATRIUM	10
11	--	--	--					1500 VA	588 VA	1	20 A	LTG. - RM. #E417, E418, E426, E429, E431, E436	12
13	EWH-1 (STAIRWELL #2 , 4TH FLOOR)	20 A	2	1500 VA	593 VA					1	20 A	LTG. - LOUNGE #E406 & RES. CLOSET #E402	14
15	--	--	--			1500 VA							16
17	ELEVATOR #2 (15 HP)	35 A	3					3360 VA					18
19	--	--	--	3360 VA									20
21	--	--	--			3360 VA							22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
		Total Load:		8693 VA		9470 VA		6528 VA					
		Total Amps:		75 A		82 A		54 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Heating	6000 VA	100.00%	6000 VA		
Motor	10080 VA	100.00%	10080 VA	**Total Conn. Load:**	24691 VA
Other	21 VA	100.00%	21 VA	**Total Est. Demand:**	25173 VA
Receptacle	6660 VA	100.00%	6660 VA	**Total Conn.:**	69 A
Lighting	1930 VA	125.00%	2412 VA	**Total Est. Demand:**	70 A

Notes:

Branch Panel: NLP1

Location: MEP E118
Supply From: NLDPA
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MLO
Mains Rating: 100 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RCPT'S - ATRIUM #E101	20 A	1	720 VA	900 VA					1	20 A	RCPT'S - CORRIDOR #E113	2
3	RCPT'S - MAIL RM. / LOUNGE #E106	20 A	1			1260 VA	540 VA			1	20 A	RCPT'S - RM. #E126, E129, E131, E136	4
5	RCPT'S - CORRIDOR #113 & ELEC #E115	20 A	1					1440 VA	0 VA	1	20 A	SPARE	6
7	RCPT'S - RM. #E105, E117, E118	20 A	1	360 VA	180 VA					1	20 A	GFI RCPT'S - RESTROOM #E105	8
9	Space	--	1			--	1066 VA			1	20 A	LTG. - 1ST FLOOR CORRIDOR & ATRIUM	10
11	POWER AUTODOORS #108A, 108B	20 A	1					400 VA	428 VA	1	20 A	LTG. - RM. #E117, E118, E126, E129, E131, E136	12
13	RCPT'S - CORRIDOR #E100	20 A	1	900 VA	611 VA					1	20 A	LTG. - LOUNGE #E106 & RES. CLOSET #E102	14
15													16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
		Total Load:		3671 VA		2866 VA		2268 VA					
		Total Amps:		31 A		25 A		19 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	21 VA	100.00%	21 VA		
Receptacle	6700 VA	100.00%	6700 VA	**Total Conn. Load:**	8805 VA
Lighting	2084 VA	125.00%	2605 VA	**Total Est. Demand:**	9326 VA
				Total Conn.:	24 A
				Total Est. Demand:	26 A

Notes:

Branch Panel: NLP2

Location: ELEC E215
Supply From:
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MCB
Mains Rating: 225 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RCPT'S - ATRIUM #E201	20 A	1	1080 VA	900 VA					1	20 A	RCPT'S - CORRIDOR #E213	2
3	RCPT'S - LOUNGE #E206	20 A	1			1080 VA	1080 VA			1	20 A	RCPT'S - RM. #E217, E218, E226, E229, E231,...	4
5	RCPT'S - CORRIDOR #E213 & ELEC #E215	20 A	1					1080 VA	0 VA	1	20 A	SPARE	6
7	GFI RCPT'S - LOUNGE #E206	20 A	1	360 VA	850 VA					1	20 A	CLOTHES WASHER - HSKP #E205	8
9	UC MICROWAVE - LOUNGE #E206	20 A	1			1200 VA	927 VA			1	20 A	LTG. - 2ND FLOOR CORRIDOR & ATRIUM	10
11	UC REFRIGERATOR - LOUNGE #E206	20 A	1					600 VA	588 VA	1	20 A	LTG. - RM. #E217, E218, E226, E229, E231, E236	12
13	RCPT'S - CORRIDOR #E200	20 A	1	900 VA	624 VA					1	20 A	LTG. - LOUNGE #E206 & RES. CLOSET #E202	14
15	GFI RCPT'S - LOUNGE #E206	20 A	1			360 VA	2500 VA			2	20 A	CLOTHES DRYER - HSKP #E205	16
17									2500 VA	--	--	--	18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37				3004 VA						3	100 A	PANEL NLP3	38
39							3629 VA			--	--	--	40
41									1488 VA	--	--	--	42
		Total Load:		7718 VA		10775 VA		6256 VA					
		Total Amps:		66 A		92 A		52 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
Receptacle	20610 VA	74.26%	15305 VA	**Total Conn. Load:**	24749 VA
Lighting	4139 VA	125.00%	5174 VA	**Total Est. Demand:**	20479 VA
				Total Conn.:	69 A
				Total Est. Demand:	57 A

Notes:

Branch Panel: NLP3

Location: ELEC E315
Supply From: NLP2
Mounting: SURFACE
Enclosure: NEMA 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000 AIC
Mains Type: MCB
Mains Rating: 225 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		C		Poles	Trip	Circuit Description	CKT
1	RCPT'S - ATRIUM #E301	20 A	1	1440 VA	900 VA					1	20 A	RCPT'S - CORRIDOR #E313	2
3	RCPT'S - LOUNGE #E306	20 A	1			1800 VA	1080 VA			1	20 A	RCPT'S - RM. #E317, E318, E326, E329, E331,...	4
5	RCPT'S - CORRIDOR #E313 & ELEC #E315	20 A	1					900 VA	0 VA	1	20 A	SPARE	6
7				0 VA						1	20 A	SPARE	8
9							749 VA			1	20 A	LTG. - 3RD FLOOR CORRIDOR & ATRIUM	10
11									588 VA	1	20 A	LTG. - RM. #E317, E318, E326, E329, E331, E336	12
13				664 VA						1	20 A	LTG. - LOUNGE #E306 & RES. CLOSET #E302	14
15													16
17													18
19													20
21													22
23													24
25													26
27													28
29													30
31													32
33													34
35													36
37													38
39													40
41													42
		Total Load:		3004 VA		3629 VA		1488 VA					
		Total Amps:		27 A		32 A		12 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Other	0 VA	0.00%	0 VA		
Receptacle	6120 VA	100.00%	6120 VA	**Total Conn. Load:**	8121 VA
Lighting	2001 VA	125.00%	2501 VA	**Total Est. Demand:**	8621 VA
				Total Conn.:	23 A
				Total Est. Demand:	24 A

Notes:

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
JAMES K. NOWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER : DAS	DRAWN : MAW, DKW
ARCHITECT : DAS	CHECKED : MAW
ENGINEER : MAW	APPROVED : JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

PANELBOARD SCHEDULES

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING E5.2

Branch Panel: LC-C

Location: DINING ROOM 230
Supply From:
Mounting: FLUSH
Enclosure: NEMA 1

Volts: 120/208 Single
Phases: 1
Wires: 3

A.I.C. Rating: 10,000 AIC
Mains Type:
Mains Rating: 125 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	GFI RCPT'S - KITCHEN	20 A	1	540 VA	780 VA			1	20 A	REFRIGERATOR	2
3	GFI RCPT'S - KITCHEN	20 A	1			540 VA	3840 VA	2	30 A	ELECTRIC COOKTOP	4
5	ISLAND GFI RCPT'S - KITCHEN	20 A	1	540 VA	3840 VA			--	--	--	6
7	MICROWAVE	20 A	1			1200 VA	2500 VA	2	40 A	CLOTHES DRYER	8
9	GARBAGE DISPOSAL	20 A	1	540 VA	2500 VA			--	--	--	10
11	DISHWASHER	20 A	1			852 VA	850 VA	1	20 A	CLOTHES WASHER	12
13	RCPT'S - LIVING ROOM	20 A	1	1080 VA	360 VA			1	20 A	GFI RCPT'S - BATHROOM	14
15	RCPT'S - BEDROOM	20 A	1			1260 VA	180 VA	1	20 A	GFI / WP RCPT - BALCONY	16
17	RCPT'S - DINING ROOM	20 A	1	900 VA	180 VA			1	20 A	GFI RCPT'S - BATHROOM	18
19	RCPT'S - DEN	20 A	1			720 VA	423 VA	1	20 A	LIGHTNIG - DWELLING UNIT	20
21	VPTAC-2 (UNIT C)	40 A	2	3640 VA	160 VA			1	20 A	EF-1 (UNIT C)	22
23	--	--	--			3640 VA	0 VA	1	20 A	SPARE	24
25	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	26
27	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	28
29	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	30
31	SPARE	20 A	1			0 VA	--	1	--	SPACE	32
33	SPACE	--	1	--	--			1	--	SPACE	34
35	SPACE	--	1			--	--	1	--	SPACE	36
37	SPACE	--	1	--	--			1	--	SPACE	38
39	SPACE	--	1			--	--	1	--	SPACE	40
41	SPACE	--	1	--	--			1	--	SPACE	42
			Total Load:	15060 VA		16005 VA					
			Total Amps:	145 A		153 A					

Legend:

Notes:

Branch Panel: LC-B

Location: BEDROOM 209
Supply From:
Mounting: FLUSH
Enclosure: NEMA 1

Volts: 120/208 Single
Phases: 1
Wires: 3

A.I.C. Rating: 10,000 AIC
Mains Type:
Mains Rating: 125 A
MCB Rating:

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	GFI RCPT'S - KITCHEN	20 A	1	540 VA	780 VA			1	20 A	REFRIGERATOR	2
3	GFI RCPT'S - KITCHEN	20 A	1			540 VA	3840 VA	2	30 A	ELECTRIC COOKTOP	4
5	ISLAND GFI RCPT'S - KITCHEN	20 A	1	720 VA	3840 VA			--	--	--	6
7	MICROWAVE	20 A	1			1200 VA	2500 VA	2	40 A	CLOTHES DRYER	8
9	GARBAGE DISPOSAL	20 A	1	540 VA	2500 VA			--	--	--	10
11	DISHWASHER	20 A	1			852 VA	850 VA	1	20 A	CLOTHES WASHER	12
13	RCPT'S - LIVING ROOM	20 A	1	1080 VA	360 VA			1	20 A	GFI RCPT'S - BATHROOM	14
15	RCPT'S - BEDROOM	20 A	1			1080 VA	180 VA	1	20 A	GFI / WP RCPT - BALCONY	16
17	RCPT'S - DINING ROOM	20 A	1	900 VA	316 VA			1	20 A	LIGHTNIG - DWELLING UNIT	18
19	VPTAC-1 (UNIT B)	40 A	2			3640 VA	80 VA	1	20 A	EF-1 (UNIT B)	20
21	--	--	--	3640 VA	0 VA			1	20 A	SPARE	22
23	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	24
25	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	26
27	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	28
29	SPARE	20 A	1	0 VA	--			1	--	SPACE	30
31	SPACE	--	1			--	--	1	--	SPACE	32
33	SPACE	--	1	--	--			1	--	SPACE	34
35	SPACE	--	1			--	--	1	--	SPACE	36
37	SPACE	--	1	--	--			1	--	SPACE	38
39	SPACE	--	1			--	--	1	--	SPACE	40
41	SPACE	--	1	--	--			1	--	SPACE	42
			Total Load:	15216 VA		14762 VA					
			Total Amps:	146 A		142 A					

Legend:

Notes:

PROJECT TITLE: JOHN KNOX VILLAGE - UNIT TYPE C **PROJECT #:** 23104.00

Optional Method Load Calulation for One-Family Dwellings

1 General Lighting and Receptacle Loads 220.12
Do not include open porches, garages, and unused or unfinished spaces not adaptable for future use.
3 x 888 (sq ft outside dimension) = **1** 2664

2 Small Appliance Branch-Circuits 220.52(A)
*At least **two** small appliance branch circuits must be included. 210.11(C)(1)*
1500 x 2 (minimum of two) = **2** 3000

3 Laundry Branch-Circuit(s) 220.52(B)
*At least **one** laundry branch circuits must be included. 210.11(C)(2)*
1500 x 1 (minimum of one) = **3** 1500

4 Appliances 220.53
*Use nameplate rating of **ALL** appliances (fastened-n-place, permanently connected, or connected to a specific circuit), ranges, ovens cooktops, motors, and clothes dryers.*

Convert any maneplate rating given in amperes to volt-amperes by miltiplying the amperes by the rated voltage.

Do not include any heating or air conditioning equipment in this section.
#4 TOTAL VA OF ALL APPLIANCES: Take 75% of the total appliances and laundry loads minus the Range and Clothes Dyer and then add in the 100% of the Range and Clothes Dryer

Refrigerator	780 (va each)	Clothes Washer	850 (va each)
Dishwasher	852 (va each)	Clothes Dryer	5000 (va each)
Disposal	540 (va each)	Water Heater (N/A)	0 (va each)
Microwaves	1200 (va each)	Exhaust Fans	100 (va each)
Range	7680 (va each)	HW Circ Pump (N/A)	0 (va each)
Cook Top (N/A)	0 (va each)		0 (va each)
Range Hood	250 (va each)		0 (va each)

Total volt-amperes of all appliances LISTED ABOVE **4** 16109

5 Apply 220.82(B) demand factor to the total of lines 1 through 4.
23273 (total of lines 1 through 4) - 10000 = 13273 x 40% = 5309 + 10000 = **5** 15309

6 Heating and/or Air Conditioning System 220.82(C)
*Use the nameplate rating(s) in volt-amperes for all applicable systems in lines **a** through **e** .*

c) Central electric space heating equipment, including integral supplemental heating in heat pumps where the controller prevents the compressor and supplemental heating from operate at the same time.
0 x 65% = **c)** 0

a) Air-conditioning and cooling system(s), including heat pump compressors and supplemental heating, unless the controller prevents the compressor and supplemental heating from operate at the same time.
3328 x 100% = **a)** 3328

d) Electric space heating equipment, if less than four separately controlled units.
7000 x 65% = **d)** 4550

b) Electrical thermal storage and other heating systems where the usual load is expected to be continuous at full nameplate value: Systems qualifying under this section shall not be figured under any other selection in 220.82(C).
0 x 100% = **b)** 0

e) Electric space heating equipment, if four or more separately controlled units.
0 x 40% = **e)** 0

7 Total Volt-Ampere Demand Load: 4550 (largest VA rating from line 6a through 6e) + 15309 (line 5) = **7** 19859

8 Minimum Amperes *Divide the total volt-amperes by the voltage* 19859 (line 7) ÷ 208 (voltage) = **8** **95** (min.amps) **9** Minimum Size Service and/or Feeder 220.40 **9** (min. is 100A)

PROJECT TITLE: JOHN KNOX VILLAGE - UNIT TYPE B **PROJECT #:** 23104.00

Optional Method Load Calulation for One-Family Dwellings

1 General Lighting and Receptacle Loads 220.12
Do not include open porches, garages, and unused or unfinished spaces not adaptable for future use.
3 x 766 (sq ft outside dimension) = **1** 2298

2 Small Appliance Branch-Circuits 220.52(A)
*At least **two** small appliance branch circuits must be included. 210.11(C)(1)*
1500 x 2 (minimum of two) = **2** 3000

3 Laundry Branch-Circuit(s) 220.52(B)
*At least **one** laundry branch circuits must be included. 210.11(C)(2)*
1500 x 1 (minimum of one) = **3** 1500

4 Appliances 220.53
*Use nameplate rating of **ALL** appliances (fastened-n-place, permanently connected, or connected to a specific circuit), ranges, ovens cooktops, motors, and clothes dryers.*

Convert any maneplate rating given in amperes to volt-amperes by miltiplying the amperes by the rated voltage.

Do not include any heating or air conditioning equipment in this section.
#4 TOTAL VA OF ALL APPLIANCES: Take 75% of the total appliances and laundry loads minus the Range and Clothes Dyer and then add in the 100% of the Range and Clothes Dryer

Refrigerator	780 (va each)	Clothes Washer	850 (va each)
Dishwasher	852 (va each)	Clothes Dryer	5000 (va each)
Disposal	540 (va each)	Water Heater (N/A)	0 (va each)
Microwaves	1200 (va each)	Exhaust Fans	100 (va each)
Range	7680 (va each)	HW Circ Pump (N/A)	0 (va each)
Cook Top (N/A)	0 (va each)		0 (va each)
Range Hood	250 (va each)		0 (va each)

Total volt-amperes of all appliances LISTED ABOVE **4** 16109

5 Apply 220.82(B) demand factor to the total of lines 1 through 4.
22907 (total of lines 1 through 4) - 10000 = 12907 x 40% = 5163 + 10000 = **5** 15163

6 Heating and/or Air Conditioning System 220.82(C)
*Use the nameplate rating(s) in volt-amperes for all applicable systems in lines **a** through **e** .*

c) Central electric space heating equipment, including integral supplemental heating in heat pumps where the controller prevents the compressor and supplemental heating from operate at the same time.
0 x 65% = **c)** 0

a) Air-conditioning and cooling system(s), including heat pump compressors and supplemental heating, unless the controller prevents the compressor and supplemental heating from operate at the same time.
2517 x 100% = **a)** 2517

d) Electric space heating equipment, if less than four separately controlled units.
7000 x 65% = **d)** 4550

b) Electrical thermal storage and other heating systems where the usual load is expected to be continuous at full nameplate value: Systems qualifying under this section shall not be figured under any other selection in 220.82(C).
0 x 100% = **b)** 0

e) Electric space heating equipment, if four or more separately controlled units.
0 x 40% = **e)** 0

7 Total Volt-Ampere Demand Load: 4550 (largest VA rating from line 6a through 6e) + 15163 (line 5) = **7** 19713

8 Minimum Amperes *Divide the total volt-amperes by the voltage* 19713 (line 7) ÷ 208 (voltage) = **8** **95** (min.amps) **9** Minimum Size Service and/or Feeder 220.40 **9** (min. is 100A)

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI JAMES A. NOWELL NUMBER E-25237 REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
www.sfcs.com

DESIGNER : DAS	DRAWN : MAW, DKW
ARCHITECT : DAS	CHECKED : MAW
ENGINEER : MAW	APPROVED : JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
PANELBOARD SCHEDULES

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING E5.3

Branch Panel: LC-D3

Location: BEDROOM E467 **Volts:** 120/208 Single **A.I.C. Rating:** 10,000 AIC
Supply From: **Phases:** 1 **Mains Type:**
Mounting: FLUSH **Wires:** 3 **Mains Rating:** 125 A
Enclosure: NEMA 1 **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	GFI RCPT'S - KITCHEN	20 A	1	540 VA	780 VA			1	20 A	REFRIGERATOR	2
3	GFI RCPT'S - KITCHEN	20 A	1			540 VA	3840 VA	2	30 A	ELECTRIC COOKTOP	4
5	ISLAND GFI RCPT'S - KITCHEN	20 A	1	540 VA	3840 VA			--	--	--	6
7	MICROWAVE	20 A	1			1200 VA	2500 VA	2	40 A	CLOTHES DRYER	8
9	GARBAGE DISPOSAL	20 A	1	540 VA	2500 VA			--	--	--	10
11	DISHWASHER	20 A	1			852 VA	850 VA	1	20 A	CLOTHES WASHER	12
13	RCPT'S - LIVING ROOM	20 A	1	1440 VA	360 VA			1	20 A	GFI RCPT'S - BATHROOM	14
15	RCPT'S - PRIMARY BEDROOM	20 A	1			1440 VA	180 VA	1	20 A	GFI / WP RCPT - BALCONY	16
17	RCPT'S - DINING ROOM	20 A	1	1080 VA	360 VA			1	20 A	GFI RCPT'S - BATHROOM	18
19	RCPT'S - BEDROOM	20 A	1			1260 VA	432 VA	1	20 A	LIGHTNIG - DWELLING UNIT	20
21	VPTAC-3 (UNIT D3)	50 A	2	4784 VA	160 VA			1	20 A	EF-1 (UNIT D3)	22
23	--	--	--			4784 VA	0 VA	1	20 A	SPARE	24
25	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	26
27	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	28
29	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	30
31	SPARE	20 A	1			0 VA	--	1	--	SPACE	32
33	SPACE	--	1	--	--			1	--	SPACE	34
35	SPACE	--	1			--	--	1	--	SPACE	36
37	SPACE	--	1	--	--			1	--	SPACE	38
39	SPACE	--	1			--	--	1	--	SPACE	40
41	SPACE	--	1	--	--			1	--	SPACE	42
			Total Load:	16924 VA		17878 VA					
			Total Amps:	163 A		171 A					

Legend:

Notes:

Branch Panel: LC-D2

Location: BEDROOM E259 **Volts:** 120/208 Single **A.I.C. Rating:** 10,000 AIC
Supply From: **Phases:** 1 **Mains Type:**
Mounting: FLUSH **Wires:** 3 **Mains Rating:** 125 A
Enclosure: NEMA 1 **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	GFI RCPT'S - KITCHEN	20 A	1	540 VA	780 VA			1	20 A	REFRIGERATOR	2
3	GFI RCPT'S - KITCHEN	20 A	1			540 VA	3840 VA	2	30 A	ELECTRIC COOKTOP	4
5	ISLAND GFI RCPT'S - KITCHEN	20 A	1	540 VA	3840 VA			--	--	--	6
7	MICROWAVE	20 A	1			1200 VA	2500 VA	2	40 A	CLOTHES DRYER	8
9	GARBAGE DISPOSAL	20 A	1	540 VA	2500 VA			--	--	--	10
11	DISHWASHER	20 A	1			852 VA	850 VA	1	20 A	CLOTHES WASHER	12
13	RCPT'S - LIVING ROOM	20 A	1	1260 VA	360 VA			1	20 A	GFI RCPT'S - BATHROOM	14
15	RCPT'S - PRIMARY BEDROOM	20 A	1			1440 VA	180 VA	1	20 A	GFI / WP RCPT - BALCONY	16
17	RCPT'S - DINING ROOM	20 A	1	1080 VA	360 VA			1	20 A	GFI RCPT'S - BATHROOM	18
19	RCPT'S - BEDROOM	20 A	1			1260 VA	432 VA	1	20 A	LIGHTNIG - DWELLING UNIT	20
21	VPTAC-3 (UNIT D2)	50 A	2	4784 VA	160 VA			1	20 A	EF-1 (UNIT D2)	22
23	--	--	--			4784 VA	0 VA	1	20 A	SPARE	24
25	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	26
27	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	28
29	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	30
31	SPARE	20 A	1			0 VA	--	1	--	SPACE	32
33	SPACE	--	1	--	--			1	--	SPACE	34
35	SPACE	--	1			--	--	1	--	SPACE	36
37	SPACE	--	1	--	--			1	--	SPACE	38
39	SPACE	--	1			--	--	1	--	SPACE	40
41	SPACE	--	1	--	--			1	--	SPACE	42
			Total Load:	16744 VA		17878 VA					
			Total Amps:	161 A		170 A					

Legend:

Notes:

Branch Panel: LC-D1

Location: BEDROOM E243 **Volts:** 120/208 Single **A.I.C. Rating:** 10,000 AIC
Supply From: **Phases:** 1 **Mains Type:**
Mounting: FLUSH **Wires:** 3 **Mains Rating:** 125 A
Enclosure: NEMA 1 **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Poles	A		B		Poles	Trip	Circuit Description	CKT
1	GFI RCPT'S - KITCHEN	20 A	1	540 VA	780 VA			1	20 A	REFRIGERATOR	2
3	GFI RCPT'S - KITCHEN	20 A	1			540 VA	3840 VA	2	30 A	ELECTRIC COOKTOP	4
5	ISLAND GFI RCPT'S - KITCHEN	20 A	1	720 VA	3840 VA			--	--	--	6
7	MICROWAVE	20 A	1			1200 VA	2500 VA	2	40 A	CLOTHES DRYER	8
9	GARBAGE DISPOSAL	20 A	1	540 VA	2500 VA			--	--	--	10
11	DISHWASHER	20 A	1			852 VA	850 VA	1	20 A	CLOTHES WASHER	12
13	RCPT'S - LIVING ROOM	20 A	1	1260 VA	360 VA			1	20 A	GFI RCPT'S - BATHROOM	14
15	RCPT'S - PRIMARY BEDROOM	20 A	1			1260 VA	180 VA	1	20 A	GFI / WP RCPT - BALCONY	16
17	RCPT'S - DINING ROOM	20 A	1	1080 VA	360 VA			1	20 A	GFI RCPT'S - BATHROOM	18
19	RCPT'S - BEDROOM	20 A	1			1260 VA	419 VA	1	20 A	LIGHTNIG - DWELLING UNIT	20
21	VPTAC-3 (UNIT D1)	50 A	2	4784 VA	160 VA			1	20 A	EF-1 (UNIT D1)	22
23	--	--	--			4784 VA	0 VA	1	20 A	SPARE	24
25	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	26
27	SPARE	20 A	1			0 VA	0 VA	1	20 A	SPARE	28
29	SPARE	20 A	1	0 VA	0 VA			1	20 A	SPARE	30
31	SPARE	20 A	1			0 VA	--	1	--	SPACE	32
33	SPACE	--	1	--	--			1	--	SPACE	34
35	SPACE	--	1			--	--	1	--	SPACE	36
37	SPACE	--	1	--	--			1	--	SPACE	38
39	SPACE	--	1			--	--	1	--	SPACE	40
41	SPACE	--	1	--	--			1	--	SPACE	42
			Total Load:	16924 VA		17685 VA					
			Total Amps:	163 A		169 A					

Legend:

Notes:

PROJECT TITLE: JOHN KNOX VILLAGE - UNIT TYPE D3 **PROJECT #:** 23104.00

Optional Method Load Calulation for One-Family Dwellings

1. General Lighting and Receptacle Loads 220.12
Do not include open porches, garages, and unused or unfinished spaces not adaptable for future use.
3 x 1120 (sq ft outside dimension) = **1** 3360

2. Small Appliance Branch-Circuits 220.52(A)
At least ***two*** *small appliance branch circuits must be included. 210.11(C)(1)*
1500 x 2 (minimum of two) = **2** 3000

3. Laundry Branch-Circuit(s) 220.52(B)
At least ***one*** *laundry branch circuits must be included. 210.11(C)(2)*
1500 x 1 (minimum of one) = **3** 1500

4. Appliances 220.53
Use nameplate rating of ***ALL*** *appliances (fastened-n-place, permanently connected, or connected to a specific circuit), ranges, ovens cooktops, motors, and clothes dryers.*
Convert any maneplate rating given in amperes to volt-amperes by miltiplying the amperes by the rated voltage.
Do not include any heating or air conditioning equipment in this section.
#4 TOTAL VA OF ALL APPLIANCES: Take 75% of the total appliances and laundry loads minus the Range and Clothes Dyer and then add in the 100% of the Range and Clothes Dryer

Appliance	(va each)	Appliance	(va each)
Refrigerator	780	Clothes Washer	850
Dishwasher	852	Clothes Dryer	5000
Disposal	540	Water Heater (N/A)	0
Microwaves	1200	Exhaust Fans	100
Range	7680	HW Circ Pump (N/A)	0
Cook Top (N/A)	0		0
Range Hood	250		0

Total volt-amperes of all appliances LISTED ABOVE **4** 16109

5. Apply 220.82(B) demand factor to the total of lines 1 through 4.
23969 (total of lines 1 through 4) - 10000 = 13969 x 40% = 5588 + 10000 = **5** 15588

6. Heating and/or Air Conditioning System 220.82(C)
Use the nameplate rating(s) in volt-amperes for all applicable systems in lines ***a*** *through* ***e***.

a) Air-conditioning and cooling system(s), including heat pump compressors and supplemental heating, unless the controller prevents the compressor and supplemental heating from operate at the same time.
3361 x 100% = **a)** 3361

b) Electrical thermal storage and other heating systems where the usual load is expected to be continuous at full nameplate value: Systems qualifying under this section shall not be figured under any other selection in 220.82(C).
0 x 100% = **b)** 0

c) Central electric space heating equipment, including integral supplemental heating in heat pumps where the controller prevents the compressor and supplemental heating from operate at the same time.
0 x 65% = **c)** 0

d) Electric space heating equipment, if less than four separately controlled units.
10000 x 65% = **d)** 6500

e) Electric space heating equipment, if four or more separately controlled units.
0 x 40% = **e)** 0

7. Total Volt-Ampere Demand Load: 6500 (largest VA rating from line 6a through 6e) + 15588 (line 5) = **7** 22088

8. Minimum Amperes
Divide the total volt-amperes by the voltage
22088 (line 7) ÷ 208 (voltage) = **8** **106** (min.amps)

9 Minimum Size Service and/or Feeder 220.40 **9** (min. is 100A)

PROJECT TITLE: JOHN KNOX VILLAGE - UNIT TYPE D2 **PROJECT #:** 23104.00

Optional Method Load Calulation for One-Family Dwellings

1. General Lighting and Receptacle Loads 220.12
Do not include open porches, garages, and unused or unfinished spaces not adaptable for future use.
3 x 1120 (sq ft outside dimension) = **1** 3360

2. Small Appliance Branch-Circuits 220.52(A)
At least ***two*** *small appliance branch circuits must be included. 210.11(C)(1)*
1500 x 2 (minimum of two) = **2** 3000

3. Laundry Branch-Circuit(s) 220.52(B)
At least ***one*** *laundry branch circuits must be included. 210.11(C)(2)*
1500 x 1 (minimum of one) = **3** 1500

4. Appliances 220.53
Use nameplate rating of ***ALL*** *appliances (fastened-n-place, permanently connected, or connected to a specific circuit), ranges, ovens cooktops, motors, and clothes dryers.*
Convert any maneplate rating given in amperes to volt-amperes by miltiplying the amperes by the rated voltage.
Do not include any heating or air conditioning equipment in this section.
#4 TOTAL VA OF ALL APPLIANCES: Take 75% of the total appliances and laundry loads minus the Range and Clothes Dyer and then add in the 100% of the Range and Clothes Dryer

Appliance	(va each)	Appliance	(va each)
Refrigerator	780	Clothes Washer	850
Dishwasher	852	Clothes Dryer	5000
Disposal	540	Water Heater (N/A)	0
Microwaves	1200	Exhaust Fans	100
Range	7680	HW Circ Pump (N/A)	0
Cook Top (N/A)	0		0
Range Hood	250		0

Total volt-amperes of all appliances LISTED ABOVE **4** 16109

5. Apply 220.82(B) demand factor to the total of lines 1 through 4.
23969 (total of lines 1 through 4) - 10000 = 13969 x 40% = 5588 + 10000 = **5** 15588

6. Heating and/or Air Conditioning System 220.82(C)
Use the nameplate rating(s) in volt-amperes for all applicable systems in lines ***a*** *through* ***e***.

a) Air-conditioning and cooling system(s), including heat pump compressors and supplemental heating, unless the controller prevents the compressor and supplemental heating from operate at the same time.
3361 x 100% = **a)** 3361

b) Electrical thermal storage and other heating systems where the usual load is expected to be continuous at full nameplate value: Systems qualifying under this section shall not be figured under any other selection in 220.82(C).
0 x 100% = **b)** 0

c) Central electric space heating equipment, including integral supplemental heating in heat pumps where the controller prevents the compressor and supplemental heating from operate at the same time.
0 x 65% = **c)** 0

d) Electric space heating equipment, if less than four separately controlled units.
10000 x 65% = **d)** 6500

e) Electric space heating equipment, if four or more separately controlled units.
0 x 40% = **e)** 0

7. Total Volt-Ampere Demand Load: 6500 (largest VA rating from line 6a through 6e) + 15588 (line 5) = **7** 22088

8. Minimum Amperes
Divide the total volt-amperes by the voltage
22088 (line 7) ÷ 208 (voltage) = **8** **106** (min.amps)

9 Minimum Size Service and/or Feeder 220.40 **9** (min. is 100A)

PROJECT TITLE: JOHN KNOX VILLAGE - UNIT TYPE D1 **PROJECT #:** 23104.00

Optional Method Load Calulation for One-Family Dwellings

1. General Lighting and Receptacle Loads 220.12
Do not include open porches, garages, and unused or unfinished spaces not adaptable for future use.
3 x 1180 (sq ft outside dimension) = **1** 3540

2. Small Appliance Branch-Circuits 220.52(A)
At least ***two*** *small appliance branch circuits must be included. 210.11(C)(1)*
1500 x 2 (minimum of two) = **2** 3000

3. Laundry Branch-Circuit(s) 220.52(B)
At least ***one*** *laundry branch circuits must be included. 210.11(C)(2)*
1500 x 1 (minimum of one) = **3** 1500

4. Appliances 220.53
Use nameplate rating of ***ALL*** *appliances (fastened-n-place, permanently connected, or connected to a specific circuit), ranges, ovens cooktops, motors, and clothes dryers.*
Convert any maneplate rating given in amperes to volt-amperes by miltiplying the amperes by the rated voltage.
Do not include any heating or air conditioning equipment in this section.
#4 TOTAL VA OF ALL APPLIANCES: Take 75% of the total appliances and laundry loads minus the Range and Clothes Dyer and then add in the 100% of the Range and Clothes Dryer

Appliance	(va each)	Appliance	(va each)
Refrigerator	780	Clothes Washer	850
Dishwasher	852	Clothes Dryer	5000
Disposal	540	Water Heater (N/A)	0
Microwaves	1200	Exhaust Fans	100
Range	7680	HW Circ Pump (N/A)	0
Cook Top (N/A)	0		0
Range Hood	250		0

Total volt-amperes of all appliances LISTED ABOVE **4** 16109

5. Apply 220.82(B) demand factor to the total of lines 1 through 4.
24149 (total of lines 1 through 4) - 10000 = 14149 x 40% = 5660 + 10000 = **5** 15660

6. Heating and/or Air Conditioning System 220.82(C)
Use the nameplate rating(s) in volt-amperes for all applicable systems in lines ***a*** *through* ***e***.

a) Air-conditioning and cooling system(s), including heat pump compressors and supplemental heating, unless the controller prevents the compressor and supplemental heating from operate at the same time.
3661 x 100% = **a)** 3661

b) Electrical thermal storage and other heating systems where the usual load is expected to be continuous at full nameplate value: Systems qualifying under this section shall not be figured under any other selection in 220.82(C).
0 x 100% = **b)** 0

c) Central electric space heating equipment, including integral supplemental heating in heat pumps where the controller prevents the compressor and supplemental heating from operate at the same time.
0 x 65% = **c)** 0

d) Electric space heating equipment, if less than four separately controlled units.
10000 x 65% = **d)** 6500

e) Electric space heating equipment, if four or more separately controlled units.
0 x 40% = **e)** 0

7. Total Volt-Ampere Demand Load: 6500 (largest VA rating from line 6a through 6e) + 15660 (line 5) = **7** 22160

8. Minimum Amperes
Divide the total volt-amperes by the voltage
22160 (line 7) ÷ 208 (voltage) = **8** **107** (min.amps)

9 Minimum Size Service and/or Feeder 220.40 **9** (min. is 100A)

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. KIDWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

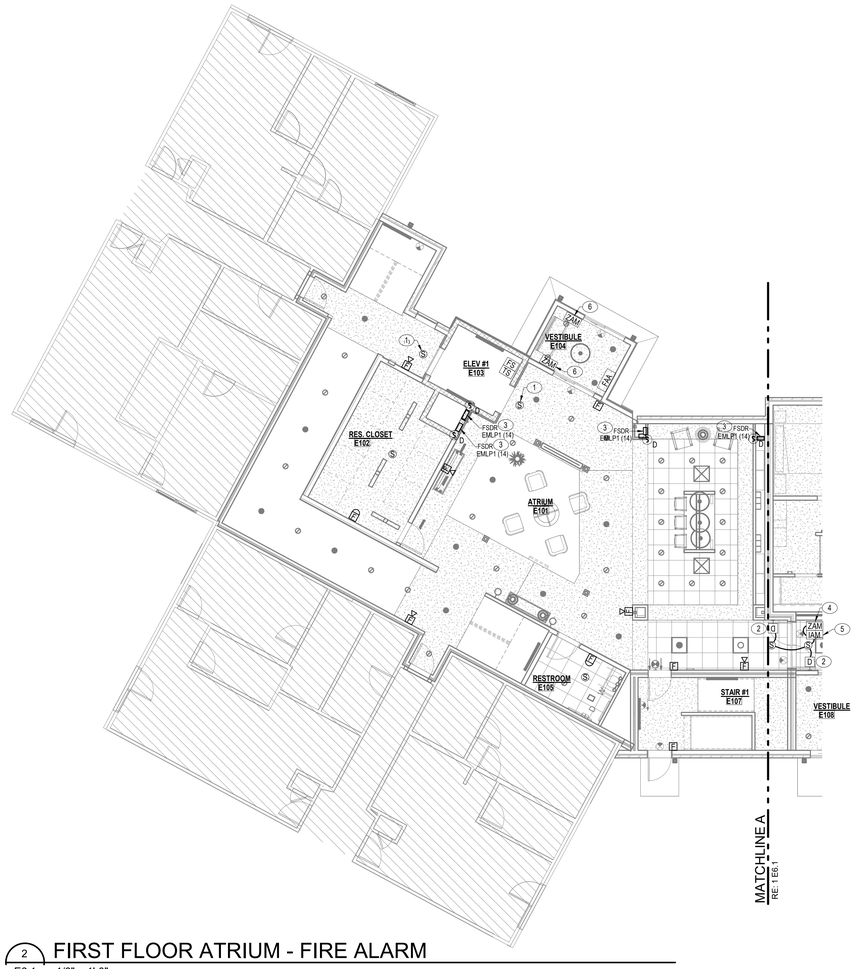
SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
540.344.6664 ▪ Fax 540.343.6925
www.sfcs.com

DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

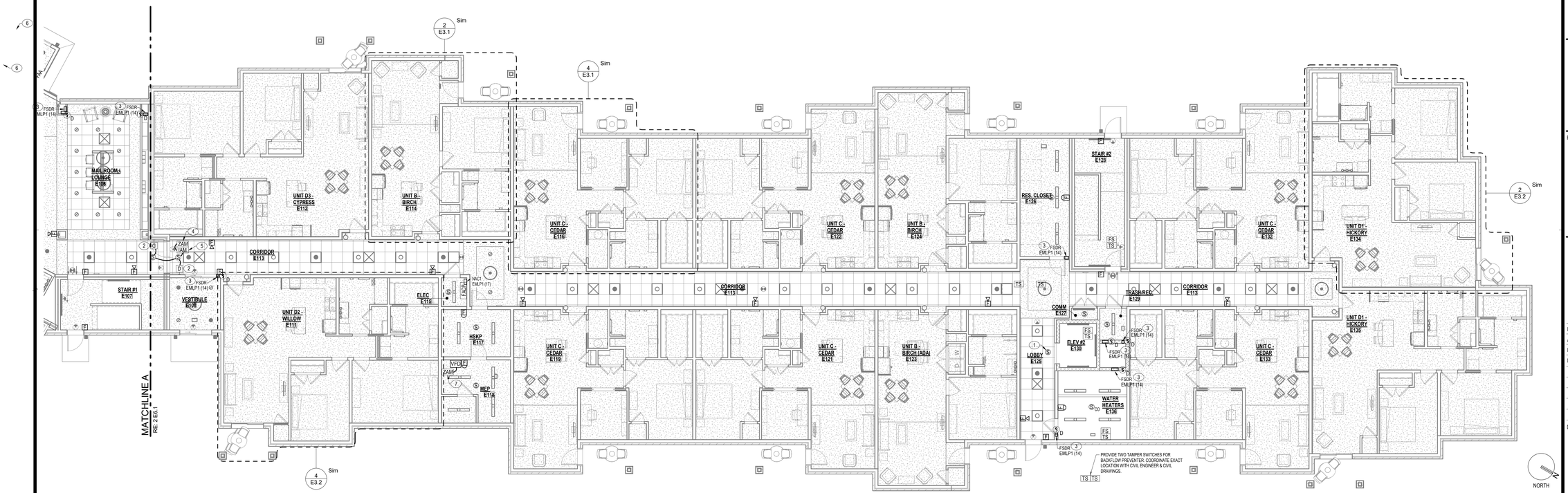
DRAWING TITLE
PANELBOARD SCHEDULES

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING E5.4



2 E6.1 FIRST FLOOR ATRIUM - FIRE ALARM

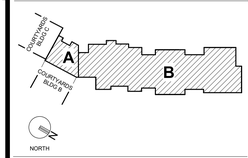
1/8" = 1'-0"



1 E6.1 FIRST FLOOR IL UNITS - FIRE ALARM

1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. PROVIDE ALL REQUIRED CONNECTIONS, MATERIALS AND FIRE ALARM DEVICES TO INTERFACE TO ANY LOW VOLTAGE EQUIPMENT. LOW VOLTAGE EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, EMERGENCY CALL SYSTEM, DOOR SECURITY SYSTEM, ETC. REFER TO LOW VOLTAGE SUBMITTALS AND COORDINATE WITH THE LOW VOLTAGE INSTALLERS FOR REQUIRED CONNECTIONS.

B. PROVIDE ALL REQUIRED CONNECTIONS, MATERIALS AND FIRE ALARM DEVICES TO INTERFACE TO HVAC EQUIPMENT. REFER TO THE HVAC DRAWINGS, SPECIFICATIONS AND SUBMITTALS FOR REQUIRED CONNECTIONS.

C. PROVIDE ALL REQUIRED CONNECTIONS, MATERIALS AND FIRE ALARM DEVICES TO INTERFACE WITH THE SPRINKLER SYSTEM. SPRINKLER SYSTEM CONNECTIONS INCLUDE, BUT IS NOT LIMITED TO, FLOW SWITCHES, PRESSURE SWITCHES, SUPERVISORY SWITCHES, ETC. COORDINATE QUANTITY AND LOCATION OF SWITCHES WITH THE SPRINKLER DRAWINGS AND INSTALLER FOR REQUIRED CONNECTIONS. NOTE THAT SPRINKLER DRAWINGS SHALL BE PROVIDED BY THE SPRINKLER CONTRACTOR.

D. PROVIDE ALL REQUIRED CONNECTIONS, MATERIALS AND FIRE ALARM DEVICES TO INTERFACE TO THE TRASH CHUTE DOOR INTERLOCKS. REFER TO THE TRASH CHUTE SUBMITTAL AND COORDINATE WITH THE INSTALLER TO PROVIDE ALL REQUIRED CONNECTIONS.

E. FIRE ALARM SYSTEM DEVICES SHOWN ARE FOR BIDDING PURPOSES ONLY. SYSTEM SHALL BE DESIGNED BY AN ENTITY MEETING THE REQUIREMENTS LISTED IN THE SPECIFICATIONS. COORDINATE WORK WITH FIRE ALARM VENDOR PRIOR TO SUBMITTING BIDS.

F. ONLY FIRE ALARM SHOP DRAWINGS APPROVED BY ENGINEER AND PERMITTING AGENCY SHALL BE USED FOR CONSTRUCTION.

PLAN NOTES

1. SMOKE DETECTOR SHALL BE INTERLOCKED WITH ELEVATOR CONTROLLER AS REQUIRED FOR ELEVATOR RECALL PER NFPA 72 GUIDELINES.
2. DOOR HOLDER SHALL RELEASE UPON ACTIVATION OF FIRE ALARM SYSTEM. PROVIDE LIFE SAFETY BRANCH CIRCUIT CONNECTION FOR MAGNETIC DOOR HOLDER. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
3. LOCATION OF FIRE SMOKE DAMPER WITH 120VAC CONNECTION AND DUCT SMOKE DETECTOR. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF FIRE/ SMOKE DAMPERS. REFER TO DETAILS ON DRAWING E0.022 FOR ADDITIONAL INFORMATION.
4. PROVIDE AND INSTALL AN ADDRESSABLE RELAY MODULE AND INTERFACE MAGNETIC DOOR HOLDER OPERATION WITH THE FIRE ALARM SYSTEM. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
5. PROVIDE AND INSTALL AN ADDRESSABLE INPUT MODULE TO SEND DOOR STATUS TO THE FIRE ALARM SYSTEM. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
6. FIRE ALARM ZAM CONNECTED TO DOOR CONTROLLER TO SIGNAL OPEN/ CLOSE FOR ATRIUM SMOKE EVACUATION.
7. FIRE ALARM ZAM MODULE FOR CONTROL OF VFD TO SIGNAL ON/ OFF FOR ATRIUM SMOKE EVACUATION.

PERMIT SET

STATE OF MISSOURI
JAMES S. WHITNEY
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
540.344.6664 ▪ Fax 540.343.6925
www.sfcs.com

DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

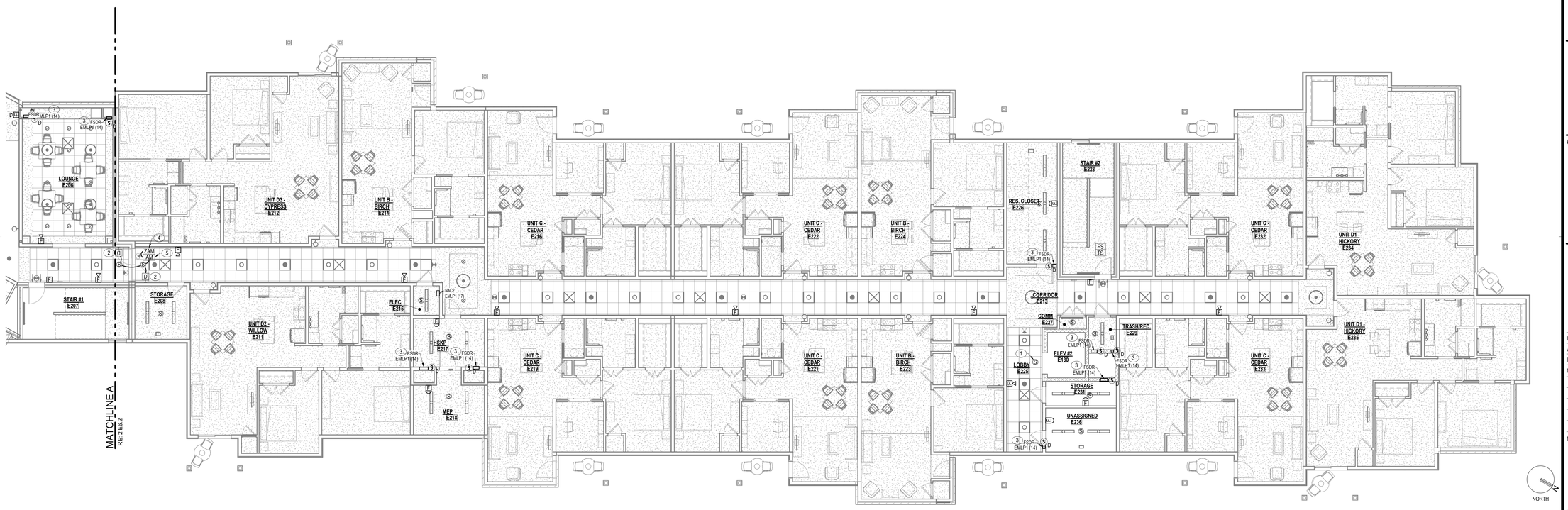
FIRST FLOOR PLAN - FIRE ALARM

DATE: January 5, 2024

COMM. NO. 23104.00

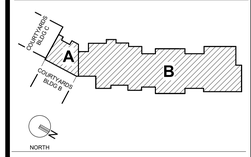
DRAWING E6.1

2 SECOND FLOOR ATRIUM - FIRE ALARM
E6.2 1/8" = 1'-0"



1 SECOND FLOOR IL UNITS - FIRE ALARM
E6.2 1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. REFER TO SHEET E6.1 FOR FIRE ALARM GENERAL NOTES.

PLAN NOTES

1 SMOKE DETECTOR SHALL BE INTERLOCKED WITH ELEVATOR CONTROLLER AS REQUIRED FOR ELEVATOR RECALL PER NFPA 72 GUIDELINES.
2 DOOR HOLDER SHALL RELEASE UPON ACTIVATION OF FIRE ALARM SYSTEM. PROVIDE LIFE SAFETY BRANCH CIRCUIT CONNECTION FOR MAGNETIC DOOR HOLDER. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
3 LOCATION OF FIRE SMOKE DAMPER WITH 120VAC CONNECTION AND DUCT SMOKE DETECTOR. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF FIRE/ SMOKE DAMPERS. REFER TO DETAILS ON DRAWING E0.022 FOR ADDITIONAL INFORMATION.
4 PROVIDE AND INSTALL AN ADDRESSABLE RELAY MODULE AND INTERFACE MAGNETIC DOOR HOLDER OPERATION WITH THE FIRE ALARM SYSTEM. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
5 PROVIDE AND INSTALL AN ADDRESSABLE INPUT MODULE TO SEND DOOR STATUS TO THE FIRE ALARM SYSTEM. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.

PERMIT SET

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
540.344.6664 ▪ Fax 540.343.6925
www.sfcs.com

DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

SECOND FLOOR PLAN - FIRE ALARM

DATE:	January 5, 2024	DRAWING	E6.2
COMM. NO.	23104.00		

1/5/2024
10:51:44 AM

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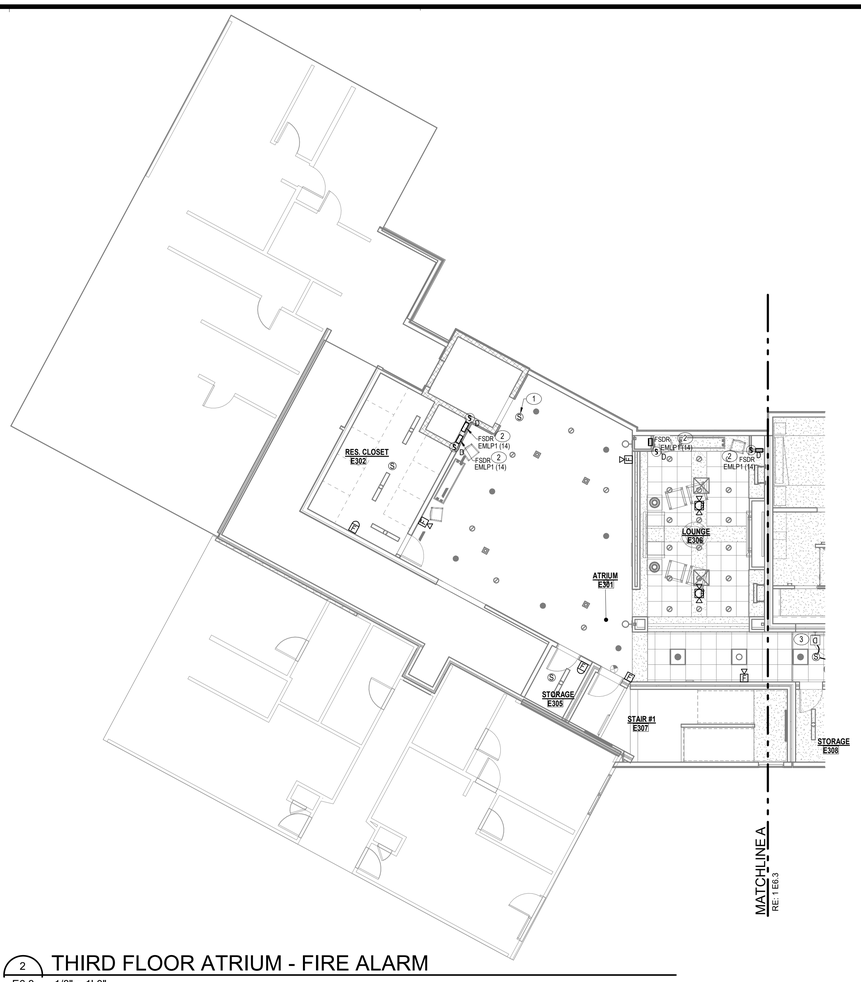
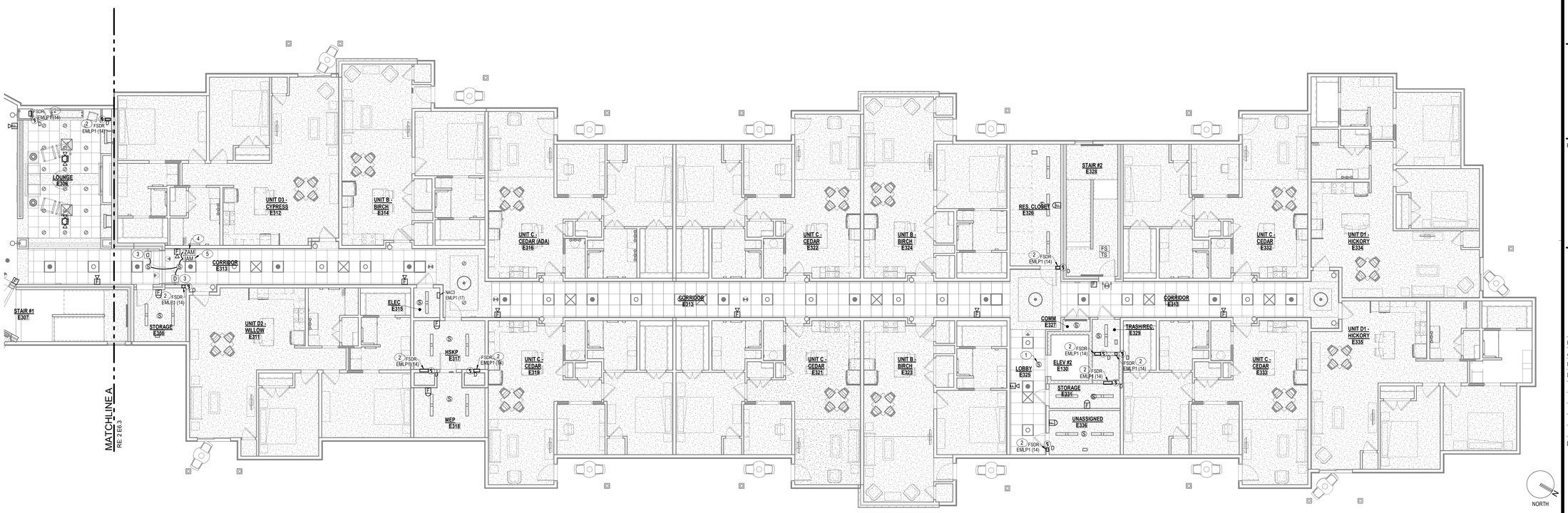
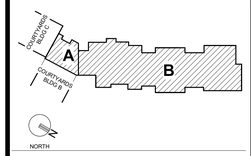


2 THIRD FLOOR ATRIUM - FIRE ALARM
E6.3 1/8" = 1'-0"



1 THIRD FLOOR IL UNITS - FIRE ALARM
E6.3 1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. REFER TO SHEET E6.1 FOR FIRE ALARM GENERAL NOTES.

PLAN NOTES

1 SMOKE DETECTOR SHALL BE INTERLOCKED WITH ELEVATOR CONTROLLER AS REQUIRED FOR ELEVATOR RECALL PER NFPA 72 GUIDELINES.
2 LOCATION OF FIRE SMOKE DAMPER WITH 120VAC CONNECTION AND DUCT SMOKE DETECTOR. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF FIRE/ SMOKE DAMPERS. REFER TO DETAILS ON DRAWING E0.022 FOR ADDITIONAL INFORMATION.
3 DOOR HOLDER SHALL RELEASE UPON ACTIVATION OF FIRE ALARM SYSTEM. PROVIDE LIFE SAFETY BRANCH CIRCUIT CONNECTION FOR MAGNETIC DOOR HOLDER. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
4 PROVIDE AND INSTALL AN ADDRESSABLE RELAY MODULE AND INTERFACE MAGNETIC DOOR HOLDER OPERATION WITH THE FIRE ALARM SYSTEM. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
5 PROVIDE AND INSTALL AN ADDRESSABLE INPUT MODULE TO SEND DOOR STATUS TO THE FIRE ALARM SYSTEM. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.

PERMIT SET

STATE OF MISSOURI
JAMES S. KIDWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT	: DAS	CHECKED	: MAW
ENGINEER	: MAW	APPROVED	: JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

THIRD FLOOR PLAN - FIRE ALARM

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING E6.3

1/5/2024
10:51:50 AM
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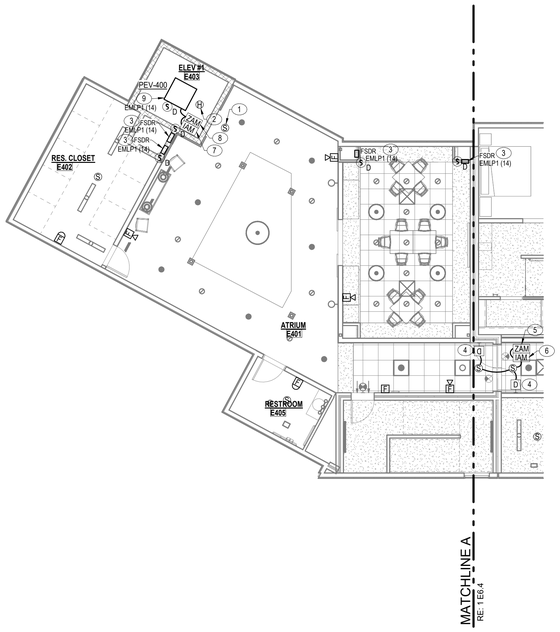
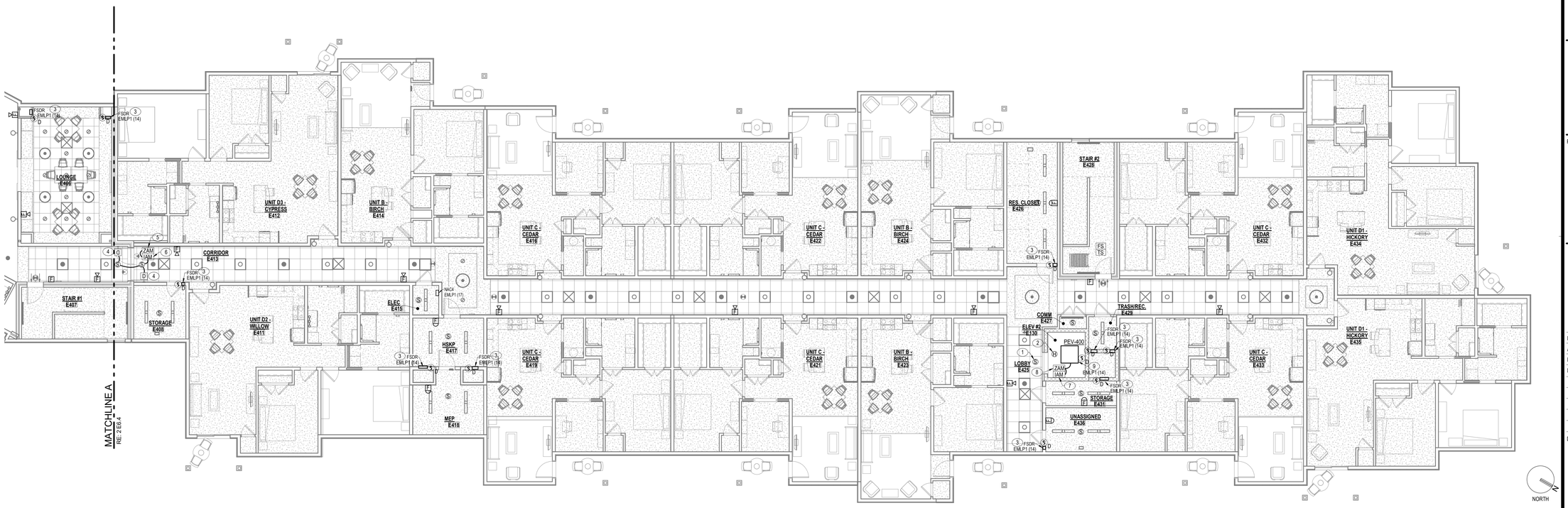


2 E6.4 FOURTH FLOOR ATRIUM - FIRE ALARM

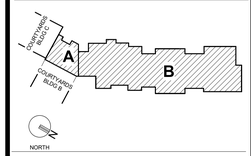
1/8" = 1'-0"



1 E6.4 FOURTH FLOOR IL UNITS - FIRE ALARM

1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. REFER TO SHEET E6.1 FOR FIRE ALARM GENERAL NOTES.

PLAN NOTES

1. SMOKE DETECTOR SHALL BE INTERLOCKED WITH ELEVATOR CONTROLLER AS REQUIRED FOR ELEVATOR RECALL PER NFPA 72 GUIDELINES.
2. HEAT DETECTOR SHALL BE MOUNTED AT TOP OF ELEVATOR SHAFT. LOCATE DETECTORS PER NFPA 72 GUIDELINES. HEAT DETECTOR SHALL BE INTERLOCKED WITH SHUNT TRIP OPERATOR OF ELEVATOR CONTROLLER POWER DISCONNECT.
3. LOCATION OF FIRE SMOKE DAMPER WITH 120VAC CONNECTION AND DUCT SMOKE DETECTOR. COORDINATE WITH MECHANICAL DRAWINGS FOR EXACT LOCATION OF FIRE/ SMOKE DAMPERS. REFER TO DETAILS ON DRAWING E0.022 FOR ADDITIONAL INFORMATION.
4. DOOR HOLDER SHALL RELEASE UPON ACTIVATION OF FIRE ALARM SYSTEM. PROVIDE LIFE SAFETY BRANCH CIRCUIT CONNECTION FOR MAGNETIC DOOR HOLDER. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
5. PROVIDE AND INSTALL AN ADDRESSABLE RELAY MODULE AND INTERFACE MAGNETIC DOOR HOLDER OPERATION WITH THE FIRE ALARM SYSTEM. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
6. PROVIDE AND INSTALL AN ADDRESSABLE INPUT MODULE TO SEND DOOR STATUS TO THE FIRE ALARM SYSTEM. REFER TO MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM ON SHEET E6.6.
7. PROVIDE AND INSTALL AN ADDRESSABLE INPUT MODULE TO SEND GREENHECK PEV-400 PENTHOUSE ELEVATOR VENT STATUS TO THE FIRE ALARM SYSTEM.
8. PROVIDE AND INSTALL AN ADDRESSABLE RELAY MODULE AND INTERFACE GREENHECK PEV-400 PENTHOUSE ELEVATOR VENT OPERATION WITH THE FIRE ALARM SYSTEM.
9. LOCATION OF GREENHECK PEV-400 PENTHOUSE ELEVATOR VENT TOP OF ELEVATOR SHAFT. SMOKE DAMPER AND SMOKE DETECTOR IS ALL CONTAINED WITHIN VENTILATOR FROM GREENHECK. PROVIDE 120VAC CONNECTION TO HONEYWELL MODEL #M8412DF1006 DAMPER ACTUATOR AND COORDINATE WITH MECHANICAL DRAWINGS.

PERMIT SET

STATE OF MISSOURI
JAMES S. KNOWLEN
NUMBER E-25237
LICENSED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

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ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

FOURTH FLOOR PLAN - FIRE ALARM

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING E6.4

SYSTEM SEQUENCE OF OPERATIONS

SYSTEM OUTPUTS — CTRL. UNIT ANNUNCIATION / NOTIFICATION / FIRE SAFETY CONTROL

- A — ACTUATE COMMON ALARM SIGNAL INDICATOR
- B — ACTUATE AUDIBLE ALARM SIGNAL
- C — ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR
- D — ACTUATE AUDIBLE SUPERVISORY SIGNAL
- E — ACTUATE COMMON TROUBLE SIGNAL INDICATOR
- F — ACTUATE AUDIBLE TROUBLE SIGNAL
- G — ACTUATE APPROPRIATE LOCATION INDICATOR
- H — ACTUATE ALL AUDIBLE EVACUATION SIGNALS
- I — ACTUATE ALL VISIBLE EVACUATION SIGNALS
- K — DISPLAY CHANGE OF STATUS
- L — TRANSMIT ALARM SIGNAL TO SUPERVISING STATION
- M — TRANSMIT SUPV. SIGNAL TO SUPERVISING STATION
- N — TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION
- R — RELEASE ELEVATOR FIRE DOORS
- S — MAIN FLOOR ELEVATOR RECALL
- T — ALTERNATE FLOOR ELEVATOR RECALL
- U — ELEVATOR HAT FLASH
- V — ELEVATOR SHUNT TRIP
- W — RELEASE MAGNETICALLY HELD SMOKE DOORS
- Y — FAN SHUT DOWN
- Z — DAMPER SHUT DOWN
- AA — REMOTELY DISPLAY ATIVE STATUS

No.	SYSTEM INPUTS	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH	AI	AJ	REMARKS
1	SMOKE SENSOR/DETECTOR	•	•					•	•	•		•	•											•		•	•	•									
2	SMOKE/HEAT SENSOR W/ SOUNDER BASE			•	•			•				•		•																							
3	MANUAL PULL STATION	•	•					•	•	•		•	•															•									
4	HEAT SENSOR/DETECTOR	•	•					•	•	•		•	•															•									
5	MAIN FLR. ELEV. LOBBY SMOKE DETECTOR	•	•					•	•	•		•	•						•		•			•		•	•	•									
6	ELEVATOR LOBBY SMOKE DETECTORS (EXC. MAIN FLR.)	•	•					•	•	•		•	•						•	•				•		•	•	•									
7	ELEVATOR MECH. ROOM HEAT DETECTOR	•	•					•	•	•		•	•										•					•									
8	ELEVATOR MECH. ROOM SMOKE DETECTOR	•	•					•	•	•		•	•							•		•		•		•	•	•									
9	ELEVATOR SHAFT HEAT DETECTOR	•	•					•	•	•		•	•										•					•									
10	ELEVATOR SHAFT SMOKE DETECTOR	•	•					•	•	•		•	•							•		•		•		•	•	•									
11	ELEVATOR POWER MONITOR			•	•			•				•		•														•									
12	WATERFLOW SWITCH	•	•					•	•	•		•	•											•													
13	TAMPER SWITCH			•	•			•				•		•																							
14	FIRE ALARM AC POWER FAILURE					•	•					•			•				•					•													
15	OPEN CIRCUIT OR GROUND FAULT					•	•					•			•																						
16	FIRE ALARM SYSTEM LOW BATTERY					•	•					•			•																						
17	CLASS B NOTIFICATION CIRCUIT (NAC) - SHORT					•	•					•			•																						
18	DUCT SENSOR/DETECTOR			•	•			•				•		•												•	•	•									
19	MAINTENANCE SWITCH					•	•								•													•									
20	FIRE PUMP RUNNING			•	•			•				•		•														•									
21	FIRE PUMP POWER FROM ALTERNATE SOURCE			•	•			•				•		•														•									
22	FIRE PUMP PHASE LOSS/REVERSAL			•	•			•				•		•														•									
23																																					
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FIRE ALARM SYSTEM RISER LEGEND:

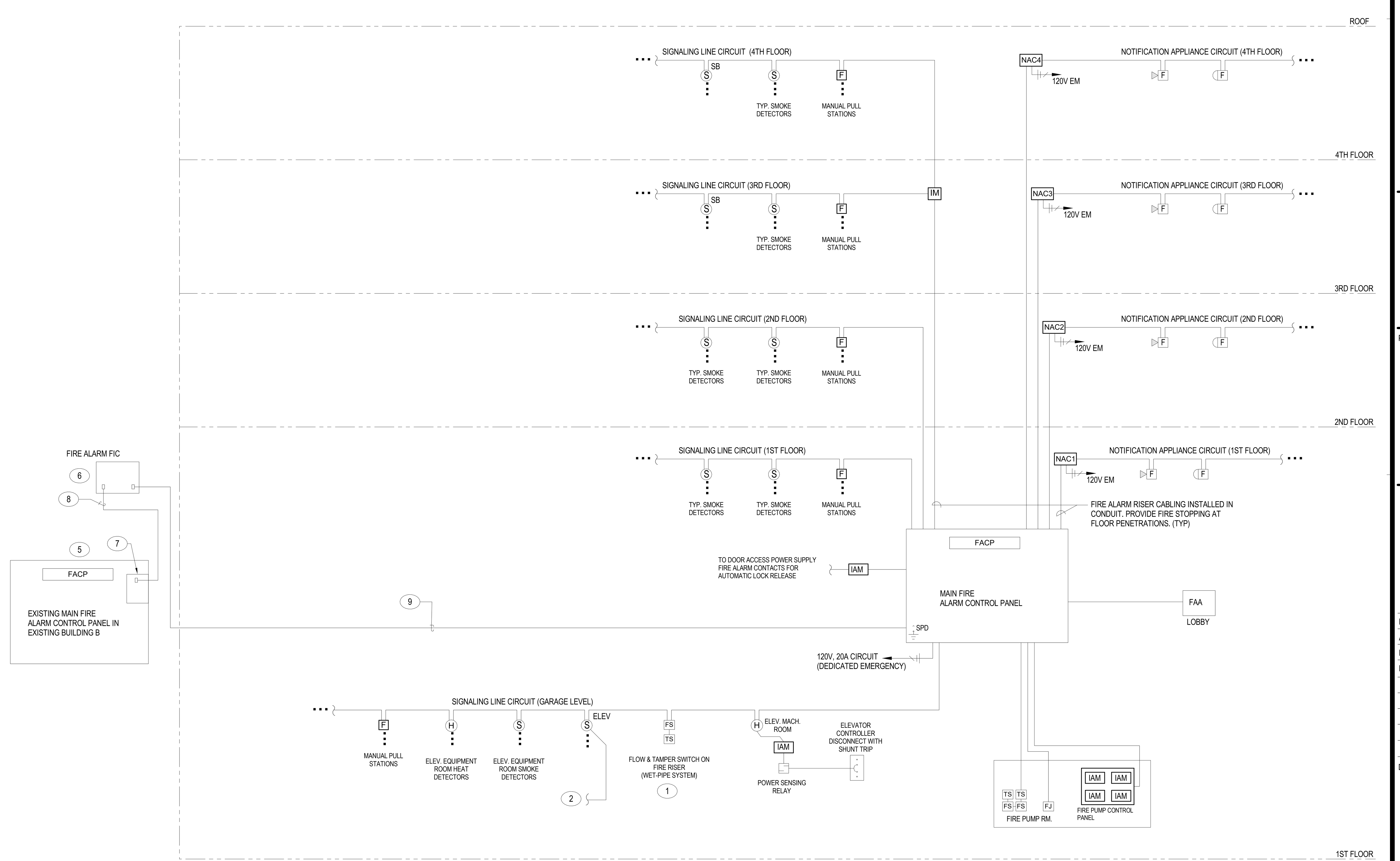
- F (speaker symbol) — FIRE ALARM SPEAKER/ STROBE (VISUAL OUTPUT @ 110 CANDELAS)
- F (horn symbol) — FIRE ALARM HORN/ STROBE (VISUAL OUTPUT @ 110 CANDELAS)
- F — MANUAL FIRE ALARM DUAL-ACTION PULL STATION. MOUNT TOP OF PULL STATION @ 48" A.F.F.
- F (strobe symbol) — WALL MOUNTED FIRE ALARM STROBE LIGHT. MOUNT @ 80" A.F.F. OR 6" BELOW CEILING. 'C' DENOTES CEILING MOUNTED
- H — CEILING MOUNTED FIRE ALARM HEAT DETECTOR
- S — CEILING MOUNTED FIRE ALARM SMOKE DETECTOR
SB = SOUNDER BASE
D = DUCT TYPE
- ICP — FOUR (4) CIRCUIT FIRE ALARM INDICATING CIRCUIT POWER EXTENDER.
- IM — SIGNALING LINE CIRCUIT ISOLATION MODULE.
- AOM — ADDRESSABLE OUTPUT MODULE.
- IAM — INDIVIDUAL ADDRESSABLE MONITOR MODULE.
- TS — FIRE ALARM TAMPER SWITCH
- FS — FIRE ALARM FLOW SWITCH
- PIV — FIRE ALARM POST INDICATING VALVE
- FACP — FIRE ALARM CONTROL PANEL
- FAA — FIRE ALARM REMOTE ANNUNCIATOR
- NAC — NOTIFICATION APPLIANCE CIRCUIT PANEL
- (phone symbol) — FIRE FIGHTER PHONE JACK

FIRE ALARM KEYED NOTES:

1. COORDINATE WITH DRAWINGS/ SPRINKLER CONTRACTOR FOR ACTUAL NUMBER OF TAMPER AND FLOW SWITCHES REQUIRED TO BE MONITORED ON THE FIRE SUPPRESSION RISER AND THE SUPPRESSION ZONES ON EACH FLOOR.
2. EXTEND TO ELEVATOR CONTROLLER FOR FIREMAN RECALL. TYPICAL FOR ALL ELEVATOR LOBBY SMOKE DETECTORS.
3. TO STAIR PRESSURIZATION FAN FIRE ALARM CONTACTS FOR AUTOMATIC ACTIVATION OF FANS THROUGH FIRE SYSTEM (TYPICAL)
4. TO STAIRWELL PRESSURIZATION FAN CONTROL PANEL(S).
5. EXISTING FIRE ALARM CONTROL PANEL SHALL BE MODIFIED TO ACCEPT ANNUNCIATION FROM NEW VITALITY TOWER SYSTEM.
6. FIBER OPTIC TERMINATION CABINET IN EXISTING SECURITY ROOM. PATCH NEW FIBER OPTIC CABLE TO EXISTING FIRE ALARM SYSTEM.
7. PROVIDE NEW FO COMMUNICATIONS CARD IN EXISTING CONTROL PANEL FOR INTERFACE TO NEW TOWER FIRE ALARM SYSTEM.
8. FO PATCH FROM FIC TO EXISTING FIRE ALARM PANEL IN 1" EMT.
9. FIBER OPTIC COMMUNICATION CABLING IN 2" CONDUIT, 6 STRAND MULTIMODE CABLE OR AS PER FIRE ALARM MANUFACTURER. EXTEND TO EXISTING TWR BLDG NETWORK PANEL.

FIRE ALARM SYSTEM GENERAL NOTES:

1. PROVIDE AN INTELLIGENT ADDRESSABLE FIRE ALARM SYSTEM FOR THE FACILITY. THIS NEW FIRE ALARM SYSTEM SHALL BE CAPABLE OF MONITORING THE INCOMING FIRE SUPPRESSION RISER, MANUAL PULL STATIONS, ALL CEILING MOUNTED AUTOMATIC SMOKE AND HEAT DETECTORS AND ALL DUCT-MOUNTED AUTOMATIC SMOKE DETECTORS.
2. PROVIDE ADDRESSABLE NOTIFICATION APPLIANCES WITH THIS SYSTEM. AUDIBLE NOTIFICATION APPLIANCES ARE TO UTILIZE A SETTING AT A MINIMUM OF 87dB. VISUAL NOTIFICATION APPLIANCES SHALL BE CAPABLE OF MULTIPLE CANDELA SETTINGS UP TO 110 CANDELAS.
3. FOR EACH FIRE/SMOKE DAMPER IN DUCTWORK, PROVIDE A DUCT-MOUNTED SMOKE DETECTOR IN THE DUCTWORK TO MONITOR THE DUCT OPENING IN THE SMOKE/FIRE RATED PARTITION. THESE DETECTORS ARE TO BE PROVIDED WITH AN AUXILIARY, 24V, NORMALLY-CLOSED, RELAY WHICH HOLDS THE DAMPER OPEN. THIS RELAY IS TO KEEP THE DAMPER OPEN UNDER NORMAL CONDITIONS. THIS RELAY IS TO BE WIRED SO THAT IT OPENS, THUS ALLOWING THE DAMPER TO CLOSE, IN THE EVENT OF AN ALARM OR LOSS OF POWER CONDITION. IN ADDITION TO THE RELAY, PROVIDE A 120V-24V CONTROL TRANSFORMER, FOR EACH DAMPER, AND CONNECT TO CLOSEST 120V RECEPTACLE CIRCUIT. THESE DETECTORS ARE TO BE SUPPLIED AND CONNECTED TO THE EXISTING FIRE ALARM SYSTEM, AND INSTALLED, BY THE ELECTRICAL CONTRACTOR.
4. FIRE ALARM MANUAL STATIONS SHALL BE DOUBLE-ACTION TYPE, POSITIVE VISUAL INDICATION OF OPERATION, KEY RESET AND ALL SHOULD BE KEYED ALIKE.
5. AVOID PLACEMENT OF HEAT DETECTORS CLOSE TO HEAT-PRODUCING EQUIPMENT WHERE RATE-OF-RISE WILL DEGRADE DETECTOR PERFORMANCE OR PRODUCE NUISANCE ALARMS. USE DEVICES CAPABLE FIXED TEMPERATURE (165°F TO 190°F) DETECTION IN SUCH AREAS.
6. ALL ANNUNCIATOR LEGEND WORDING AND/OR ALPHANUMERIC DISPLAY LEGENDS SHALL BE APPROVED BY THE ENGINEER, OWNER AND/OR LOCAL FIRE DEPARTMENT AUTHORITY, AS APPLICABLE. SUBMIT THIS INFORMATION WITH SHOP DRAWING SUBMITTALS.
7. THE SENSITIVITY OF SMOKE DETECTORS SHALL BE ADJUSTED FOR THE SERVICE DUTY IN THE AREA INDICATED, TO SUIT BUILDING OPERATIONAL CONDITIONS.
8. WIRE SIZE SELECTIONS FOR AUDIO/VISUAL UNITS SHALL BE CALCULATED AND SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
9. RISER DIAGRAM FOR FIRE ALARM SYSTEM IS DIAGRAMMATIC AND FOR BID PURPOSES ONLY. SYSTEM SHALL BE INSTALLED AND CONNECTED IN ACCORDANCE WITH WIRING DIAGRAMS OBTAINED FROM THE MANUFACTURER AND THAT HAVE BEEN APPROVED BY THE STATE FIRE MARSHALL'S OFFICE OR THE LOCAL AUTHORITY HAVING JURISDICTION, AS APPLICABLE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CONFIRM ALL QUANTITIES AND LOCATION OF FIRE ALARM DEVICES PRIOR TO SYSTEM INSTALLATION.
10. AUTOMATIC FIRE ALARM DETECTORS SHALL BE LOCATED SO AS TO PREVENT SHIELDING BY DUCTWORK, EQUIPMENT AND PIPING ON CEILING. SPACING BETWEEN DETECTORS SHALL BE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS IN ANY CASE. ADDITIONAL DETECTORS SHALL BE PROVIDED IF NEEDED TO INSURE COMPLETE COVERAGE OF THE INDICATED SPACE.
11. PER NFPA 72, 18.5.4.4.5 - VISIBLE APPLIANCES SHALL BE NO MORE THAN 15 FT. FROM THE END OF THE CORRIDOR WITH A SEPARATION NO GREATER THAN 100 FT. BETWEEN APPLIANCES. ANY INTERRUPTION OF THE CONCENTRATED VIEWING PATH SUCH AS FIRE DOORS OR ELEVATION CHANGE, THE AREA SHALL BE CONSIDERED AS A SEPARATE CORRIDOR. CORRIDORS WHERE MORE THAN TWO VISIBLE NOTIFICATION APPLIANCES ARE IN ANY FIELD OF VIEW, THEY SHALL FLASH IN SYNCHRONIZATION.
12. MOUNT ALL VISUAL UNITS AT NOT LESS THAN 80" AND NOT GREATER THAN 96" ABOVE FINISHED FLOOR.
13. MOUNT ALL MANUAL PULL STATIONS WITHIN 5' OF DOORWAYS AND BETWEEN 42" AND 48" TO CENTER OF DEVICE ABOVE FINISHED FLOOR. MEASUREMENT TO BE VERTICAL.
14. ALL WIRING SHALL BE IN ACCORDANCE WITH NFPA 70 (NATIONAL ELECTRIC CODE) ARTICLE 760 AND WITH NFPA 72.
15. CONTRACTOR SHALL CHECK ALL RUNS OF CABLE FOR SHORTS OR GROUND, FOR OPEN WIRING AND SHALL INSTALL AND CHECK FOR ALL RESISTORS TO BE IN PLACE.
16. CONTRACTOR SHALL PROTECT SMOKE DETECTORS FROM THE ENTRANCE OF DUST OR DIRT DURING CONSTRUCTION.
17. PER NFPA, DETECTORS SHOULD NOT BE LOCATED IN A DIRECT AIR-FLOW AND NO CLOSER THAN 3 FT. (900MM) FROM AN AIR SUPPLY DIFFUSER OR RETURN OPENING.
18. AREA SMOKE DETECTORS IN DWELLING UNITS SHALL BE SUCH THAT ACTIVATION OF SMOKE DETECTOR SHALL ANNUNCIATE AS A SUPERVISORY ALARM AND NOT INITIATE A FIRE ALARM ACTIVATION.
19. ALL FIRE ALARM RISER CABLING, SMOKE EVACUATION CABLING AND STAIRWELL PRESSURIZATION CABLING SHALL BE INSTALLED IN CONTINUOUS RACEWAY.



FIRE ALARM SYSTEM RISER DIAGRAM

NO SCALE 1

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI — JAMES S. KIDWELL — NUMBER E-25237 — REGISTERED PROFESSIONAL ENGINEER — 1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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ARCHITECT : DAS	CHECKED : MAW
ENGINEER : MAW	APPROVED : JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

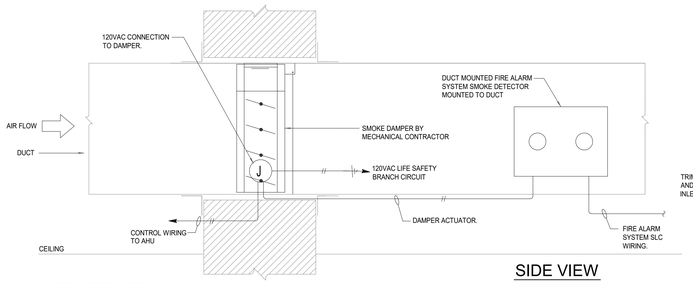
FIRE ALARM RISER

DATE: January 5, 2024

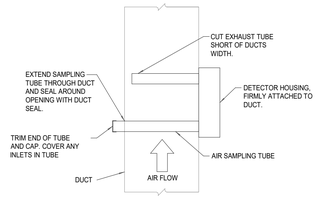
COMM. NO. 23104.00

DRAWING E6.5

GENERAL NOTES



SIDE VIEW



PLAN VIEW

DUCT DETECTOR DETAIL FOR SMALL DUCTS

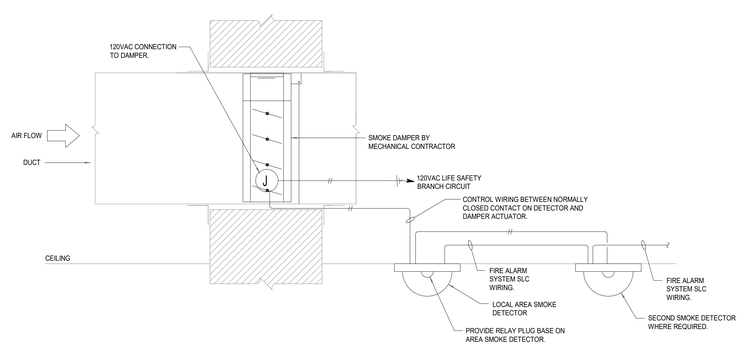
SCALE: NO SCALE

DETAIL GENERAL NOTES:

1. REFER TO AND COORDINATE WITH MECHANICAL PLANS FOR DAMPER LOCATIONS.
2. E.C. SHALL PROVIDE ALL 120VAC POWER WIRING FOR DAMPER.
3. THE DAMPER SHALL BE NORMALLY IN THE OPEN POSITION. UPON DETECTION OF SMOKE BY THE DETECTOR, DETECTOR SHALL CLOSE THE DAMPER.
4. CONTRACTOR MAY ADJUST LOCATION OF SPACE DETECTOR PROVIDED FOR ON ELECTRICAL DRAWINGS TO SERVE PURPOSE OF DAMPER DETECTOR REQUIREMENT.

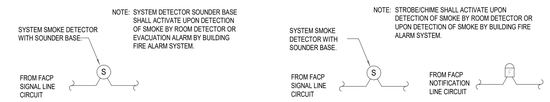
5 / E4.2 SMOKE DAMPER CONNECTION DETAIL - DUCT MOUNTED SMOKE DETECTORS (FSDR)

NTS.



4 / E4.2 SMOKE DAMPER CONNECTION DETAIL - AREA MOUNTED SMOKE DETECTORS (SDR)

NTS.

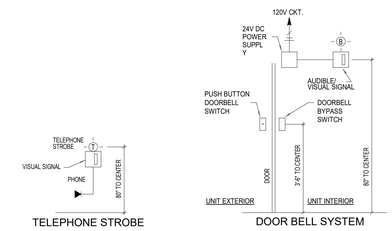


STANDARD ROOM

ACCESSIBLE ROOM

3 / E6.6 TYPICAL DWELLING UNIT FIRE ALARM DETAIL

12" = 1'-0"

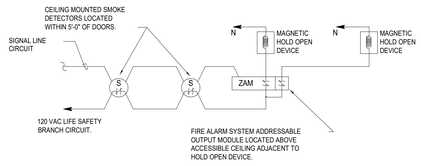


NOTES:

A. REFER TO ARCHITECTURAL PLANS FOR NUMBER AND LOCATION OF HANDICAP ACCESSIBLE UNITS.
B. TELEPHONE STROBE SYSTEM FOR HANDICAP ACCESSIBLE UNITS ONLY.
C. DOORBELL AUDIBLE/VISUAL STROBE SYSTEM FOR HANDICAP ACCESSIBLE UNITS ONLY. DOORBELL AUDIBLE ONLY FOR ALL NON-HANDICAP ACCESSIBLE UNITS.
D. ALL CABLING BY E.C. VERIFY EXACT REQUIREMENTS WITH MANUFACTURER.
E. DOORBELL BYPASS SWITCH SHALL BE LOCATED IN THE VICINITY OF THE LIGHT SWITCHES AT DWELLING UNIT ENTRY AND SHALL BE LABELED AS SUCH.

2 / E6.6 DWELLING UNIT - PHONE STROBE AND DOORBELL SYSTEM DIAGRAM

12" = 1'-0"



MAGNETIC DOOR HOLD OPEN DEVICE DIAGRAM

NO SCALE | 1

PERMIT SET

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ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

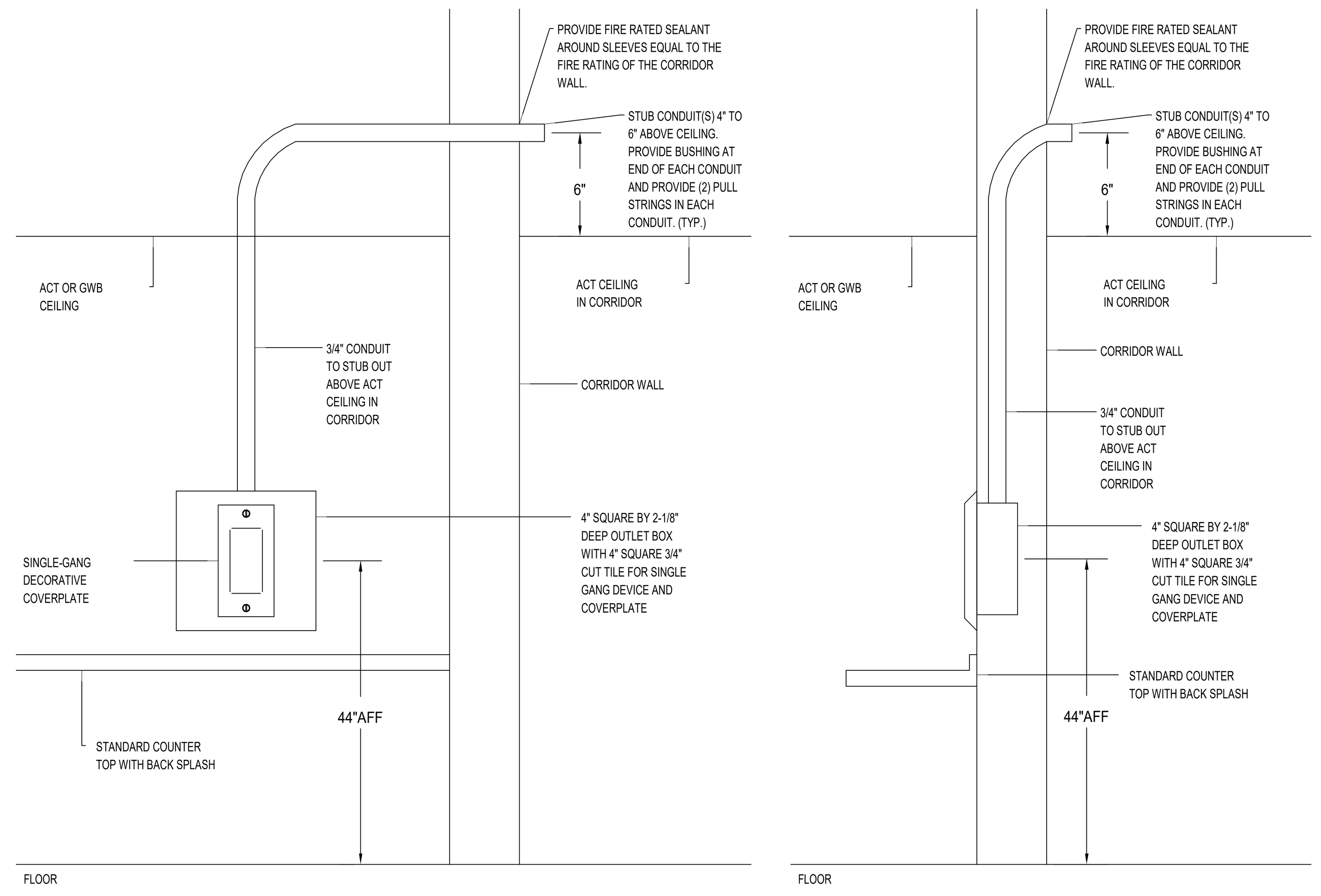
DRAWING TITLE

FIRE ALARM DETAILS

DATE: January 5, 2024

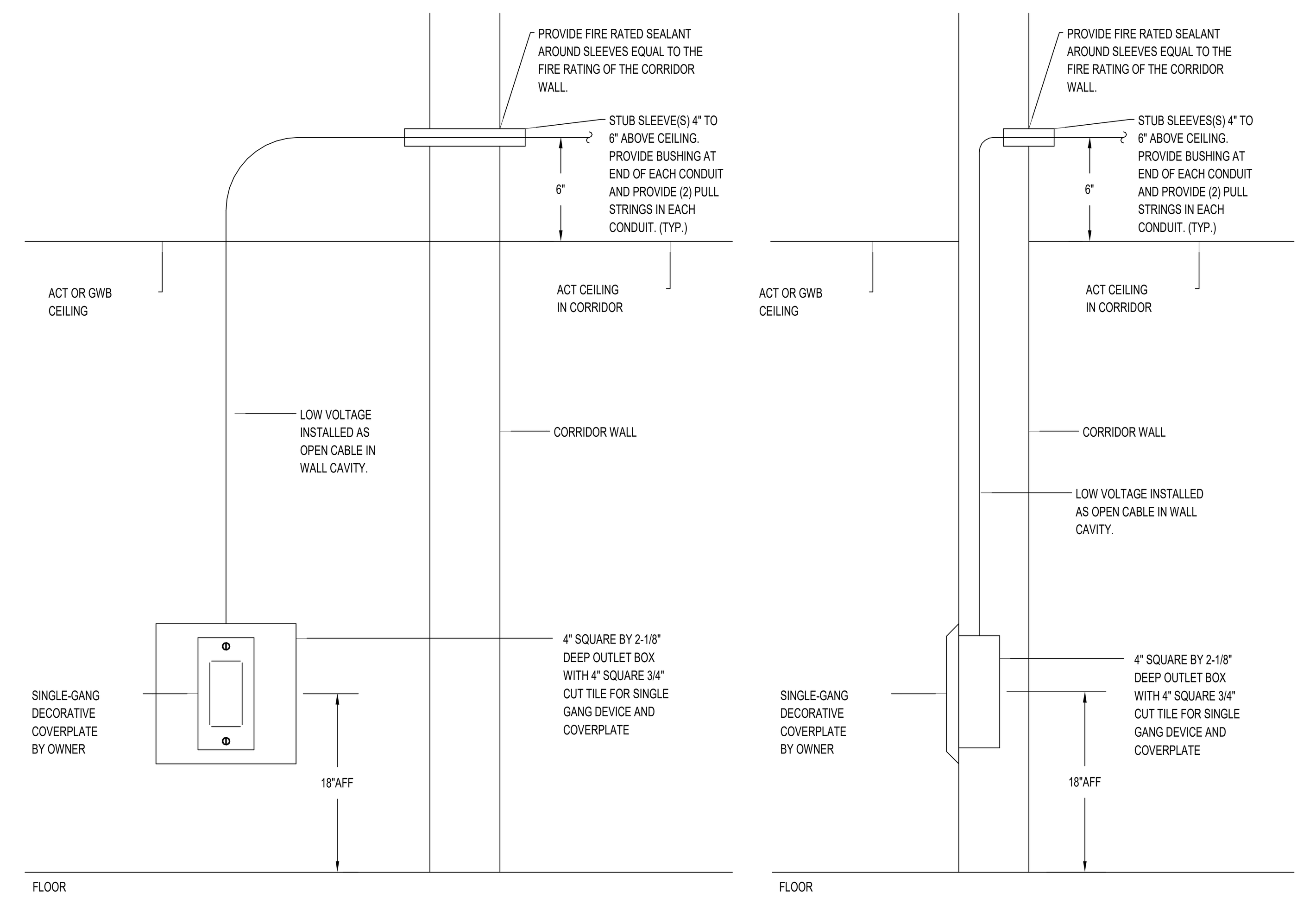
COMM. NO. 23104.00

DRAWING E6.6



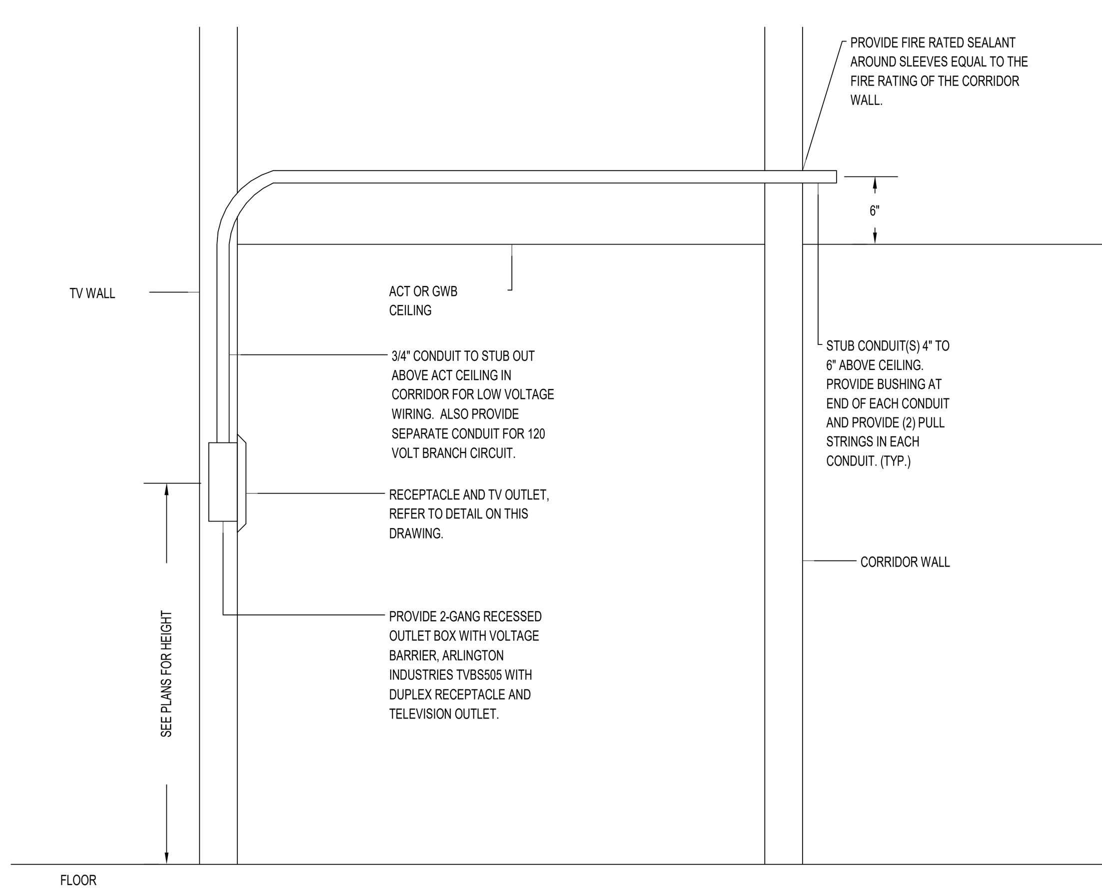
VOICE & DATA DIAGRAMS (COUNTER TOP HEIGHT)

NO SCALE 5



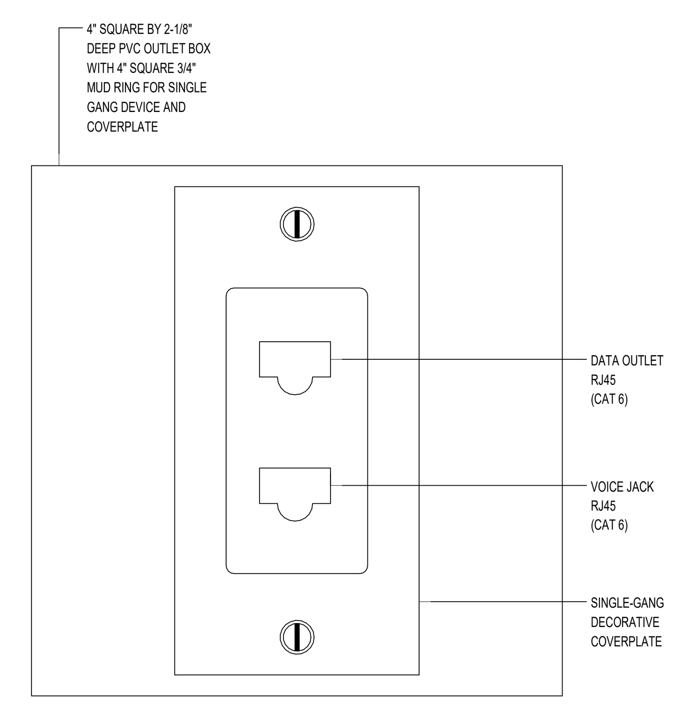
VOICE & DATA DIAGRAMS (STANDARD MOUNTING HEIGHT)

NO SCALE 4



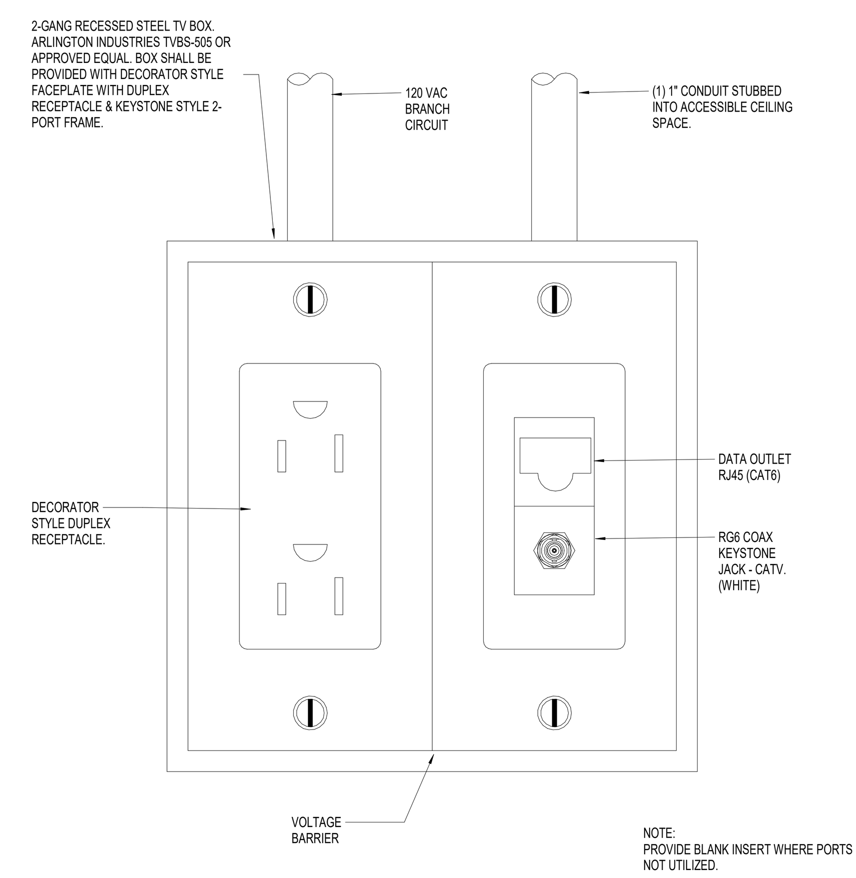
TV OUTLET DIAGRAM

NO SCALE 3



VOICE & DATA OUTLET DETAIL

NO SCALE 2



NOTE:
PROVIDE BLANK INSERT WHERE PORTS NOT UTILIZED.

SYMBOL: TV

TYP. COMBINATION TV OUTLET DETAIL

NO SCALE 1

LOW VOLTAGE SYSTEMS WORKSCOPE NARRATIVE

GENERAL

THE OWNER'S INTENT IS TO CONTRACT THROUGH THE GENERAL CONSTRUCTION CONTRACT WITH VENDORS/CONTRACTORS TO SUPPLY ALL LOW VOLTAGE SYSTEMS AS DESCRIBED IN PARAGRAPHS BELOW. RESPECTIVE CONTRACTORS SHALL PROVIDE AND INSTALL ALL CABLING, COMPONENTS AND HARDWARE AS PART OF THE WORK SCOPE, AS DESCRIBED ON DRAWINGS AND IN SPECIFICATIONS.

ALL LOW VOLTAGE CABLING SHALL BE INSTALLED AS AN OPEN CABLE SYSTEM IN THE ACCESSIBLE CEILING SPACE. LOW VOLTAGE CABLING SHALL BE INSTALLED IN CONDUIT IN INACCESSIBLE CEILING SPACES (HARD CEILINGS). PROVIDE OUTLET BOXES AND CONDUIT STUB UPS FOR ROUTING CABLES CONCEALED IN WALLS BETWEEN THE OUTLET LOCATIONS AND THE ACCESSIBLE CEILING SPACE. PROVIDE NEW SUPPORT STRUCTURE, SLEEVES AND FIRESTOPPING AS REQUIRED FOR ALL NEW CABLING INSTALLED IN THE ACCESSIBLE CEILING SPACE. CABLING SHALL BE PLENUM RATED.

THE WALL MOUNTED RACK OR WALL MOUNTED EQUIPMENT FOR THE NEW ADDITION IS LOCATED ON EACH LEVEL IN THE "COMM" ROOMS. VOICE, DATA, SECURITY HORIZONTAL CABLES INSTALLED, FOR COMMON SPACES, WITHIN THE NEW BUILDING SHALL BE EXTENDED TO THE FIRST FLOOR TELE "COMM" ROOM AND TERMINATED THERE ON A PATCH PANEL. A FIBER OPTIC BACKBONE CABLE SHALL BE EXTENDED FROM THIS FIRST FLOOR COMM ROOM "MDF" BACK TO THE "B" BUILDING EXISTING TELECOM ROOM FOR INTERCONNECTION TO EXISTING SYSTEMS.

CONTRACTOR SHALL TEST ALL LABEL, TERMINATE AND TEST CABLES TO CONFIRM PROPER PERFORMANCE.

ALL COMMUNICATIONS OUTLETS, HORIZONTAL CABLES AND TERMINATION HARDWARE SHALL BE LABELED PER THE DESIGNED LABELING SCHEME DETAIL.

DATA/VOICE - VOIP

OUTLETS SHALL BE PROVIDED WITH TWO PORTS, IN COMMONS AREA AND IN RESIDENTIAL A COMBINATION TWO PORT FOR DATA/VOICE OR SINGLE PORT FOR VOICE OR DATA. THE HORIZONTAL CABLE SHALL EXTEND AND TERMINATE ON PATCH PANEL FOR COMMON AREAS LOCATIONS. RESIDENT UNIT CABLING WILL TERMINATE IN STRUCTURED MEDIA CABINET (SMC) WITHIN UNIT. PROVIDE AND INSTALL PATCH PANELS OF SUFFICIENT CAPACITY TO TERMINATE ALL NEW DATA NETWORK OUTLETS AND ALLOW FOR 25% SPARE PORTS. CONTRACTOR SHALL PROVIDE PUNCHDOWN BLOCKS, RACK, PATCH PANELS, CABLE MANAGEMENT, LABELING PRODUCTS, ETC.

VOICE (ANALOG)

FOR ANALOG VOICE LINES FOR ANY FAX LOCATIONS, FIRE ALARM SYSTEM & ELEVATOR CONTRACTOR SHALL PROVIDE AND INSTALL JACK IN SINGLE GANG OUTLET BOX. EXTEND HORIZONTAL CABLE TO TYPE 110 BLOCK TERMINAL BOARD. REFER TO RISER FOR ADDITIONAL INFORMAITON.

CATV SYSTEM - RESIDENT

FOR ALL OUTLET LOCATIONS WITHIN RESIDENT UNITS, CONTRACTOR SHALL PROVIDE AND INSTALL CATV OUTLETS OF TYPE AND NUMBER AS SHOWN ON THE DRAWINGS. INSTALL OUTLET BOXES, FACEPLATES, JACKS AND RG6 COAX CABLE AND CAT6 CABLING. EXTEND CAT6 CABLING AND COAX CABLING BACK TO SMC AND TERMINATE AT DATA MODULE. COIL COAX WITHIN SMC FOR SERVICE PROVIDER TERMINATION AT CATV SPLITTER.

WIRELESS EMERGENCY CALL SYSTEM

ALL SARA COMPONENTS SHALL BE PROVIDED BY JKV SARA SYSTEM VENDOR. CONTRACTOR SHALL PROVIDE 120V POWER FOR THE SYSTEM TRANCEIVERS (REPEATERS), REFER TO ELECTRICAL DRAWINGS FOR ADDITIONAL INFORMATION.

ACCESS CONTROL SYSTEM

DOORS DESIGNATED WITH AN "A" OR DOOR TAG NUMBER WILL BE PART OF THE NEW ACCESS CONTROL SYSTEM. THE SYSTEM SHALL BE COMPATIBLE WITH THE EXISTING DSX ACCESS CONTROL SYSTEM CURRENTLY IN EXISTING CAMPUS BUILDINGS. REFER TO DOOR ELEVATION DETAILS FOR ADDITIONAL INFORMATION FOR DEVICES AT EACH LOCATION. THE NEW SYSTEM SHALL BE INTEGRATED WITH THE EXISTING SECURITY SYSTEM SO THAT WHEN SECURITY DISPATCH RECEIVES COMMUNICATION THROUGH THE ALGO INTERCOM THEY ARE CAPABLE OF RESPONDING TO CALLERS NEEDS BY PHYSICALLY OR REMOTELY PERMITTING ENTRANCE INTO FACILITY. ALL DOOR SYSTEM ALARMS WILL BE ANNUCIATED AT THE SECURITY DISPATCH OFFICE.

INTERCOM

AT ENTRY LOCATIONS SHOWN ON PLANS A NEW INTERCOM STATION SHALL BE PROVIDED. THE INTERCOM SHALL BE AN IP BASED, AUDIO INTERCOM, ALGO 8028 OR EQUAL, WITH DOOR CONTROLLER. THE INTERCOM SHALL BE INTERFACED WITH THE SECURITY SYSTEM SO THAT THE OPERATION OF THE INTERCOM STATION AT ANY PARTICULAR DOOR WILL PROMPT THE LOCAL CAMERA TO DISPLAY AT THE SECURITY OFFICE. ONCE THE SECURITY CAMERA FOR THE RESPECTIVE DOOR HAS DISPLAYED AND THE INTERCOM COMMUNICATION HAS BEEN MADE WITH THE SITE SECURITY OFFICE, THE SECURITY OFFICER MAY PERMIT FACILITY ENTRANCE.

SECURITY SURVEILLANCE CAMERAS - CCTV

CONTRACTOR SHALL PROVIDE AND INSTALL ALL ROUGH-IN CONDUIT, BACKBOXES AND HORIZONTAL CAT6A CABLING TO THE NEW CAMERA LOCATIONS SHOWN ON DRAWINGS ONCE BUILDING FACILITIES (JKV) HAS REVIEWED LOCATIONS. CONTRACTOR SHALL INCLUDE IN THE SCOPE A COORDINATION MEETING AFTER THE STRUCTURE HAS BEEN ERECTED PRIOR TO BEGINNING ROUGH-IN. JKV WILL MAKE CHANGES TO ANY OF THE LOCATIONS AT THAT TIME. ALL NEW SECURITY CAMERAS WILL BE PROVIDED AND INSTALLED BY JKV.

LV WORKSCOPE GENERAL NOTES

1. OUTER JACKETS OF CATEGORY HORIZONTAL CABLES SHALL BE COLOR CODED FOR RESPECTIVE SYSTEMS:
   DATA: BLUE
   VOIP VOICE: BLUE
   FAX/ELEVATOR/ANALOG VOICE: WHITE
   SURVEILLANCE CAMERAS: YELLOW FOR INTERIOR; SHIELDED GREY FOR EXTERIOR
   WAP: BLUE
2. THE LOW VOLTAGE WORK SCOPE CONTRACTORS SHALL BE RESPONSIBLE FOR PROVIDING AND INSTALLING ALL OUTLET BOXES, RACEWAY, PATHWAYS AND SUPPORTS AS SPECIFICALLY INDICATED ON THESE DRAWINGS AND AS REQUIRED FOR COMPLETE INSTALLATION OF THE SYSTEMS.
3. CONTRACTOR SHALL PROPERLY SUPPORT LOW VOLTAGE CABLES BETWEEN OUTLET BOXES AND CABLE TRAY UTILIZING J-HOOK SUPPORTS AT A MAXIMUM OF 5FT. ON CENTER.
4. CONTRACTOR SHALL UTILIZE PLENUM RATED VELCRO STRAPS FOR CABLE BUNDLING. NO ZIP TIES ALLOWED. NO MORE THAN 24 CABLES SHALL BE BUNDLED TOGETHER. CABLING FOR DIFFERENT SYSTEMS SHALL BE BUNDLED SEPARATELY.
5. PARTS OF THE EXISTING BUILDING WILL BE OCCUPIED AND THE RENOVATION WORK MUST BE COMPLETED IN PHASES. COORDINATE WITH THE GENERAL CONTRACTOR FOR PROPER SEQUENCE OF THE WORK.
6. PROTECT ANY EXISTING CABLES AND COMPONENTS THAT MAY STILL BE IN USE DURING CONSTRUCTION. IF CABLING OR COMPONENTS ARE IN CONFLICT WITH NEW CONSTRUCTION OR IN NEED OF PROPER SUPPORT, NOTIFY GENERAL CONTRACTOR.
7. PROVIDE WALL TELEPHONE OUTLET 4'-0" AFF FOR THE ELEV CAB TELEPHONE. EXTEND (1) 3/4" EMPTY CONDUIT FROM THE OUTLET BOX TO ACCESSIBLE CEILING SPACE AND PROVIDE BUSHINGS AT EACH END. LOCATE OUTLET BOX AS DIRECTED BY THE ELEV EQUIP INSTALLER.

NOTES (LOW VOLTAGE SYMBOL LEGEND):

1. THESE ARE STANDARD SYMBOLS AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS. HOWEVER, WHEREVER THIS SYMBOL APPEARS ON THE PROJECT DRAWINGS, THE ITEM SHALL BE FURNISHED AND INSTALLED.
2. UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET AND SHALL MATCH . THE HEIGHTS SHOWN ON THE ELECTRICAL SYSMBOLS LEGEND, SHOULD THEY DIFFER. WHERE THE MOUNTING HEIGHT INDICATED ON THE FLOOR PLAN IS DIFFERENT, THE PLAN TAKES FROM THE LEGEND PRECEDENT.
3. INSTALL RECEPTACLE AND VOICE/DATA OUTLET BOXES 6" APART (EDGE TO EDGE) WHERE SHOWN SIDE BY SIDE ON WALL, UNLESS INDICATED TO BE INSTALLED IN A MULTIGANG BOX WITH VOLTAGE BARRIER.
4. CONTRACTOR SHALL PROVIDE TELECOMMUNICATION CABLES TO ALL LOW VOLTAGE DEVICES INDICATED ON PLANS ACCORDING TO THE NOMENCLATURE BELOW OR AS INDICATED IN THE LEGEND NOTES. ALL COMBINATION VOICE/DATA OUTLETS SHALL RECEIVE ONE (1) CAT6A DATA CABLE AND ONE (1) CAT6A VOICE CABLE UNLESS NOTED OTHERWISE ON PLAN DRAWINGS.

1AV/HDMI/1C/1V/1D

"1D" - ONE (1) CAT-6A CABLE WITH CONNECTOR ASSEMBLIES, EXTENDED FROM OUTLET TO INDICATED TERMINATION LOCATION.

"1V" - ONE (1) CAT-6A CABLE WITH CONNECTOR ASSEMBLIES, EXTENDED FROM OUTLET TO TERMINATION LOCATION.

"1C" - ONE (1) COAX CABLE WITH COAX JACK. EXTENDED FROM OUTLET TO LOCAL MDF/IDF RM.

"HDMI" - ONE (1) HDMI CABLE WITH ASSOCIATED JACK. EXTENDED BETWEEN WALL BOX AND FLOORBOX IN ROOM.

"1AV" - ONE (1) CATEGORY CABLE WITH CONNECTOR ASSEMBLIES, EXTENDED FROM OUTLET TO INDICATED AV TERMINATION LOCATION.

LOW VOLTAGE SYMBOL LEGEND

(NOTE 1)

MTG. HGT. (NOTE 2)	SYMBOL (NOTE 3)	DESCRIPTION
1'-6"	1V R	TELEPHONE OUTLET, WALL. SINGLE GANG OUTLET BOX WITH 3/4" CONDUIT STUB INTO ACCESSIBLE CEILING SPACE. PROVIDE WITH ONE (1) CAT 6 RJ45 JACK. EXTEND CAT 6A VOICE CABLE TO NEAREST IDF LOCATION ON RESPECTIVE FLOOR.
ABOVE COUNTER		"W" = WALL TYPE TELEPHONE OUTLET MOUNTED 52" AFF AND PROVIDED WITH RECESSED STAINLESS STEEL WALL PHONE MOUNT FACEPLATE. "EL" = ELEVATOR EMERGENCY TELEPHONE. WALL TYPE TELEPHONE OUTLET MOUNTED 46" AFF AND PROVIDED WITH RECESSED STAINLESS STEEL WALL PHONE MOUNT FACEPLATE. "#V" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) VOICE CABLE (1V) TO OUTLET LOCATION.
1'-6"	2D R	DATA OUTLET, WALL. SINGLE GANG OUTLET BOX WITH 1" CONDUIT STUB INTO ACCESSIBLE CEILING SPACE. PROVIDE WITH TWO (2) CAT 6 RJ45 JACK. EXTEND CAT 6A DATA CABLE TO NEAREST IDF LOCATION ON RESPECTIVE FLOOR.
ABOVE COUNTER		"#D" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (2) DATA CABLE (2D) TO OUTLET LOCATION.
1'-6"	#V/#D R	COMBINATION VOICE/DATA OUTLET, WALL. TWO-GANG OUTLET BOX WITH SINGLE GANG MUG RING AND 1-1/4" CONDUIT STUB INTO ACCESSIBLE CEILING SPACE. PROVIDE WITH TWO (2) CAT 6A RJ45 DATA JACK AND ONE (1) CAT 6A RJ45 VOICE JACK. EXTEND CABLES TO NEAREST IDF LOCATION ON RESPECTIVE FLOOR.
ABOVE COUNTER		"R" = EXTEND DATA AND VOICE CABLES TO DWELLING UNIT COMM. ENCLOSURE AND TERMINATE. "#V/#D" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (2) DATA (2D) AND (1) VOICE (1V) CABLES TO OUTLET LOCATION.
3'-10"	1V Ma	AREA OF RESCUE ASSISTANCE MASTER STATION, SUBSCRIPT INDICATES SYSTEM. SINGLE GANG OUTLET BOX WITH 3/4" CONDUIT STUB INTO ACCESSIBLE CEILING SPACE. PROVIDE WITH ONE (1) CAT 5e RJ11 JACK. EXTEND CAT 5e VOICE CABLE TO NEAREST IDF LOCATION ON RESPECTIVE FLOOR. "#V" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) VOICE CABLE (1V) TO OUTLET LOCATION.
FLOOR	1V	PHONE OUTLET, FLOOR. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION. "#V" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) VOICE CABLE (1V) TO OUTLET LOCATION.
FLOOR	1D	DATA OUTLET, FLOOR. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION. "#D" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) DATA CABLE (1D) TO OUTLET LOCATION.
FLOOR	1V/1D	COMBINATION PHONE & DATA OUTLET, FLOOR. REFER TO FLOOR PLANS FOR ADDITIONAL INFORMATION. "#V/#D" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) DATA (1D) AND (1) VOICE (1V) CABLES TO OUTLET LOCATION.
1'-6" UON	TV	WALL MOUNTED COMBINATION RECEPTACLE AND TV OUTLET WITH VOLTAGE BARRIER. PROVIDE WITH (1) 120V DUPLEX RECEPTACLE, (1) TYPE F COAX CONNECTOR WITH RG6 COAX CABLE AND (1) CAT6 CABLE WITH RJ45 JACK TO NEAREST IDF OR SMC. USE RG11 COAX CABLE FOR RUNS GREATER THAN 200FT. TYPICAL FOR DIGITAL SIGNAGE DISPLAY MONITOR ALSO. "R" = EXTEND RG6 COAX CATV CABLE TO DWELLING UNIT COMM. ENCLOSURE AND TERMINATE. "+##" = REFERS TO DIFFERENT ABOVE FLOOR MOUNTING HEIGHT. CONTRACTOR SHALL VERIFY EXACT MOUNTING LOCATION WITH ARCHITECT TO AVOID CONFLICT WITH WALL TV MOUNTS AND/OR CASEWORK.
CEILING	WAP 1D	LAN SYSTEM, WIRELESS ACCESS POINT (WAP): FIELD MOUNTABLE CAT6A RJ45 PLUG SHALL BE UTILIZED FOR CONNECTION TO DEVICE. EXTEND ONE (1) CAT 6 HORIZONTAL CABLE TO NEAREST IDF LOCATION ON RESPECTIVE FLOOR. WAP DEVICE SHALL BE PROVIDED BY OWNER AND CONNECTED/INSTALLED BY CONTRACTOR. "#D" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) DATA CABLE (1D) TO OUTLET LOCATION.
CEILING	C 1D EXT.	FIXED SECURITY CAMERA - INTERIOR MOUNT. INSTALL FLUSH MOUNT SINGLE GANG OUTLET BOX AND 3/4" CONDUIT TO ACCESSIBLE CEILING SPACE. COORDINATE EXACT MOUNTING REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN. CAMERA DEVICE SHALL BE PROVIDED BY OWNER AND CONNECTED/INSTALLED BY CONTRACTOR. "#D" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) DATA CABLE (1D) TO OUTLET LOCATION. "360" - INDICATES 360 DEGREE CAMERA TO BE CEILING MOUNTED. "EXT" - INDICATES EXTERIOR MOUNTED CAMERA. "AV" - FIXED AUDIO VISUAL SYSTEM CAMERA. REFER TO DETAILS FOR MORE INFORMATION.
WALL	C 1D EXT.	FIXED SECURITY CAMERA - INTERIOR MOUNT. INSTALL FLUSH MOUNT SINGLE GANG OUTLET BOX AND 3/4" CONDUIT, U.O.N., WITH CAT6A HORIZONTAL CABLING TO ACCESSIBLE CEILING SPACE. COORDINATE EXACT MOUNTING REQUIREMENTS WITH OWNER PRIOR TO ROUGH-IN. CAMERAS SHALL BE PROVIDED AND INSTALLED BY OWNER. "#D" - INDICATES CABLING SCOPE TYPE & QTY. REFER TO LOW VOLTAGE NOTES BELOW FOR ADDITIONAL INFORMATION. IF NO # INDICATED, PROVIDE (1) DATA CABLE (1D) TO OUTLET LOCATION. "180" - INDICATES 180 DEGREE CAMERA TO BE WALL MOUNTED. "EXT" - INDICATES EXTERIOR MOUNTED CAMERA. "AV" - FIXED AUDIO VISUAL SYSTEM CAMERA. REFER TO DETAILS FOR MORE INFORMATION.
3'-10"	I	INTERCOM SYSTEM CALL-IN STATION, WALL.
	I MS	INTERCOM SYSTEM MASTER STATION.
	A	DESIGNATED DOOR TO BE PROVIDED WITH ACCESS CONTROL. REFER TO DOOR ELEVATIONS FOR ADDITIONAL INFORMATION.
4'-0"	CR M	ACCESS CONTROL SYSTEM CARD READER. INSTALL WITH FLUSH MOUNT SINGLE GANG OUTLET BOX AND 1/2" C TO ACCESSIBLE CEILING SPACE. "M" - INDICATES MULLION MOUNTED CARD READER.
	DC	DOOR "AJAR" CONTACT. INSTALL 1/2" C IN DOOR FRAME TO ACCESSIBLE CEILING SPACE. COORDINATE EXACT REQUIREMENTS WITH OWNER'S ACCESS CONTROL VENDOR.
6'-0"	D	MAGNETIC DOOR HOLDER, WALL. "F" = FLUSH MOUNTED.
	D	MAGNETIC DOOR HOLDER, FLOOR.
	WG	DELAYED EGRESS ELOPEMENT CONTROL SYSTEM DOOR LOCATION. REFER TO DOOR ELEVATION DETAIL FOR ADDITIONAL INFORMATION.
6'-6"	DB	WIRELESS DOORBELL - WITH AUDIO VISUAL NOTIFIER, WALL MOUNT.
3'-6"	DB	PUSHBUTTON, WALL.
7'-6"	HPR	EMERGENCY CALL HIGH POWER REPEATER FOR SARA SYSTEM WIRELESS DEVICES. DEVICES SHALL BE PROVIDED AND INSTALLED BY OWNER OR OWNER'S SARA SYSTEM REPRESENTATIVE UNDER SEPARATE CONTRACT (NIC). CONTRACTOR SHALL COORDINATE HEIGHT AND FINAL LOCATIONS WITH OWNER/VENDOR PRIOR TO ROUGH-IN AND SHALL PROVIDE A 120V CIRCUIT FOR SYSTEM DEVICES.
	ARA	AREA OR RESCUE BASE STATION/CONTROL PANEL FOR TWO-WAY COMMUNICATIONS.
	ARC	AREA OR RESCUE CALL STATION FOR TWO-WAY COMMUNICATIONS - ALGO 8208 INTERCOM.

GENERAL NOTES

NOTES (LOW VOLTAGE SYMBOL LEGEND):

1. THESE ARE STANDARD SYMBOLS AND MAY NOT ALL APPEAR ON THE PROJECT DRAWINGS. HOWEVER, WHEREVER THIS SYMBOL APPEARS ON THE PROJECT DRAWINGS, THE ITEM SHALL BE FURNISHED AND INSTALLED.
2. UNLESS NOTED OTHERWISE, MOUNTING HEIGHTS ARE FROM FINISHED FLOOR TO CENTERLINE OF OUTLET. LOW VOLTAGE OUTLET BOX MOUNTING HEIGHTS SHALL MATCH THAT SHOWN ON THE ELECTRICAL SYMBOLS LEGEND PLAN. WHERE THE MOUNTING HEIGHT INDICATED ON FLOOR PLANS ARE DIFFERENT FROM THE LEGEND, THE PLAN TAKES PRECEDENT.
3. INSTALL RECEPTACLE AND VOICE/DATA OUTLET BOXES 6" APART (EDGE TO EDGE) WHERE SHOWN SIDE BY SIDE ON WALL, UNLESS INDICATED TO BE INSTALLED IN A MULTIGANG BOX WITH VOLTAGE BARRIER.

SHEET LIST - LOW VOLTAGE

SHEET NUMBER	SHEET NAME
LV0.0	LOW VOLTAGE SYMBOL LEGEND
LV0.1	LOW VOLTAGE DETAILS
LV0.2	LOW VOLTAGE DETAILS
LV0.3	DOOR ELEVATION AND DETAILS
LV0.4	LOW VOLTAGE - SECURITY DETAILS
LV0.5	LOW VOLTAGE SITE PLAN
LV1.1	FIRST FLOOR PLAN - LOW VOLTAGE
LV1.2	SECOND FLOOR PLAN - LOW VOLTAGE
LV1.3	THIRD FLOOR PLAN - LOW VOLTAGE
LV1.4	FOURTH FLOOR PLAN - LOW VOLTAGE
LV2.1	ENLARGED PLANS - LOW VOLTAGE
LV2.2	ENLARGED PLANS - LOW VOLTAGE

PERMIT SET

STATE OF MISSOURI
JAMES S. KIDWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
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DESIGNER	DAS	DRAWN	DAH, DKW
ARCHITECT	DAS	CHECKED	DAH
ENGINEER	DAH	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

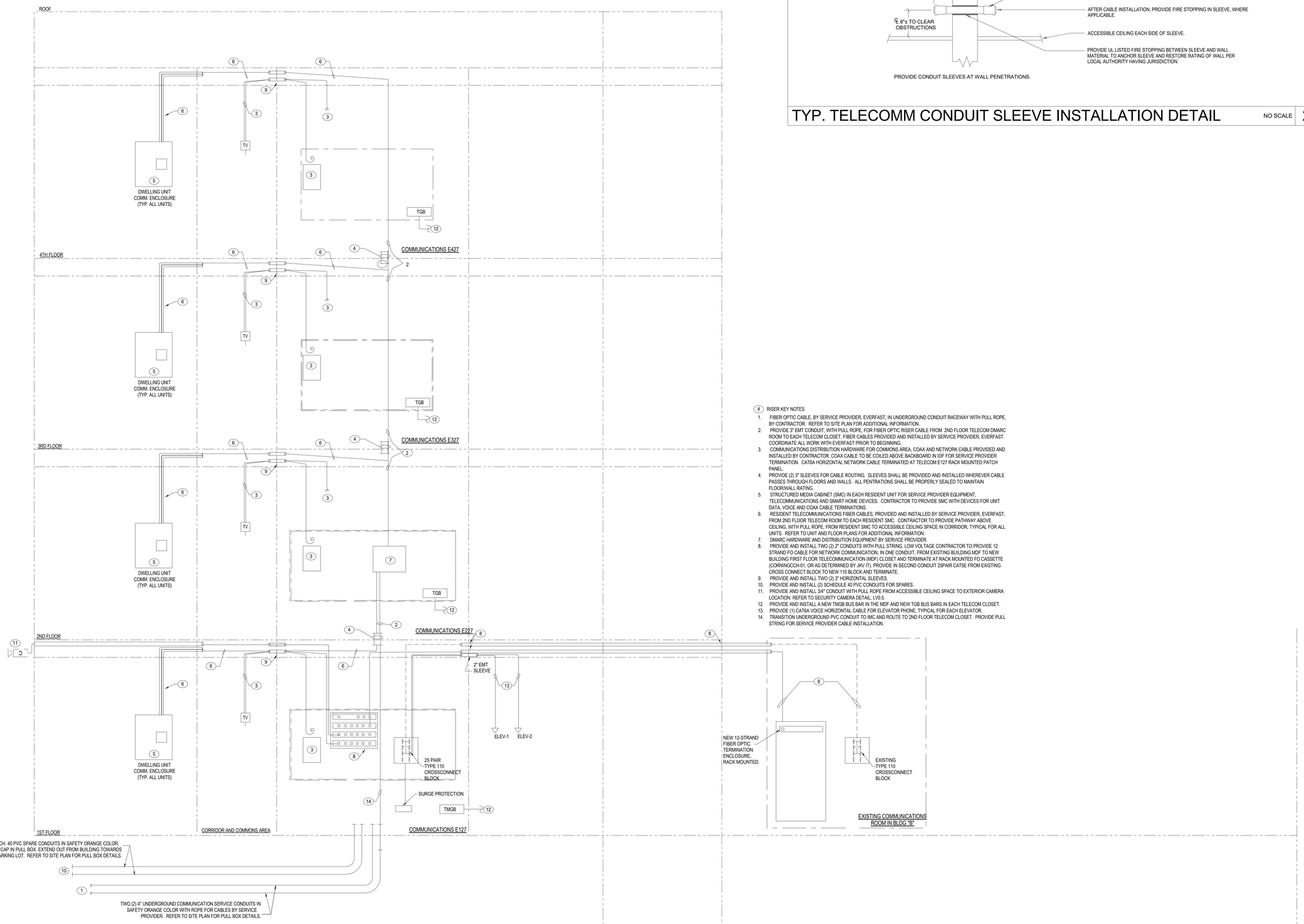
DRAWING TITLE

LOW VOLTAGE SYMBOL LEGEND

DATE: January 5, 2024

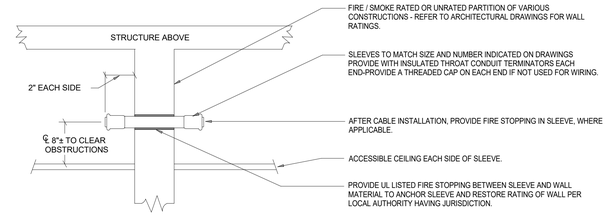
COMM. NO. 23104.00

DRAWING LV0.0



TYPICAL TELECOMMUNICATIONS/CATV RISER DIAGRAM

NO SCALE | 1



PROVIDE CONDUIT SLEEVES AT WALL PENETRATIONS.

TYP. TELECOMM CONDUIT SLEEVE INSTALLATION DETAIL

NO SCALE | 2

(#) RISER KEY NOTES

1. FIBER OPTIC CABLE, BY SERVICE PROVIDER, EVERFAST, IN UNDERGROUND CONDUIT RACEWAY WITH PULL ROPE, BY CONTRACTOR. REFER TO SITE PLAN FOR ADDITIONAL INFORMATION.
2. PROVIDE 3" EMT CONDUIT, WITH PULL ROPE, FOR FIBER OPTIC RISER CABLE FROM 2ND FLOOR TELECOM DMARC ROOM TO EACH TELECOM CLOSET. FIBER CABLES PROVIDED AND INSTALLED BY SERVICE PROVIDER, EVERFAST. COORDINATE ALL WORK WITH EVERFAST PRIOR TO BEGINNING.
3. COMMUNICATIONS DISTRIBUTION HARDWARE FOR COMMONS AREA. COAX AND NETWORK CABLE PROVIDED AND INSTALLED BY CONTRACTOR. COAX CABLE TO BE COILED ABOVE BACKBOARD IN IDF FOR SERVICE PROVIDER TERMINATION. CAT6A HORIZONTAL NETWORK CABLE TERMINATED AT TELECOM E127 RACK MOUNTED PATCH PANEL.
4. PROVIDE (2) 3" SLEEVES FOR CABLE ROUTING. SLEEVES SHALL BE PROVIDED AND INSTALLED WHEREVER CABLE PASSES THROUGH FLOORS AND WALLS. ALL PENTRATIONS SHALL BE PROPERLY SEALED TO MAINTAIN FLOOR/WALL RATING.
5. STRUCTURED MEDIA CABINET (SMC) IN EACH RESIDENT UNIT FOR SERVICE PROVIDER EQUIPMENT, TELECOMMUNICATIONS AND SMART HOME DEVICES. CONTRACTOR TO PROVIDE SMC WITH DEVICES FOR UNIT DATA, VOICE AND COAX CABLE TERMINATIONS.
6. RESIDENT TELECOMMUNICATIONS FIBER CABLES, PROVIDED AND INSTALLED BY SERVICE PROVIDER, EVERFAST, FROM 2ND FLOOR TELECOM ROOM TO EACH RESIDENT SMC. CONTRACTOR TO PROVIDE PATHWAY ABOVE CEILING, WITH PULL ROPE, FROM RESIDENT SMC TO ACCESSIBLE CEILING SPACE IN CORRIDOR, TYPICAL FOR ALL UNITS. REFER TO UNIT AND FLOOR PLANS FOR ADDITIONAL INFORMATION.
7. DMARC HARDWARE AND DISTRIBUTION EQUIPMENT BY SERVICE PROVIDER.
8. PROVIDE AND INSTALL TWO (2) 2" CONDUITS WITH PULL STRING. LOW VOLTAGE CONTRACTOR TO PROVIDE 12 STRAND FO CABLE FOR NETWORK COMMUNICATION, IN ONE CONDUIT, FROM EXISTING BUILDING MDF TO NEW BUILDING FIRST FLOOR TELECOMMUNICATION (MDF) CLOSET AND TERMINATE AT RACK MOUNTED FO CASSETTE (CORNINGCCH-01, OR AS DETERMINED BY JKV IT). PROVIDE IN SECOND CONDUIT 25PAIR CAT5E FROM EXISTING CROSS CONNECT BLOCK TO NEW 110 BLOCK AND TERMINATE.
9. PROVIDE AND INSTALL TWO (2) 3" HORIZONTAL SLEEVES.
10. PROVIDE AND INSTALL (2) SCHEDULE 40 PVC CONDUITS FOR SPARES.
11. PROVIDE AND INSTALL 3/4" CONDUIT WITH PULL ROPE FROM ACCESSIBLE CEILING SPACE TO EXTERIOR CAMERA LOCATION. REFER TO SECURITY CAMERA DETAIL, LV0.5.
12. PROVIDE AND INSTALL A NEW TMGB BUS BAR IN THE MDF AND NEW TGB BUS BARS IN EACH TELECOM CLOSET.
13. PROVIDE (1) CAT6A VOICE HORIZONTAL CABLE FOR ELEVATOR PHONE, TYPICAL FOR EACH ELEVATOR.
14. TRANSITION UNDERGROUND PVC CONDUIT TO IMC AND ROUTE TO 2ND FLOOR TELECOM CLOSET. PROVIDE PULL STRING FOR SERVICE PROVIDER CABLE INSTALLATION.

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. KIRKWOOD
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS
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Engineering
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Interiors
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DESIGNER	DAS	DRAWN	DAH, DKW
ARCHITECT	DAS	CHECKED	DAH
ENGINEER	DAH	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

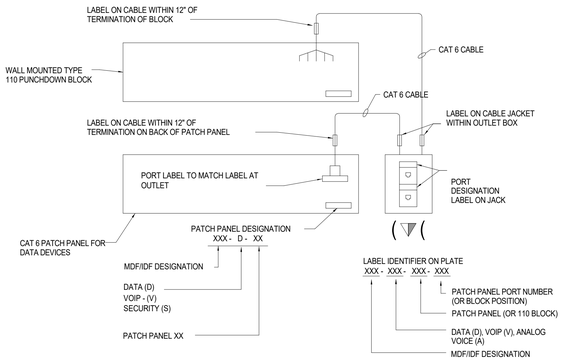
LOW VOLTAGE DETAILS

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING LV0.1

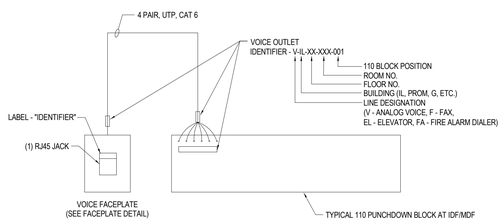
CONFIRM LABELING WITH OWNERS PRIOR TO WORK.



PATCH PANEL - DATA, VOIP VOICE, SECURITY LABELING SCHEME

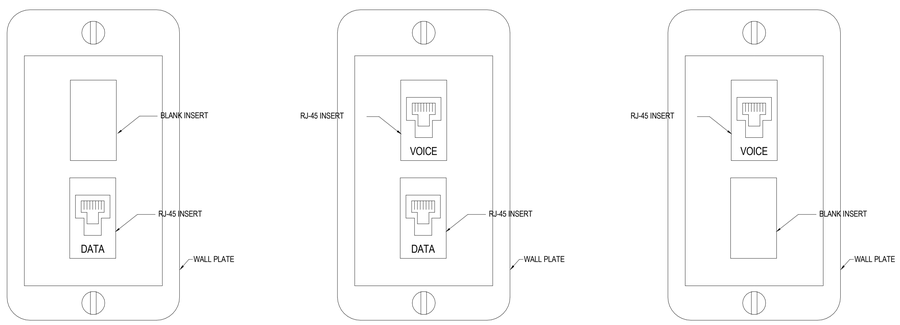
NO SCALE | 5

CONFIRM LABELING WITH OWNERS PRIOR TO WORK.



ANALOG PHONES, FAX, FA, ELEV., ETC. LABELING SCHEME

NO SCALE | 4



TYPICAL DATA WALL PLATE

SYMBOL = ▽ = 1 DATA

TYPICAL VOICE/ DATA WALL PLATE

SYMBOL = ◥/ = 1 VOICE, 1 DATA

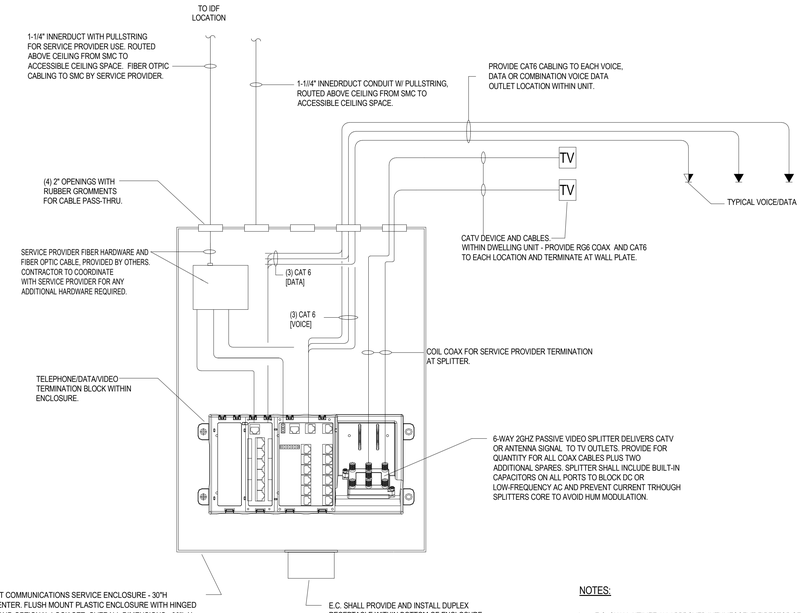
TYPICAL VOICE WALL PLATE

SYMBOL = ▼ = 1 VOICE

SCALE: NONE

TYPICAL WALL PLATE CONFIGURATIONS

NO SCALE | 3



TYPICAL DWELLING UNIT COMMUNICATIONS SERVICE ENCLOSURE - 30"H STRUCTURED MEDIA CENTER. FLUSH MOUNT PLASTIC ENCLOSURE WITH HINGED VENTED DOOR COVER AND OPTIONAL LOCK SET. OVERALL DIMENSIONS - 30"L X 14.42"W X 3.9"D. (OCC MSDE30P OR EQUAL) PROVIDE WITH GROMMETS, MOUNTING BRACKETS (FOR MODEMS, ROUTER OR ONT DEVICES), SHELVING, AND 110 PUNCHDOWN, PATCH CORDS, CROSSCONNECTS, TV SPLITTERS AND DATA NETWORK PORTS AS NEEDED FOR RESIDENT TERMINATIONS.

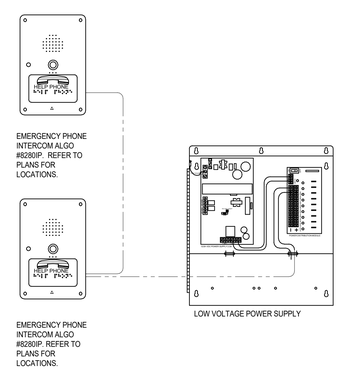
E.C. SHALL PROVIDE AND INSTALL DUPLEX RECEPTACLE WITHIN BOTTOM OF ENCLOSURE. PROVIDE SURGE PROTECTIVE STRIP WITH OUTLETS FOR FUTURE SMART HOME DEVICES WITHIN ENCLOSURE.

NOTES:

A. E.C. SHALL UTILIZE AN APPROVED INTUMESCENT FIRESTOP SEALANT/SYSTEM ("HILTI #WL 2098" OR EQUAL) FOR VOICE/DATA AND CATV SERVICE CONDUIT WALL PENETRATIONS AT DWELLING UNIT DEMISING WALLS.
B. ALL CABLING INSTALLED WITHIN DWELLING UNIT BETWEEN OUTLET LOCATION AND SMC SHALL BE INSTALLED AS OPEN CABLING IN WALL AND CEILING FRAMING. PROVIDE PLENUM RATED CABLING IN ALL AREAS WHERE CABLING IS ROUTED THROUGH A MECHANICAL PLENUM SPACE. CABLING FROM UNIT TO ACCESSIBLE CEILING SPACE SHALL BE ROUTED IN CONDUIT.
C. ALL CABLING SHALL BE FULLY INSTALLED, LABELED, TERMINATE, AND TESTED.

RESIDENT STRUCTURED MEDIA ENCLOSURE DETAIL

NO SCALE | 2



NOTES:

1. THE AREA OF RESCUE ASSISTANCE EMERGENCY COMMUNICATIONS SYSTEM. COORDINATE WITH SERVICE PROVIDER AND OWNER BEFORE BEGINNING ANY WORK. THE REMOTELY LOCATED AREA OF REFUGE CALL BOX STATION SHALL ALERT AT A 24/7 CONSTANTLY ATTENDED LOCATION APPROVED BY OWNER. THE SYSTEM SHALL HAVE A TIMED AUTOMATIC COMMUNICATIONS CAPABILITY TO CONNECT WITH A CONSTANTLY ATTENDED MONITORING LOCATION ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION WHERE RESPONSIBLE PERSONNEL CAN INITIATE THE APPROPRIATE RESPONSE AND SHALL HAVE A DIAL-OUT CAPABILITY TO A MONITORING LOCATION OR 911. COORDINATE LOCATION OF CALL BOXES WITH OWNER/ARCHITECT PRIOR TO ROUGH-IN.
2. TWO-WAY COMMUNICATION SYSTEM SHALL BE LOCATED AT ENTRANCES AND AT EACH ELEVATOR LOBBY ALONG WITH ALONG WITH ASSOCIATED INSTRUCTIONAL SIGNAGE.

AREA OF RESCUE TWO-WAY COMMUNICATION

NO SCALE | 1

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. HOWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

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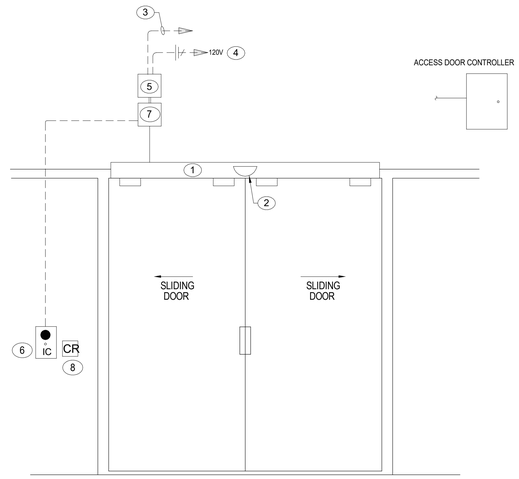


DOOR CONTROL KEYNOTES (TYPICAL FOR D-104):

1. DOOR OPERATOR PROVIDED AND INSTALLED BY DOOR HARDWARE SUPPLIER. PROVIDE 120V BRANCH CIRCUIT TO DOOR OPERATOR CONCEALED IN 3/4" C. COORDINATE ALL REQUIREMENTS WITH DOOR HARDWARE SUPPLIER PRIOR TO BEGINNING ANY WORK.
2. DOOR MOTION SENSOR PROVIDED AND INSTALLED BY DOOR HARDWARE SUPPLIER. DOORS TO BE SECURED FROM ENTRY ON TIME SCHEDULE AFTER NORMAL BUSINESS HOURS. COORDINATE ALL REQUIREMENTS WITH DOOR HARDWARE SUPPLIER PRIOR TO BEGINNING ANY WORK.
3. COMMUNICATIONS\ CONTROL CABLE FROM SLIDING DOOR CONTROL TO ACCESS CONTROL. DOOR CONTROL PANEL.
4. 120V BRANCH CIRCUIT IN 3/4" EMT CONDUIT PATHWAY IN ACCESSIBLE CEILINGS BY ELECTRICAL CONTRACTOR.
5. POWER SUPPLY BOX, LOCATED NEAR DOOR, ABOVE CEILING ON THE SECURE SIDE.
6. ALGO AUDIO INTERCOM. INTERCOM SHALL INCLUDE DOOR RELEASE FROM REMOTE SECURITY LOCATION AFTER COMMUNICATION HAS BEEN ESTABLISHED WITH SECURITY DESK. INTERCOM SYSTEM WITH BACKBOX INCLUDED. MOUNTED AT 48"AFF MAX. FOR CALL BUTTON ON UNSECURED SIDE OF DOOR. COORDINATE EXACT LOCATION WITH CAMPUS SECURITY PERSONNEL. INTERCOM PROVIDED BY EVERFAST SERVICE PROVIDER. ALL LOW VOLTAGE WIRING FOR RELAY OUTPUT TO ELECTRIC LOCKS, ETC. TO BE PROVIDED, INSTALLED AND TERMINATED BY CONTRACTOR.
7. 6X6 JUNCTION BOX ABOVE ACCESSIBLE CEILING.
8. 4X4 BOX WITH SINGLE GANG PLASTER RING CENTERED AT 44" AFF FOR CARD READER ON THE UNSECURED SIDE, PROVIDE 3/4" EMT CONDUIT AND EXTEND LOW VOLTAGE WIRING FROM CARD READER TO THE POWER SUPPLY PANEL.

DOUBLE AUTO SLIDING DOORS-WITH AUTO OPERATOR

NO SCALE | 2

ACCESS CONTROL DOORS GENERAL NOTES:

A. PRIOR TO BEGINNING ANY WORK A MEETING SHALL BE HELD WITH THE GENERAL CONTRACTOR, THE ELECTRICAL CONTRACTOR, THE DOOR HARDWARE SUPPLIER AND THE LOW VOLTAGE SECURITY CONTRACTOR TO CONFIRM ALL WORK HAS BEEN PROPERLY COORDINATED.

B. REFER TO DOOR HARDWARE SPECIFICATION 087100 FOR INFORMATION PERTAINING TO HARDWARE THAT WILL BE PROVIDED BY DOOR HARDWARE SUPPLIER.

C. PROVIDE INTERFACE BETWEEN ACCESS CONTROL SYSTEM AND BUILDING FIRE ALARM SUCH THAT DOOR LOCKING DEVICES RELEASE UPON ACTIVATION OF FIRE ALARM CONDITION.

D. ALL ELECTRIC HARDWARE REQUIRED FOR CONTROL OF DOORS SHALL BE PROVIDED AND INSTALLED BY THE HARDWARE SUPPLIER.

E. ALL LOW VOLTAGE SIGNAL, POWER AND MONITOR WIRING INSTALLED AT EACH DOOR BETWEEN FIELD DEVICES AND DOOR CONTROL PANEL AT EACH DOOR SHALL BE INSTALLED IN EMT. MINIMUM SIZE 3/4"C, UNLESS OTHERWISE NOTED. ALL WIRING AND WIRING TERMINATIONS SHALL BE BY THE LOW VOLTAGE ACCESS CONTROL SECURITY CONTRACTOR.

F. ALL OUTLET BOXES, CONDUITS (PROVIDED WITH PULL STRING), AND BACKBOXES REQUIRED FOR INSTALLATION OF THE ACCESS CONTROL SYSTEMS SHALL BE PROVIDED AND INSTALLED BY THE ELECTRICAL CONTRACTOR.

G. ALL ELECTRICALLY CONTROLLED HARDWARE WILL BE SUPPLIED TO OPERATE AT 24VDC. DOOR HARDWARE SUPPLIER SHALL SUPPLY THE POWER SUPPLIES AND THE DOOR CONTROLLER AS INDICATED IN THE SPECIFICATIONS FOR THE REQUIRED 24VDC. ELECTRICAL CONTRACTOR SHALL EXTEND 120VAC BRANCH CIRCUIT TO ALL DOOR CONTROLLERS AND POWER SUPPLIES AS SHOWN.

ACCESS CONTROL DOOR FUNCTION DESCRIPTIONS:

DOOR GROUP A

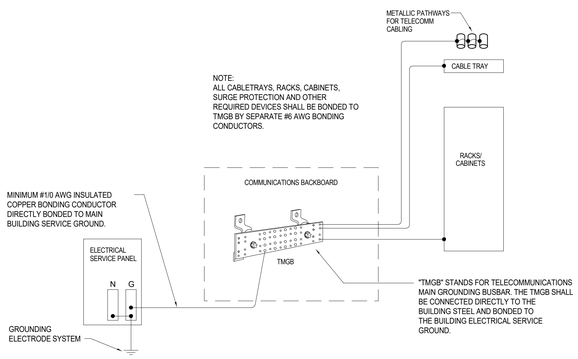
1. EXTERIOR DOOR SECURED FROM ENTRY BY MAGNETIC DOOR LOCK. DOOR IS NORMALLY CLOSED LOCKED.
2. PRESENTATION OF CARD AT READER RELEASES MAGNETIC LOCK PERMITTING INGRESS BY DOOR PULL.
3. PUSH TO EXIT BUTTON ON INTERIOR, RELEASES MAGNETIC LOCK PERMITTING EGRESS.
4. DOOR POSITION SWITCH FOR DOOR MONITORING.
5. IN THE EVENT OF LOST POWER THE DOOR UNLOCKS AND PERMITS EGRESS.
6. AFTER INTERCOM COMMUNICATION WITH SECURITY GUARD WHO SHALL PERMIT ENTRANCE BY REMOTE RELEASE.

DOOR GROUP B

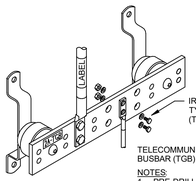
1. DOUBLE SLIDING EXTERIOR ENTRANCE/EXIT DOOR SECURED FROM ENTRY ON TIME SCHEDULE FOR AFTER NORMAL BUSINESS HOURS.
2. IN UNSECURE MODE, DURING NORMAL BUSINESS HOURS THE DOOR AUTOMATICALLY OPENS BY ACTIVATION OF SENSOR SUPPLIED WITH DOOR HARDWARE.
3. IN SECURE MODE, DOOR REMAINS CLOSED UNTIL CREDENTIALS HAVE BEEN PRESENTED ALONG WITH SENSOR ACTIVATION OR AFTER INTERCOM COMMUNICATION WITH SECURITY GUARD WHO SHALL PERMIT ENTRANCE BY REMOTE RELEASE.

GENERAL NOTES

SIZING BONDING CONDUCTOR	
LENGTH (FT)	SIZE (AWG)
< 13	6
14-20	4
21-26	3
27-33	2
34-41	1
42-52	1/0
53-66	2/0
67-84	3/0
85-105	4/0
106-125	250 KCMIL
126-150	300 KCMIL
151-175	350 KCMIL
176-250	500 KCMIL
251-300	600 KCMIL
> 301	750 KCMIL

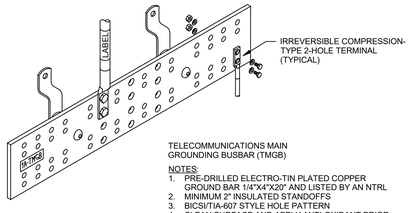


TGB/TMGB & BOND. REFER TO GROUNDING RISER FOR ADDTIONAL INFORMATION.



TELECOMMUNICATIONS GROUNDING BUSBAR (TGB)

NOTES:
1. PRE-DRILLED ELECTRO-TIN PLATED COPPER GROUND BAR 1/4"X2"X12" AND LISTED BY AN NTRL
2. MINIMUM 2" INSULATED STANDOFFS
3. BICSI/TIA-607 STYLE HOLE PATTERN
4. CLEAN SURFACE AND APPLY ANTI-OXIDANT PRIOR TO FASTENING OF CONDUCTORS.
5. PROVIDE IDENTIFICATION FOR GROUND BAR AND GROUNDING CONDUCTORS IN ACCORDANCE WITH TIA/EIA-606-B.



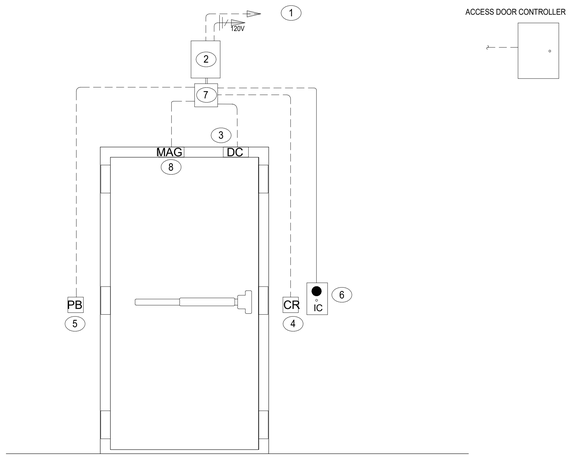
TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB)

NOTES:
1. PRE-DRILLED ELECTRO-TIN PLATED COPPER GROUND BAR 1/4"X4"X20" AND LISTED BY AN NTRL
2. MINIMUM 2" INSULATED STANDOFFS
3. BICSI/TIA-607 STYLE HOLE PATTERN
4. CLEAN SURFACE AND APPLY ANTI-OXIDANT PRIOR TO FASTENING OF CONDUCTORS.
5. PROVIDE IDENTIFICATION FOR GROUND BAR AND GROUNDING CONDUCTORS IN ACCORDANCE WITH TIA/EIA-606-B.

NOTE:
PART NO'S: 40156-012 AND 40158-020 OR EQUAL
ASSEMBLY W/LUG KIT VENDOR: CHATSWORTH PRODUCTS, INC.
ACCESSORIES: P/N 40168-101 ANTIOXIDANT, COPPER, 0.5OZ

TELECOMM GROUNDING/BONDING INSTALLATION DETAIL

NO SCALE | 3



DOOR CONTROL KEYNOTES (TYPICAL FOR DOORS D-107A, D-125, D-128A:

1. POWER AND/OR CONTROL WIRING TO SYSTEM CONTROL PANEL VIA SEPARTE 3/4" EMT CONDUIT PATHWAYS IN ACCESSIBLE CEILING.
2. POWER SUPPLY FOR ELECTRONIC HARDWARE, PROVIDED BY DOOR HARDWARE SUPPLIER. 120V BRANCH CIRCUIT IN 3/4" EMT CONDUIT PATHWAY IN ACCESSIBLE CEILINGS BY ELECTRICAL CONTRACTOR.
3. CONCEALED DOOR POSITION SWITCH AND 3/4" EMT CONDUIT - SWITCH WITH SPST CONTACT AND MAGNET SHALL BE PROVIDED BY DOOR HARDWARE SUPPLIER AND INSTALLED BY LOW VOLTAGE CONTRACTOR. LOW VOLTAGE WIRING AND TERMINATION BY LOW VOLTAGE CONTRACTOR.
4. 4X4 BOX WITH SINGLE GANG PLASTER RING CENTERED AT 44" AFF FOR CARD READER ON THE UNSECURED SIDE, PROVIDE 3/4" EMT CONDUIT AND EXTEND LOW VOLTAGE WIRING FROM CARD READER TO THE POWER SUPPLY PANEL.
5. REQUEST TO EXIT PUSHBUTTON ON SECURED SIDE EGRESS WILL RELEASE ELECTRIFIED MAGNETIC LOCK AND PERMIT EXIT, PROVIDED AND INSTALLED BY DOOR HARDWARE SUPPLIER. LOW VOLTAGE WIRING INSTALLED AND TERMINATED BY LOW VOLTAGE CONTRACTOR.
6. AUDIO INTERCOM ON UNSECURED SIDE OF DOOR. PROVIDE WITH BACK BOX AND CONDUIT STUB UP WITH PULL STRING FOR SERVICE PROVIDER USE.
7. 6X6 JUNCTION BOX ABOVE ACCESSIBLE CEILING.
8. MAGNETIC LOCK.

SINGLE ENTRY DOOR W/CARD READER AND INTERCOM

NO SCALE | 1

PERMIT SET

STATE OF MISSOURI
JAMES S. HOWELL
NUMBER E-25237
PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

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ENGINEER	DAH	APPROVED	JSK

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DOOR ELEVATION AND DETAILS

DATE: January 5, 2024

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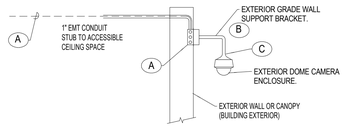
DRAWING LV0.3



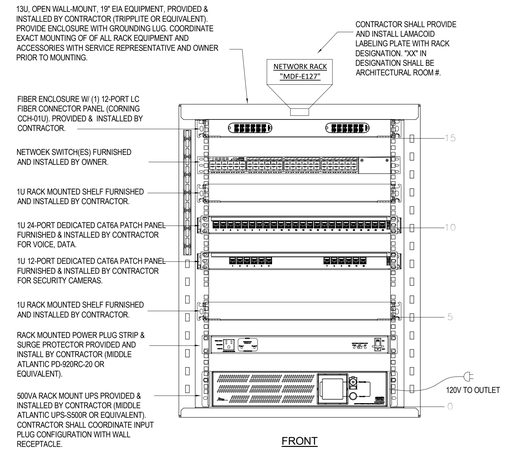
A. FURNISH AND INSTALL 4" SQUARE BOX WITH SINGLE GANG DEVICE RING FLUSH MOUNTED ON INTERIOR SIDE OF BUILDING. PROVIDE 1" CONDUIT WITH SHIELDED CAT6A CABLE AND BUSHINGS. ROUTE CONDUIT INTO ACCESSIBLE CEILING SPACE. PROVIDE J-HOOKS FOR CABLE PATHWAY, BACK TO PATCH PANEL LOCATED IN THE DESIGNATED WALL RACK/MDF ON THE RESPECTIVE FLOOR, ABOVE ACCESSIBLE CEILING. ALL CONDUIT, THROUGH WALL CUTTING AND WEATHERPROOF BOX SHALL BE PROVIDED AND INSTALLED BY CONTRACTOR.

B. MOUNTING PLATE: BOX FOR MOUNTING. CAMERA MAY BE CEILING OR WALL MOUNTED, REFER TO DRAWINGS FOR LOCATIONS.

C. ALL SURVEILLANCE CAMERA'S SHALL BE PROVIDED AND INSTALLED BY FACILITIES TEAM. COORDINATE MEETING WITH FACILITIES TEAM ONCE FRAMING OF BUILDING STRUCTURE IS COMPLETE FOR THE EXACT CAMERA LOCATIONS PRIOR TO BEGINNING ROUGH-IN.

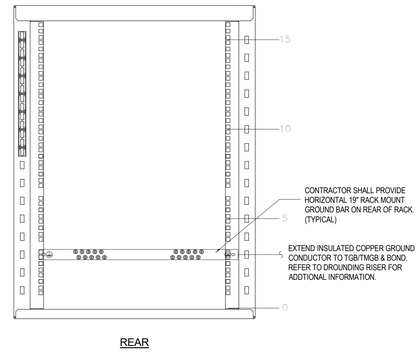
TYPICAL EXTERIOR CCTV CAMERA MOUNTING DETAIL

NO SCALE | 3



GENERAL ELEVATION NOTES:

A. ALL RACK MOUNTED EQUIPMENT PROVIDED & INSTALLED BY CONTRACTOR UNLESS NOTED OTHERWISE.
B. ALL FIBER OPTIC AND CAT6A PATCH CORDS, CROSS CONNECTION WITHIN RACK ARE PROVIDED AND INSTALLED BY CONTRACTOR, UNLESS NOTED OTHERWISE AS NIC.
C. PROVIDE PATCH CABLES FOR PATCH PANEL EQUIPMENT FOR 100% OF THE TOTAL NUMBER OF JACKS/CABLES INDICATED ON PLANS, PLUS APPROX. 10% SPARE.
D. PATCH CABLE LENGTHS FOR EACH RACK SHALL BE 3-FOOT.



FIRST FLOOR MDF NETWORK RACK ELEVATION

NO SCALE | 2

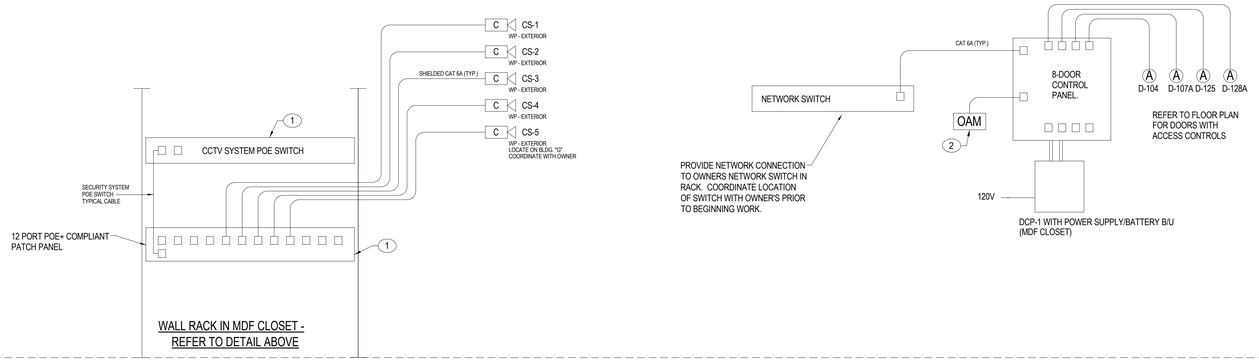
ACCESS CONTROL/CCTV SYSTEM RISER DIAGRAM GENERAL NOTES:

1. THE DIAGRAMS BELOW INDICATE GENERAL CONFIGURATION OF SYSTEMS AND DOES NOT REFLECT ALL SYSTEM COMPONENTS.
2. THE ACCESS CONTROL AND CCTV SYSTEMS SHALL BE SUPPLIED WITH DEDICATED CABLING. BOTH CAMERA LINKS AND DOOR ALARMS ARE TO ALERT AT LOCATION DETERMINED BY OWNERS.
3. THE ACCESS CONTROL SYSTEM SHALL BE SUPPLIED WITH THE NUMBER OF CONTROLLERS APPROPRIATE FOR THE SYSTEM TO BE SUPPLIED, AND MAY BE SUPPLIED WITH A DIFFERENT CONFIGURATION THAN SHOWN. COMMUNICATIONS FOR CONTROLLERS MAY BE IP OR RS485 LOOP.
4. THE ACCESS CONTROL SYSTEM SHALL BE A DXS ACCESS CONTROL SYSTEM. THE SYSTEM SHALLBE STAND-ALONE BUT CAPABLE OF INTERFACING WITH EXISTING SYSTEM SO THAT AN ALARM WILL ANNUNCIATE AT THE SECURITY OFFICE AND BE CAPABLE OF REMOTE DOOR RELEASE AT EACH DOOR BY SECURITY.
5. THE INTERCOMS AT EACH DOOR, SHOWN ON FLOOR PLANS, SHALL BE CAPABLE OF INTERFACING WITH THE EXISTING DSX DOOR CONTROLLER SYSTEM WITH THE COMMUNICATION AND REMOTE DOOR RELEASE BEING THROUGH THE SECURITY OFFICE.

ACCESS CONTROL/CCTV SYSTEM RISER DIAGRAM KEY NOTES: (#)

(1) CCTV/ ACCESS CONTROL SYSTEMS PATCH PANEL AND OWNER PROVIDED NETWORK SWITCH. INSTALLED IN BUILDING MDF RACK.

(2) FIRE ALARM OUTPUT MODULE FOR FIRE ALARM INPUT TO ACCESS CONTROL SYSTEM.



FIRST FLOOR

ACCESS CONTROL/CCTV SYSTEM RISER DIAGRAM AND SCHEDULE

NO SCALE | 1

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI
JAMES S. DAHLEN
NUMBER E-25237
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DRAWING TITLE

LOW VOLTAGE - SECURITY DETAILS

DATE: January 5, 2024

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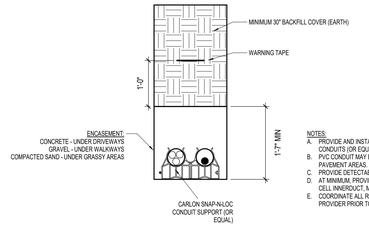
DRAWING LV0.4



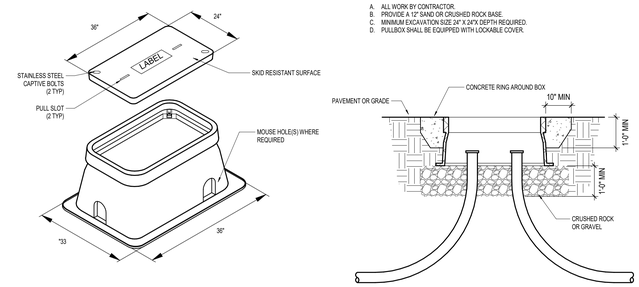
NOTES:
A. PROVIDE AND INSTALL TWO (2) 4" DIAMETER TYPE 80 PVC CONDUITS (OR EQUAL) DUCTBANK.
B. PVC CONDUIT MAY BE DIRECT BURIED UNLESS UNDER PAVEMENT AREAS.
C. PROVIDE DETECTABLE WARNING TAPE.
D. AT MINIMUM, PROVIDE AND INSTALL ONE CONDUIT WITH 3-CELL INNERDUCT, MAXCELL OR EQUAL.
E. COORDINATE ALL REQUIREMENTS WITH SERVICE PROVIDER PRIOR TO BEGINNING ANY WORK.

3 DUCT BANK DETAIL
3/4" = 1'-0"

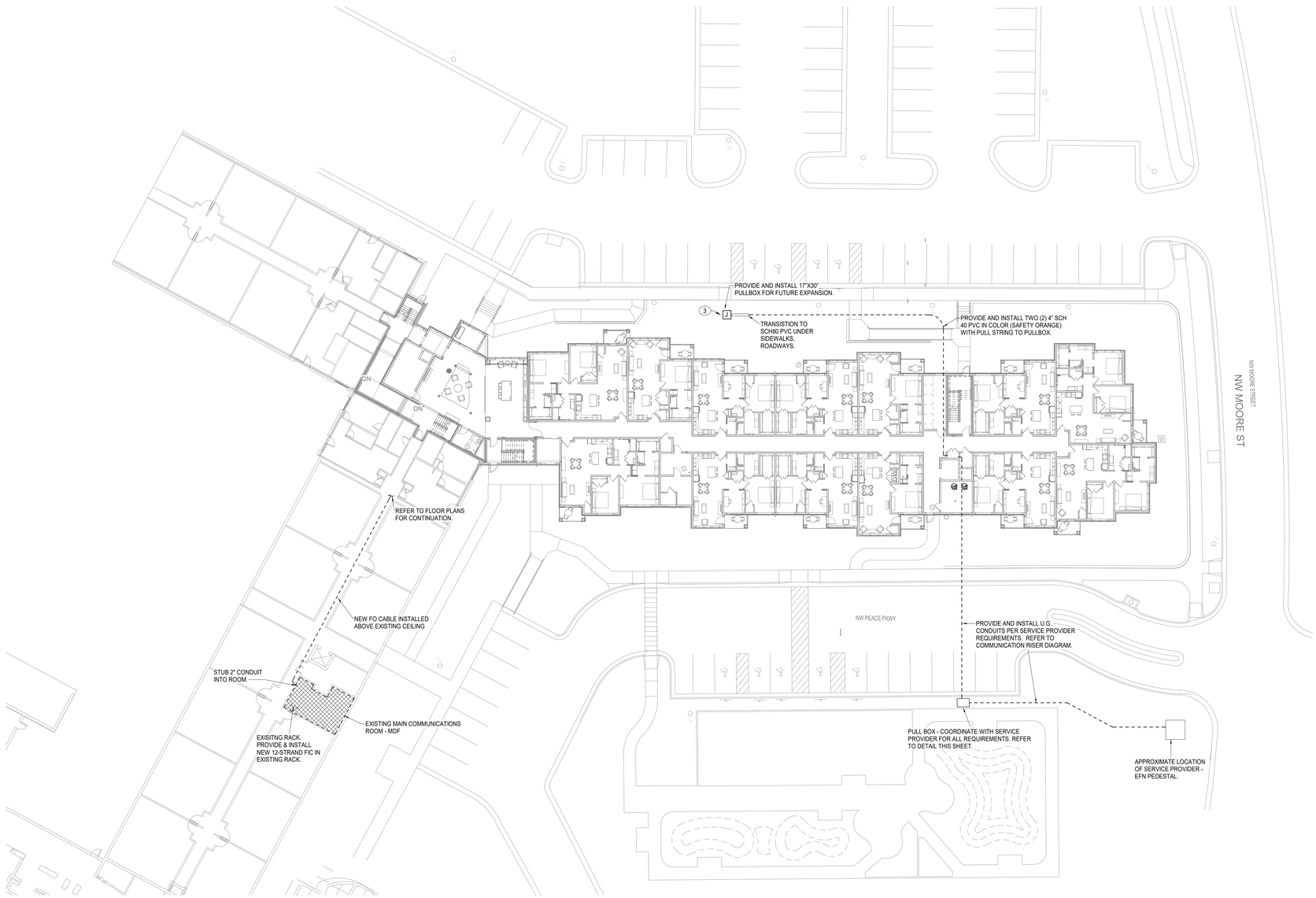
NOTES:
1. PRECAST POLYMER CONCRETE LID AND ENCLOSURE (HUBBELL #PG-2436-BA-36 OR EQUAL)
2. BOX TO INCLUDE KNOCKOUTS (MOUSEHOLE) OPENINGS FOR CONDUIT ENTRY.
3. REFER TO PLAN BELOW FOR PROPER NUMBER OF CONDUITS.
4. INSTALL WITH BASE BELOW THE FROST LINE

GENERAL NOTES:

A. ALL WORK BY CONTRACTOR.
B. PROVIDE A 12" SAND OR CRUSHED ROCK BASE.
C. MINIMUM EXCAVATION SIZE 24" X 24"X DEPTH REQUIRED.
D. PULLBOX SHALL BE EQUIPPED WITH LOCKABLE COVER.



2 TYPICAL COMMUNICATIONS PULL BOX DETAIL
1/2" = 1'-0"



1 LOW VOLTAGE SITE PLAN
LV0.5 1" = 20'-0"

GENERAL NOTES

PERMIT SET

STATE OF MISSOURI JAMES S. MOWELL NUMBER E-25237 REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 1927 South Tryon St. - Suite 207
Charlotte, North Carolina 28203.4633
704.372.7327 ▪ Fax 704.372.7369
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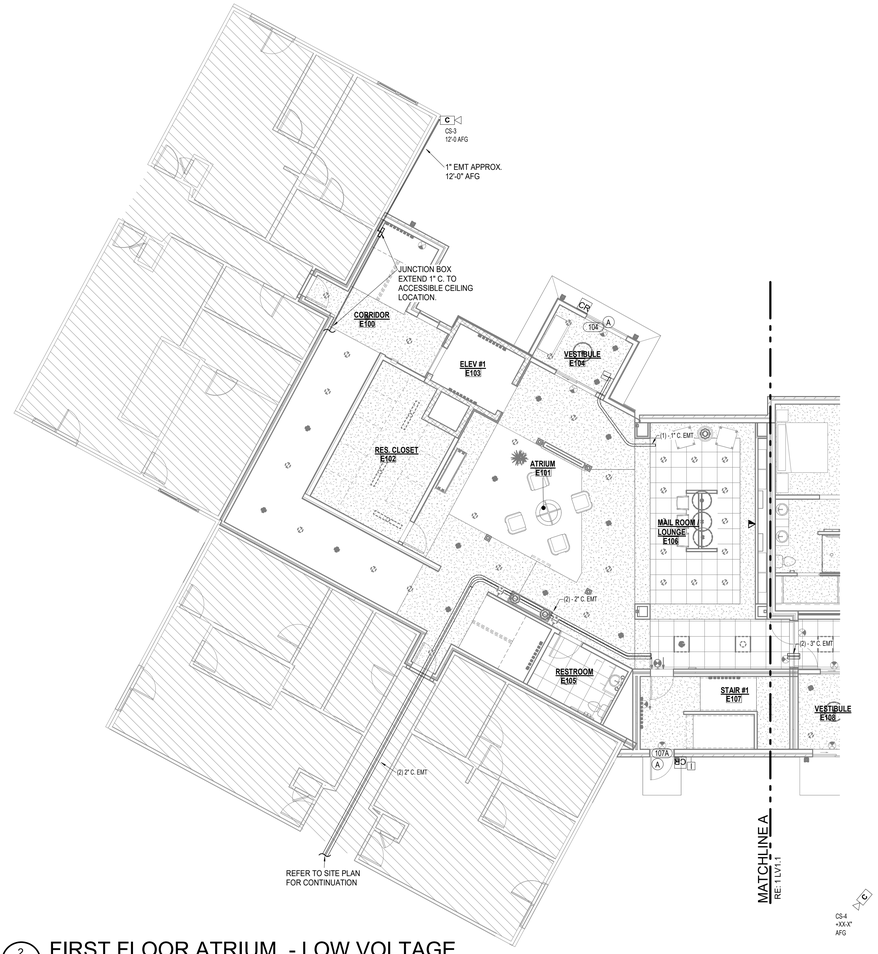
DESIGNER	DAS	DRAWN	MAW, DKW
ARCHITECT	DAS	CHECKED	MAW
ENGINEER	MAW	APPROVED	JSK

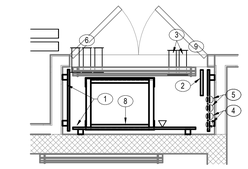
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE
LOW VOLTAGE SITE PLAN

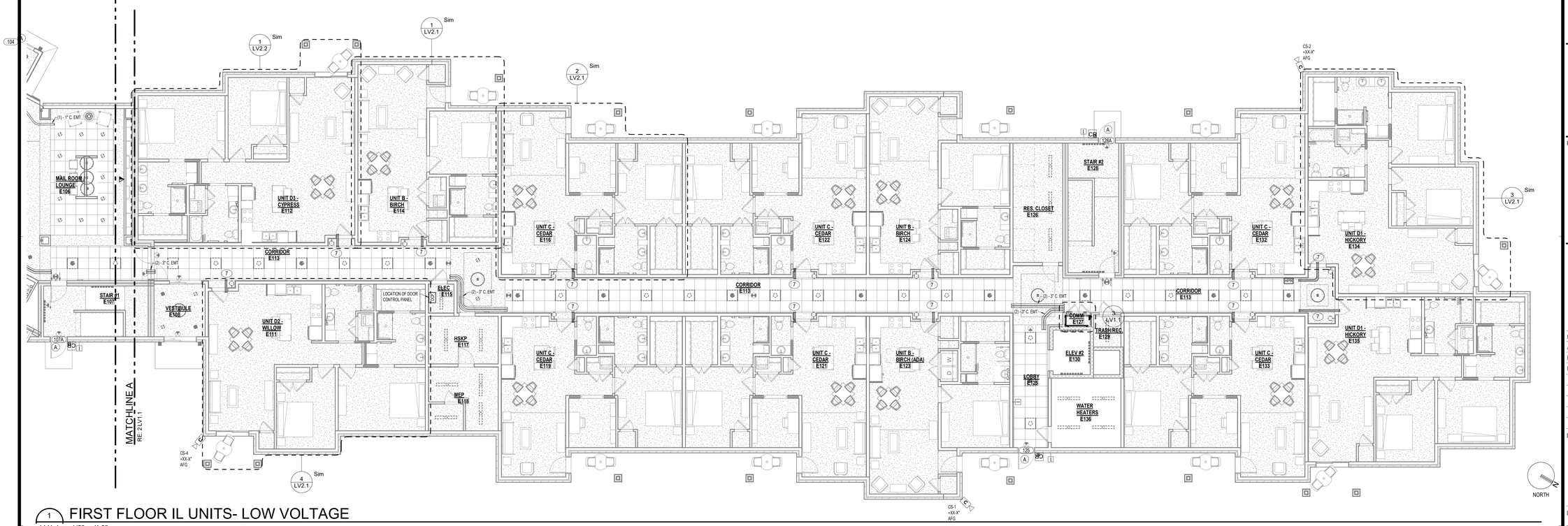
DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING LV0.5



2 LV1.1 FIRST FLOOR ATRIUM - LOW VOLTAGE
1/8" = 1'-0"

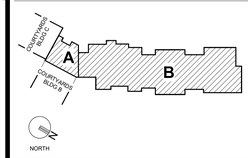


3 LV1.1 ENLARGED PLAN - COMM. RM. #E127
1/2" = 1'-0"



1 LV1.1 FIRST FLOOR IL UNITS- LOW VOLTAGE
1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. DOORS INDICATED WITH A DOOR TAG OR "A" ARE ACCESS CONTROLLED DOORS. PROVIDE 120VAC CONNECTION WHERE REQUIRED. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS, ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.

B. CONDUIT TO BE PROVIDED ABOVE GWB OR OTHER INACCESSIBLE AREAS WITH PULL STRING FOR LOW VOLTAGE CONTRACTORS USE FOR CABLE ROUTING ABOVE CEILING.

C. ON RESIDENT FLOORS PROVIDE SUPPORTED J-HOOKS FOR CABLE ROUTING OF CABLE IN CORRIDOR CEILING SPACE.

D. PROVIDE AND INSTALL SLEEVES AT ALL LOCATIONS WHERE CABLE MUST PASS THORUGH WALLS AND PARTITIONS. DO NOT ROUTE CABLE THROUGH WALLS WITHOUT SLEEVES.

E. COORDINATE ALL CONDUITS AND SLEEVES FOR LOW VOLTAGE WITH OTHER DISCIPLINES PRIOR TO INSTALLATION.

PLAN NOTES

1. COMMUNICATIONS BACKBOARD - PROVIDE AND INSTALL 8'-0" H x3 /4" FIRE RATED PLYWOOD SECURED ALONG ENTIRE LENGTH OF TWO WALLS, AS INDICATED. INSTALL BOTTOM OF BOARD AT 8" AFF. TERMINAL BOARD FOR USE BY IN HOUSE FACILITIES AND TELECOMM SERVICE PROVIDERS FOR DISTRIBUTION OF THEIR RESPECTIVE HARDWARE AND CABLE DISTRIBUTION.
2. TGB GROUND BAR AT 24" AFF.
3. TWO (2) 2"C. ROUTED THROUGH CEILING SPACE FOR OWNER BACKBONE CABLING AND SPARE.
4. TWO (2) 3"C. SLEEVES ROUTED THROUGH FLOOR/CEILING SPACE FOR SERVICE PROVIDER USE FOR CABLE ROUTING.
5. TWO (2) 3"C. STUBBED UP 6" THROUGH FLOOR SLAB FOR SERVICE PROVIDER CABLES.
6. PROVIDE THREE (3) 3" SLEEVES THROUGH WALL ABOVE CORRIDOR ACCESSIBLE CEILING.
7. EXTEND TWO (2) 1.1/4" INNERDUCT, WITH PULL STRING, FROM CORRIDOR ACCESSIBLE CEILING SPACE TO THE RESIDENT UNIT MEDIA CENTER TYPICAL FOR ALL RESIDENT UNITS.
8. PROVIDE WALL RACK FOR OWNER IT NETWORK EQUIPMENT.
9. TELECOM ROOM DESIGNATED FOR OWNERS NETWORK HARDWARE EQUIPMENT. CONTRACTOR TO PROVIDE WALL RACK FOR OWNERS USE. CONTRACTOR TO PROVIDE FIBER CABLE FROM EXISTING MDF TO THIS ROOM. TERMINATION OF FIBER BY OTHERS.

PERMIT SET

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors
SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
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DESIGNER	DAS	DRAWN	DAH, DKW
ARCHITECT	DAS	CHECKED	DAH
ENGINEER	DAH	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

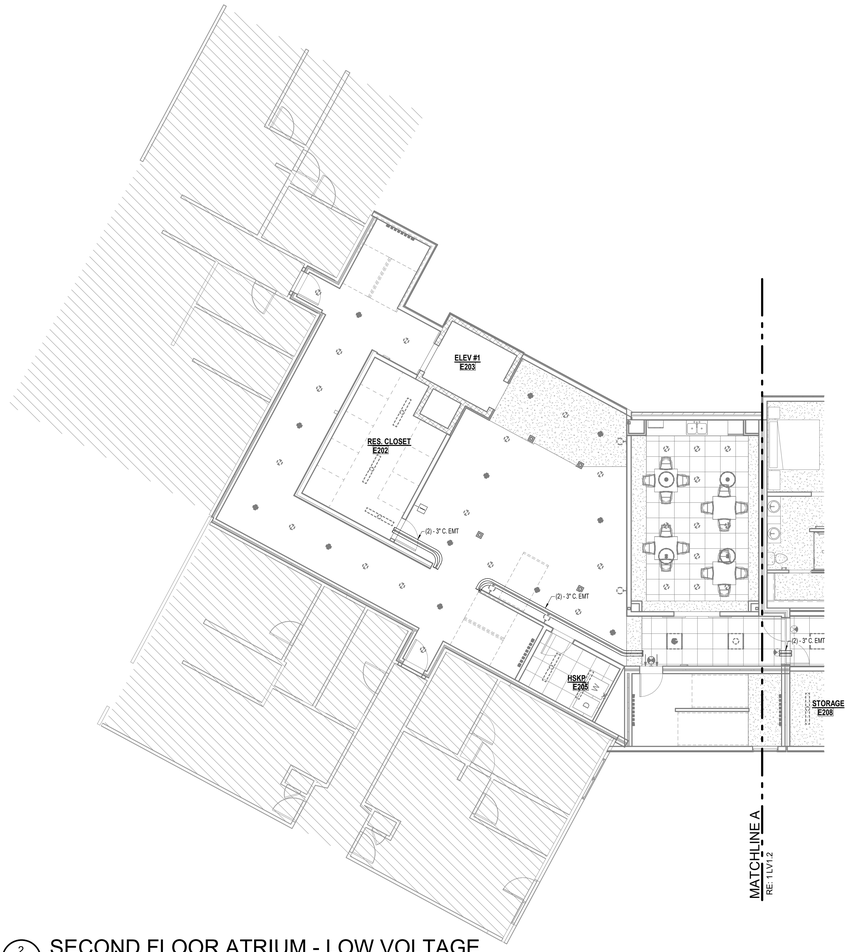
DRAWING TITLE

FIRST FLOOR PLAN - LOW VOLTAGE

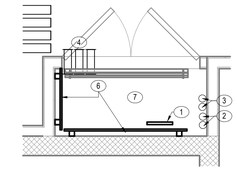
DATE: January 5, 2024

COMM. NO. 23104.00

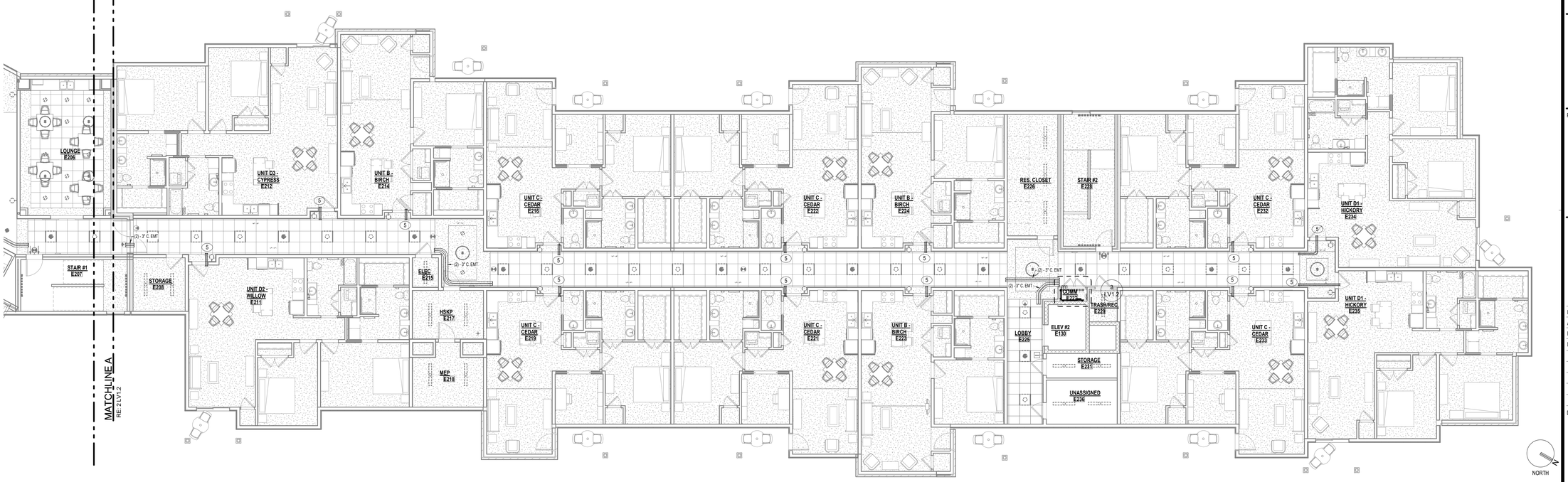
DRAWING LV1.1



2 LV1.2 SECOND FLOOR ATRIUM - LOW VOLTAGE
1/8" = 1'-0"

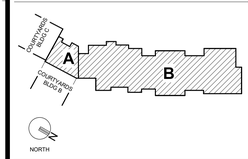


3 LV1.2 ENLARGED PLAN - COMM. RM. #E227
1/2" = 1'-0"



1 LV1.2 SECOND FLOOR IL UNITS - LOW VOLTAGE
1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. DOORS INDICATED WITH A DOOR TAG OR "A" ARE ACCESS CONTROLLED DOORS. PROVIDE 120VAC CONNECTION WHERE REQUIRED. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS, ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.

B. CONDUIT TO BE PROVIDED ABOVE GWB OR OTHER INACCESSIBLE AREAS WITH PULL STRING FOR LOW VOLTAGE CONTRACTORS USE FOR CABLE ROUTING ABOVE CEILING.

C. ON RESIDENT FLOORS PROVIDE SUPPORTED J-HOOKS FOR CABLE ROUTING OF CABLE IN CORRIDOR CEILING SPACE.

D. PROVIDE AND INSTALL SLEEVES AT ALL LOCATIONS WHERE CABLE MUST PASS THORUGH WALLS AND PARTITIONS. DO NOT ROUTE CABLE THROUGH WALLS WITHOUT SLEEVES.

E. COORDINATE ALL CONDUITS AND SLEEVES FOR LOW VOLTAGE WITH OTHER DISCIPLINES PRIOR TO INSTALLATION.

PLAN NOTES

1 TGB GROUND BAR AT 24" AFF.
2 TWO (2) 3"C. SLEEVES STUBBED UP 6" A.F.F THROUGH CEILING/FLOOR SLAB TO LEVEL ABOVE/BELOW FOR FACILITY NETWORK CABLING OR SERVICE PROVIDER CABLING. PROVIDE APPROPRIATE SEALANT TO MAINTAIN RATING OF FLOOR.
3 TWO (2) 3"C. SLEEVES STUBBED UP 6" A.F.F THROUGH CEILING/FLOOR SLAB TO LEVEL ABOVE/BELOW FOR SERVICE PROVIDER. PROVIDE APPROPRIATE SEALANT TO MAINTAIN RATING OF FLOOR.
4 PROVIDE THREE (3) 3" SLEEVES THROUGH WALL ABOVE CORRIDOR ACCESSIBLE CEILING.
5 EXTEND TWO (2) 1-1/4" INNERDUCT, WITH PULL STRING, FROM CORRIDOR ACCESSIBLE CEILING SPACE TO THE RESIDENT UNIT MEDIA CENTER TYPICAL FOR ALL RESIDENT UNITS.
6 COMMUNICATIONS BACKBOARD - PROVIDE AND INSTALL 8'-0" H x3/4" FIRE RATED PLYWOOD SECURED ALONG ENTIRE LENGTH OF TWO WALLS, AS INDICATED. INSTALL BOTTOM OF BOARD AT 8" AFF. TERMINAL BOARD FOR USE BY IN HOUSE FACILITIES AND TELECOMM SERVICE PROVIDERS FOR DISTRIBUTION OF THEIR RESPECTIVE HARDWARE AND CABLE DISTRIBUTION.
7 TELECOM ROOM DESIGNATED FOR EVERAST DEMARC HEADEND EQUIPMENT AND ORIGINATION POINT FOR FIBER CABLES TO EACH RESIDENT SMC. CABLE TO BE PROVIDED AND INSTALLED BY EVERFAST SERVICE PROVIDER FROM HEADEND TO RESIDENT UNIT AND TERMINATED IN SMC.

PERMIT SET

STATE OF MISSOURI
JAMES S. KIMMELL
NUMBER E-26237
LICENSED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	DAH, DKW
ARCHITECT	DAS	CHECKED	DAH
ENGINEER	DAH	APPROVED	JSK

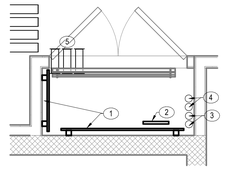
NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

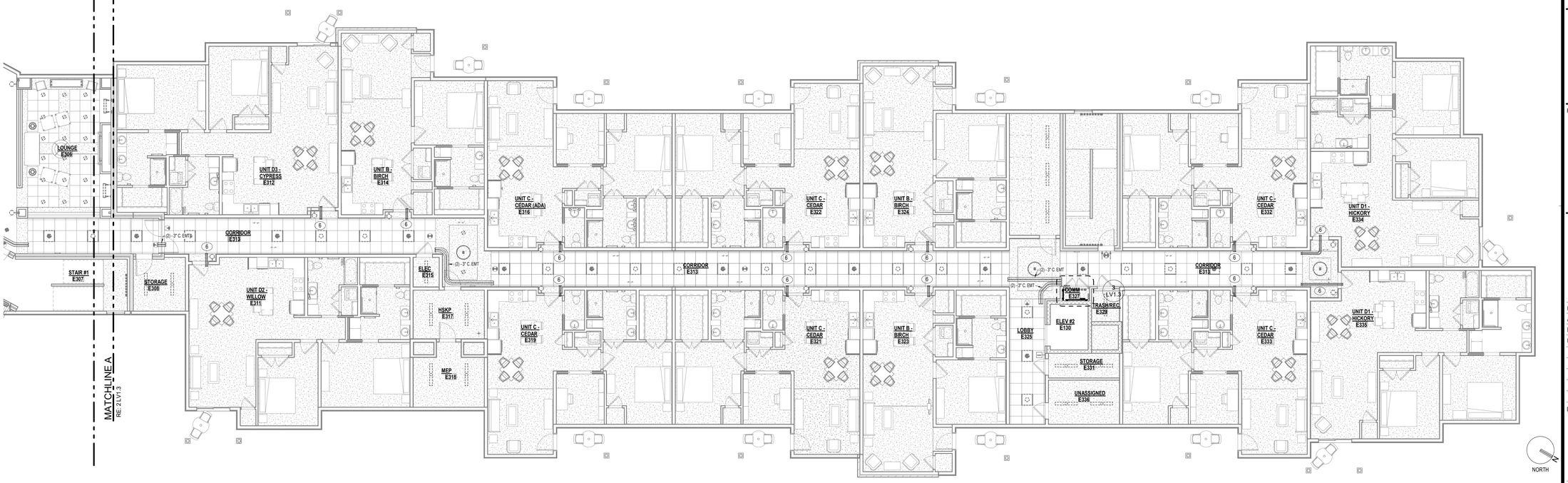
SECOND FLOOR PLAN - LOW VOLTAGE

DATE: January 5, 2024
COMM. NO. 23104.00
DRAWING LV1.2

2 LV1.3 THIRD FLOOR ATRIUM - LOW VOLTAGE
1/8" = 1'-0"

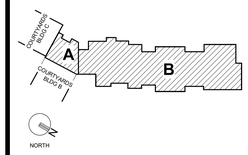


3 LV1.3 ENLARGED PLAN - COMM. RM. #E327
1/2" = 1'-0"



1 LV1.3 THIRD FLOOR IL UNITS - LOW VOLTAGE
1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. DOORS INDICATED WITH A DOOR TAG OR "A" ARE ACCESS CONTROLLED DOORS. PROVIDE 120VAC CONNECTION WHERE REQUIRED. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS, ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.

B. CONDUIT TO BE PROVIDED ABOVE GWB OR OTHER INACCESSIBLE AREAS WITH PULL STRING FOR LOW VOLTAGE CONTRACTORS USE FOR CABLE ROUTING ABOVE CEILING.

C. ON RESIDENT FLOORS PROVIDE SUPPORTED J-HOOKS FOR CABLE ROUTING OF CABLE IN CORRIDOR CEILING SPACE.

D. PROVIDE AND INSTALL SLEEVES AT ALL LOCATIONS WHERE CABLE MUST PASS THORUGH WALLS AND PARTITIONS. DO NOT ROUTE CABLE THROUGH WALLS WITHOUT SLEEVES.

E. COORDINATE ALL CONDUITS AND SLEEVES FOR LOW VOLTAGE WITH OTHER DISCIPLINES PRIOR TO INSTALLATION.

PLAN NOTES

1 COMMUNICATIONS BACKBOARD - PROVIDE AND INSTALL 8'-0" H x3/4" FIRE RATED PLYWOOD SECURED ALONG ENTIRE LENGTH OF TWO WALLS, AS INDICATED. INSTALL BOTTOM OF BOARD AT 8" AFF. TERMINAL BOARD FOR USE BY IN HOUSE FACILITIES AND TELECOMM SERVICE PROVIDERS FOR DISTRIBUTION OF THEIR RESPECTIVE HARDWARE AND CABLE DISTRIBUTION.

2 TGB GROUND BAR AT 24" AFF.

3 TWO (2) 3"C. SLEEVES STUBBED UP 6" A.F.F THROUGH CEILING/FLOOR SLAB TO LEVEL ABOVE/BELOW FOR FACILITY NETWORK CABLING OR SERVICE PROVIDER CABLING. PROVIDE APPROPRIATE SEALANT TO MAINTAIN RATING OF FLOOR.

4 TWO (2) 3"C. SLEEVES STUBBED UP 6" A.F.F THROUGH CEILING/FLOOR SLAB TO LEVEL ABOVE/BELOW FOR SERVICE PROVIDER. PROVIDE APPROPRIATE SEALANT TO MAINTAIN RATING OF FLOOR.

5 PROVIDE THREE (3) 3" SLEEVES THROUGH WALL ABOVE CORRIDOR ACCESSIBLE CEILING.

6 EXTEND TWO (2) 1-1/4" INNERDUCT, WITH PULL STRING, FROM CORRIDOR ACCESSIBLE CEILING SPACE TO THE RESIDENT UNIT MEDIA CENTER TYPICAL FOR ALL RESIDENT UNITS.

PERMIT SET

STATE OF MISSOURI
JAMES S. KNOWLEW
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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DESIGNER	DAS	DRAWN	DAH, DKW
ARCHITECT	DAS	CHECKED	DAH
ENGINEER	DAH	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

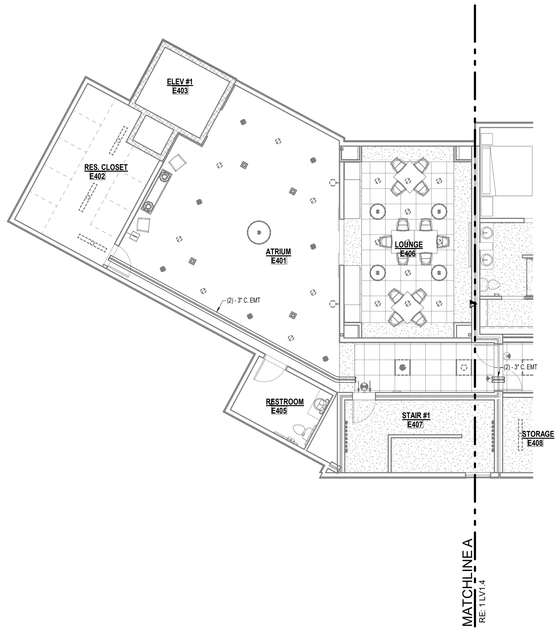
DRAWING TITLE

THIRD FLOOR PLAN - LOW VOLTAGE

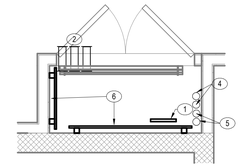
DATE: January 5, 2024

COMM. NO. 23104.00

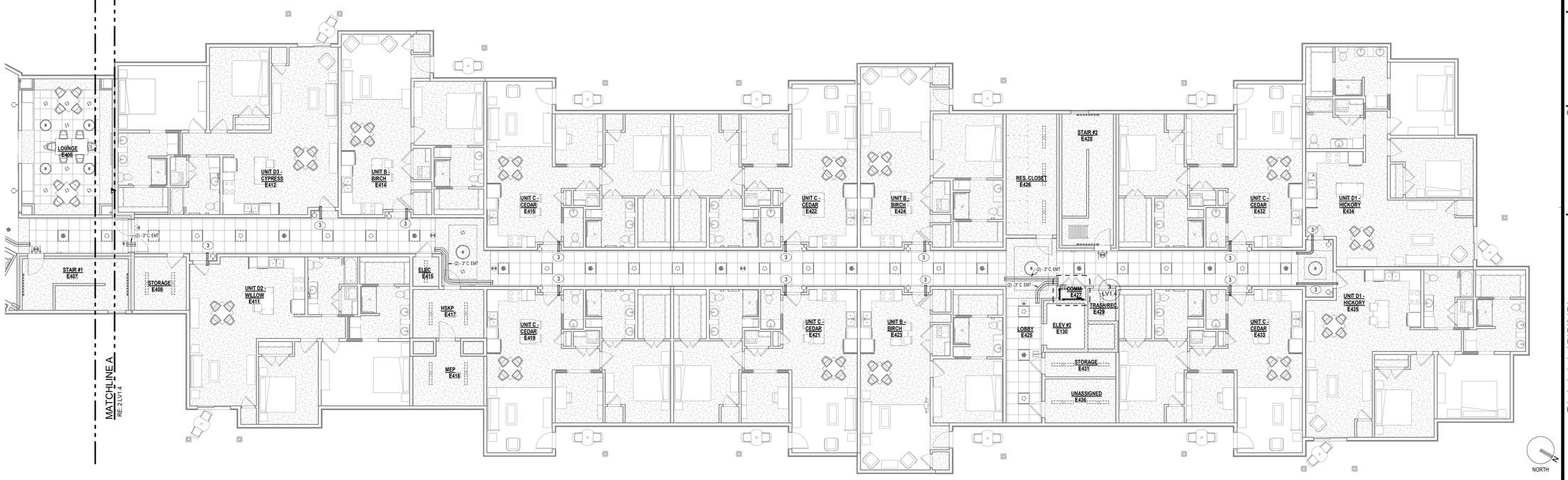
DRAWING LV1.3



2 LV1.4 FOURTH FLOOR ATRIUM - LOW VOLTAGE
1/8" = 1'-0"

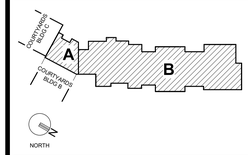


3 LV1.4 ENLARGED PLAN - COMM. RM. #E427
1/2" = 1'-0"



1 LV1.4 FOURTH FLOOR IL UNITS - LOW VOLTAGE
1/8" = 1'-0"

KEYPLAN



GENERAL NOTES

A. DOORS INDICATED WITH A DOOR TAG OR "A" ARE ACCESS CONTROLLED DOORS. PROVIDE 120VAC CONNECTION WHERE REQUIRED. REFER TO DOOR HARDWARE SPECIFICATIONS FOR ELECTRICAL CONNECTION REQUIREMENTS, ROUGH-INS, AND ADDITIONAL INFORMATION. COORDINATE WITH DOOR HARDWARE SUPPLIER AND ACCESS CONTROL VENDOR.

B. CONDUIT TO BE PROVIDED ABOVE GWB OR OTHER INACCESSIBLE AREAS WITH PULL STRING FOR LOW VOLTAGE CONTRACTORS USE FOR CABLE ROUTING ABOVE CEILING.

C. ON RESIDENT FLOORS PROVIDE SUPPORTED J-HOOKS FOR CABLE ROUTING OF CABLE IN CORRIDOR CEILING SPACE.

D. PROVIDE AND INSTALL SLEEVES AT ALL LOCATIONS WHERE CABLE MUST PASS THORUGH WALLS AND PARTITIONS. DO NOT ROUTE CABLE THROUGH WALLS WITHOUT SLEEVES.

E. COORDINATE ALL CONDUITS AND SLEEVES FOR LOW VOLTAGE WITH OTHER DISCIPLINES PRIOR TO INSTALLATION.

PLAN NOTES

1. TGB GROUND BAR AT 24" AFF.
2. PROVIDE THREE (3) 3" SLEEVES THROUGH WALL ABOVE CORRIDOR ACCESSIBLE CEILING.
3. EXTEND TWO (2) 1-1/4" INNERDUCT, WITH PULL STRING, FROM CORRIDOR ACCESSIBLE CEILING SPACE TO THE RESIDENT UNIT MEDIA CENTER TYPICAL FOR ALL RESIDENT UNITS.
4. TWO (2) 3"C. SLEEVES STUBBED UP 6" A.F.F THROUGH CEILING/FLOOR SLAB TO LEVEL ABOVE/BELOW FOR SERVICE PROVIDER. PROVIDE APPROPRIATE SEALANT TO MAINTAIN RATING OF FLOOR.
5. TWO (2) 3"C. SLEEVES STUBBED UP 6" A.F.F THROUGH CEILING/FLOOR SLAB TO LEVEL ABOVE/BELOW FOR FACILITY NETWORK CABLING OR SERVICE PROVIDER CABLING. PROVIDE APPROPRIATE SEALANT TO MAINTAIN RATING OF FLOOR.
6. COMMUNICATIONS BACKBOARD - PROVIDE AND INSTALL 8'-0" H x3/4" FIRE RATED PLYWOOD SECURED ALONG ENTIRE LENGTH OF TWO WALLS, AS INDICATED. INSTALL BOTTOM OF BOARD AT 8" AFF. TERMINAL BOARD FOR USE BY IN HOUSE FACILITIES AND TELECOMM SERVICE PROVIDERS FOR DISTRIBUTION OF THEIR RESPECTIVE HARDWARE AND CABLE DISTRIBUTION.

PERMIT SET

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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Roanoke, Virginia 24011.2003
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DESIGNER : DAS		DRAWN : DAH, DKW	
ARCHITECT : DAS		CHECKED : DAH	
ENGINEER : DAH		APPROVED : JSK	
NO.	REVISION DESCRIPTION		DATE

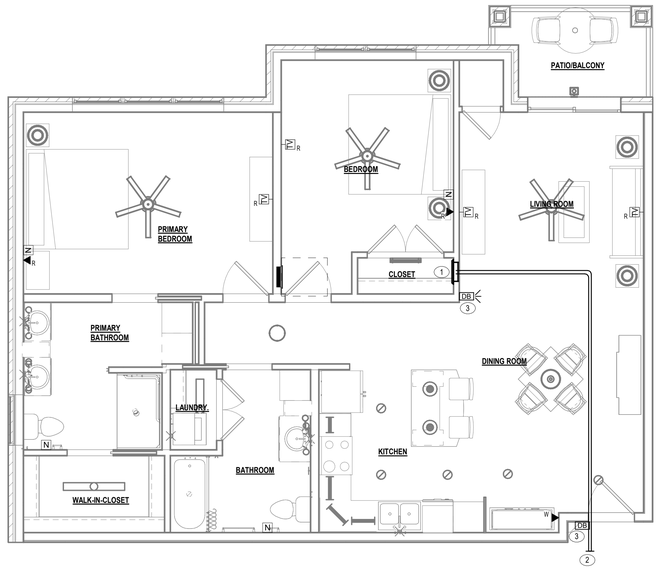
DRAWING TITLE

FOURTH FLOOR PLAN - LOW VOLTAGE

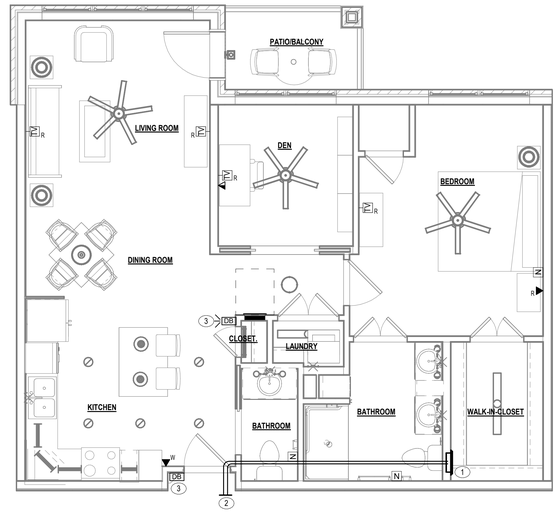
DATE: January 5, 2024

COMM. NO. 23104.00

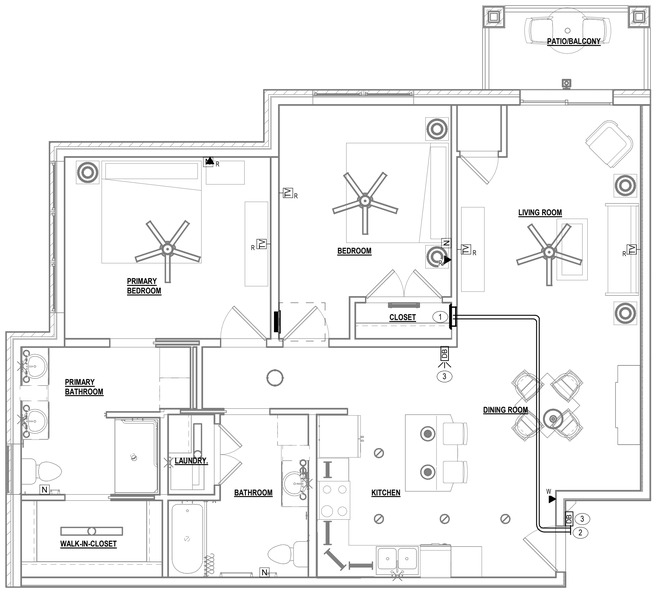
DRAWING LV1.4



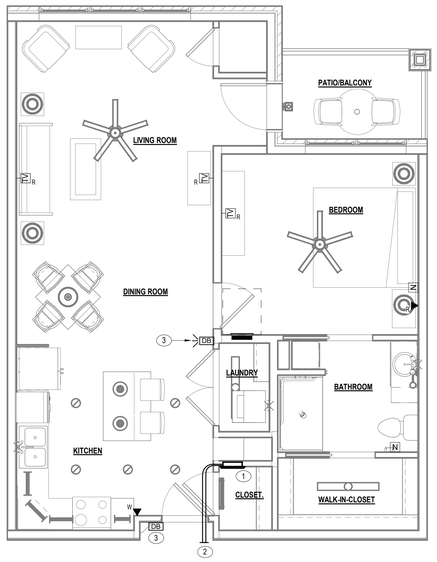
4 LV2.1 UNIT D2 - WILLOW - LOW VOLTAGE
1/4" = 1'-0"



2 LV2.1 UNIT C - CEDAR - LOW VOLTAGE
1/4" = 1'-0"



3 LV2.1 UNIT D1 - HICKORY - LOW VOLTAGE
1/4" = 1'-0"



1 LV2.1 UNIT B - BIRCH - LOW VOLTAGE
1/4" = 1'-0"

GENERAL NOTES

A. COORDINATE ROUTING OF INNERDUCT ABOVE CEILING WITH OTHER DISCIPLINES PRIOR TO BEGINNING WORK.

PLAN NOTES

1 RESIDENTIAL COMMUNICATIONS SERVICE ENCLOSURE. ELECTRICAL CONTRACTOR TO PROVIDE DUPLEX RECEPTACLE (GFCI, WHERE REQUIRED BY CODE) FOR INSTALLATION ENCLOSURE AND CONNECT TO LOCAL 120V CIRCUIT. COORDINATE WITH LOW VOLTAGE CONTRACTOR.

2 (2) 1-1/4" INNERDUCT EXTENDED, FROM SMC ENCLOSURE, ABOVE CEILING TO ACCESSIBLE CEILING SPACE IN CORRIDOR. PROVIDE PULL STRING IN CONDUITS FROM SMC ENCLOSURE TO STUB OUTS ABOVE CEILING.

3 PROVIDE HONEYWELL SERIES 3 PORTABLE WIRELESS WITH PUSHBUTTON DOORBELL SYSTEM. INSTALL BOTH PUSHBUTTON AND DOORBELL USING BRACKETS, ANCHORS AND SCREWS. PUSHBUTTON AT APPROX. 3'-6" AFF, DOORBELL TO BE INSTALLED ON WALL NEAR ENTRY AT APPROX. 6'-6" AFF.

PERMIT SET

STATE OF MISSOURI
JAMES S. NIDWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

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Charlotte, North Carolina 28203.4633
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DESIGNER	DAS	DRAWN	DAH, DKW
ARCHITECT	DAS	CHECKED	DAH
ENGINEER	DAH	APPROVED	JSK

NO.	REVISION DESCRIPTION	DATE

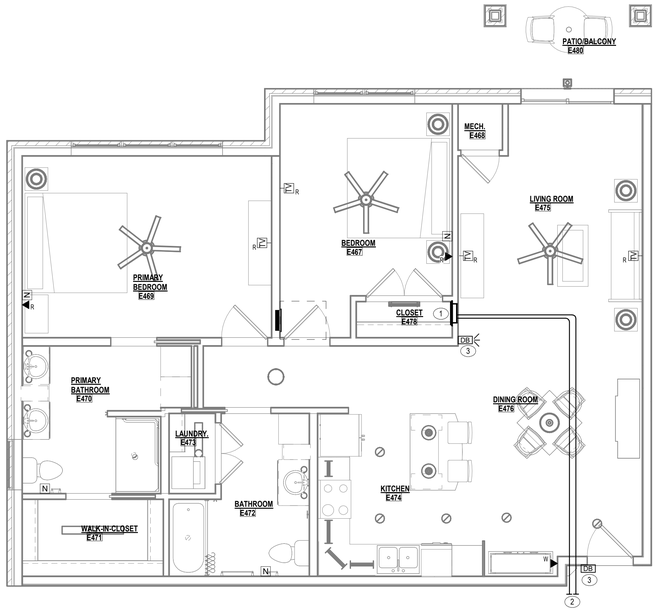
DRAWING TITLE

ENLARGED PLANS - LOW VOLTAGE

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING LV2.1



1 LV2.2 UNIT D3 - CYPRESS - LOW VOLTAGE

1/4" = 1'-0"

GENERAL NOTES

A. COORDINATE ROUTING OF INNERDUCT ABOVE CEILING WITH OTHER DISCIPLINES PRIOR TO BEGINNING WORK.

PLAN NOTES

1. RESIDENTIAL COMMUNICATIONS SERVICE ENCLOSURE. ELECTRICAL CONTRACTOR TO PROVIDE DUPLEX RECEPTACLE (GFCI, WHERE REQUIRED BY CODE) FOR INSTALLATION ENCLOSURE AND CONNECT TO LOCAL 120V CIRCUIT. COORDINATE WITH LOW VOLTAGE CONTRACTOR.
2. (2) 1-1/4" INNERDUCT EXTENDED, FROM SMC ENCLOSURE, ABOVE CEILING TO ACCESSIBLE CEILING SPACE IN CORRIDOR. PROVIDE PULL STRING IN CONDUITS FROM SMC ENCLOSURE TO STUB OUTS ABOVE CEILING.
3. PROVIDE HONEYWELL SERIES 3 PORTABLE WIRELESS WITH PUSHBUTTON DOORBELL SYSTEM. INSTALL BOTH PUSHBUTTON AND DOORBELL USING BRACKETS, ANCHORS AND SCREWS. PUSHBUTTON AT APPROX. 3'-6" AFF. DOORBELL TO BE INSTALLED ON WALL NEAR ENTRY AT APPROX. 6'-6" AFF.

PERMIT SET

STATE OF MISSOURI
JAMES K. NOWELL
NUMBER E-25237
REGISTERED PROFESSIONAL ENGINEER
1/5/2024

PROJECT TITLE

John Knox Village

COURTYARDS - BUILDING E

SFCS Architecture Engineering Planning Interiors

SFCS Inc. ▪ 305 South Jefferson Street
Roanoke, Virginia 24011.2003
540.344.6664 ▪ Fax 540.343.6925
www.sfcs.com

DESIGNER	: DAS	DRAWN	: DAH, DKW
ARCHITECT	: DAS	CHECKED	: DAH
ENGINEER	: DAH	APPROVED	: JSK

NO.	REVISION DESCRIPTION	DATE

DRAWING TITLE

ENLARGED PLANS - LOW VOLTAGE

DATE: January 5, 2024

COMM. NO. 23104.00

DRAWING LV2.2