

MSU RESEARCH ALLIANCE

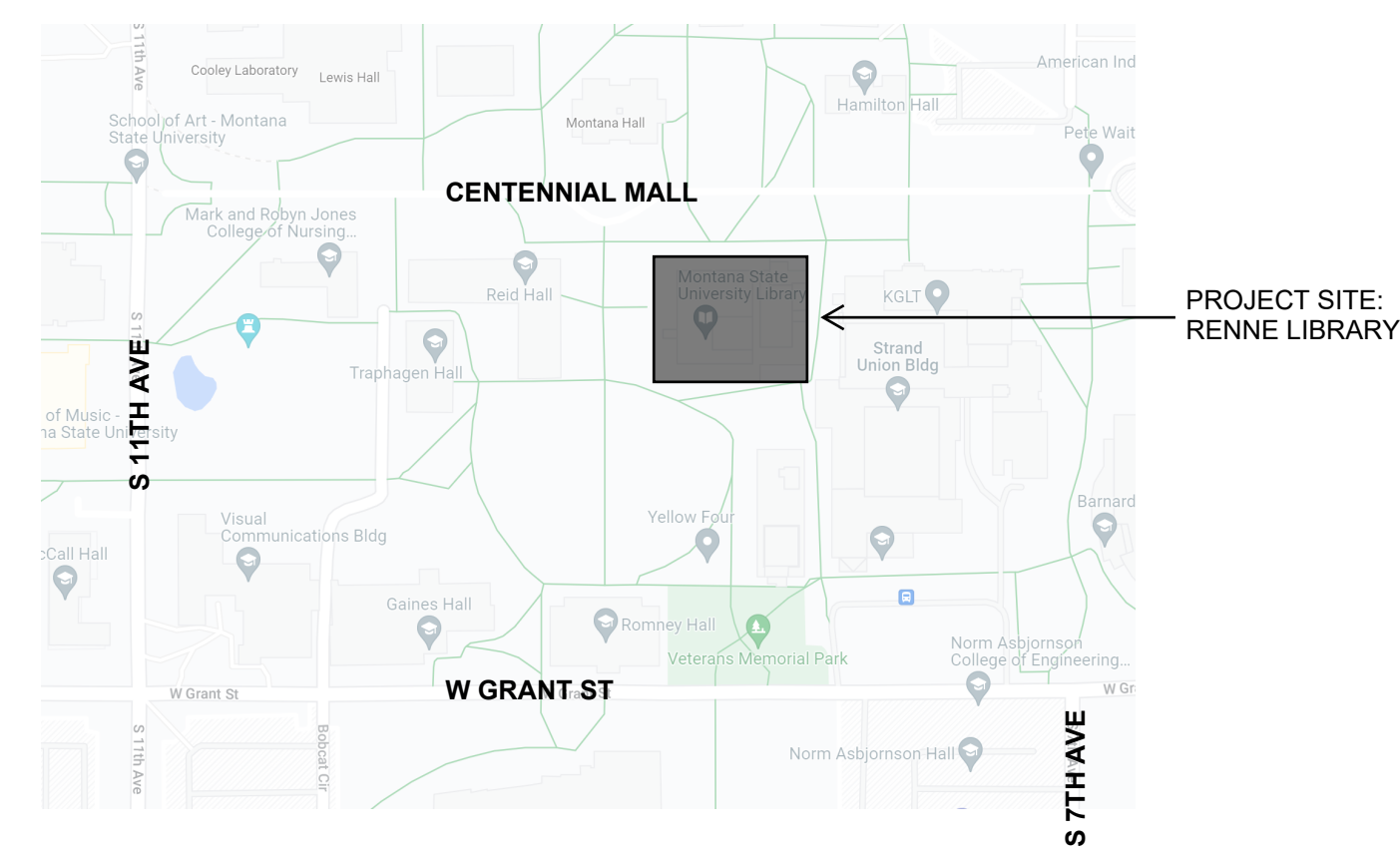
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PROJECT VICINITY MAP



PROJECT INFORMATION

DESCRIPTION:

MINOR DEMOLITION, NEW FLOORING, NEW ELECTRICAL, NEW INFORMATION TECHNOLOGY CABLING PATHWAYS, AND OTHER RELATED WORK IN THE LIBRARY ON MONTANA STATE UNIVERSITY'S CAMPUS IN BOZEMAN, MONTANA.

SITE:

RENNE LIBRARY
MSU-BOZEMAN CAMPUS
BOZEMAN, MT 59717

CONTACT INFORMATION:

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DRAWING SHEET LIST

GENERAL

G0.01 COVERSHEET

ARCHITECTURAL

A2.01 PLAN, LEVEL 1-4

ELECTRICAL

E0.1 ELECTRICAL LEGENDS AND ABBREVIATIONS

E1.1 LEVEL 1 -POWER PLAN

E1.2 LEVEL 2 -POWER PLAN

E1.3 LEVEL 3 -POWER PLAN

E1.4 LEVEL 4 -POWER PLAN

ICT

T0.1 ICT LEGENDS AND ABBREVIATIONS

T1.1 LEVEL 2 -STRUCTURED CABLING PLAN

T1.2 LEVEL 3 -STRUCTURED CABLING PLAN

FURNITURE (FOR REFERENCE ONLY, NOT PART OF PROJECT SCOPE)

F1 1ST FLOOR

F2 2ND FLOOR

F3 2ND FLOOR THREAD

F4 2ND FLOOR FURNITURE

F5 3RD FLOOR

F6 4TH FLOOR

F7 4TH FLOOR THREAD

F8 4TH FLOOR FURNITURE

GENERAL PROJECT / STAGING NOTES

1. THE CONTRACTOR SHALL MINIMIZE INTERFERENCE WITH ADJOINING STREETS, SIDEWALKS, PARKING AREAS, AND OTHER ADJACENT OCCUPIED OR USED FACILITIES DURING CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL NOT BLOCK STREETS, SIDEWALKS, OR ACCESS TO DUMPSTER LOCATIONS AT ANY TIME.
2. THE CONTRACTOR SHALL PROTECT EXISTING SITE IMPROVEMENTS AND LANDSCAPING FROM DAMAGE CAUSED BY CONSTRUCTION OPERATIONS TO CURRENT MSU STANDARDS OR AS DIRECTED BY THE OWNER PRIOR TO SUBSTANTIAL COMPLETION.
3. THE CONTRACTOR SHALL PROTECT EXISTING BUILDINGS FROM DAMAGE, CONTAMINATION, AND SOILING CAUSED BY CONSTRUCTION OPERATIONS. THE CONTRACTOR SHALL KEEP BUILDING ENTRANCES, CORRIDORS, AND STAIRWELLS CLEAR OF CONSTRUCTION MATERIALS, TOOLS, AND EQUIPMENT AT ALL TIMES. CONTRACTOR SHALL RESTORE EXISTING BUILDINGS DAMAGED BY CONSTRUCTION OPERATIONS AS DIRECTED BY THE OWNER PRIOR TO SUBSTANTIAL COMPLETION.
4. THE CONTRACTOR SHALL ACCESS THE SITE FROM THE CENTENNIAL MALL OR FROM THE ACCESS DRIVE BETWEEN THE STRAND UNION BUILDING AND THE RENNE LIBRARY.
5. ALL CONTRACTOR VEHICLES PARKED ON CAMPUS, INCLUDING VEHICLES OWNED BY EMPLOYEES OF THE CONTRACTOR, SHALL BE PARKED IN DESIGNATED PARKING AREAS ONLY.
6. CONSTRUCTION STAGING AREA: SHOULD THE CONTRACTOR REQUIRE ON-SITE CONSTRUCTION STAGING, AN AREA FOR THIS PURPOSE WILL BE PROVIDED. THE CONTRACTOR SHALL RESTORE AREAS USED FOR CONSTRUCTION STAGING THAT ARE DAMAGED DURING THE COURSE OF CONSTRUCTION OPERATIONS TO CURRENT MSU STANDARDS OR AS DIRECTED BY THE OWNER PRIOR TO SUBSTANTIAL COMPLETION.
7. CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND JOB SITE CONDITIONS BEFORE COMMENCING WORK AND SHALL REPORT ANY DISCREPANCIES TO THE OWNER.
8. THE OWNER WILL OCCUPY ROOMS 327, 329, 330, 331, AND 332 ON LEVEL 3 UNTIL CONSTRUCTION AND FURNITURE INSTALLATION IS COMPLETE IN THE STUDY AREA 215 ON LEVEL 2. CONTRACTOR TO SEQUENCE WORK IN COORDINATION WITH OWNER'S OCCUPANCY.

Revisions

RESEARCH ALLIANCE

RENNE LIBRARY
MSU-BOZEMAN

Drawing Title

COVERSHEET

Date: 2023-04-10

PPA#: 19-0197

Drawn By: Author

Checked By: Checker

Drawing No.

G0.01

BID DOCUMENTS

GENERAL NOTES

1. CONTRACTOR TO SEQUENCE WORK IN COORDINATION WITH OWNER'S FURNITURE VENDOR. OWNER'S FURNITURE VENDOR TO REMOVE AND/OR RELOCATE ALL EXISTING FURNITURE IN AREA OF WORK ON LEVELS 1, 2, 3, AND 4. OWNER'S FURNITURE VENDOR TO PROVIDE, LOCATE, AND PLACE THREAD POWER SYSTEM. CONTRACTOR TO CONNECT THREAD POWER SYSTEM TO BUILDING POWER PER ELECTRICAL DRAWINGS.
2. CONTRACTOR TO COORDINATE WORK WITH OWNER'S UNIVERSITY INFORMATION TECHNOLOGY AND AV/TECHNOLOGY REPRESENTATIVES FOR CABLING AND TECHNOLOGY EQUIPMENT INSTALLATION. SEE ELECTRICAL AND ICT DRAWINGS AND SPECIFICATIONS FOR MORE INFORMATION.
3. CONTRACTOR TO FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO BID SUBMITTAL AND TO NOTIFY OWNER IMMEDIATELY IN WRITING OF ANY DISCREPANCIES. DO NOT SCALE DRAWINGS FOR DIMENSIONAL INFORMATION - ALL ELEMENTS ON THE DRAWINGS MAY NOT BE TO THE EXACT SCALE.
4. CONTRACTOR TO PREPARE FLOOR TO THE STANDARDS REQUIRED BY NEW FLOORING MANUFACTURER WHERE CARPETING WILL BE DEMOLISHED AND REINSTALLED OR INSTALLED NEW.
5. CONTRACTOR TO PROVIDE NEW RUBBER BASE AT ALL AREAS WHERE NEW FLOORING IS BEING INSTALLED AND EXISTING RUBBER BASE CANNOT BE SALVAGED AND REINSTALLED. NEW RUBBER BASE TO MATCH ADJACENT EXISTING RUBBER BASE. CONTRACTOR TO PROVIDE NEW RUBBER REDUCER STRIPS AT PERIMETER OF NEW FLOORING WHERE TRANSITIONING TO ADJACENT CONCRETE SLAB.
6. CONTRACTOR TO NOT MAKE ANY REPAIRS OR CHANGES THAT ARE NOT SHOWN ON THE DRAWINGS WITHOUT APPROVAL BY THE OWNER. NO STRUCTURE IS TO BE REMOVED UNLESS EXPLICITLY CALLED OUT ON THESE PLANS OR FORMALLY APPROVED BY THE OWNER.
7. THE OWNER AND/OR ENGINEER MUST APPROVE ALL METHODS USED FOR RENOVATION/REPAIR OF CONDITIONS AFTER DEMOLITION NOT DEFINED IN THE DRAWINGS OR SPECIFICATIONS.
8. THE DRAWINGS INDICATE THE OBVIOUS EXTENT OF NECESSARY DEMOLITION. THE ACTUAL AMOUNT OF DEMOLITION AND RECONSTRUCTION WILL BE DETERMINED BY HOW THE DEMOLITION WORK IS PERFORMED BY THE CONTRACTOR. THE DEMOLITION PROCESS MAY HAVE A GREATER IMPACT ON ADJACENT AREAS OF THE BUILDING TO REMAIN THAN INDICATED ON THE DRAWINGS. THE CONTRACTOR IS TO REASONABLY VERIFY THE IMPACTS THAT THE DEMOLITION PROCESS WILL HAVE ON ADJACENT CONSTRUCTION AND FINISHES.
9. CONTRACTOR TO ENSURE THE FULL OPERATION OF EXISTING FIRE AND LIFE SAFETY SYSTEMS THROUGHOUT DEMOLITION AND NEW CONSTRUCTION.

REMOVE AND SALVAGE FOR OWNER EXISTING WALL-MOUNTED SECURE TECHNOLOGY BOXES AND TELEVISION MONITORS AT ROOMS 327, 329, 330, 331, AND 332. PATCH AND REPAIR WALL FINISH, TYPICAL.

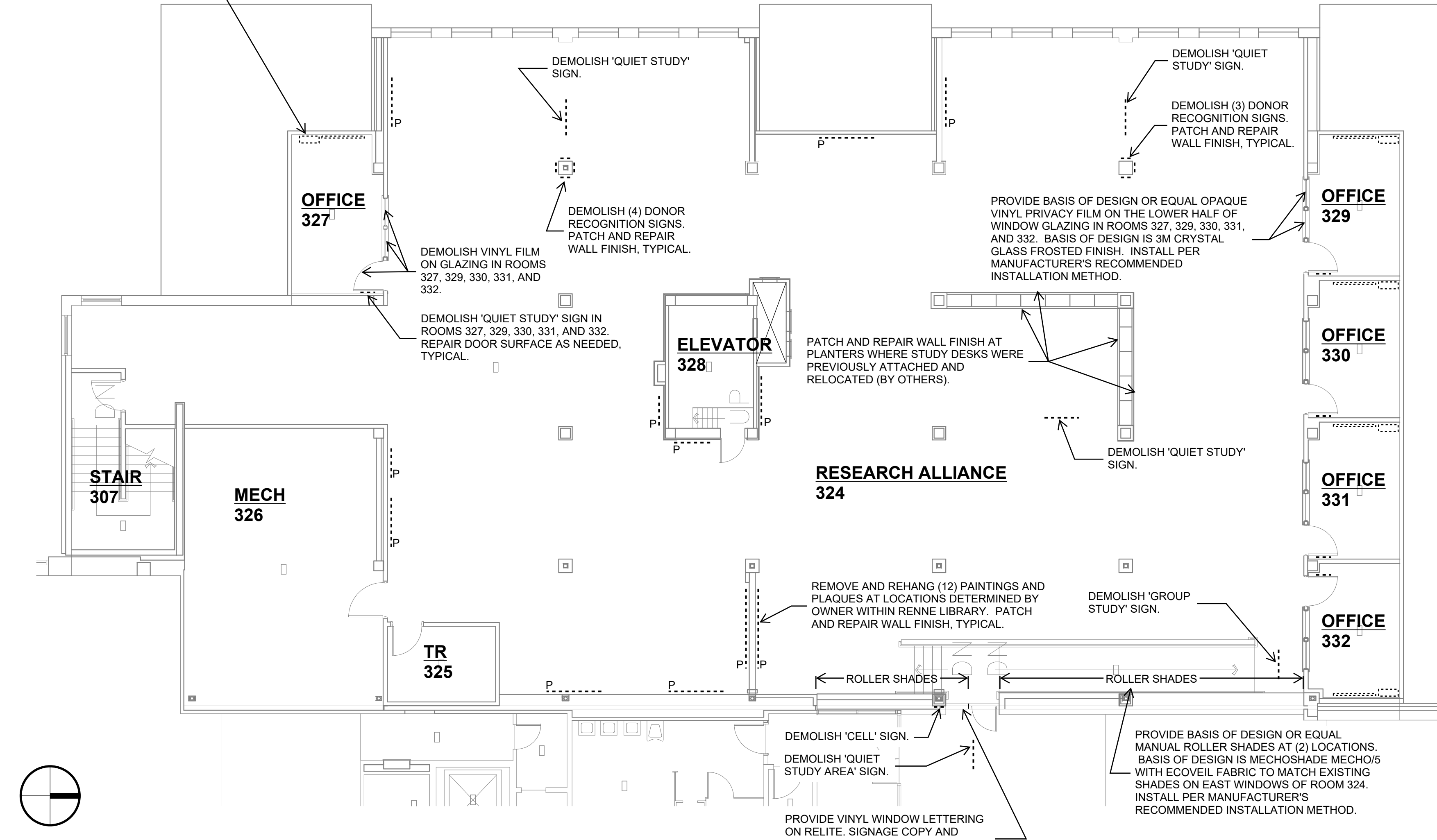
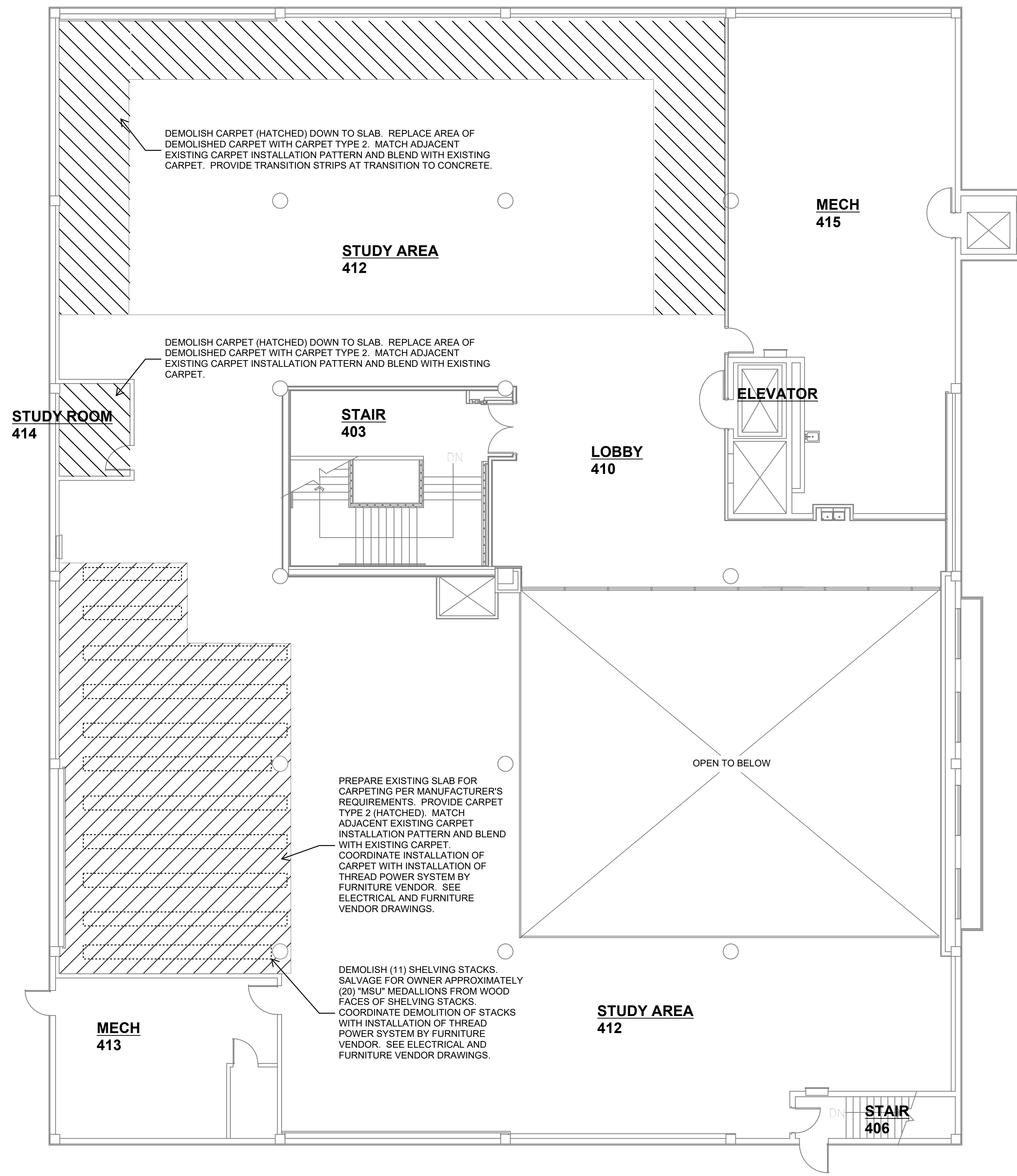
LEVEL 4 SHELVING STACKS NTS



- LEVEL 4 SHELVING STACKS TO BE DEMOLISHED.
- "MSU" MEDALLION TO BE SALVAGED FOR OWNER.

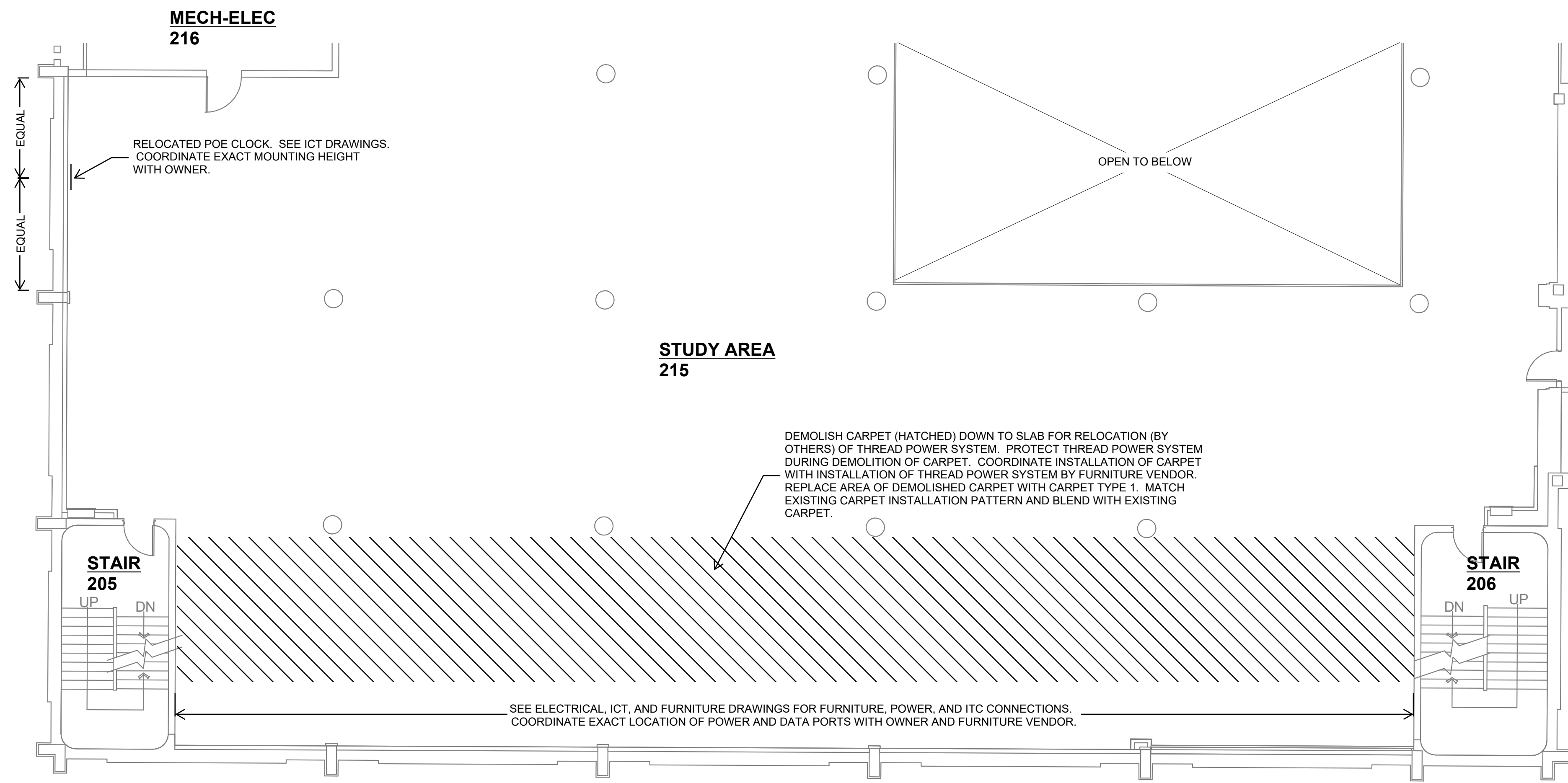
CARPET SPECIFICATION

- PART 1 - GENERAL**
- 1.1 SUBMITTALS: PROVIDE PRODUCT DATA AND FULL-SIZE SAMPLES FOR EACH TYPE OF PRODUCT INDICATED. SAMPLES TO INCLUDE ACCESSORIES SUCH AS RUBBER BASE AND TRANSITION STRIPS.
 - 1.2 WARRANTY: PROVIDE MANUFACTURER'S STANDARD PRODUCT MATERIAL AND WORKMANSHIP WARRANTY. THE MANUFACTURER MUST GUARANTEE THAT IT WILL RECOVER, TRANSPORT, AND RECYCLE CARPET TILE AT THE END OF ITS USEFUL LIFE.
 - 1.3 ATTIC STOCK: UPON COMPLETION OF THE WORK FURNISH FULL-SIZE UNITS EQUAL TO 5% OF AMOUNT INSTALLED FOR EACH PRODUCT TYPE INDICATED TO OWNER. WRAP EXTRA MATERIALS WITH PROTECTIVE COVERING AND LABEL DESCRIBING CONTENT.
- PART 2 - PRODUCTS**
- CARPET TYPE 1**
- BENTLEY MILLS, ZOMBIE HUNTER 800605, TILE SIZE 18"x36", AFFIX HARDBACK BACKING, OR EQUAL TO MATCH EXISTING CARPET DEMOLISHED. LOW-VOC ADHESIVE AS RECOMMENDED BY MANUFACTURER FOR INSTALLATION ON DEFINED SUBSTRATE(S).
- CARPET TYPE 2**
- BENTLEY MILLS, ASTRO COMMANDER 800607, TILE SIZE 18"x36", AFFIX HARDBACK BACKING, OR EQUAL TO MATCH EXISTING CARPET DEMOLISHED. LOW-VOC ADHESIVE AS RECOMMENDED BY MANUFACTURER FOR INSTALLATION ON DEFINED SUBSTRATE(S).
- PART 3 - EXECUTION**
- 3.1 INSTALLATION: INSTALL PER MANUFACTURER'S REQUIREMENTS ON THE DEFINED SUBSTRATE(S). COMPLY WITH CRI 104-2015, SECTION 8.2, 7.2, 7.12, AND 14.
 - 3.2 RECYCLING: ALL CARPET DEMOLISHED AND ANY SCRAP CARPET FROM INSTALLATION TO BE RECYCLED REGARDLESS OF BRAND. STACK FLAT AND PALLETIZE CARPET AS REQUIRED BY CARPET MANUFACTURER FOR RECYCLING. PROVIDE OWNER WITH WRITTEN DOCUMENTATION VERIFYING THAT CARPET HAS BEEN RECYCLED AND DIVERTED FROM THE LANDFILL.



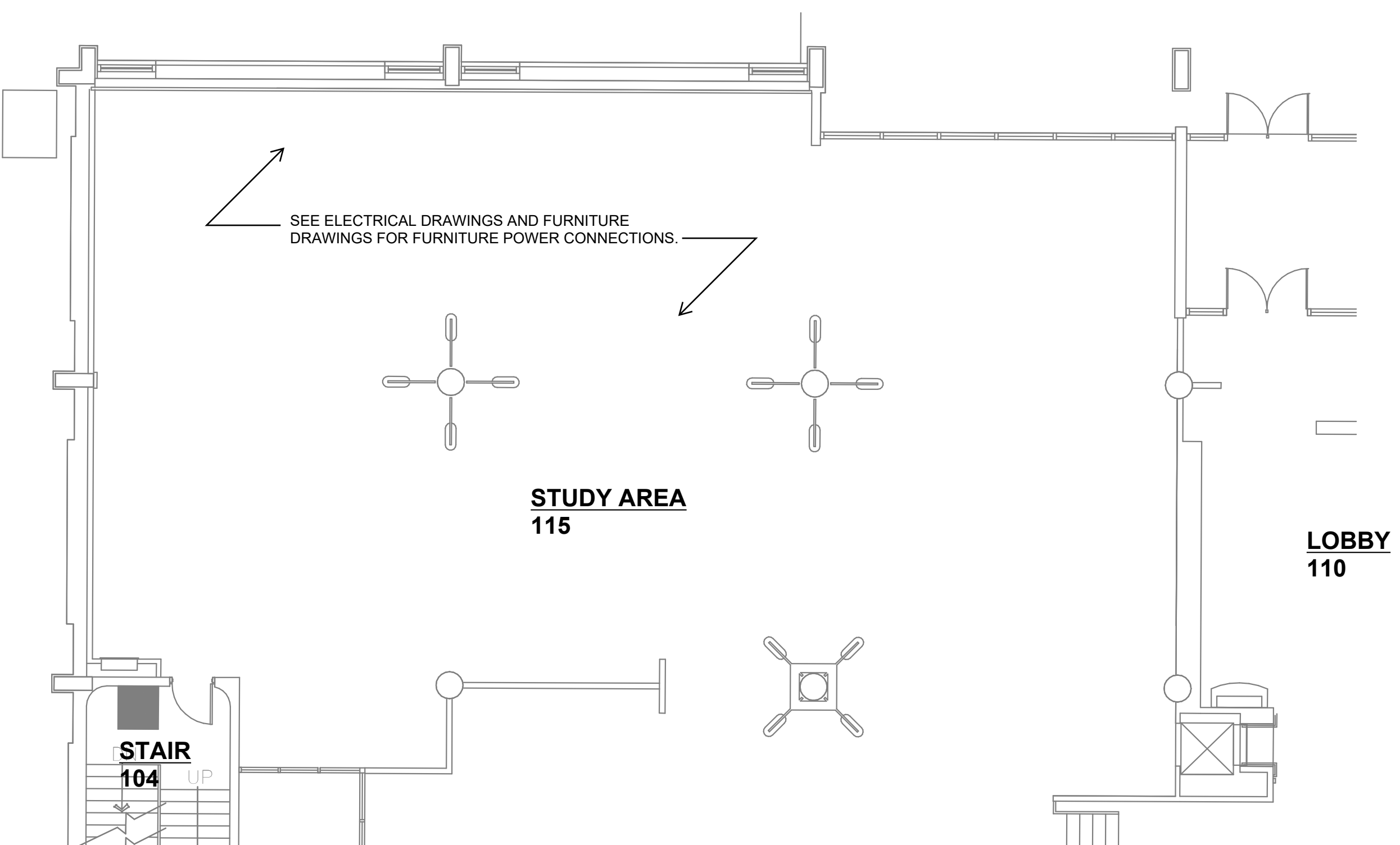
3 PLAN, FLOOR - LEVEL 4
A2.01 1/8" = 1'-0"

1 PLAN, FLOOR - LEVEL 3 EAST
A2.01 1/8" = 1'-0"



4 PLAN, FLOOR - LEVEL 2
A2.01 1/8" = 1'-0"

2 PLAN, FLOOR - LEVEL 1
A2.01 1/8" = 1'-0"



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Drawing Title
PLAN, LEVEL 1-4

Date: 2023-04-10
PPAF: 19-0197
Drawn By: N/A
Checked By: N/A

Drawing No.

A2.01

BID DOCUMENTS

ELECTRICAL ABBREVIATIONS LEGEND

A AMP	AMPERES	MAG	MAGNETIC STARTER
AL	ALTERNATING CURRENT	MAN	MANUAL
AC	AIR CONDITIONING	MAX	MAXIMUM
AF	AMP FUSE	MC	MECHANICAL CONTRACTOR
AFC	AVAILABLE FAULT CURRENT	MCA	MINIMUM CIRCUIT AMPACITY
AFCI	ARC FAULT CIRCUIT INTERRUPTER	MCC	MOTOR CONTROL CENTER
AFB	ABOVE FINISHED FLOOR	MDF	MAIN DISTRIBUTION PANEL
AFG	ABOVE FINISHED GRADE	MECH	MECHANICAL
AHU	AIR HANDLING UNIT	MEP	MECHANICAL, ELECTRICAL, PLUMBING
AL	ALUMINUM	MH	METAL HALIDE
AS	AMP SWITCH	MIN	MINIMUM
ATS	AUTOMATIC TRANSFER SWITCH	MSS	MOTOR STARTER SWITCH WITH THERMAL OVERLOADS
BAS	BUILDING AUTOMATION SYSTEM	N	NEUTRAL
BKR	BREAKER	NC	NORMALLY CLOSED
BOF	BOTTOM OF FIXTURE	NEC	NATIONAL ELECTRIC CODE
CB	CIRCUIT BREAKER	NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
CCT	COLOR RENDERING TEMPERATURE	NFD	NON-FUSED DISCONNECT
CCTV	CLOSED CIRCUIT TELEVISION	NO	NOT IN CONTRACT
CKT	CIRCUIT	NO	NORMALLY OPEN
CLG	CEILING	#	NUMBER
C.O.	RACEWAY/CONDUIT ONLY, WITH PULL STRING	OAE	OR APPROVED EQUAL
COD	CENTER OF DEVICE	OC	ON CENTER
CNTRL	CONTROL	OCPD	OVERCURRENT PROTECTIVE DEVICE
CU	COPPER	OH	OVERHEAD
DISC	DISCONNECT	P	POLE
DIST	DISTRIBUTION	PB	PUSHBUTTON
DPT	DOUBLE POLE DOUBLE THROW	PC	PLUMBING CONTRACTOR
DWG	DRAWING	PH	PHASE
EA	EACH	PNL	PANEL
EC	ELECTRICAL CONTRACTOR	PVC	POLYVINYL CHLORIDE CONDUIT
EF	EXHAUST FAN	PWR	POWER
ELEC	ELECTRIC	(R)	EXISTING TO BE RELOCATED
EMT	ELECTRICAL METALLIC TUBING	RCPT	RECEPTACLE
EQUIP	EQUIPMENT	RECP	RECEPTACLE
EX EXIST	EXISTING	RGS	RIGID GALVANIZED STEEL
FA	FIRE ALARM	RM	ROOM
FAA	FIRE ALARM ANNUNCIATOR	RVNR	REDUCED VOLTAGE NON-REVERSING
FACP	FIRE ALARM CONTROL PANEL	RVR	REDUCED VOLTAGE REVERSING
FD	FUSED DISCONNECT	SP	SINGLE POLE TOGGLE SWITCH
FLR	FLOOR	SPD	SURGE PROTECTIVE DEVICE (TVSS)
FO	FIBER OPTIC	SPEC	SPECIFICATION
FSD	FIRE SMOKE DAMPER RELAY, CONTROLLED BY ASSOCIATED SMOKE DETECTOR AND CIRCUITED BACK TO FACP	SPST	SINGLE POLE SINGLE THROW
FVNR	FULL VOLTAGE NON-REVERSING	SSPB	START-STOP PUSHBUTTON
FVR	FULL VOLTAGE REVERSING	SW	SWITCH
GEC	GROUNDING ELECTRODE CONDUCTOR	SWBD	SWITCHBOARD
GFCI	GROUND FAULT CIRCUIT INTERRUPTER	SWOR	SWITCHGEAR
GFI	GROUND FAULT INTERRUPTER	TB	TELEPHONE BOARD
GND	GROUND	TC	TIME CLOCK
HID	HIGH INTENSITY DISCHARGE	TD	TIME DELAY
HQA	HAND-OFF-AUTOMATIC	TEL	TELEPHONE
HP	HORSEPOWER	TR	TAMPER RESISTANT
HPS	HIGH PRESSURE SODIUM	TSP	TWISTED SHIELDED PAIR
HTR	HEATER	TTB	TELEPHONE TERMINAL BOARD
HVAC	HEATING, VENTILATION & AIR CONDITIONING	TYP	TYPICAL
HZ	HERTZ	UG	UNDERGROUND
J-BOX	JUNCTION BOX	UH	UNIT HEATER
KVA	KILOVOLT-AMPERES	UNO	UNLESS NOTED OTHERWISE
KW	KILOWATTS	V	VOLT
LCP	LIGHTING CONTROL PANEL	VA	VOLT-AMPERES
LPW	LUMENS PER WATT	VFD	VARIABLE FREQUENCY DRIVE
LTG	LIGHTING	W	WATTS
LM	LUMENS	WAO	WORK AREA OUTLET
LV	LOW VOLTAGE	WP	WEATHERPROOF
		W/O	WITHOUT
		XFMR	TRANSFORMER
		Y	WYE-CONECTED
		Δ	DELTA-CONECTED
		ø	PHASE

ELECTRICAL POWER LEGEND

D-1	PANEL AND CIRCUIT DESIGNATION ARE SHOWN NEXT TO EACH DEVICE (PANEL NAME - CIRCUIT NUMBER). BRANCH CIRCUIT WIRE SIZE #12, UNO. A SINGLE INSULATED GREEN GROUND CONDUCTOR SHALL BE PROVIDED WITH EACH HOME RUN. PROVIDE A SEPARATE NEUTRAL FOR EACH CIRCUIT. HOME RUNS SHALL HAVE NO MORE THAN THREE CIRCUITS. LINE VOLTAGE AND LOW VOLTAGE WIRING IS NOT SHOWN ON PLANS. FOR EQUIPMENT CIRCUITING, SEE MEP COORDINATION SCHEDULE.	□	PANEL BOARD OR LOAD CENTER
⊗		⊗	SPECIAL PURPOSE RECEPTACLE (MOUNT AT +18" UNO)
⊗		⊗	INDICATES TYPE: A - NEMA 5-20R, #12 CU; B - NEMA 5-30R, #10 CU; C - NEMA 5-50R, #6 CU; D - NEMA 6-20R, #12 CU; E - NEMA 6-30R, #10 CU; F - NEMA 6-60R, #6 CU; G - NEMA 14-20R, #12 CU; H - NEMA 14-30R, #10 CU; I - NEMA 14-60R, #6 CU; * +4" AFF FOR RANGE
⊗		⊗	PUSHBUTTON (MOUNT AT +48" UNO)
⊗		⊗	INDICATES TYPE: EPO - EMERGENCY POWER OFF ADA - HANDICAPPED ACCESSIBLE DOOR (DEVICE BY OTHERS) ODO - OVERHEAD DOOR OPERATOR (DEVICE BY OTHERS)
⊗		⊗	FLATSCREEN TV BOX: 2-GANG, FLUSH IN WALL, HUBBELL NSAW2M, DUPLEX RECEPTACLE & SINGLE GANG AVILOW VOLTAGE OPENING. SEE T-SERIES DRAWINGS FOR AVILOW VOLTAGE OPENING REQUIREMENTS AND ROUTE CONDUIT/PULLSTRING AS SHOWN ON T-SERIES DRAWINGS. MOUNT BOX AT +60" UNO
⊗		⊗	JUNCTION BOX
⊗		⊗	DROP-DOWN RECEPTACLE
⊗		⊗	SURFACE MOUNTED RACEWAY
⊗		⊗	RACEWAY CONCEALED IN WALL, FLOOR, OR CEILING IN FINISHED SPACES, EXPOSED IN UNFINISHED SPACES
⊗		⊗	RACEWAY BELOW FLOOR OR BELOW GRADE
⊗		⊗	RACEWAY STUB-OUT WITH CAPPED END
⊗		⊗	RACEWAY STUB-OUT WITH BRUSHED END
⊗		⊗	GROUNDING BUS
⊗		⊗	FLOOR BOX WITH 120V DUPLEX RECEPTACLE(S)
⊗		⊗	FLOOR BOX WITH DATA / POWER

ABBREVIATIONS AND SYMBOLS GENERAL NOTES

A. THE ABBREVIATIONS ON THIS SHEET COMPRISE A STANDARD LIST. NOT ALL ABBREVIATIONS APPEAR ON THIS PROJECT.
B. THE SYMBOLS ON THIS SHEET COMPRISE A STANDARD LIST. NOT ALL SYMBOLS APPEAR ON THIS PROJECT.
C. ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH OTHER CONTRACTORS, MAKING ADJUSTMENTS AS REQUIRED TO AVOID INTERFERENCE WITH EQUIPMENT SUCH AS BASEBOARD FIN-TUBE, CABINET UNIT HEATERS, ETC. ARCHITECT/ENGINEER SHALL BE NOTIFIED OF ALL SUCH HEIGHT ADJUSTMENTS. MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS OR AS NOTED SPECIFICALLY ON THE DRAWINGS OR IN THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED.

ELECTRICAL PROJECT GENERAL NOTES

A. PRIOR TO BID CONTRACTOR SHALL VISIT THE SITE. NOT ALL WORK REQUIRED TO COMPLETE THE PROJECT IS SHOWN ON THE DRAWINGS. THE CONTRACTOR SHALL BECOME THOROUGHLY FAMILIAR WITH ALL THE WORK REQUIRED TO COMPLETE THE PROJECT IN ADDITION TO THE LOCAL CONDITIONS AND INCLUDE SAID WORK IN THE BID.
B. GENERAL WORK PRACTICES FOR ELECTRICAL CONSTRUCTION SHALL BE IN ACCORDANCE WITH NECA 1 - STANDARD PRACTICES FOR GOOD WORKMANSHIP IN ELECTRICAL CONTRACTING - THIS PUBLICATION IS AVAILABLE FROM NECA BY TELEPHONE AT 301-657-3110 OR ON-LINE AT WWW.NECANET.ORG.
C. FIRE-RESISTANCE: PROVIDE A MINIMUM HORIZONTAL DISTANCE OF 24" BETWEEN OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE-RESISTANCE RATED WALLS. WHERE THIS IS NOT POSSIBLE INSTALL UL LISTED PUTTY PADS ON ALL OUTLET BOXES NOT MEETING THE 24" SEPARATION. PROVIDE A UL LISTED THROUGH-PENETRATION FIRESTOP FOR PENETRATIONS OF FIRE-RESISTANCE RATED ASSEMBLIES.
D. CONDUCTORS ARE SIZED PER THE 75 DEGREE C RATING COLUMN OF NEC TABLE 310.16. IF THE TERMINAL USED FOR A TERMINATION OF A PARTICULAR CONDUCTOR IS NOT MARKED, OR THE TERMINAL IS MARKED FOR 60 DEGREE C CONDUCTORS, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO EITHER ADJUST THE AMPACITY OF THE CONDUCTOR TO MATCH THE 60 DEGREE COLUMN OF TABLE 310.16 OR REPLACE THE TERMINAL WITH ONE RATED FOR AT LEAST 75 DEGREES C.
E. BASED ON ACTUAL HOMERUN LENGTHS REQUIRED IN THE FIELD, THE CONTRACTOR SHALL CALCULATE AND INCREASE THE WIRE SIZES AS REQUIRED TO LIMIT BRANCH CIRCUIT VOLTAGE DROP TO 3%. FOR 200 AMP BRANCH CIRCUITS THE MINIMUM CONDUCTOR SIZES SHALL BE AS FOLLOWS: #10 AWG CU FOR RUNS BETWEEN 100 AND 200 LINEAR FEET, #8 AWG CU FOR RUNS BETWEEN 200 AND 325 LINEAR FEET, AND AS CALCULATED BY THE CONTRACTOR FOR CIRCUITS EXTENDING BEYOND 325 LINEAR FEET. IN ALL CASES WHERE WIRE SIZES INCREASE, THE CONTRACTOR SHALL PROVIDE LARGER CONDUITS AS REQUIRED.
F. PROVIDE A DEDICATED NEUTRAL CONDUCTOR FOR EACH 120V BRANCH CIRCUIT.

ELECTRICAL PROJECT DEMO NOTES

A. DURING DEMOLITION, THE CONTRACTOR SHALL NOTE ALL EXISTING RACEWAY (BOTH SURFACE AND CONCEALED) TO THE EXTENT POSSIBLE. THESE RACEWAYS SHALL BE REUSED TO THE GREATEST EXTENT POSSIBLE TO INSURE A CLEAN FINISHED PRODUCT.
B. ALL POWER INTERRUPTIONS SHALL BE COORDINATED WITH OWNER. ANY DISRUPTION OF WORKERS IN THE SPACE SHALL BE KEPT TO A MINIMUM AND BE COORDINATED WITH THE OWNER PRIOR TO WORK COMMENCING IN THAT SPACE.
C. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR OF ANY EXISTING CONDUIT OR FEEDER CIRCUITS THAT ARE INTENDED TO REMAIN THAT ARE SAW-CUT, OR OTHERWISE DAMAGED, AS PART OF THE DEMOLITION PROCESS. PROVISION FOR THIS WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL NECESSARY CONDUIT AND CONDUCTORS, MOUNTING ACCESSORIES AND LABOR, TO RESTORE THE SYSTEM TO ITS INTENDED FUNCTION.
D. ELECTRICAL DRAWINGS SHOWING EXISTING BUILDING CONDITIONS, SUCH AS DEMOLITION DRAWINGS, EXISTING PANEL SCHEDULES, ETC ARE BASED ON RECORD DRAWINGS AND SITE VISITS. IF ACTUAL EXISTING CONDITIONS DIFFER FROM THOSE SHOWN ON DRAWINGS, PLEASE NOTIFY ENGINEER.

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TYPICAL HARDWIRED FURNITURE WHIP CONNECTION (SHOWN IN ITS CURRENT LEVEL 3 LOCATION). TO BE RELOCATED TO LEVEL 1 AND RE-POWERED AS NOTED.



TYPICAL EXISTING FLOOR BOXES, TO BE MODIFIED WHERE NOTED FOR HARDWIRED FURNITURE WHIP CONNECTION.

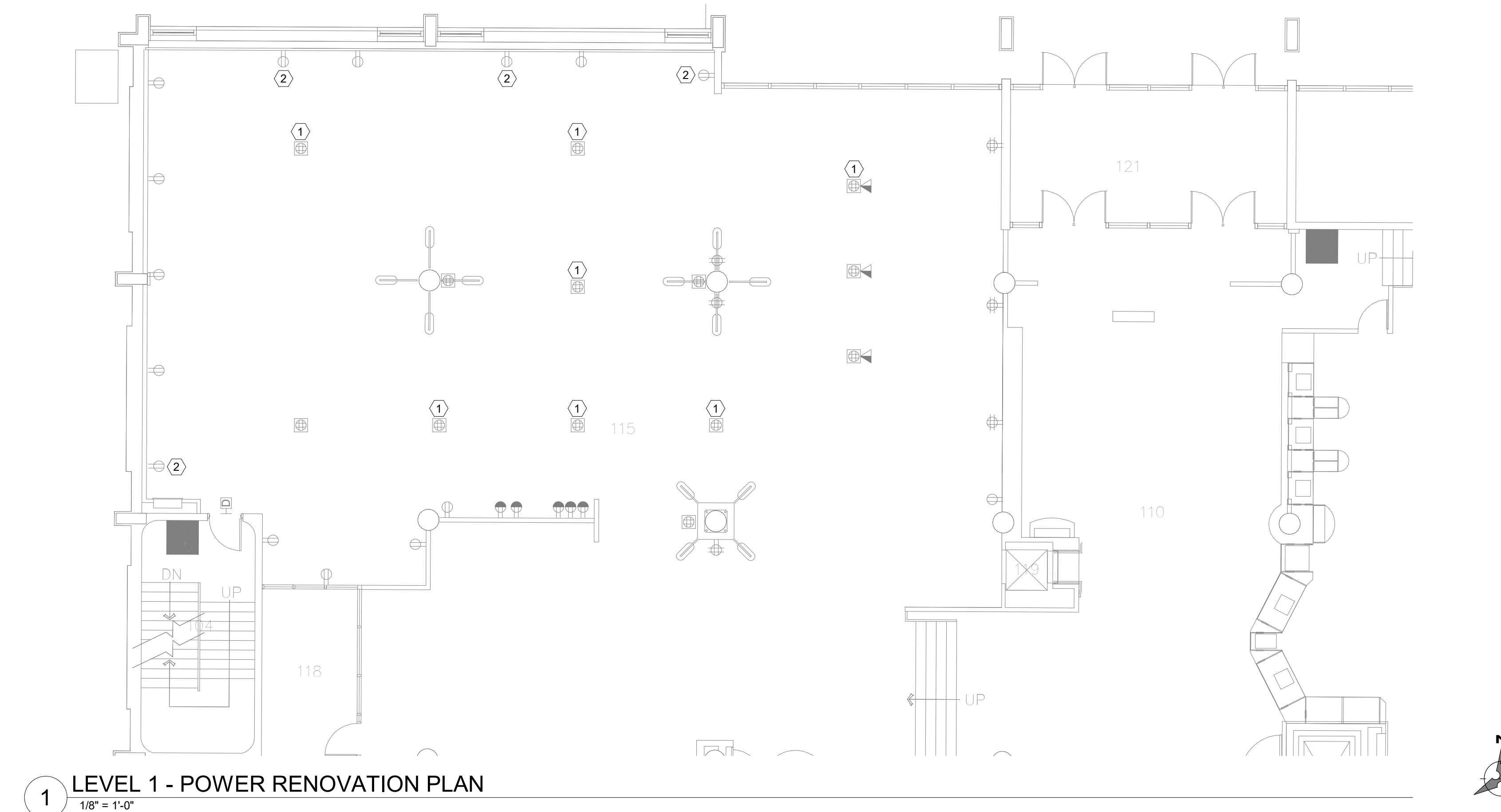


GENERAL ELECTRICAL NOTES

- A. IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INVOLVED TO COORDINATE WITH EACH OTHER AND VERIFY THAT THERE ARE NO CONFLICTS IN LOCATION OF DUCTS, CONDUITS, DIFFUSERS, BOXES, AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS. COORDINATE WITH EXISTING BUILDING CONDITIONS AS REQUIRED.
- B. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING OF FLOORS, WALLS, CEILINGS, AND ROOFS TO PERFORM THE REQUIRED WORK DEPICTED IN THESE DOCUMENTS. THE ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE FOR ALL PATCHING OF HOLES TO THE SATISFACTION OF THE OWNER AND ENGINEER.
- C. SEE SPECIFICATIONS FOR RACEWAY REQUIREMENTS.
- D. PROVIDE UPDATED TYPE-WRITTEN PANEL SCHEDULES FOR ALL PANELS MODIFIED BY REMOVAL.

KEY NOTES:

1. EXISTING FURNITURE WITH POWERED WHIP CONNECTION TO BE RELOCATED FROM LEVEL 3 TO LEVEL 1 BY OWNER. ELECTRICAL CONTRACTOR SHALL HARDWIRE FURNITURE POWER WHIP CONNECTION TO EXISTING NOTED FLOOR BOX. MODIFY EXISTING FLOOR BOX COVER AND DEVICES ACCORDINGLY TO ACCOMMODATE NEW HARDWARE CONNECTION. UTILIZE EXISTING 120V CIRCUITRY WITHIN EXISTING FLOOR BOX TO POWER THE FURNITURE CONNECTION.
2. EXISTING FURNITURE WITH POWERED WHIP CONNECTION TO BE RELOCATED FROM LEVEL 3 TO LEVEL 1 BY OWNER. ELECTRICAL CONTRACTOR SHALL HARDWIRE FURNITURE POWER WHIP CONNECTION TO EXISTING NOTED WALL DUPLEX RECEPTACLE. MODIFY EXISTING WALL BOX ACCORDINGLY TO ACCOMMODATE NEW HARDWARE CONNECTION. UTILIZE EXISTING 120V CIRCUITRY WITHIN EXISTING WALL BOX TO POWER THE FURNITURE CONNECTION.



1 LEVEL 1 - POWER RENOVATION PLAN
1/8" = 1'-0"

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TYPICAL EXISTING POWERED FURNITURE SYSTEM POWER CONNECTIONS SHOWN. TO BE DISCONNECTED AS NOTED FOR RELOCATION.



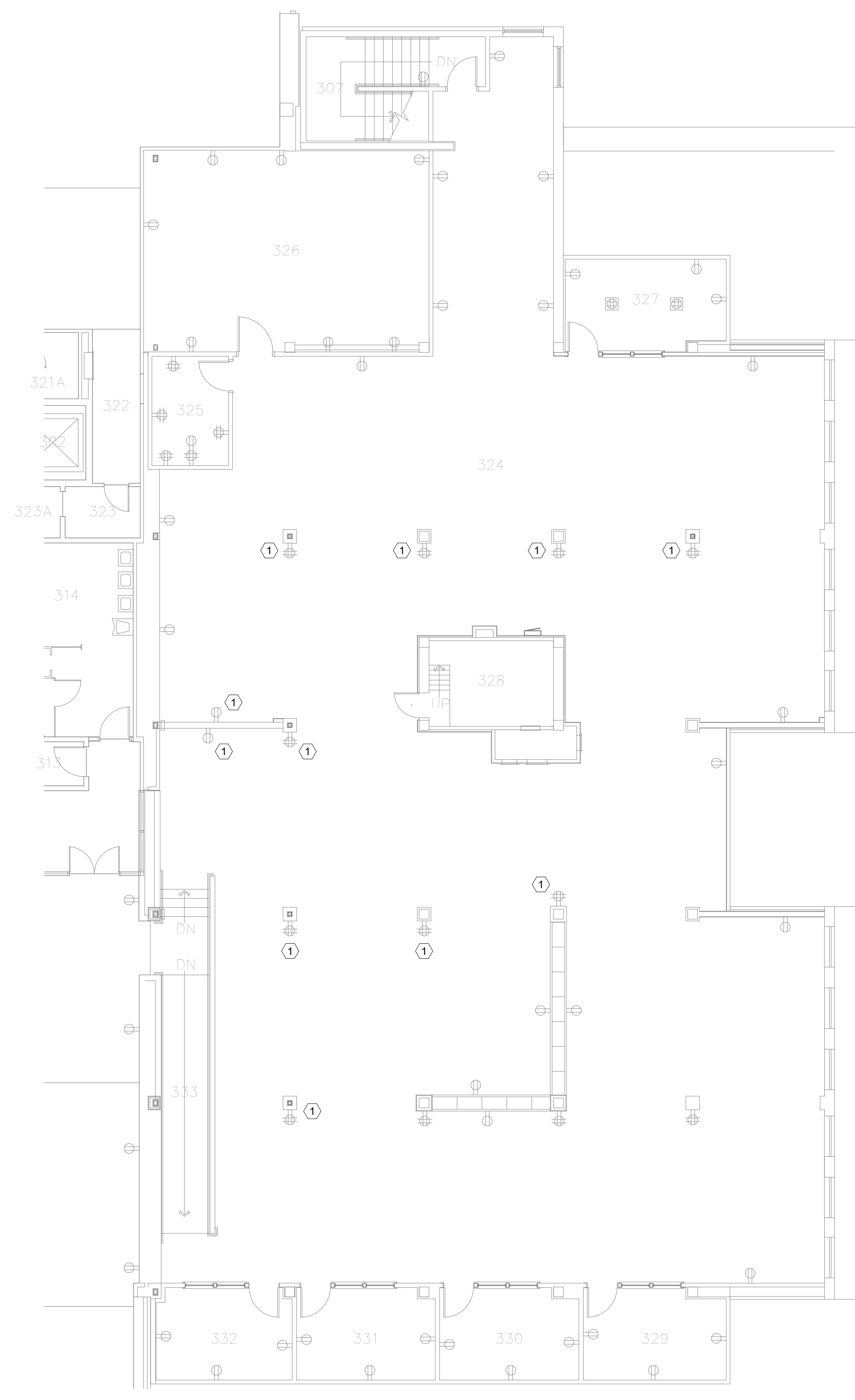
EXISTING WALL PICTURED WHERE NEW TV MONITOR AND WORKSTATION WILL BE LOCATED. EXISTING PAINTING TO BE RELOCATED BY OWNER.

GENERAL ELECTRICAL NOTES

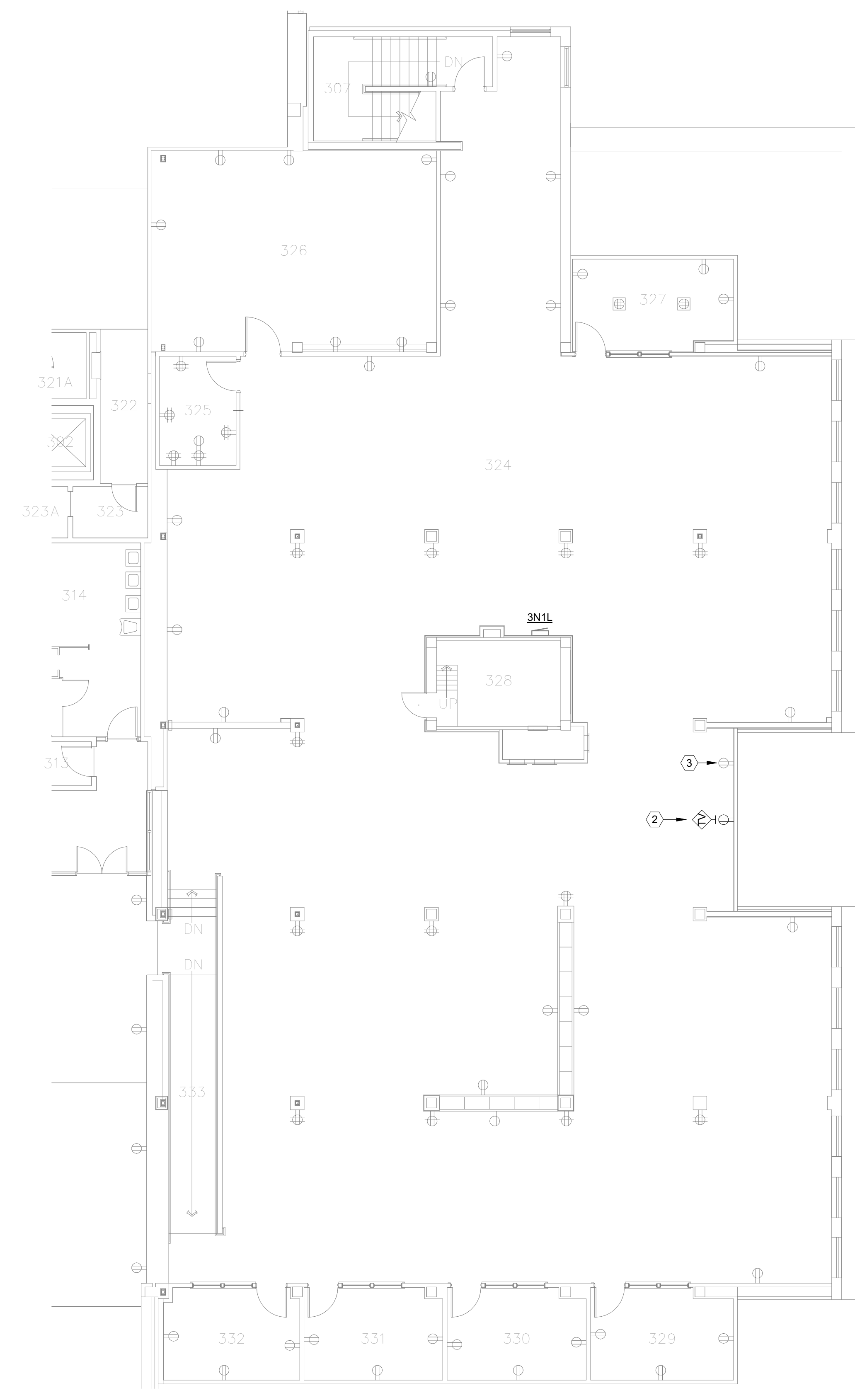
- A. IT IS ABSOLUTELY NECESSARY FOR ALL TRADES INVOLVED TO COORDINATE WITH EACH OTHER AND VERIFY THAT THERE ARE NO CONFLICTS IN LOCATION OF DUCTS, CONDUITS, DIFFUSERS, BOXES, AND OTHER ITEMS THROUGHOUT THIS PROJECT BEFORE FINAL PLACEMENT OF MATERIALS. COORDINATE WITH EXISTING BUILDING CONDITIONS AS REQUIRED.
- B. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING OF FLOORS, WALLS, CEILING, AND ROOF'S TO PERFORM THE REQUIRED WORK DEPICTED IN THESE DOCUMENTS. THE ELECTRICAL CONTRACTOR IS ALSO RESPONSIBLE FOR ALL PATCHING OF HOLES TO THE SATISFACTION OF THE OWNER AND ENGINEER.
- C. SEE SPECIFICATIONS FOR RACEWAY REQUIREMENTS.
- D. PROVIDE UPDATED TYPE-WRITTEN PANEL SCHEDULES FOR ALL PANELS MODIFIED BY REMODEL.

KEY NOTES:

- 1. EXISTING POWERED FURNITURE SYSTEM TO BE RELOCATED FROM LEVEL 3 TO LEVEL 1 BY OWNER. ELECTRICAL CONTRACTOR SHALL DISCONNECT EXISTING HARDWARE POWERED WHIP CONNECTION AT LEVEL 3 AS REQUIRED FOR RELOCATION. SAVE LFMC POWER WHIP FOR REUSE AT LEVEL 1. PROVIDE BLANK COVERPLATE OR BLANK FILLER CAP OVER EXISTING J-BOX AT LEVEL 3 AS REQUIRED AFTER DISCONNECTING. COORDINATE WITH MSU FOR EXACT FURNITURE LOCATIONS TO BE DISCONNECTED. TYPICAL OF QUANTITY (1).
- 2. PROVIDE POWER TO NEW WORKSTATION AS FOLLOWS: (1) TV WALL BOX PER SHEET E0-1 LEGEND WITH 120V 20A DUPLEX RECEPTACLE FOR TV MONITOR AND (1) 120V 20A DUPLEX RECEPTACLE FOR COMPUTER. COORDINATE EXACT MOUNTING HEIGHTS WITH MSU PRIOR TO ROUGH-IN. PROVIDE FLUSH-MOUNT DEVICES. CUT IN BOXES AND RUN NEW EMT CONDUIT CONCEALED IN WALL. PATCH AND REPAIR WALL BACK TO EXISTING STATE, MATCHING TEXTURE AND PAINT FINISH.
- 3. EXTEND 120V POWER CIRCUIT FROM EXISTING NOTED RECEPTACLE AS REQUIRED TO SERVE TWO NEW ADJACENT RECEPTACLES.



1 LEVEL 3 - POWER DEMOLITION PLAN
1/8" = 1'-0"



2 LEVEL 3 - POWER RENOVATION PLAN
1/8" = 1'-0"

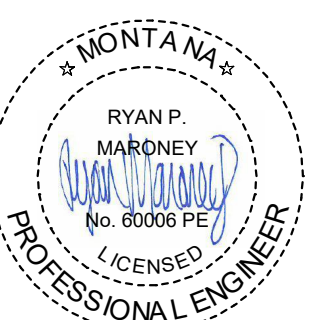
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Drawing Title

**LEVEL 3 - POWER
PLAN**



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Drawing No.

E1.3

BID DOCUMENTS

Consultants

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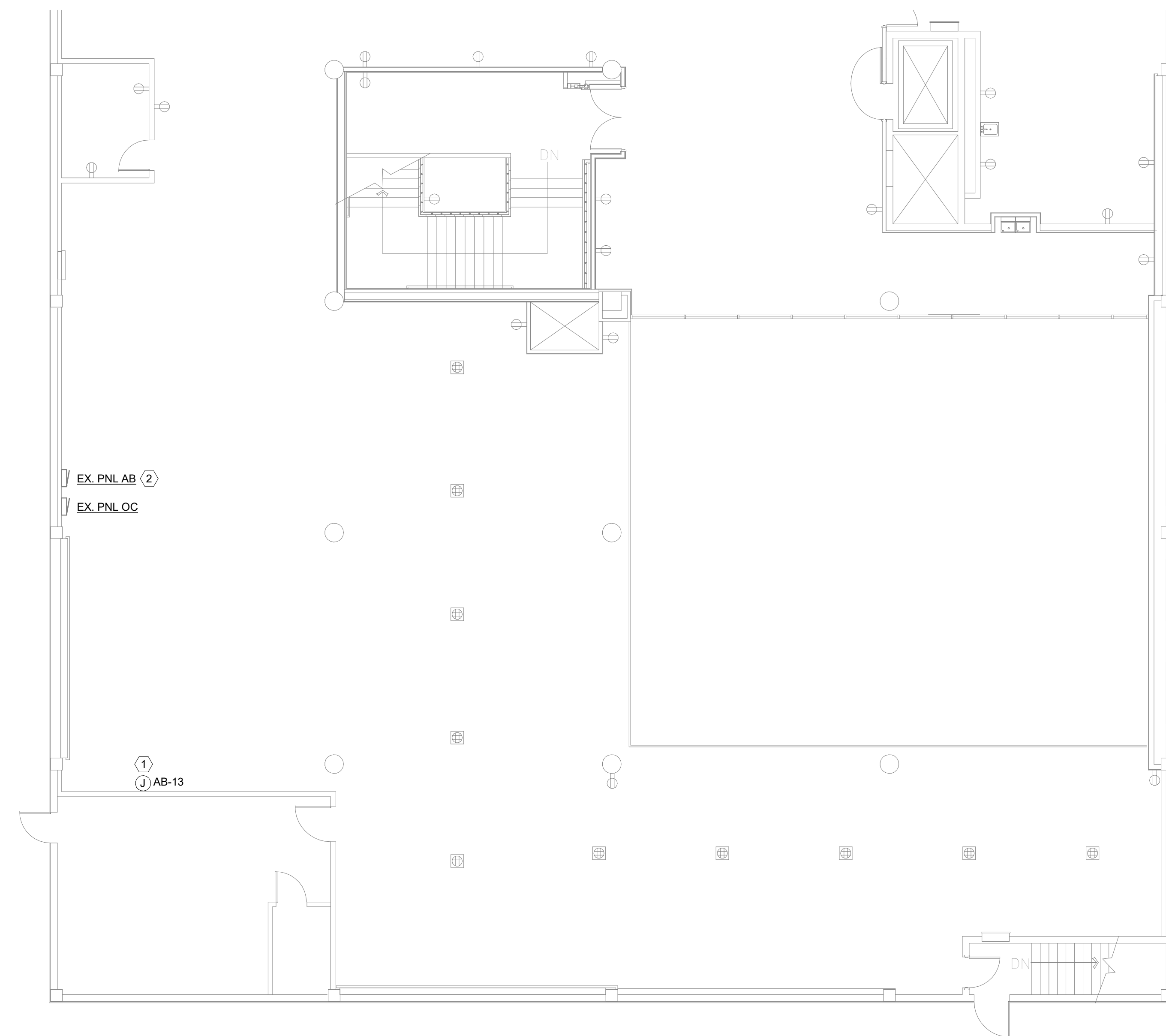
LEVEL 4 SPACE PICTURED. EXISTING STACKS TO BE REMOVED. NEW CARPET, FURNITURE, AND UNDERCARPET POWERED TRACK SYSTEM WITH FLOOR BOXES TO BE PROVIDED BY OTHERS. ELECTRICAL CONTRACTOR SHALL BRING 120V POWER CIRCUIT TO UNDERCARPET SYSTEM.

GENERAL ELECTRICAL NOTES

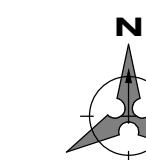
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- C. SEE SPECIFICATIONS FOR RACEWAY REQUIREMENTS.
- D. PROVIDE UPDATED TYPE-WRITTEN PANEL SCHEDULES FOR ALL PANELS MODIFIED BY REMODEL.

KEY NOTES:

1. PROVIDE 120V 20A CIRCUIT TO UNDERCARPET POWERED TRACK SYSTEM. COORDINATE EXACT LOCATION OF POWER CONNECTION WITH FURNITURE INSTALLER. ELECTRICAL CONTRACTOR SHALL RUN OVERHEAD FROM PANEL, THEN VERTICALLY DOWN WALL (SURFACE-MOUNT EMT CONDUIT), AND PROVIDE HARDWARE FINAL CONNECTION AT FLOOR-LEVEL TO UNDERLOOR SYSTEM.
2. USE EXISTING SPARE 20A-1P CIRCUIT BREAKER WITHIN EXISTING PANELBOARD TO SERVE NEW 120V 20A CIRCUIT.



1 LEVEL 4 - POWER RENOVATION PLAN
1/8" = 1'-0"



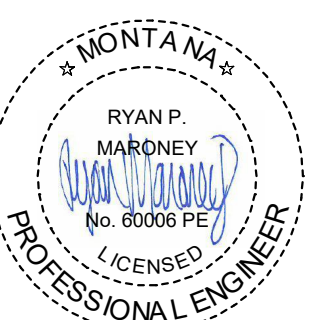
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**LEVEL 4 - POWER
PLAN**



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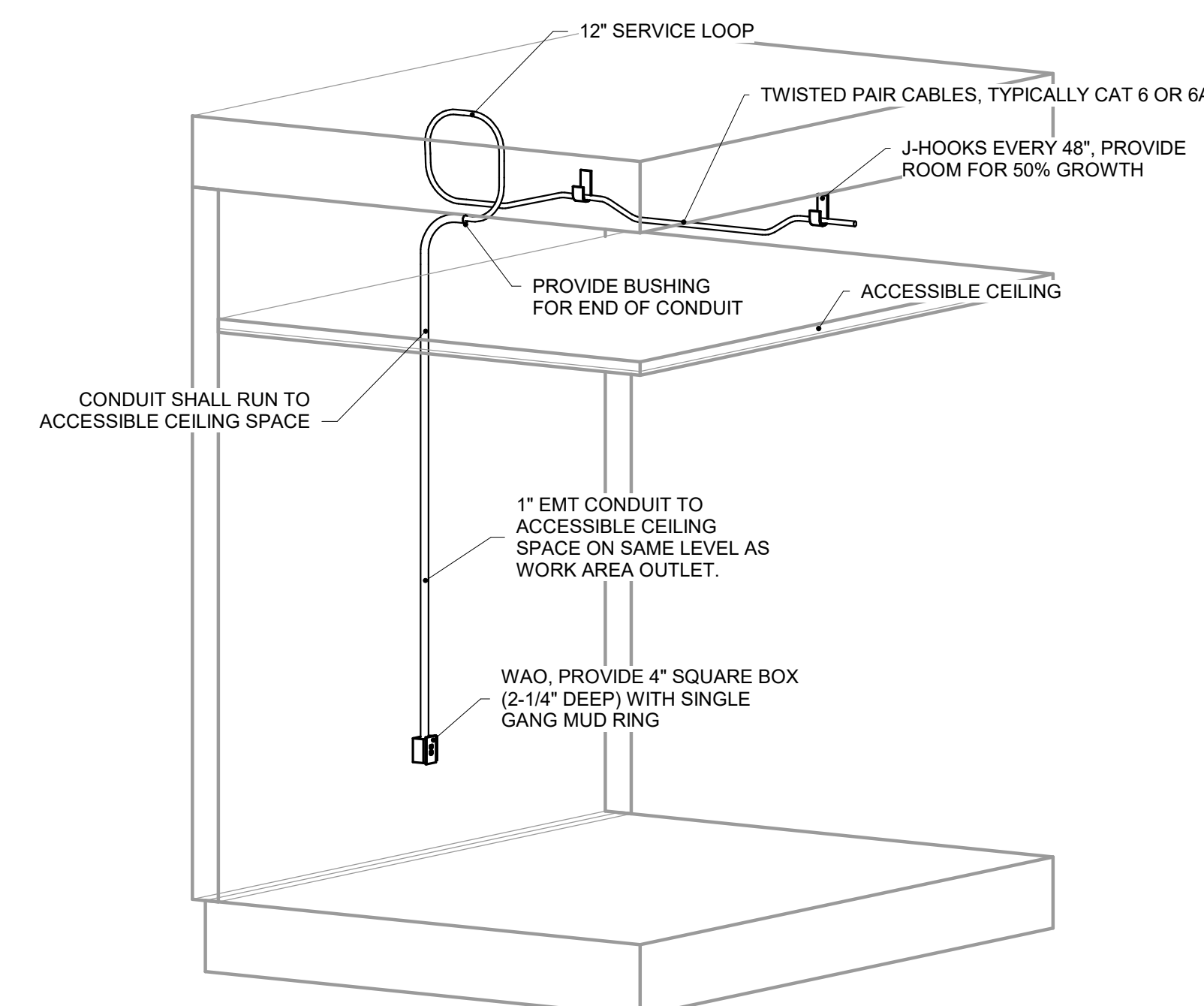
TELECOM ABBREVIATIONS LEGEND			
AC	ABOVE FINISHED CEILING	NIC	NOT IN CONTRACT
ACT	ACOUSTICAL CEILING TILE	NTS	NOT TO SCALE
AFF	ABOVE FINISHED FLOOR	O.C.	ON CENTER
AFG	ABOVE FINISHED GRADE	OD	OUTSIDE DIAMETER
AUJ	AUTHORITY HAVING JURISDICTION	OFI	OWNER FURNISHED, CONTRACTOR INSTALLED
C.	CONDUIT	OFI	OWNER FURNISHED EQUIPMENT
CKT	CIRCUIT	OH	OVERHEAD
C.O.	RACEWAY/CONDUIT ONLY, WITH PULL STRING	OSP	OUTSIDE PLANT CABLE
CU	COPPER	PB	PULLBOX
DM	DIMENSION	PBB	PRIMARY BONDING BUSBAR
DWG	DRAWING	PE	PAIR
EA	EACH	QTY	QUANTITY
EC	ELECTRICAL CONTRACTOR	REQ	REQUIREMENT
EF	ENTRANCE FACILITY	RM	ROOM
E.L.	ELECTRIFIED LATCH	REX	REQUEST TO EXIT
EMT	ELECTRICAL METALLIC TUBING	SEB	SECONDARY BONDING BUSBAR
EPT	ELECTRIC POWER TRANSFER	SMF	SINGLE-MODE FIBER
ER	EQUIPMENT ROOM	SMI	SMILAR
EK	EXISTING	SPEC	SPECIFICATION
FLR	FLOOR	TR	TELECOM ROOM
FTP	FOILED TWISTED PAIR	TTB	TELEPHONE TERMINAL BOARD
GND	GROUND	TYP	TYPICAL
HT	HEIGHT/HIGH	UG	UNDERGROUND
ID	INSIDE DIAMETER	UPS	UNINTERRUPTIBLE POWER SUPPLY
IO	INDOOR/OUTDOOR	UNO	UNLESS NOTED OTHERWISE
J.BOX	JUNCTION BOX	UTP	UNSHIELDED TWISTED PAIR
MFR	MANUFACTURER	VIF	VERIFY IN FIELD
MH	MAINTENANCE HOLE	W	WITH
MM	MINIMUM	W/O	WITHOUT
MMF	MULTI-MODE FIBER	WAO	WORK AREA OUTLET
MPOE	MINIMUM POINT OF ENTRY	WP	WEATHERPROOF
(N)	NEW		
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION		

CABLE ROUTING LEGEND	
---	CABLE PATHWAY
---	EMT CONDUIT SLEEVE
●	VERTICAL TRANSITION BETWEEN FLOORS OR GRADE
[JH1]	2" J-HOOK, B-LINE (PART # BQH32), LOCATED EVERY 48" O.C. MAX. TYP.
[JH2]	4" J-HOOK, B-LINE (PART # BQH64), LOCATED EVERY 48" O.C. MAX. TYP.

STRUCTURED CABLING LEGEND	
◀	WORK AREA OUTLET - ROUGH IN ONLY. SEE SHEET KEYNOTES AND DETAILS FOR SPECIFIC INFORMATION. CABLING BY MSU.

ABBREVIATIONS AND SYMBOLS GENERAL NOTES	
A.	THE ABBREVIATIONS ON THIS SHEET COMPRISE A STANDARD LIST. NOT ALL ABBREVIATIONS APPEAR ON THIS PROJECT.
B.	THE SYMBOLS ON THIS SHEET COMPRISE A STANDARD LIST. NOT ALL SYMBOLS APPEAR ON THIS PROJECT.
C.	ALL MOUNTING HEIGHTS ARE TO CENTER OF DEVICE ABOVE FINISHED FLOOR, UNLESS NOTED OTHERWISE. MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL WALL ELEVATIONS OR AS NOTED SPECIFICALLY ON THE DRAWINGS OR IN THE SPECIFICATIONS SHALL TAKE PRECEDENCE OVER MOUNTING HEIGHTS LISTED.

TELECOM PROJECT GENERAL NOTES	
1.	THIS PROJECT IS TO CONFORM TO THE LATEST LOCALLY ADOPTED VERSION OF THE NATIONAL ELECTRICAL CODE AND THE LATEST REVISION OF: ANSI/TIA-526-A, Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant, and its published addenda. ANSI/TIA-526-14-C, Measurement of Optical Power Loss of Installed Multimode Fiber Cable Plant, and its published addenda. ANSI/TIA-568-D-E, Generic Telecommunications Cabling for Customer Premises, and its published addenda. ANSI/TIA-568-E, Commercial Building Telecommunications Infrastructure Standard, and its published addenda. ANSI/TIA-568-2-E, Balanced Twisted-Pair Telecommunications Cabling and Components Standard, and its published addenda. ANSI/TIA-568-3-E, Optical Fiber Cabling and Components Standard, and its published addenda. ANSI/TIA-569-E, Telecommunications Pathways and Spaces, and its published addenda. ANSI/TIA-569-D, Optical Fiber Cable Color Coding. ANSI/TIA-569-L, Administration Standard for Telecommunications Infrastructure, and its published addenda. ANSI/TIA-607-D, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises, and its published addenda. ANSI/TIA-758-C, Customer Owned Outside-Plant Telecommunications Infrastructure Standard, and its published addenda.
2.	SEE SPECIFICATIONS FOR ADDITIONAL CONTRACTOR QUALIFICATIONS, PRODUCT INSTALLATION, AND QUALITY REQUIREMENTS.
3.	ALL DIMENSIONS MUST BE VERIFIED IN THE FIELD AND ANY DEVIATIONS CAUSING CHANGES EXCEEDING 6 INCHES TO THE INTENDED LOCATION OF MAJOR TELECOMMUNICATIONS INFRASTRUCTURE COMPONENTS MUST BE COORDINATED WITH THE ARCHITECT AND DESIGNER PRIOR TO INSTALLATION.
4.	ALL TELECOMMUNICATIONS DEVICES SHALL BE SECURELY MOUNTED PLUMB AND STRAIGHT TO WALLS, FLOORS, OR RACKS, PER THE MANUFACTURER'S RECOMMENDED MOUNTING PRACTICE, UNLESS OTHERWISE INDICATED IN THE TELECOMMUNICATIONS DRAWINGS.
5.	ALL CABLES SHALL BE RATED FOR THE ENVIRONMENT IN WHICH THEY ARE INSTALLED.
6.	INSTALL FIRESTOP ASSEMBLIES IN ALL THROUGH-SLAB AND THROUGH-WALL PENETRATIONS FOR THE INSTALLATION OF TELECOMMUNICATIONS CABLING AS REQUIRED TO MAINTAIN FIRE RATINGS OF PENETRATED SLAB OR WALL. REVIEW DRAWINGS FOR PARTITION TYPE RATINGS. FIRESTOPPING SYSTEMS USED FOR ALL PENETRATIONS SHALL BE A UL LISTED ASSEMBLY AND APPROVED BY APPLICABLE AUTHORITIES HAVING JURISDICTION PRIOR TO INSTALLATION.
7.	THE METHOD OF INSTALLATION FOR ALL TELECOMMUNICATIONS RELATED BACK BOXES IN WALLS AND THE METHOD FOR PASSAGE OF CONDUIT AND WIREWAYS THROUGH ACOUSTICALLY SENSITIVE WALLS SHALL BE COORDINATED WITH THE ACOUSTICAL CONSULTANT OR OWNER PRIOR TO INSTALLATION.
8.	BOND ALL CONDUITS, CABLE TRAYS, AND JUNCTION BOXES PER ANSI/TIA-607-D IN ADDITION TO ANY APPLICABLE CODE REQUIREMENTS.
9.	ALL TELECOMMUNICATIONS RELATED FLOOR BOXES, POKE THRU DEVICES, JUNCTION BOXES AND BACK BOXES SHOULD BE PROVIDED WITH AN EMPTY CONDUIT TO THE APPLICABLE TELECOM ROOM. TELECOM CABLE TRAY PATHWAY OR PULL BOX. SEE ELECTRICAL DRAWINGS FOR ADDITIONAL DETAILS.
10.	CONDUIT ROUTES ON THE TELECOM DRAWINGS SHOW ONLY INTERCONNECTION BETWEEN THE TERMINATION POINTS AND APPROXIMATE ROUTES. THE EXACT ROUTE OF CONDUIT PATHWAYS ARE DETERMINED BY FIELD CONDITIONS AND VERIFIED BY INSTALLING CONTRACTOR.
11.	NOTIFY THE DESIGNER OF ANY DISCREPANCIES BETWEEN THE EXISTING CONDITIONS AND THE "T" (TELECOM) DRAWINGS. OBTAIN CLARIFICATION BEFORE PROCEEDING WITH WORK.
12.	ALL PATHWAY AND RACEWAY INCLUDING CONDUIT SLEEVES, FLOOR BOXES, OUTLET BOXES AND CONDUIT BY ELECTRICAL UNO.
13.	ALL CABLES SHALL BE SUPPORTED EVERY 48" O.C. MAX. BY J-HOOKS, CABLE TRAY, OR IN CONDUIT.
14.	ALL CABLES RUN IN CONDUIT UNDER SLAB SHALL BE INDOOR/OUTDOOR RATED.



- NOTES:
- NO SINGLE BEND IN 1" EMT CONDUIT SHALL EXCEED 90 DEGREES.
 - THE AGGREGATE OF CONDUIT BENDS SHALL NOT EXCEED 180 DEGREES.
 - CONDUIT SHALL STUB TO CEILING SPACE ON SAME LEVEL AS WORK AREA OUTLET.

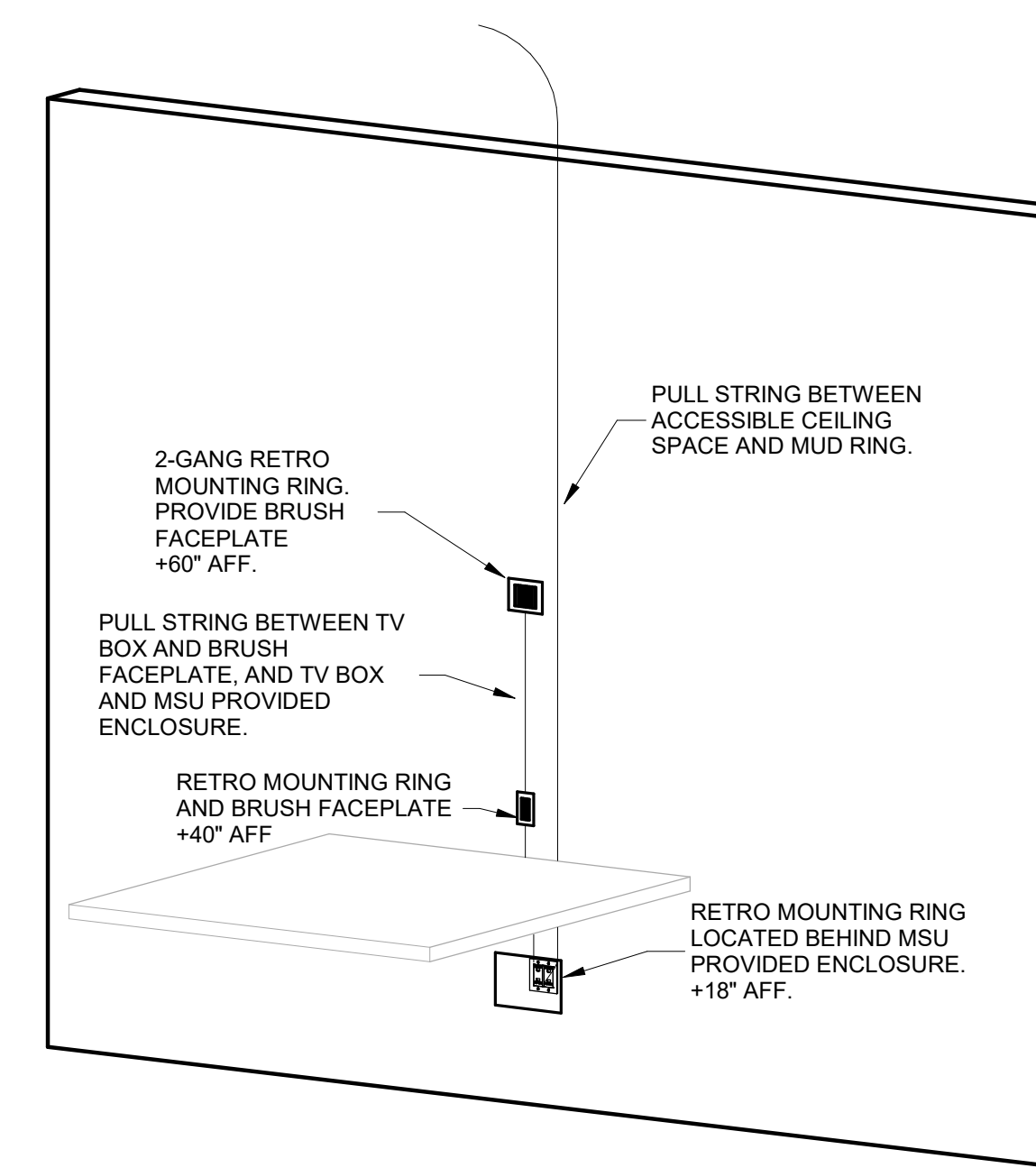
1 WORK AREA OUTLET DETAIL
N.T.S.

GENERAL ICT NOTES

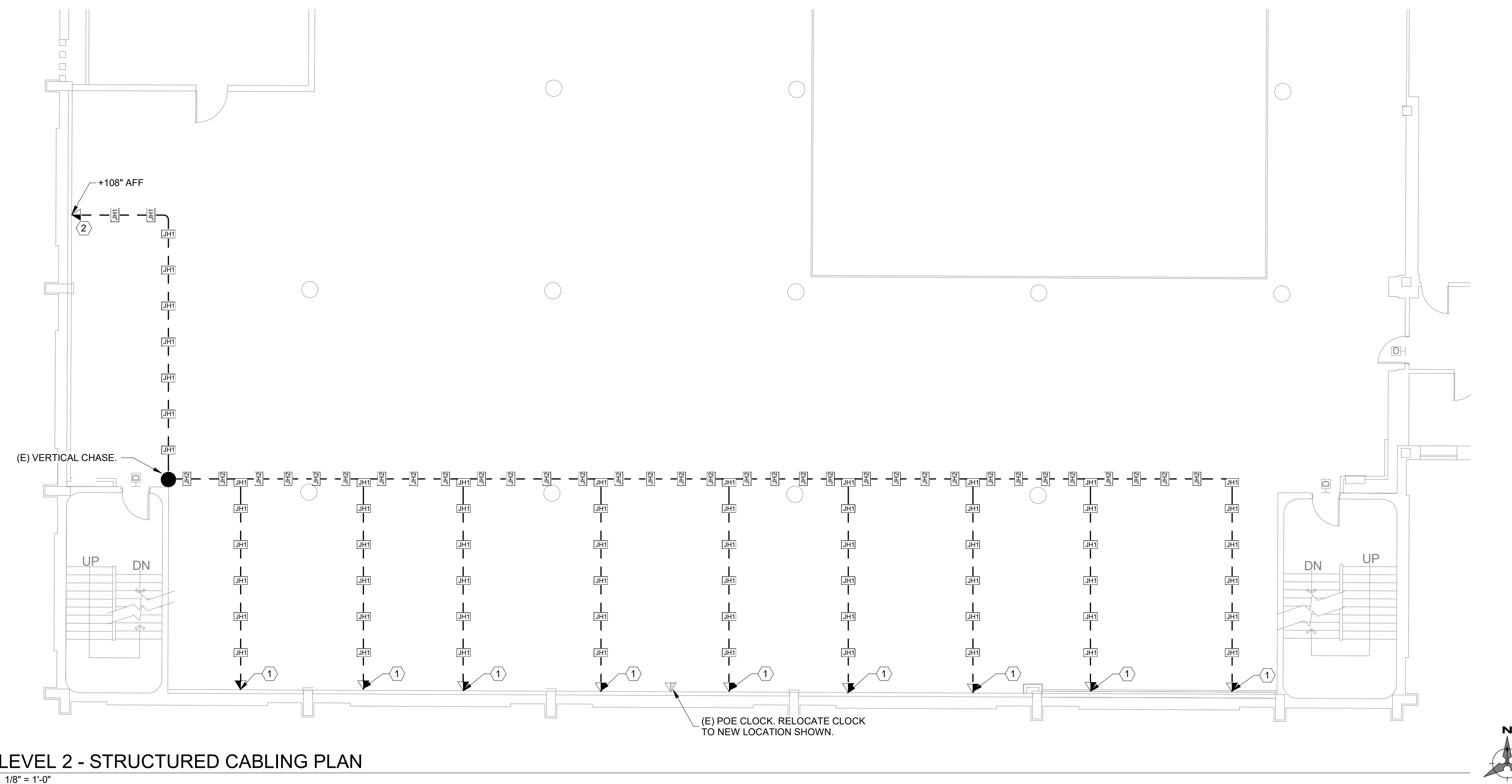
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- C. ALL SIZING, PLACEMENT, AND QUANTITIES FOR CONDUITS, CONDUIT SLEEVES, CABLE TRAY, AND LADDER RACK CALLED OUT ON STRUCTURED CABLING PLANS AND/OR ENLARGED VIEWS.
- D. FOR NEW DEVICES ALONG EXISTING SOUTH WALL SERVING THE WORKSTATIONS, PROVIDE FISH-MOUNT DEVICES. CUT IN BOXES AND FISH CABLE DOWN FROM CEILING SPACE ABOVE AS REQUIRED.
- E. CABLE INSTALLATION, TERMINATION, LABELING AND TESTING WILL BE DONE BY OWNER.

KEY NOTES:

- 1. DATA CONFIGURATION FOR WORKSTATION: SEE DETAIL 2/T1.1.
- 2. NEW LOCATION FOR RELOCATED POE CLOCK. COORDINATE EXACT MOUNTING HEIGHT AND LOCATION WITH OWNER PRIOR TO INSTALLATION. CONTRACTOR TO INSTALL RETRO MOUNTING RING. MSU TO FISH CABLE THROUGH WALL.



2 WORKSTATION ELEVATION VIEW - FISHED BEHIND WALL
N.T.S.



1 LEVEL 2 - STRUCTURED CABLING PLAN
1/8\"/>

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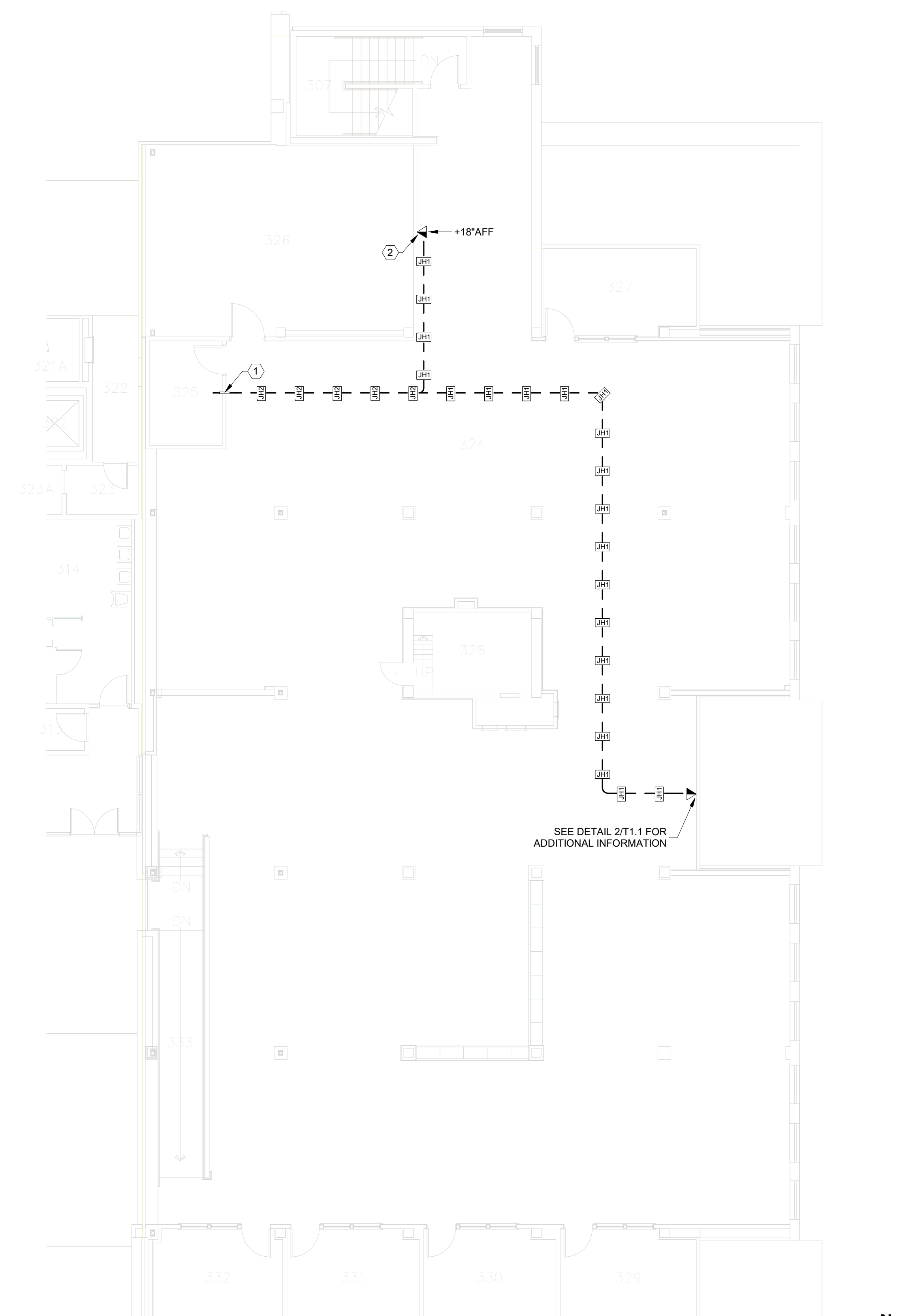
Revisions

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- D. FOR NEW DEVICES ALONG EXISTING SOUTH WALL SERVING THE WORKSTATIONS, PROVIDE FLUSH-MOUNT DEVICES. CUT IN BOXES AND FISH CABLE DOWN FROM CEILING SPACE ABOVE AS REQUIRED.
- E. CABLE INSTALLATION, TERMINATION, LABELING AND TESTING WILL BE DONE BY OWNER.

KEY NOTES:

- 1 2" EMT CONDUIT SLEEVE THROUGH WALL. PLACE BOTTOM OF EMT CONDUIT SLEEVE 3" ABOVE START OF ACCESSIBLE CEILING SPACE.
- 2 PROVIDE RETRO MOUNTING RING. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO INSTALLATION. MSU TO FISH CABLE THROUGH WALL.



1 LEVEL 3 - STRUCTURED CABLING PLAN
1/8" = 1'-0"

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RENNE LIBRARY
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Drawing Title

**LEVEL 3 -
STRUCTURED
CABLING PLAN**

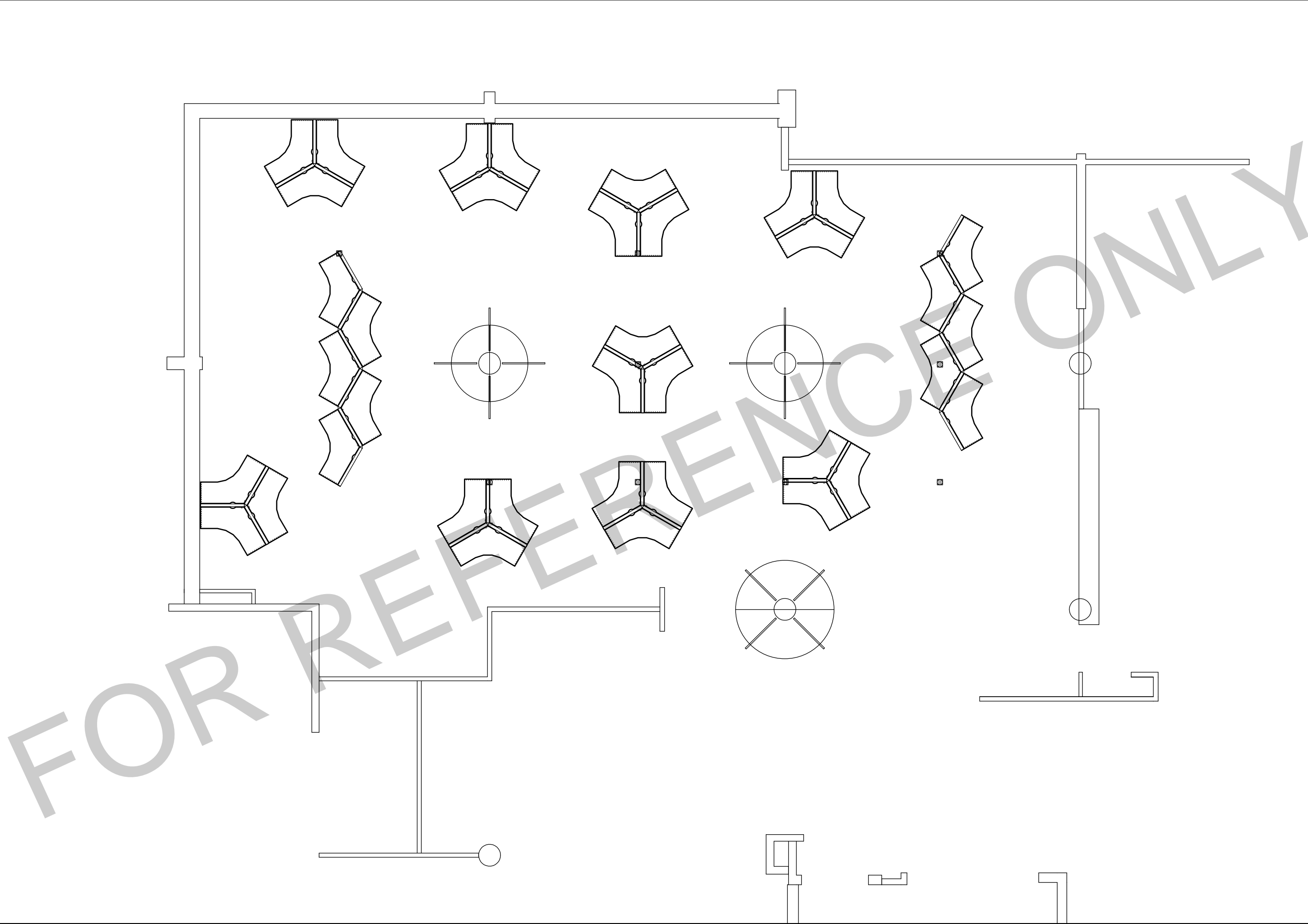


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Drawn By: KJH
Checked By: PJW

Drawing No.

T1.2





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ORD - CFE - Library Staff Move

Drawn By:

Megan Bittinger

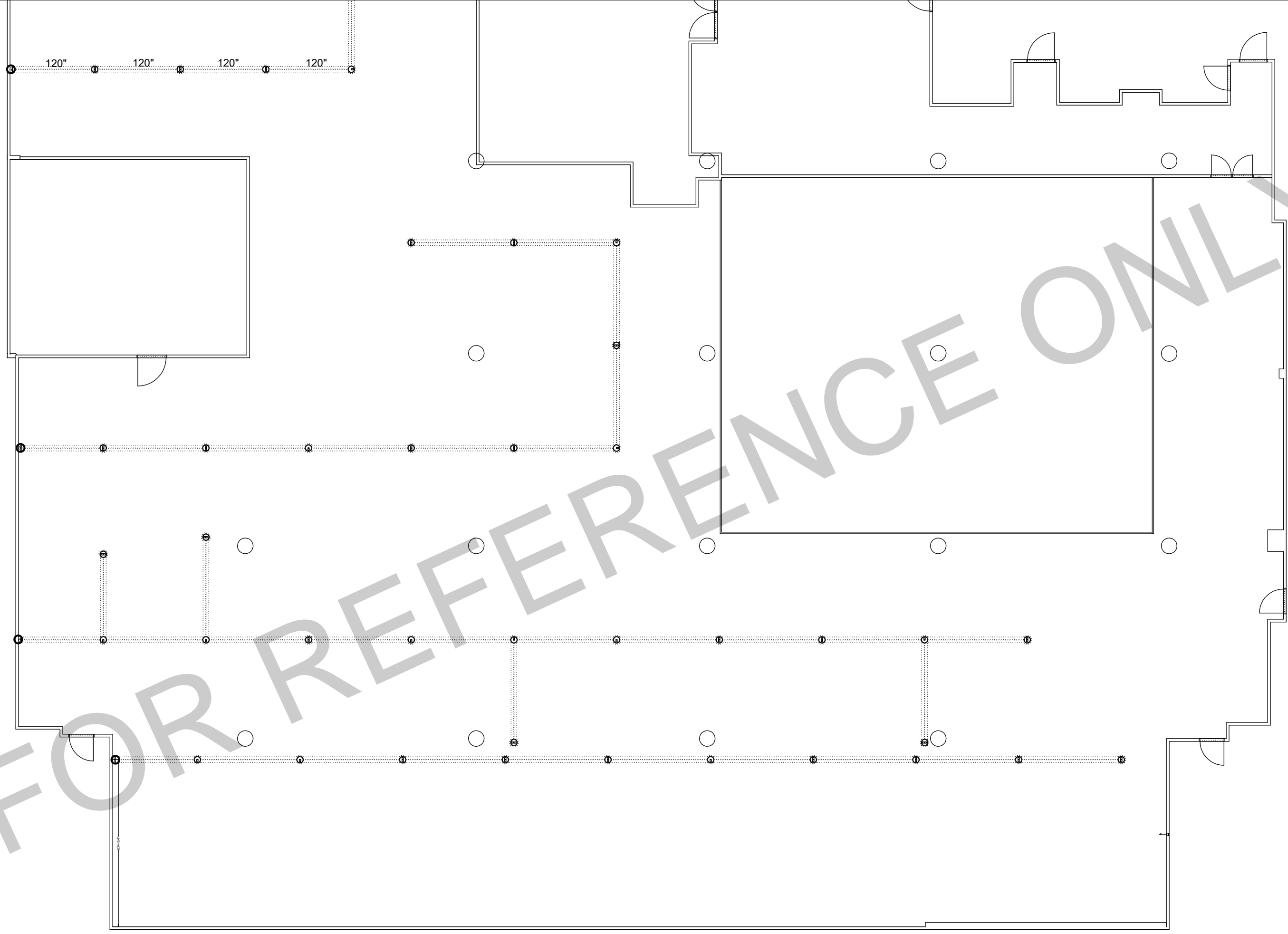
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1st Floor

F1



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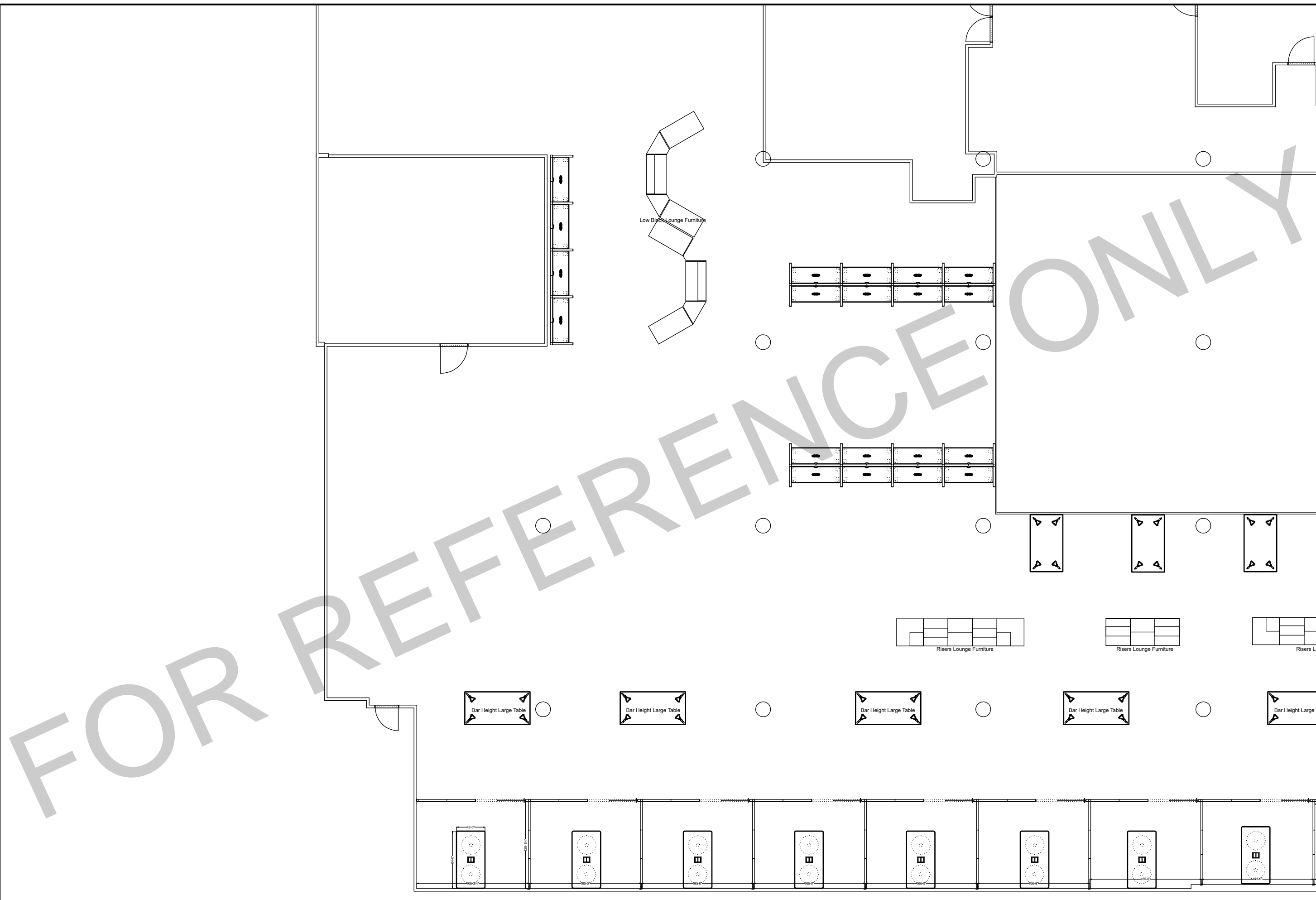
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2nd Floor Thread F3



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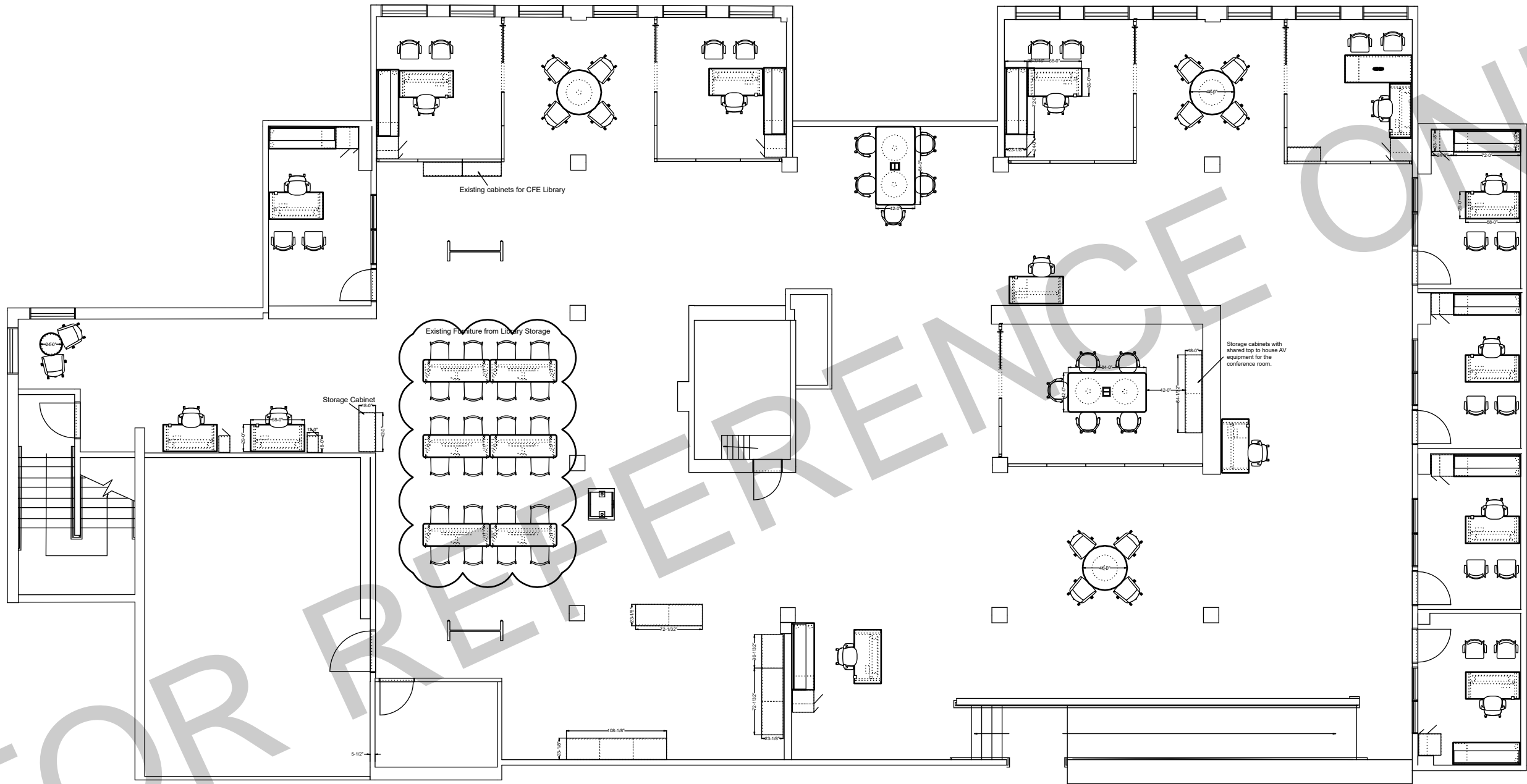
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2nd Floor Furniture F4



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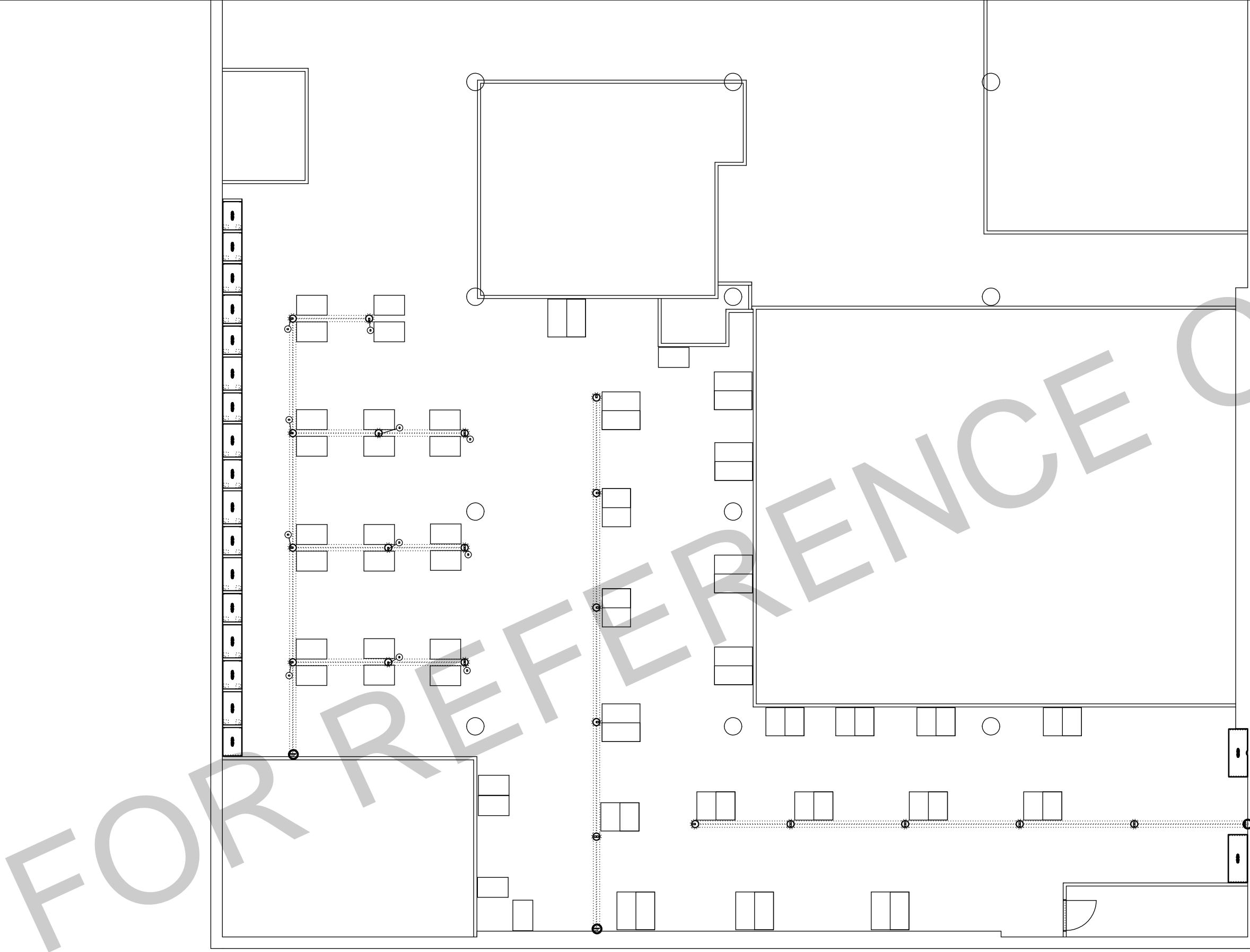
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3rd Floor

F5



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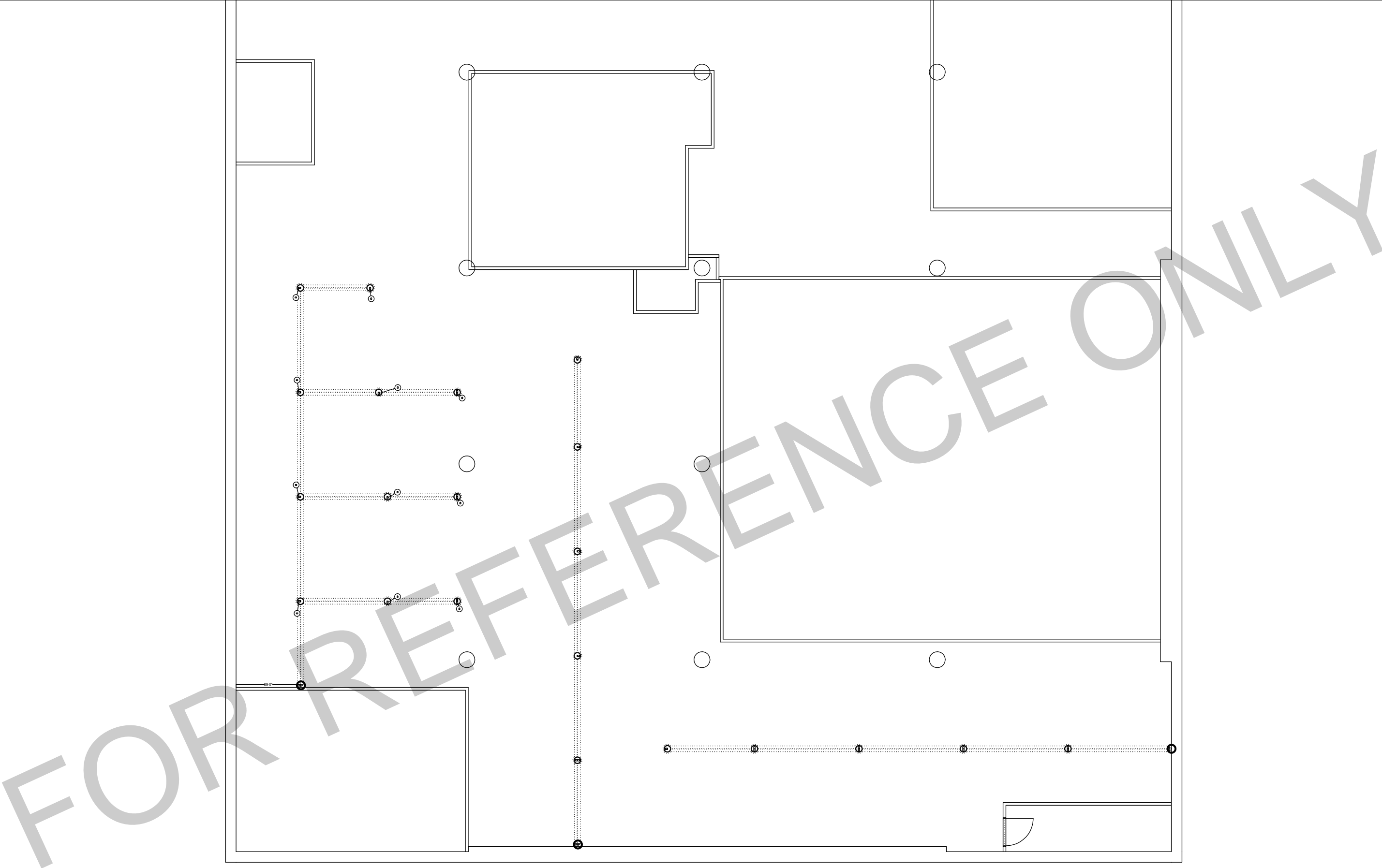
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4th Floor

F6



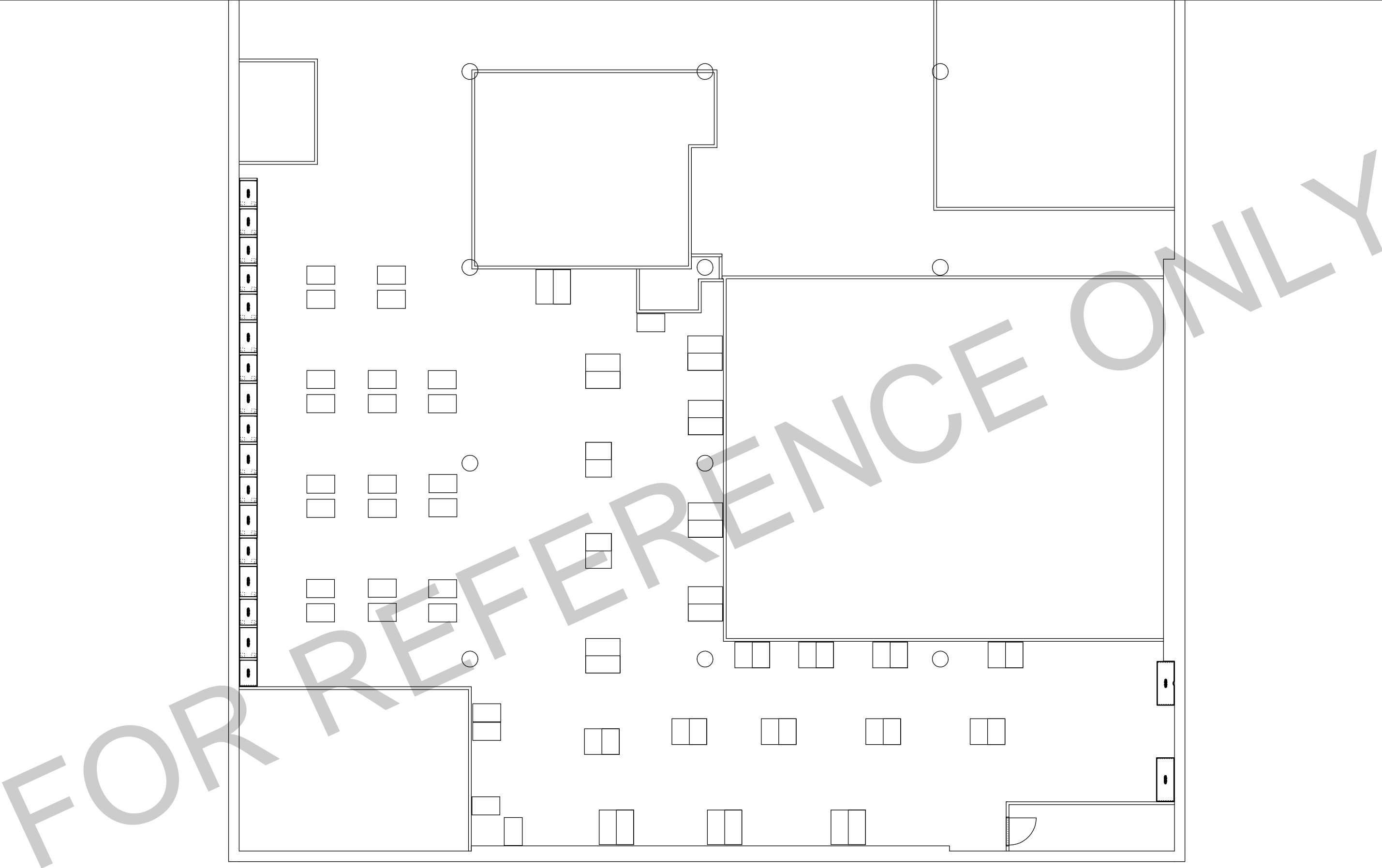
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4th Floor Thread	F7
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4th Floor Furniture

F8