ARCH D 24" x 36"

MECHANICAL SYMBOLS LEGEND

P-1	WATER CLOSET & TYPE (TYP. FOR ALL PLUMBING FIXTURES)	CHS	CHILLED HOT SUPPLY
	WASTE LINE ABOVE EARTH (W.)	CHR	CHILLED HOT RETURN
	WASTE LINE IN EARTH (W.)		UNION
CO	CLEAN OUT		FLEXIBLE PIPE CONNECTION
FFCO	FLUSH FLOOR CLEAN OUT		MANUAL DAMPER
FGCO	FLUSH GRADE CLEAN OUT	BD	BACKDRAFT DAMPER
2" FD	FLOOR DRAIN AND TYPE	AD	AUTOMATIC DAMPER
RD	ROOF DRAIN	FD	FIRE DAMPER
ORD	OVERFLOW ROOF DRAIN	FS	FIRE/SMOKE DAMPER
2" RD	ROOF DRAIN AND TYPE	SD	SMOKE DAMPER
	VENT LINE (V.)	6x6 80 A	GRILLE, REGISTER OR DIFFUSER, SIZE, TYPE & CFM
	DOMESTIC COLD WATER SUPPLY (DCW)		VOLUME EXTRACTOR AND TURNING VANES
	DOMESTIC HOT WATER SUPPLY (DHW)		RETURN, EXHAUST OR FRESH AIR DUCT SECTION UP & DOWN
	DOMESTIC HOT WATER RETURN (DHWR)		SUPPLY AIR DUCT SECTION UP AND DOWN
HB/36"	HOSE BIBB AND MOUNTING HEIGHT		FLEXIBLE DUCT CONNECTION
WH	WALL HYDRANT		ROUND OR RECTANGULAR DUCT
F	FIRE LINE/STANDPIPE		FLEXIBLE DUCT
D	DRAIN LINE		THERMOSTAT
G	NATURAL GAS LINE	R	REFRIGERANT LIQUID/SUCTION
	RISE & DROP IN PIPE WITH CUT-OFF VALVE	AD	ACCESS DOOR
	REDUCER	AFF	ABOVE FINISHED FLOOR
	CHECK VALVE	EA	EXHAUST AIR
	STOP VALVE	OA	OUTSIDE AIR
	BALANCING VALVE/AUTOFLOW VALVE	RA	RETURN AIR
	PLUG VALVE	SA	SUPPLY AIR
	2-WAY CONTROL VALVE OR SOLENOID VALVE	VBS	VENT BELOW SLAB
	3-WAY CONTROL VALVE OR SOLENOID VALVE	VTR	VENT THRU ROOF
	PRESSURE REDUCING VALVE		CONNECT NEW TO EXISTING
	STRAINER		LOCKABLE GUARD
CWS	CHILLED WATER SUPPLY	VFD	VARIABLE FREQUENCY DRIVE
CWR	CHILLED WATER RETURN	H	EUH
HWS	HOT WATER SUPPLY	C	DSS, COOLING ONLY
HWR	HOT WATER RETURN	H C	DSS, HEATING/COOLING

NOTES: ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS.

ELECTRICAL SYMBOLS LEGEND

	CONDUIT CONCEALED IN CEILING OR WALL (1 HOT, 1 NEUTRAL, 1 GROUND UNLESS NOTED OTHERWISE)		LOCKABLE GUARD
	CONDUIT CONCEALED IN FLOOR SLAB		JUNCTION BOX
	EXPOSED CONDUIT	$	SWITCH - SINGLE POLE
	HOMERUN - ARROW INDICATES CKT., LINES INDICATE WIRES	$3	SWITCH - 3-WAY
	GROUND WIRE	$4	SWITCH - 4-WAY
	GROUNDING ROD	$M	SWITCH - MOTION
	SINGLE RECEPTACLE	M	CEILING MOUNTED, MOTION SENSING SWITCH
	DUPLEX RECEPTACLE (20 AMP UNLESS NOTED)	A	LIGHT FIXTURE AND TYPE
U	DUPLEX RECEPTACLE WITH USB OUTLETS		EMERGENCY LIGHT FIXTURE WITH BATTERY PACK
SW	SWITCHED DUPLEX RECEPTACLE		FIXTURE ON LIFE SAFETY BRANCH OF EMERGENCY SYSTEM
	FOURPLEX RECEPTACLE		LIGHT FIXTURE (WALL MOUNTED)
	208 OR 240 VOLT RECEPTACLE (20 AMP UNLESS NOTED)		EXIT LIGHT (CEILING OR WALL MOUNTED)
	GROUND FAULT INTERRUPTER (GFI) DUPLEX RECEPTACLE		FLUSH PANELBOARD (LIGHT & RECEPTACLES)
	TELE/DATA OUTLET *		SURFACE PANELBOARD (LIGHT & RECEPTACLES)
	PUSHBUTTON		DISTRIBUTION PANEL OR SWITCHBOARD
VFD	VARIABLE FREQUENCY DRIVE	AC	DEVICE LOCATED ABOVE COUNTER
ORT	OVERRIDE TIMER	AFF	ABOVE FINISHED FLOOR
PC	PHOTOCELL	D	DIMMER
	MOTOR	M	MOTION SENSING
	FUSIBLE SWITCH (BUSSMAN SSU)	E	INDICATES EXISTING DEVICE
	DISCONNECT SWITCH (D.S.)	EDF	ELECTRIC DRINKING FOUNTAIN
	COMBINATION MOTOR STARTER (CMS)	NL	NIGHTLIGHT FIXTURE, WIRED HOT
R	RELAY	WP	WEATHERPROOF
	THERMOSTAT	AFCI	ARC FAULT CIRCUIT INTERRUPTER
			CONNECT NEW TO EXISTING

NOTES: ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS. REFER TO MECHANICAL SYMBOLS LEGEND FOR MECHANICAL SYMBOLS THAT MAY BE SHOWN ON ELECTRICAL PLANS. * 4x4 BACKBOX WITH SINGLE GANG PLASTER RING AND A 1 1/4" CONDUIT TO ABOVE ACCESSIBLE CEILING.

NFPA SYMBOLS LEGEND

	SMOKE DETECTOR
S	SMOKE DETECTOR WITH SOUNDER BASE
ISO	SMOKE DETECTOR WITH ISOLATOR BASE
	HEAT DETECTOR
	DUCT DETECTOR
	ADDRESSABLE MANUAL PULL STATION
	DOOR HOLDER
	FLOW DETECTOR/SWITCH
	TAMPER DETECTOR
T	TEST STATION
R	MR101/C SHUTDOWN RELAY, SPDT W/RED
	A/V (WALL MOUNTED) 24 VDC
	STROBE
	BELL ANNUNCIATOR
	HORN/SPEAKER
FCP	FIRE ALARM CONTROL PANEL
	FIREMAN'S PHONE
ARA	AREA RESCUE CALL STATION
ARA M	AREA RESCUE MASTER STATION
ZAM S	SIGNAL ZAM
ZAM C	CONTROL ZAM
ZAM DET	DETECTOR ZAM
IAM	MONITOR MODULE
IAM R	RELAY IAM
PC	GRAPHIC COMMAND CENTER
FAA	REMOTE FIRE ALARM AUDIO
FSA	REMOTE ANNUNCIATOR WITH AUDIO
ANN	ANNUNCIATOR
FS	FIRE SMOKE DAMPER
NAC	NAC POWER EXTENDER

* ALL SYMBOLS SHOWN ABOVE MAY NOT APPEAR ON PLANS

ALL SYMBOLS SHOWN MAY NOT APPEAR ON THIS PROJECT

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RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER

3-24-23

A NEW DEVELOPMENT:

RESIDENCES AT BLACKWELL

50 Highway & Blackwell, Lee's Summit, MO

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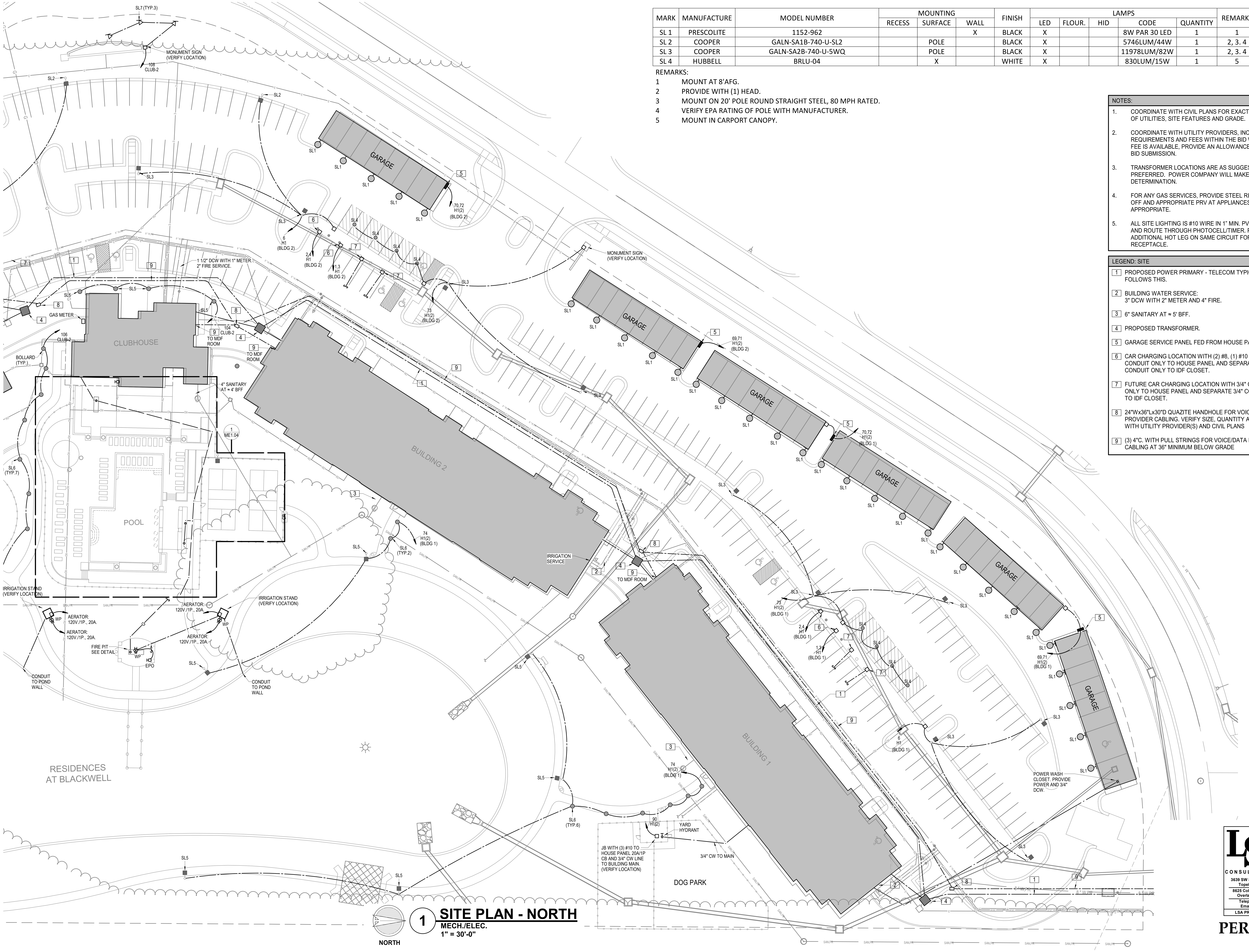

1 SITE PLAN - NORTH

MECH./ELEC.
1" = 30'-0"

MARK	MANUFACTURE	MODEL NUMBER	MOUNTING			FINISH	LAMPS					REMARKS
			RECESS	SURFACE	WALL		LED	FLOUR.	HID	CODE	QUANTITY	
SL 1	PRESCOLITE	1152-962			X	BLACK	X			8W PAR 30 LED	1	1
SL 2	COOPER	GALN-SA1B-740-U-SL2		POLE		BLACK	X			5746LUM/44W	1	2, 3. 4
SL 3	COOPER	GALN-SA2B-740-U-5WQ		POLE		BLACK	X			11978LUM/82W	1	2, 3. 4
SL 4	HUBBELL	BRLU-04		X		WHITE	X			830LUM/15W	1	5

REMARKS:

1 MOUNT AT 8'AFG.
2 PROVIDE WITH (1) HEAD.
3 MOUNT ON 20' POLE ROUND STRAIGHT STEEL, 80 MPH RATED.
4 VERIFY EPA RATING OF POLE WITH MANUFACTURER.
5 MOUNT IN CARPORT CANOPY.

NOTES:

1. COORDINATE WITH CIVIL PLANS FOR EXACT LOCATIONS OF UTILITIES, SITE FEATURES AND GRADE.
2. COORDINATE WITH UTILITY PROVIDERS, INCLUDE ALL REQUIREMENTS AND FEES WITHIN THE BID WORK. IF NO FEE IS AVAILABLE, PROVIDE AN ALLOWANCE AND LIST ON BID SUBMISSION.
3. TRANSFORMER LOCATIONS ARE AS SUGGESTED AND PREFERRED. POWER COMPANY WILL MAKE FINAL DETERMINATION.
4. FOR ANY GAS SERVICES, PROVIDE STEEL RISER, SHUT-OFF AND APPROPRIATE PRV AT APPLIANCES IF APPROPRIATE.
5. ALL SITE LIGHTING IS #10 WIRE IN 1" MIN. PVC CONDUIT AND ROUTE THROUGH PHOTOCELL/TIMER. PROVIDE ADDITIONAL HOT LEG ON SAME CIRCUIT FOR POLE ABASE RECEPTACLE.

LEGEND: SITE

1 PROPOSED POWER PRIMARY - TELECOM TYPICALLY FOLLOWS THIS.
2 BUILDING WATER SERVICE: 3" DCW WITH 2" METER AND 4" FIRE.
3 6" SANITARY AT = 5' BFF.
4 PROPOSED TRANSFORMER.
5 GARAGE SERVICE PANEL FED FROM HOUSE PANEL.
6 CAR CHARGING LOCATION WITH (2) #8, (1) #10 IN 3/4" CONDUIT ONLY TO HOUSE PANEL AND SEPARATE 3/4" CONDUIT ONLY TO IDF CLOSET.
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9 (3) 4"C. WITH PULL STRINGS FOR VOICE/DATA PROVIDER CABLING AT 36" MINIMUM BELOW GRADE

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ARCH D 24" x 36"
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ARCH D 24" x 36"

NOTES:

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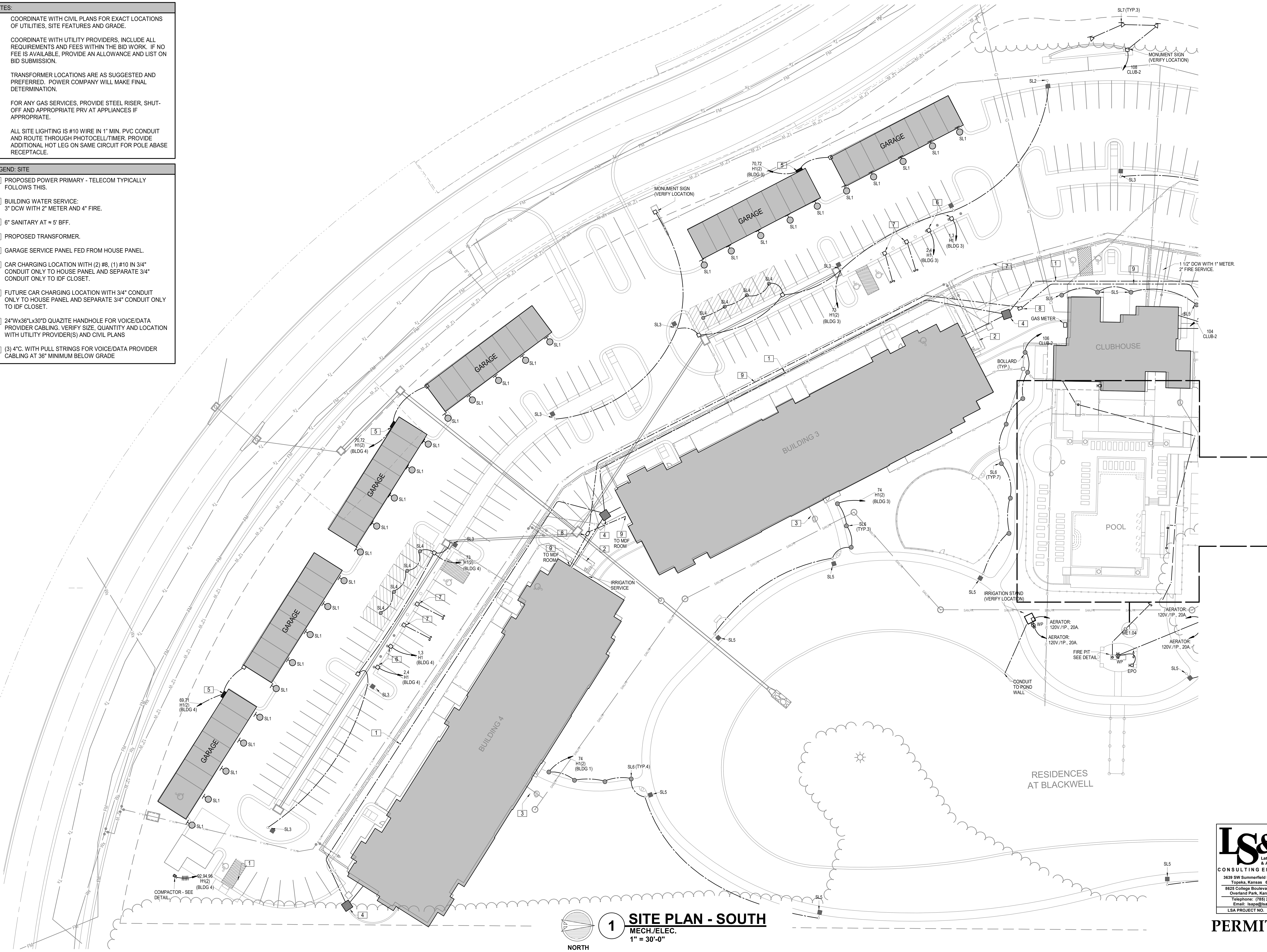

1 SITE PLAN - SOUTH
MECH./ELEC.
1" = 30'-0"

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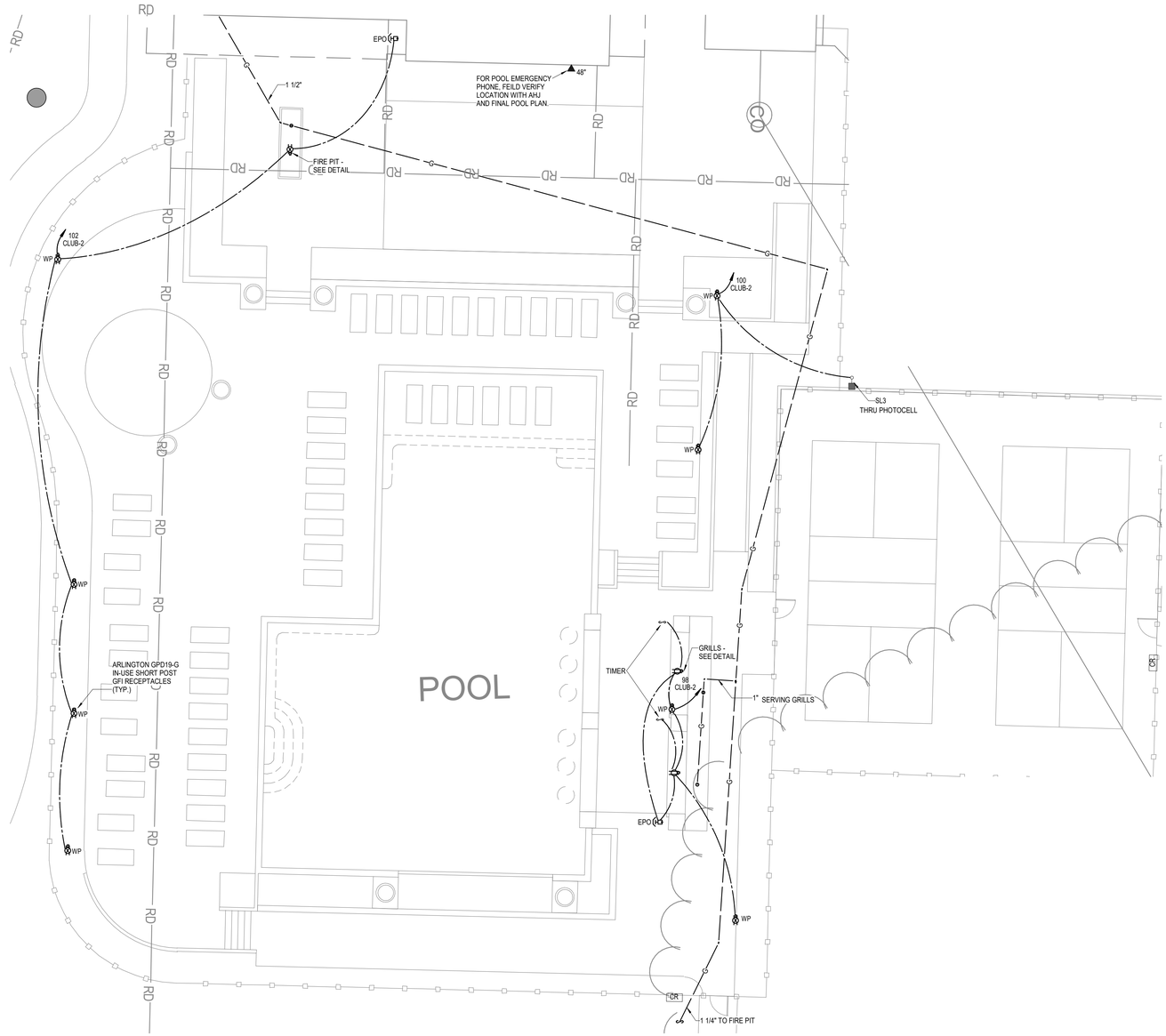

NORTH

1 PARTIAL SITE PLAN AREA
NOT TO SCALE

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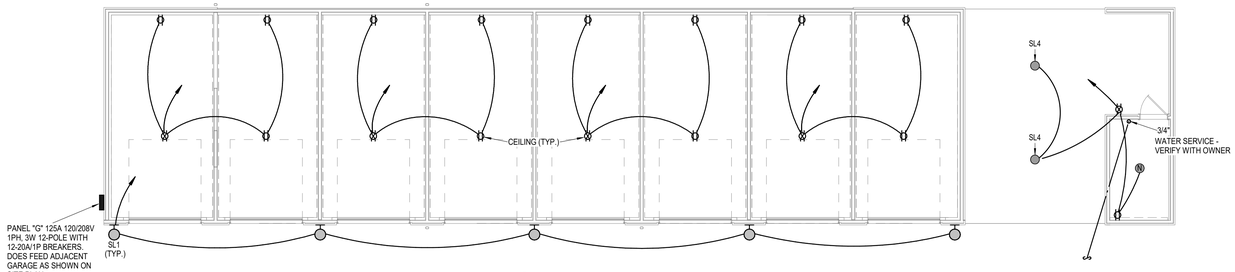
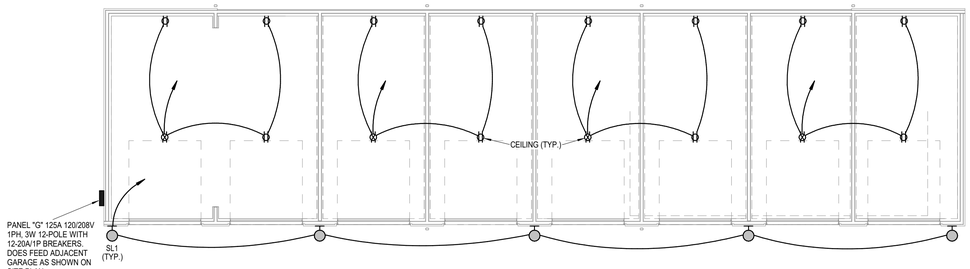
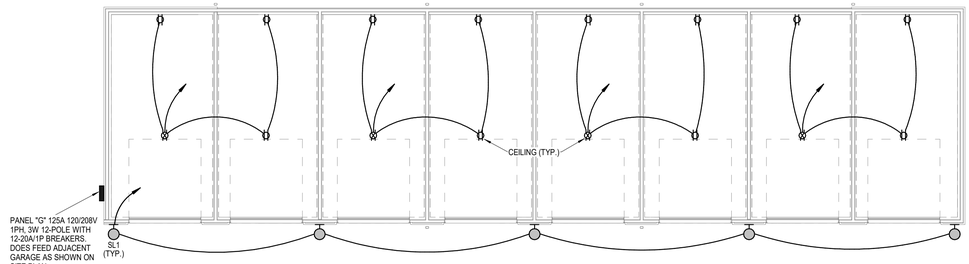


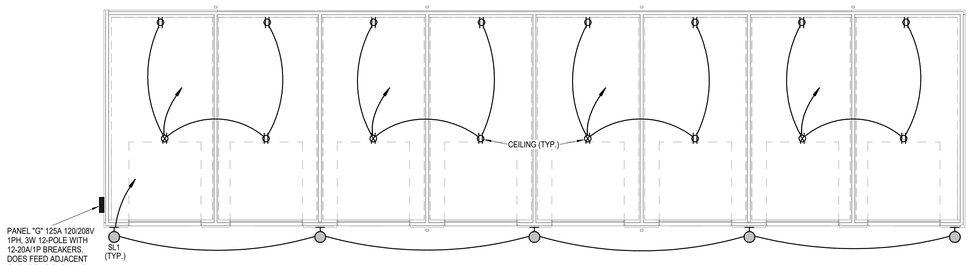
1 GARAGE 1
MECH./ELEC.
1/8" = 1'-0"



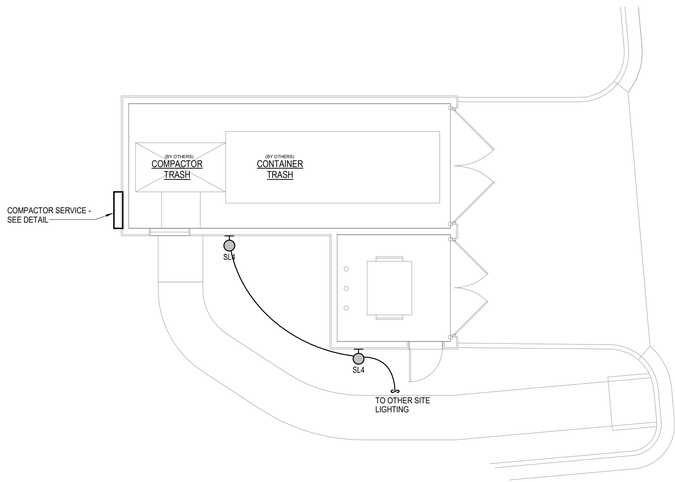
2 GARAGE 2
MECH./ELEC.
1/8" = 1'-0"



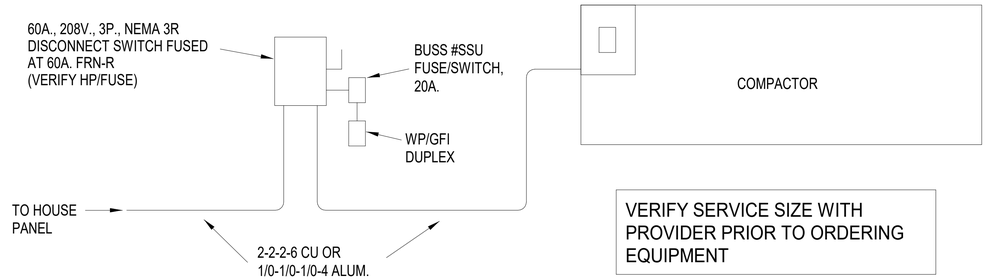
3 GARAGE 3
MECH./ELEC.
1/8" = 1'-0"



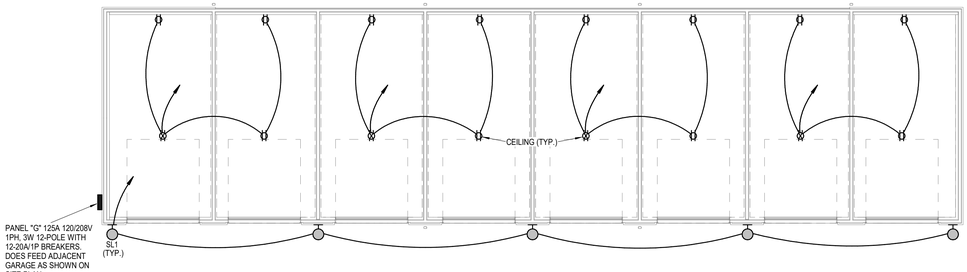
4 GARAGE 4
MECH./ELEC.
1/8" = 1'-0"



6 TRASH ENCLOSURE
MECH./ELEC.
1/8" = 1'-0"



7 COMPACTOR DETAIL
NOT TO SCALE



5 GARAGE 5
MECH./ELEC.
1/8" = 1'-0"

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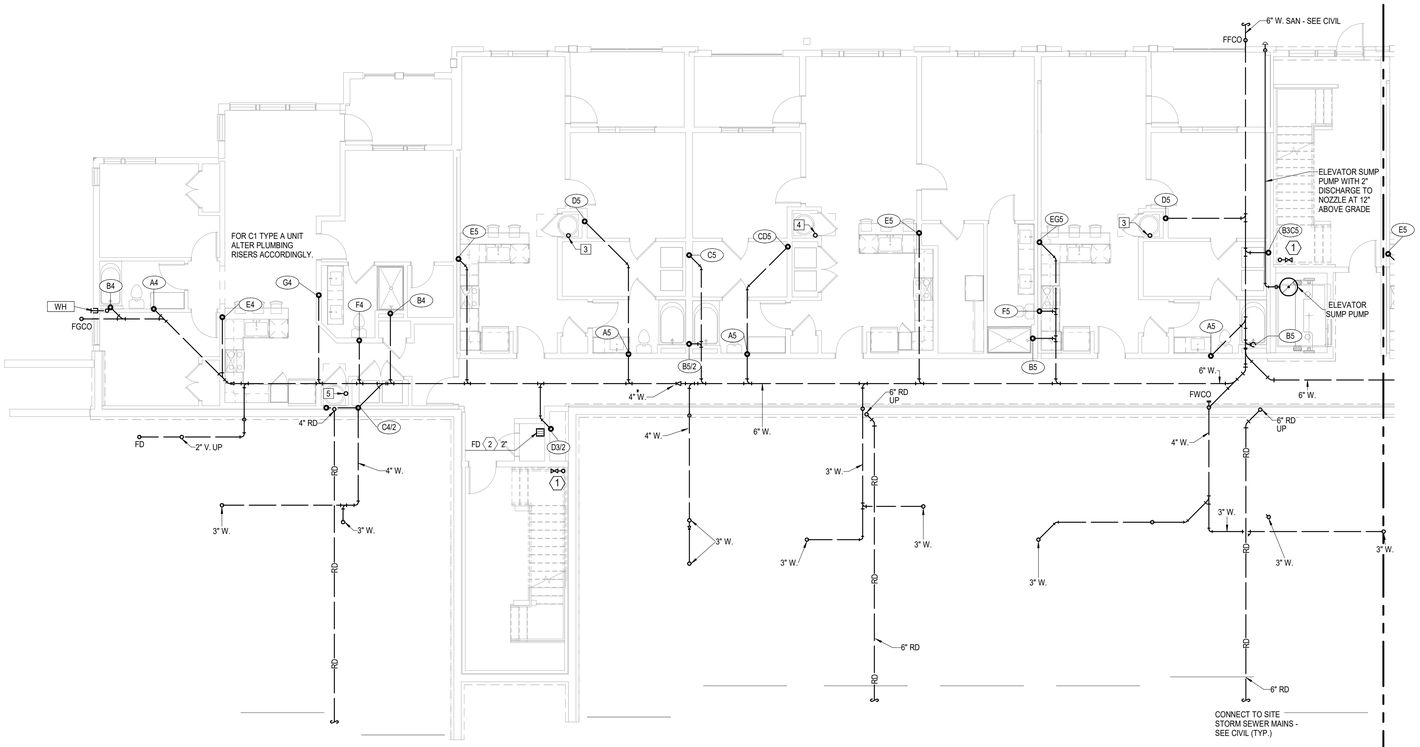
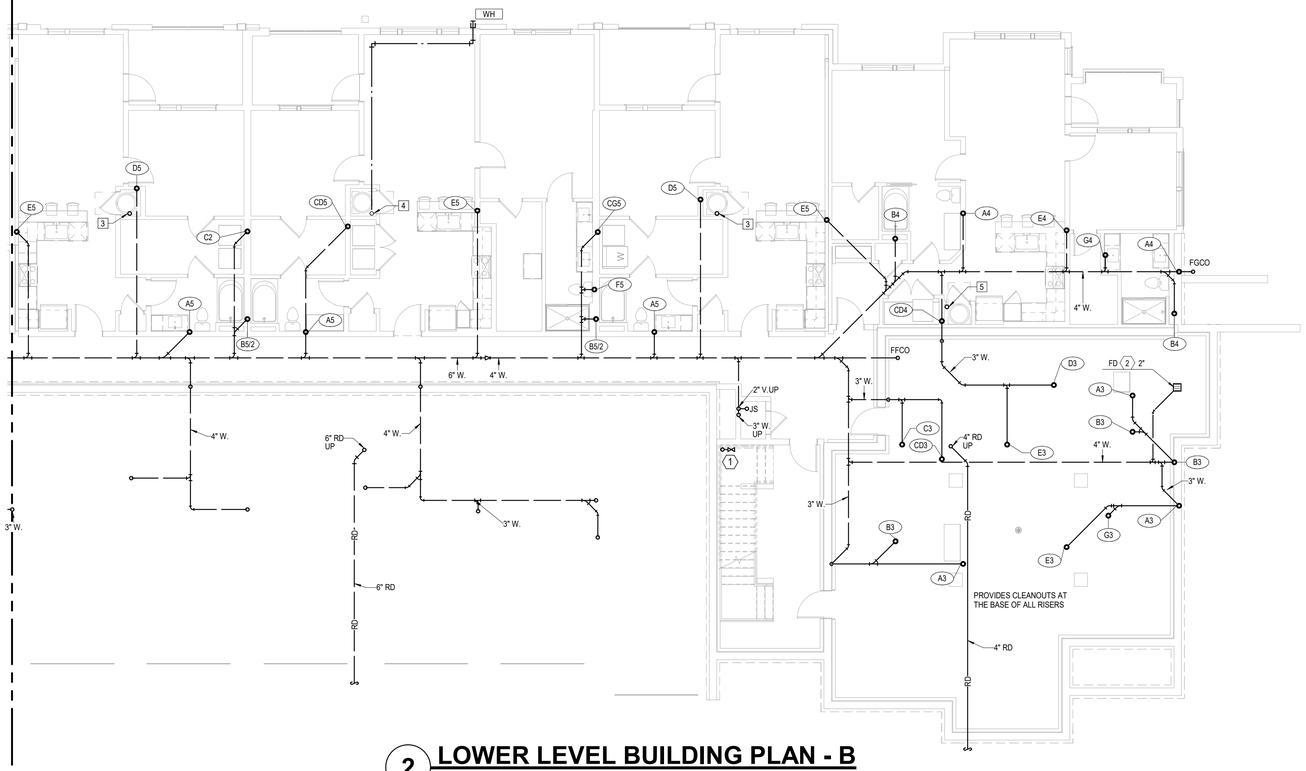


1 LOWER LEVEL BUILDING PLAN - A
PLUMBING
1/8" = 1'-0"



2 LOWER LEVEL BUILDING PLAN - B
PLUMBING
1/8" = 1'-0"

NOTES:

1. COORDINATE WITH OTHER SUB-CONTRACTORS FOR PLACEMENT OF WORK PRIOR TO INSTALLATION BEGINNING.
2. ALL DRAIN, WASTE AND VENT PIPING IS 2" UNLESS NOTED OTHERWISE. ALL 2" AND 3" WASTE SLOPE AT ¼" PER FT. PIPING 4" AND GREATER MAY BE AT 1/8" PER FT UNLESS NOTED OTHERWISE.
3. ANY BELOW SLAB SUPPLY PIPING SHALL BE PEX WITH NO JOINTS.
4. ALL SUPPLY PIPING IS ½" UNLESS NOTED OTHERWISE OR REQUIRED BY THE PLUMBING CODE.
5. CONNECT ALL APPLIANCES OR EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.
6. THERE SHALL BE NO PVC WITHIN RETURN AIR PLENUMS.
7. ALL FIXTURES SHALL HAVE AIR CHAMBERS OR BLADDER TYPE SHOCK SUPPRESSORS FOR EACH CHASE.
8. SEE THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS.
9. ROUTE DRAIN PIPING FROM WATER HEATERS, AIR HANDLERS OR EQUIPMENT TO FLOOR DRAINS. PROVIDE PROPER TRAPS. DRAINS ARE 2" TYPE 1 U.N.O.
10. ROUTE NO PIPING OVER ELECTRICAL EQUIPMENT.
11. FIRE SPRINKLER SHALL BE PROVIDED FOR ALL AREAS OF THE BUILDING PER NFPA AND LOCAL CODE. SEE ARCHITECTURAL CODE PLAN.

LEGEND:

(1) CLASS 1 MANUAL STANDPIPE WITH VALVE

(2) 3/4" UP TO ROOF HYDRANT - SEE DETAIL

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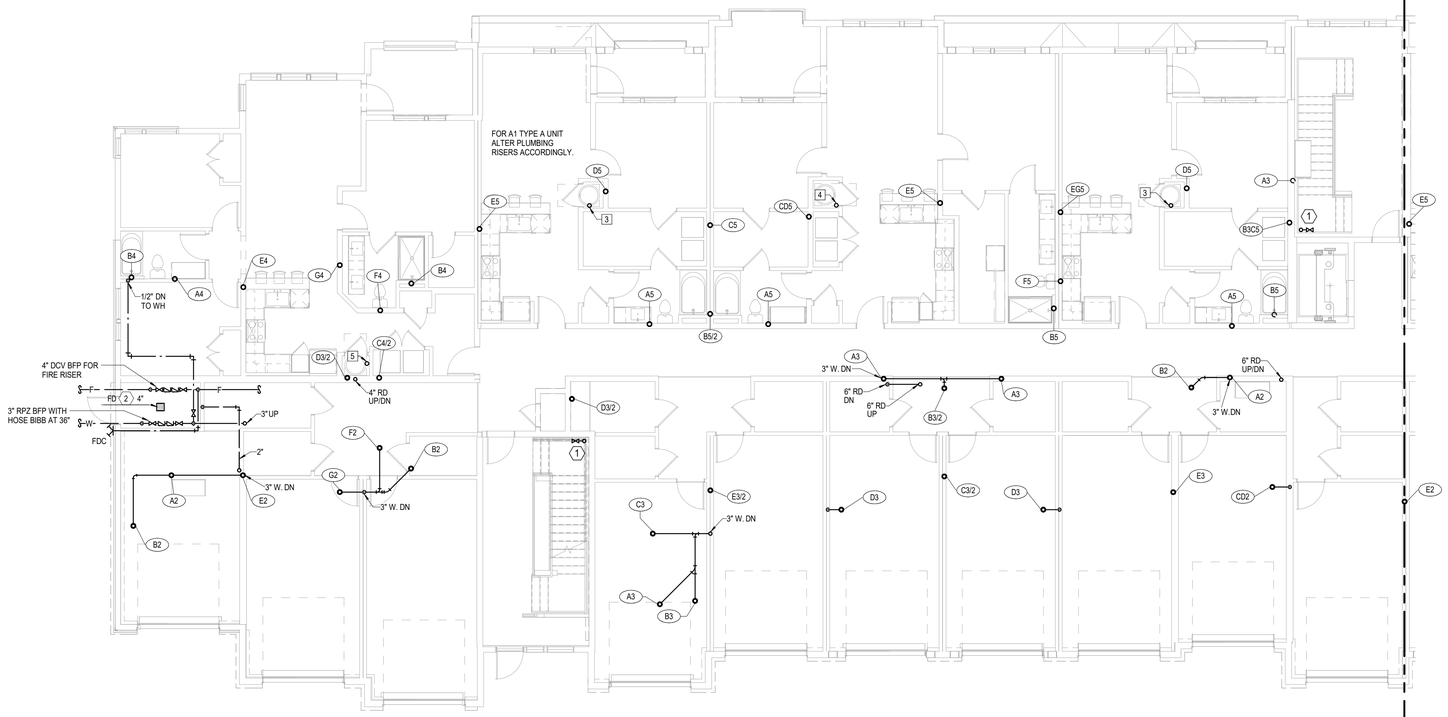
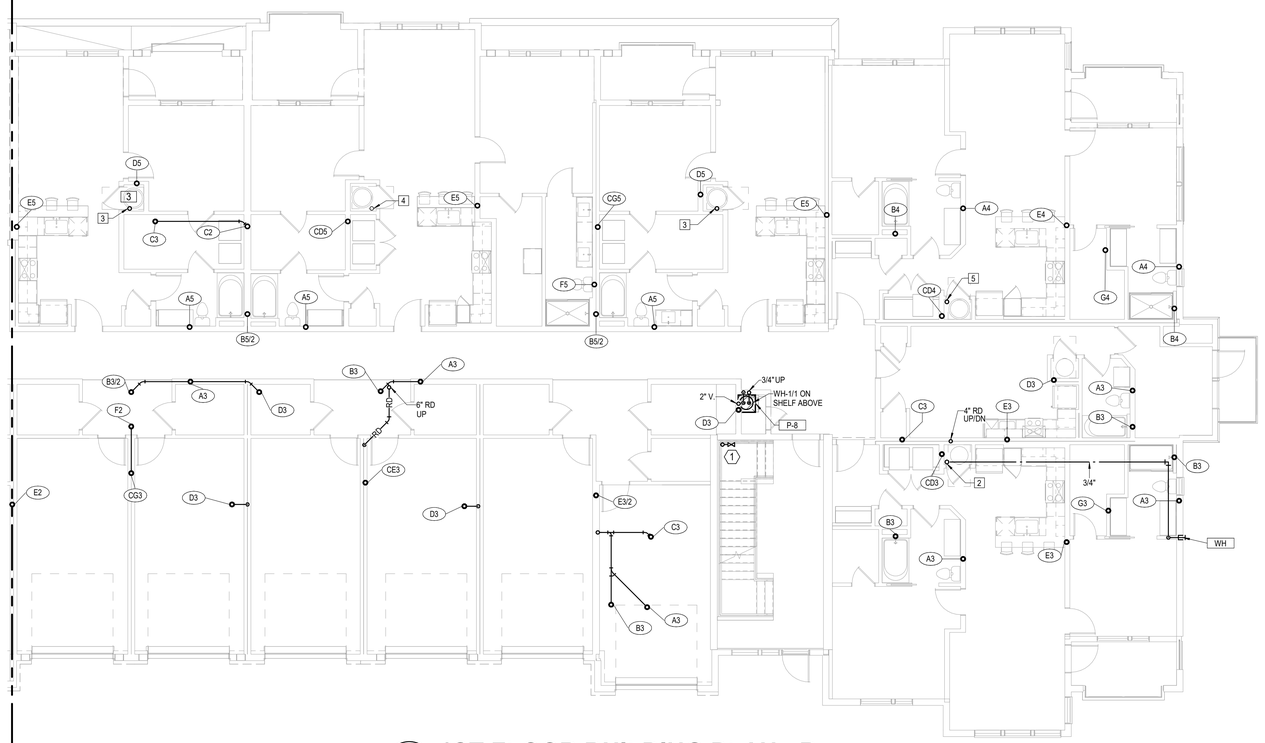


1 1ST FLOOR BUILDING PLAN - A

PLUMBING
1/8" = 1'-0"



2 1ST FLOOR BUILDING PLAN - B

PLUMBING
1/8" = 1'-0"

NOTES:

1. COORDINATE WITH OTHER SUB-CONTRACTORS FOR PLACEMENT OF WORK PRIOR TO INSTALLATION BEGINNING.
2. ALL DRAIN, WASTE AND VENT PIPING IS 2" UNLESS NOTED OTHERWISE. ALL 2" AND 3" WASTE SLOPE AT ¼" PER FT. PIPING 4" AND GREATER MAY BE AT 1/8" PER FT UNLESS NOTED OTHERWISE.
3. ANY BELOW SLAB SUPPLY PIPING SHALL BE PEX WITH NO JOINTS.
4. ALL SUPPLY PIPING IS ½" UNLESS NOTED OTHERWISE OR REQUIRED BY THE PLUMBING CODE.
5. CONNECT ALL APPLIANCES OR EQUIPMENT PER MANUFACTURER'S INSTRUCTIONS.
6. THERE SHALL BE NO PVC WITHIN RETURN AIR PLENUMS.
7. ALL FIXTURES SHALL HAVE AIR CHAMBERS OR BLADDER TYPE SHOCK SUPPRESSORS FOR EACH CHASE.
8. SEE THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS.
9. ROUTE DRAIN PIPING FROM WATER HEATERS, AIR HANDLERS OR EQUIPMENT TO FLOOR DRAINS. PROVIDE PROPER TRAPS. DRAINS ARE 2" TYPE 1 U.N.O.
10. ROUTE NO PIPING OVER ELECTRICAL EQUIPMENT.
11. FIRE SPRINKLER SHALL BE PROVIDED FOR ALL AREAS OF THE BUILDING PER NFPA AND LOCAL CODE. SEE ARCHITECTURAL CODE PLAN.

LEGEND:

(1) CLASS 1 MANUAL STANDPIPE WITH VALVE

(2) 3/4" UP TO ROOF HYDRANT - SEE DETAIL

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER
3-24-23

A NEW DEVELOPMENT:

RESIDENCES AT BLACKWELL

50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

LS&A
Latimer Sommers & Associates P.A.
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8625 College Boulevard, Suite 102
Overland Park, Kansas 66210
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LSA PROJECT NO. 2204073

DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. P1.11

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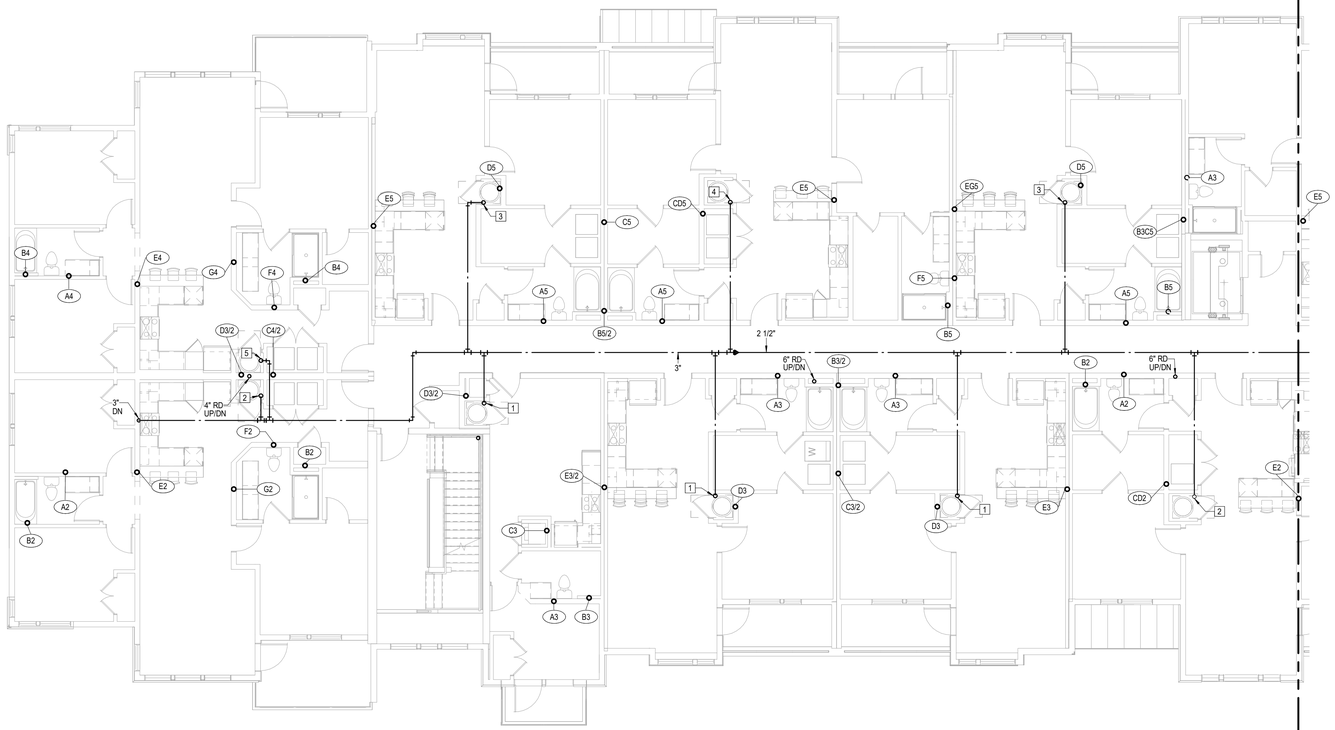
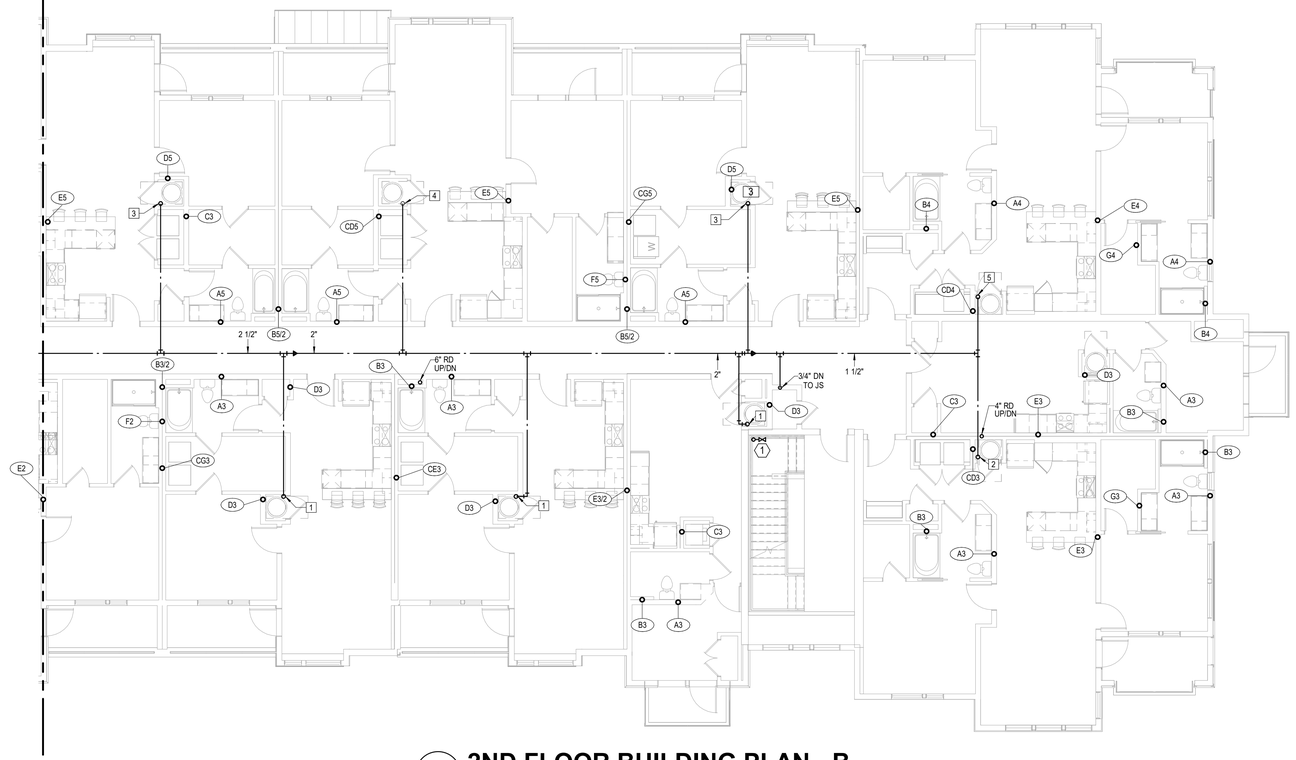


1 2ND FLOOR BUILDING PLAN - A

PLUMBING

1/8" = 1'-0"



2 2ND FLOOR BUILDING PLAN - B

PLUMBING

1/8" = 1'-0"

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7. ALL FIXTURES SHALL HAVE AIR CHAMBERS OR BLADDER TYPE SHOCK SUPPRESSORS FOR EACH CHASE.
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9. ROUTE DRAIN PIPING FROM WATER HEATERS, AIR HANDLERS OR EQUIPMENT TO FLOOR DRAINS. PROVIDE PROPER TRAPS. DRAINS ARE 2" TYPE 1 U.N.O.
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11. FIRE SPRINKLER SHALL BE PROVIDED FOR ALL AREAS OF THE BUILDING PER NFPA AND LOCAL CODE. SEE ARCHITECTURAL CODE PLAN.

LEGEND:

(1) CLASS 1 MANUAL STANDPIPE WITH VALVE

(2) 3/4" UP TO ROOF HYDRANT - SEE DETAIL

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RICHARD R. BEARDMORE
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3-24-23

A NEW DEVELOPMENT:

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JOB NO. 696521

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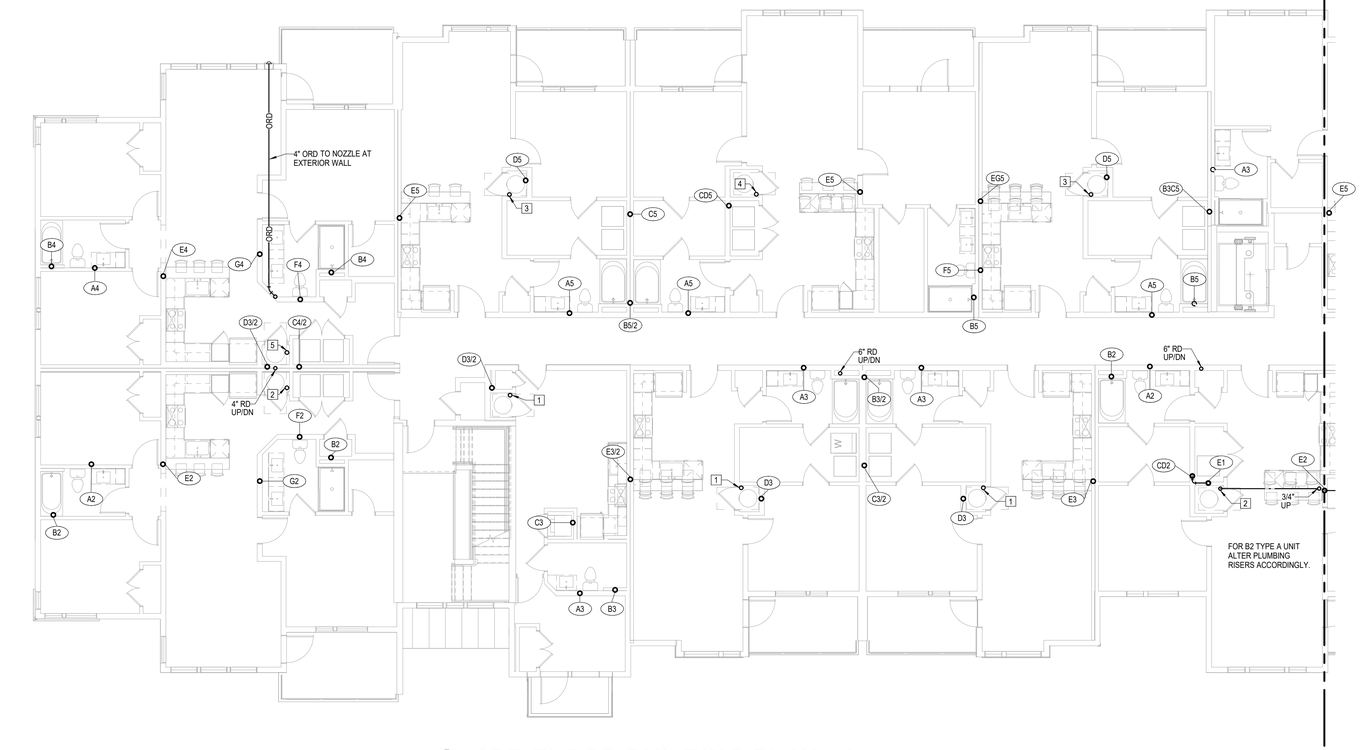
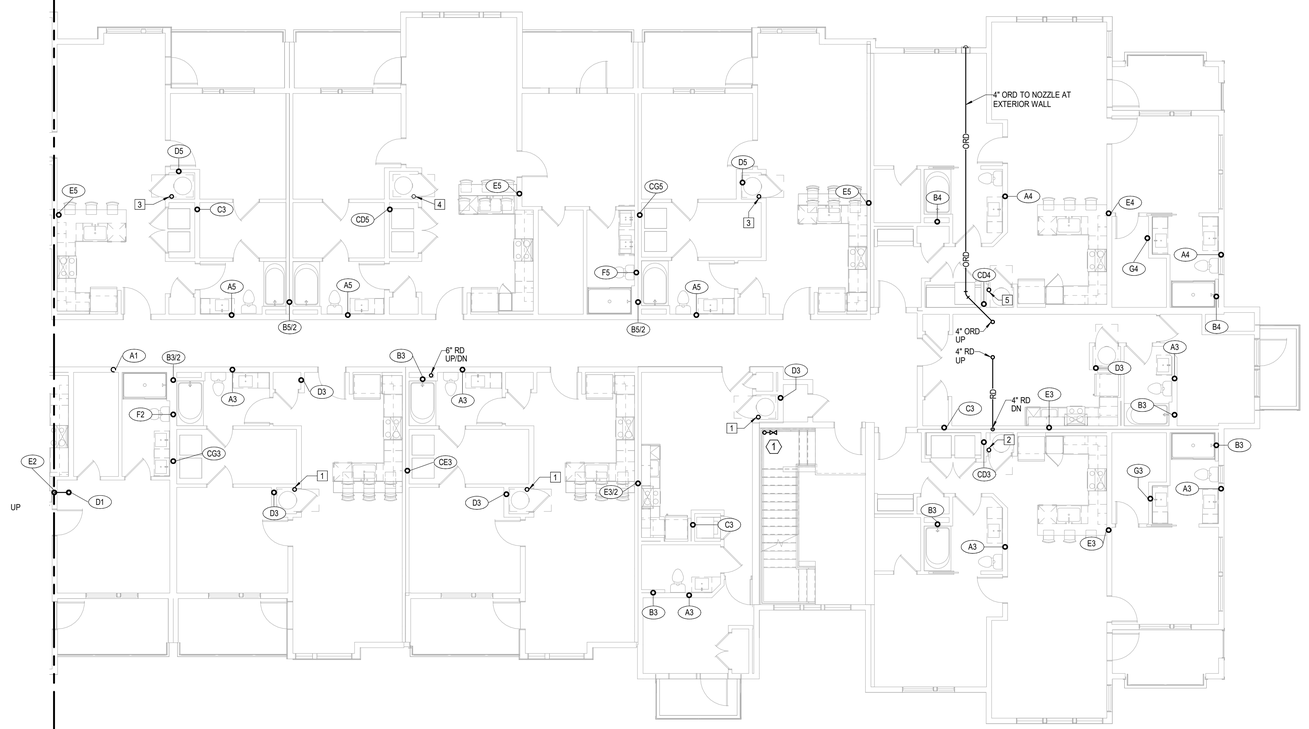


1 3RD FLOOR BUILDING PLAN - A

PLUMBING
1/8" = 1'-0"



2 3RD FLOOR BUILDING PLAN - B

PLUMBING
1/8" = 1'-0"

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7. ALL FIXTURES SHALL HAVE AIR CHAMBERS OR BLADDER TYPE SHOCK SUPPRESSORS FOR EACH CHASE.
8. SEE THE ARCHITECTURAL DRAWINGS FOR ALL MOUNTING HEIGHTS.
9. ROUTE DRAIN PIPING FROM WATER HEATERS, AIR HANDLERS OR EQUIPMENT TO FLOOR DRAINS. PROVIDE PROPER TRAPS. DRAINS ARE 2" TYPE 1 U.N.O.
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11. FIRE SPRINKLER SHALL BE PROVIDED FOR ALL AREAS OF THE BUILDING PER NFPA AND LOCAL CODE. SEE ARCHITECTURAL CODE PLAN.

LEGEND:

1. CLASS 1 MANUAL STANDPIPE WITH VALVE
2. 3/4" UP TO ROOF HYDRANT - SEE DETAIL

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3-24-23

A NEW DEVELOPMENT:

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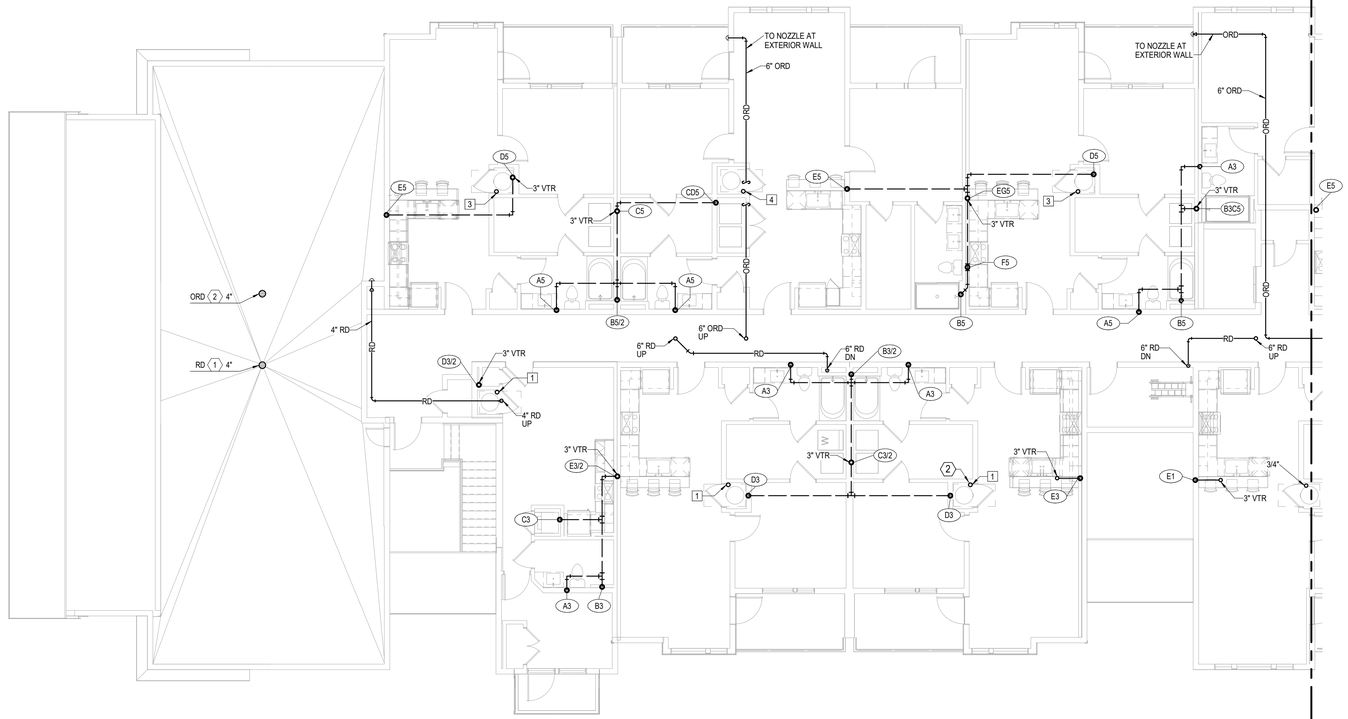
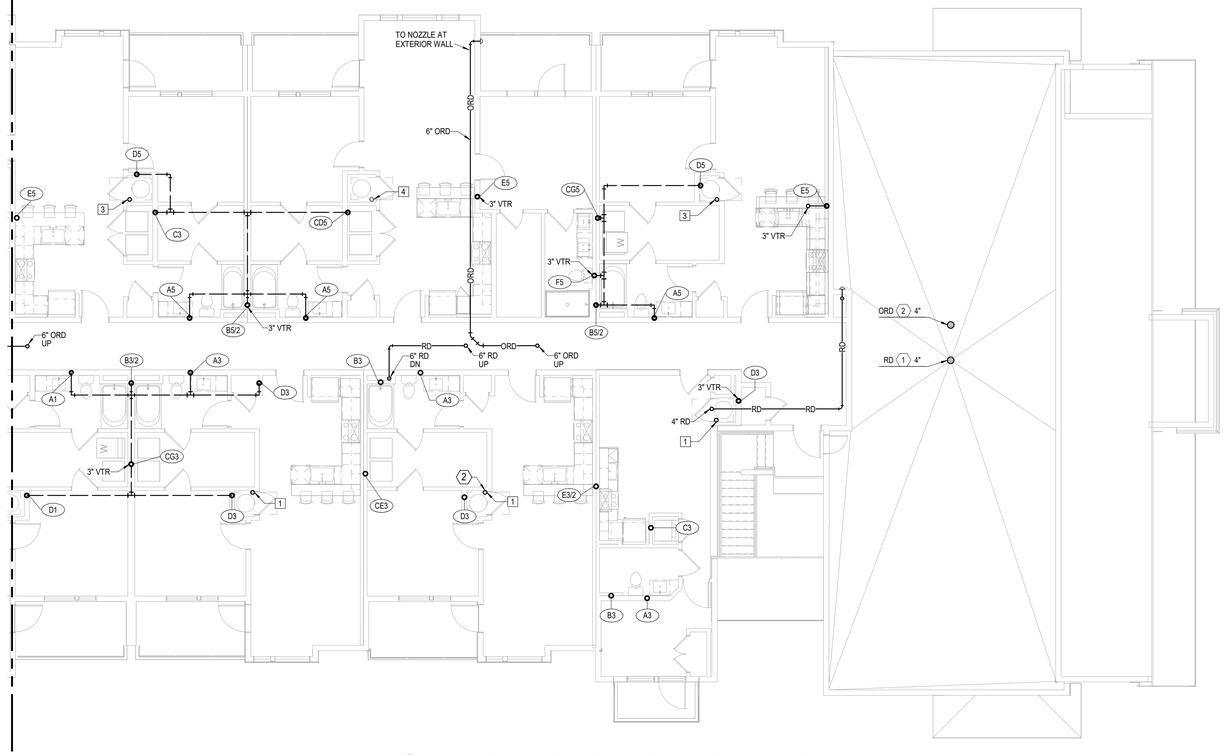
DRAWN BY: Author
SHEET NO. P1.13



1 4TH FLOOR BUILDING PLAN -B

PLUMBING
1/8" = 1'-0"



2 4TH FLOOR BUILDING PLAN -B

PLUMBING
1/8" = 1'-0"

NOTES:
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11. FIRE SPRINKLER SHALL BE PROVIDED FOR ALL AREAS OF THE BUILDING PER NFPA AND LOCAL CODE. SEE ARCHITECTURAL CODE PLAN.

LEGEND:
1 CLASS 1 MANUAL STANDPIPE WITH VALVE
2 3/4" UP TO ROOF HYDRANT - SEE DETAIL

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
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3-24-23

A NEW DEVELOPMENT:

RESIDENCES AT BLACKWELL

50 Highway & Blackwell, Lee's Summit, MO

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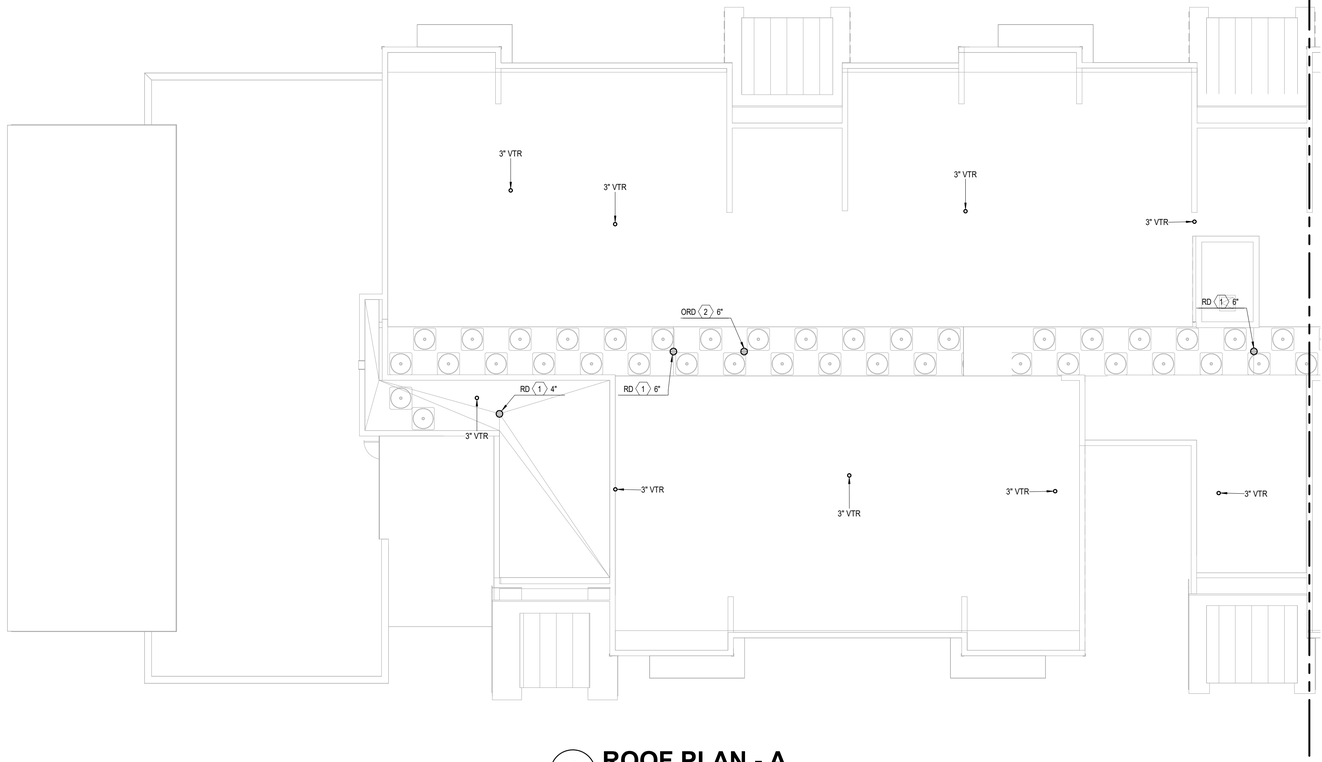
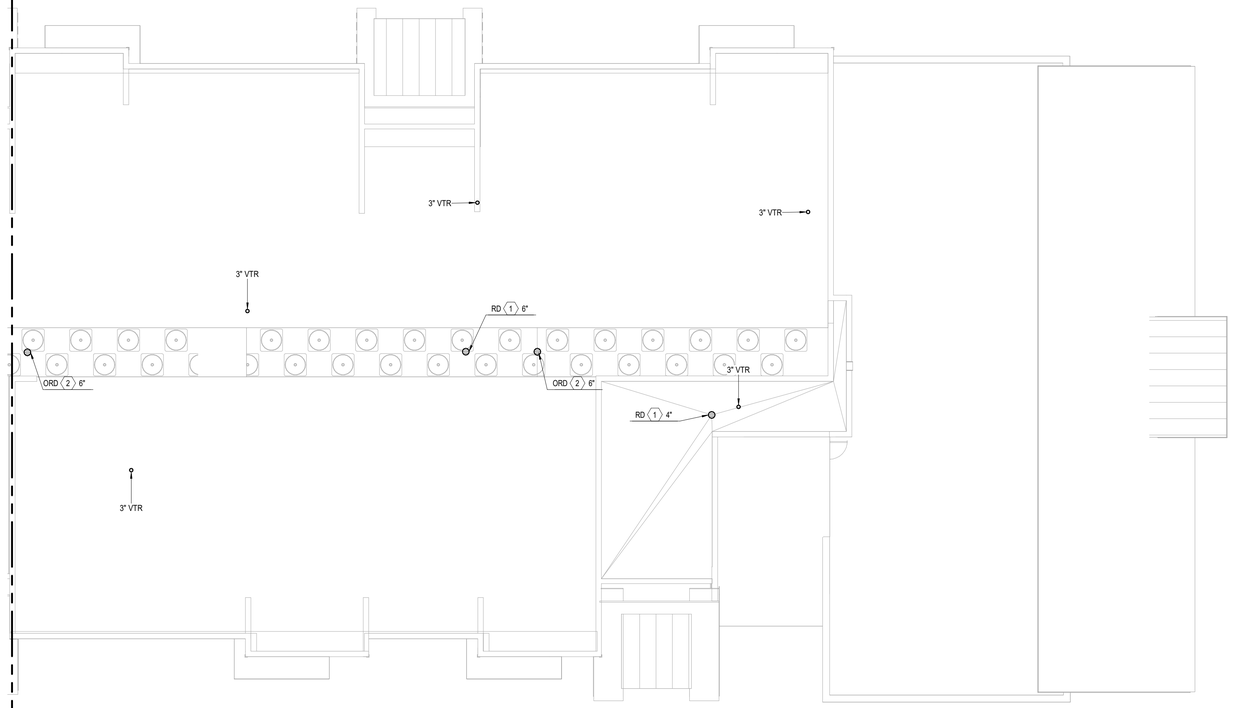
JOB NO. 696521
DRAWN BY: Author
SHEET NO. P1.14



1 ROOF PLAN - A
PLUMBING
1/8" = 1'-0"



2 ROOF PLAN - B
PLUMBING
1/8" = 1'-0"

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LEGEND:

(1) CLASS 1 MANUAL STANDPIPE WITH VALVE

(2) 3/4" UP TO ROOF HYDRANT - SEE DETAIL

NSPJ ARCHITECTS, PA
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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER
3-24-23

A NEW DEVELOPMENT:
RESIDENCES AT BLACKWELL
50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

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LSA PROJECT NO. 2204073

DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. P1.15

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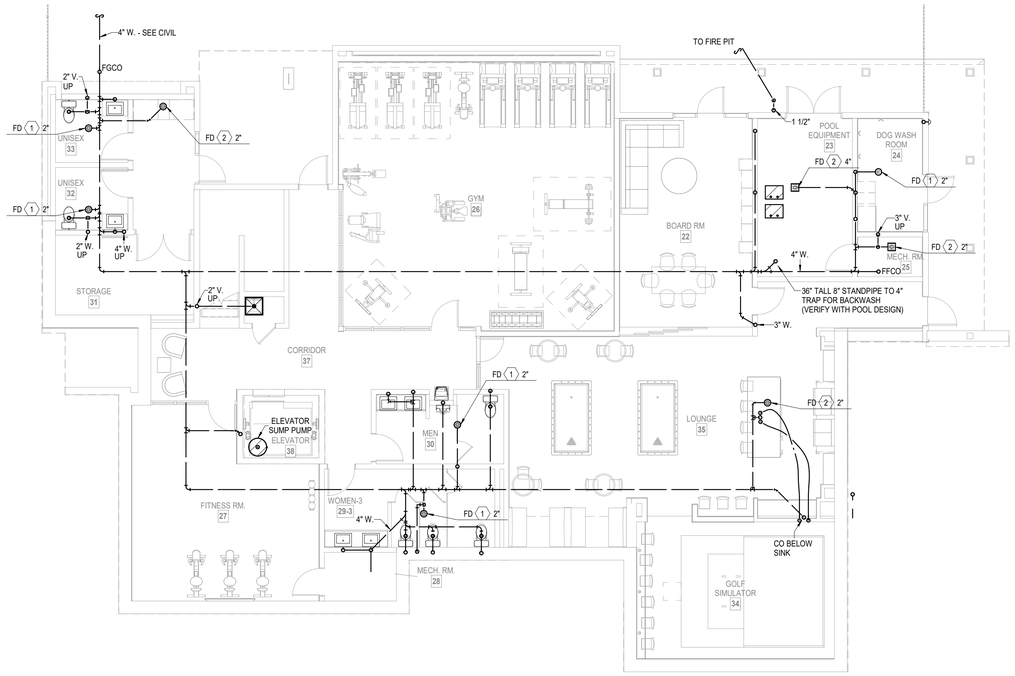
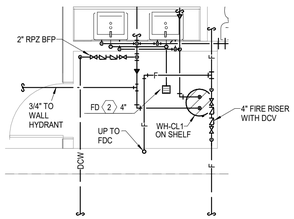
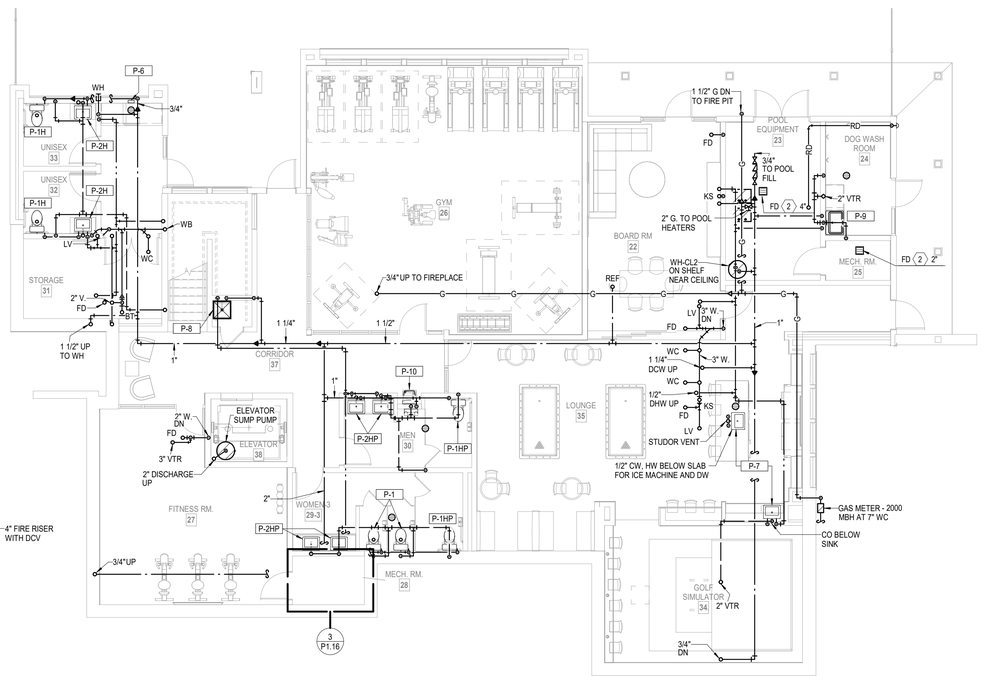


1 LOWER LEVEL CLUBHOUSE
BELOW GRADE PLUMBING
1/8" = 1'-0"



3 PARTIAL FLOOR PLAN
PLUMBING
1/4" = 1'-0"



2 LOWER LEVEL CLUBHOUSE
PLUMBING
1/8" = 1'-0"

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LEGEND:
1 CLASS 1 MANUAL STANDPIPE WITH VALVE
2 3/4" UP TO ROOF HYDRANT - SEE DETAIL

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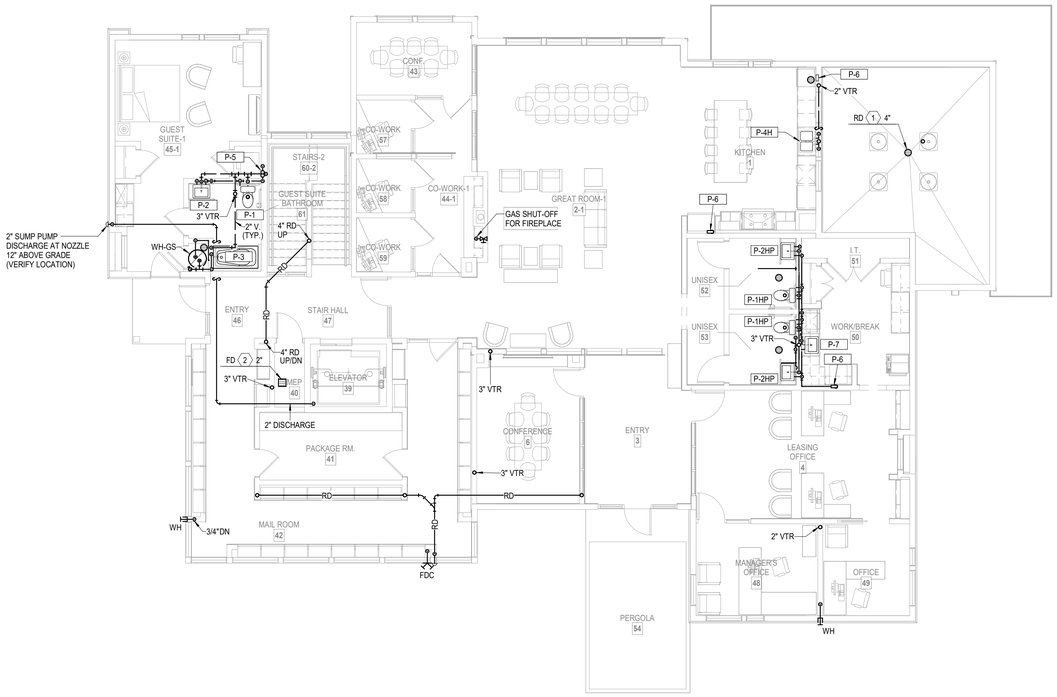
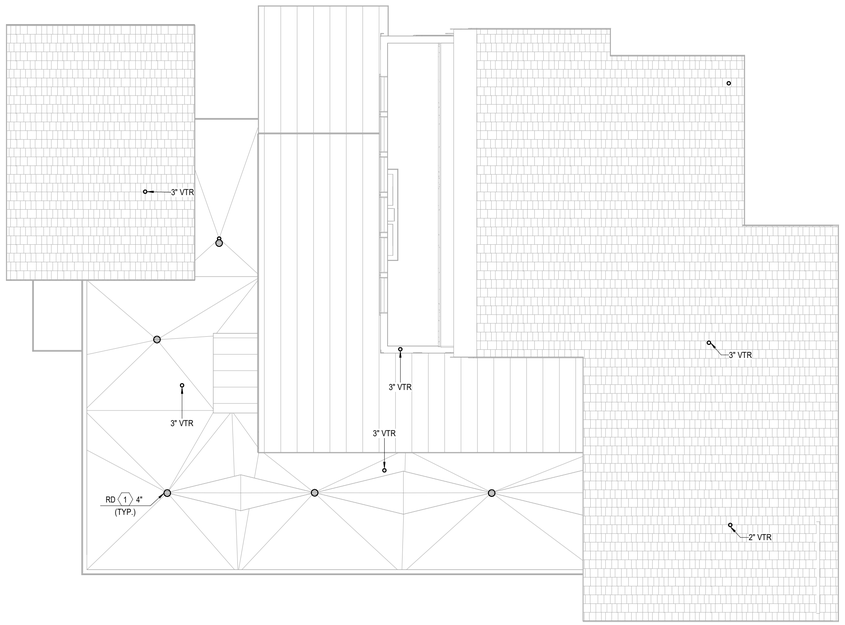
SHEET NO. P1.16



1 1ST FLOOR CLUBHOUSE PLAN

PLUMBING
1/8" = 1'-0"



2 ROOF CLUBHOUSE PLAN

PLUMBING
1/8" = 1'-0"

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LEGEND:

(1) CLASS 1 MANUAL STANDPIPE WITH VALVE

(2) 3/4" UP TO ROOF HYDRANT - SEE DETAIL

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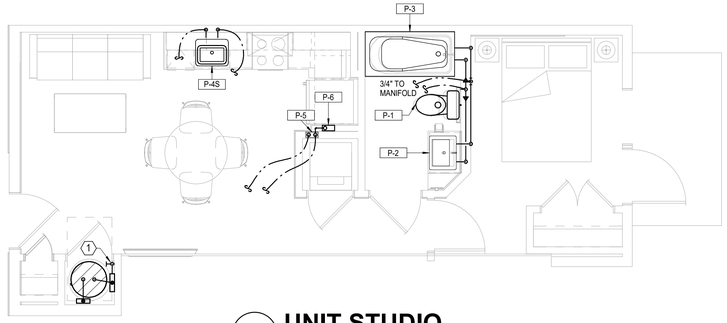
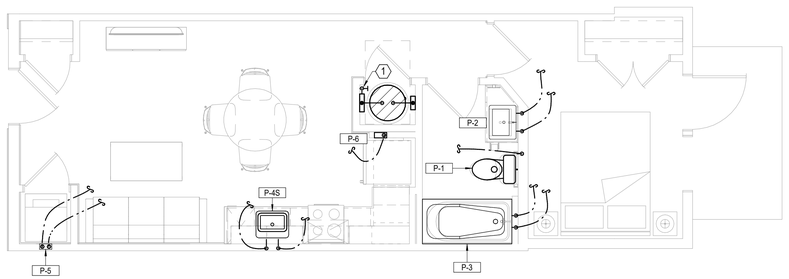
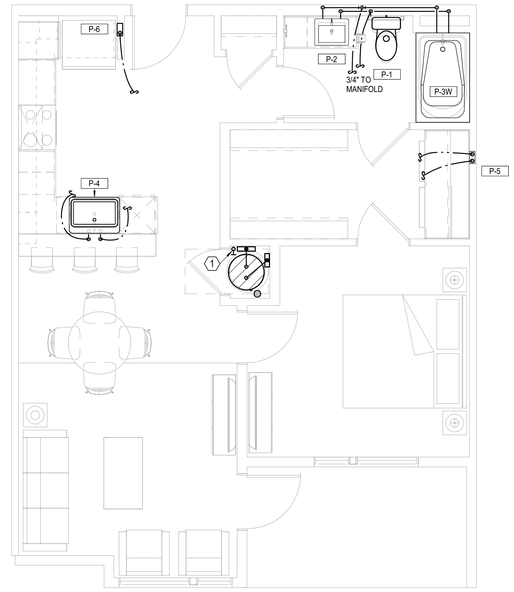


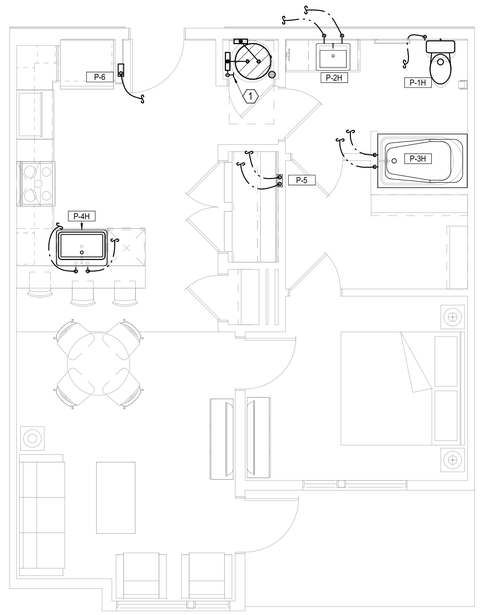
1 UNIT STUDIO
PLUMBING
1/4" = 1'-0"



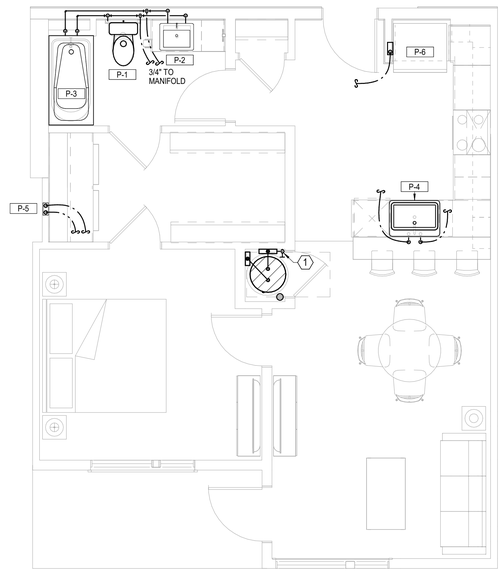
2 UNIT STUDIO ALT.
PLUMBING
1/4" = 1'-0"



3 UNIT A1
PLUMBING
1/4" = 1'-0"



4 UNIT A1 - TYPE A
PLUMBING
1/4" = 1'-0"



5 UNIT A1 - ALT
PLUMBING
1/4" = 1'-0"

UNIT PLUMBING NOTES:
1. ROUTE TOP FLOOR SUPPLY PLUMBING IN CEILING BELOW. NO SUPPLY IN ATTIC.
2. PROVIDE AIR CHAMBERS ON P-4, P-5. AND P-6.
3. CONNECT DISHWASHERS, DISPOSERS, ICE MAKERS, WASHERS.
4. PROVIDE 2" HUB DRAIN AT EACH AHU/WH LOCATION.
5. ROUTE 1/2" PEX TO EACH FIXTURE FROM MANIFOLD.
6. P-5, P-6 ON CORRIDOR WALLS SHALL HAVE FIRE PUTTY PADS OR EQUIVALENT FIRE PROTECTION.
7. SEE ARCH PLANS FOR TYPE A UNIT LOCATIONS AND QUANTITY.

LEGEND:
(1) 3/4" WATER SERVICE/SHUT-OFF WITH 3/4" MANIFOLD.
(2) 1" WATER SERVICE/SHUT-OFF WITH MANIFOLD.

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER
3-24-23

A NEW DEVELOPMENT:
RESIDENCES AT BLACKWELL
50 Highway & Blackwell, Lee's Summit, MO

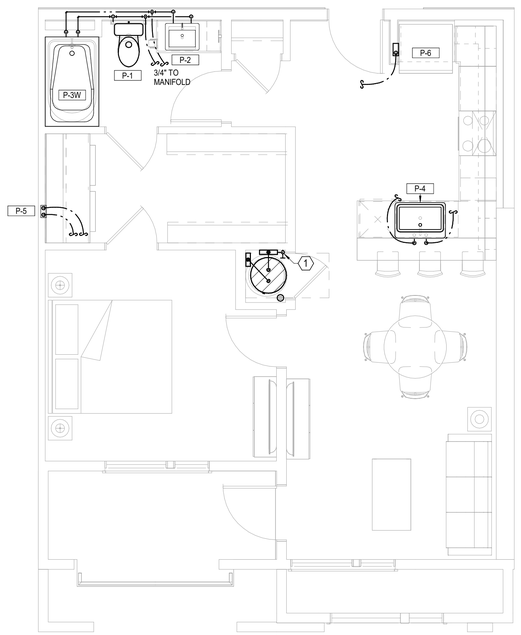
DRAWING RELEASE LOG

△REVISIONS:

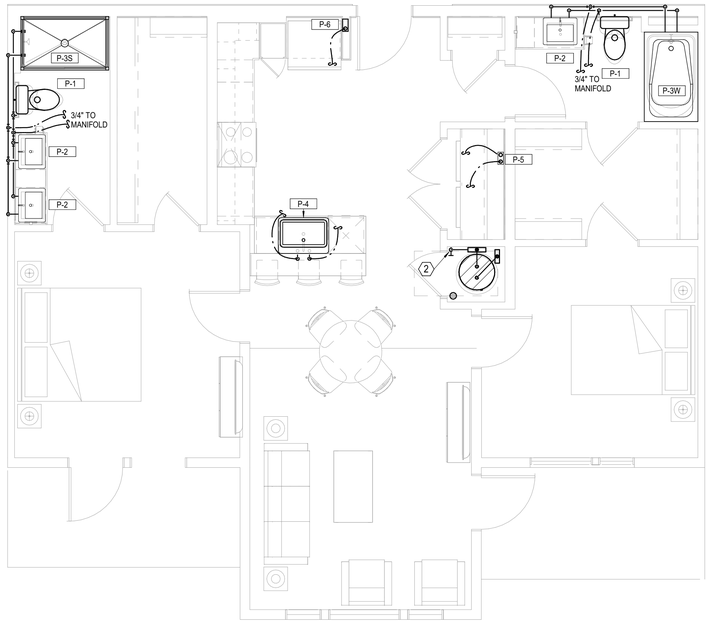
LS&A
Latimer Sommers & Associates P.A.
CONSULTING ENGINEERS
3639 SW Summerfield Drive, Suite A
Topeka, Kansas 6614-3974
8625 College Boulevard, Suite 102
Overland Park, Kansas 66210
Telephone: (785) 233-3232
Email: lsapa@lsapa.com
LSA PROJECT NO. 2204073

DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. P2.10

PERMIT



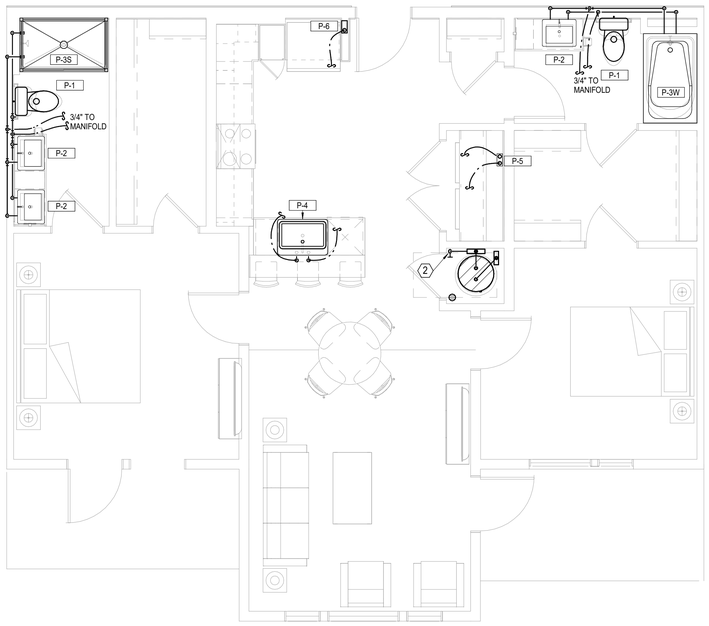
1 UNIT A2
PLUMBING
1/4" = 1'-0"



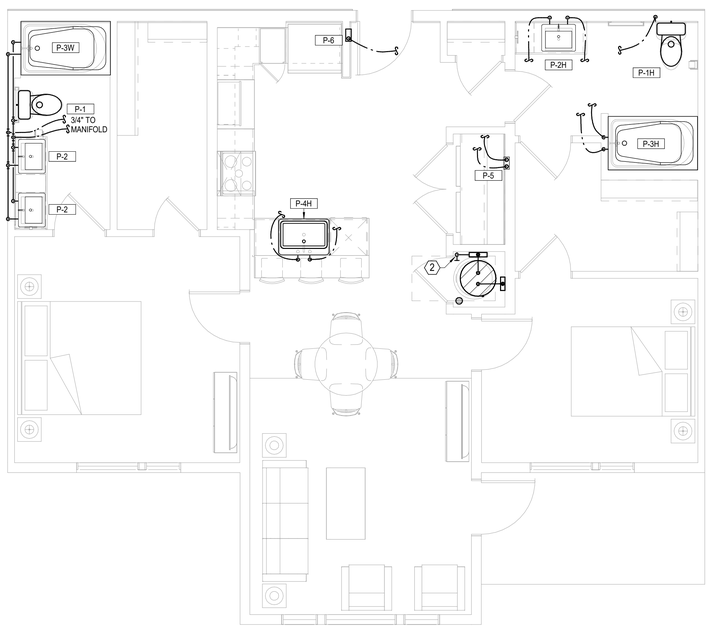
2 UNIT B2
PLUMBING
1/4" = 1'-0"

UNIT PLUMBING NOTES:
1. ROUTE TOP FLOOR SUPPLY PLUMBING IN CEILING BELOW. NO SUPPLY IN ATTIC.
2. PROVIDE AIR CHAMBERS ON P-4, P-5. AND P-6.
3. CONNECT DISHWASHERS, DISPOSERS, ICE MAKERS, WASHERS.
4. PROVIDE 2" HUB DRAIN AT EACH AHU/WH LOCATION.
5. ROUTE 1/2" PEX TO EACH FIXTURE FROM MANIFOLD.
6. P-5, P-6 ON CORRIDOR WALLS SHALL HAVE FIRE PUTTY PADS OR EQUIVALENT FIRE PROTECTION.
7. SEE ARCH PLANS FOR TYPE A UNIT LOCATIONS AND QUANTITY.

LEGEND:
(1) 3/4" WATER SERVICE/SHUT-OFF WITH 3/4" MANIFOLD.
(2) 1" WATER SERVICE/SHUT-OFF WITH MANIFOLD.



3 UNIT B2 - ALT 1&2
PLUMBING
1/4" = 1'-0"



4 UNIT B2 - TYPE A
PLUMBING
1/4" = 1'-0"

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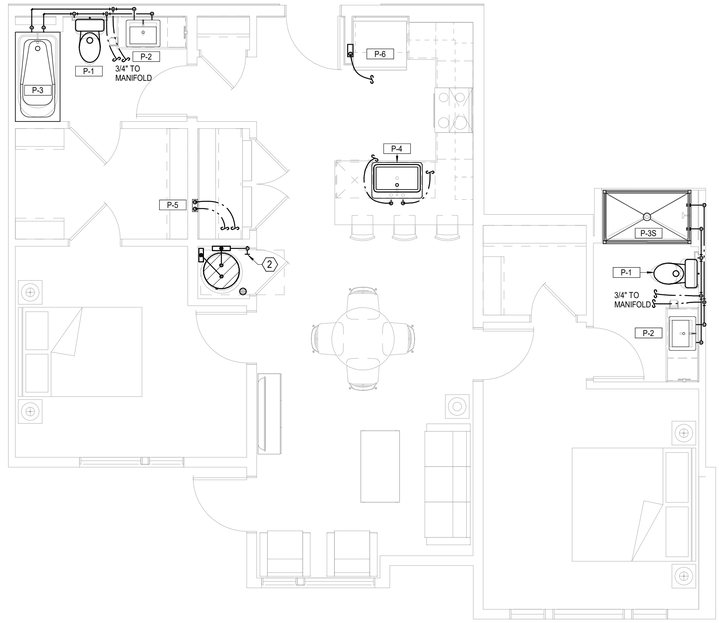
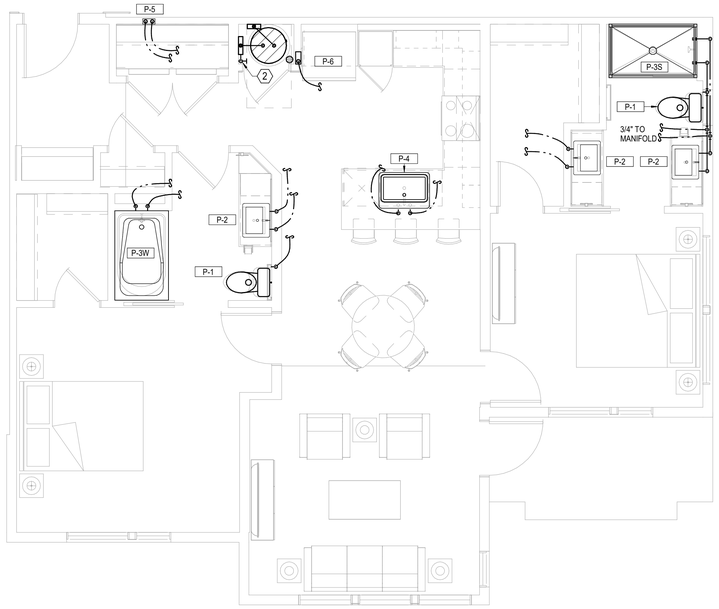


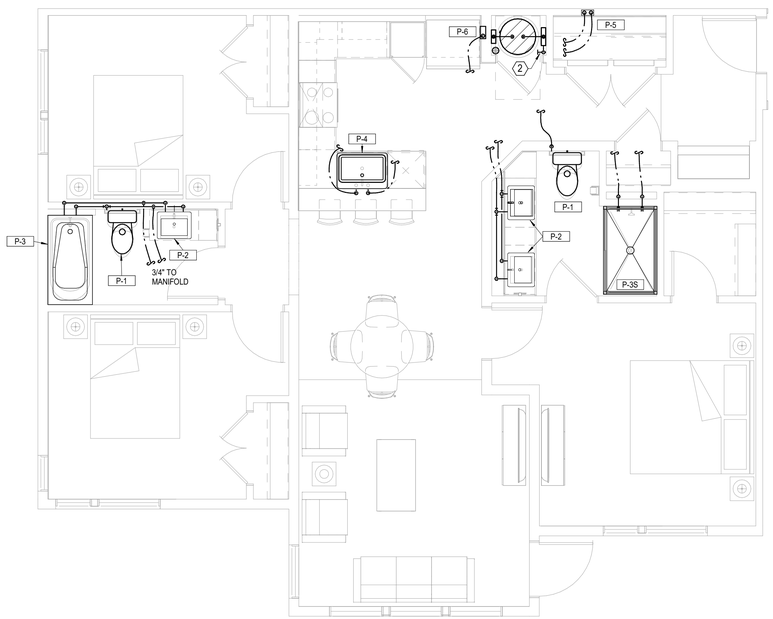
1 UNIT B3
PLUMBING
1/4" = 1'-0"



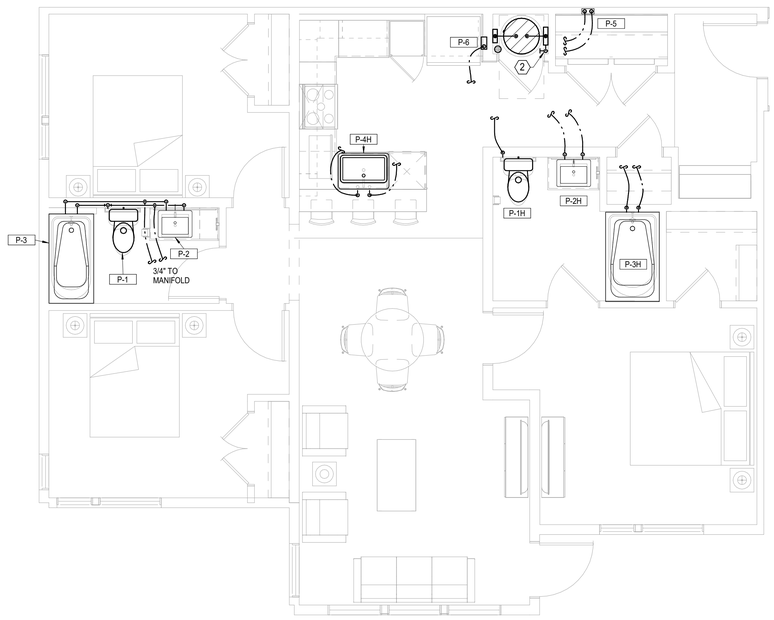
2 UNIT B4
PLUMBING
1/4" = 1'-0"

UNIT PLUMBING NOTES:
1. ROUTE TOP FLOOR SUPPLY PLUMBING IN CEILING BELOW. NO SUPPLY IN ATTIC.
2. PROVIDE AIR CHAMBERS ON P-4, P-5. AND P-6.
3. CONNECT DISHWASHERS, DISPOSERS, ICE MAKERS, WASHERS.
4. PROVIDE 2" HUB DRAIN AT EACH AHU/WH LOCATION.
5. ROUTE 1/2" PEX TO EACH FIXTURE FROM MANIFOLD.
6. P-5, P-6 ON CORRIDOR WALLS SHALL HAVE FIRE PUTTY PADS OR EQUIVALENT FIRE PROTECTION.
7. SEE ARCH PLANS FOR TYPE A UNIT LOCATIONS AND QUANTITY.

LEGEND:
(1) 3/4" WATER SERVICE/SHUT-OFF WITH 3/4" MANIFOLD.
(2) 1" WATER SERVICE/SHUT-OFF WITH MANIFOLD.



3 UNIT C1
PLUMBING
1/4" = 1'-0"



4 UNIT C1 - TYPE A
PLUMBING
1/4" = 1'-0"

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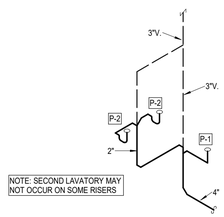
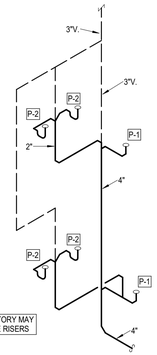


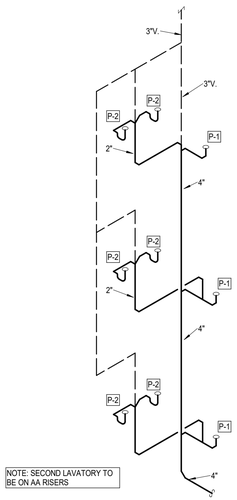
NOTE: SECOND LAVATORY MAY NOT OCCUR ON SOME RISERS

A1 **Plumbing Riser** NOT TO SCALE



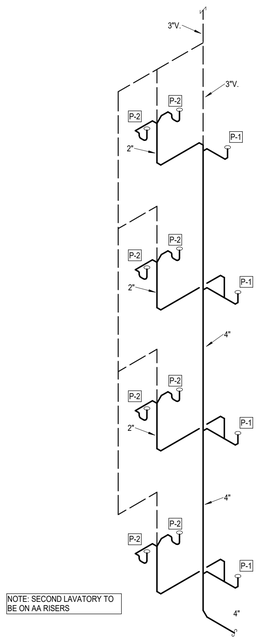
NOTE: SECOND LAVATORY MAY NOT OCCUR ON SOME RISERS

A2 **Plumbing Riser** NOT TO SCALE



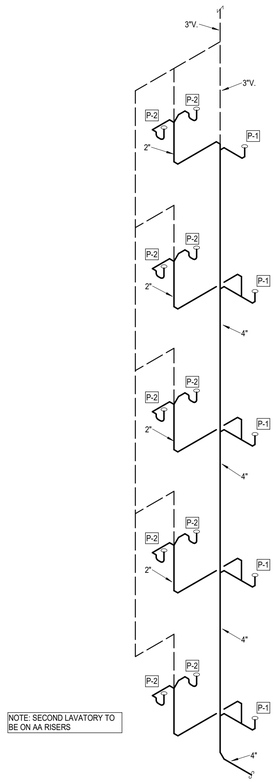
NOTE: SECOND LAVATORY TO BE ON AA RISERS

A3 **Plumbing Riser** NOT TO SCALE



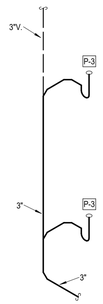
NOTE: SECOND LAVATORY TO BE ON AA RISERS

A4 **Plumbing Riser** NOT TO SCALE

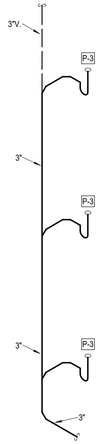


NOTE: SECOND LAVATORY TO BE ON AA RISERS

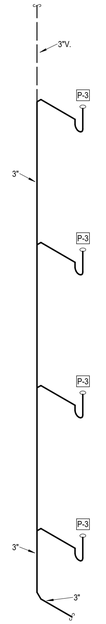
A5 **Plumbing Riser** NOT TO SCALE



B2 **Plumbing Riser** NOT TO SCALE



B3 **Plumbing Riser** NOT TO SCALE



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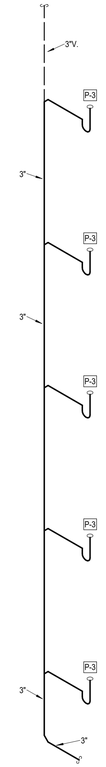

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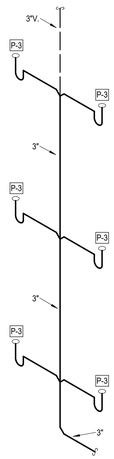
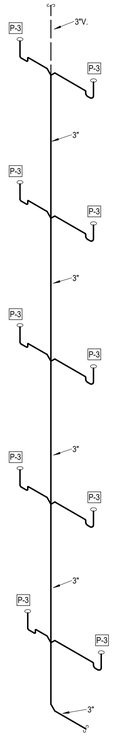
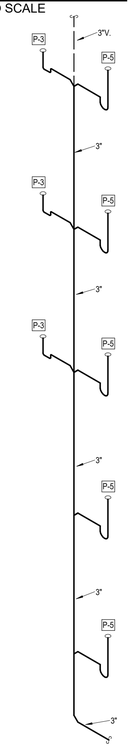


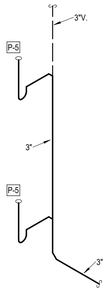
B3/2 **Plumbing Riser** NOT TO SCALE



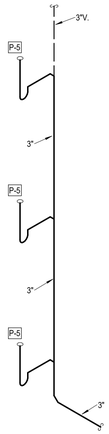
B5/2 **Plumbing Riser** NOT TO SCALE



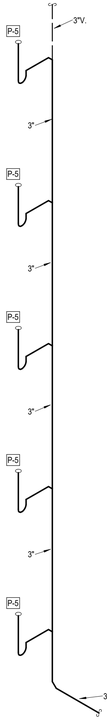
B3C5 **Plumbing Riser** NOT TO SCALE



C2 **Plumbing Riser** NOT TO SCALE



C3 **Plumbing Riser** NOT TO SCALE



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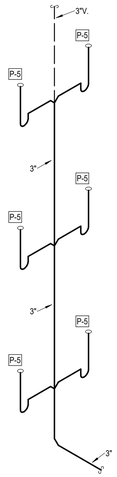
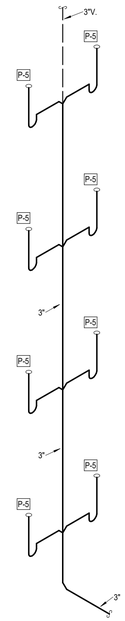


C3/2 **Plumbing Riser** NOT TO SCALE



C4/2 **Plumbing Riser** NOT TO SCALE

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SHEET NO. **P3.01**

CD2 **Plumbing Riser** NOT TO SCALE

CD3 **Plumbing Riser** NOT TO SCALE

CD4 **Plumbing Riser** NOT TO SCALE

CD5 **Plumbing Riser** NOT TO SCALE

CE3 **Plumbing Riser** NOT TO SCALE

CG3 **Plumbing Riser** NOT TO SCALE

CG5 **Plumbing Riser** NOT TO SCALE

D3/2 **Plumbing Riser** NOT TO SCALE

E3/2 **Plumbing Riser** NOT TO SCALE

D1 **Plumbing Riser** NOT TO SCALE

D3 **Plumbing Riser** NOT TO SCALE

D5 **Plumbing Riser** NOT TO SCALE

E1 **Plumbing Riser** NOT TO SCALE

E2 **Plumbing Riser** NOT TO SCALE

E3 **Plumbing Riser** NOT TO SCALE

E4 **Plumbing Riser** NOT TO SCALE

E5 **Plumbing Riser** NOT TO SCALE

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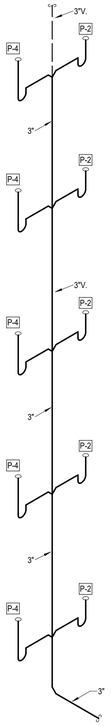
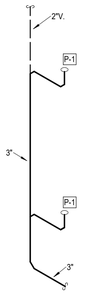
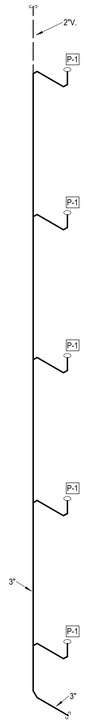


EG5 Plumbing Riser
NOT TO SCALE



F2 Plumbing Riser
NOT TO SCALE

F4 Plumbing Riser
NOT TO SCALE



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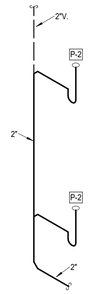
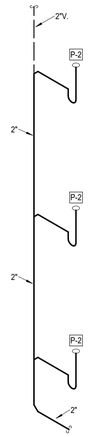


G2 Plumbing Riser
NOT TO SCALE



G3 Plumbing Riser
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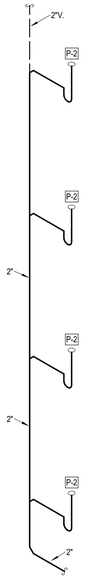
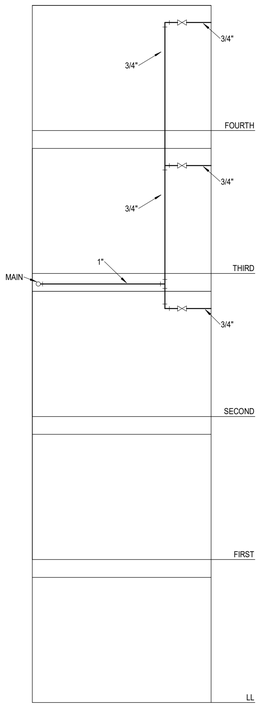
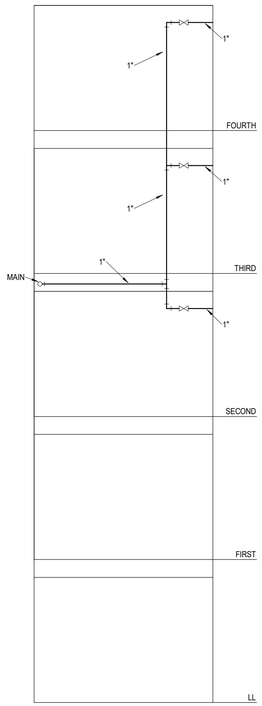


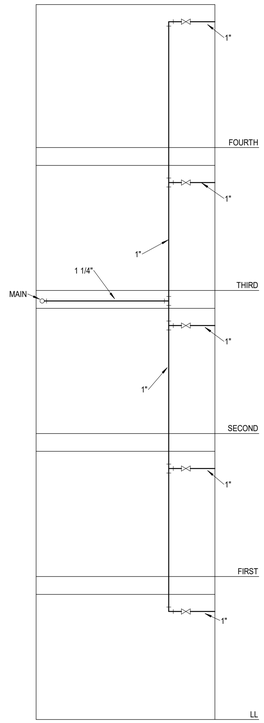
G4 Plumbing Riser
NOT TO SCALE



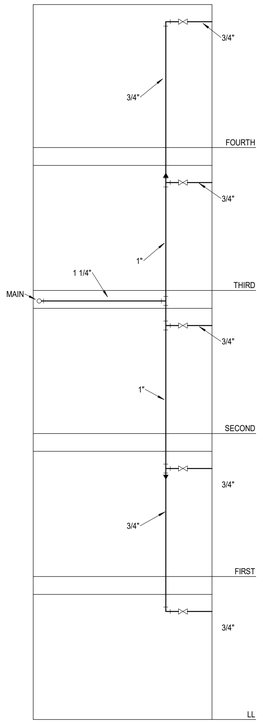
1 Plumbing Riser
NOT TO SCALE



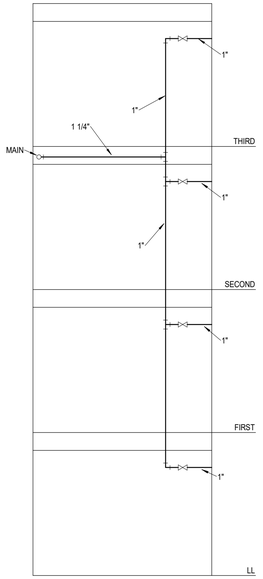
2 Plumbing Riser
NOT TO SCALE



3 Plumbing Riser
NOT TO SCALE



4 Plumbing Riser
NOT TO SCALE



5 Plumbing Riser
NOT TO SCALE

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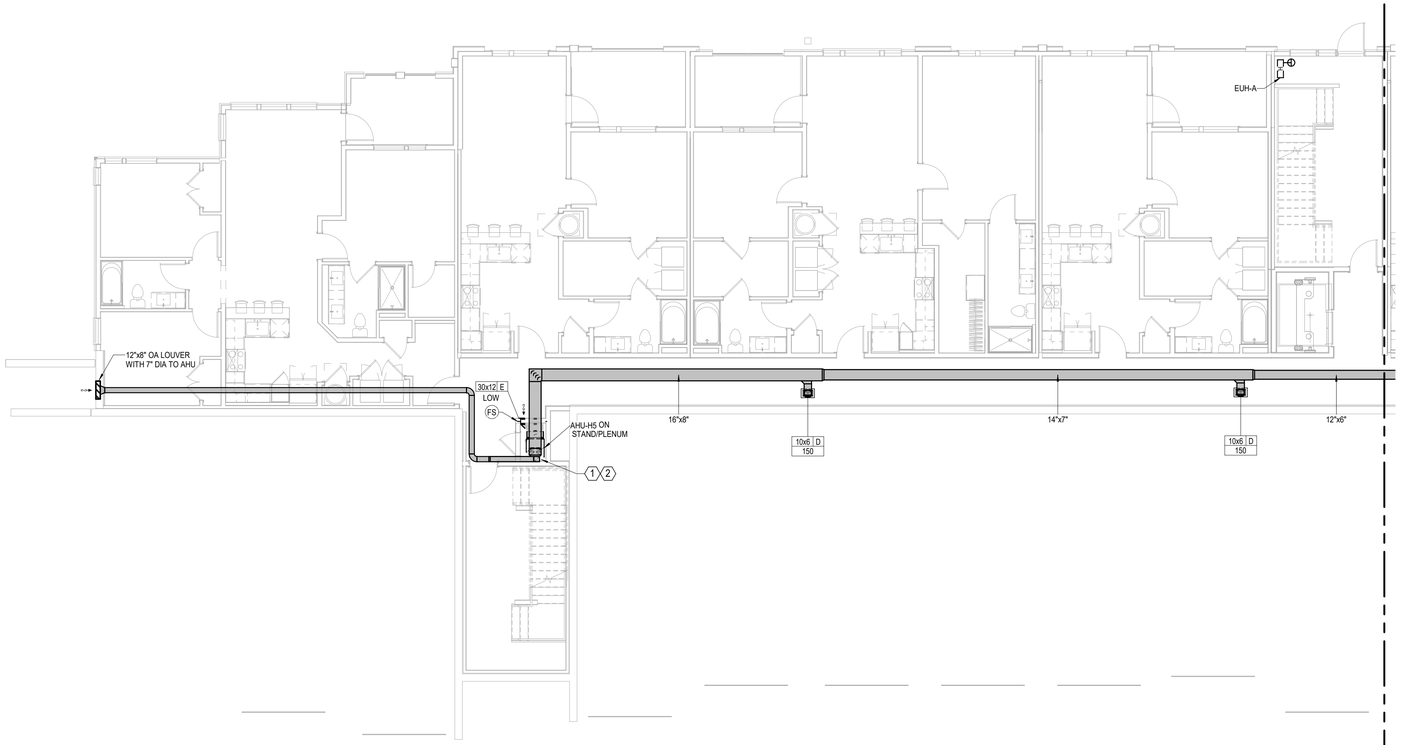
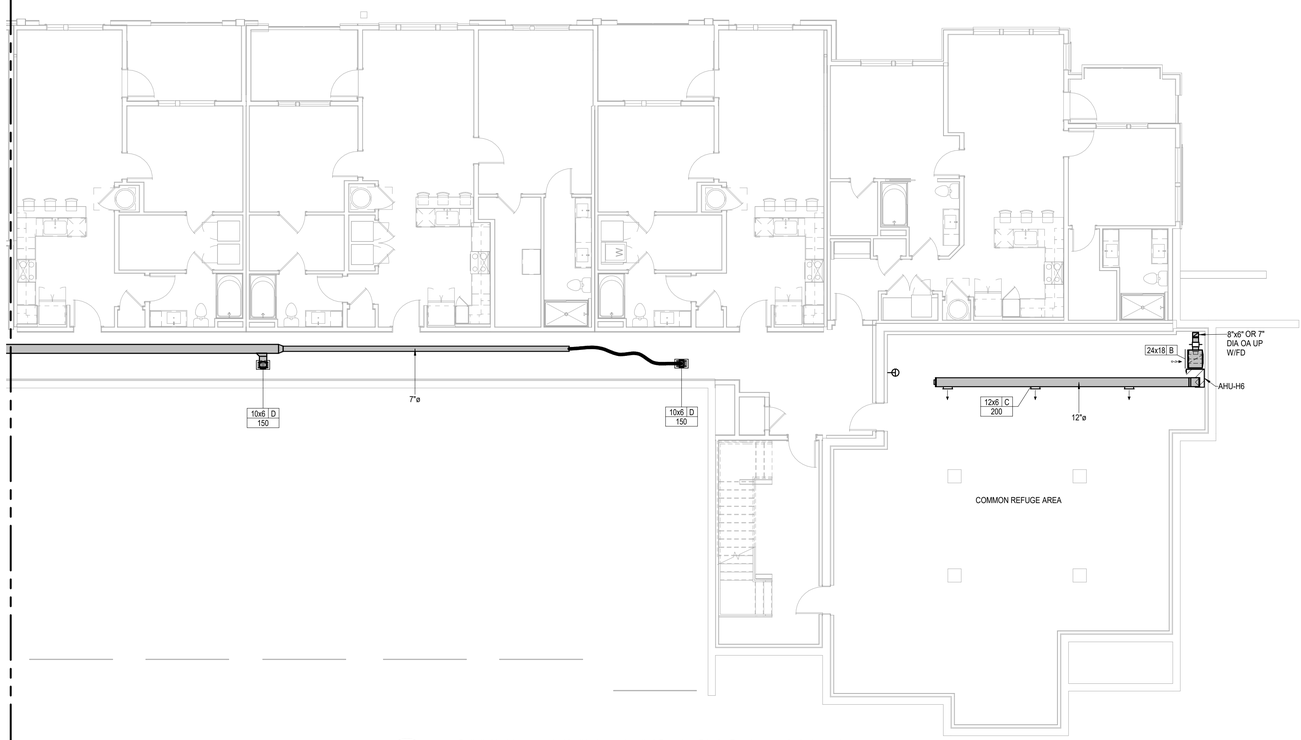
SHEET NO.
P3.03



1 LOWER LEVEL BUILDING PLAN - A

HVAC
1/8" = 1'-0"



2 LOWER LEVEL BUILDING PLAN - B

HVAC
1/8" = 1'-0"

NOTES:

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2. ALL INDIVIDUAL BRANCH DUCTS ARE THE SIZE OF THE DIFFUSER NECK LISTED AND HAVE A MANUAL BALANCING DAMPER WHERE NOT INTEGRAL WITH THE DIFFUSER.
3. SEE THE ARCHITECTURAL, LIGHTING AND STRUCTURAL DRAWINGS FOR CLEARANCES.
4. ROUTE NO DUCTS OVER ELECTRICAL EQUIPMENT.
5. FLEXIBLE DUCT LENGTHS SHALL NOT EXCEED 10 FEET AND SHALL BE AS STRAIGHT AS POSSIBLE AND NOT KINKED AT DIFFUSER OR TAKE-OFF.
6. RECTANGULAR DUCT RUNS MAY BE CONVERTED TO EQUIVALENT ROUND WITH THE SAME STATIC LOSS PER 100 FT.
7. ROUTE DSS AND UNIT DRAINS TO FLOOR DRAINS.

LEGEND:

1. OUTSIDE AIR DAMPER CONTROL WITH BALANCING DAMPER - SEE DETAIL
2. CEILING RADIATION DAMPER AT MEMBRANE.
3. PROVIDE 2' GALVANIZED PAN FOR AHUs AND DRAIN JUST THRU CEILING OVER BREAK ROOM SINK.

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RICHARD R. BEARDMORE
NUMBER
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3-24-23

A NEW DEVELOPMENT:
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50 Highway & Blackwell, Lee's Summit, MO

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△REVISIONS:

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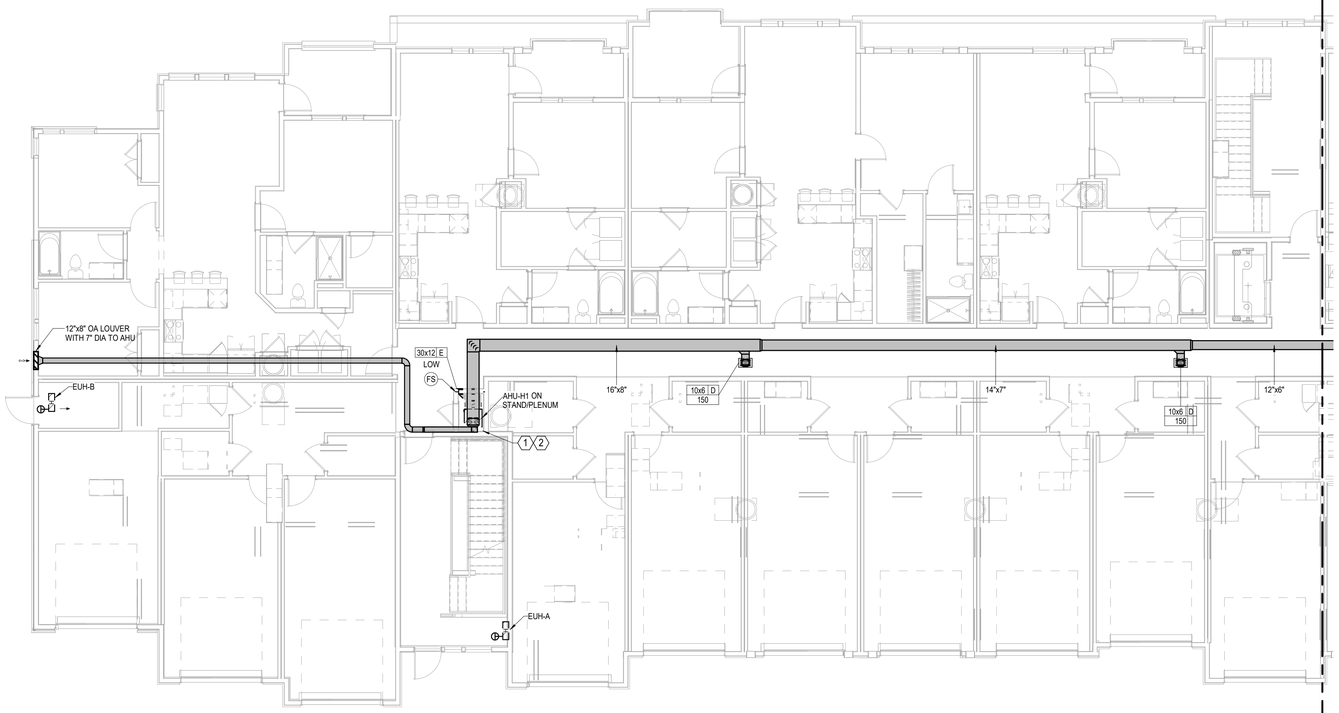
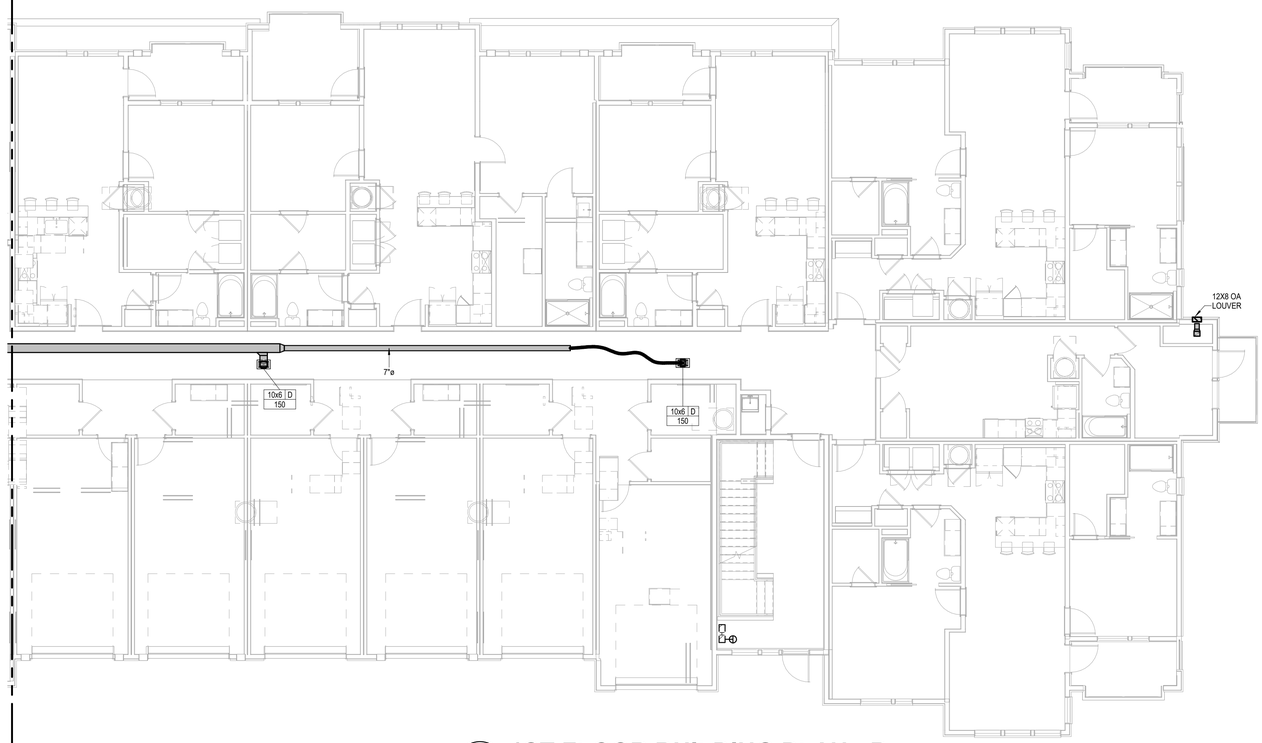


1 1ST FLOOR BUILDING PLAN - A
HVAC
1/8" = 1'-0"



2 1ST FLOOR BUILDING PLAN - B
HVAC
1/8" = 1'-0"

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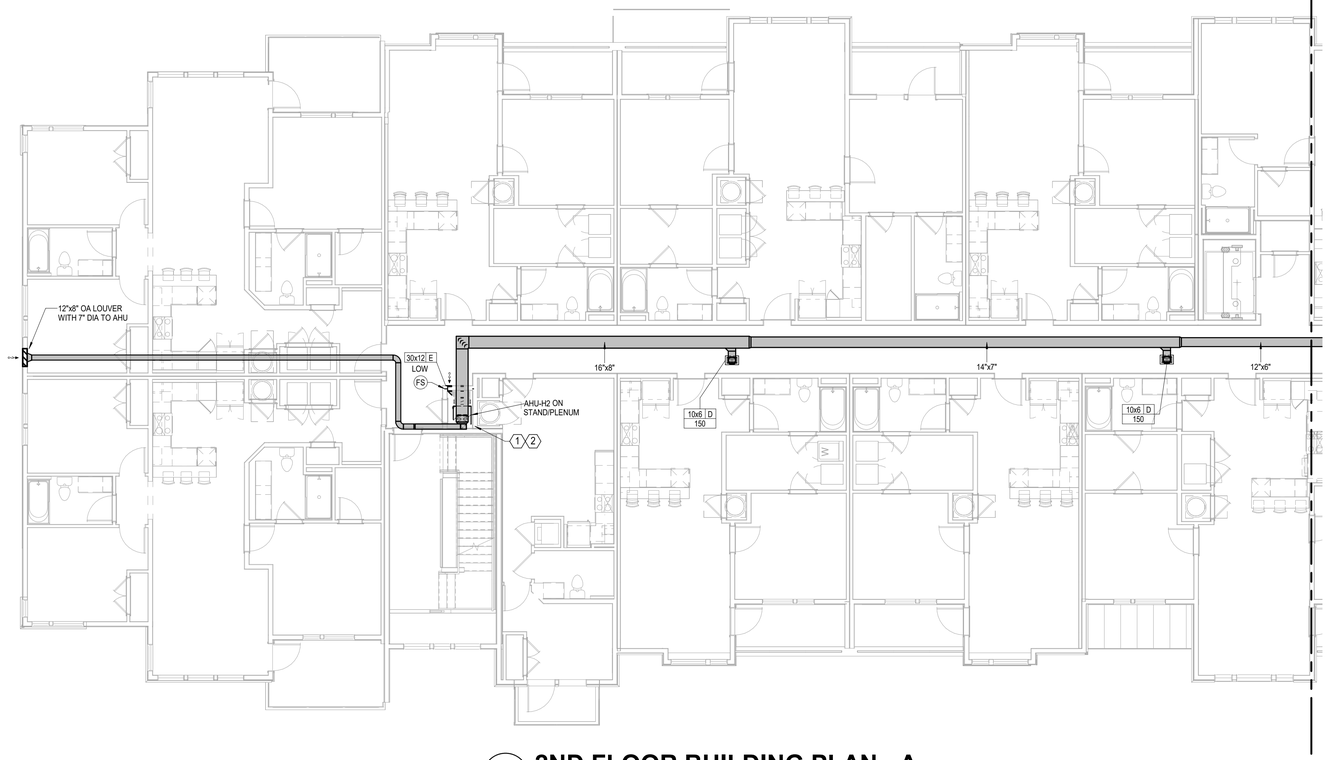
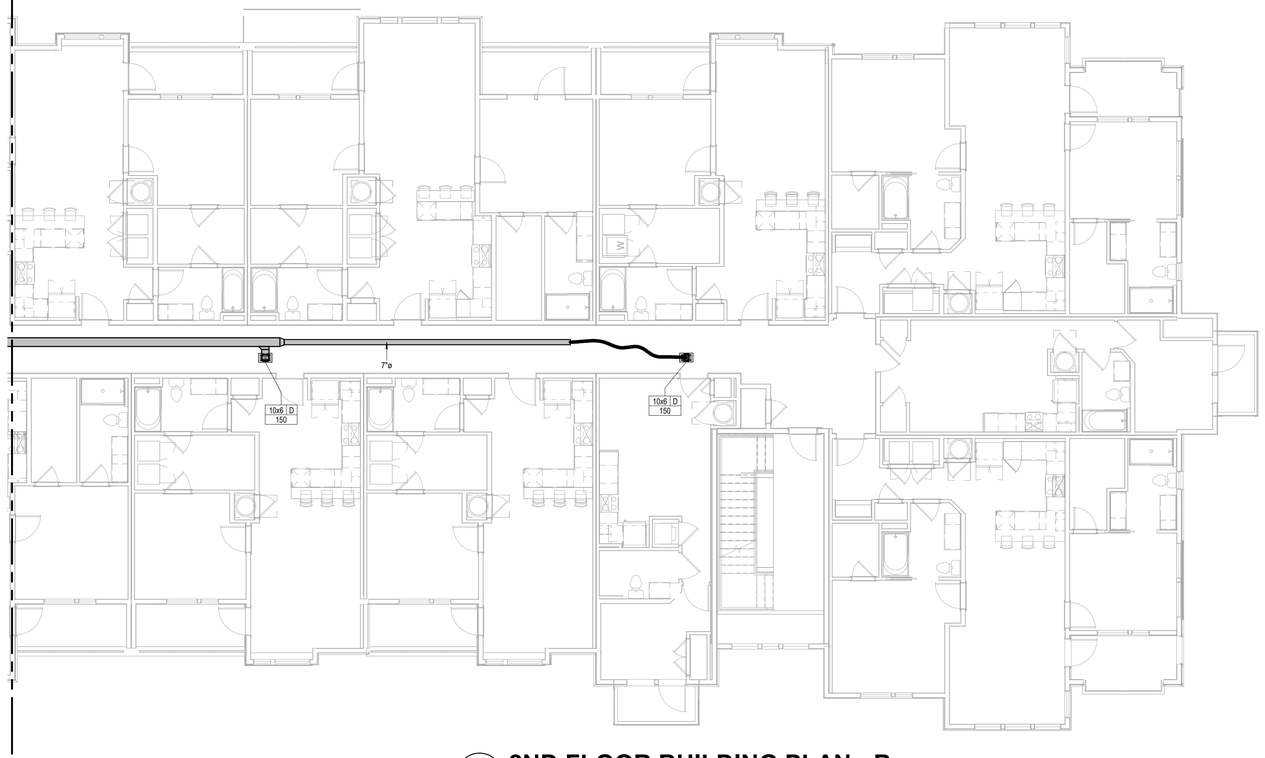


1 2ND FLOOR BUILDING PLAN - A

HVAC
1/8" = 1'-0"



2 2ND FLOOR BUILDING PLAN - B

HVAC
1/8" = 1'-0"

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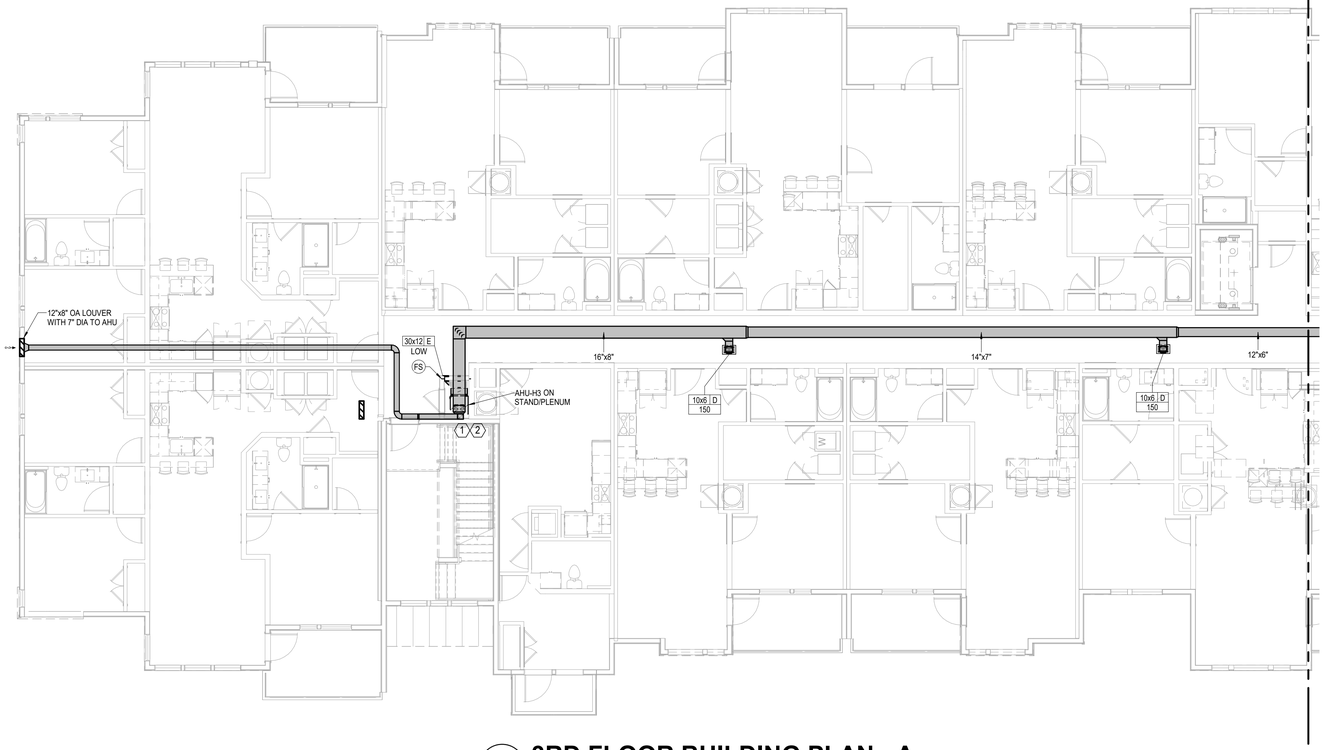

1 3RD FLOOR BUILDING PLAN - A

HVAC
1/8" = 1'-0"

2 3RD FLOOR BUILDING PLAN - B

HVAC
1/8" = 1'-0"

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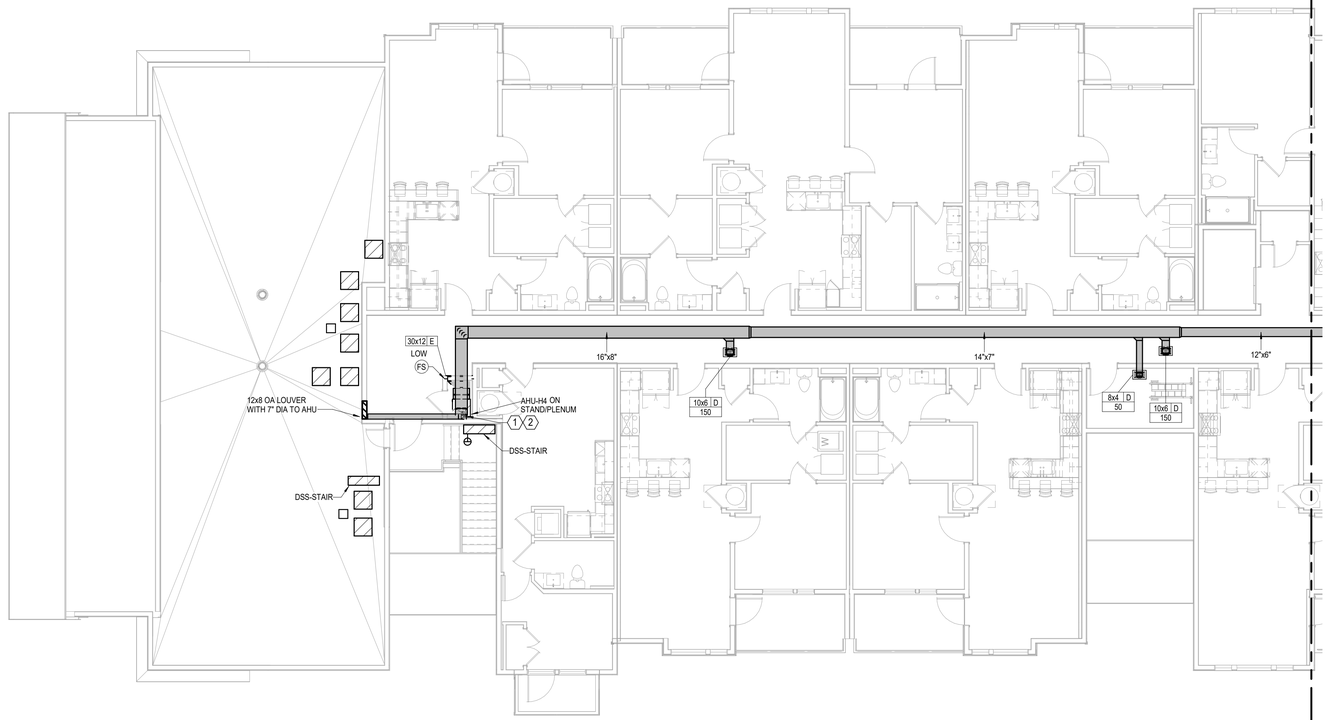
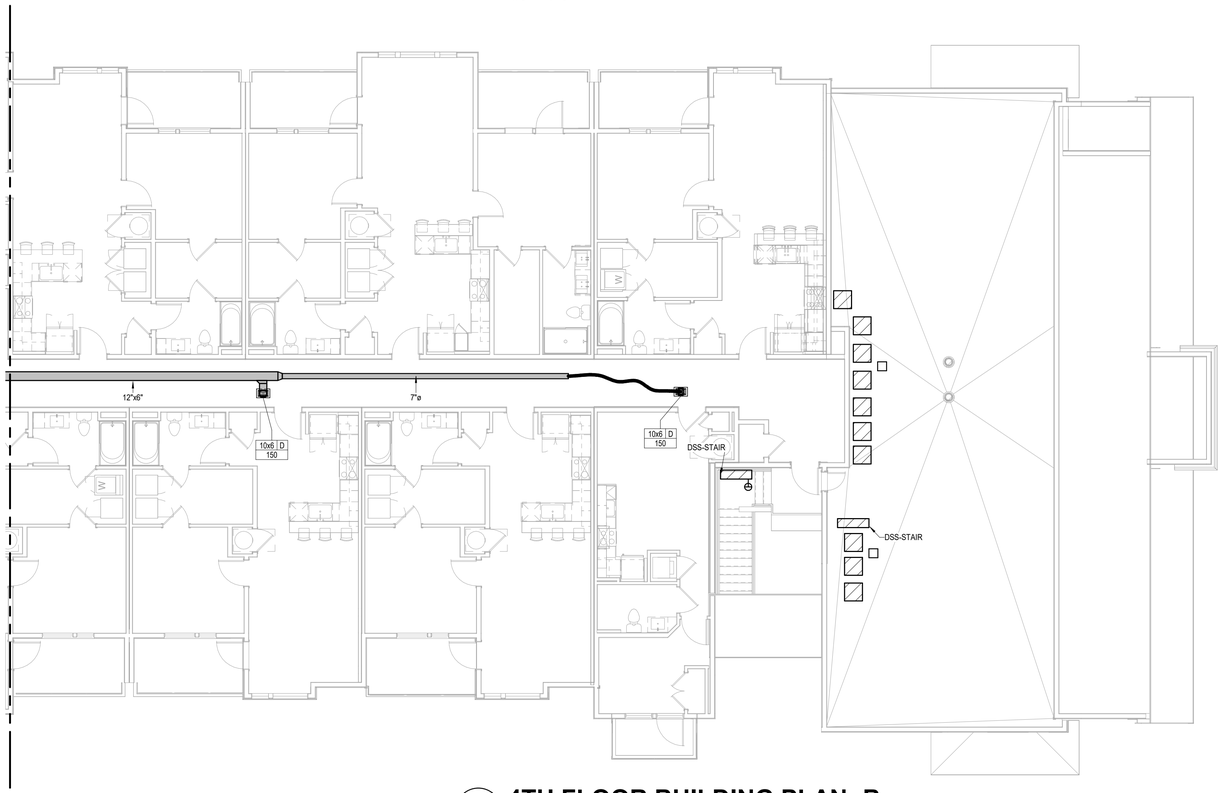


1 4TH FLOOR BUILDING PLAN - A

HVAC
1/8" = 1'-0"



2 4TH FLOOR BUILDING PLAN -B

HVAC
1/8" = 1'-0"

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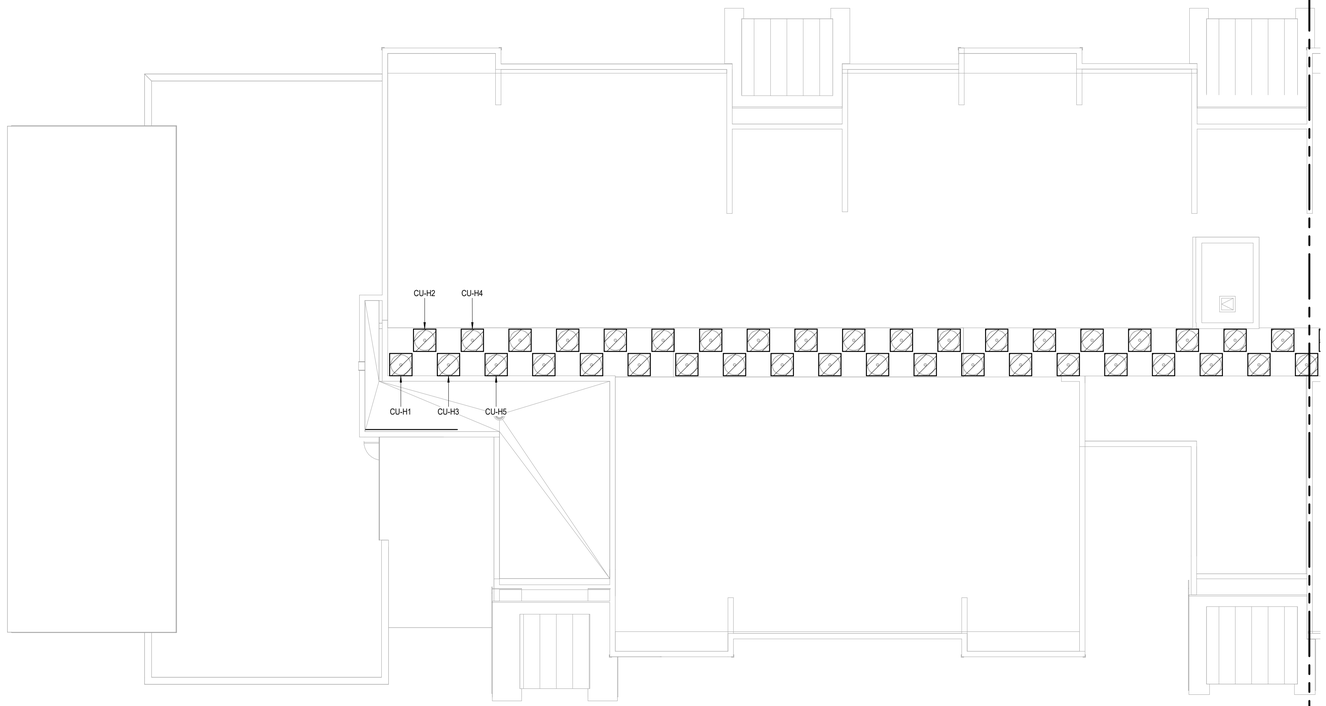
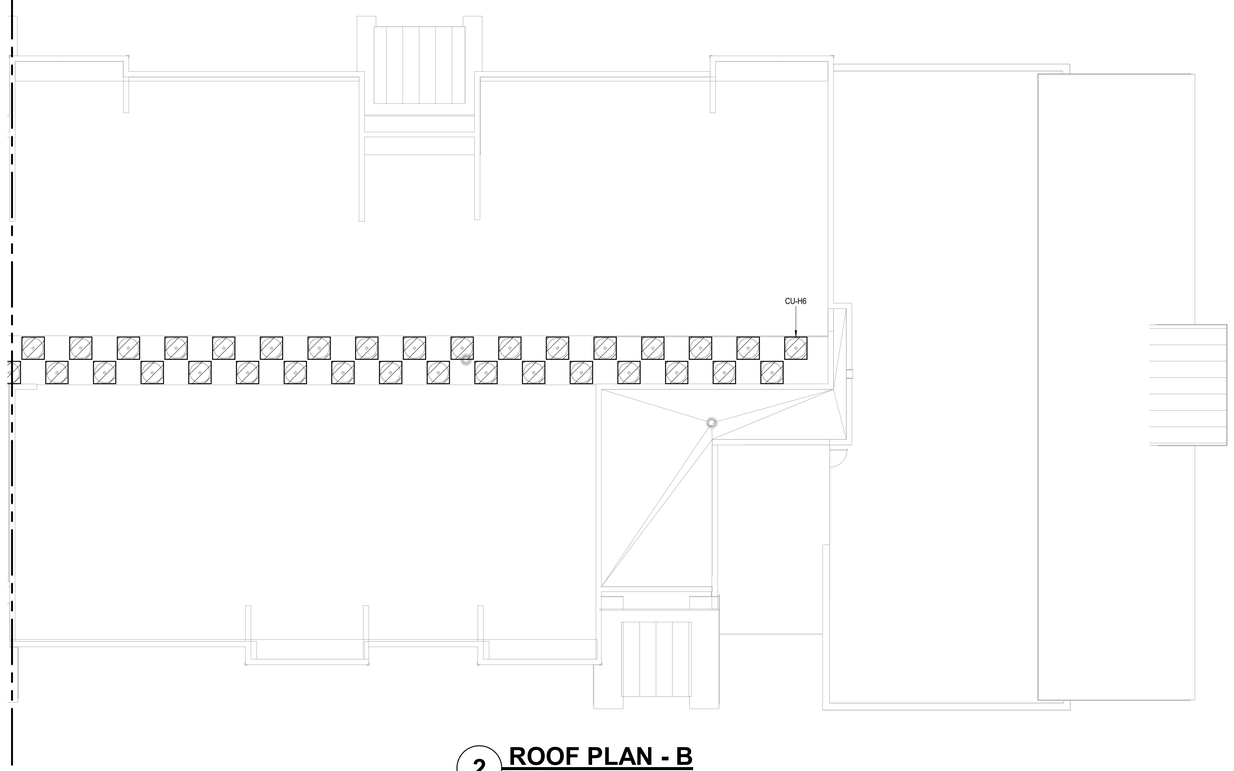


1 ROOF PLAN - A
HVAC
1/8" = 1'-0"



2 ROOF PLAN - B
HVAC
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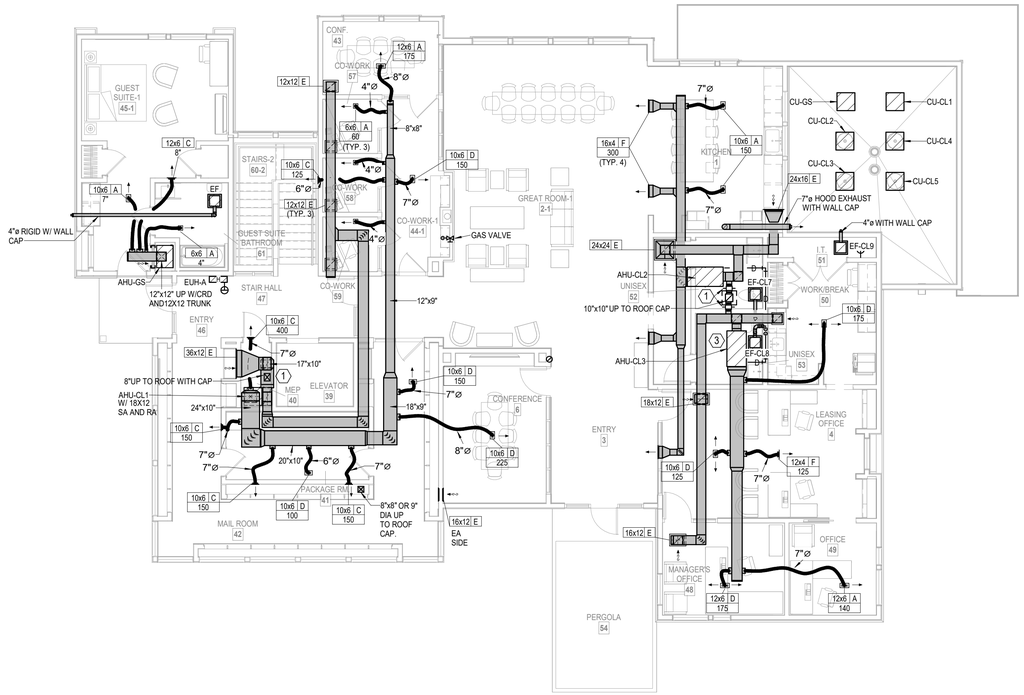
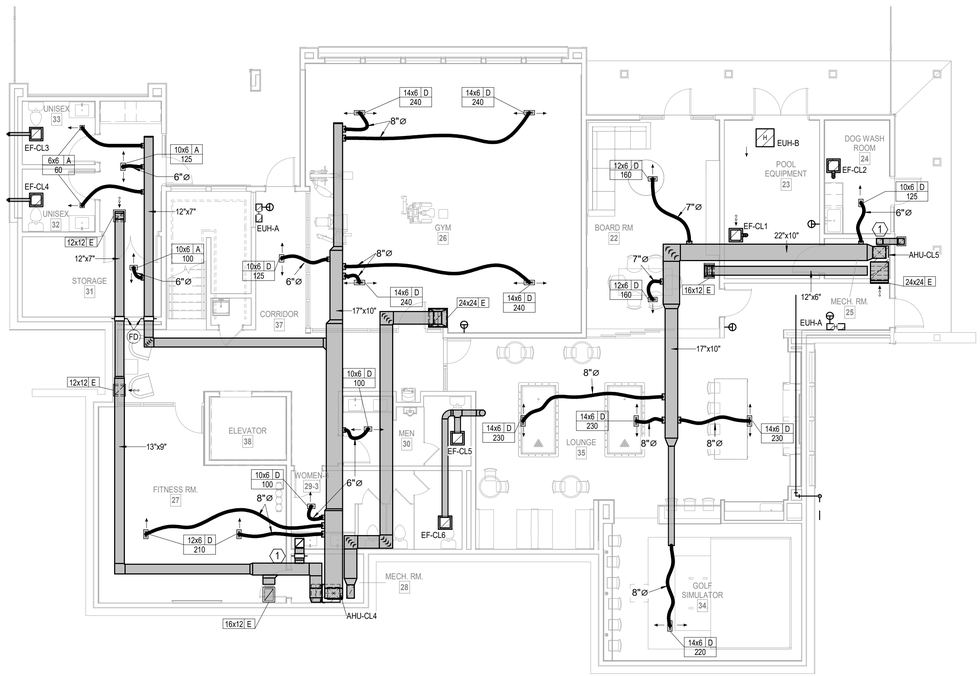


1 **1ST FLOOR CLUBHOUSE PLAN**
HVAC
1/8" = 1'-0"

NORTH



2 **LOWER LEVEL CLUBHOUSE**
HVAC
1/8" = 1'-0"

NORTH

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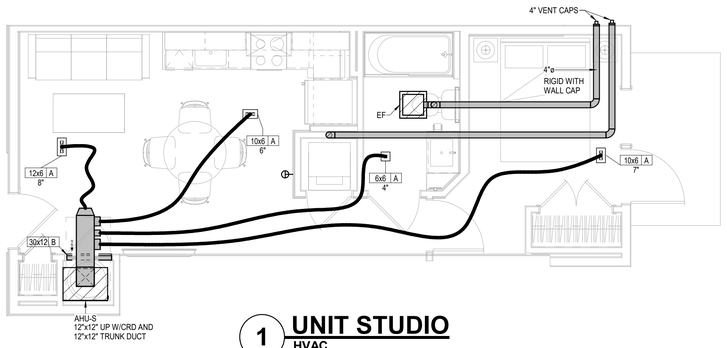
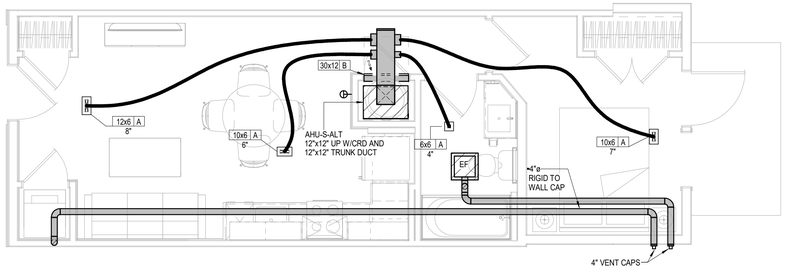
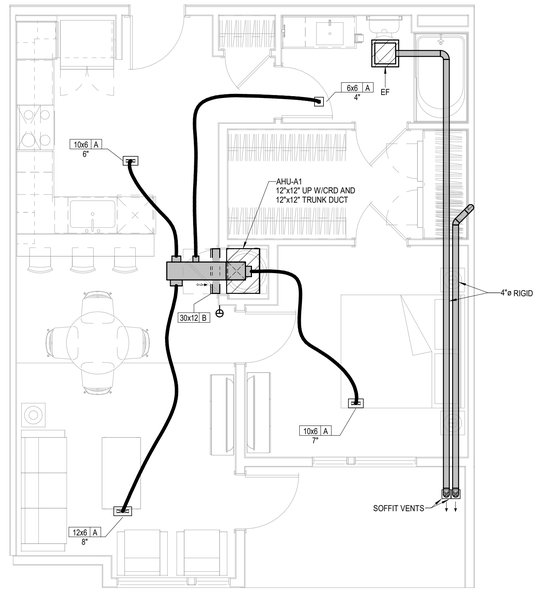


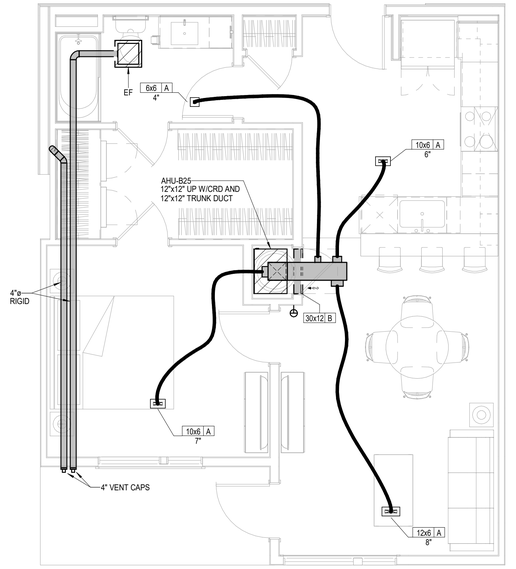
1 UNIT STUDIO
HVAC
1/4" = 1'-0"



2 UNIT STUDIO ALT.
HVAC
1/4" = 1'-0"

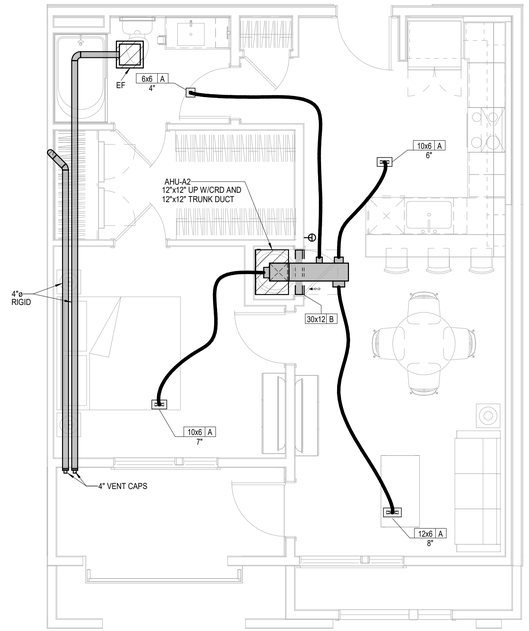


3 UNIT A1
HVAC
1/4" = 1'-0"
UNIT A1 - TYPE A SIMILAR

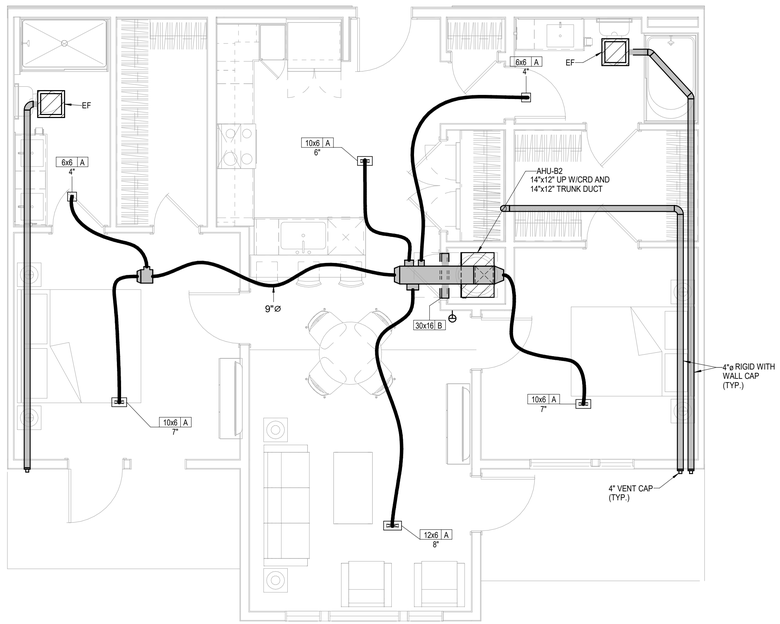


4 UNIT A1 - ALT
HVAC
1/4" = 1'-0"

UNIT MECHANICAL NOTES:
1. ALL TYPE "A" SUPPLY REGISTERS HAVE A UL555C CEILING RADIATION DAMPER UNLESS NOTED OTHERWISE. PROVIDE CRD UNLESS NOTED 0THERWISE AT AHU DISCHARGE AND RATED MEMBRANE.
2. PROVIDE MANUFACTURER REQUIRED CLEARANCES FOR AHU'S AND WATER HEATERS.
3. ALL CONDENSING UNITS ARE ROOF MOUNTED.
4. MANUFACTURER SHALL PROVIDE ANY ACCESSORIES REQUIRED FOR PROPER OPERATION INCLUDING LONG LINE SET.
5. PROVIDE GUY GRAY MODEL DB350/DB3D DRYER VENT BOX AT ALL DRYER LOCATIONS. NOTE TOP FLOOR SHALL ROUTE THRU FLOOR BELOW.
6. GENERALLY CENTER GRILLES/REGISTERS IN WALLS, OVER DOORS, ALIGN WITH WINDOWS, ETC.
7. MAINTAIN 3 FT. FROM EXHAUST/VENTS TO BUILDING OPENINGS. DRYER VENT CAPS SHALL HAVE 4" DEEP BY 4" WIDE OPENING FOR AIR FLOW.
8. ROUTE AHU CONDENSATE INDIRECT TO FLOOR DRAINS IN AHU CLOSETS.
9. EXHAUST FANS AT TOP FLOOR MAY VENT TO ROOF.
10. USE RA GRILLE AT HVAC CLOSET AS CRD ACCESS, POSITION CORRECTLY. SIZE MAY VARY WITH SAME AREA.
11. TOP FLOOR DUCTS SHALL BE BELOW THE ATTIC INSULATION SHALL BE R-8 INSULATED AND SEALED TO PREVENT CONDENSATION.
12. TOP FLOOR EXHAUST VENT TO ROUTE THROUGH ROOF OR SIDEWALL OF HIGH ROOF TRANSITION.
13. DRAIN AHUs AND DSS TO FLOOR DRAIN, JAN. SINK OR SINK TAILPIECE.



5 UNIT A2
HVAC
1/4" = 1'-0"



6 UNIT B2
HVAC
1/4" = 1'-0"
UNIT B2 - TYPE A SIMILAR

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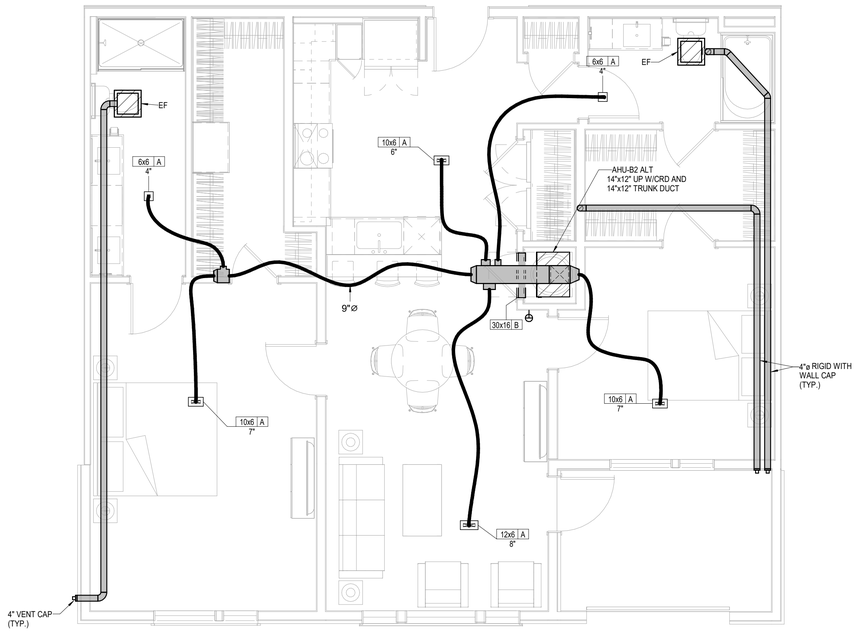
LSA PROJECT NO. 2204073

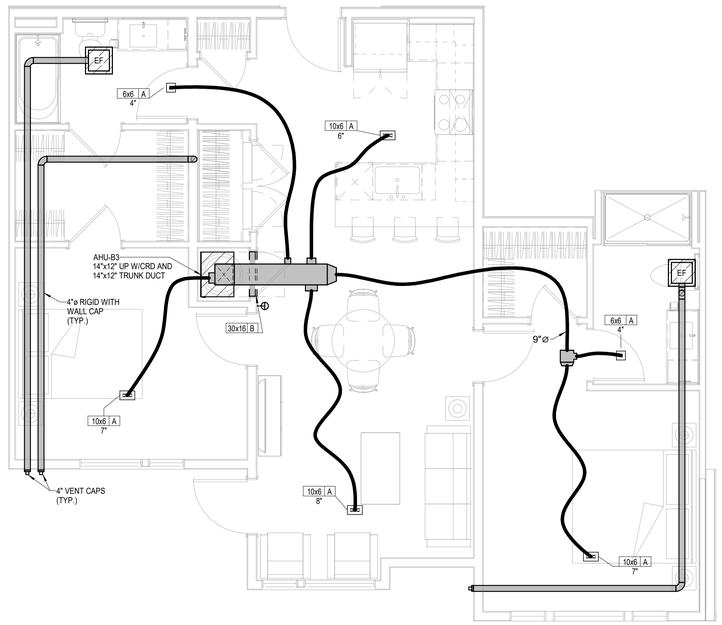
PERMIT

DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. M2.10



1 UNIT B2 - ALT 1&2

HVAC
1/4" = 1'-0"



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HVAC
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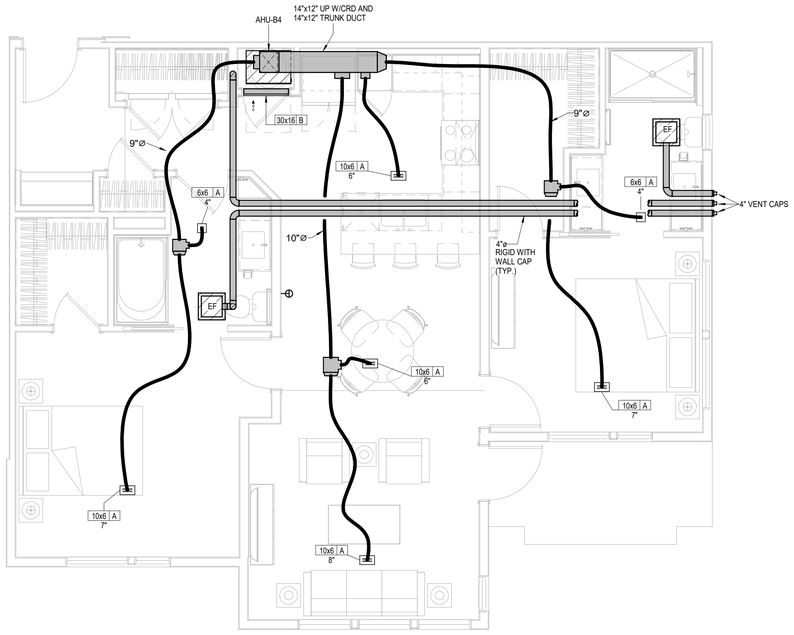
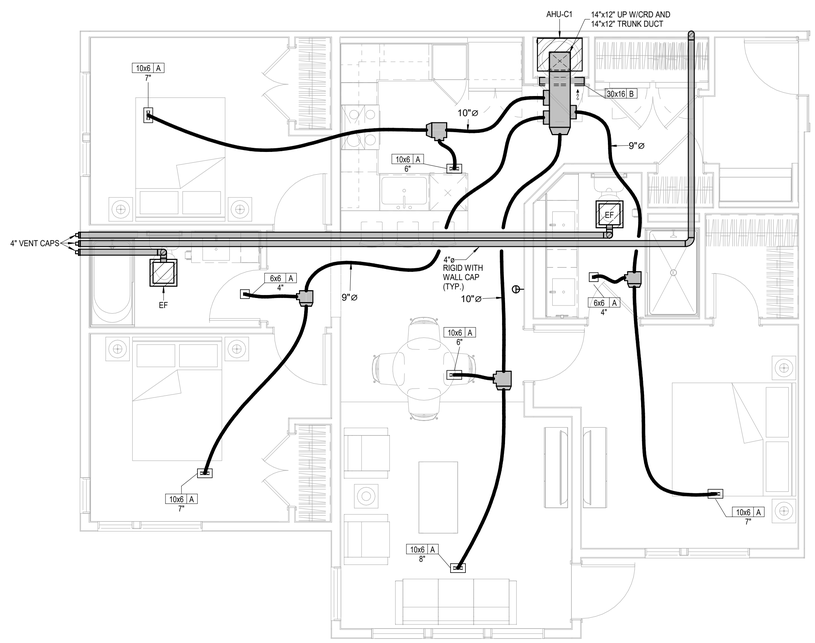


3 UNIT B4

HVAC
1/4" = 1'-0"



4 UNIT C1

HVAC
1/4" = 1'-0"
UNIT C1 - TYPE A SIMILAR

UNIT MECHANICAL NOTES:	
1.	ALL TYPE "A" SUPPLY REGISTERS HAVE A UL555C CEILING RADIATION DAMPER UNLESS NOTED OTHERWISE. PROVIDE CRD UNLESS NOTED 0THERWISE AT AHU DISCHARGE AND RATED MEMBRANE.
2.	PROVIDE MANUFACTURER REQUIRED CLEARANCES FOR AHU'S AND WATER HEATERS.
3.	ALL CONDENSING UNITS ARE ROOF MOUNTED.
4.	MANUFACTURER SHALL PROVIDE ANY ACCESSORIES REQUIRED FOR PROPER OPERATION INCLUDING LONG LINE SET.
5.	PROVIDE GUY GRAY MODEL DB350/DB3D DRYER VENT BOX AT ALL DRYER LOCATIONS. NOTE TOP FLOOR SHALL ROUTE THRU FLOOR BELOW.
6.	GENERALLY CENTER GRILLES/REGISTERS IN WALLS, OVER DOORS, ALIGN WITH WINDOWS, ETC.
7.	MAINTAIN 3 FT. FROM EXHAUST/VENTS TO BUILDING OPENINGS. DRYER VENT CAPS SHALL HAVE 4" DEEP BY 4" WIDE OPENING FOR AIR FLOW.
8.	ROUTE AHU CONDENSATE INDIRECT TO FLOOR DRAINS IN AHU CLOSETS.
9.	EXHAUST FANS AT TOP FLOOR MAY VENT TO ROOF.
10.	USE RA GRILLE AT HVAC CLOSET AS CRD ACCESS, POSITION CORRECTLY. SIZE MAY VARY WITH SAME AREA.
11.	TOP FLOOR DUCTS SHALL BE BELOW THE ATTIC INSULATION SHALL BE R-8 INSULATED AND SEALED TO PREVENT CONDENSATION.
12.	TOP FLOOR EXHAUST VENT TO ROUTE THROUGH ROOF OR SIDEWALL OF HIGH ROOF TRANSITION.
13.	DRAIN AHUs AND DSS TO FLOOR DRAIN, JAN. SINK OR SINK TAILPIECE.

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER

3-24-23

A NEW DEVELOPMENT:

RESIDENCES AT BLACKWELL

50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

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Latimer Sommers & Associates P.A.
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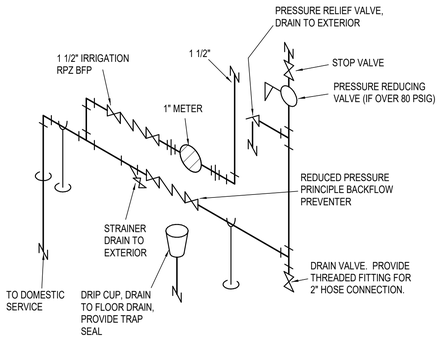
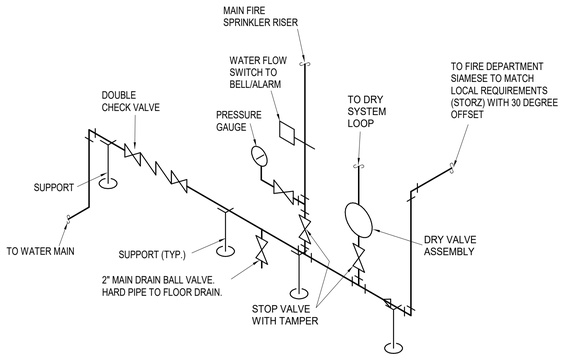


1 DOMESTIC WATER RISER
NOT TO SCALE

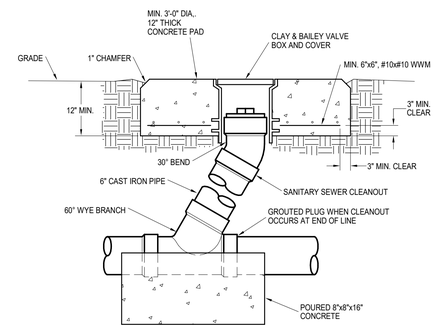
RADON SYSTEM COMPONENTS

CONTRACTOR TO PROVIDE THE FOLLOWING ITEMS TO PROVIDE THE INFRASTRUCTURE FOR A FUTURE RADON EVACUATION SYSTEM.

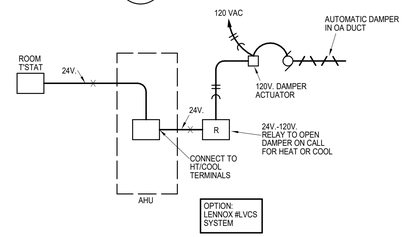
1) PROVIDE 4" PERFORATED PVC TUBES IN THE SLAB GRANULAR FILL ON ~25 FT CENTERS ACROSS THE EXTENT OF ALL SLABS ON GRADE INCLUDING THE PERIMETER INTERCONNECTED AS TO ALLOW AIRFLOW BETWEEN ALL TUBES.
2) TUBES SHALL CONNECT TO A HARD PVC PIPE CONNECTION THAT EXTENDS UP THROUGH THE SLAB THROUGH THE ROOF AT 12" ABOVE THE ROOF IN AS STRAIGHT OF A PATH AS POSSIBLE. THIS TUBE SHALL BE AIRTIGHT. THIS SHALL OCCUR IN TWO PLACES ON EACH BUILDING ROUGHLY AT THIRD POINTS ACROSS ITS LENGTH.
3) CAP TUBE AT ROOF AND MARK AS "FUTURE RADON SYSTEM".
4) ELECTRICAL CONTRACTOR SHALL PROVIDE A JUNCTION BOX IN THE ATTIC JUST BELOW EACH ROOF PENETRATION AND #12 WIRING BACK TO THE NEAREST HOUSE PANEL, CAPPED AND LABELED AS "FUTURE RADON SYSTEM" FANS EACH WIRING RUN CAN BE SEPARATE OR TOGETHER.



4 FIRE SUPPRESSION ENTRANCE DETAIL
NOT TO SCALE



9 FLUSH GRADE CLEANOUT DETAIL
NOT TO SCALE

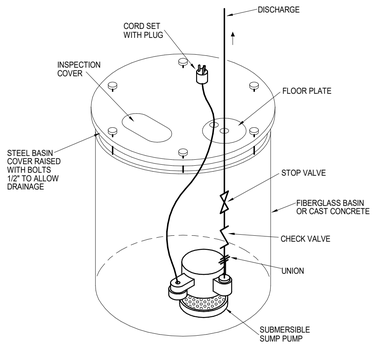


5 OUTSIDE AIR DAMPER CONTROL SCHEMATIC
NOT TO SCALE

NOTES:

1. Floor-Ceiling Assembly The fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction details of the floor-ceiling assembly are summarized below:
   A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of floor opening is 3 in.
   B. Wood Joists Nom 2 by 10 in. lumber joists spaced 16 in. OC with nom 1 by 3 in. lumber bridging and with ends firestopped. As an alternate to lumber joists, nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required with ends firestopped.
   C. Furring Channels (Not shown) - Resilient galv steel furring installed perpendicular to wood joists (Item 1B) between wallboard (Item 1D) and wood joists as required in the individual Floor-Ceiling Design.
   D. Gypsum Board* Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design.
2. Chase Wall The through penetrant (Item 3) shall be routed through a 1 hr fire-rated single, double or staggered wood stud/gypsum wallboard chase wall constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs Nom 2 by 4 in. lumber studs.
   B. Sole Plate Nom 2 by 4 in. lumber plates.
   C. Top Plate The double top plate shall consist of two nom 2 by 4 in. lumber plates. Max diam of opening is 3 in.
   D. Gypsum Board* Thickness, type, number of layers and fasteners shall be as specified in individual Wall and Partition Design.
3. Through - Penetrants One nonmetallic pipe to be installed either eccentrically or concentrically within the firestop system. The annular space between the through penetrant and the periphery of the opening shall be a min 0 in. (point contact) to a max of 5/8 in. Pipe to be rigidly supported on both sides of the floor-ceiling assembly. The following types and sizes of nonmetallic pipes may be used.
   A. Polyvinyl Chloride (PVC) Pipe Nom 2 in. diam (or smaller) Schedule 40 cellular or solid core PVC pipe for use in closed (process or supply) or vented (drain, waste, or vent) piping systems.
   B. Acrylonitrile Butadine Styrene (ABS) Pipe Nom 2 in diam (or smaller) Schedule 40 cellular or solid core ABS pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
   C. Chlorinated Polyvinyl Chloride (CPVC) Pipe Nom 2 in. diam (or smaller) SDR17 CPVC pipe for use in closed (process or supply) or vented (drain, waste or vent) piping systems.
4. Fill, Void or Cavity Material* -- Sealant Min 3/4 in. thickness of fill material applied within the annulus, flush with top surface of floor and flush with bottom surface of lower top plate.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - FS - ONE Sealant

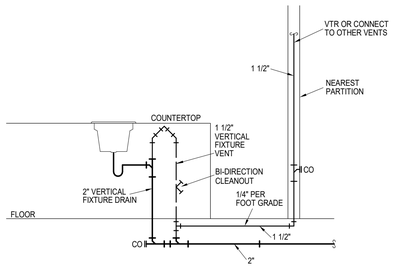
*Bearing the UL Classification Marking



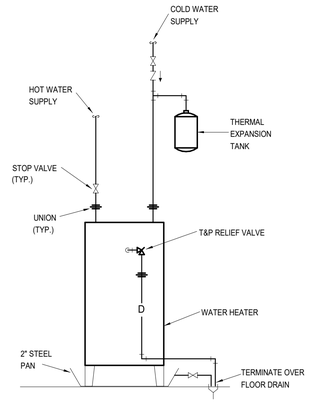
NOTES:

WATER IN PIT DRAINS INTO SUMP AND IS DISCHARGED TO GRADE. THIS IS AN ELECTRIC ELEVATOR SO NO HYDRAULIC FLUID IS PRESENT.

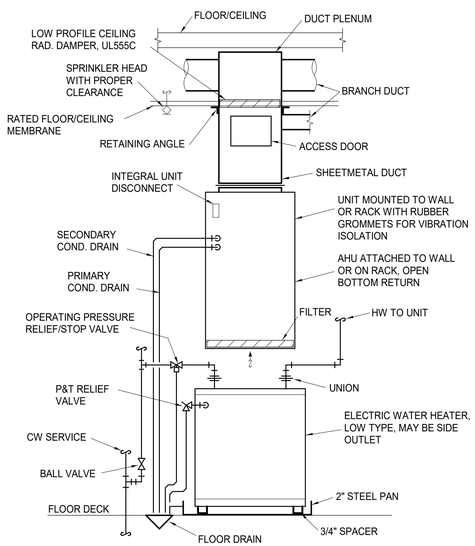
8 ELEVATOR SUMP PUMP DETAIL
NOT TO SCALE



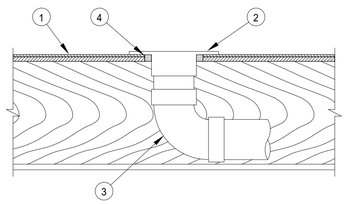
6 ISLAND VENT DETAIL
NOT TO SCALE



7 ELECTRIC WATER HEATER DETAIL
NOT TO SCALE COMMON AREA



3 MECHANICAL CLOSET DETAIL
NOT TO SCALE



8 FIRE RATED PENETRATION DETAIL
NO SCALE SYSTEM FC-2203

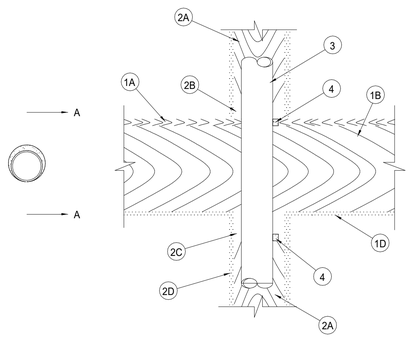
NOTES:

1. Floor-Ceiling Assembly The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:

   A. Flooring System Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 5 in.

   B. Wood Joist* Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.

   C. Gypsum Board* Nom 5/8 in. thick, 4 ft wide as specified in the individual Floor-Ceiling Design.
2. Closet Flange Acrylonitrile butadiene styrene (ABS) or polyvinyl chloride (PVC) closet stub sized to accommodate drain pipe. Closet flange installed over drain piping within floor opening with flange secured to plywood floor with steel screws. Diam of circular opening through flooring (Item 1A) to be max ½ in. larger than outside diam of closet flange.
3. Drain Piping Nom 4 in. diam (on smaller) Schedule 40 acrylonitrile butadiene styrene (ABS) or polyvinyl chloride (PVC) drain pipe and 90 degree elbow for use in vented (drain, waste or vent) piping systems. Pipe installed concentrically within firestop system.
4. Fill, Void or Cavity Materials*--Sealant Min 3/4 in. thickness of fill material applied within the annulus, flush with the bottom surface of floor.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC -- FS-ONE Sealant
5. Water Closet (Not Shown)--Floor mounted vitreous china water closet.
   *Bearing the UL Classification Mark



9 FIRE RATED PENETRATION DETAIL
NO SCALE SYSTEM FC-2142

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER
3-24-23

A NEW DEVELOPMENT:
RESIDENCES AT BLACKWELL
50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

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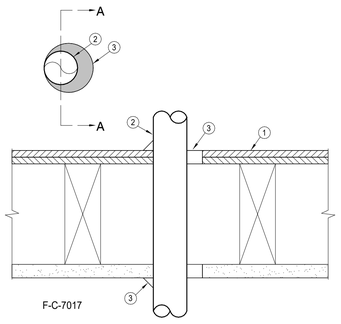


SECTION A-A

LEGEND:

1. FLOOR-CEILING ASSEMBLY - THE 1HR FIRE RATED SOLID OR TRUSSED LUMBER JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL L500 SERIES FLOOR-CEILING DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY. THE GENERAL CONSTRUCTION DETAILS OF THE FLOOR-CEILING ASSEMBLY ARE SUMMARIZED BELOW:
   - A. FLOORING SYSTEM - LUMBER OR PLYWOOD SUBFLOOR WITH FINISH FLOOR OF LUMBER, PLYWOOD OR FLOOR TOPPING MIXTURE AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX. DIAMETER OF OPENING IS 5" (127mm).
   - B. WOOD JOISTS - NOM 10" (254mm) DEEP (OR DEEPER) LUMBER, STEEL OR COMBINATION LUMBER AND STEEL JOISTS, TRUSSES OR STRUCTURAL WOOD MEMBERS* WITH BRIDGING AS REQUIRED AND WITH ENDS FIRESTOPPED.
   - C. GYPSUM BOARD* - NOM 4" (122cm) WIDE BY 5/8" (16mm) THICK AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. GYPSUM BOARD SECURED TO WOOD JOISTS OR FURRING CHANNELS AS SPECIFIED IN THE INDIVIDUAL FLOOR-CEILING DESIGN. MAX OF OPENING IS 6" BY 5 1/2" (152mm BY 140mm).

1.1 CHASE WALL (OPTIONAL, NOT SHOWN) - THE DUCT (ITEM 2) MAY BE ROUTED THROUGH A FIRE-RATED SINGLE, DOUBLE OR STAGGERED WOOD STUD/GYPSUM BOARD CHASE WALL HAVING A FIRE RATING CONSISTENT WITH THAT OF THE FLOOR-CEILING ASSEMBLY. THE CHASE WALL SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   - A. STUDS - NOM 2" BY 6" (51mm BY 152mm) OR DOUBLE NOM 2" BY 4" (51mm BY 102mm) LUMBER STUDS.
   - B. SOLE PLATE - NOM 2" BY 6" (51mm BY 152mm) OR PARALLEL 2" BY 4" (51mm BY 102mm) LUMBER PLATES, TIGHTLY BUTTED.
   - C. TOP PLATE - THE DOUBLE TOP PLATE SHALL CONSIST OF TWO NOM 2" BY 6" (51mm BY 152mm) OR TWO SETS OF PARALLEL 2" BY 4" (51mm BY 102mm) LUMBER PLATES, TIGHTLY BUTTED. MAX OF OPENING IS 6" BY 5 1/2" (152mm BY 140mm).
   - D. GYPSUM BOARD* - THICKNESS TYPE, NUMBER OR LAYERS AND FASTENERS SHALL BE AS SPECIFIED IN INDIVIDUAL WALL AND PARTITION DESIGN.

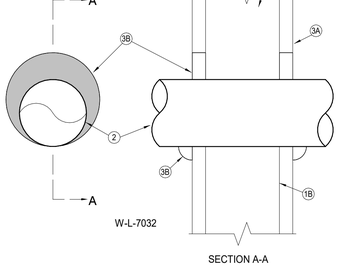
2. STEEL DUCT - NOM 4" (102mm) DIAMETER (OR SMALLER) NO. 30 GAUGE (OR HEAVIER) GALVANIZED STEEL DUCT TO BE INSTALLED ECCENTRICALLY OR CONCENTRICALLY WITHIN THE FIRESTOP SYSTEM. THE ANNULAR SPACE BETWEEN THE DUCT AND THE PERIPHERY OF OPENING SHALL BE MIN. 0" (0mm) (POINT CONTACT) TO MAX 2" (51mm) DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF THE FLOOR-CEILING ASSEMBLY.

3. FILL, VOID OR CAVITY MATERIALS* - CAULK OR SEALANT - MIN 3/4" (19mm) THICKNESS OF CAULK APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR OR SOLE PLATE. MIN. 5/8" (16mm) THICKNESS OF CAULK APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING OR TOP PLATE. MIN 1/2" (13mm) DIAMETER BEAD OF CAULK APPLIED AT THE DUCT/FLOOR OR SOLE PLATE INTERFACE AT POINT CONTACT LOCATION ON THE TOP SIDE OF ASSEMBLY AND AT THE DUCT/CEILING OR TOP PLATE INTERFACE AT POINT CONTACT LOCATION ON BOTTOM SIDE OF ASSEMBLY.

   3M COMPANY - FIREDAM 150+, CP 25WB+CAULK OR FB-3000 WT SCALANT.

   * BEARING THE UL CLASSIFICATION MARK.

FIRE STOP SYSTEM F-C-7017 DETAIL



SECTION A-A

LEGEND:

1. WALL ASSEMBLY - THE 1HR FIRE RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER SPECIFIED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   - A. STUDS - WALL FRAMING SHALL CONSIST OF EITHER WOOD OR STEEL STUDS. WOOD STUDS TO CONSIST OF NOM 2 BY 4" LUMBER SPACED MAX 16" O.C. STEEL STUDS TO BE MIN 3 1/2" WIDE AND SPACED MAX 24" O.C.
   - B. GYPSUM BOARD* - ONE LAYER OF MIN 5/8" THICK WALL BOARD AS REQUIRED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX. DIAMETER OF OPENING IS 7".

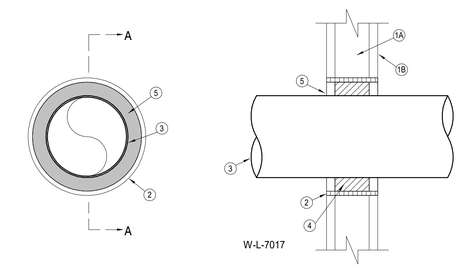
2. STEEL VENT DUCT - NOM 6" DIAMETER (OR SMALLER) NO. 28 GAUGE (OR HEAVIER) GALVANIZED STEEL DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY WITHIN THE FIRESTOP SYSTEM. AN ANNULAR SPACE OF MIN. 0" (POINT CONTACT) TO MAX. 1" IS REQUIRED WITHIN THE FIRESTOP SYSTEM. DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

3. FILL, VOID OR CAVITY MATERIAL* - CAULK OR SEALANT - MIN. 5/8" THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL ASSEMBLY. AT THE POINT CONTACT LOCATION BETWEEN DUCT AND WALLBOARD, A MIN. 1/2" DIAMETER BEAD OF SEALANT SHALL BE APPLIED AT THE WALLBOARD/DUCT INTERFACE ON BOTH SURFACES OF WALL ASSEMBLY.

   3M COMPANY - CP 25WB+CAULK OR FB-3000 WT SEALANT

   * BEARING THE UL CLASSIFICATION MARKING.

FIRE STOP SYSTEM W-L-7032 DETAIL



SECTION A-A

LEGEND:

1. WALL ASSEMBLY - THE FIRE-RATED GYPSUM WALLBOARD/STUD WALL ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL U300 OR U400 SERIES WALL AND PARTITION DESIGNS IN THE UL FIRE RESISTANCE DIRECTORY AND SHALL INCLUDE THE FOLLOWING CONSTRUCTION FEATURES:
   - A. STUDS - WALL FRAMING MAY CONSIST OF EITHER WOOD STUDS OR STEEL CHANNEL STUDS. WOOD STUDS TO CONSIST OF NOM 2" BY 4" LUMBER SPACED 16" O.C. STEEL STUDS TO BE MIN. 2 1/2" WIDE AND SPACED MAX. 24" O.C.
   - B. GYPSUM BOARD* - ONE LAYER OF NOM 5/8" THICK GYPSUM WALLBOARD, AS SPECIFIED IN THE INDIVIDUAL WALL AND PARTITION DESIGN. MAX. DIAMETER OF OPENING IS 8 5/8"

2. METALLIC SLEEVE - NOM 8" DIAMETER (OR SMALLER) SCHEDULE 40 (OR HEAVIER) STEEL SLEEVE CAST INTO WALL ASSEMBLY WITH JOINT COMPOUND AND INSTALLED FLUSH WITH WALL SURFACES.

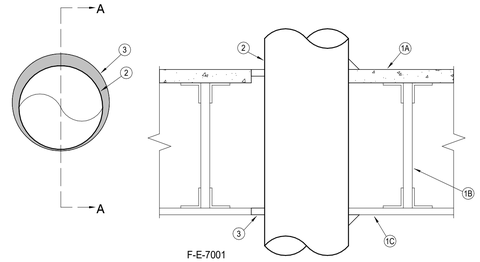
3. AIR DUCT - NOM 6" DIAMETER (OR SMALLER) PREFABRICATED NO. 28 MSG GALVANIZED SHEET METAL DUCT. A MIN. 1/2" TO MAX. 1 1/2" ANNULAR SPACE IS REQUIRED WITHIN THE FIRESTOP SYSTEM. DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF WALL ASSEMBLY.

4. FORMING MATERIAL* - FOAMED PLASTIC FORMING MATERIAL FOAMED INTO OPENING AS A PERMANENT FORM. FORMING MATERIAL TO BE RECESSED FROM BOTH SURFACES OF WALL AS REQUIRED TO ACCOMMODATE THE REQUIRED THICKNESS OF FILL MATERIAL. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - CF810, CF812 OR CF511 FOAM SEALANT

5. FILL, VOID OR CAVITY MATERIAL* - MIN. 5/8" THICKNESS OF FILL MATERIAL APPLIED WITHIN ANNULUS, FLUSH WITH BOTH SURFACES OF WALL. HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC - FS-ONE SEALANT

   *BEARING THE UL CLASSIFICATION MARK

FIRE STOP SYSTEM W-L-7017 DETAIL



SECTION A-A

LEGEND:

1. FLOOR-CEILING ASSEMBLY - THE 1HR FIRE RATED CONCRETE AND STEEL JOIST FLOOR-CEILING ASSEMBLY SHALL BE CONSTRUCTED OF THE MATERIALS AND IN THE MANNER DESCRIBED IN THE INDIVIDUAL G500 SERIES DESIGN IN THE UL FIRE RESISTANCE DIRECTORY, AS SUMMARIZED BELOW:
   - A. FLOORING - NORMAL OR LIGHTWEIGHT CONCRETE AS SPECIFIED IN THE INDIVIDUAL G500 SERIES DESIGN. MAX. DIAMETER OF OPENING IS 11" (279mm).
   - B. JOISTS - STEEL JOISTS OR STRUCTURAL STEEL MEMBERS* AS SPECIFIED IN THE INDIVIDUAL G500 SERIES DESIGN.
   - C. GYPSUM BOARD* - MIN. 5/8" (16mm) THICK, SCREW-ATTACHED TO FURRING CHANNELS AS SPECIFIED IN THE INDIVIDUAL G500 SERIES DESIGN. MAX. DIAMETER OF OPENING IS 11" (279mm).

2. STEEL VENT DUCT - NOM 4" (102mm) DIAMETER (0R SMALLER) NO. 30 GAUGE (OR HEAVIER) GALVANIZED STEEL VENT DUCT OR NOM 10" (254mm) DIAMETER (OR SMALLER) NO. 28 GAUGE (OR HEAVIER) GALVANIZED STEEL VENT DUCT. DIAMETER OF OPENINGS TO BE MAX. 1" (25mm) LARGER THAN OUTSIDE DIAMETER OF DUCT. DUCT TO BE INSTALLED EITHER CONCENTRICALLY OR ECCENTRICALLY IN OPENING. THE ANNULAR SPACE BETWEEN THE DUCT AND THE PERIPHERY OF OPENING SHALL BE MIN. 0" (POINT CONTACT) TO MAX. 1" (0 TO MAX 25mm). DUCT TO BE RIGIDLY SUPPORTED ON BOTH SIDES OF FLOOR-CEILING ASSEMBLY.

3. FILL, VOID OR CAVITY MATERIALS* - CAULK OR SEALANT - MIN. 3/4" (19mm) THICKNESS OF FILL MATERIAL APPLIED WITHIN THE ANNULUS, FLUSH WITH TOP SURFACE OF FLOOR. MIN. 5/8" (16mm) THICKNESS OF APPLIED WITHIN THE ANNULUS, FLUSH WITH BOTTOM SURFACE OF CEILING. AN ADDITIONAL MIN. 1/4" (6mm) BEAD OF FILL MATERIAL APPLIED AT THE DUCT/FLOOR INTERFACE AT POINT CONTACT LOCATION ON THE TOP SURFACE OF FLOOR AND AT THE DUCT/CEILING INTERFACE AT POINT CONTACT LOCATION ON THE LOWER SURFACE OF CEILING.

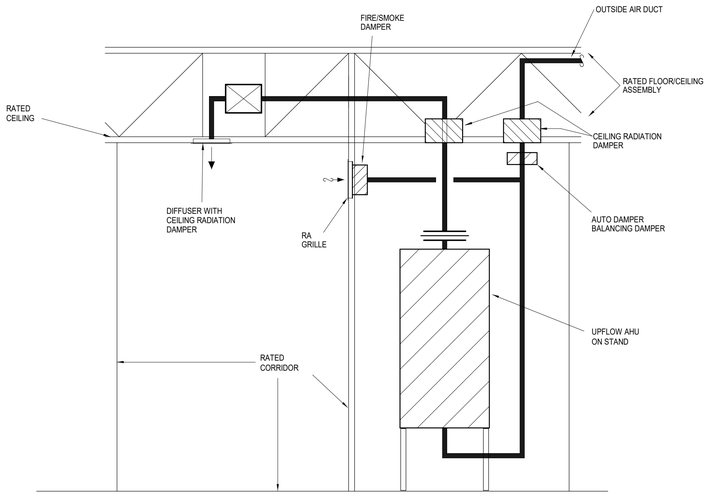
   3M COMPANY - CP 25WB+/C 15WB+CAULK OR FB-3000 WT SEALANT.

   * BEARING THE UL CLASSIFICATION MARKING.

FIRE STOP SYSTEM F-E-7001 DETAIL

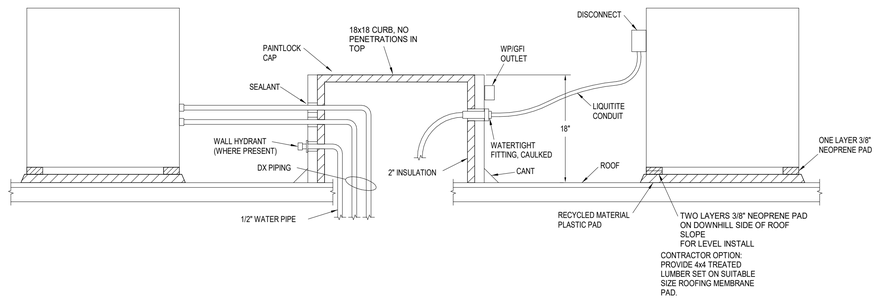
1 FIRE STOP SYSTEM DETAILS

NOT TO SCALE



2 CORRIDOR AHU DETAIL - WALL RETURN

NOT TO SCALE



NORTH

3 ROOF MOUNTED CONDENSING UNIT DETAIL

PLUMBING

1/8" = 1'-0"

NSPJ ARCHITECTS
ARCHITECTURE LANDSCAPE ARCHITECTURE ENERGY SERVICES
P. 913.831.1415
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NSPJARCH.COM

STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER

3-24-23

A NEW DEVELOPMENT:

RESIDENCES AT BLACKWELL

50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

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Latimer Sommers & Associates P.A.
CONSULTING ENGINEERS
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Email: lsapa@lsapa.com
LSA PROJECT NO. 2204073

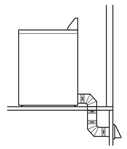
DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. MP1.02

PERMIT

TOP LOAD DRYER

Special provisions for mobile home installations:

The exhaust vent must be securely fastened to a noncombustible portion of the mobile home structure and must not terminate beneath the mobile home. Terminate the exhaust vent outside.



Determine vent path:

- Select route that will provide straightest and most direct path outdoors.
- Plan installation to use fewest number of elbows and turns.
- When using elbows or making turns, allow as much room as possible.
- Bend vent gradually to avoid kinking.
- Use as few 90° turns as possible.

Determine vent length and elbows needed for best drying performance:

- Use following "Vent System Chart" to determine type of vent material and hood combinations acceptable to use.

  NOTE: Do not use vent runs longer than those specified in "Vent System Chart." Exhaust systems longer than those specified will:

  - Shorten life of dryer.
  - Reduce performance, resulting in longer drying times and increased energy usage.

The "Vent System Chart" provides venting requirements that will help achieve best drying performance.

Vent System Chart

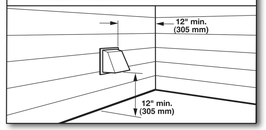
Number of 90° turns or elbows	Type of vent	Box/louvered hoods	Angled hoods
0	Rigid metal	64 ft. (20 m)	58 ft. (17.7 m)
1	Rigid metal	54 ft. (16.5 m)	48 ft. (14.6 m)
2	Rigid metal	44 ft. (13.4 m)	38 ft. (11.6 m)
3	Rigid metal	35 ft. (10.7 m)	29 ft. (8.8 m)
4	Rigid metal	27 ft. (8.2 m)	21 ft. (6.4 m)

Vent System Chart
(29" Wide Long Vent WED/WGD4870 and WED/WGD4975 Models Only)

Number of 90° turns or elbows	Type of vent	Box/louvered or angled hoods
0	Rigid metal	160 ft. (48.8 m)
1	Rigid metal	150 ft. (45.7 m)
2	Rigid metal	140 ft. (42.7 m)
3	Rigid metal	130 ft. (39.6 m)
4	Rigid metal	120 ft. (36.6 m)
5	Rigid metal	110 ft. (33.5 m)

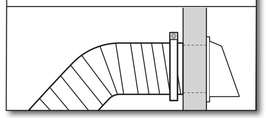
INSTALL VENT SYSTEM

1. Install exhaust hood

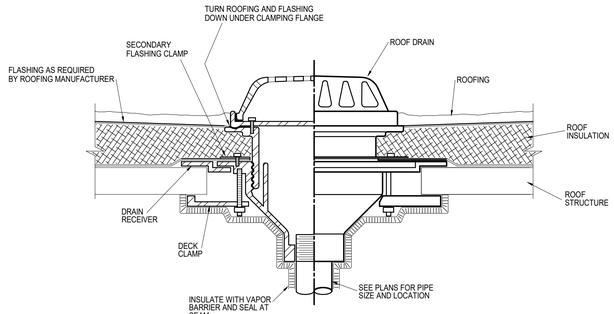


Install exhaust hood and use caulking compound to seal exterior wall opening around exhaust hood.

2. Connect vent to exhaust hood



Vent must fit over the exhaust hood. Secure vent to exhaust hood with 4" (102 mm) clamp. Run vent to dryer location using straightest path possible. Avoid 90° turns. Use clamps to seal all joints. Do not use duct tape, screws, or other fastening devices that extend into interior of vent to secure vent, because they can catch lint.



3 ROOF DRAIN DETAIL
NOT TO SCALE

PREFCO
JOHNSONTECH AIR CONTROL INC.

Ceiling Radiation Damper
3 Hour Rated
For Use in Static Systems
Models 5680 Submittal

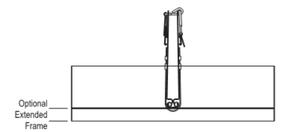
Filename: Prefco Submittal 5680 Rev 27/12/14

Application

The Model 5680 provides fire and heat radiation protection of HVAC penetrations in any floor/ceiling and roof/ceiling assemblies with restrained or unrestrained ratings of 3 hours or less. Standard fire dampers (1 1/2 & 3 hr.) do not provide the required protection.

Standard Construction

- **Frame**
  21 GA Galvanized Steel
- **Blades - Full Length Hinge**
  21 GA Galvanized Steel
- **Closure Springs**
  Stainless Steel
- **Fusible Link - UL-33**
  UL Listed 212F (standard) 165 F (optional)
  McCabe Link (optional)
- **Insulation (blade)**
  Ceramic Fiber



Standard Sizes (duct)	
Minimum	*4 1/2" x 4 1/2"*
Maximum	*24" wide or 30" long - 576 sq. in. total max.*

NOTES:

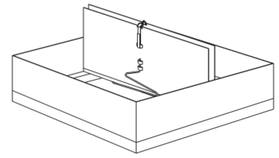
- Dampers are fabricated 3/16" under ordered diameter for clearance
- Approved for use in any UL Fire Resistance Directory Series Designs
- For 2 hour rating, refer to Model 5660

Model 5680 meets or complies with the following as a ceiling radiation damper.

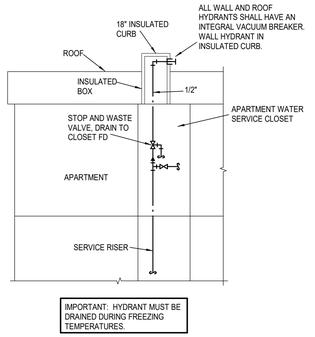
- **NFPA Standards**
- **All major building codes, including BOCA, ICBO/UBC, SBCCI & ICC International Code**

- UL 555C Listing 3 Hour - File #R7365
- CA State Fire Marshall - #3225-1518-103

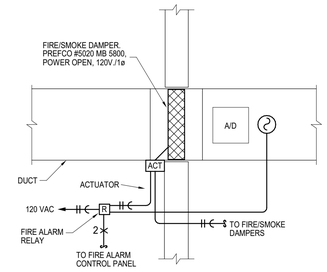
High Free Area Design
Optional Volume Control Device (5965)



A dim. is always width of blades



5 ROOF WATER HYDRANT DETAIL
NOT TO SCALE



1 FIRE/SMOKE DAMPER DETAIL
NOT TO SCALE

NSPJ ARCHITECTS PA
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LANDSCAPE ARCHITECTURE
ENERGY SERVICES
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Author
SHEET NO.
MP1.03

PLUMBING FIXTURE SCHEDULE

Mark	Item	Model	Description	Individual Connections				Accessories					
				W	V	CW	HW	Supplies	Stops	Carrier	P-Trap	Drain	Other
P-1, P-1P	Water Closet, Tank Type	Proflo #1201WH with PFTS2000wh	Floor-mounted standard height white vitreous china elongated bowl 1.6 gpf gravity type with Fluidmaster 400A flush mechanicsm and bolt covers. Provide solid plastic closed front elongated white seat with integral bumpers, external check hinges with stainless steel posts. Provide open front seat at public restrooms.	3" or 4"	2"	1/2"		2	1				3
P-1H, P-1HP	Accessible Water Closet, Tank Type	Proflo #1203WH with PFTS2000wh	Floor-mounted ADA height white vitreous china elongated bowl 1.6 gpf gravity type with Fluidmaster 400A flush mechanicsm and bolt covers. Provide solid plastic open front elongated white seat with integral bumpers, external check hinges with stainless steel posts. Provide open front seat at public restrooms.	3" or 4"	2"	1/2"		2	1				3
P-2	Lavatory, Undermount	Gerber 12-790 with Peerless P136-M	22" x 17" oval vitreous china undermount lavatory with overflow. Faucet is 4" o.c. single lever ADA handle, copper waterways, brushed nickel finish.	2"	1 1/2" or 2"	1/2"	1/2"	2	1		1	1	
P-2P	Accessible Lavatory, Countertop	Proflo #PF20174BS with Peerless #PFLL1011MBN	20" x 17" oval vitreous china countertop lavatory with overflow. Faucet is 4" o.c. single lever ADA handle, copper waterways, chrome finish.	2"	1 1/2" or 2"	1/2"	1/2"	2, 4	1		1, 2	1	1
P-3	Tub/Shower	Sterling # 71171110-0 Peerless #PTT88775	60" x 30" reinforced resin tub basin with slip-resistant bottom, turn and lock drain outlet. Pressure-balanced single lever handle valve, 2.2 gpm with large head, satin nickel showerhead, turn and lift drain fitting and diverter spout.	2"	2"	1/2"	1/2"					3	
P-3W	Tub/Shower	Sterling # 71101110-0 Peerless #PTT88775	60" x 36" reinforced resin tub basin with slip-resistant bottom, turn and lock drain outlet. Pressure-balanced single lever handle valve, 2.2 gpm with large head, satin nickel showerhead, turn and lift drain fitting and diverter spout.	2"	2"	1/2"	1/2"					3	
P-3S	60" Shower	Sterling # 721811X0 and Peerless #PTT88775	60" x 36" reinforced resin stall with slip-resistant bottom. Provide pressure balanced 2.2 gpm valve with large head, satin nickel, lever handle. See Arch for door.	2"	2"	1/2"	1/2"					3	
P-4	Kitchen Sink	PROFLO #PFSR332274 with Peerless #P18550LFSD	Stainless steel under-mount 20 ga.dual bowl 33" x 22" x 8" deep. Single handle faucet with pull-out sprayer. ISE Badger 1 disposer with cord/plug.	2"	2"	1/2"	1/2"	1	1		1	2	1
P-4S	Kitchen Sink - Small	PROFLO #PFUC307A with Peerless #P18550LFSD	Stainless steel under-mount 20 ga.dual bowl 24" x 20" x 9" deep. Single handle faucet with pull-out sprayer. ISE Badger 1 disposer with cord/plug.	2"	2"	1/2"	1/2"	1	1		1	2	1
P-4H	Accessible Kitchen Sink	Elkay #GECR3321 with Peerless #P18550LFSD	Stainless steel under-mount 20 ga.dual bowl 33" x 22" x 6" deep with back outlet. Single handle faucet with pull-out sprayer. ISE Badger 1 disposer with cord/plug. Install per ADA clearnaces.	2"	2"	1/2"	1/2"	1	1		1, 2	2	1
P-5	Washer Box	Guy Gray #WB200HATM	Recessed non-metallic with dual PVC/ABS 2" outlets, two angle quarter turn stops with built-in shock absorbers.	2"	2"	1/2"	1/2"	1			3		
P-6	Water Outlet Box	Guy Gray #MIB2haab	Recessed non-metallic with angle quarter turn stop.			1/2"		1					
P-7	Single Bowl Sink	Elkay #DLFR191810PD, with Peerless #P7948LF	Stainless steel under-mount 18 ga single bowl 19" x 18" x 10-1/8" deep with back outlet. Single handle faucet with pull-out sprayer. ISE Badger 1 disposer with cord/plug. Install per ADA clearnaces.	2"	2"	1/2"	1/2"	1	1		2	2	3
P-8	Janitor's Sink	Fiat #MSB-2424	24" x 24" x 10" white molded stone with stainless steel integral drain, chrome plated brass wall mounted faucet with VB, integral stops, adjustable wall brace, pail hook, 3/4" hose threaded spout and wall shileds.	2" or 3"	2"	1/2"	1/2"				2		2
P-9	Dog Wash	Flying Pig Grooming FP702, with FPTU-ACC and Striem Sidekick	6'-10"x 2'-6" Stainless steel dog wash with ADA cling on ramp.Discharge directly to floor drain.With Striem Sidekick solids interceptor.	2"	2"	1/2"	1/2"	2		1	1	1	

Supplies
1 - Flexible braided stainless steel
2 - Flexible braided compression hose.
3 - Sloan Royal 186 1.0 gpf diaphragm type.
4 - Provide tempering valve below sink set at 110 deg
5 -5 Sloan #8111 1.6 gpf diaphragm type sensor-activated flush valve.

Stops
1 - Angle handle compression

Carrier
1 - Steel tube floor-mounted in-wall carrier with arms
2 - Cast iron floor mount adjustable carrier for water closet

P-Trap
1 - PVC with deep escutcheon
2 - Protective trap/supply covers
3 - deep seal PVC trap and 30" standpipe.

Drain
1 - Metal pop-up with tailpiece
2 - Basket strainers in finish to match faucet, tailpiece.
3 - Chrome drain cover.

Other
1 - Provide trap and supply guard if exposed.
2 - Hose and bracket, mop hanger and hose rack.
3 - Open front seat in public restrooms
4 - Provide Watts Tempering valve, max 110 Deg. F.

HVAC SYSTEM SCHEDULE

			AHU											OUTDOOR UNIT						
MARK	MFGR	NOM TON	MODEL	CFM	OA CFM	E.S.P.	HP	SMBH	TMBH	HEAT CAP	ELEC	FLA	OCP	MFGR	MODEL	ELEC	FLA	OCP	SEER	NOTES
APARTMENTS																				
GS, S UNITS	GOODMAN	1 1/2	AWST1905	550		0.5	0.2	12.4	17.4	3.7 KW	208/1	20	30	GOODMAN	GSX14018	208/1	14	20	14.0	
A UNITS	GOODMAN	2	AWST2408	750		0.5	0.2	17.2	22.8	5.6 KW	208/1	31	40	GOODMAN	GSX14024	208/1	14	25	14.0	
B AND C UNITS	GOODMAN	2 1/2	AWST3010	950		0.5	0.33	21	28.8	7.5 KW	208/1	39	50	GOODMAN	GSX14030	208/1	15	30	14.0	
COMMON AREAS																				
AHU - H1 THRU H6	GOODMAN	1 1/2	ARUF-24C14	600	80	0.5	0.2	12.4	17.4	5.6 KW	208/1	31	40	GOODMAN	GSX14018	208/1	15	30.0	14.0	
AHU - CL3	GOODMAN	2.5	ARUF31B14	1000-1100	130	0.4	0.33	21.0	28.2	7.2 KW	208/1	37	50	GOODMAN	GSX14030	13.8	25	14.0	14.0	
AHU - CL1, CL2, CL5	GOODMAN	4	ARUF47D14	1400-1600	250	0.4	0.5	32	45	10.8 KW	208/1	55	70	GOODMAN	GSX14048	21.2	45	14.0	14.0	
AHU - CL4	GOODMAN	5	ARUF61D14	1750-1980	250	0.4	0.75	40	57	14.4 KW	208/1	73	90	GOODMAN	GSX14-060	208/1	26.3	50	14.0	
DSS STAIR	FUJITSU	2	ASU24RLF	700	0	0			22	25 MBH	208/1	W/HP		FUJITSU	AOU24RXLFW1	208-240/1	15.5	25	19	WALL STAT, LOW AMB

COOLING EAT = 80/67/95
PROVIDE EACH UNIT WITH FILTER AND RACK, SINGLE POINT BREAKER, T'STAT. SEE SPECS.
UNLESS OTHERWISE SHOWN, TSTAT IS INSTALLED BEHIND RETURN AIR GRILL.

DRAIN SCHEDULE

MARK	APPLICATION	MFGR	MODEL	BODY MAT'L	DEPTH	GRATE MAT'L	GRATE SHAPE	ACCESSORIES
APT FD	FLOOR	SIOUX CHIEF	842	ABS/PVC	3"	PVC	6" SQUARE	
APT FD	FLOOR - WOOD	SIOUX CHIEF	822	ABS/PVC	3"	PVC	6" SQUARE	2
FD-1	FLOOR	ZURN	ZN-415S	COATED CAST IRON	3"	NICKEL BRONZE	6" SQUARE	1, 2
FD-2	FLOOR	ZURN	Z-611-S	COATED CAST IRON	6"	COATED CAST IRON	9" SQUARE	1, 2, 3, 4

NOTES:
1 - DEEP TRAP, ADJUSTABLE GRATE
2 - USE WIDE FLANGE MODEL WHERE IN WOOD DECK FLOOR
3 - INTERNAL STRAINER
4 - WITH TRAP GUARD

EXHAUST FAN SCHEDULE

MARK	MFGR	MODEL	CFM	ESP	FAN HP	ELECTRICAL				CONFIGURATION - NOTES
						VOLTS/ PH	FLA	OCP	WIRING	
APT EF	BROAN	LP50100DC	80	0.1	Fr.	120/1	1	15	(3) #12	WALL 1, 2
CL2, CL3, CL4, CL7, CL8	GREENHECK	SP-A110	75	0.25	Fr.	120/1	1	15	(3) #12	ceiling, 1, 2
CL5, CL9	GREENHECK	SP-A190	150	0.25	Fr.	120/1	1	15	(3) #12	ceiling, 1, 2
CL6	GREENHECK	SP-A200	210	0.25	Fr.	120/1	1	15	(3) #12	ceiling, 1, 2
CL1	GREENHECK	SP-A390	300	0.25	Fr.	120/1	3	15	(3) #12	ceiling 1, 2

NOTES: 1-CEILING GRILLE
2-BD DAMPER, DS, SPEED CONTROLLER, WALL/ROOF CAP

AIR TERMINAL DEVICE SCHEDULE

MARK	MANUFACTURER	MODEL	FINISH	DAMPER	FRAME TYPE	NOTES
A	AIR MATE	A140, A190	WHITE	YES	GYP BD	WITH CRD
B	AIR MATE	170	WHITE	NO	GYP BD	
C	AIR MATE	240 VO	WHITE	YES	GYP BD	
D	PRICE	620DAL/N/L/A/B12	WHITE	YES	GYP BD	WITH CRD
E	PRICE	635DAL/N/L/A/B12	WHITE	YES	GYP BD	
E1	PRICE	635/L/A/B12	WHITE	YES	GYP BD	WITH CRD

WATER HEATER SCHEDULE

MARK	MFGR	MODEL	FUEL	VOLTAGE/PH/ AMPS	INPUT	EFFICIENCY/ PF	GALLONS STORAGE	GPH RECOVERY @ 80° RISE	FLUE TYPE	NOTES
CL1, CL2	A.O. SMITH	ENL-40	ELEC	208/1/22	4.5 KW	0.95	38	23	N/A	1, 2, 3
1/1	A.O. SMITH	EJC-10	ELEC	120/1/13	1.6 KW	N/A	9	8	N/A	1
TYP APT	A.O. SMITH	ENL-40	ELEC	208/1/22	4.5 KW	0.95	38	23	N/A	1, 2

NOTES
1- PROVIDE ASME P&T VALVE
2- PROVIDE EXPANSION TANK
3- PROVIDE ANODE RODS, DRAIN VALVE

ELECTRIC UNIT HEATER SCHEDULE

MARK	MFGR	MODEL	KW	MBH	CFM	ELECTRICAL				CONFIGURATION - NOTES
						VOLTS/ PH	FLA	OCP	WIRING	
EUH - A	BERKO	FRC-4024F	3.0	10.2	100	240-1	14.4	20	(3) #12	WALL, 2, 4, 5
EUH-B	BERKO	HUHAA-320	3.0	10.2	100	240-1	14.4	20	(3) #12	WALL, 2, 4, 5

NOTES: 1-SURFACE MOUNTING SLEEVE/BOX
2-SEMI-RECESSED
3-FULLY RECESSED
4-DISCONNECT
5-INTEGRAL T'STAT

NSPJ ARCHITECTS
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DRAWN BY: Author
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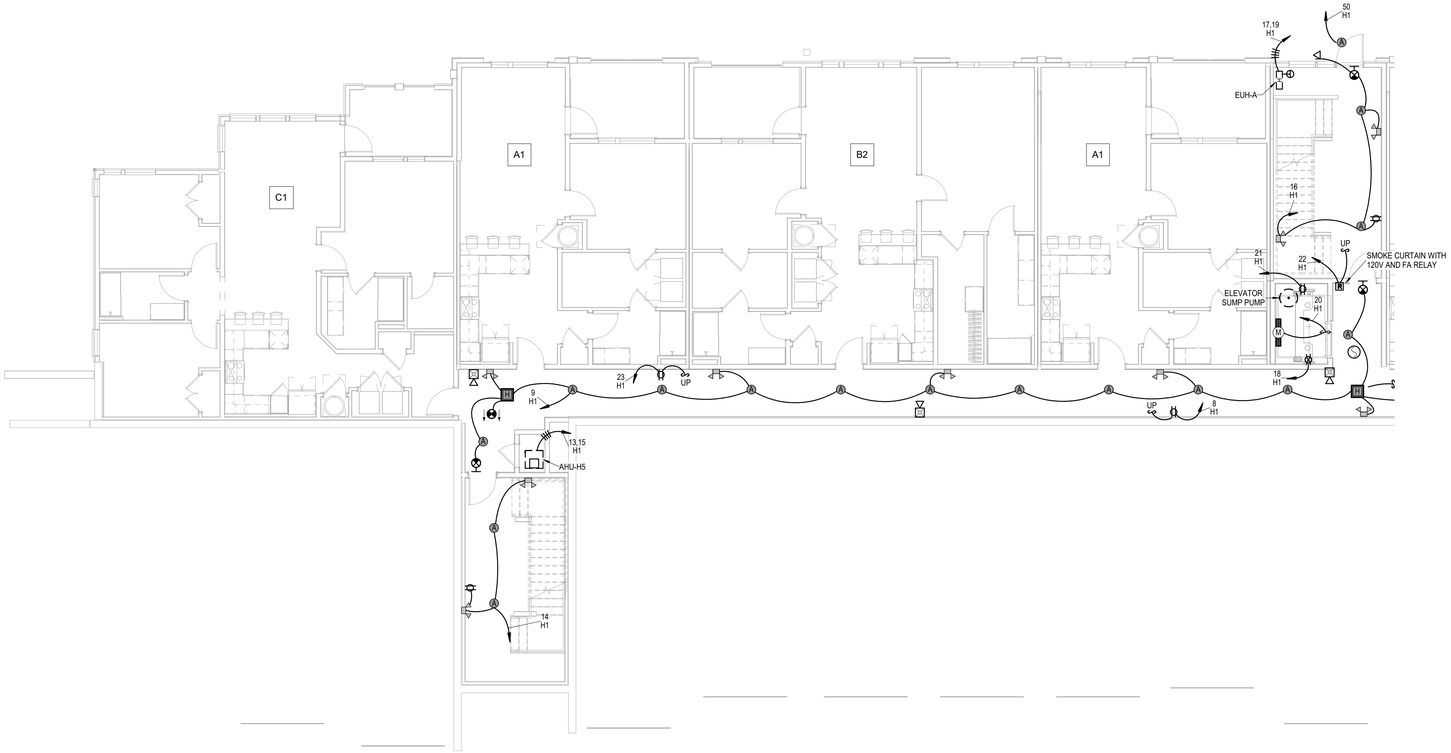
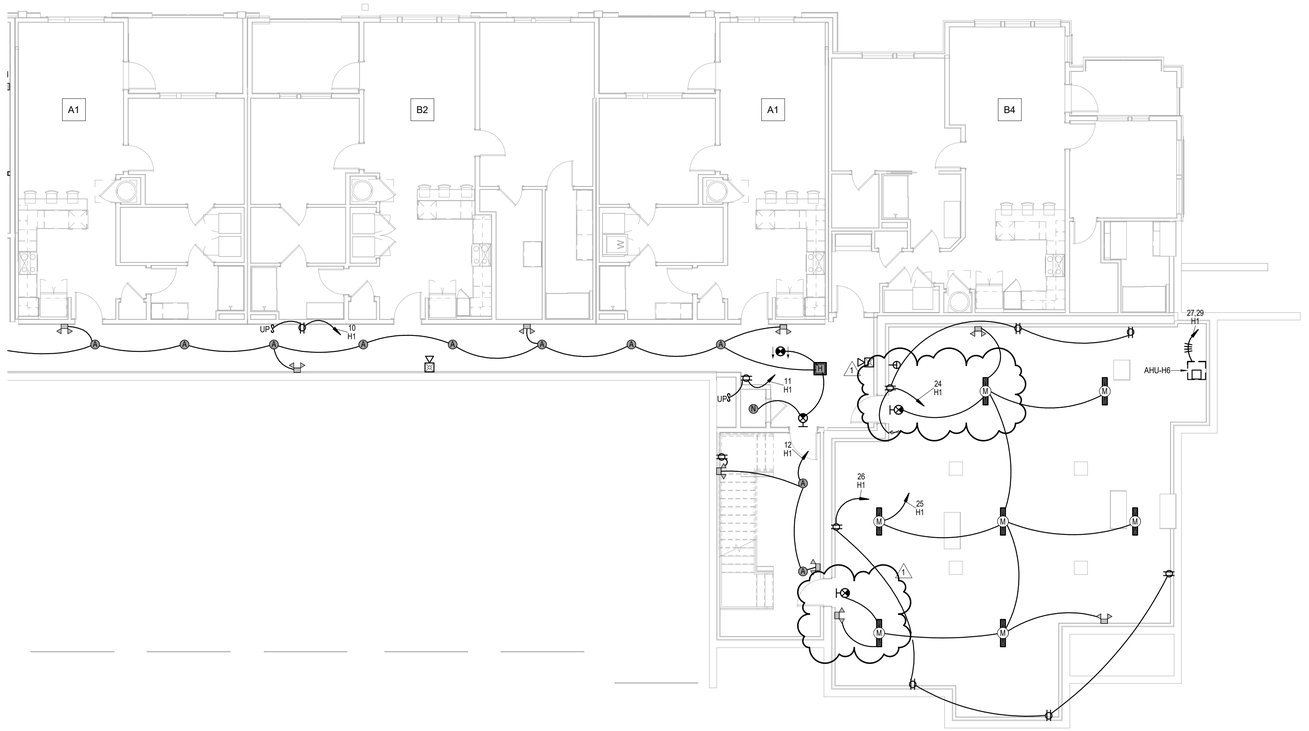


1 LOWER LEVEL BUILDING PLAN - A

ELECTRICAL

1/8" = 1'-0"



2 LOWER LEVEL BUILDING PLAN - B

ELECTRICAL

1/8" = 1'-0"

NOTES:

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2. SEE FIRE SUPPRESSION SUBMITTALS AND INCORPORATE ALL DEVICES INTO FIRE ALARM.
3. REVIEW HVAC PLANS FOR FIRE/SMOKE DAMPERS, SMOKE DETECTORS AND OTHER ITEMS NEEDING FIRE ALARM CONNECTION.
4. EXIT LIGHTS SHALL BE VISIBLE TO OCCUPANTS.
5. PROVIDE NEC CLEARANCES FOR ALL PANELS AND ELECTRICAL EQUIPMENT.
6. FOLLOW THE DRAWINGS FOR HOME RUNS AND CIRCUIT NUMBERS. DO NOT COMBINE CIRCUITS IN LARGER CONDUITS UNLESS PRE-APPROVED BY THE ENGINEER.
7. LABEL ALL JUNCTION BOXES AS TO THE PANEL AND CIRCUIT NUMBER SERVED.
8. PANEL DIRECTORIES SHALL BE SPECIFIC TO THE ROOMS/EQUIPMENT SERVED.
9. SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS AND DETAILS. ALIGN FIRE ALARM AND SIMILAR DEVICES OVER SWITCHES VERTICALLY.

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER

4-28-2023

A NEW DEVELOPMENT:

RESIDENCES AT BLACKWELL

50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

1 4.28.2023 Addendum #2

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Latimer Sommers & Associates P.A.
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LSA PROJECT NO. 2204073

DATE: 3/24/2023

JOB NO. 696521

DRAWN BY: Author

SHEET NO. E1.10

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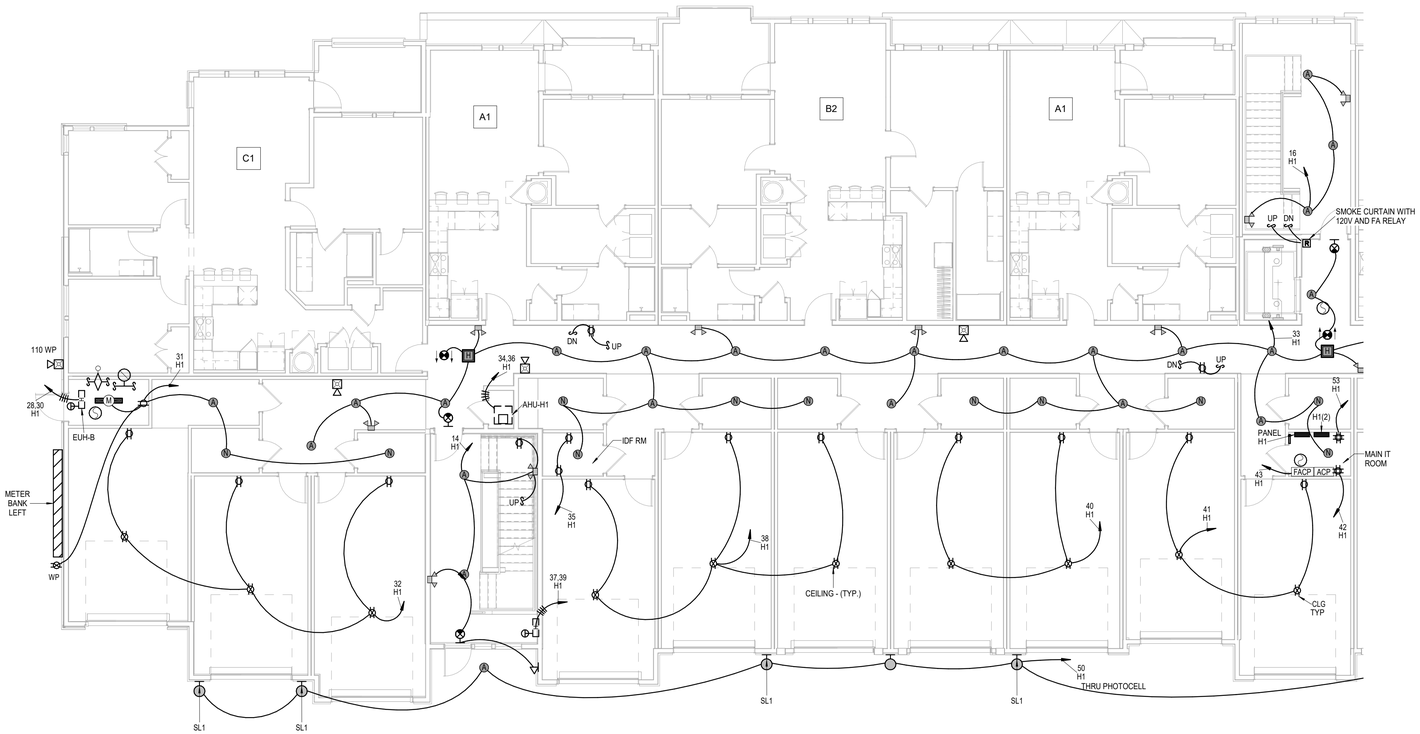
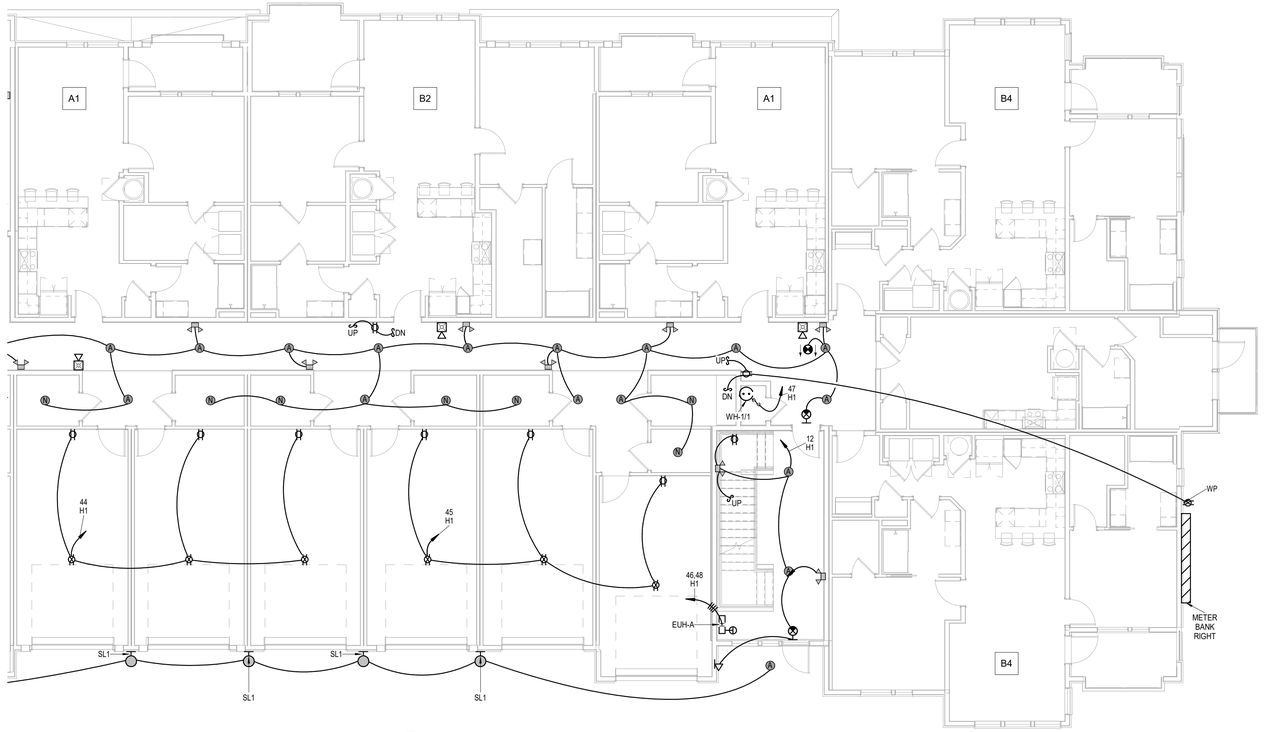


1 1ST FLOOR BUILDING PLAN - A

ELECTRICAL

1/8" = 1'-0"



2 1ST FLOOR BUILDING PLAN - B

ELECTRICAL

1/8" = 1'-0"

NOTES:

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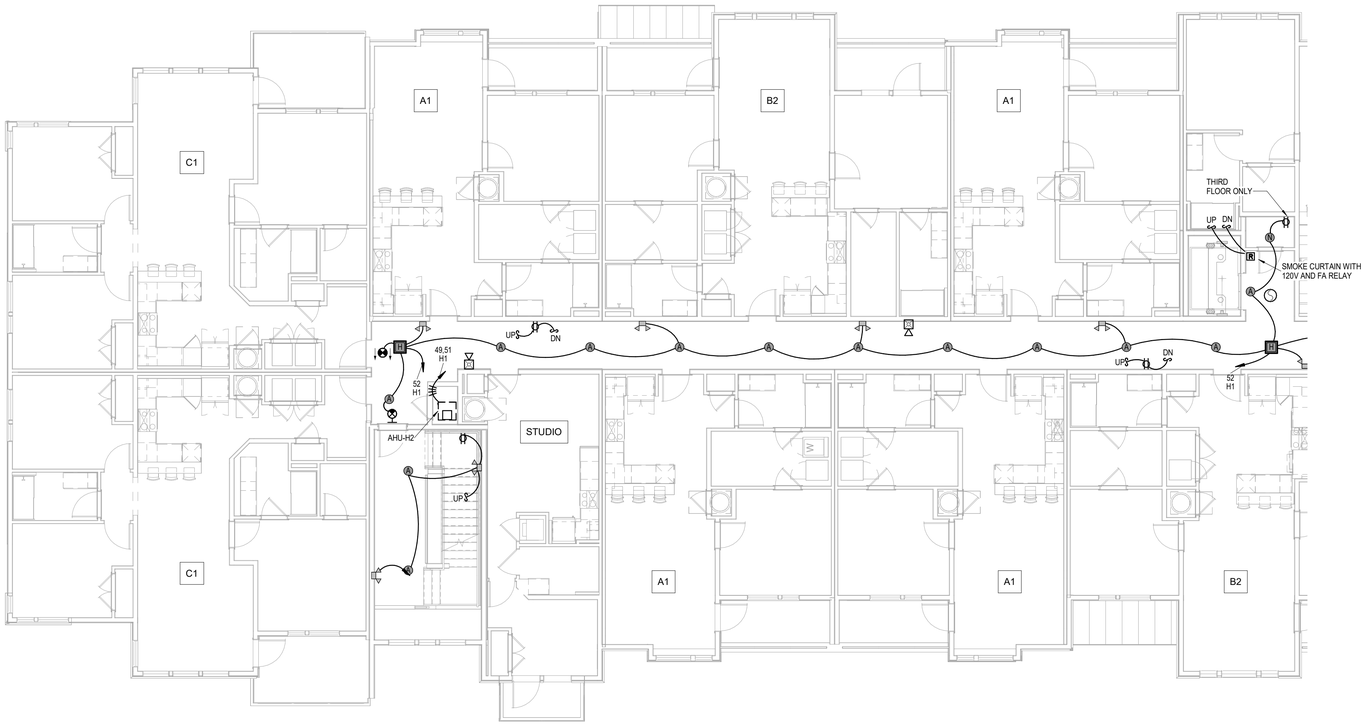
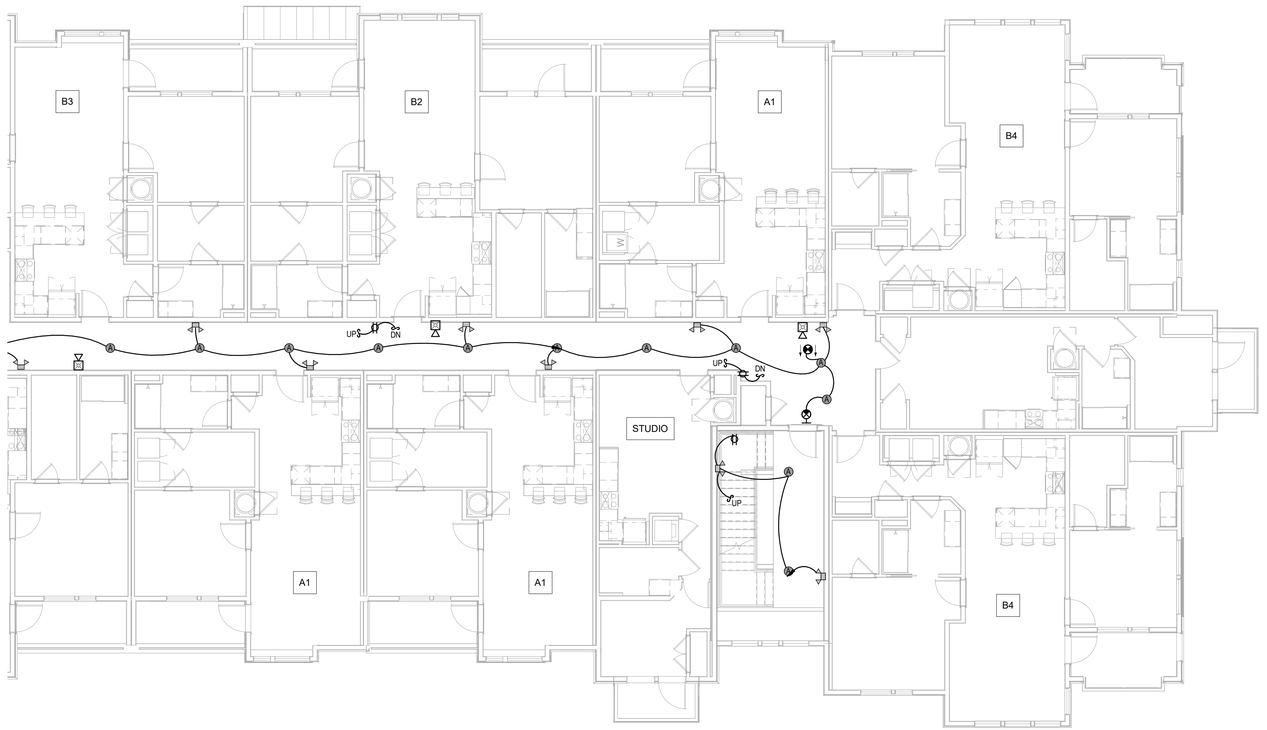


1 2ND FLOOR BUILDING PLAN - A

ELECTRICAL
1/8" = 1'-0"
THIRD FLOOR SIMILAR



2 2ND FLOOR BUILDING PLAN - B

ELECTRICAL
1/8" = 1'-0"
THIRD FLOOR SIMILAR

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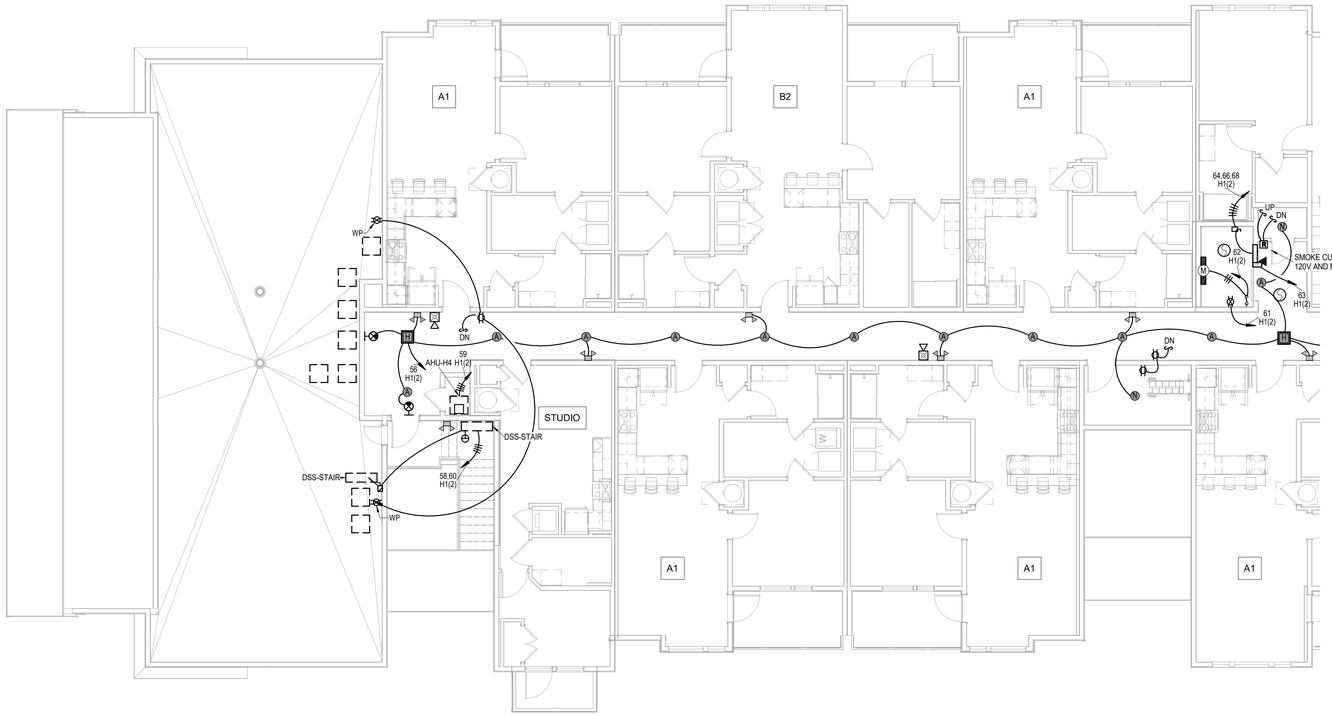
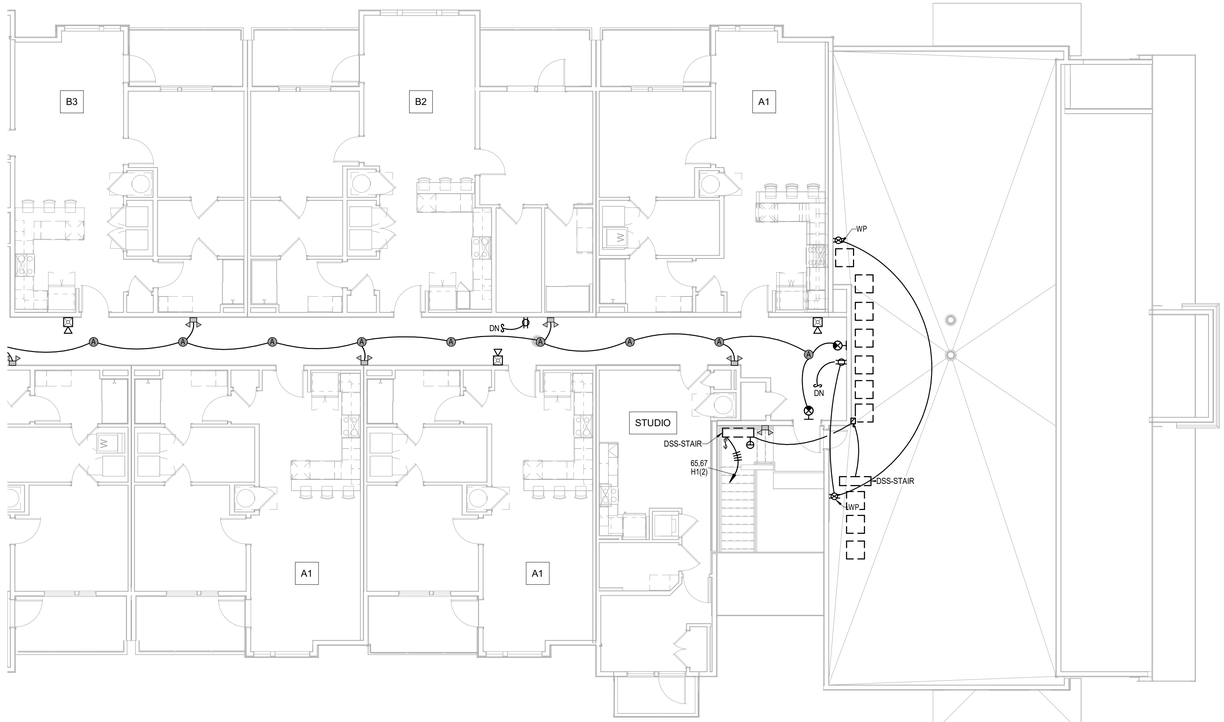


NORTH

1 4TH FLOOR BUILDING PLAN - A

ELECTRICAL

1/8" = 1'-0"



NORTH

2 4TH FLOOR BUILDING PLAN -B

ELECTRICAL

1/8" = 1'-0"

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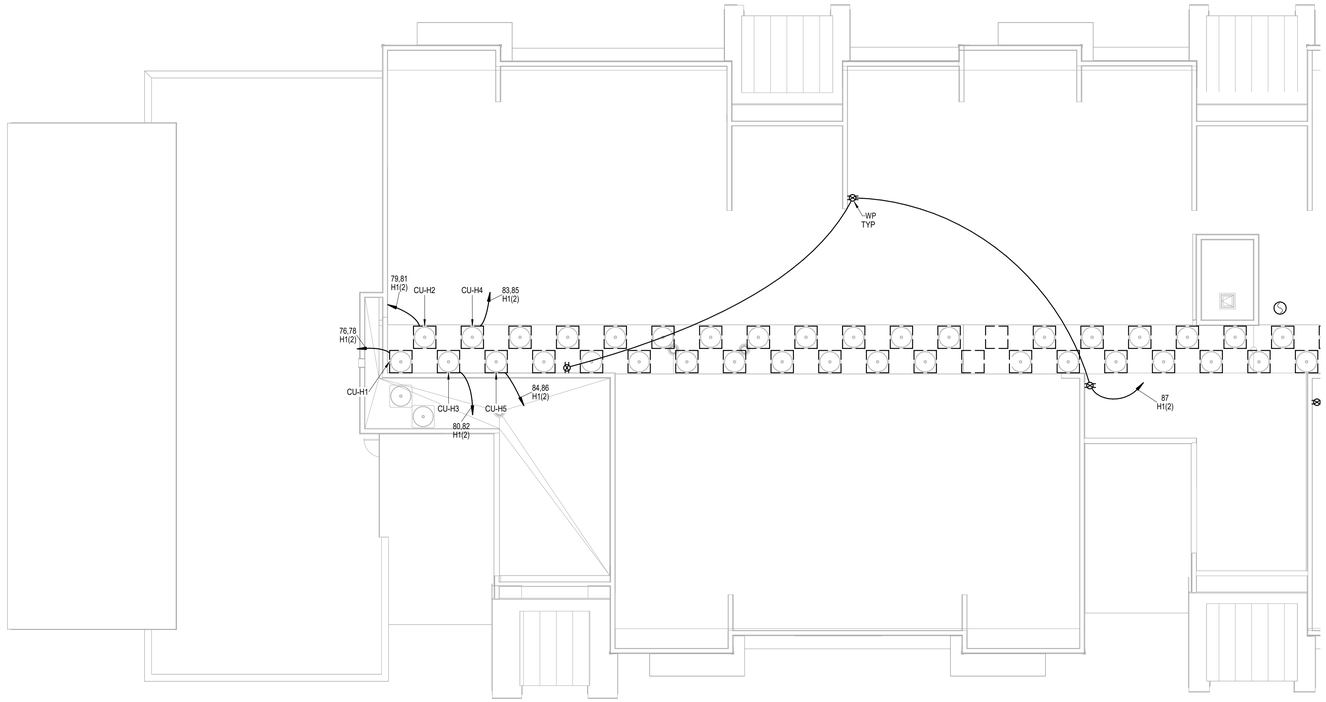
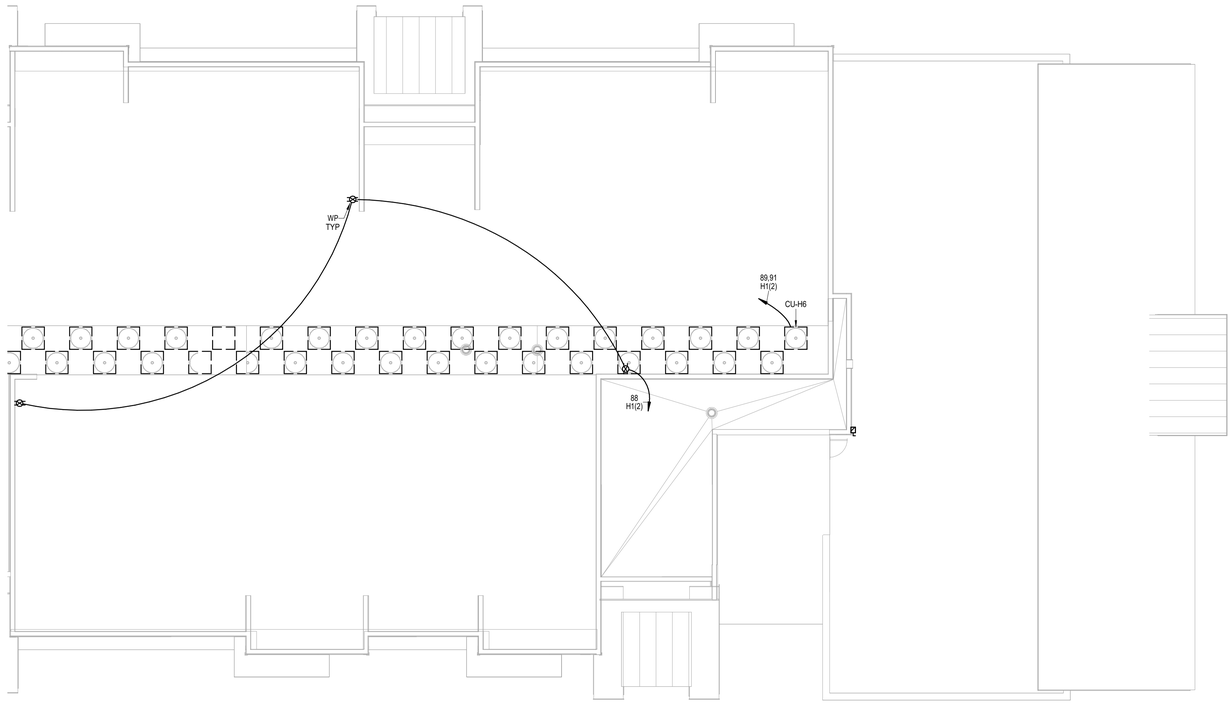


NORTH

1 ROOF PLAN - A
ELECTRICAL
1/8" = 1'-0"



NORTH

2 ROOF PLAN - B
ELECTRICAL
1/8" = 1'-0"

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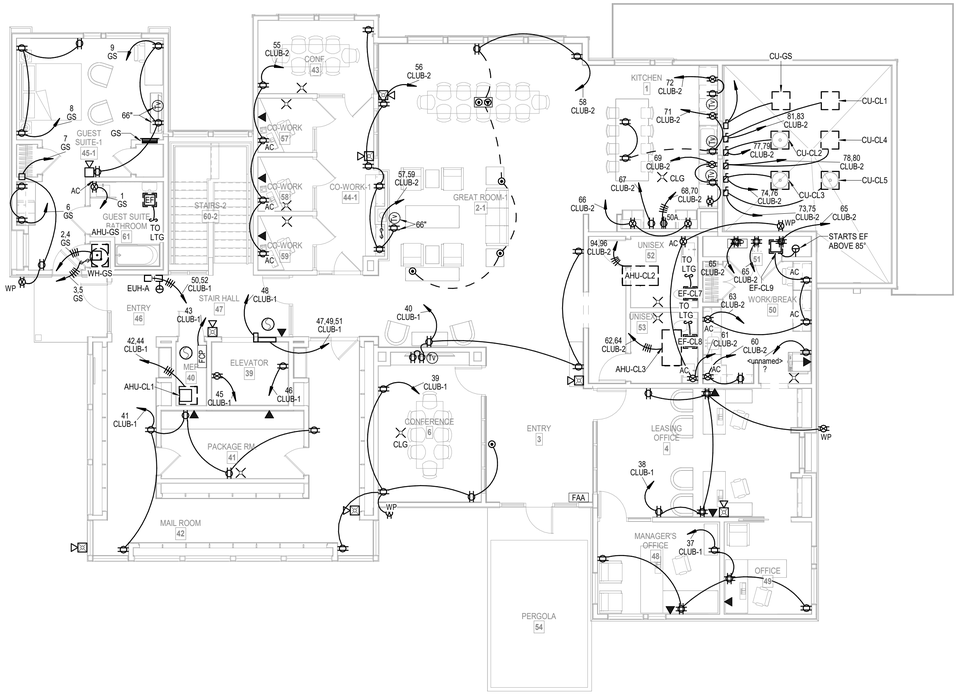
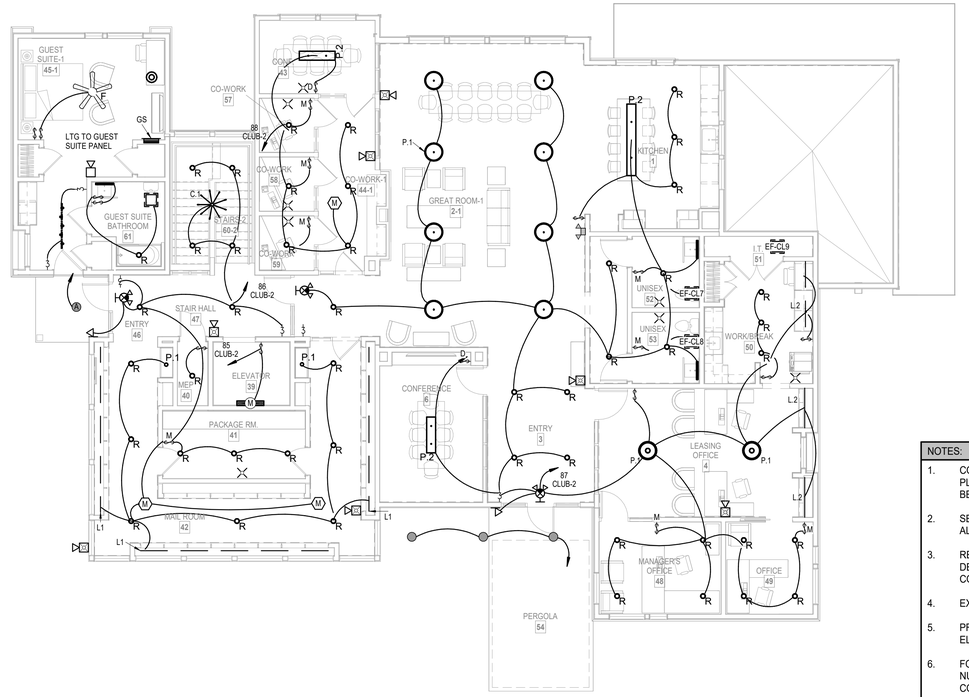
ARCH D 24" x 36"



1 1ST FLOOR CLUBHOUSE PLAN
POWER
1/8" = 1'-0"



3 1ST FLOOR CLUBHOUSE PLAN
LIGHTING
1/8" = 1'-0"

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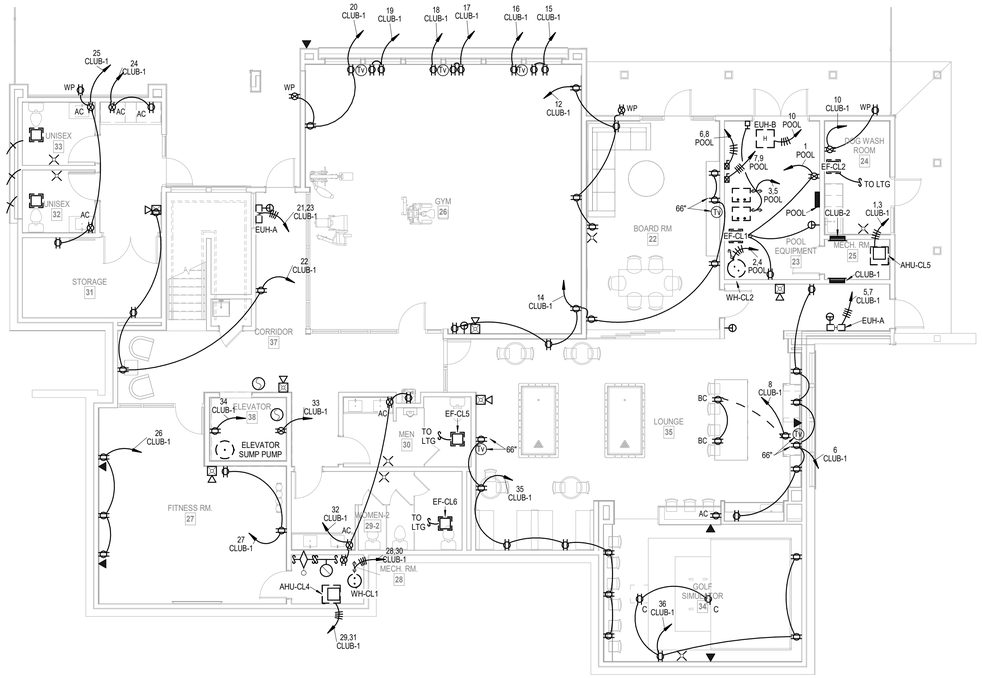
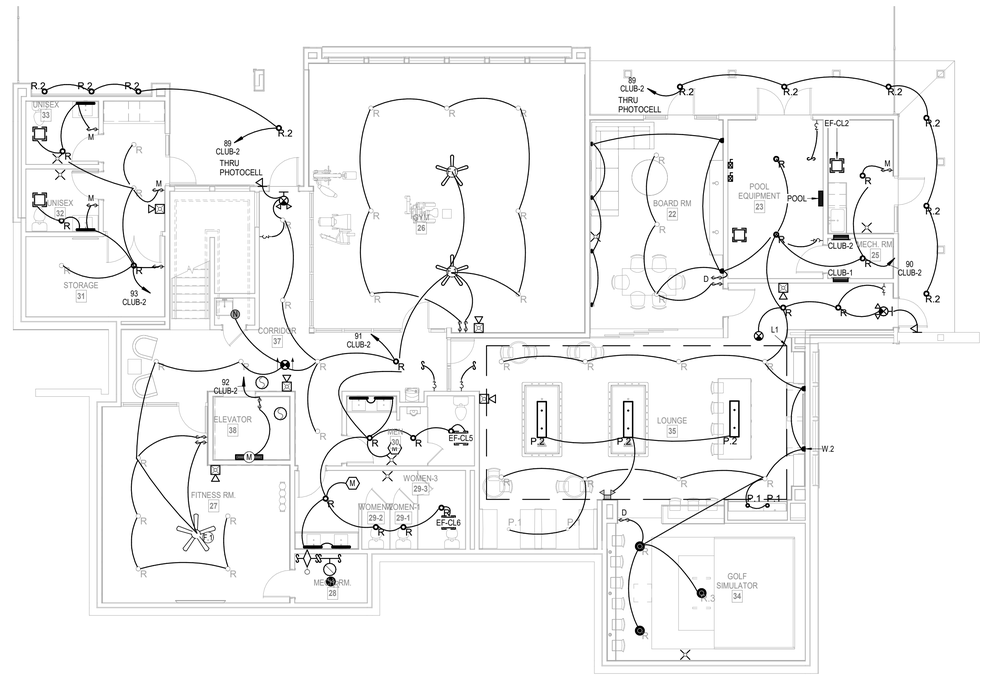


2 LOWER LEVEL CLUBHOUSE
POWER
1/8" = 1'-0"



4 LOWER LEVEL CLUBHOUSE
LIGHTING
1/8" = 1'-0"

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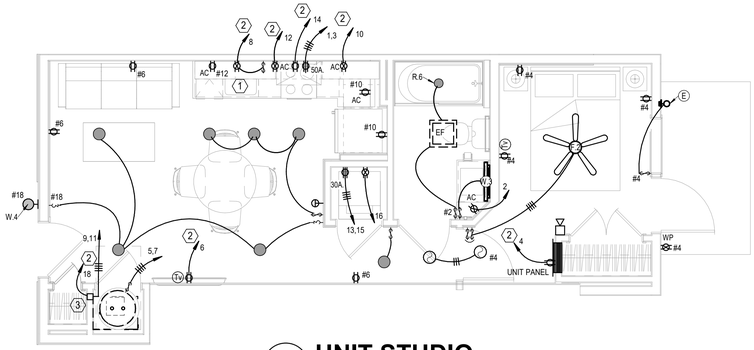
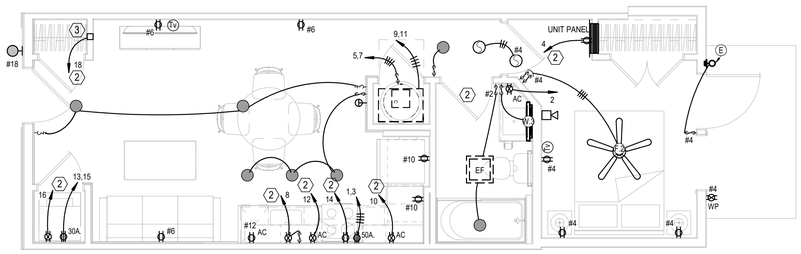
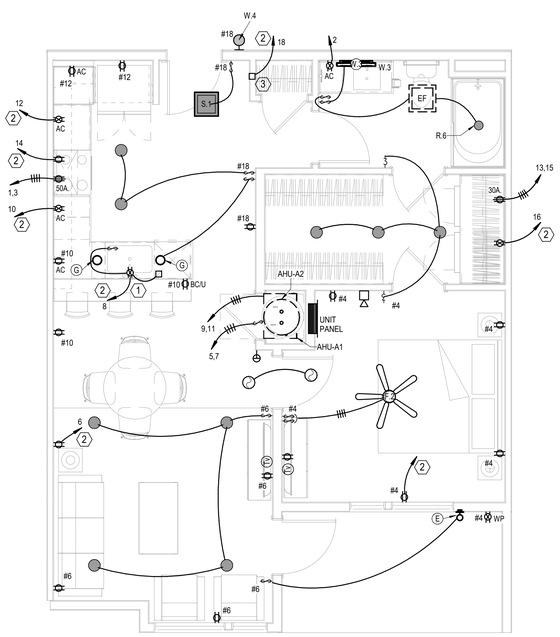


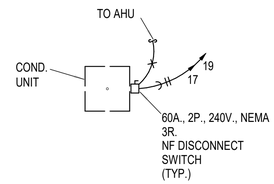
1 UNIT STUDIO
ELECTRICAL
1/4" = 1'-0"



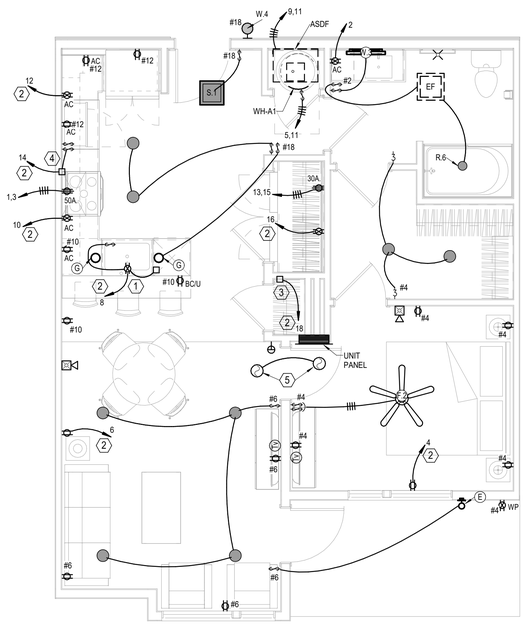
2 UNIT STUDIO ALT
ELECTRICAL
1/4" = 1'-0"



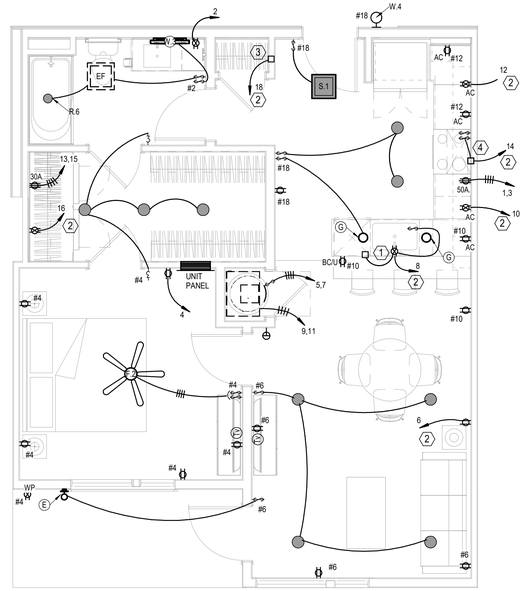
3 UNIT A1
ELECTRICAL
1/4" = 1'-0"



6 TYPICAL COND. UNIT DETAIL
NOT TO SCALE



4 UNIT A1 - TYPE A
ELECTRICAL
1/4" = 1'-0"



5 UNIT A1 - ALT
ELECTRICAL
1/4" = 1'-0"

NOTES:

1. HALLWAY ENTRY SCONCES ARE UNSWITCHED. MOUNT AT 84"AFF, VERIFY WITH ARCHITECT.
2. CEILING FAN SWITCHES PROVIDED WITH FAN. CONTROL LIGHT AND FAN SEPARATELY. INTENDED FOR SINGLE GANG BOX.
3. GENERALLY CENTER LIGHT 0N WINDOWS, DOOR, HALLWAYS, SINKS, OVER TUBS, ETC. VERIFY ALL LOCATIONS IN EACH UNIT DIMENSIONALLY WITH ARCHITECT, INTERIOR DESIGNER AND OWNER. MOUNT SWITCHES CLOSE TO DOORS OR WALL CORNERS.
4. THERMOSTATS HAVE LOW VOLTAGE WIRE BACK TO AHU. CONDENSING UNITS HAVE LOW VOLTAGE WIRE BACK TO AHU.
6. (2) = 120V. SM0KE ALARM WITH BATTERY BACK - UP AND AUXILIARY CONTACT SO ALL SOUND TOGETHER.
7. ALL ARC - FAULT CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH CEILING FANS, LED FIXTURES AND OTHER ELECTRONIC DEVICES.
8. PROVIDE PROTECTION AT ELECTRICAL BOXES AT RATED CEILING MEMBRANES PER IBC 712.4.1.2(2). BOXES TO BE LISTED FOR RATED MEMBRANES. NOT EXCEED 16 SQUARE INCHES, NOT COMBINE FOR MORE THAN 100 SQUARE INCHES IN 100 SQUARE FEET AND ANNULAR SPACE NOT EXCEED 1/8". PROVIDE 24" SEPARATION IN RATED WALLS BETWEEN BOXES UNLESS UL LISTED AS LESS.
9. FIRE ALARM HORN/STROBE CIRCUITS SHALL BE SIZED TO ACCEPT BEDROOM HORN/STROBES IN FUTURE INCLUDING WIRING AND PANEL CAPACITY.
10. ALL RANGES SERVED BY (3)#8 and (1)#10 AND 50A. RECEPTACLE.
11. ALL WATER HEATERS SERVED BY (3)#10. ALL DRYERS SERVED BY (4)#10 AND 30A. RECEPTACLE.
12. ALL WASHERS AND REFRIGERATORS HAVE RECEPTACLES AT 48". MW RECEPTACLES AT 66" (VERIFY).
13. SEE HVAC SCHEDULE AND SHOP DRAWINGS FOR AHU AND OUTDOOR UNIT CIRCUITS.
14. BELOW COUNTER RECEPTACLES AND PLATES SHALL MATCH THE BASE CABINETS WHERE THEY ARE MOUNTED (BROWN, WHITE, ETC.) VERIFY WITH ARCHITECT.
15. SEE ARCH PLANS FOR TYPE A UNIT LOCATIONS AND QUANITIY.
16. ALL UNIT CAN LIGHTS ARE TYPE R.1 UNLESS NOTED OTHERWISE.
17. SEE ARCH UNIT PLANS FOR DIMENSIONED REFLECTED CEILING PLANS.

LEGEND:

(1) SWITCHED RECEPTACLE FOR GARBAGE DISPOSER. CONTINUE CIRCUIT TO DISHWASHER.

(2) PROVIDE ARC-FAULT BREAKER IN PANEL.

(3) TELE/TV DEMARK FLUSH BOX WITH DUPLEX OUTLET. SEE DETAIL.

(4) SWITCHES FOR OVERHEAD MW FAN & LIGHT.

(5) SMOKE ALARM TO HAVE STROBES.

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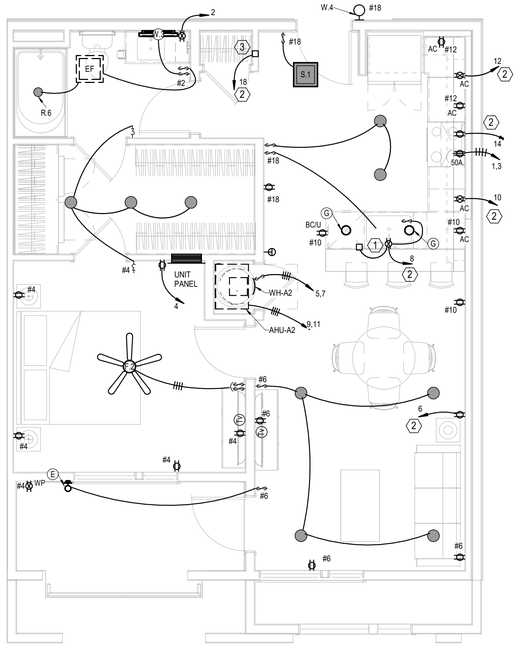
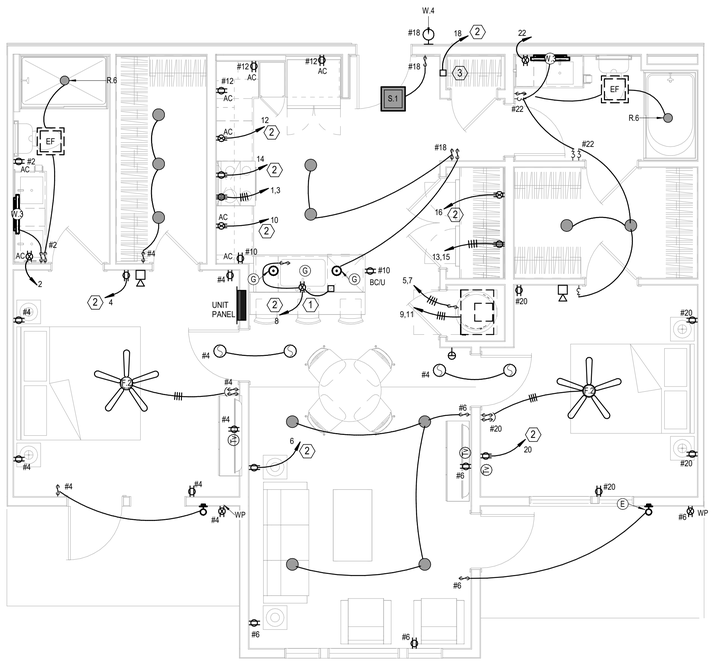
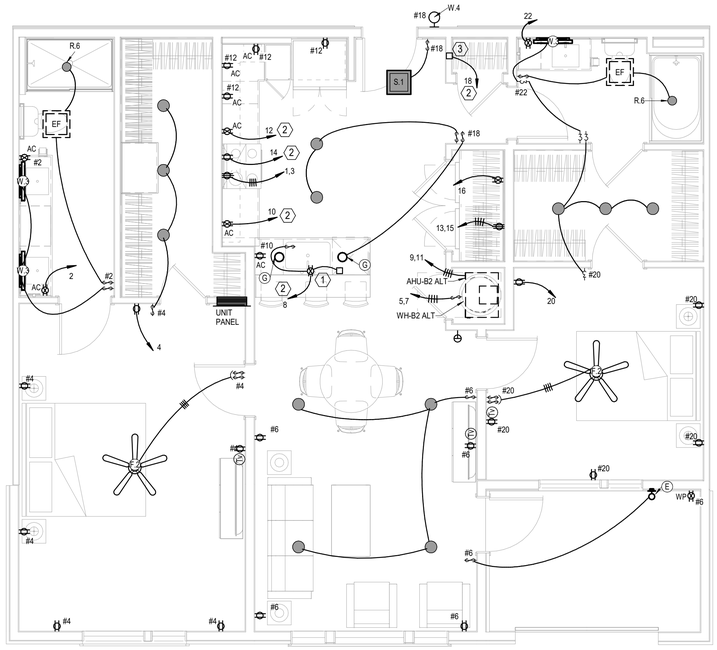


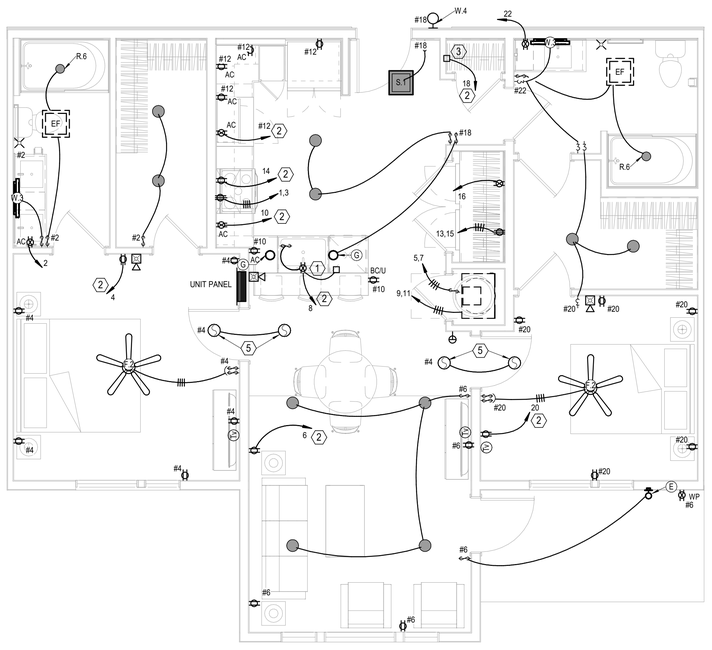
1 UNIT A2
ELECTRICAL
1/4" = 1'-0"



2 UNIT B2
ELECTRICAL
1/4" = 1'-0"



3 UNIT B2 - ALT 1&2
ELECTRICAL
1/4" = 1'-0"



4 UNIT B2 - TYPE A
ELECTRICAL
1/4" = 1'-0"

NOTES:

1. HALLWAY ENTRY SCONCES ARE UNSWITCHED. MOUNT AT 84"AFF, VERIFY WITH ARCHITECT.
2. CEILING FAN SWITCHES PROVIDED WITH FAN. CONTROL LIGHT AND FAN SEPARATELY. INTENDED FOR SINGLE GANG BOX.
3. GENERALLY CENTER LIGHT 0N WINDOWS, DOOR, HALLWAYS, SINKS, OVER TUBS, ETC. VERIFY ALL LOCATIONS IN EACH UNIT DIMENSIONALLY WITH ARCHITECT, INTERIOR DESIGNER AND OWNER. MOUNT SWITCHES CLOSE TO DOORS OR WALL CORNERS.
4. THERMOSTATS HAVE LOW VOLTAGE WIRE BACK TO AHU. CONDENSING UNITS HAVE LOW VOLTAGE WIRE BACK TO AHU.
6. (2) = 120V. SM0KE ALARM WITH BATTERY BACK - UP AND AUXILIARY CONTACT SO ALL SOUND TOGETHER.
7. ALL ARC - FAULT CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH CEILING FANS, LED FIXTURES AND OTHER ELECTRONIC DEVICES.
8. PROVIDE PROTECTION AT ELECTRICAL BOXES AT RATED CEILING MEMBRANES PER IBC 712.4.1.2(2). BOXES TO BE LISTED FOR RATED MEMBRANES, NOT EXCEED 16 SQUARE INCHES, NOT COMBINE FOR MORE THAN 100 SQUARE INCHES IN 100 SQUARE FEET AND ANNULAR SPACE NOT EXCEED 1/8". PROVIDE 24" SEPARATION IN RATED WALLS BETWEEN BOXES UNLESS UL LISTED AS LESS.
9. FIRE ALARM HORN/STROBE CIRCUITS SHALL BE SIZED TO ACCEPT BEDROOM HORN/STROBES IN FUTURE INCLUDING WIRING AND PANEL CAPACITY.
10. ALL RANGES SERVED BY (3)#8 and (1)#10 AND 50A. RECEPTACLE.
11. ALL WATER HEATERS SERVED BY (3)#10. ALL DRYERS SERVED BY (4)#10 AND 30A. RECEPTACLE.
12. ALL WASHERS AND REFRIGERATORS HAVE RECEPTACLES AT 48". MW RECEPTACLES AT 66" (VERIFY).
13. SEE HVAC SCHEDULE AND SHOP DRAWINGS FOR AHU AND OUTDOOR UNIT CIRCUITS.
14. BELOW COUNTER RECEPTACLES AND PLATES SHALL MATCH THE BASE CABINETS WHERE THEY ARE MOUNTED (BROWN, WHITE, ETC.) VERIFY WITH ARCHITECT.
15. SEE ARCH PLANS FOR TYPE A UNIT LOCATIONS AND QUANITIY.
16. ALL UNIT CAN LIGHTS ARE TYPE R.1 UNLESS NOTED OTHERWISE.
17. SEE ARCH UNIT PLANS FOR DIMENSIONED REFLECTED CEILING PLANS.

LEGEND:

(1) SWITCHED RECEPTACLE FOR GARBAGE DISPOSER. CONTINUE CIRCUIT TO DISHWASHER.

(2) PROVIDE ARC-FAULT BREAKER IN PANEL.

(3) TELE/TV DEMARK FLUSH BOX WITH DUPLEX OUTLET. SEE DETAIL.

(4) SWITCHES FOR OVERHEAD MW FAN & LIGHT.

(5) SMOKE ALARM TO HAVE STROBES.

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER
3-24-23

A NEW DEVELOPMENT:
RESIDENCES AT BLACKWELL
150 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

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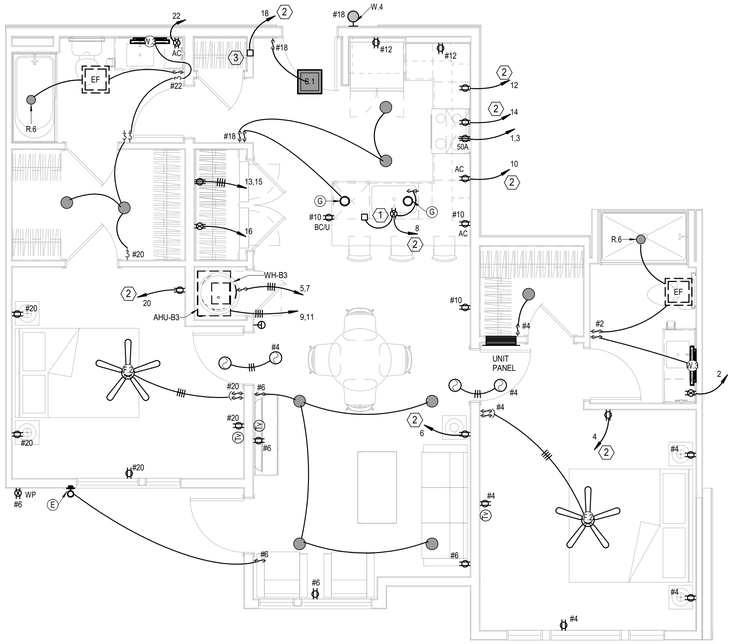
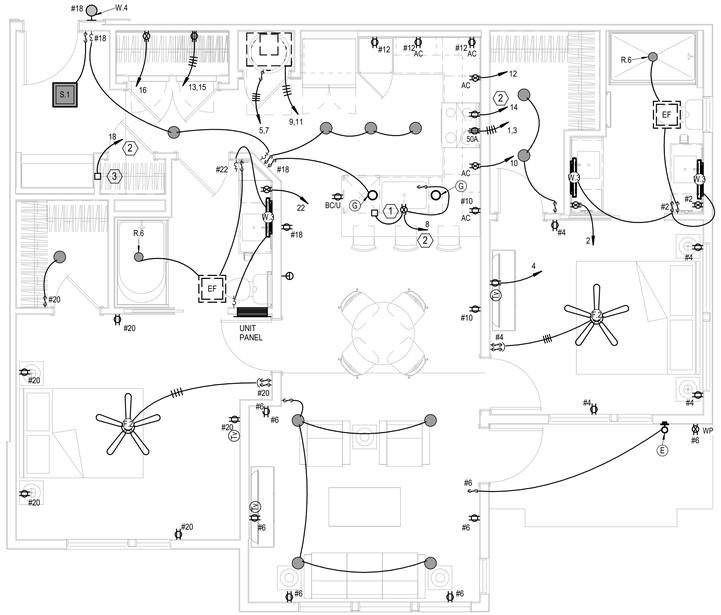
LSA PROJECT NO. 2204073

PERMIT

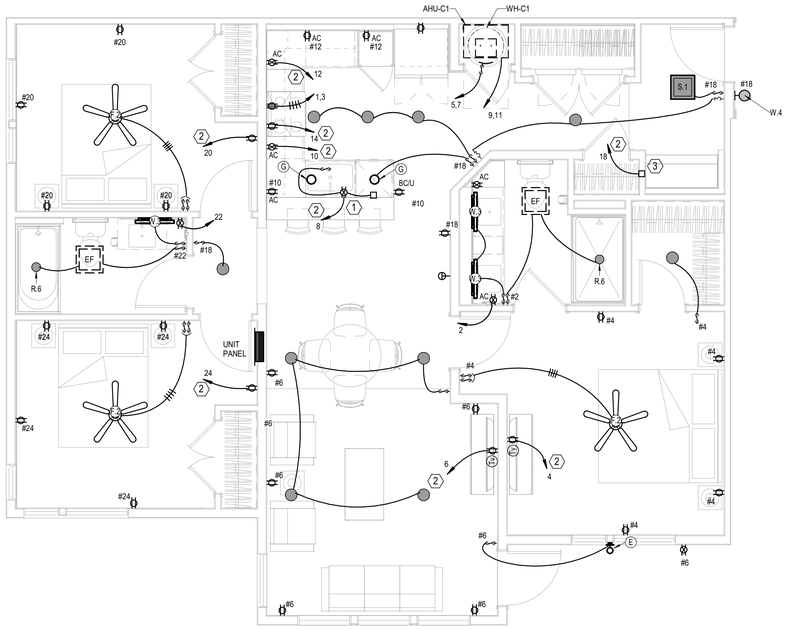
DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. **E2.11**



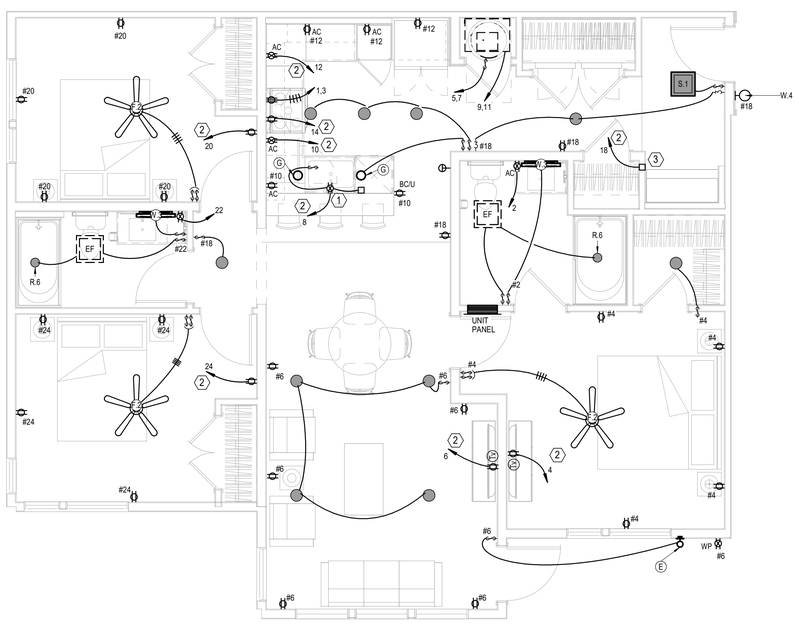
1 UNIT B3
ELECTRICAL
1/4" = 1'-0"



2 UNIT B4
ELECTRICAL
1/4" = 1'-0"



3 UNIT C1
ELECTRICAL
1/4" = 1'-0"



4 UNIT C1 - TYPE A
ELECTRICAL
1/4" = 1'-0"

NOTES:

1. HALLWAY ENTRY SCONCES ARE UNSWITCHED. MOUNT AT 84"AFF, VERIFY WITH ARCHITECT.
2. CEILING FAN SWITCHES PROVIDED WITH FAN. CONTROL LIGHT AND FAN SEPARATELY. INTENDED FOR SINGLE GANG BOX.
3. GENERALLY CENTER LIGHT 0N WINDOWS, DOOR, HALLWAYS, SINKS, OVER TUBS, ETC. VERIFY ALL LOCATIONS IN EACH UNIT DIMENSIONALLY WITH ARCHITECT, INTERIOR DESIGNER AND OWNER. MOUNT SWITCHES CLOSE TO DOORS OR WALL CORNERS.
4. THERMOSTATS HAVE LOW VOLTAGE WIRE BACK TO AHU. CONDENSING UNITS HAVE LOW VOLTAGE WIRE BACK TO AHU.
6. (2) = 120V. SM0KE ALARM WITH BATTERY BACK - UP AND AUXILIARY CONTACT SO ALL SOUND TOGETHER.
7. ALL ARC - FAULT CIRCUIT BREAKERS SHALL BE COMPATIBLE WITH CEILING FANS, LED FIXTURES AND OTHER ELECTRONIC DEVICES.
8. PROVIDE PROTECTION AT ELECTRICAL BOXES AT RATED CEILING MEMBRANES PER IBC 712.4.1.2(2). BOXES TO BE LISTED FOR RATED MEMBRANES, NOT EXCEED 16 SQUARE INCHES, NOT COMBINE FOR MORE THAN 100 SQUARE INCHES IN 100 SQUARE FEET AND ANNULAR SPACE NOT EXCEED 1/8". PROVIDE 24" SEPARATION IN RATED WALLS BETWEEN BOXES UNLESS UL LISTED AS LESS.
9. FIRE ALARM HORN/STROBE CIRCUITS SHALL BE SIZED TO ACCEPT BEDROOM HORN/STROBES IN FUTURE INCLUDING WIRING AND PANEL CAPACITY.
10. ALL RANGES SERVED BY (3)#8 and (1)#10 AND 50A. RECEPTACLE.
11. ALL WATER HEATERS SERVED BY (3)#10. ALL DRYERS SERVED BY (4)#10 AND 30A. RECEPTACLE.
12. ALL WASHERS AND REFRIGERATORS HAVE RECEPTACLES AT 48". MW RECEPTACLES AT 66" (VERIFY).
13. SEE HVAC SCHEDULE AND SHOP DRAWINGS FOR AHU AND OUTDOOR UNIT CIRCUITS.
14. BELOW COUNTER RECEPTACLES AND PLATES SHALL MATCH THE BASE CABINETS WHERE THEY ARE MOUNTED (BROWN, WHITE, ETC.) VERIFY WITH ARCHITECT.
15. SEE ARCH PLANS FOR TYPE A UNIT LOCATIONS AND QUANITIY.
16. ALL UNIT CAN LIGHTS ARE TYPE R.1 UNLESS NOTED OTHERWISE.
17. SEE ARCH UNIT PLANS FOR DIMENSIONED REFLECTED CEILING PLANS.

LEGEND:

(1) SWITCHED RECEPTACLE FOR GARBAGE DISPOSER. CONTINUE CIRCUIT TO DISHWASHER.

(2) PROVIDE ARC-FAULT BREAKER IN PANEL.

(3) TELE/TV DEMARK FLUSH BOX WITH DUPLEX OUTLET. SEE DETAIL.

(4) SWITCHES FOR OVERHEAD MW FAN & LIGHT.

(5) SMOKE ALARM TO HAVE STROBES.

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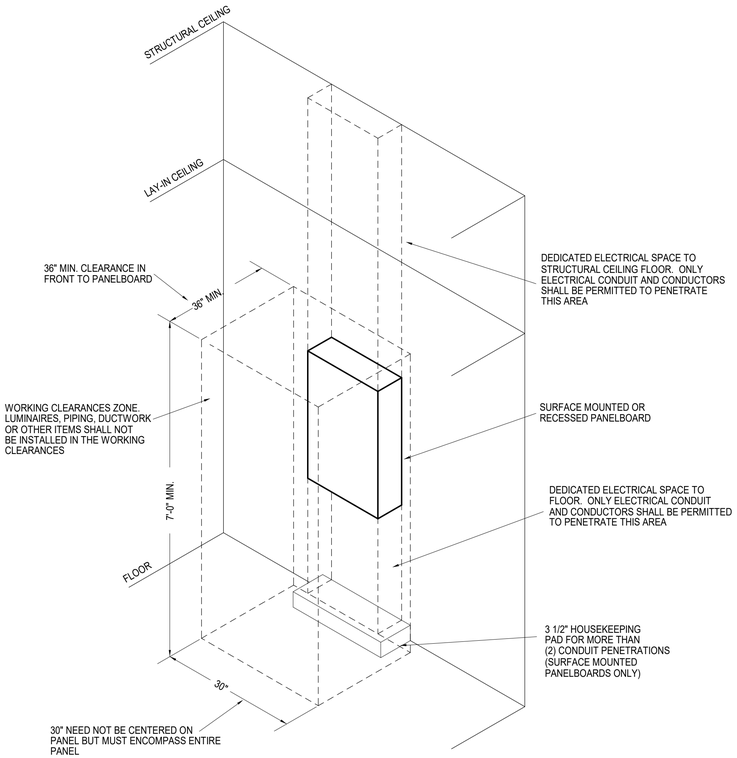
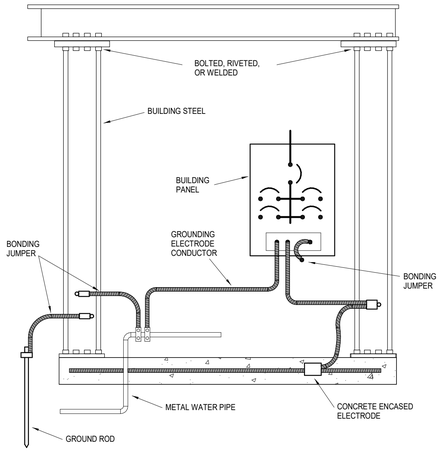
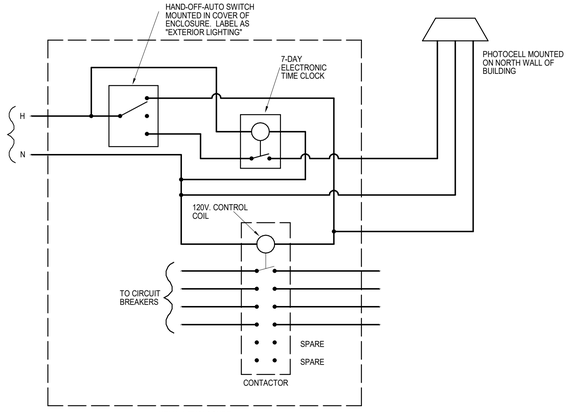


NOTE:
COORDINATE ALL WORK WITH OTHER TRADES. MAINTAIN ALL OTHER NEC CLEARANCES AND REQUIREMENTS.

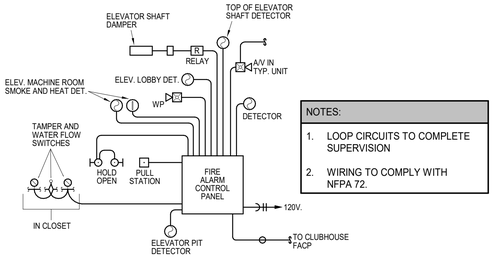
1 TYPICAL PANELBOARD INSTALLATION DETAIL
NOT TO SCALE



2 GROUNDING ELECTRODE SYSTEM DETAIL
NOT TO SCALE

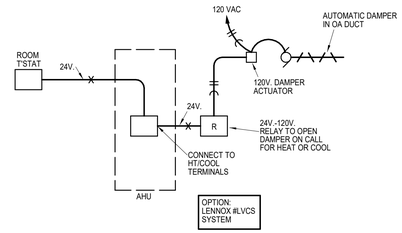


5 EXTERIOR LIGHTING CONTROL PANEL SCHEMATIC
NOT TO SCALE

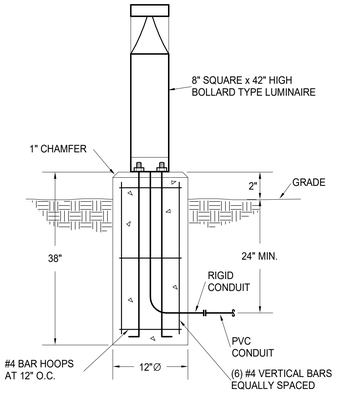


NOTES:
1. LOOP CIRCUITS TO COMPLETE SUPERVISION
2. WIRING TO COMPLY WITH NFPA 72.

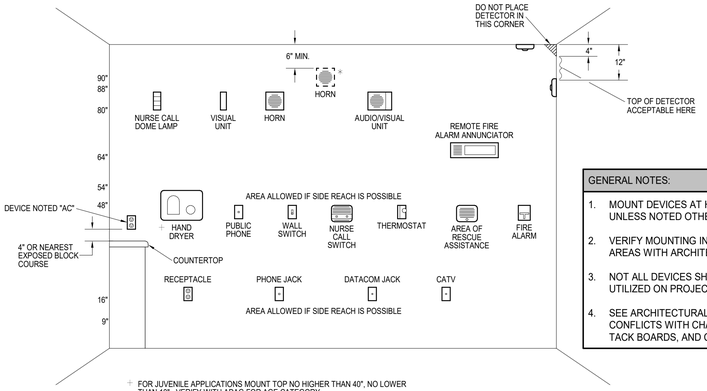
3 FIRE ALARM RISER DIAGRAM
NOT TO SCALE



4 OUTSIDE AIR DAMPER CONTROL SCHEMATIC
NOT TO SCALE



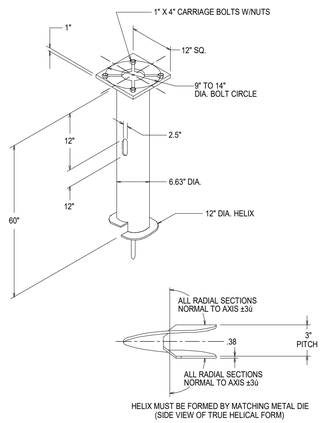
6 LIGHT BOLLARD
NOT TO SCALE



GENERAL NOTES:
1. MOUNT DEVICES AT HEIGHT INDICATED UNLESS NOTED OTHERWISE ON PLANS.
2. VERIFY MOUNTING IN SIDE REACH AREAS WITH ARCHITECT.
3. NOT ALL DEVICES SHOWN MAY BE UTILIZED ON PROJECT.
4. SEE ARCHITECTURAL DRAWINGS FOR CONFLICTS WITH CHALK BOARDS, TACK BOARDS, AND CASEWORK.

DEVICE MOUNTING NOTES:
1. VISUAL UNIT DEVICE BOTTOM 80" ABOVE HIGHEST FLOOR LEVEL OR TOP 6" BELOW CEILING; WHICHEVER IS LOWER.
2. AUDIO UNIT DEVICE BOTTOM 80" ABOVE HIGHEST FLOOR LEVEL OR TOP 6" BELOW CEILING; WHICHEVER IS LOWER. * TOP OF UNIT NOT LESS THAN 90" ABOVE FLOOR AND NOT LESS THAN 6" BELOW CEILING (NFPA) (BOTTOM AT 88" WITH BLOCK COURSES). MOUNT AT NFPA HEIGHT ONLY IF REQUIRED BY LOCAL AHJ.
3. AUDIO/VISUAL UNIT DEVICE BOTTOM 80" ABOVE HIGHEST FLOOR LEVEL OR TOP 6" BELOW CEILING; WHICHEVER IS LOWER.
4. PULL STATION HIGHEST OPERABLE PART SHALL NOT BE MORE THAN 48" ABOVE THE FLOOR (FRONT APPROACH).
ELECTRICAL DEVICE MOUNTING HEIGHTS SHALL CONFORM TO THE LATEST EDITION OF THE ADA STANDARDS FOR ACCESSIBLE DESIGN.

7 ELECTRICAL DEVICE MOUNTING HEIGHTS
NOT TO SCALE



HELIX MUST BE FORMED BY MATCHING METAL DIE (SIDE VIEW OF TRUE HELICAL FORM)

-NOTES-

1. FINISH: HOT DIP GALVANIZE PER ASTM-A153 (LATEST REVISION).
2. BASEPLATE TO BE PERPENDICULAR TO SHAFT AXIS (±1ú) AND HOLE CENTERLINE CONCENTRIC (± 188) TO SHAFT AXIS.
3. STENCIL MIN. 1/2 IN. LETTERS MANUFACTURER'S NUMBER AFTER GALVANIZING.
4. PILOT POINT AND SHAFT AXES TO BE CONCENTRIC (±.125 FIM) AND IN LINE (±2ú).
5. FLAME CUT SLOT PERPENDICULAR TO THE BASEPLATE.
6. PREHEAT, TUMBLEBLAST, HANDGRIND, AND CLEAN BASEPLATE, HELIX, AND PILOT POINT ON ALL WELDED AREAS.
7. FLAMECUT IRREGULARITIES PERMISSIBLE: (1) VALLEYS NOT TO EXCEED 3/32 IN. BELOW NOMINAL SURFACE LEVEL, (2) PEAKS OR POSITIVE IRREGULARITIES NOT TO EXCEED 1/32 IN. ABOVE NOMINAL SURFACE LEVEL OR INTERSECTIONS OF NOMINAL SURFACES.
8. MANUFACTURER TO HAVE IN EFFECT INDUSTRY RECOGNIZED WRITTEN QUALITY CONTROL FOR ALL MATERIALS AND MANUFACTURING PROCESSES.
9. ALL MATERIAL IS TO BE NEW, UNUSED AND MILL TRACEABLE MEETING THE FOLLOWING SPECIFICATIONS:

   BASEPLATE: ASTM A36-(LATEST REVISION) HOT ROLLED STEEL PLATE, (CONFORM TO AASHTO TECH. BUL. #270)

   SHAFT: STEEL PIPE PILES, SEAMLESS OR STRAIGHT WELDED, GRADE-2 PER ASTM A252. ALT. MATERIAL: STEEL PIPE TYPE E OR S, GRADE-B PER ASTM A53.

   HELIX: ASTM A635 (LATEST REVISION) HOT ROLLED STEEL.

   PILOT POINT: ASTM A575 (LATEST REVISION) STEEL BAR.

   BOLTS: CARR BOLT PER ANSI B-18.2.1,SAE J429 GRADE-5.

10. BASEPLATE IS PERMANENTLY STAMPED WITH MANUFACTURER'S IDENTIFICATION "ABC" IN 1/2" LETTERS AND DATE CODE IN 1/4" LETTERS.

8 LIGHT POLE FOUNDATION DETAIL
NOT TO SCALE

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SHEET NO. E3.01

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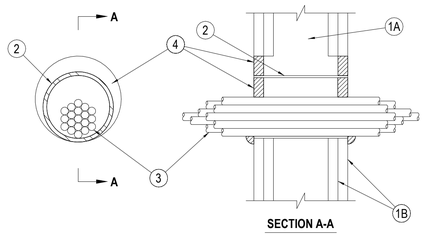


SECTION A-A

1 FIRE RATED PENETRATION DETAIL

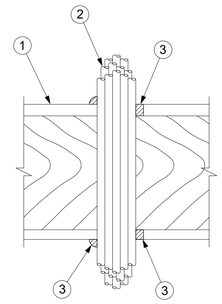
NO SCALE SYSTEM WL-3065

NOTES AND LEGENDS:

1. 1. Wall Assembly — The 1 or 2 fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner specified in the individual U300, U400 or V400 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:
   A. Studs — Steel framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC. Steel studs to be min 2-1/2 in. (64 mm) wide and spaced max 24 in. (610 mm) OC.
   B. Gypsum Board — Nom 5/8 in. (16 mm) thick gypsum board, with square or tapered edges. The gypsum board type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300, U400 or V400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 5-1/2 in. (138 mm) when sleeve (Item 2) is employed. Max diam of opening is 4 in. (102 mm) when sleeve (Item 2) is not employed. The F Rating of the firestop system is equal to the fire rating of the wall assembly.

   Metallic Sleeve — (Optional) - Nom 4 in. (102 mm) diam (or smaller) steel electrical metallic tubing (EMT) or Schedule 5 (or heavier) steel pipe or min 0.016 in. thick (0.41 mm, NZo. 28 ga) galv steel sleeve installed flush with wall surfaces. The annular space between steel sleeve and periphery of opening shall be min 0 in. (0 mm, point contact) to max 1 in. (25mm). When Schedule 5 steel pipe or EMT is used, sleeve may extend up to 18 in. (457 mm) beyond the wall surfaces.
2. Cables — Aggregate cross-sectional area of cable in opening to be max 45 percent of the cross-sectional area of the opening. The annular space between the cable bundle and the periphery of the opening to be min 0 in. (0 mm, point contact) to max 1 in. (25 mm) Cables to be rigidly supported on both sides of the wall assembly. Any combination of the following types and sizes of copper conductor cables may be used:
3. A. Max 7/C No. 12 AWG with polyvinyl chloride (PVC) insulation and jacket.
   B. Max 25 pair No. 24 AWG telephone cable with PVC insulation and jacket.
   C. Type RG/U coaxial cable with polyethylene (PE) insulation and PVC jacket having a max outside diameter of ½ in. (13 mm).
   D. Multiple fiber optical communication cable jacketed with PVC and having a max OD of 5/8 in. (16 mm).
   E. Through Penetrating Products Max three copper conductor No. 8 AWG . Metal-Clad Cable+.
   AFC CABLE SYSTEMS INC
   F. Max 3/C (with ground)(or smaller) No. 8 AWG copper conductor cable with PVC insulation and jacketing.
   G. Max 3/4 in. (19 mm) diam copper ground cable with or without a PVC jacket.
   H. Fire Resistive Cables* - Max 1-1/4 in. (32 mm) diam single conductor or multi conductor Type MI cable. A min 1/8 in. (3 mm) separation shall be maintained between MI cables and any other types of cable.
   Through Penetrating Product* - Any cables, Metal-Clad Cable+ or Armored Cable+ currently Classified under the Through Penetrating Products category. See Through Penetrating Product (XHLY) category in the Fire Resistance Directory for names of manufacturers.

   Fill, Void or Cavity Material* — Sealant or Putty — Fill material applied within the annulus, flush with each end of the steel sleeve or wall surface. Fill material installed symmetrically on both sides of the wall. A min 5/8 in. (16 mm) thickness of sealant is required for the 1 or 2 hr F Rating . An additional 1/2 in. (13 mm) diam bead of fill material shall be applied around the perimeter of sleeve on both sides of the wall when sleeve extends beyond surface of wall.
   HILTI CONSTRUCTION CHEMICALS, DIV OF HILTI INC — CP601S, CP606, FS-One Sealants or CP618 Putty
   *Bearing the UL Classification Mark
4. +Bearing the UL Listing Mark



2 FIRE RATED PENETRATION DETAIL

NO SCALE SYSTEM FC-3074

NOTES AND LEGENDS:

1. 1. Floor-Ceiling Assembly - The 1 hr fire-rated solid or trussed lumber joist floor-ceiling assembly shall be constructed of the materials and in the manner specified in the individual L500 Series Floor-Ceiling Designs in the UL Fire Resistance Directory. The general construction features of the floor-ceiling assembly are summarized below:
   A. Flooring System - Lumber or plywood subfloor with finish floor of lumber, plywood or Floor Topping Mixture* as specified in the individual Floor-Ceiling Design. Max diam of opening shall be 3 in.
   B. Wood Joists* - Nom 10 in. deep (or deeper) lumber, steel or combination lumber and steel joists, trusses or Structural Wood Members* with bridging as required and with ends firestopped.
   C. Gypsum Board* - Nom 4 ft wide by 5/8 in. thick as specified in the individual Floor-Ceiling Design. Gypsum board secured to wood joists or furring channels as specified in the individual Floor-Ceiling Design.

   Chase Wall - (Optional, Not Shown) - The through penetrants (Item 2) may be routed through a 1 hr fire rated single, double or staggered wood stud/gypsum board chase wall. Depth of chase wall stud cavity to be min 1/2 in. greater than diameter of opening cut in sole and top plates to accommodate the through penetrant (Item 2). The chase wall shall be constructed of the materials and in the manner specified in the individual U300 Series Wall and Partition Designs in the UL Fire Resistance Directory and shall include the following construction
1A. features:
   A. Studs - Nom 2 by 4 in., 2 by 6 in. or double nom 2 by 4 in. lumber studs.
   B. Sole Plate - Nom 2 by 4 in., 2 by 6 in. or parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 3 in.
   C. Top Plate - The double top plate shall consist of two nom 2 by 4 in., two nom 2 by 6 in. or two sets of parallel 2 by 4 in. lumber plates, tightly butted. Max diam of opening is 3 in.
   D. Gypsum Board* - Thickness, type, number of layers and fasteners shall be as specified in the individual Wall and Partition Design.

   Cables - Aggregate cross-sectional area of cable in opening to be max 50 percent of the cross-sectional area of the opening. The annular space between the cable bundle and the periphery of the opening to be min 0 in. (point contact) to max 1 in. Cables to be rigidly supported on both sides of the floor-ceiling assembly. Any combination of the following types and sizes of copper conductor cables may be used:
   A. Max 150 pair No. 24 AWG telephone cable with PVC insulation and jacket.
2. B. Max 2/C No. 10 with ground Type NM nonmetallic sheathed (Romex) cable with PVC insulation and jacket.
   C. Max 3/C with ground 2/0 AWG aluminum SER cable with PVC insulation and jacket.
   D. Max 3/C No. 10 AWG copper conductor steel clad cable.
   E. Max 24 fiber optic cable.
   F. RG 59/U coaxial cable.
   G. CAT 5 data cable.

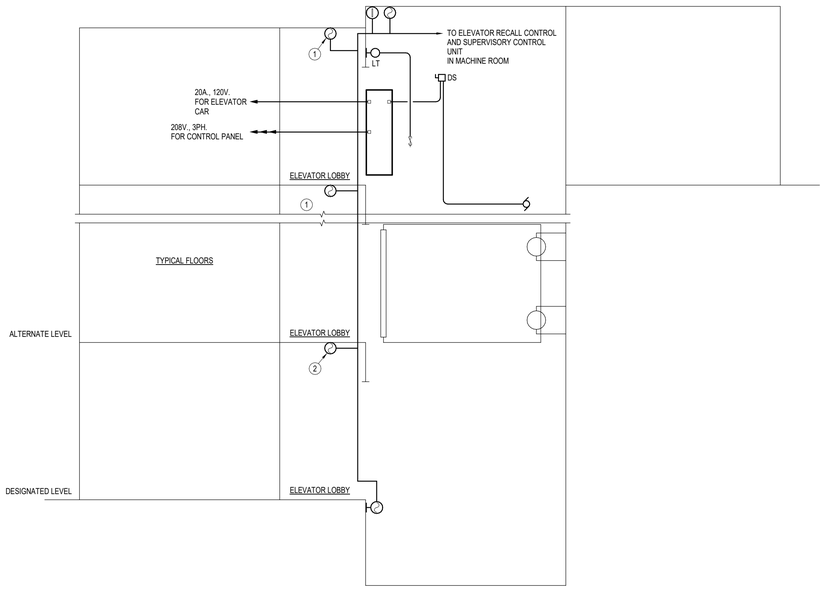
   Fill, Void or Cavity Materials*-Sealant - Min 3/4 in. thickness of sealant applied within the annulus flush with the top surface of the floor or sole plate and min 5/8 in. thickness of sealant applied within the annulus flush with the bottom surface of gypsum board or lower top plate. A min 1/2 in. diameter bead of sealant applied at the cable bundle/subflooring or sole plate interface and the cable bundle/gypsum board or top plate interface at point contact locations.
   HILTI CONSTRUCTION CHEMICALS, DIV OF
3. HILTI INC - CP 606 Flexible Firestop Sealant

   *Bearing the UL Classification Mark

DETECTOR OPERATION:	
1	RECALL TO DESIGNATED LEVEL.
2	RECALL TO ALTERNATE LEVEL.

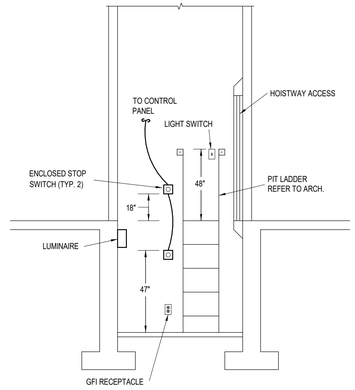
SYSTEM SEQUENCE:
UPON DETECTION OF SMOKE IN ELEVATOR LOBBIES, MACHINE ROOM, TOP OF HOISTWAY OR BOTTOM OF HOISTWAY, ELEVATOR RECALL CONTROLS SHALL BE ACTIVATED.

SYMBOLS LEGEND:	
	HEAT DETECTOR
	SMOKE DETECTOR
	SPRINKLER



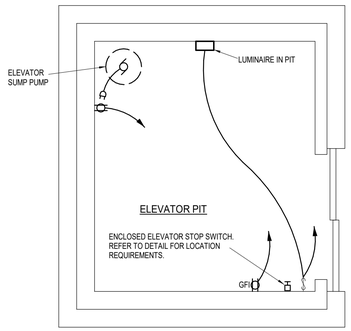
3 ELECTRICAL ELEVATOR FIRE PROTECTION SYSTEM OPERATION DETAIL

NOT TO SCALE



4 ELEVATOR PIT DETAIL

NOT TO SCALE



5 ELEVATOR PIT ELECTRICAL DETAIL

NOT TO SCALE

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER
3-24-23

A NEW DEVELOPMENT:
RESIDENCES AT BLACKWELL
50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

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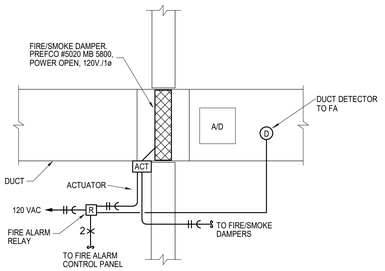
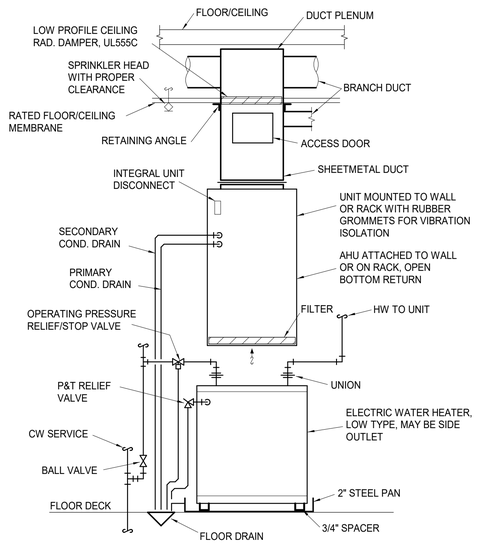
LSA PROJECT NO. 2204073

DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. E3.02

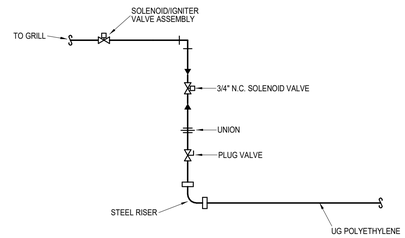
PERMIT



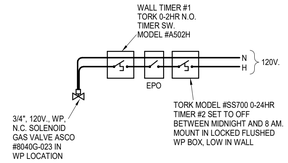
1 FIRE/SMOKE DAMPER DETAIL ELEC
NOT TO SCALE



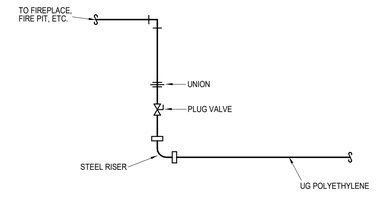
2 MECHANICAL CLOSET DETAIL
NOT TO SCALE



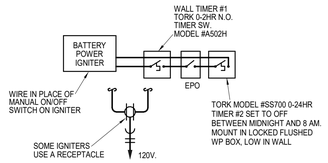
PIPING SCHEMATIC



CONTROL SCHEMATIC
(GRILL)



PIPING SCHEMATIC



CONTROL SCHEMATIC
(FIRE PIT)

3 GAS GRILL/FIRE PIT DETAIL
NOT TO SCALE

LUMINAIRE SCHEDULE

MARK	DESCRIPTION	MFGR	MODEL	MOUNTING	FINISH	LAMPS	NOTES
A	Disk Light	ASD	ASD-LDS-6D1530-WH-12 CONFIRM WITH OWNER	b/surface	white	1200 Lumen 3000K 15W LED	Wet Location
B							
C.1	Club Stair Pendant	Confirm with Owner/Arch					
D							
E	Patio Sconce	Confirm with Owner/Arch					
F.1	Typical Unit Fan	Confirm with Owner/Arch					
F.1	Typical Unit Fan	Confirm with Owner/Arch					
G	Kitchen Pendant	Confirm with Owner/Arch		wall	br. Nickel	1-13W 3000K LED	
H	Decroative Corridor/Unit	Confirm with Owner/Arch				1-10W LED	
J	Not used						
K	Not used						
L.1	Club Tape Light	Confirm with Owner/Arch					
L.1	Club Tape Light	Confirm with Owner/Arch					
M	Strip Light	Lithonia	CSVT-L48-4000LM-MVOLT-35K-80CRI-IE7WCP	surface	white	4000 Lumen 3500K LED	With Battery
N	Mechanical Closet / Storage	Satco	62/1312	surface	white	16.5W LED 4000K 1050LM	with built in motion
P.1	Club Pendant	Confirm with Owner/Arch					
P.1	Club Pendant	Confirm with Owner/Arch					
R	Club Puck Light	Confirm with Owner/Arch					
R.1	Puck Light	Confirm with Owner/Arch					
R.3	Puck Light	Confirm with Owner/Arch					
S.1	Unit Entry Light	Confirm with Owner/Arch					
S.1	Club Directional Spot Light	Confirm with Owner/Arch					
T.1	Guest Suite Track Light	Confirm with Owner/Arch					
W.1	Club Vanity	Confirm with Owner/Arch					
W.2	Club Sconce	Confirm with Owner/Arch					
W.3	Unit Vanity	Confirm with Owner/Arch					
W.4	Unit Entry Light	Confirm with Owner/Arch					
X1	Exit	Progress	PETPE-UR-30-RC	surface	white/red	1.5W LED	
X2	Exit w/heads	Progress	PECUE-UR-30-RC	surface	white/red	1.5W LED	
X3	Dual-Head Emergency	NICOR	EML7	surface	std	700 lumen	
X4	Exterior Remote Head	Progress	PERHC-SG-OD-30	surface	std	1W LED	

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LSA PROJECT NO. 2204073

PERMIT

DATE:
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JOB NO.
696521
DRAWN BY:
Author
SHEET NO.
E3.03

Unit Load Calculation			
Unit: S1			VA
420	square feet at 3 VA per sq. ft.		1260
2 small appliance circuits			3000
Range			8000
Microwave			1000
Washer			1500
Dryer			4400
Water Heater			4500
Dishwasher			740
Disposer			850
Total general load			25250
NEC 220-84 Calculation			
First 10 KVA at 100%			10000
Remainder at 40%			6100
Heater Load	3700	65%	2405
Total load			18505
Load for unit service	Amp @	208 volt/1	89
Connected Load			28950

Unit Load Calculation			
Unit: A1-A2			VA
700	square feet at 3 VA per sq. ft.		2100
2 small appliance circuits			3000
Range			8000
Microwave			1000
Washer			1500
Dryer			4400
Water Heater			4500
Dishwasher			740
Disposer			850
Total general load			26090
NEC 220-84 Calculation			
First 10 KVA at 100%			10000
Remainder at 40%			6436
Heater Load	5600	65%	3640
Total load			20076
Load for unit service	Amp @	208 volt/1	97
Connected Load			31690

Unit Load Calculation			
Unit: B2/B4			VA
1050	square feet at 3 VA per sq. ft.		3150
2 small appliance circuits			3000
Range			8000
Microwave			1000
Washer			1500
Dryer			4400
Water Heater			4500
Dishwasher			740
Disposer			850
Total general load			27140
NEC 220-84 Calculation			
First 10 KVA at 100%			10000
Remainder at 40%			6856
Heater Load	5600	65%	3640
Total load			20496
Load for unit service	Amp @	208 volt/1	99
Connected Load			32740

Unit Load Calculation			
Unit: B2-ALT			VA
1160	square feet at 3 VA per sq. ft.		3480
2 small appliance circuits			3000
Range			8000
Microwave			1000
Washer			1500
Dryer			4400
Water Heater			4500
Dishwasher			740
Disposer			850
Total general load			27470
NEC 220-84 Calculation			
First 10 KVA at 100%			10000
Remainder at 40%			6988
Heater Load	5600	65%	3640
Total load			20628
Load for unit service	Amp @	208 volt/1	99
Connected Load			33070

Unit Load Calculation			
Unit: B3			VA
995	square feet at 3 VA per sq. ft.		2985
2 small appliance circuits			3000
Range			8000
Microwave			1000
Washer			1500
Dryer			4400
Water Heater			4500
Dishwasher			740
Disposer			850
Total general load			26975
NEC 220-84 Calculation			
First 10 KVA at 100%			10000
Remainder at 40%			6790
Heater Load	5600	65%	3640
Total load			20430
Load for unit service	Amp @	208 volt/1	98
Connected Load			32575

Unit Load Calculation			
Unit: C1			VA
1175	square feet at 3 VA per sq. ft.		3525
2 small appliance circuits			3000
Range			8000
Microwave			1000
Washer			1500
Dryer			4400
Water Heater			4500
Dishwasher			740
Disposer			850
Total general load			27515
NEC 220-84 Calculation			
First 10 KVA at 100%			10000
Remainder at 40%			7006
Heater Load	7200	65%	4680
Total load			21686
Load for unit service	Amp @	208 volt/1	104
Connected Load			34715

Multi-Family Building Load Analysis

Building: RIGHT

Unit Quantity	Unit Type	Connected Load - VA	Total KVA
3	S	28950	86.9
13	A1/A2	31690	412.0
4	B2	32740	131.0
1	B2-ALT	33070	33.1
3	B3	32575	97.7
7	B4	32740	229.2
	C1	34715	0.0

Total Building KVA	989.8
Total Units	31
Diversity per NEC Table 230.84	0.32
Diversified KVA	316.7
Amps @ 208 V Three Phase	880
House Load - Amps	
Total Demand - Amps	880

Multi-Family Building Load Analysis

Building: LEFT

Unit Quantity	Unit Type	Connected Load - VA	Total KVA
3	S	28950	86.9
17	A1/A2	31690	538.7
5	B2	32740	163.7
1	B2-ALT	33070	33.1
	B3	32575	0.0
	B4	32740	0.0
6	C1	34715	208.3

Total Building KVA	1030.6
Total Units	32
Diversity per NEC Table 230.84	0.31
Diversified KVA	319.5
Amps @ 208 V Three Phase	887
House Load - Amps	300
Total Demand - Amps	1187

ELECTRICAL PANEL SCHEDULE

PANEL: S UNITS		POLES: 18		MOUNTING: FLUSH
BUS: 125A.	MAINS: MLO	VOLTAGE: 120/240	PHASE/WIRE: 1 Ph 3 Wire	KAIC:10K
CIRCUIT NUMBERS	DESCRIPTION		AMPS	POLES	QUANTITY
1, 3	RANGE		40	2	1
5, 7, 13, 15	WATER HEATER, DRYER		30	2	2
9, 11	AHU		30	2	1
17, 19	CONDENSING UNIT		20	2	1
2	LIGHTS AND RECEPTACLES		20	1	1
4 THRU 18 EVEN	ARC-FAULT LIGHTS AND RECEPTACLES		20	1	8
20	SPARE		20	1	1

ELECTRICAL PANEL SCHEDULE

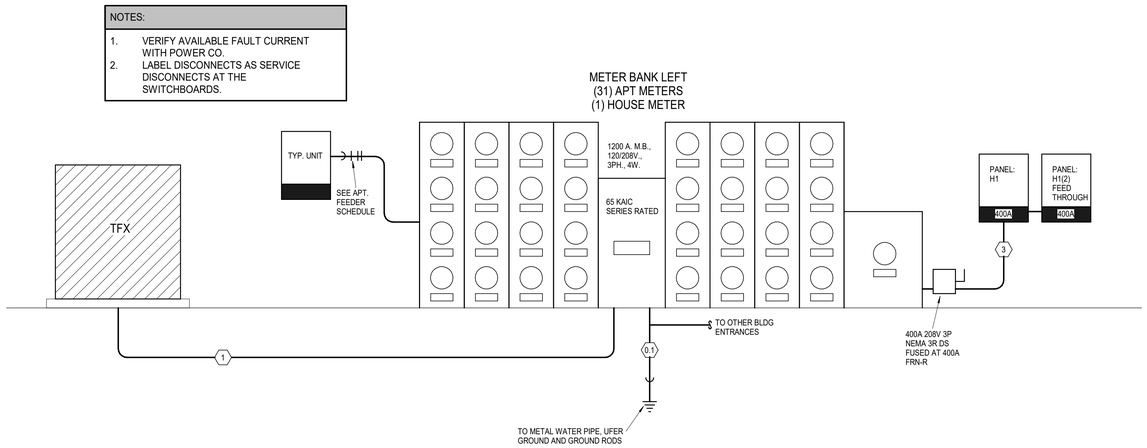
PANEL: A UNITS		POLES: 18		MOUNTING: FLUSH
BUS: 125A.	MAINS: MLO	VOLTAGE: 120/240	PHASE/WIRE: 1 Ph 3 Wire	KAIC:10K
CIRCUIT NUMBERS	DESCRIPTION		AMPS	POLES	QUANTITY
1, 3	RANGE		40	2	1
5, 7, 13, 15	WATER HEATER, DRYER		30	2	2
9, 11	AHU		40	2	1
17, 19	CONDENSING UNIT		25	2	1
2	LIGHTS AND RECEPTACLES		20	1	1
4 THRU 18 EVEN	ARC-FAULT LIGHTS AND RECEPTACLES		20	1	8
20	SPARE		20	1	1

ELECTRICAL PANEL SCHEDULE

PANEL: B AND C UNITS		POLES: 24		MOUNTING: FLUSH
BUS: 125A.	MAINS: MLO	VOLTAGE: 120/240	PHASE/WIRE: 1 Ph 3 Wire	KAIC:10K
CIRCUIT NUMBERS	DESCRIPTION		AMPS	POLES	QUANTITY
1, 3	RANGE		40	2	1
5, 7, 13, 15	WATER HEATER, DRYER		30	2	2
9, 11	AHU		50	2	1
17, 19	CONDENSING UNIT		30	2	1
2, 22	LIGHTS AND RECEPTACLES		20	1	2
4 THRU 20 EVEN	ARC-FAULT LIGHTS AND RECEPTACLES		20	1	9
21	SPARE		20	1	1

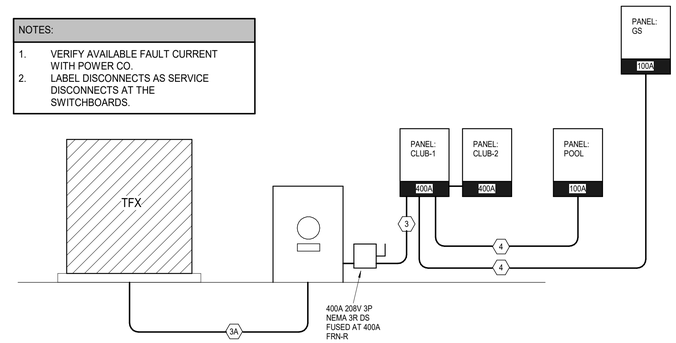
FEEDER SCHEDULE						
MARK	OCP	SETS	NO. COND.	SIZE ALUM.	SIZE GRD.	CONDUIT
0,1	0 A	1	1		3/0 CU	2"
1	1200 A	4	3	500 KCMIL		3"
2	1000 A	3	3	600 KCMIL		4"
3	400 A	2	4	#4/0	#1	3"
3A	400 A	2	4	#4/0		3"
4	100 A	1	4	#1/0	#4	2"

NOTES:
1. VERIFY AVAILABLE FAULT CURRENT WITH POWER CO.
2. LABEL DISCONNECTS AS SERVICE DISCONNECTS AT THE SWITCHBOARDS.



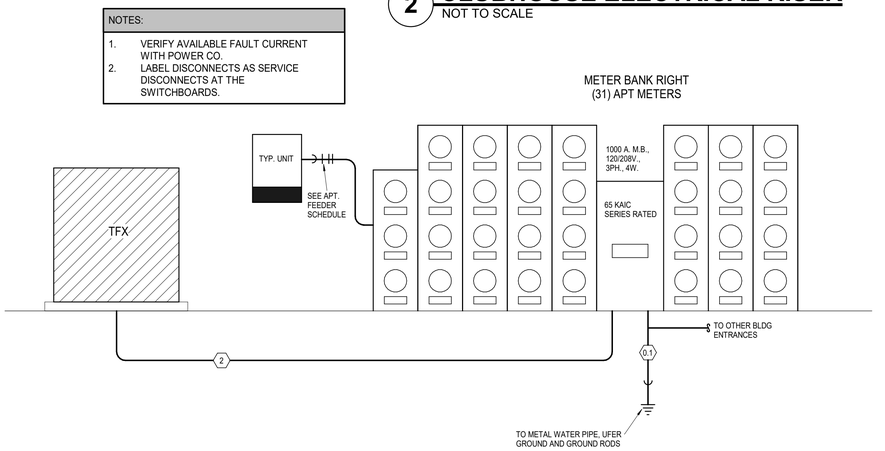
1 **METER BANK LEFT ELECTRICAL RISER**
NOT TO SCALE

NOTES:
1. VERIFY AVAILABLE FAULT CURRENT WITH POWER CO.
2. LABEL DISCONNECTS AS SERVICE DISCONNECTS AT THE SWITCHBOARDS.



2 **CLUBHOUSE ELECTRICAL RISER**
NOT TO SCALE

NOTES:
1. VERIFY AVAILABLE FAULT CURRENT WITH POWER CO.
2. LABEL DISCONNECTS AS SERVICE DISCONNECTS AT THE SWITCHBOARDS.



3 **METER BANK RIGHT ELECTRICAL RISER**
NOT TO SCALE

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DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. E3.04

PERMIT

Panel: H1

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22000
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure: | **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Wire Size	A		B		C		Wire Size	Trip	Circuit Description	CKT
1	Power	20 A	12	1000	1000					12	20 A	Power	2
3						1000	1000						4
5									600	12	20 A	Power	6
7					1080					12	20 A	Receptacle	8
9	Lighting	20 A	12			360	900			12	20 A	Receptacle Space 112	10
11	Receptacle	20 A	12					1080	180	12	20 A	Lighting Space 94	12
13	AHU-H5	40 A	8	5584	180					12	20 A	Lighting Space 98	14
15						5584	180			12	20 A	Lighting Space 92	16
17	EUH-A	20 A	12					1500	180	12	20 A	Receptacle	18
19				1500	120					12	20 A	Lighting Space 88	20
21	Receptacle	20 A	12			180	500			12	20 A	Power Space 112	22
23	Receptacle	20 A	12					900	540	12	20 A	Power	24
25	Lighting	20 A	12	600	720					12	20 A	Receptacle	26
27	AHU-H6	40 A	8			5584	1500			12	20 A	EUH-B	28
29								5584	1500				30
31		20 A	12	475	1080					12	20 A	Receptacle	32
33	Lighting	20 A	12			240	5584			8	40 A	AHU-H1	34
35	Receptacle	20 A	12					360	5584				36
37	EUH-A	20 A	12	1500	1080					12	20 A	Receptacle	38
39						1500	720			12	20 A	Receptacle	40
41	Receptacle	20 A	12					720	400	12	20 A	Receptacle	42
43	Standard	20 A	12	0	1080					12	20 A	Receptacle	44
45	Receptacle	20 A	12			1080	1500			12	20 A	EUH-A	46
47	Other	20 A	12					1200	1500				48
49	AHU-H2	40 A	8	5584	0					12	20 A	Lighting	50
51						5584	240			12	20 A	Lighting	52
53	Receptacle	20 A	12					400					54
		Total Load:		46004 VA		52189 VA		43311 VA					
		Total Amps:		387 A		438 A		361 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	96005 VA	75.00%	72003 VA		
Lighting	4483 VA	125.00%	5604 VA	**Total Conn. Load:**	141504 VA
Other	1700 VA	100.00%	1700 VA	**Total Est. Demand:**	116284 VA
Power	10000 VA	100.00%	10000 VA	**Total Conn.:**	393 A
Receptacle	14660 VA	84.11%	12330 VA	**Total Est. Demand:**	323 A
Motor	14700 VA	100.00%	14700 VA		
HVAC Load	0 VA	0.00%	0 VA		

Notes:

Panel: H1(2)

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22000
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure: | **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Wire Size	A		B		C		Wire Size	Trip	Circuit Description	CKT
55	AHU-H3	40 A	8	5584	240					12	20 A	Lighting	56
57						5584	750						58
59	AHU-H4	40 A	8					6443	750	12	20 A	DSS-STAIR	60
61	Receptacle Space 723	20 A	12	180	120					12	20 A	Lighting Space 861	62
63	Other	20 A	12			500	4900						64
65	DSS-STAIR	20 A	12					750	4900	2	90 A	ELEVATOR (SHUNT TRIP) VERIFY	66
67				750	4900								68
69	GARAGE PANEL, 120 V/208 V, Single Phase, 3 Wires	60 A	4			0	0			4	60 A	GARAGE PANEL, 120 V/208 V, Single Phase, 3 Wires	70
71								0	0				72
73	Lighting	20 A	12	1600	800					12	20 A	Lighting	74
75							1560			8	30 A	CU-H1	76
77									1560				78
79	CU-H2	30 A	8	1560	1560					8	30 A	CU-H3	80
81						1560	1560						82
83	CU-H4	30 A	8					1560	1560	8	30 A	CU-H5	84
85				1560	1560								86
87	Receptacle	20 A	12			540	540			12	20 A	Receptacle	88
89	CU-H6	30 A	8					1560	500	12	20 A	Power	90
91				1560	1500					6	60 A	COMPACTOR (BLDG 4 ONLY) (VERIFY)	92
93	Spare	20 A	--			0	1500						94
95	Spare	20 A	--					0	1500				96
97	Spare	20 A	--	0	0					--	20 A	Spare	98
99	Spare	20 A	--			0	0			--	20 A	Spare	100
101	Spare	20 A	--					0	0	--	20 A	Spare	102
103	Spare	20 A	--	0	0					--	20 A	Spare	104
105	Spare	20 A	--			0	0			--	20 A	Spare	106
107	Spare	20 A	--					0	0	--	20 A	Spare	108
		Total Load:		23456 VA		18994 VA		21083 VA					
		Total Amps:		198 A		158 A		178 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	39331 VA	75.00%	29499 VA		
Lighting	2245 VA	125.00%	2806 VA	**Total Conn. Load:**	63534 VA
Other	500 VA	100.00%	500 VA	**Total Est. Demand:**	54261 VA
Power	5500 VA	100.00%	5500 VA	**Total Conn.:**	176 A
Receptacle	1260 VA	100.00%	1260 VA	**Total Est. Demand:**	151 A
Motor	14700 VA	100.00%	14700 VA		

Notes:

Panel: CLUB-1

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22000
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: | **Wires:** 4 | **Mains Rating:** 400 A
Enclosure: | **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Wire Size	A		B		C		Wire Size	Trip	Circuit Description	CKT
1	AHU-CL5	40 A	8	0	2120						100 A	PANEL GS	2
3						0	1940						4
5	EUH-A	20 A	12					1500	1080	12	20 A	Receptacle LOUNGE 35	6
7				1500	540					12	20 A	Receptacle LOUNGE 35	8
9	POOL	100 A				1340	360			12	20 A	Receptacle DOG WASH...	10
11								4040	900	12	20 A	Receptacle Room 26, 22	12
13				0	1260					12	20 A	Receptacle Room 22, 26, 35	14
15	Receptacle GYM 26	20 A	12			360	180			12	20 A	Receptacle GYM 26	16
17	Receptacle GYM 26	20 A	12					360	180	12	20 A	Receptacle GYM 26	18
19	Receptacle GYM 26	20 A	12	360	540					12	20 A	Receptacle Room 26	20
21	EUH-A	20 A	12			1500	720			12	20 A	Receptacle Room 37, 154, 31	22
23								1500	360	12	20 A	Receptacle Space 154	24
25	Receptacle Room 33, 31, 32	20 A	12	720	540					12	20 A	Receptacle FITNESS RM. 27	26
27	Receptacle FITNESS RM. 27	20 A	12			360	1040						28
29	AHU-CL4	40 A	8					0	1040	12	20 A	Other MECH. RM. 28	30
31				0	720					12	20 A	Receptacle Room 29-3, 30, 37...	32
33	Receptacle ELEVATOR 38	20 A	12			180	180			12	20 A	Receptacle ELEVATOR 38	34
35	Receptacle Room 35, 34	20 A	12					1260	900	12	20 A	Receptacle GOLF SIMULATO...	36
37	Receptacle	20 A	12	1340	1340					12	20 A	Receptacle	38
39	Room 3	20 A	12			900	900			12	20 A	Receptacle	40
41	Receptacle	20 A	12					900	0	8	40 A	AHU-CL1	42
43	Standard	20 A	12	0	0								44
45	Receptacle ELEVATOR 38	20 A	12			180	180			12	20 A	Receptacle ELEVATOR 38	46
47	ELEVATOR (SHUNT TRIP) VERIFY	60 A	6					2450	500	12	20 A	Other	48
49				2450	1500							EUH-A	50
51						2450	1500						52
53									--	--	--	Space	54
		Total Load:		38439 VA		39480 VA		35491 VA					
		Total Amps:		324 A		333 A		296 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	60371 VA	75.00%	45278 VA		
Lighting	240 VA	125.00%	300 VA	**Total Conn. Load:**	113409 VA
Other	6740 VA	100.00%	6740 VA	**Total Est. Demand:**	89463 VA
Power	500 VA	100.00%	500 VA	**Total Conn.:**	315 A
Receptacle	27820 VA	67.97%	18910 VA	**Total Est. Demand:**	248 A
Motor	7350 VA	100.00%	7350 VA		
HVAC Load	0 VA	0.00%	0 VA		
Range	10400 VA	100.00%	10400 VA		

Notes:

Panel: CLUB-2

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:**
Supply From: | **Phases:** 3 | **Mains Type:**
Mounting: | **Wires:** 4 | **Mains Rating:**
Enclosure: | **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Wire Size	A		B		C		Wire Size	Trip	Circuit Description	CKT
55	Receptacle	20 A	12	720	1080					12	20 A	Receptacle	56
57	HVAC Load CO-WORK-1 44-1	20 A	12			0	180			12	20 A	Receptacle	58
59								0	360	12	20 A	Receptacle	60
61	Receptacle	20 A	12	540	3609					8	40 A	AHU-CL3	62
63	Receptacle	20 A	12			660	3609						64
65	Receptacle	20 A	12					1200	360		20 A	Receptacle	66
67	Receptacle	20 A	12	180	5200					12	20 A	Range KITCHEN 1	68
69	Receptacle	20 A	12			540	5200						70
71	Receptacle	20 A	12					720	360		20 A	Receptacle	72
73	CU-CL5	3 A	8	2808	2808					8	30 A	CU-CL3	74
75						2808	2808						76
77	CU-CL2	30 A	8					2808	2808	8	30 A	CU-CL4	78
79				2808	2808								80
81	CU-CL1	30 A	8			2808	2808			8	30 A	CU-GS	82
83								2808	2808				84
85	Other ELEVATOR 39	20 A	12	120	0					12	20 A	Other	86
87	Lighting	20 A	12			0	0			12	20 A	Other	88
89	Other	20 A	12					0	0	12	20 A	Other MECH. RM. 25	90
91	Other CORRIDOR 37	20 A	12	0	120					12	20 A	Lighting FITNESS RM. 27	92
93	Other STORAGE 31	20 A	12			0	3609			8	40 A	AHU-CL2	94
95	Spare	20 A	--					0	3609				96
97	Spare	20 A	--	0	720						20 A	Receptacle	98
99	Spare	20 A	--			0	180				20 A	Receptacle	100
101	Spare	20 A	--					0	180		20 A	Receptacle	102
103	Spare	20 A	--	0	0						20 A	Lighting	104
105	Spare	20 A	--			0	0				20 A	Lighting	106
107	Spare	20 A	--					0	500		20 A	Power	108
		Total Load:		23509 VA		25210 VA		18521 VA					
		Total Amps:		202 A		216 A		154 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	48251 VA	75.00%	36188 VA		
Lighting	240 VA	125.00%	300 VA	**Total Conn. Load:**	67239 VA
Other	0 VA	0.00%	0 VA	**Total Est. Demand:**	55233 VA
Power	500 VA	100.00%	500 VA	**Total Conn.:**	187 A
Receptacle	7860 VA	100.00%	7860 VA	**Total Est. Demand:**	153 A
HVAC Load	0 VA	0.00%	0 VA		
Range	10400 VA	100.00%	10400 VA		

Notes:

Panel: POOL

Location: | **Volts:** 120/208 Wye | **A.I.C. Rating:** 22000
Supply From: | **Phases:** 3 | **Mains Type:** MLO
Mounting: | **Wires:** 4 | **Mains Rating:** 100 A
Enclosure: | **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Wire Size	A		B		C		Wire Size	Trip	Circuit Description	CKT
1	Receptacle POOL EQUIPMEN...	20 A	12	300	1040					12	20 A	PUMP (VERIFY)	2
3	HVAC Load POOL EQUIPMENT 23	20 A	12			0	1040						4
5								0	0	12	20 A	PUMP (VERIFY)	6
7	Power POOL EQUIPMENT 23	20 A	12	0	0								8
9						0	3000			12	20 A	EUH-B	10
11	Spare	20 A	--					0	--	--	--	Space	12
13	Spare	20 A	--	0	--					--	--	Space	14
15	Spare	20 A	--			0	--			--	--	Space	16
17	Spare	20 A	--					0	--	--	--	Space	18
19	Spare	20 A	--	0	--					--	--	Space	20
21	Spare	20 A	--			0	--			--	--	Space	22
23	Spare	20 A	--					0	--	--	--	Space	24
		Total Load:		1340 VA		4040 VA		0 VA					
		Total Amps:		13 A		35 A		0 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	3120 VA	75.00%	2340 VA		
Other	2080 VA	100.00%	2080 VA	**Total Conn. Load:**	5380 VA
Power	0 VA	0.00%	0 VA	**Total Est. Demand:**	4600 VA
Receptacle	180 VA	100.00%	180 VA	**Total Conn.:**	15 A
HVAC Load	0 VA	0.00%	0 VA	**Total Est. Demand:**	13 A

Notes:

Panel: GS

Location: | **Volts:** 120/208 Single | **A.I.C. Rating:** 22000
Supply From: | **Phases:** 1 | **Mains Type:** mlo
Mounting: | **Wires:** 3 | **Mains Rating:** 100 A
Enclosure: | **MCB Rating:**

Notes:

CKT	Circuit Description	Trip	Wire Size	A		B		Wire Size	Trip	Circuit Description	CKT
1	Receptacle	20 A	12	180	0			8	30 A	AHU-GS	2
3	Other MECH. 62	20 A	12			1040	0				4
5				1040	360			12	20 A	Receptacle	6
7	Power	20 A	12			360	540	12	20 A	Receptacle	8
9	Receptacle	20 A	12	540	--			--	--	Space	10
11	Spare	20 A	--			0	--	--	--	Space	12
13	Spare	20 A	--	0	--			--	--	Space	14
15	Spare	20 A	--			0	--	--	--	Space	16
17	Spare	20 A	--	0	--			--	--	Space	18
19	Spare	20 A	--			0	--	--	--	Space	20
21	Spare	20 A	--	0	--			--	--	Space	22
23	Spare	20 A	--			0	--	--	--	Space	24
		Total Load:		2120 VA		1940 VA					
		Total Amps:		20 A		19 A					

Legend:

Load Classification	Connected Load	Demand Factor	Estimated...	Panel Totals	
HVAC	0 VA	0.00%	0 VA		
Other	2080 VA	100.00%	2080 VA	**Total Conn. Load:**	4060 VA
Power	0 VA	0.00%	0 VA	**Total Est. Demand:**	4060 VA
Receptacle	1980 VA	100.00%	1980 VA	**Total Conn.:**	20 A
HVAC Load	0 VA	0.00%	0 VA	**Total Est. Demand:**	20 A

Notes:

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER
3-24-23

A NEW DEVELOPMENT:
RESIDENCES AT BLACKWELL
50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

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Latimer Sommers & Associates P.A.
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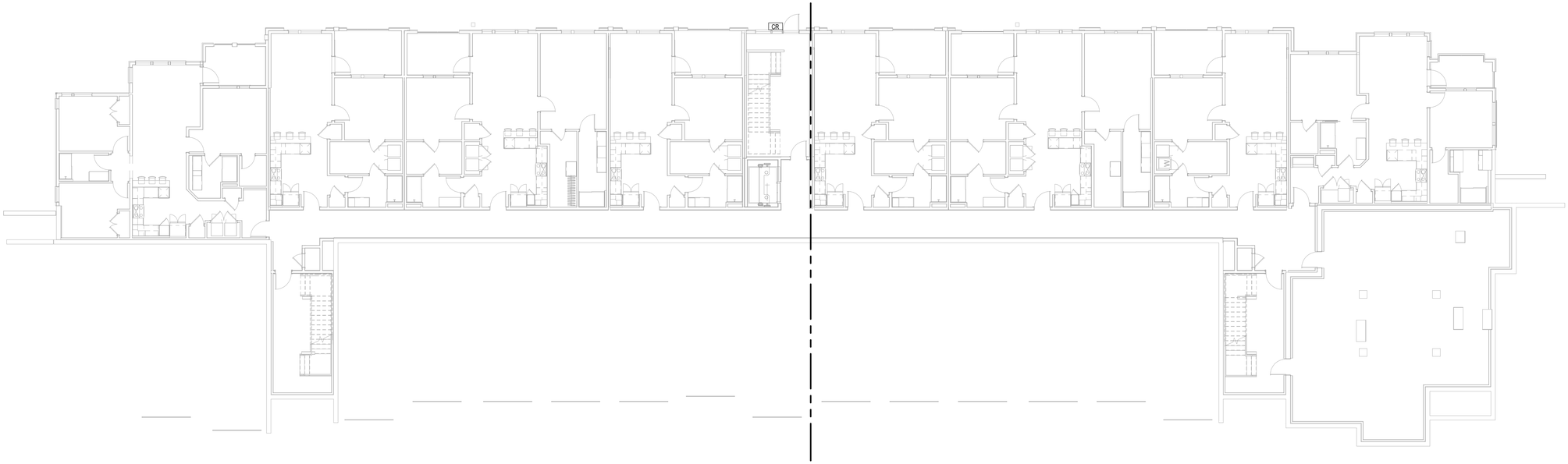
LSA PROJECT NO. 2204073

PERMIT

DATE: 3/24/2023
JOB NO. 696521
DRAWN BY: Author
SHEET NO. E3.05

LEGEND:
(1) PROVIDE 3/4"X4'X8' A-C FIRE RETARDANT PLYWOOD ON WALL, INSTALLED 6" AFF FASTEN SECURELY. PAINT PLYWOOD WITH (2) COATS OF, LOW GLOSS, LIGHT COLORED PAINT.
(2) TMGB: 1/4"x4"x16" BUSBAR, HARGER GROUND BAR TGBI14416TMGBKT OR EQUAL PROVIDE #3/0 MAIN ELECTRICAL SERVICE GROUND.
(3) TGB:1/4"x4"x12" BUSBAR, HARGER GROUND BAR TGBI14412TMGBKT OR EQUAL PROVIDE #1/0 TO TMGB IN MDF.
(4) (2) 2" EMT CONDUITS FOR VOICE/DATA BACKBONE CABLING.
(5) 2" EMT CONDUIT TO WEATHERHEAD ON ROOF FOR POTENTIAL FUTURE EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (ERRCS) CABLING PATHWAY. REFER TO WEATHERHEAD DETAIL.

NOTES:
1. ROUTE ALL VOICE/DATA CABLING/INFRASTRUCTURE TO MDF T1A



NORTH

1 LOWER LEVEL BUILDING - TELECOM

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3/32" = 1'-0"

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696521
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Author
SHEET NO.
T1.10

LEGEND:
(1) PROVIDE 3/4"X4'X8' A-C FIRE RETARDANT PLYWOOD ON WALL, INSTALLED 6" AFF FASTEN SECURELY. PAINT PLYWOOD WITH (2) COATS OF, LOW GLOSS, LIGHT COLORED PAINT.
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NOTES:
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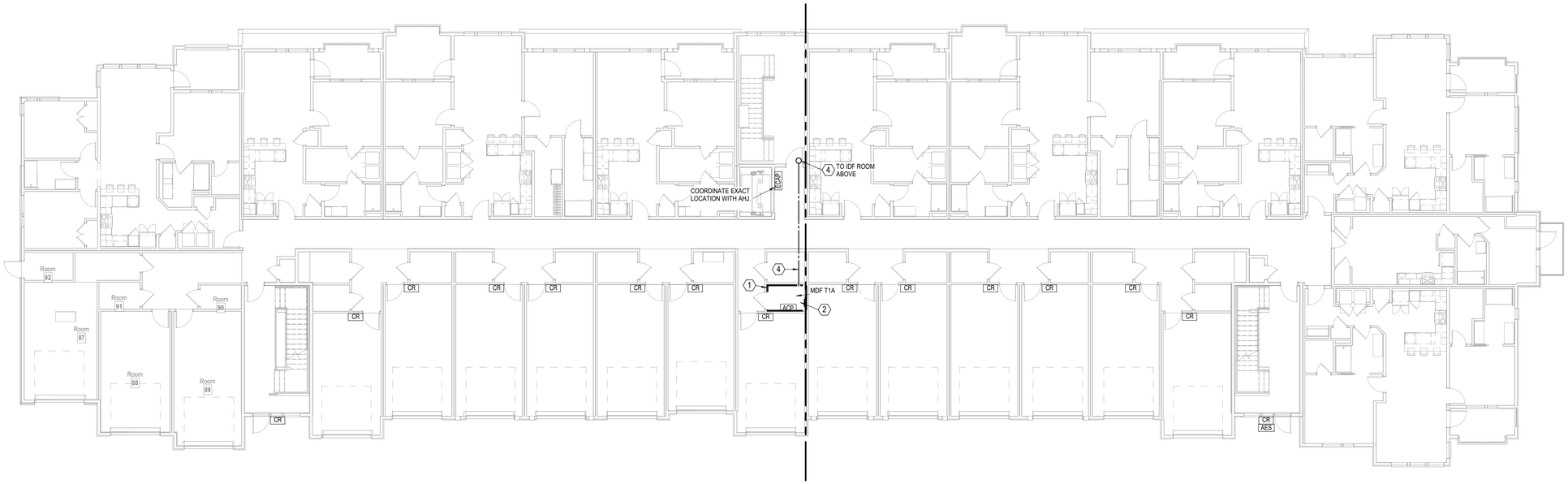

NORTH

1 1ST FLOOR BUILDING PLAN
TELECOM
3/32" = 1'-0"

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DATE: 3/24/2023
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SHEET NO. T1.11

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ARCH D 24" x 36"

LEGEND:
(1) PROVIDE 3/4"X4'X8' A-C FIRE RETARDANT PLYWOOD ON WALL, INSTALLED 6" AFF FASTEN SECURELY. PAINT PLYWOOD WITH (2) COATS OF, LOW GLOSS, LIGHT COLORED PAINT.
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(5) 2" EMT CONDUIT TO WEATHERHEAD ON ROOF FOR POTENTIAL FUTURE EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (ERRCS) CABLING PATHWAY. REFER TO WEATHERHEAD DETAIL.

NOTES:
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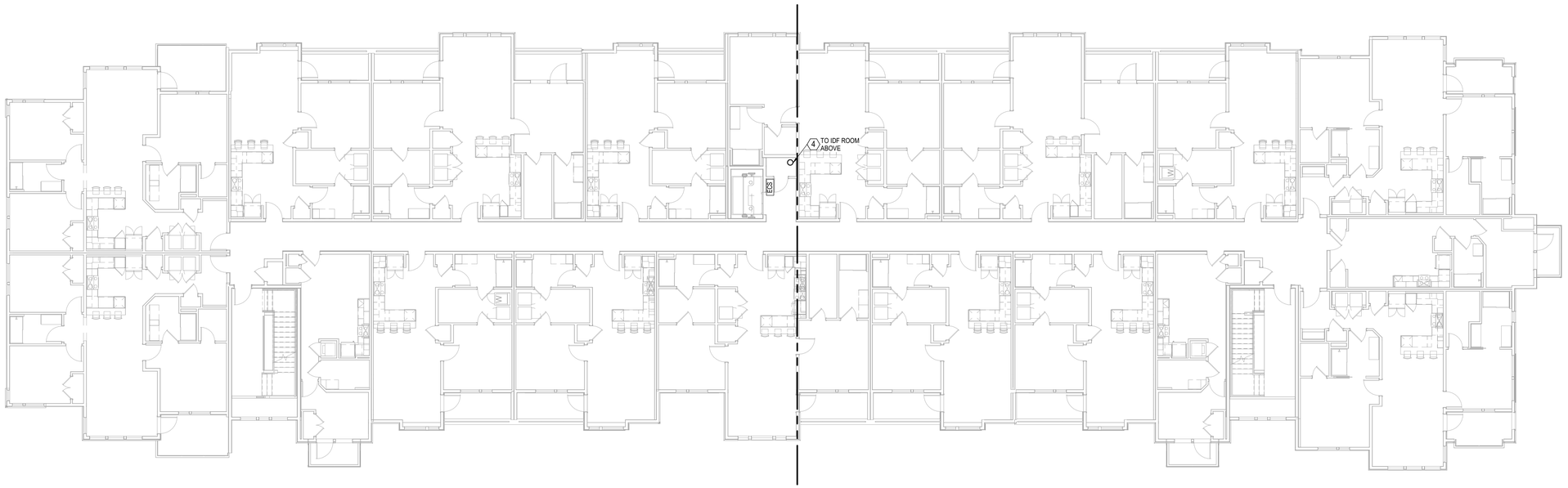

NORTH

1 2ND FLOOR BUILDING PLAN

TELECOM

3/32" = 1'-0"

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50 Highway & Blackwell, Lee's Summit, MO

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DATE: 3/24/2023
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PERMIT

ARCH D 24" x 36"

LEGEND:
(1) PROVIDE 3/4"X4'X8' A-C FIRE RETARDANT PLYWOOD ON WALL, INSTALLED 6" AFF FASTEN SECURELY. PAINT PLYWOOD WITH (2) COATS OF, LOW GLOSS, LIGHT COLORED PAINT.
(2) TMGB: 1/4"x4"x16" BUSBAR, HARGER GROUND BAR TGBI14416TMGBKT OR EQUAL PROVIDE #3/0 MAIN ELECTRICAL SERVICE GROUND.
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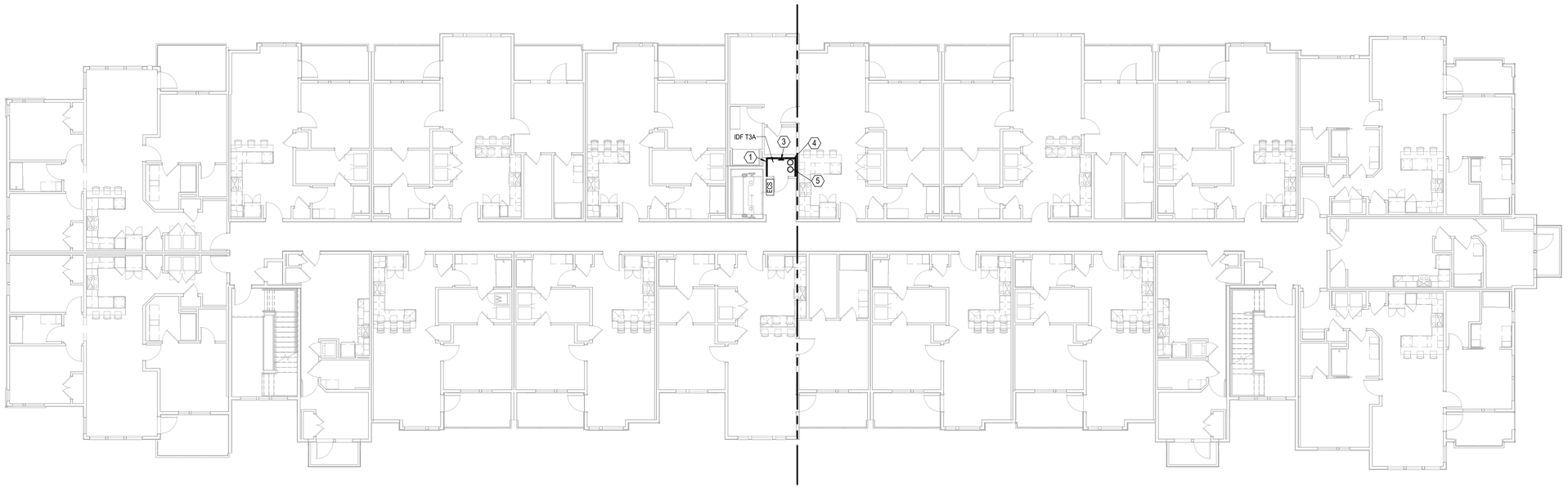
(5) 2" EMT CONDUIT TO WEATHERHEAD ON ROOF FOR POTENTIAL FUTURE EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (ERRCS) CABLING PATHWAY. REFER TO WEATHERHEAD DETAIL.

NOTES:
1. ROUTE ALL VOICE/DATA CABLING/INFRASTRUCTURE TO IDF T3A



NORTH

1 3RD FLOOR BUILDING PLAN
TELECOM
3/32" = 1'-0"

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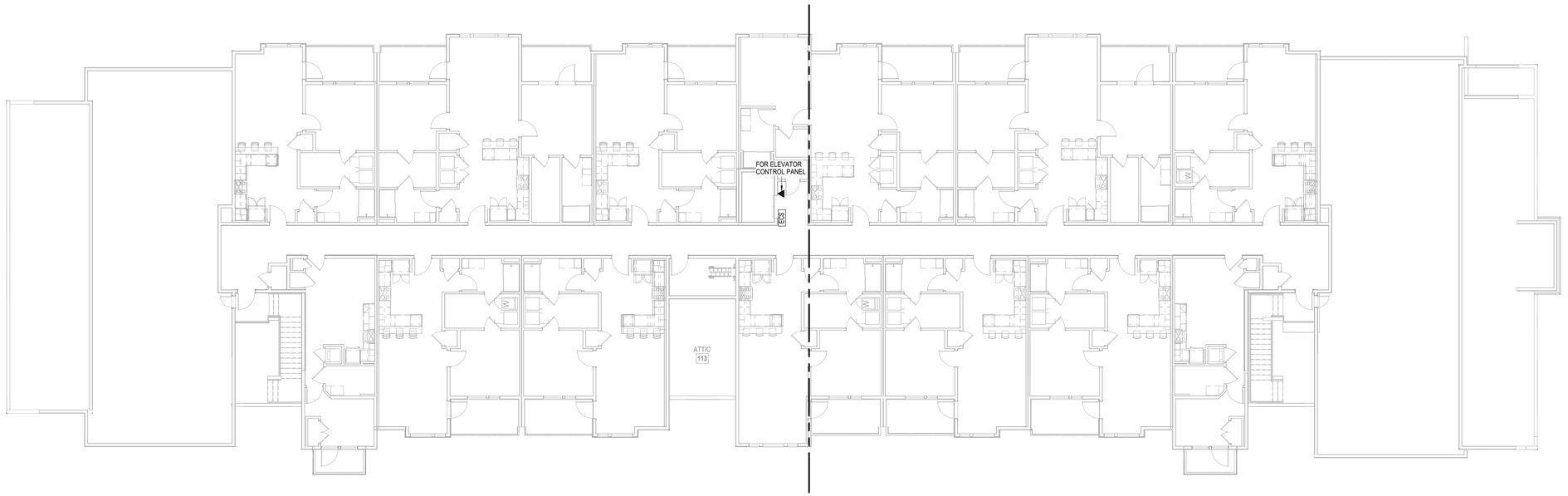
LEGEND:

1. PROVIDE 3/4"X4'X8' A-C FIRE RETARDANT PLYWOOD ON WALL, INSTALLED 6" AFF FASTEN SECURELY. PAINT PLYWOOD WITH (2) COATS OF, LOW GLOSS, LIGHT COLORED PAINT.
2. TMGB: 1/4"x4"x16" BUSBAR, HARGER GROUND BAR TGBI14416TMGBKT OR EQUAL PROVIDE #3/0 MAIN ELECTRICAL SERVICE GROUND.
3. TGB:1/4"x4"x12" BUSBAR, HARGER GROUND BAR TGBI14412TMGBKT OR EQUAL PROVIDE #1/0 TO TMGB IN MDF.
4. (2) 2" EMT CONDUITS FOR VOICE/DATA BACKBONE CABLING.
5. 2" EMT CONDUIT TO WEATHERHEAD ON ROOF FOR POTENTIAL FUTURE EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (ERRCS) CABLING PATHWAY. REFER TO WEATHERHEAD DETAIL.



NORTH

1 4TH FLOOR BUILDING PLAN

TELECOM

3/32" = 1'-0"

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3-24-23

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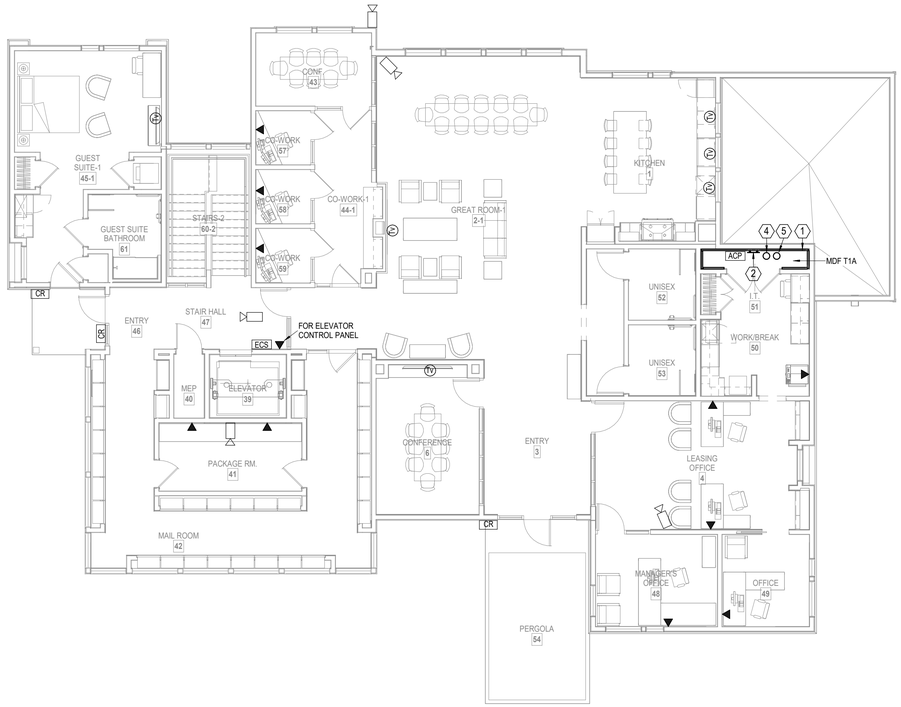
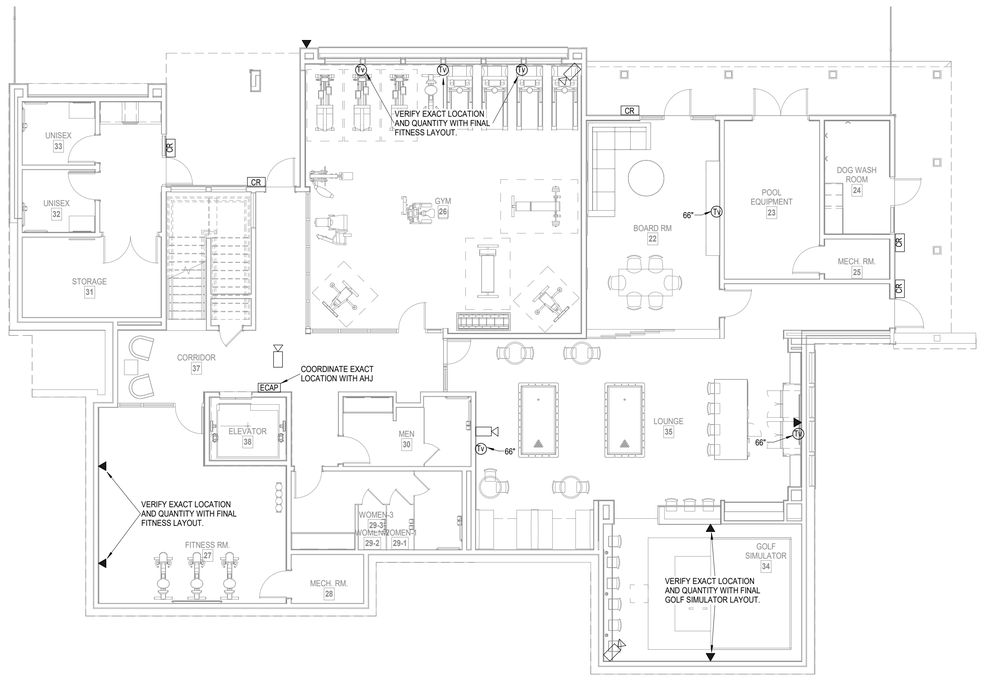


NORTH

1 1ST FLOOR CLUBHOUSE PLAN

TELECOM

1/8" = 1'-0"



NORTH

2 LOWER LEVEL CLUBHOUSE

TELECOM

1/8" = 1'-0"

LEGEND:
(1) PROVIDE 3/4"X4'X8' A-C FIRE RETARDANT PLYWOOD ON WALL, INSTALLED 6" AFF FASTEN SECURELY. PAINT PLYWOOD WITH (2) COATS OF, LOW GLOSS, LIGHT COLORED PAINT.
(2) TMGB: 1/4"x4"x16" BUSBAR, HARGER GROUND BAR TGBI14416TMGBKT OR EQUAL PROVIDE #3/0 MAIN ELECTRICAL SERVICE GROUND.
(3) TGB:1/4"x4"x12" BUSBAR, HARGER GROUND BAR TGBI14412TMGBKT OR EQUAL PROVIDE #1/0 TO TMGB IN MDF.
(4) (2) 2" EMT CONDUITS FOR VOICE/DATA BACKBONE CABLING.
(5) 2" EMT CONDUIT TO WEATHERHEAD ON ROOF FOR POTENTIAL FUTURE EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (ERRCS) CABLING PATHWAY. REFER TO WEATHERHEAD DETAIL.

NOTES:
1. ROUTE ALL VOICE/DATA CABLING/INFRASTRUCTURE TO MDF T1A

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STATE OF MISSOURI
RICHARD R. BEARDMORE
NUMBER
PROFESSIONAL ENGINEER

3-24-23

A NEW DEVELOPMENT:

RESIDENCES AT BLACKWELL

50 Highway & Blackwell, Lee's Summit, MO

DRAWING RELEASE LOG

△REVISIONS:

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LSA PROJECT NO. 2204073

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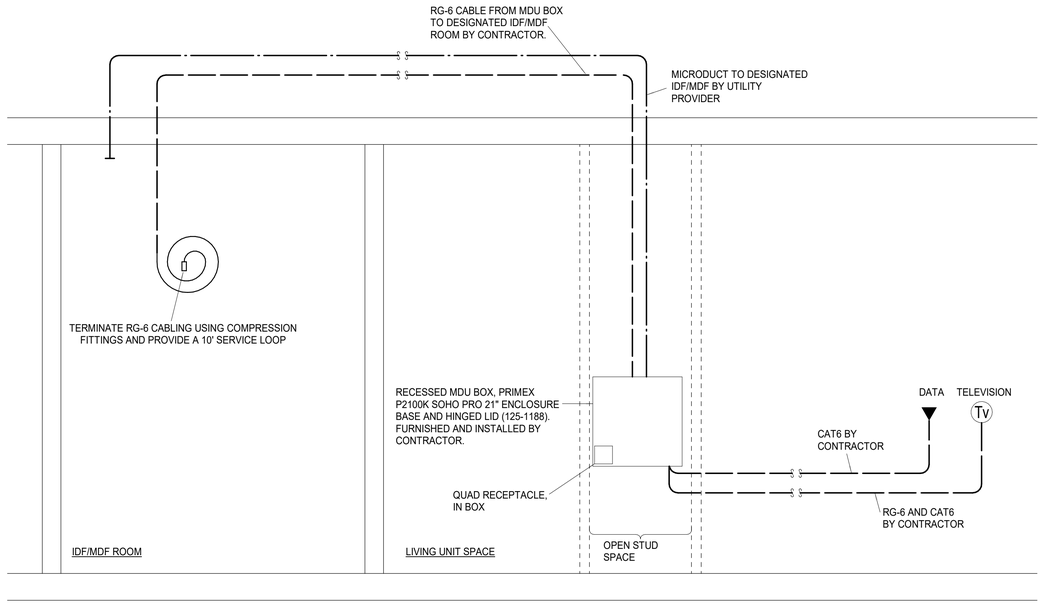
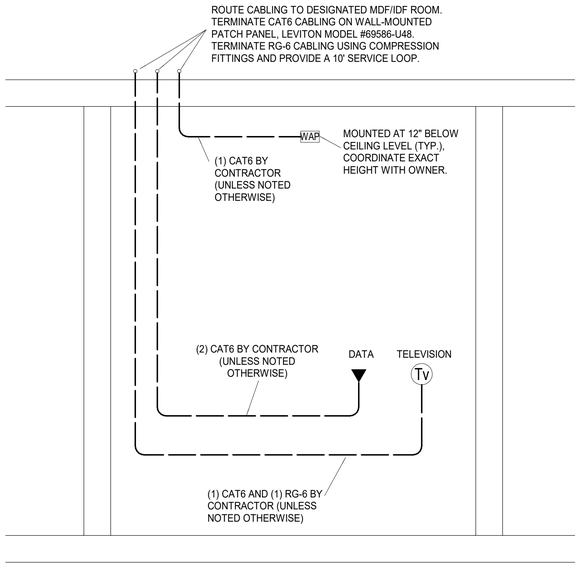


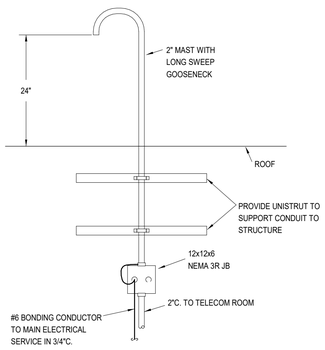
1 TYPICAL APARTMENT RISER DIAGRAM1
NOT TO SCALE



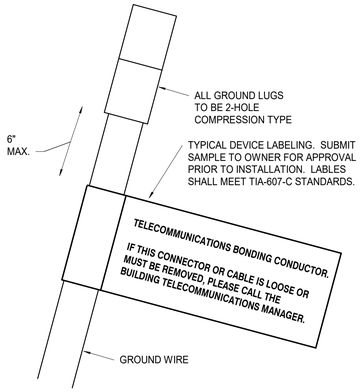
2 TYPICAL COMMON/OFFICE AREA RISER DIAGRAM
NOT TO SCALE

NOTES:

1. DISTRIBUTED ANTENNA SYSTEM: IF BUILDING DOES NOT MEET INTERNATIONAL FIRE CODE (IFC) 510 REQUIREMENTS, CONTRACTOR SHALL INSTALL AND CERTIFY A COMPLIANT IN-BUILDING PUBLIC SAFETY DISTRIBUTED ANTENNA SYSTEM (DAS) ALSO CALLED AN EMERGENCY RESPONDER RADIO COVERAGE SYSTEM (ERRCS). THE SYSTEM SHALL INCLUDE, BUT NOT LIMITED TO ALL EQUIPMENT, MATERIALS, LABOR, DOCUMENTATION AND SERVICES NECESSARY TO FURNISH AND INSTALL A COMPLETE, OPERATIONAL PUBLIC SAFETY DAS OR ERRCS. ALL WORK TO BE CONDUCTED OR SUPERVISED BY A QUALIFIED SYSTEM INTEGRATOR WITH EXPERIENCE DESIGNING, TESTING, INSTALLING, CERTIFYING AND MAINTAINING EMERGENCY RESPONDER RADIO COVERAGE SYSTEMS. A PRELIMINARY TEST OF EXISTING, UNAMPLIFIED IN-BUILDING RADIO FREQUENCY (RF) SIGNAL COVERAGE SHALL BE CONDUCTED AT 80% CONSTRUCTION COMPLETION PRIOR TO DESIGN AND INSTALLATION OF SYSTEM. TESTING SHALL BE CONDUCTED WITH THE LATEST TEST EQUIPMENT AND ANALYTICS SOFTWARE VERSIONS AVAILABLE. CONTRACTOR SHALL PROVIDE $3,000 ALLOWANCE FOR TESTING AND $25,000 ALLOWANCE FOR SYSTEM INSTALL.



3 WEATHERHEAD DETAIL
NOT TO SCALE



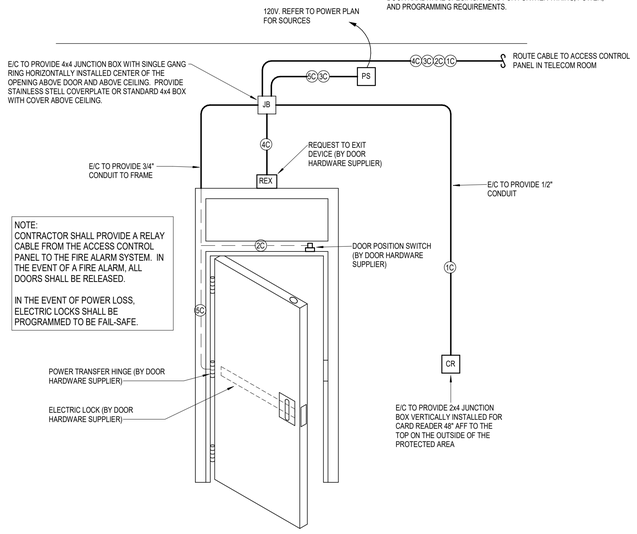
4 GROUND WIRE DETAIL
NOT TO SCALE

CABLE LEGEND:	
1C	PROXIMITY CARD READER (ORANGE) 18GA./6 COND. TWISTED OVERALL SHIELD, RISER RATED CABLE.
2C	MAGNETIC SWITCH (WHITE) 18GA./2 COND. TWISTED OVERALL SHIELD, RISER RATED CABLE.
3C	ELECTRIC LOCK (GRAY) 16GA./4 COND. TWISTED OVEERALL SHIELD, RISER RATED CABLE.
4C	REQUEST TO EXIT (BLUE) 18GA./4 COND. TWISTED OVERALL SHIELD, RISER RATED CABLE.
5C	ELECTRIC LOCK FROM PS TO PUSHBAR 18GA./4 COND. TWISTED OVERALL SHIELD, RISER RATED CABLE.

ACCESS CONTROL CABLE SCHEDULE:	
1C 2C 3C 4C	BELDEN MODEL #538AFS
5C	BELDEN MODEL #5302FE

ACCESS CONTROL DEVICE LEGEND:	
ACP	ACCESS CONTROL PANEL
CR	HID CARD READER
REX	REQUEST TO EXIT *
DP	DOOR POSITION SWITCH *
EL	ELECTRIC LOCK (24V. DC) *
PS	POWER SUPPLY (24V. DC) *
ADA	ADA PUSHBUTTON *
DADA	DUAL ADA PUSHBUTTON*
ADAM	ADA MOTORIZED OPERATOR *
VIMS	VIDEO INTERCOM MASTER STATION
VIC	VIDEO INTERCOM

* - INDICATES PROVIDED BY DOOR HARDWARE SUPPLIER. REFER TO DOOR HARDWARE SPECIFICATIONS FOR FURTHER WIRING, POWER, AND PROGRAMMING REQUIREMENTS.

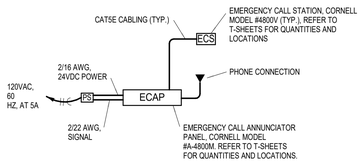


6 TYPICAL ACCESS DOOR DETAIL
NOT TO SCALE

7 TYPICAL ACCESS CONTROL PANEL DETAIL
NOT TO SCALE

TWO-WAY COMMUNICATION SYSTEM SCHEDULE				
MARK	MANUFACTURER	MODEL NUMBER	DESCRIPTION	REMARKS
ECAP	CORNELL	A-4800M	EMERGENCY CALL ANNUNCIATOR PANEL	1, 4
ECS	CORNELL	4800V	EMERGENCY CALL STATION	2, 4
PS	CORNELL	B-5248A	POWER SUPPLY	3

REMARKS:
1 - PROVIDE POWER SUPPLIES AS REQUIRED. PROVIDE WITH STI MODEL #STI-7521 NEMA 4X CLEAR ENCLOSURE WITH THUMB LOCK.
2 - PROVIDE WITH DOUBLE GANG BACKBOX AND STI MODEL #STI-7511E CLEAR ENCLOSURE WITH THUMB LOCK.
3 - VERIFY SIZE OF POWER SUPPLY WITH LAYOUT OF THE SYSTEM.
4 - VERIFY LOCATION WITH AHJ.



5 TWO-WAY COMMUNICATION DIAGRAM
NOT TO SCALE

ACCESS CONTROL CABLE SCHEDULE				
MARK	MANUFACTURER	MODEL/PART NUMBER	DESCRIPTION	REMARKS
1C 2C 3C 4C	BELDEN	538AFS	INSIDE ACCESS CONTROL CABLE (COMBO CABLE)	1
5C	BELDEN	5302UE	ELECTRIC LOCK CABLE 18 GA 4 COND STRANDED	1, 2
6C	CSC	759218	OUTSIDE ACCESS CONTROL CABLE (COMBO CABLE)	1

REMARKS:
1 - PROVIDED AND INSTALLED BY E/C.
2 - E/C TO ROUTE CABLE FROM DEVICE AND LEAVE A 8'-0" SERVICE LOOP AT THE BURGLAR ALARM PANEL. PROVIDE A 24" SERVICE LOOP AT DEVICE. PROVIDE A MECHANICALLY PRINTED LABEL ON EACH END OF EACH CABLE FOR REFERENCE.
3 - PROVIDED AS A PART OF THE DOOR HARDWARE PACKAGE.

SECURITY SCHEDULE				
MARK	MANUFACTURER	MODEL NUMBER	DESCRIPTION	REMARKS
CR	DORMAKABA	SAFFIRE	CARD READER	
ACP	DORMAKABA	SAFFIRE	ACCESS CONTROL PANEL	1
AES	MIRCON		APARTMENT ENTRY SYSTEM	
	HID		FOBs	1

REMARKS:
1 - VERIFY QUANTITY WITH OWNER.

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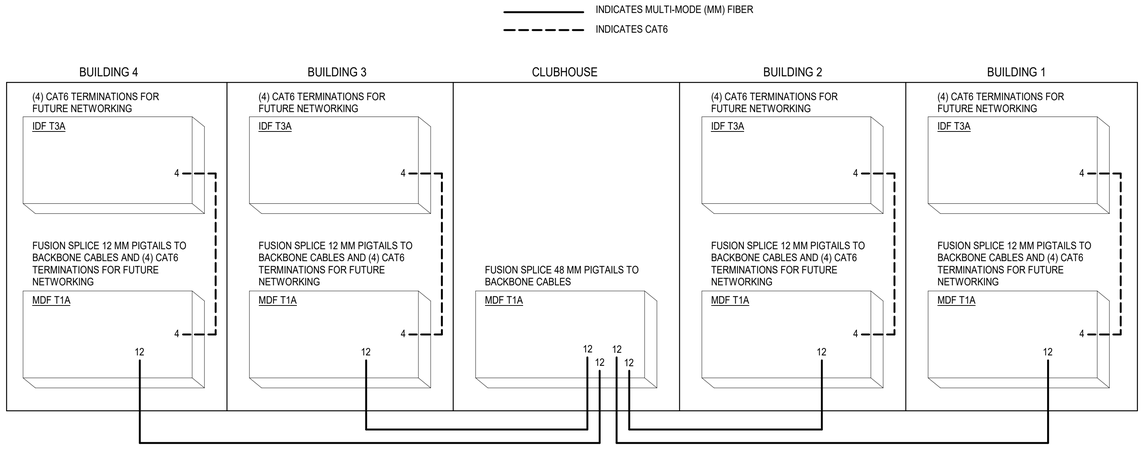
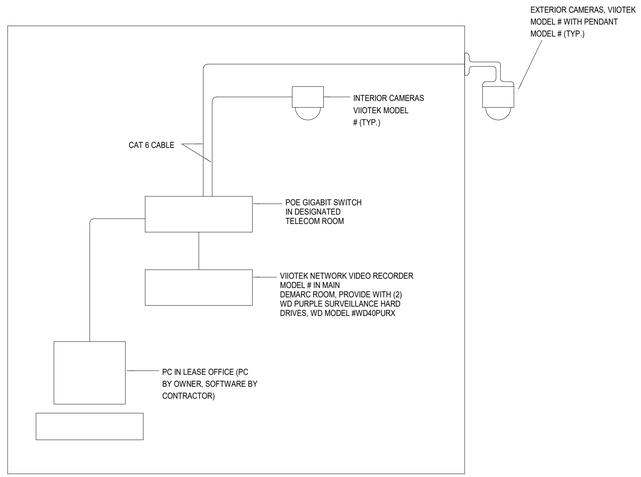


1 BACKBONE CABLE TERMINATION DETAIL
NOT TO SCALE



2 TYPICAL SECURITY CAMERA DETAIL
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