




ADDENDUM NO. 002

Architects Project No.: 23042
Project Name: Ralston Apartment Renovations
Original Issue Date: 08.23.2024

Owner: Leavenwealth
Submitted To: Bidders
Addendum Issue Date: September 25, 2024

Document Clarification:

This Addendum is issued to inform bidders of clarifications to the plans & specifications. The additions, clarifications, and corrections contained herein shall be made to the Project Manual, Drawings, and Schedules for the above referenced project, and shall be included in the scope of work and proposals to be submitted. References made below to the Project Manual and Drawings shall be used as a general guide only. Bidder shall determine the extent of work affected by Addendum items. These changes are noted with a  on the drawings

DRAWING MODIFICATIONS / CLARIFICATIONS:

QUESTIONS/RESPONSES

1. Cast-iron is called out on plans and speaking with plumbing subs, Ralston has own plumbing inspector and my understanding is that PVC could be used and would be more flexible working with floor system
 - a. Specs have been revised to permit PVC in addendum 2
2. Retail space, would a bath rough-in be required in each space
 - a. Restrooms and plumbing layout will be provided by future tenants
3. PIV looks as if its close or mounted to building, MUD requirements last I knew was 40ft. Has this been approved and with it within 5ft of bldg. would plumber be responsible for install?
 - a. A note has been added to coordinate PIV location with AHJ in addendum 2
4. Who is responsible for capital facility fees, permit (has this been applied for?) will these cost be owners?
 - a. Permits and fees are the responsibility of the contractor, and will need to be submitted
5. Is there an issue with metal studs for interior and exterior framing
 - a. Metal studs are acceptable, however interior wall assemblies must match STC and fire ratings identified in the drawings.
6. With the building being fire sprinkled can we change cast to PVC and coper supply to PVC?
 - a. PVC is acceptable in lieu of cast, Domestic to remain copper
7. Termite damage in basement framing joist, can we change sistering joists to building a 2x6 exterior wall system to carry the floor joist load and remove current floor system and multiple structural post ?
 - a. See S100 sheet for remediation recommendations. Please provide a number and description of the scope of work planned for addressing this issue.
8. Did bid date change to the 1st of October?
 - a. The bid due date was set in the bid letter.
9. There wasn't a page for duration of project do want it added separately?
 - a. Proposed timeline is to be included as part of the bid.
10. Is OPPD going to require a transformer?
 - a. Yes, please hold a number for a 6.5' x 6.5' pad per OPPD. Location TBD.
11. What are we providing on the interior face of the exterior walls?
 - a. Provide Gypsum Wall Board over furring strips, coordinate depth of electrical boxes accordingly.
12. What material will the interior face of exterior walls be furred with?
 - a. See response to question 5 on metal studs.
13. Are ceilings suspended, and do the second floor ceilings require resilient channels?
 - a. Ceilings are directly attached to resilient channels. Resilient channels are not required for second-floor ceilings.



ADDENDUM NO. 002

GENERAL

1. Sheet - G001 CODE REVIEW & EGRESS PLAN
 - a. Added indication of future restroom location in

ARCHITECTURAL

1. Sheet - A202 FLOOR PLANS, WALL TYPES, DOOR AND WINDOW SCHEDULES
 - a. Added keynote 32.
 - b. Removed the word Suspended from FA-1.
 - c. Specified sealer for deck.
2. Sheet - A203 UNIT PLANS
 - a. Clarified labels on reflected ceiling plan.
3. Sheet - A204 UNIT PLANS
 - a. Clarified labels on reflected ceiling plan.

MECHANICAL

2. Sheet - M2.1 FLOOR PLANS - PIPING
 - a. Added note M212
3. Sheet - M5.1 MECHANICAL SPECIFICATIONS
 - a. Clarified specifications to permit PVC in lieu of cast iron

ELECTRICAL

4. Sheet - E1.1 FLOOR PLANS - ELECTRICAL
 - i. Added notes regarding utility transformer
5. Sheet - E2.0 ELECTRICAL DETAILS & RISER
 - a. Added utility transformer to electrical riser diagram

ATTACHMENTS: 23042_Ralston-Apt-Reno_Add 02_09.25.2024.pdf

END OF ADDENDUM NO. 2

ISSUED BY:

Slate Architecture

Firm

Jeremy Carlson

Name

BUILDING CODE ANALYSIS

GENERAL PROJECT INFORMATION:

PROJECT: RALSTON APARTMENT RENOVATIONS
 LOCATION: 5617 S 77TH ST
 RALSTON, NE 68127

NEAREST INTERSECTION: 77TH AND PARK DRIVE
 COUNTY: DOUGLAS
 ARCH. PROJECT NUMBER: 23042

ARCHITECT: SLATE ARCHITECTURE
 3624 FARNAM STREET
 OMAHA, NEBRASKA 68131
 TEL: 402.342.5575
 WWW.SLATEARCHITECTURE.COM

CONSTRUCTION CODES:

BUILDING: 2018 INTERNATIONAL BUILDING CODE (IBC)
 EXISTING BUILDING CODE: 2018 INTERNATIONAL EXISTING BUILDING CODE (IEBC)
 ELECTRICAL: 2017 NATIONAL ELECTRICAL CODE (NEC)
 ENERGY: 2018 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)
 FIRE: 2012 LIFE SAFETY CODE (NFPA 101)
 2012 INTERNATIONAL FIRE CODE (IFC)
 2009 ICC/ANSI A117.1 & 2018 IBC
 ACCESSIBILITY: 2018 INTERNATIONAL MECHANICAL CODE (IMC)
 MECHANICAL: 2021 RALSTON PLUMBING CODE
 PLUMBING: 2021 RALSTON PLUMBING CODE
 ZONING: CHAPTER 11 RALSTON MUNICIPAL CODE

IEBC 2018

CHAPTER 3 - PROVISIONS FOR ALL COMPLIANCE METHODS

IEBC 301.3.2 WORK AREA COMPLIANCE METHOD

CHAPTER 3 - USE AND OCCUPANCY CLASSIFICATION:

OCCUPANCY CLASSIFICATION: RESIDENTIAL (IBC SECTION 302)
 GROUP R-2 BUSINESS (IBC SECTION 310.3)
 GROUP B (AS PERMITTED BY IBC SECTION 303.1.1)

PLAN KEY

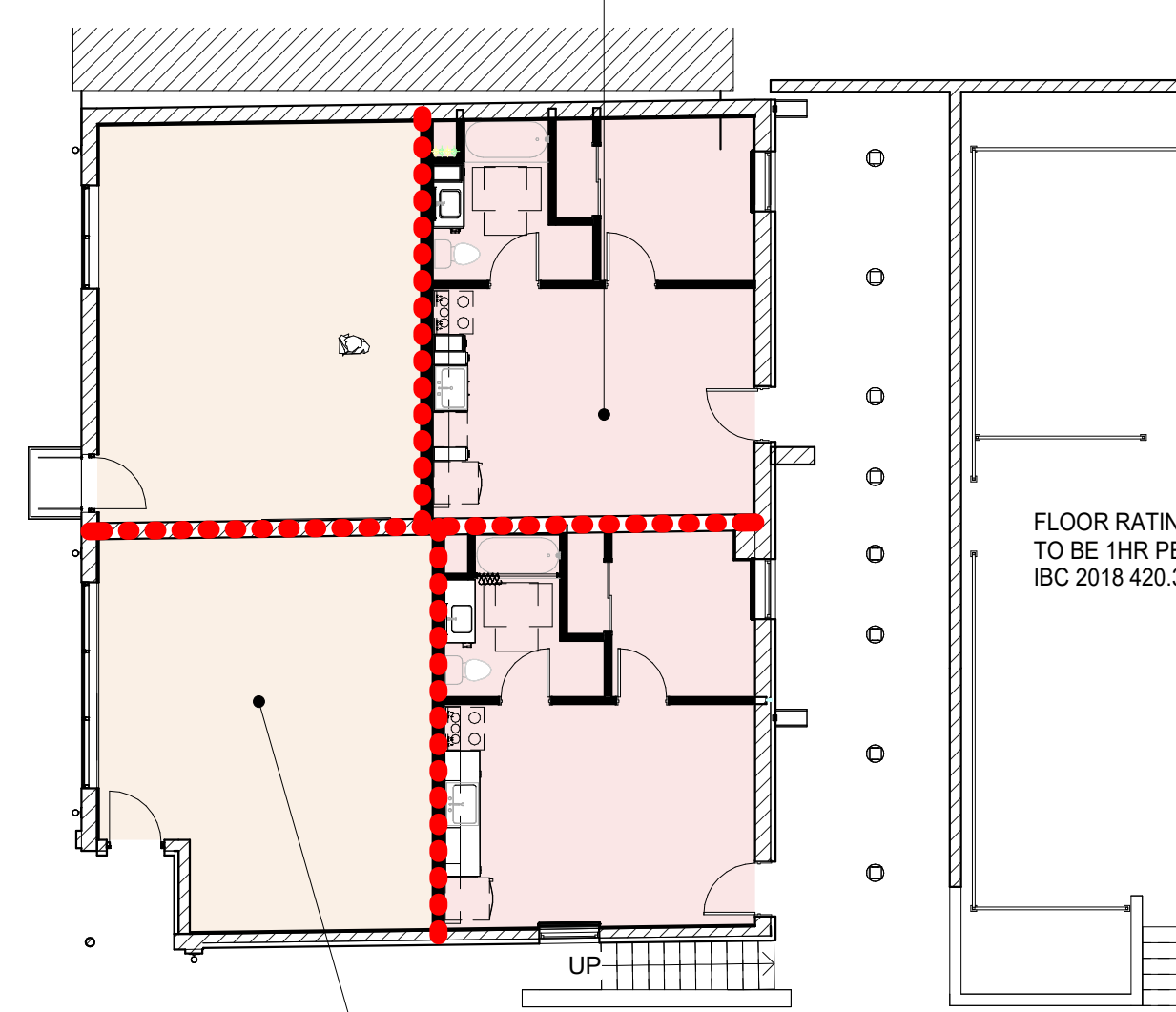
●●●●●● 1-HR SEPARATION

IBC Use and Classification

■ BUSINESS GROUP B

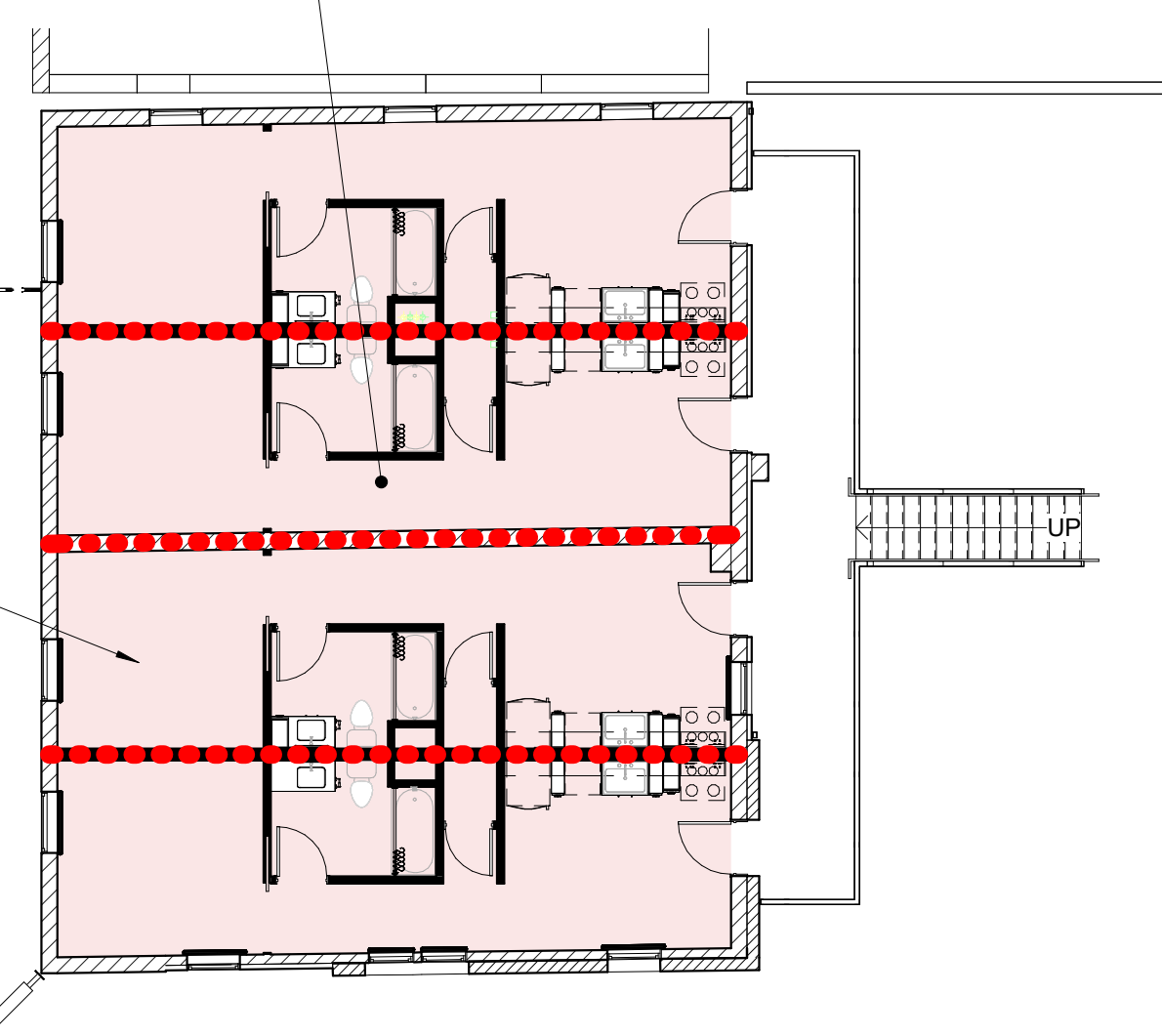
■ RESIDENTIAL GROUP R-2

RESIDENTIAL GROUP R-2 (FIRST FLOOR)
889 SF



BUSINESS GROUP B (FIRST FLOOR)
895 SF

RESIDENTIAL GROUP R-2 (SECOND FLOOR)
1819 SF



3 FIRST AND SECOND FLOOR CLASSIFICATION AND SEPARATION PLANS

G001 3/32" = 1'-0"

CHAPTER 5 - GENERAL BUILDING HEIGHTS AND AREAS:

IBC TABLE 503 - ALLOWABLE HEIGHTS AND BUILDING AREAS

GROUP	TYPE VB
B	3 STORY / 27,000 SF
R-2	3 STORY / 21,000 SF

504.3 HEIGHT IN FEET: TABLE 504.3 ALLOWABLE BUILDING HEIGHT IN FEET ABOVE GRADE PLANE
 504.4 NUMBER OF STORIES: TABLE 504.4 ALLOWABLE NUMBER OF STORIES ABOVE GRADE PLANE

IBC SECTION 506 AREA MODIFICATIONS
 NOT APPLICABLE FOR EXISTING CONSTRUCTION

IBC SECTION 508 MIXED USE AND OCCUPANCY
 WHERE A BUILDING CONTAINS MORE THAN ONE OCCUPANCY GROUP, THE BUILDING OR PORTION THEREOF SHALL COMPLY WITH SECTIONS 508.3.1, 508.3.3 OR A COMBINATION OF THISE SECTIONS.

IBC TABLE 508.3.3 - REQUIRED SEPARATION OF OCCUPANCIES (HOURS)
 OCCUPANCY: B, R-2
 1HR SEPARATION REQUIREMENT

GENERAL CODE INFORMATION:

OCCUPANCY TYPE: R-2, RESIDENTIAL
 CONSTRUCTION TYPE: V-B
 IBC 2018 SECTION 604: LEVEL-3 ALTERATION
 NFPA 101 CHAPTER 43: MODIFICATION

ALLOWABLE BUILDING AREA: 21,000
 ACTUAL BUILDING AREA: 3,914

ALLOWABLE BUILDING STORIES: 3
 ACTUAL BUILDING STORIES: 2

BUILDING SPRINKLED: YES - NFPA13

CHAPTER 6 - TYPES OF CONSTRUCTION:

TYPE IIB (IBC SECTION 602.5)

IBC TABLE 601 - FIRE RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS

BUILDING ELEMENT	TYPE VB
STRUCTURAL FRAME	0
BEARING WALLS	0
EXTERIOR	0
INTERIOR	0
NONBEARING WALLS & PARTITIONS	0
EXTERIOR	SEE TABLE 602
NONBEARING WALLS & PARTITIONS	0
INTERIOR	0
FLOOR CONSTRUCTION	0
ROOF CONSTRUCTION	0

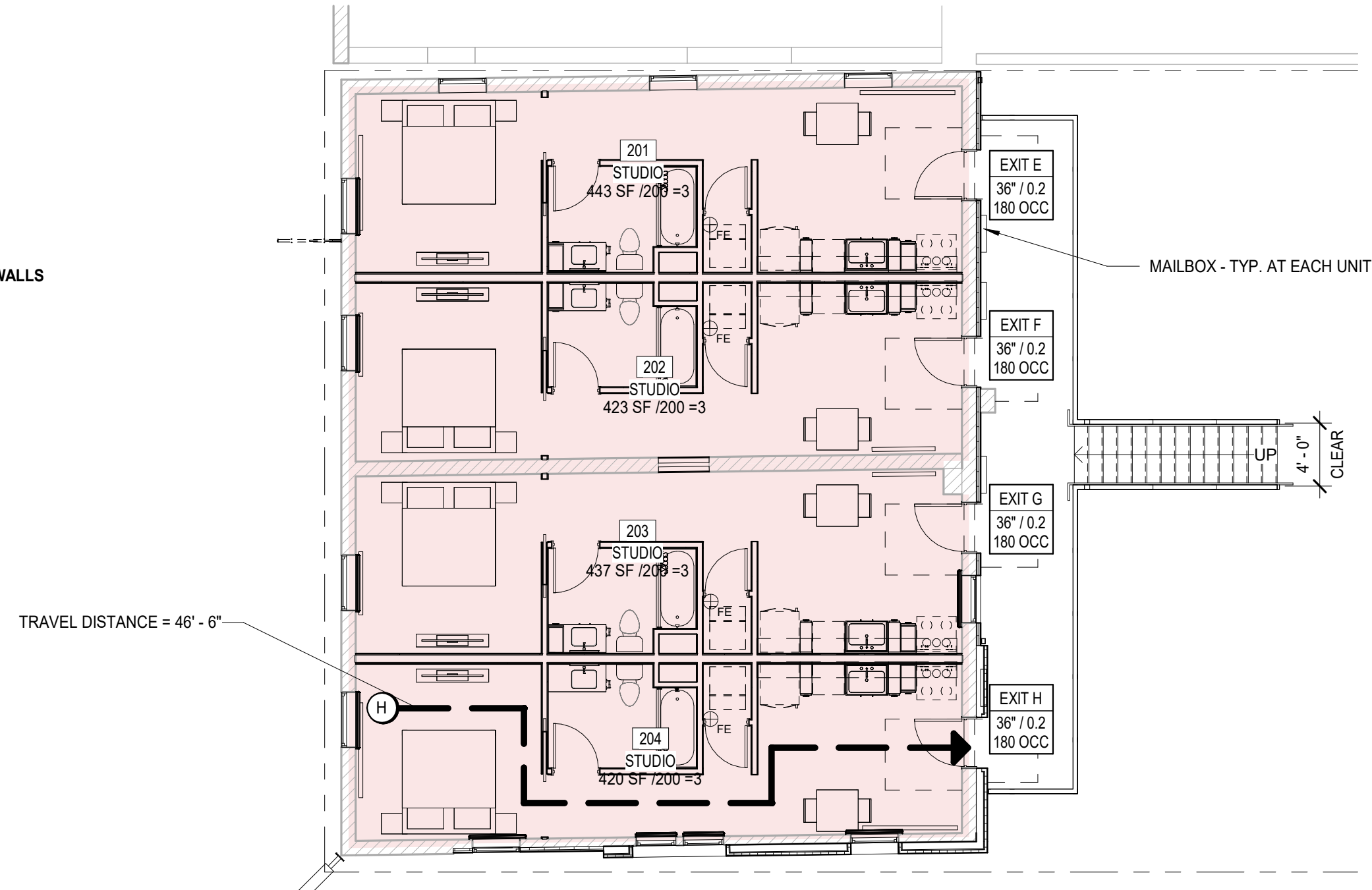
IBC TABLE 602 - FIRE RESISTANCE RATING REQUIREMENTS FOR EXTERIOR WALLS BASED ON FIRE SEPARATION DISTANCE

X < 5	1
5 < X < 10	1
10 < X < 30	0
X > 30	0

CHAPTER 9 - FIRE PROTECTION SYSTEMS:
 NFPA 13

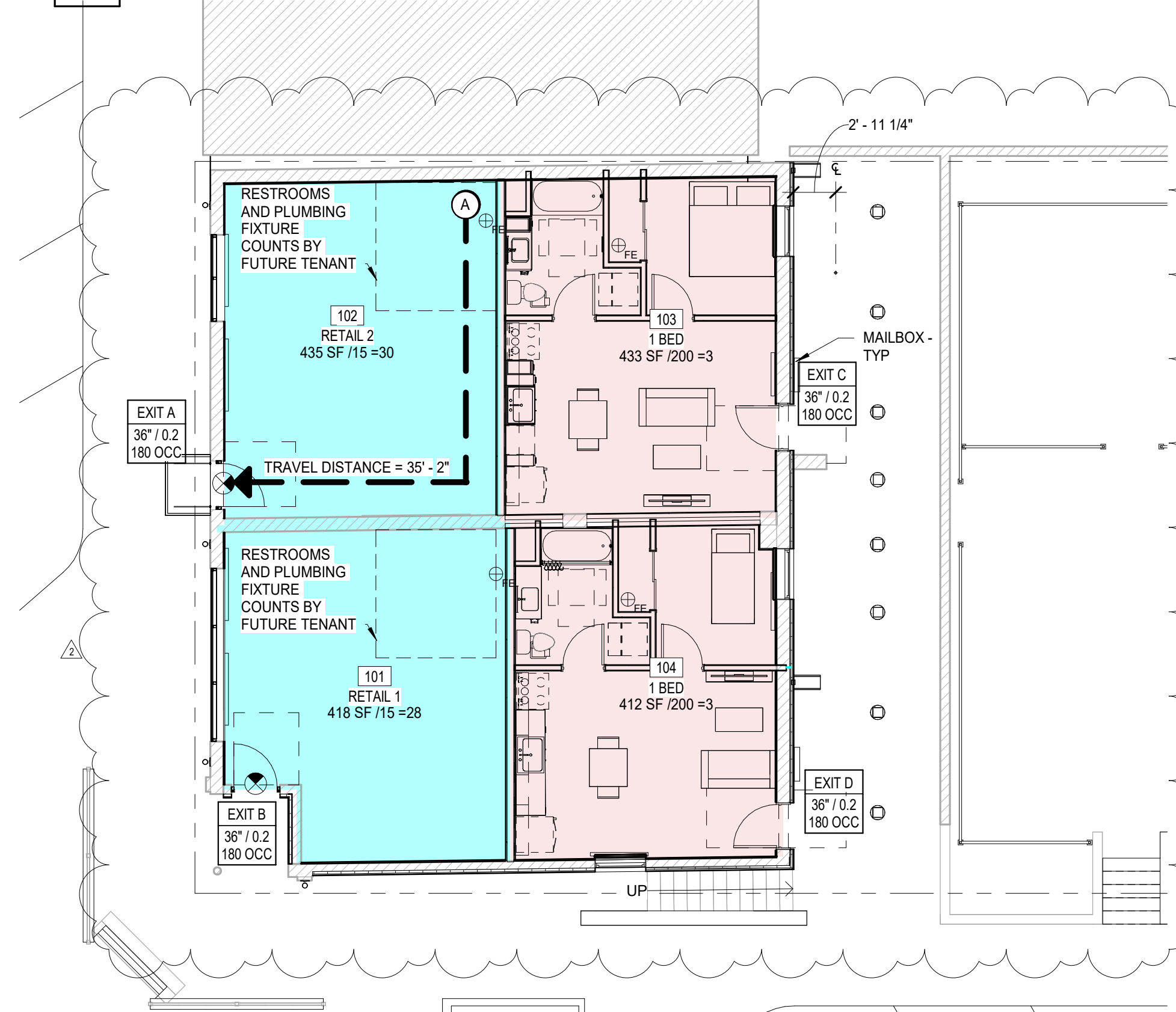
CHAPTER 10 - MEANS OF EGRESS:

IBC SECTION 1004 - OCCUPANT LOAD. IN DETERMINING MEANS OF EGRESS REQUIREMENTS, THE NUMBER OF OCCUPANTS FOR WHOM MEANS OF EGRESS FACILITIES SHALL BE PROVIDED SHALL BE DETERMINED IN ACCORDANCE TO THIS SECTION.
 IBC TABLE 1005 - MAXIMUM FLOOR AREA ALLOWANCES PER OCCUPANT SEE PLAN



2 SECOND FLOOR OCCUPANCY PLAN

G001 1/8" = 1'-0"



1 FIRST FLOOR OCCUPANCY AND EXITING PLAN

G001 1/8" = 1'-0"

TOTAL OCCUPANT LOAD: 76 PEOPLE

IBC SECTION 1006.3.3 SINGLE EXITS
 IBC TABLE 1006.3.3(1) STORIES WITH ONE EXIT OR ACCESS TO ONE EXIT FOR R-2 OCCUPANCIES
 FIRST AND SECOND STORY

IBC SECTION 1014.3 - COMMON PATH OF TRAVEL. THE COMMON PATH OF TRAVEL DOES NOT EXCEED 75 FEET

IBC SECTION 1017 - EXIT ACCESS TRAVEL DISTANCE. THE MAXIMUM TRAVEL DISTANCE DOES NOT EXCEED 250 FEET

IBC SECTION 1020.4 - DEAD ENDS. THE MAXIMUM DEAD END DISTANCE DOES NOT EXCEED 20 FEET.

IBC SECTION 1006 - NUMBER OF EXITS AND EXIT ACCESS DOORWAYS. ONE (1) EXIT IS REQUIRED AND PROVIDED FOR EACH SPACE.

IBC 2018 OCCUPANCY CLASSIFICATION AND USE (Chapter 3)

FLOOR	GROUP	AREA (SF)
FIRST FLOOR	BUSINESS GROUP B	895 SF
FIRST FLOOR	RESIDENTIAL GROUP R-2	889 SF
SECOND FLOOR	RESIDENTIAL GROUP R-2	1819 SF
TOTAL AREA		3602 SF

KITCHEN	807 SF
SEATING	2926 SF
TOTAL AREA	3733 SF

PLAN KEY

○ PATH OF TRAVEL ID

→ PATH OF TRAVEL

⊗ EXIT SIGN

⊕ FIRE EXTINGUISHER

Max Floor Area (Table 1004.1.2)

■ Assembly Unconcentrated (tables and chairs)

■ Residential

PATH OF TRAVEL SCHEDULE

⊗ TAG INDICATING PATH OF TRAVEL ID

FIRST FLOOR

A PATH OF EGRESS 35' - 2"
 35' - 2"

SECOND FLOOR

H PATH OF EGRESS 46' - 6"
 46' - 6"

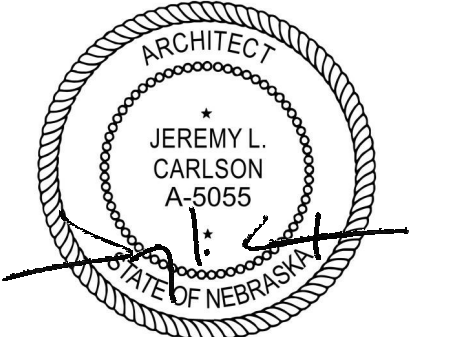
OCCUPANCY ROOM SCHEDULE

ROOM NUMBER	AREA/ROOM NAME	AREA	OCC. FACTOR	CALC TYPE	OCCUPANT LOAD
FIRST FLOOR					
Assembly Unconcentrated (tables and chairs)					
101	RETAIL 1	418 SF	15 SF	net	28
102	RETAIL 2	435 SF	15 SF	net	30
					58
Residential					
103	1 BED	433 SF	200 SF	gross	3
104	1 BED	412 SF	200 SF	gross	3
					6
					64
SECOND FLOOR					
Residential					
201	STUDIO	443 SF	200 SF	gross	3
202	STUDIO	423 SF	200 SF	gross	3
203	STUDIO	437 SF	200 SF	gross	3
204	STUDIO	420 SF	200 SF	gross	3
					12
					12
					12
					12
					76
TOTAL OCCUPANT LOAD					



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RALSTON APARTMENT RENOVATIONS
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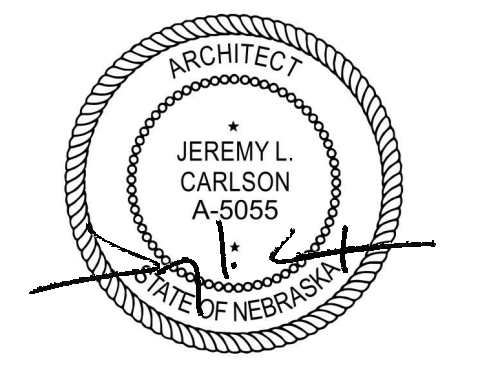
Revisions

1	08/19/2024	Addendum 01
2	08/25/2024	Addendum 02

Project No. | 23042
 Issue Date | 08.23.2024

CODE REVIEW
 & EGRESS
 PLAN

Sheet No. | G001



08.23.2024

RALSTON APARTMENT RENOVATIONS
 5617 S 77TH ST
 RALSTON, NE 68127

Revisions |

1	09/19/2024	Addendum 01
2	09/25/2024	Addendum 02

Project No. | 23042
Issue Date | 08.23.2024

FLOOR PLANS, WALL TYPES, DOOR AND WINDOW SCHEDULES

WINDOW SCHEDULE

MARK	MATERIAL	FINISH	GLAZING TYPE	COMMENTS
A	FIBERGLASS	SOLID-BLACK	IG-1	PELLA IMPERVIA - PICTURE WINDOW, BLACK, MATCH EXG. WDW SIZE
I	FIBERGLASS	SOLID-BLACK	IG-1	PELLA IMPERVIA - DOUBLE-HUNG, BLACK - MATCH EXG. OPENING SIZE
J	FIBERGLASS	SOLID-BLACK	IG-1	PELLA IMPERVIA - DOUBLE-HUNG, BLACK - MATCH EXG. OPENING SIZE
K	FIBERGLASS	SOLID-BLACK	IG-1	PELLA IMPERVIA - DOUBLE-HUNG, BLACK - MATCH EXG. OPENING SIZE

STOREFRONT SCHEDULE

MARK	MATERIAL	FINISH	HEAD	JAMB	SILL	GLAZING TYPE	COMMENTS
SF1	ALUM	PERMAFLUOR BLACK				IG-1	KAWNEER TRIFAB 451 AS BASIS OF DESIGN
SF2	ALUM	PERMAFLUOR BLACK				IG-1	KAWNEER TRIFAB 451 AS BASIS OF DESIGN
SF3	ALUM	PERMAFLUOR BLACK				IG-1	KAWNEER TRIFAB 451 AS BASIS OF DESIGN
SF4	ALUM	PERMAFLUOR BLACK				IG-1	KAWNEER TRIFAB 451 AS BASIS OF DESIGN

DOOR SCHEDULE

DOOR NO.	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME TYPE	MATERIAL	FINISH	FIRE RATING	HARDWARE	JAMB	HEAD	SILL	COMMENTS
101	D5	3'-0"	7'-0"	0'-1 3/4"	ALUM	BLACK	SF4	ALUM	BLACK	-	3.0				
102	D5	3'-0"	7'-0"	0'-1 3/4"	ALUM	BLACK	SF3	ALUM	BLACK	-	2.0				
103	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT	-	1.0				
104	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT	-	1.0				
201	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT	-	1.0				
202	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT	-	1.0				
203	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT	-	1.0				
204	D1	3'-0"	6'-8"	0'-1 3/4"	HM	PNT	F1	HM	PNT	-	1.0				

UNIT DOOR SCHEDULE

DOOR NO.	TYPE	WIDTH	HEIGHT	THICKNESS	MATERIAL	FINISH	FRAME TYPE	MATERIAL	FINISH	HARDWARE	COMMENTS
BA34	D1	2'-10"	6'-8"	0'-1 3/4"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	1
BB34	D1	2'-10"	6'-8"	0'-1 3/4"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	2
CL32	D1	2'-8"	6'-8"	0'-1 3/4"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	2
PK48	D3	4'-0"	6'-8"	0'-1 3/4"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	
SL48	D4	4'-0"	6'-8"	0'-1 3/8"	WD	PREFIN	F1	WD	PREFIN	PREHUNG WITH BLACK HDW	

GENERAL NOTES - FLOOR PLAN

- THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
- CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
- REVIEW SHEET S100 AND PERFORM BUILDING REHABILITATION RECOMMENDATIONS PRIOR TO COMMENCING WORK. WHERE RECOMMENDATIONS AND SCOPE OF WORK OVERLAP, DEFER TO DRAWINGS.
- WHERE FLOOR IS TRANSITIONING TO A DIFFERENT MATERIAL, INSTALL A TRANSITION STRIP.
- DIMENSIONS ARE FROM FACE OF STUD UNLESS OTHERWISE NOTED.
- DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A BROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.

GENERAL NOTES - FLOOR PLAN

- THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
- FIRE EXTINGUISHERS FINAL LOCATIONS SHALL BE VERIFIED WITH LOCAL FIRE AUTHORITY.
- UNIT LAYOUTS SHOWN HALFTONE FOR REFERENCE. REFER TO UNIT PLANS FOR LAYOUT.
- NEW EXTERIOR WINDOWS AND DOORS TO BE LOCATED IN EXISTING OPENINGS UNLESS OTHERWISE NOTED. ARCHITECT IMMEDIATELY IN THE CASE OF A DISCREPANCY.
- NEW WINDOWS TO BE INSTALLED SUCH THAT BOTTOM OF THE CLEAR OPENING IS NOT GREATER THAN 44" AFF. U.N.O.
- FURNITURE AND EQUIPMENT PROVIDED N.I.C. SHOWN DASHED FOR REFERENCE.
- ALL NEW WALLS ARE TO EXTEND TO DECK, UNLESS OTHERWISE NOTED.

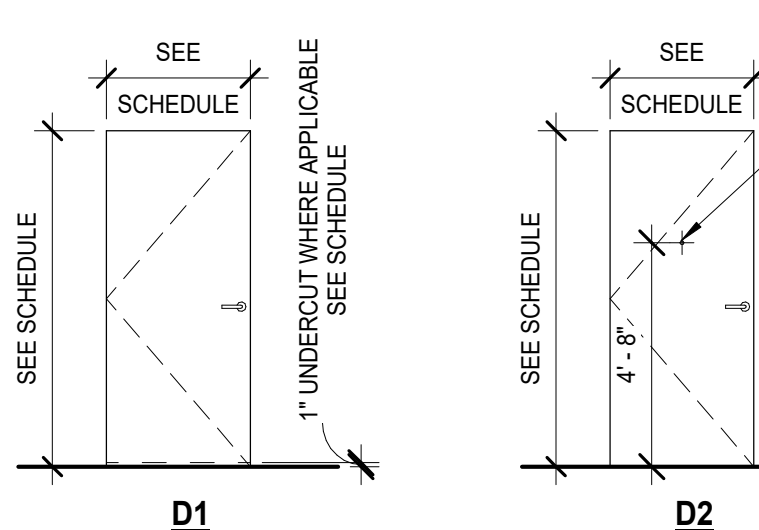
KEYNOTE LEGEND

NO.	DESCRIPTION
02	ROLLER BLINDS; G.C. TO FIELD VERIFY FINAL SIZE(S)
06	INFILL OPENING WITH 2X10'S AT 16" ON-CENTER. ATTACH TO THE BRICK WALL VIA 3/8" DIA. EPOXY ADHESIVE ANCHORS (EMBED 5") AT 24" ON-CENTER, STAGGERED, ON TO THE 2X10 RIM-BOARD. COVER FLOOR JOISTS W/ TONGUE-AND-GROOVE 3/4" THICK OSB SHEATHING
07	INFILL PORTION OF EXISTING WALL. REFER TO WALL TYPES FOR CONSTRUCTION.
08	SILL HEIGHT OF NEW CONSTRUCTION TO MATCH EXISTING.
11	PREFINISHED MTL. DOWNSPOUT
15	NEW BLADE SIGN - BY OTHERS.
16	WALL-MOUNTED LIGHT FIXTURE - REVIEW ELECTRICAL DRAWINGS.
24	CONC. SPLASH PAD
29	1 1/2" O.D. ALUM. HANDRAIL - DARK BRONZE
31	POSTS BELOW AS STATED IN DRY-ROT WOOD FRAMING & CLAY-TILE BLOCK DETERIORATION RECOMMENDATIONS.
32	DECK TO BE SEALED WITH SUN FROG WOOD SEALER, FINISH & STAIN - MAHOGANY OR EQUAL; TYP.

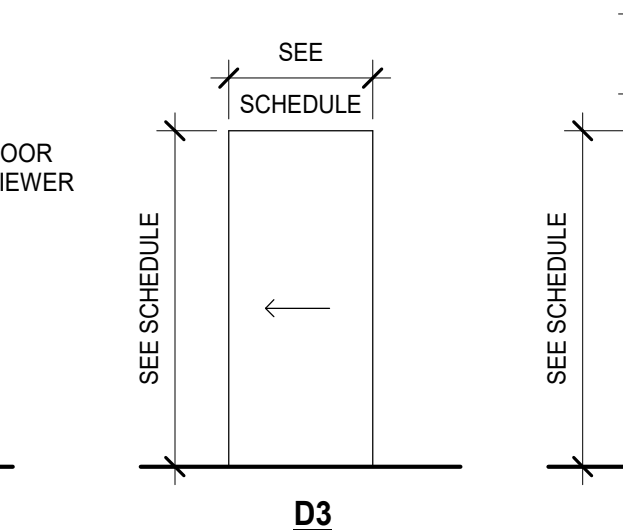
SYMBOL LEGEND

- NEW WALL/ITEM/ELEMENT TO BE CONSTRUCTED, FIELD VERIFY TYPES AND CONDITIONS
- EXISTING WALL/ITEM/ELEMENT TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS

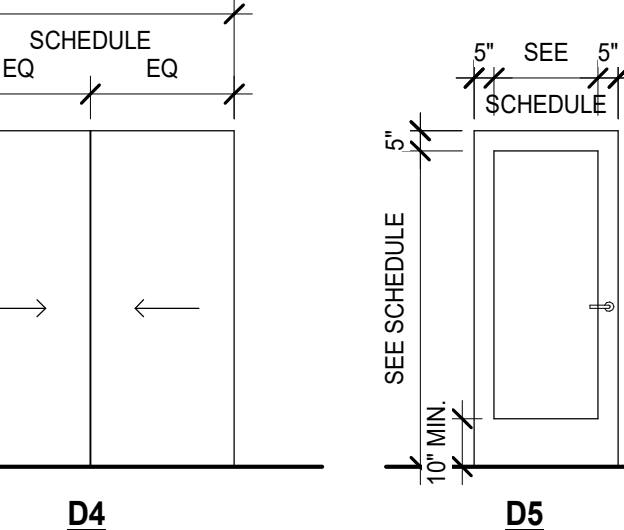
NOTE: HARDWARE SHOWN FOR REFERENCE - REFER TO HARDWARE SCHEDULE FOR ACTUAL HARDWARE



5 DOOR ELEVATIONS
A202 1/4" = 1'-0"



6 DOOR FRAME ELEVATIONS
A202 1/4" = 1'-0"



7 FRAME THROAT DETAIL
A202 3" = 1'-0"

088000 GLAZING SCHEDULE

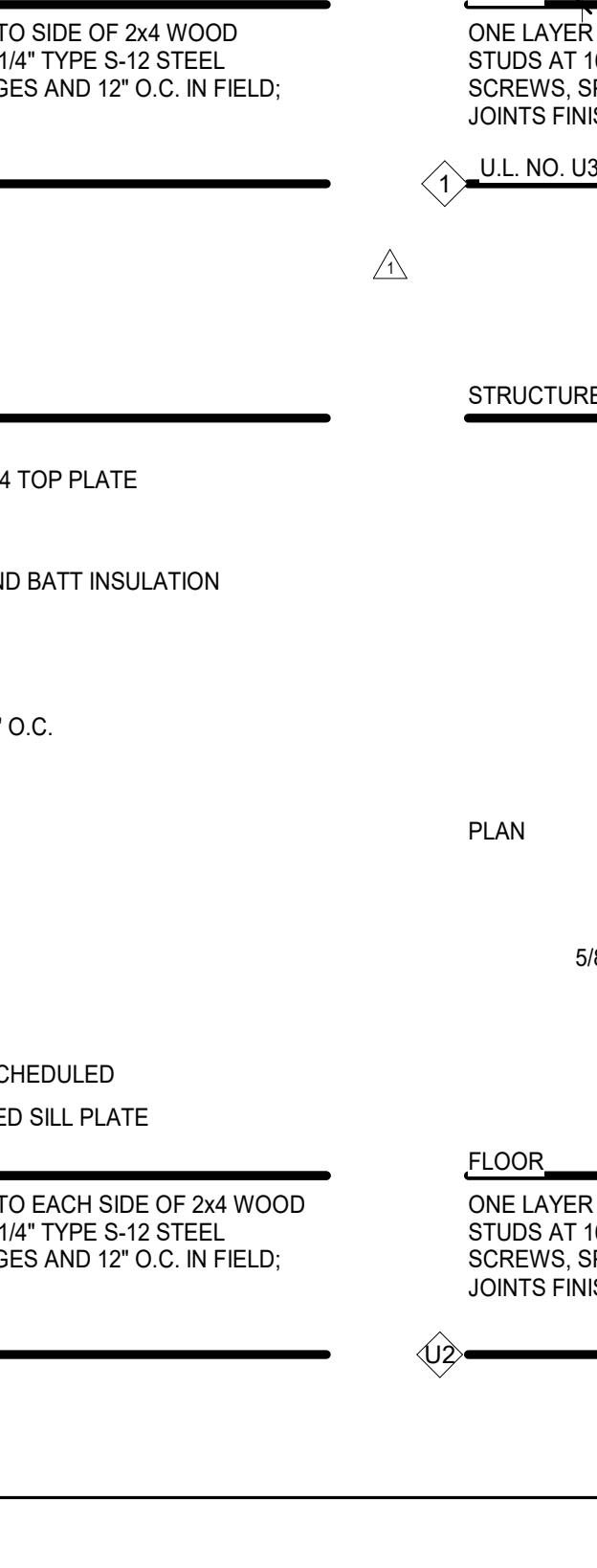
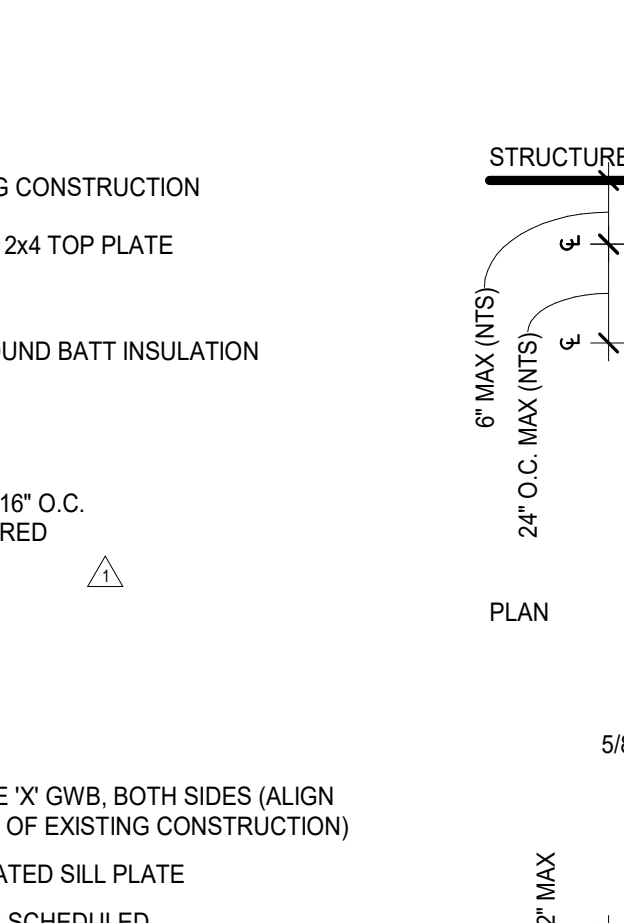
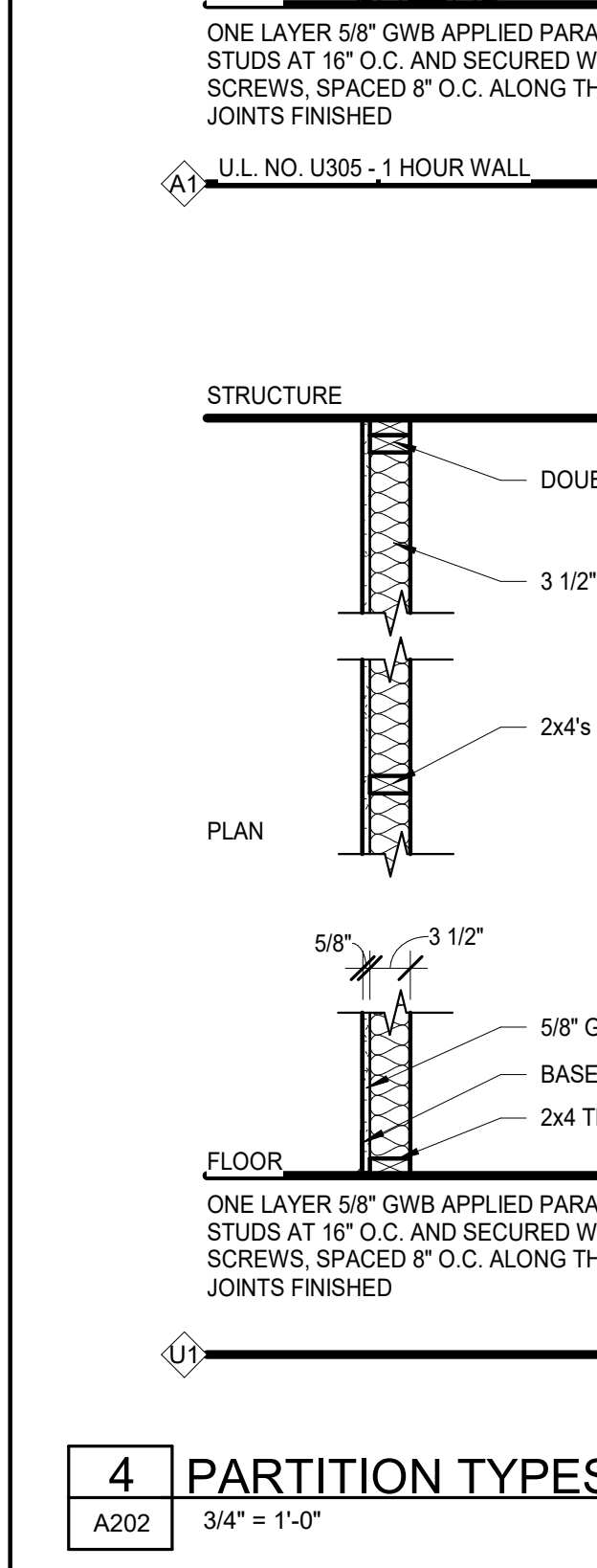
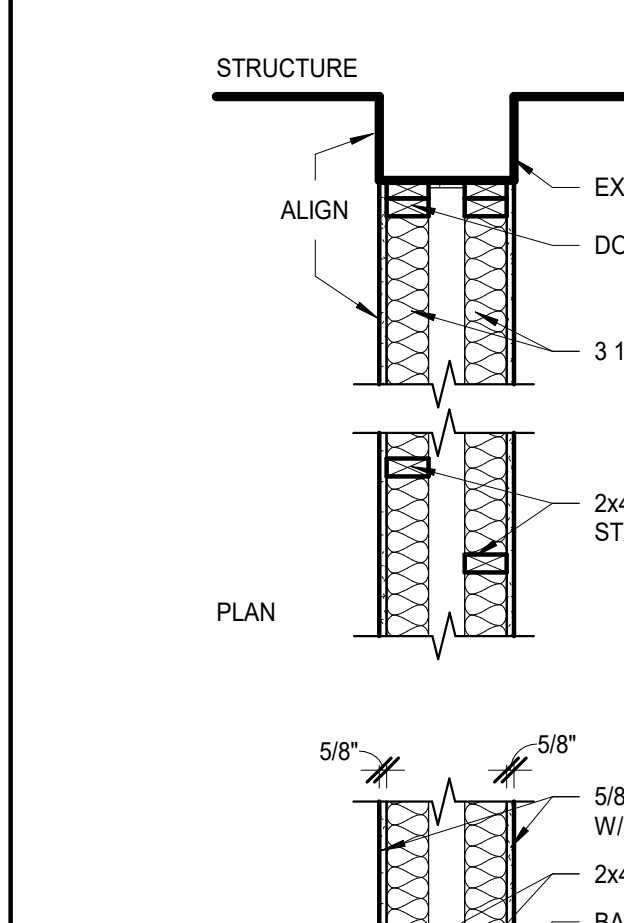
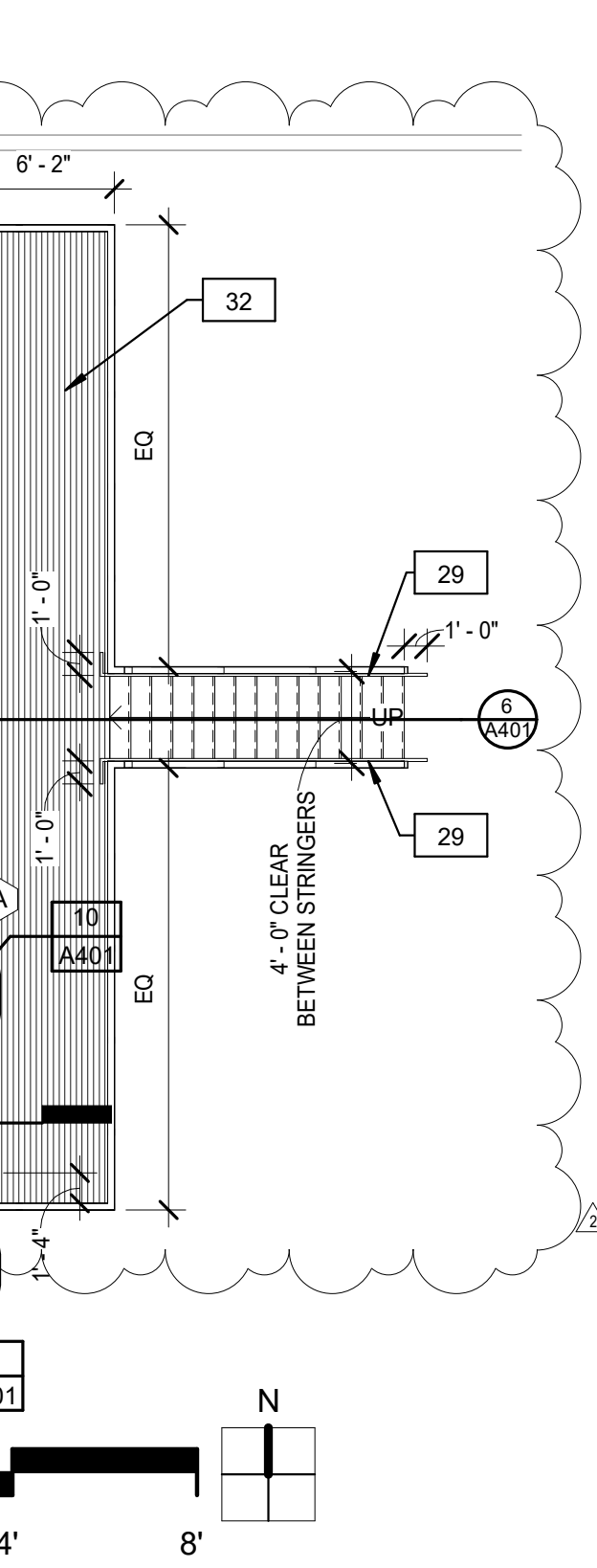
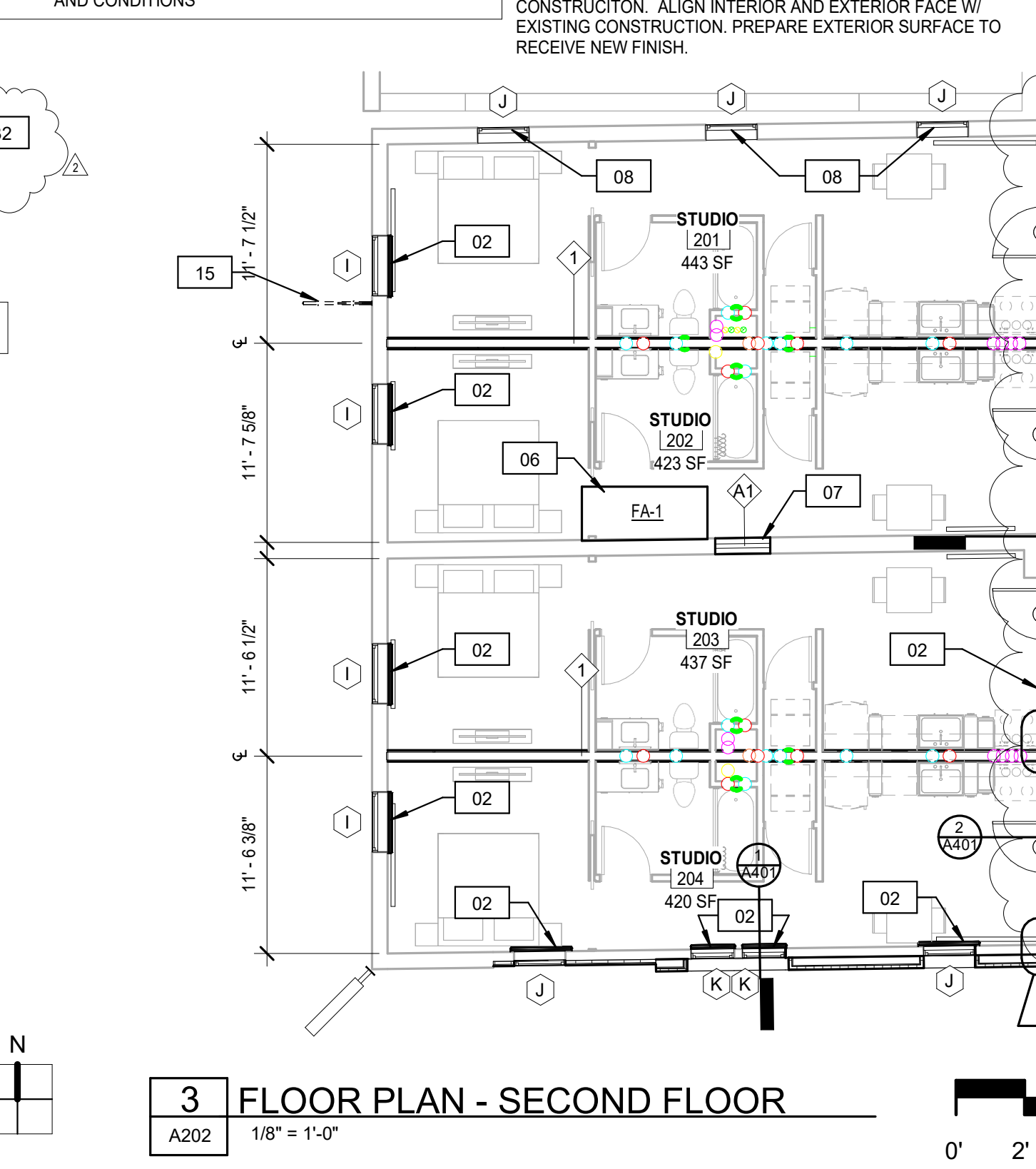
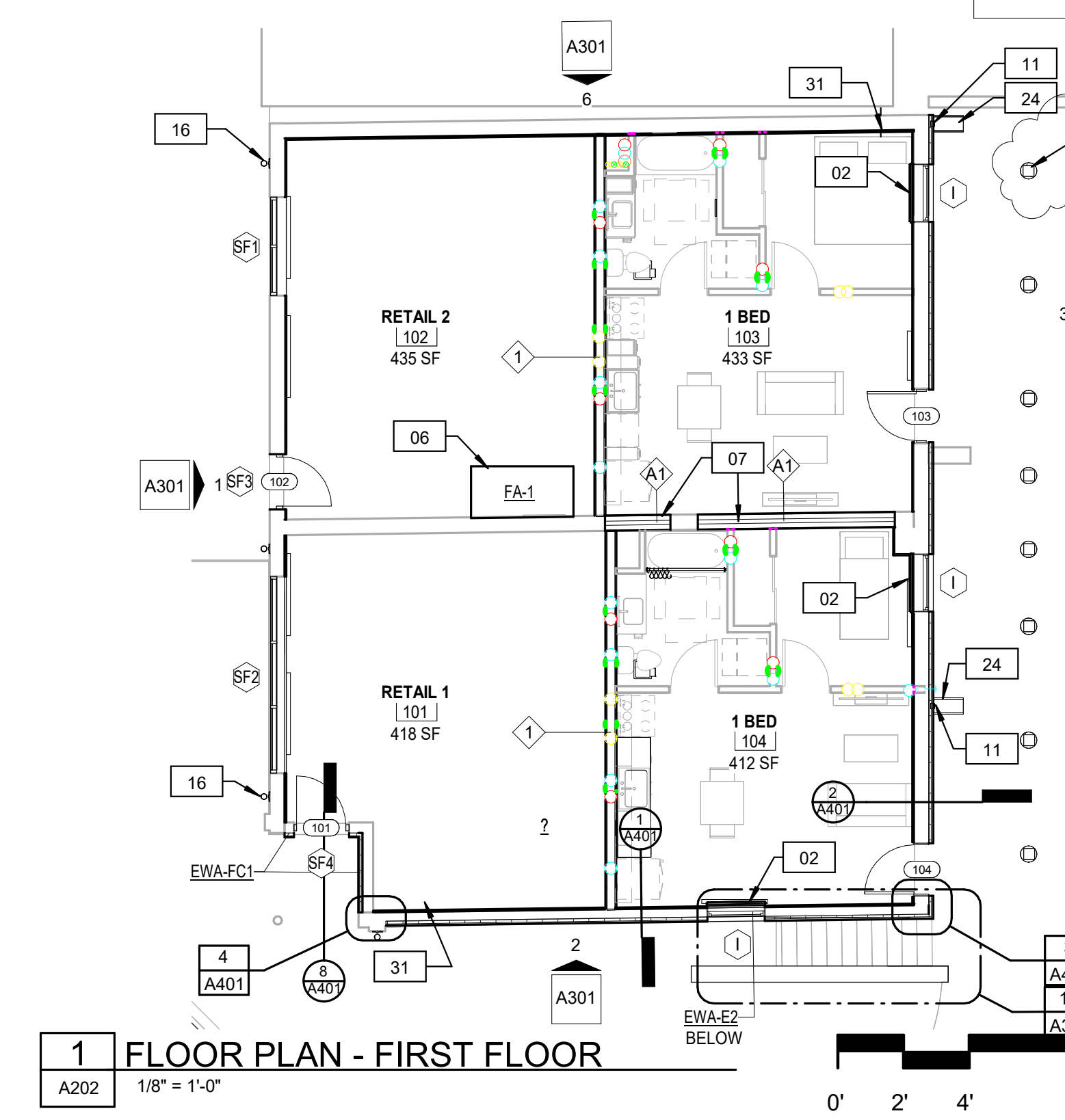
TAG	DESCRIPTION	GLAZING COMPOSITION	TINT	GL-COATING	MIN. U-FACTOR	MIN SHGC	GL-GLAZING METHOD	GL-REMARKS
G-2	MONOLITHIC INTERIOR VISION GLAZING	1/4" ANNEALED FLOAT GLASS	CLEAR	-	-	-	DRY GLAZING METHOD, GASKET GLAZING	
G-3	MONOLITHIC INTERIOR SAFETY GLAZING: NON-FIRE RATED	SAME AS G-2, EXCEPT USE FULLY-TEMPERED GLASS	CLEAR	-	-	-	DRY GLAZING METHOD, GASKET GLAZING	
IG-1	INSULATING GLASS UNITS: VISION GLASS, DOUBLE GLAZED	(2) LAYERS 1/4" ANNEALED FLOAT GLASS W/ 1/2" GAP BETWEEN LITES FILLED W/ AIR	CLEAR	LOW-E ON #2 SURFACE	0.38 (0.29 WINTER)	0.39*	DRY GLAZING METHOD, GASKET GLAZING	SOLARBAN 60 (2) + CLEAR AS BASIS OF DESIGN
IG-5	INSULATING GLASS UNITS: SAFETY GLAZING	SAME AS IG-1, EXCEPT USE FULLY TEMPERED FLOAT GLASS FOR BOTH OUTBOARD AND INBOARD LITES	CLEAR	SAME AS IG-1	SAME AS IG-1	SAME AS IG-1	DRY GLAZING METHOD, GASKET GLAZING	SAME AS IG-1

GENERAL NOTES - DOOR AND FRAME

- VERIFY ALL EXISTING OPENINGS WITH DIMENSIONS IN DOOR SCHEDULE PRIOR TO CONSTRUCTION. STOP WORK AND NOTIFY ARCHITECT IMMEDIATELY IF ANY DISCREPANCIES EXIST.
- ALL EXTERIOR SAFETY GLAZING TO BE IG-5. COORDINATE LOCATIONS AS REQUIRED BY APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
- ALL EXTERIOR GLAZING TO BE IG-1 U.N.O.
- ALL INTERIOR SAFETY GLAZING TO BE G-3. COORDINATE LOCATIONS AS REQUIRED BY APPLICABLE FEDERAL, STATE, AND LOCAL CODES AND REGULATIONS.
- PNT TO BE SW 7588 SHOW STOPPER

DOOR AND FRAME COMMENTS LEGEND

- UNDERCUT DOOR BY 1"
- PROVIDE LOUVERED VENT



- GENERAL NOTES - FLOOR PLAN**
- THE INTENT OF THE DRAWINGS IS TO PROVIDE INFORMATION FOR CONSTRUCTION. IT IS IMPORTANT FOR THE CONTRACTOR TO VERIFY FIELD DIMENSIONS AND CONDITIONS BEFORE EXECUTION OF THE WORK. CONTACT THE ARCHITECT SHOULD DISCREPANCIES EXIST.
 - CONTRACTOR AND SUBCONTRACTORS SHALL PROVIDE ALL LABOR, MATERIALS AND EQUIPMENT TO COMPLETE ALL WORK SHOWN ON PLANS, CALLED FOR IN SPECIFICATION, OR REASONABLY IMPLIED FOR A COMPLETE INSTALLATION EVEN THOUGH NEITHER SHOWN ON PLANS OR CALLED OUT IN SPECIFICATIONS.
 - REVIEW SHEET S100 AND PERFORM BUILDING REHABILITATION RECOMMENDATIONS PRIOR TO COMMENCING WORK. WHERE RECOMMENDATIONS AND SCOPE OF WORK OVERLAP, DEFER TO DRAWINGS.
 - WHERE FLOOR IS TRANSITIONING TO A DIFFERENT MATERIAL, INSTALL A TRANSITION STRIP.
 - DIMENSIONS ARE FROM FACE OF STUD UNLESS OTHERWISE NOTED.
 - DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A BROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.
 - THE CONTRACTOR SHALL PROVIDE ALL DEMOLITION INCIDENTAL TO OR REQUIRED FOR NEW AND RENOVATION CONSTRUCTION WHETHER OR NOT IT IS SPECIFICALLY NOTED, INCLUDING, BUT NOT LIMITED TO, ALL OTHER WORK THAT MIGHT REASONABLY BE REQUIRED TO BE REMOVED IN PREPARATION FOR SPECIFIED FINISHES. DEMOLITION SHALL BE PERFORMED IN A MANNER THAT WILL NOT DAMAGE ANY ITEMS OR SURFACES INDICATED TO REMAIN. ITEMS OR SURFACES SHALL BE PATCHED IF NECESSARY TO PROVIDE A SUITABLE SUB-STRATA FOR NEW FINISHES.
 - FIRE EXTINGUISHERS FINAL LOCATIONS SHALL BE VERIFIED WITH LOCAL FIRE AUTHORITY.
 - UNIT LAYOUTS SHOWN HALFTONE FOR REFERENCE. REFER TO UNIT PLANS FOR LAYOUT.
 - NEW EXTERIOR WINDOWS AND DOORS TO BE LOCATED IN EXISTING OPENINGS U.N.O. NOTIFY ARCHITECT IMMEDIATELY IN THE CASE OF A DISCREPANCY.
 - NEW WINDOWS TO BE INSTALLED SUCH THAT BOTTOM OF THE CLEAR OPENING IS NOT GREATER THAN 44" AFF. U.N.O.
 - FURNITURE AND EQUIPMENT PROVIDED N.I.C. SHOWN DASHED FOR REFERENCE.
 - ALL NEW WALLS ARE TO EXTEND TO DECK, UNLESS OTHERWISE NOTED.

- SYMBOL LEGEND**
- NEW WALL/ITEM/ELEMENT TO BE CONSTRUCTED, FIELD VERIFY TYPES AND CONDITIONS
 - EXISTING WALL/ITEM/ELEMENT TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS

KEYNOTE LEGEND

NO.	DESCRIPTION
02	ROLLER BLINDS; G.C. TO FIELD VERIFY FINAL SIZE(S)
20	EQUIPMENT IS OFCI.
21	ROLLER BLINDS, TYP. SEE A202 FOR LOCATIONS

TOILET ACCESSORIES SCHEDULE

TAG	DESCRIPTION	MODEL
TA-4B	Toilet Tissue Dispenser	508-52
TA-7	Wall mounted tub/shower valve	
TA-7.1	Wall mounted shower head	
TA-12	Shower Curtain Rod	
TA-20	Towel Bar - 24" W	907-24
TA-21	Round Mirror 22 Inch	K-31367-CPL

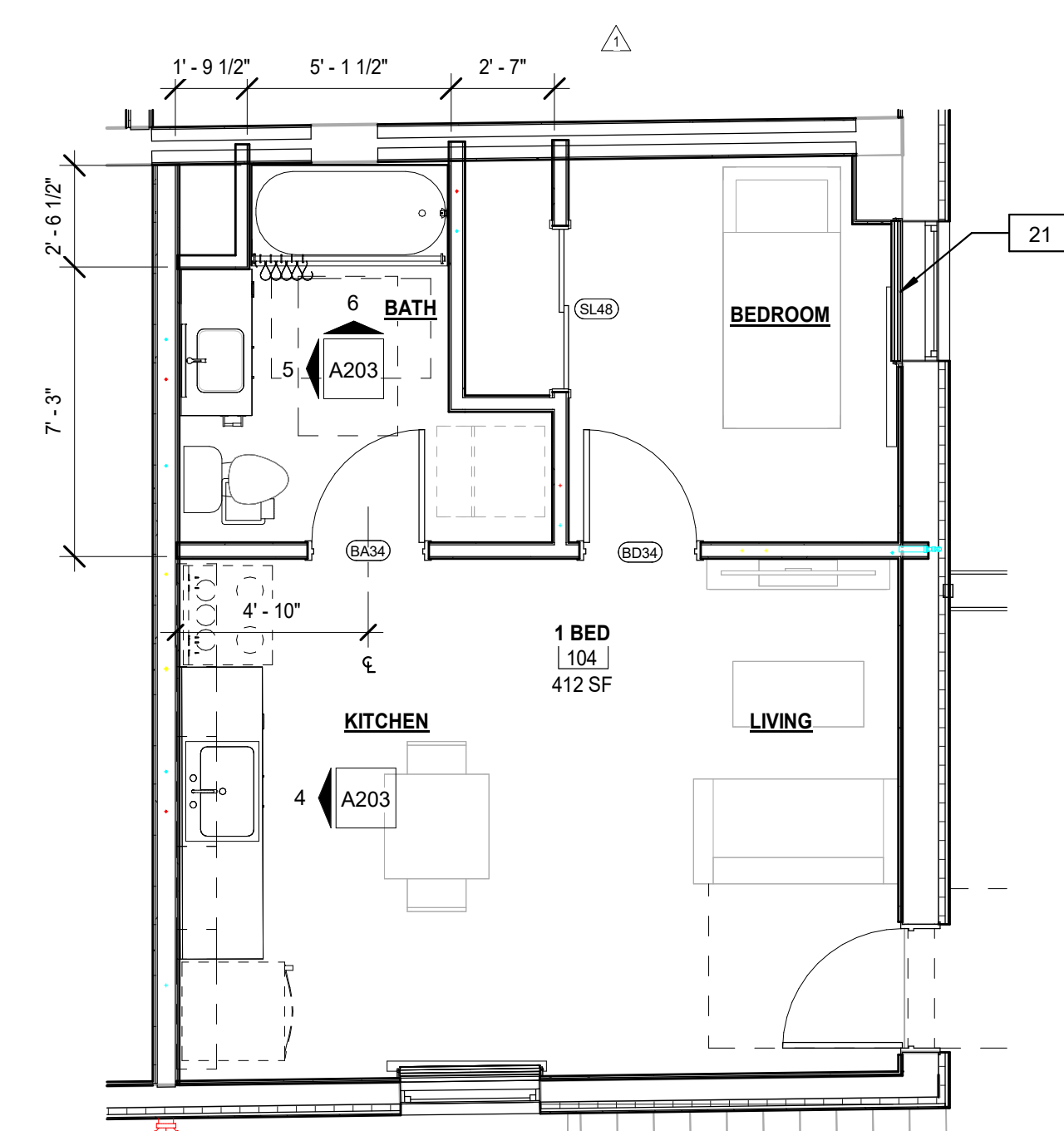
- NOTE: HATCH INDICATES MATERIAL TYPE AND IS NOT A REPRESENTATION OF INDIVIDUAL MATERIAL COURSING
- FLOORS**
- CARPET TILE (CPT-1)
 - VINYL TILE (VINYL-1)
 - LUXURY VINYL TILE (LVT-1)

Revisions |

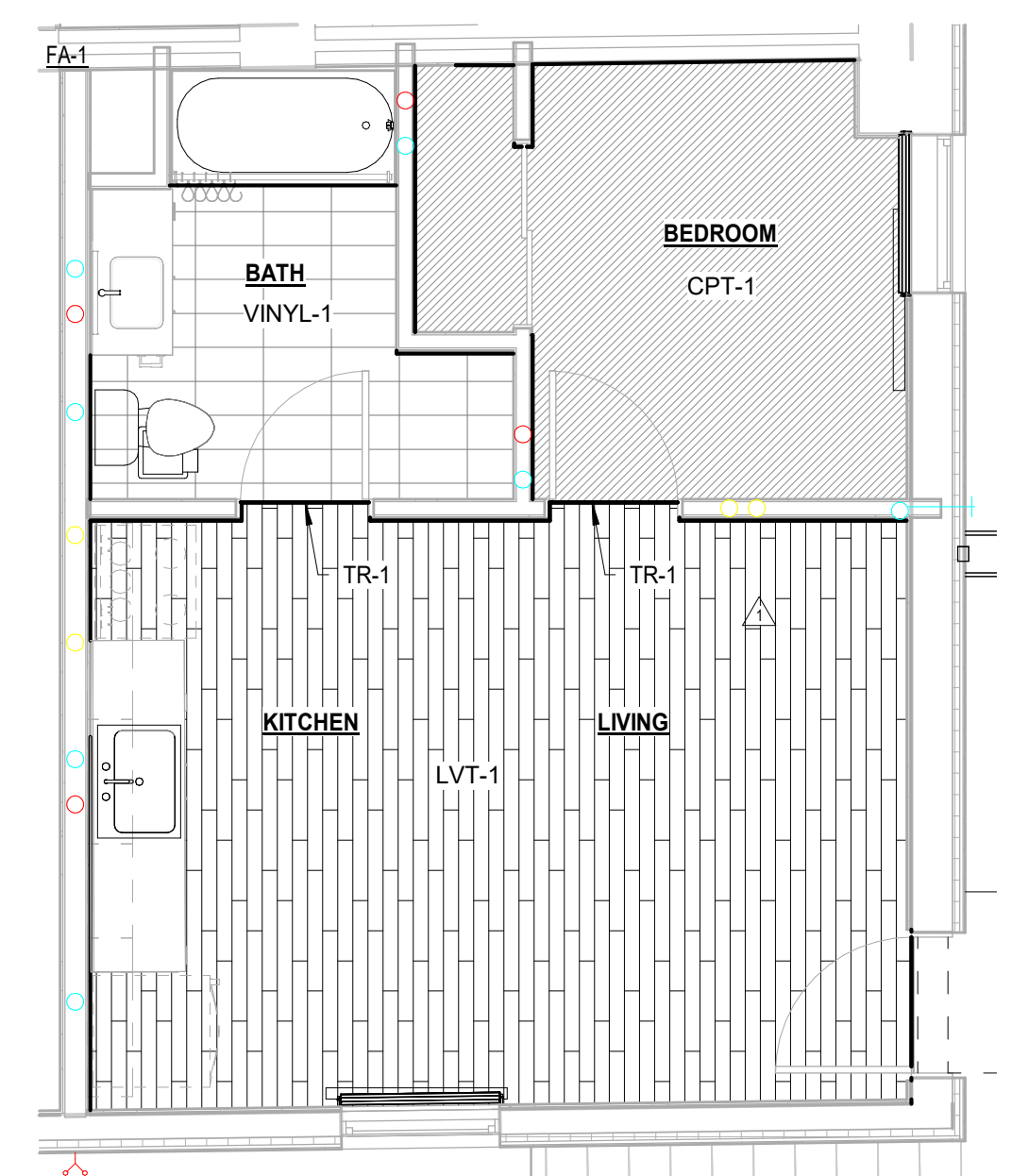
1	09/19/2024	Addendum 01
2	09/25/2024	Addendum 02

Project No. | 23042
Issue Date | 08.23.2024

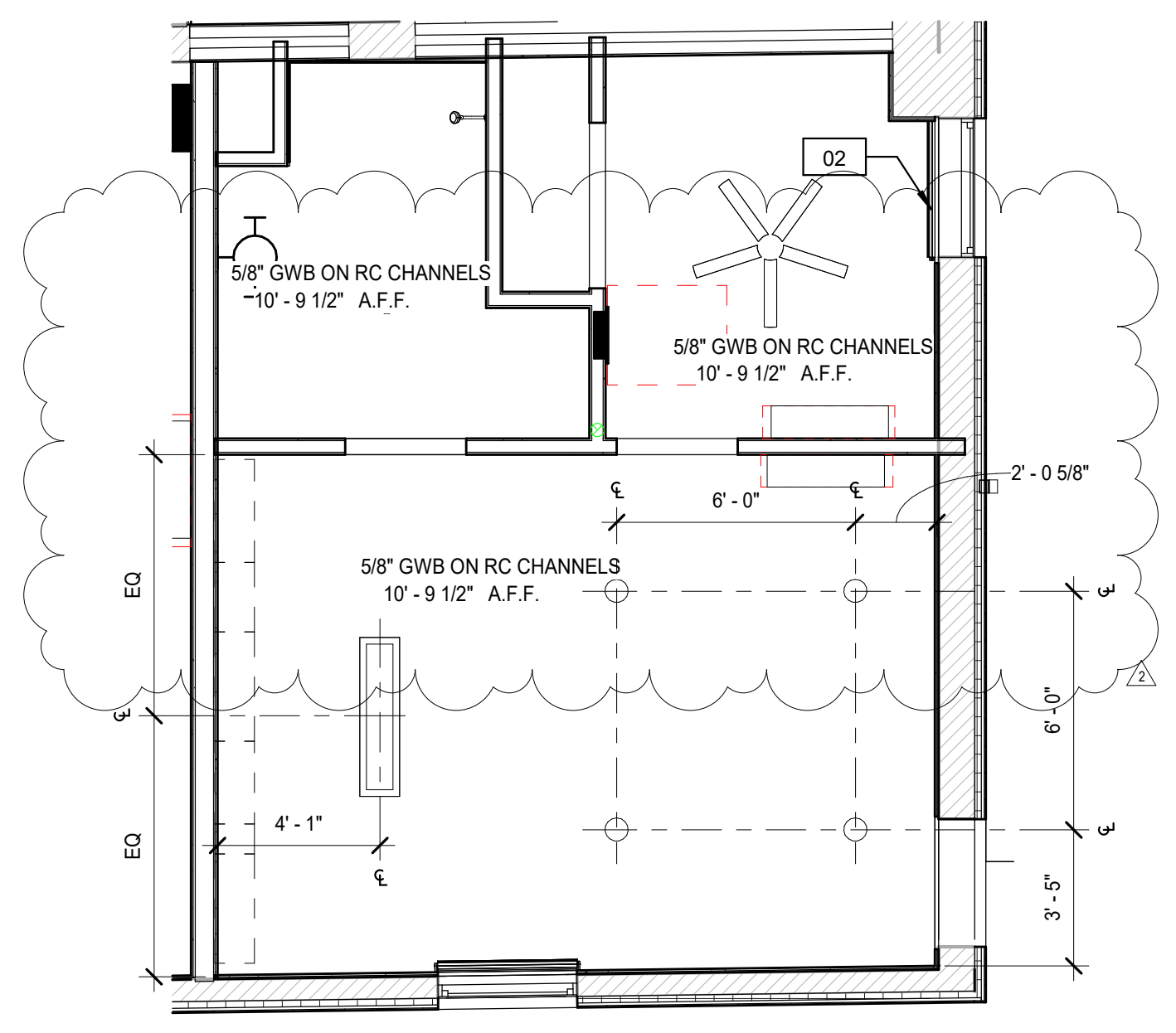
UNIT PLANS



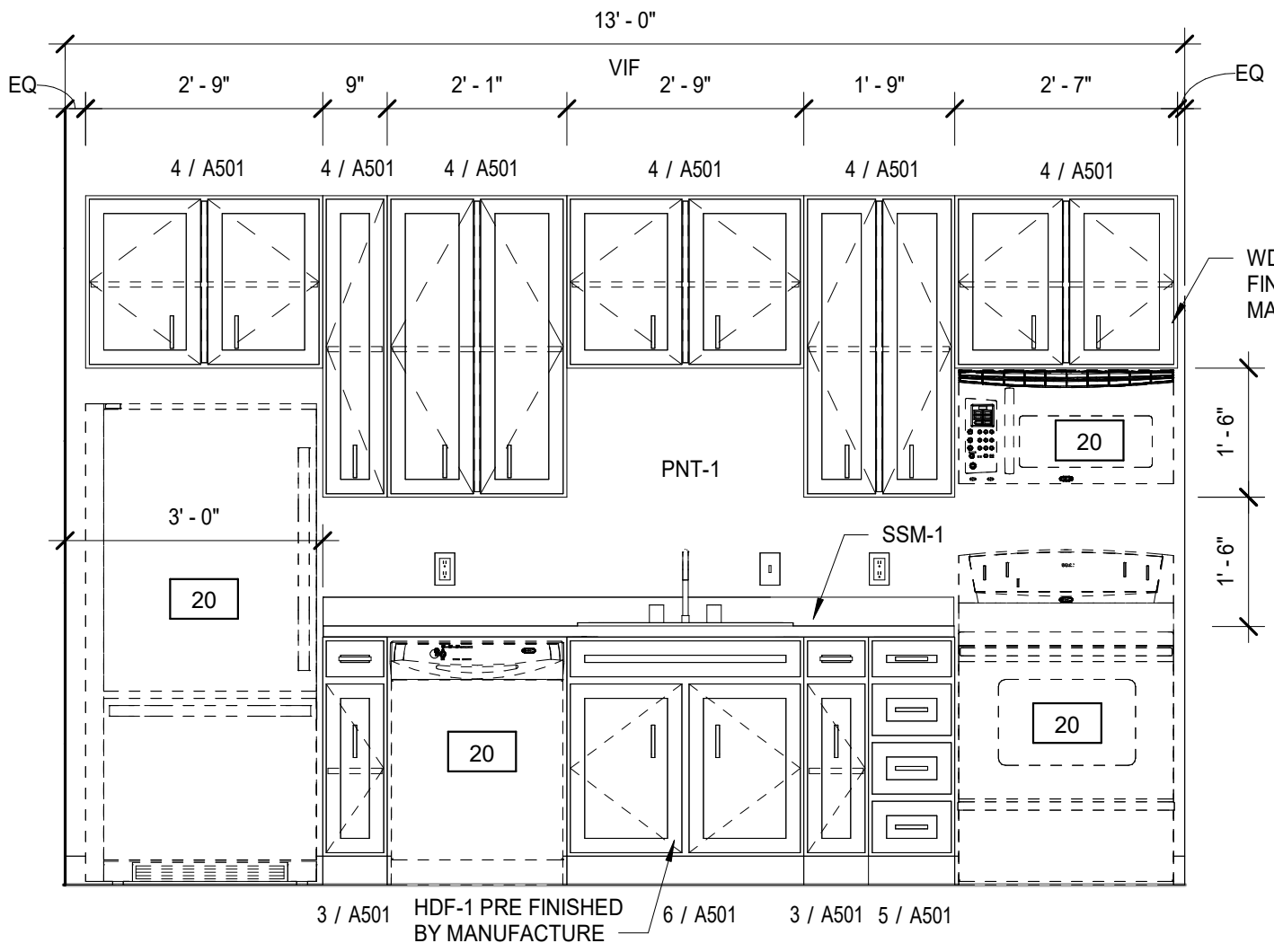
3 TYPICAL UNIT A - 1 BEDROOM FLOOR PLAN
A203 1/4" = 1'-0"



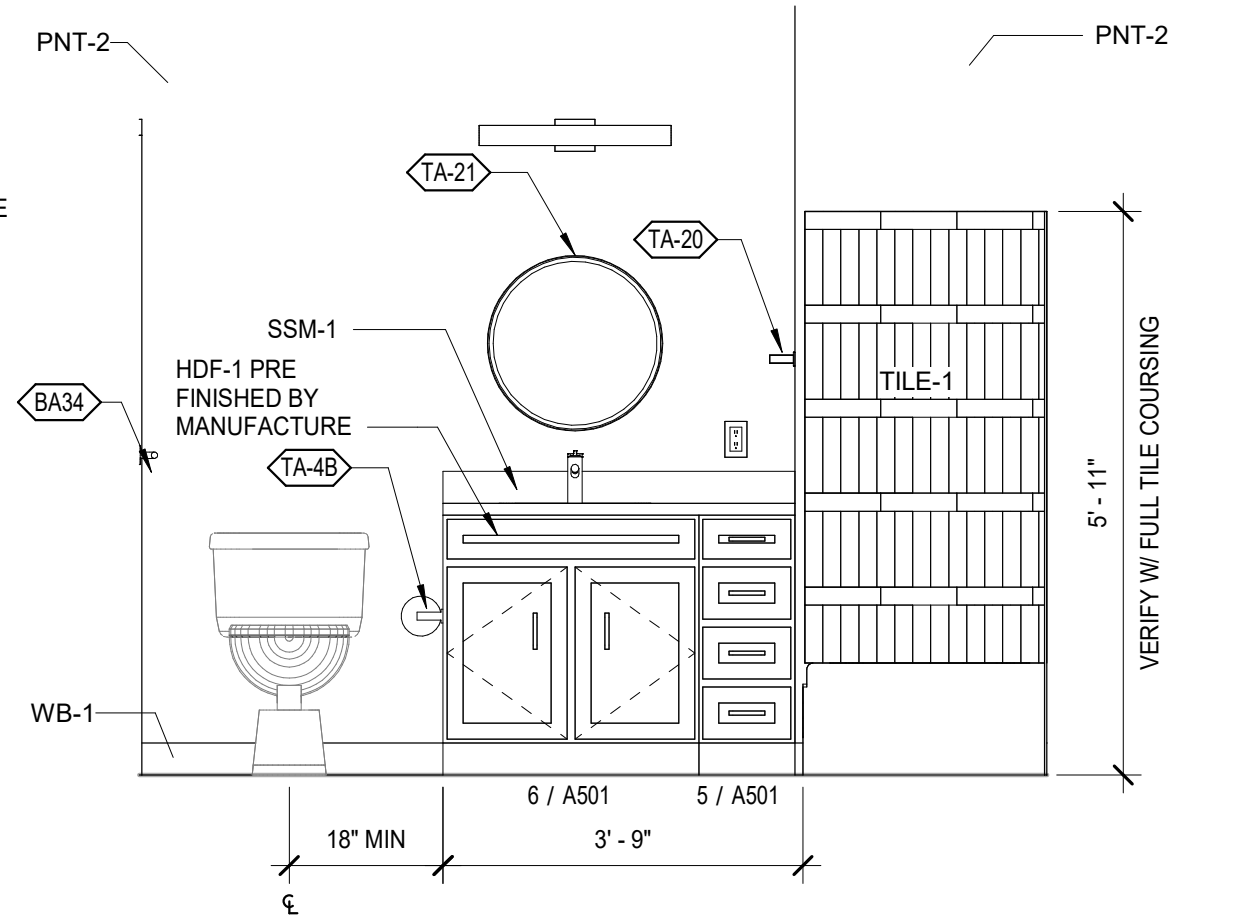
2 TYPICAL UNIT A - 1 BEDROOM FINISH PLAN
A203 1/4" = 1'-0"



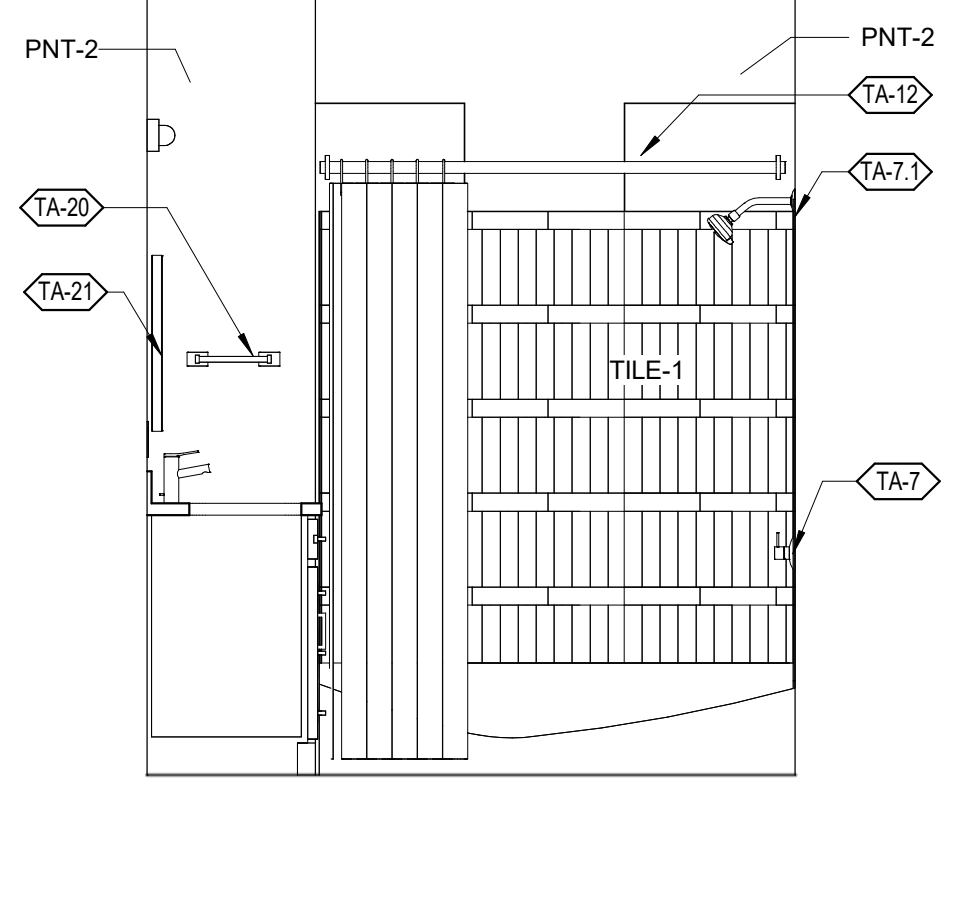
1 TYPICAL UNIT A - 1 BEDROOM REFLECTED CEILING PLAN
A203 1/4" = 1'-0"



4 TYPICAL KITCHEN ELEVATION
A203 1/2" = 1'-0"



5 UNIT 1 BATHROOM ELEVATION WEST
A203 1/2" = 1'-0"



6 UNIT 1 BATHROOM ELEVATION NORTH
A203 1/2" = 1'-0"

FINISH SPECIFICATIONS

ABBREVIATION	MANUFACTURER	DESCRIPTION	PRODUCT INFORMATION	COLOR	SIZE	REMARKS
CARPET (CPT-)						
CPT-1	PATCRAFT	CARPET TILE	ARTEFACT, PATINA I0511	MARK OF TIME 00200	12" X 48"	
GROUT (GR-)						
GR-1	MAPEI	SERENE	USE WITH TILE-1	WARM GRAY; 93		
HIGH DENSITY FIBER BOARD (HDF-)						
HDF-1	CKF CABINETS	HDF PIONEER DOOR STYLE	ELEMENT	PAINT GRADE, NAVAL		BASIS OF DESIGN
LUXURY VINYL TILE (LVT-)						
LVT-1	TARKETT	LUXURY VINYL TILE	ID LATITUDE WOOD	7533 NORDIC	6" X 48"	
PAINT (PNT-)						
PNT-1	SHERWIN WILLIAMS	EGGSHELL	TINSMITH; 7657			MAINFIELD PAINT COLOR
PNT-2	SHERWIN WILLIAMS	EGGSHELL	CADET; 9143			ACCENT WALL PAINT
PNT-3	SHERWIN WILLIAMS	EGGSHELL	CEILING BRIGHT WHITE; 7007			GWB CEILING PAINT COLOR
PNT-4	SHERWIN WILLIAMS	EGGSHELL	HIGH REFLECTIVE WHITE; 7757			RETAIL FIELD PAINT COLOR
SOLID SURFACE(SSM-)						
SSM-1	CORIAN	CORIAN COUNTERTOPS	SOLID SURFACE	CIRRUS WHITE	1/2" THICK	W/ 1 1/2" MITER AND 4" BACKSPASH WHERE NOTED
TILE (TILE-)						
TILE-1	DAL TILE	PROCELAIN WALL TILE	REMEDY	EXLIJR RD20	2 1/4" X 9 1/2"	BATHROOM WALL TILE
TRANSITION STRIP (TR-)						
TR-1	SCHLUTER	TRANSITION STRIP	VINEPRO-S	TBD		PROVIDE SAMPLES FROM MFR. STD. COLOR LINE FOR APPROVAL BY ARCHITECT.
VINYL (VINYL-)						
VINYL-1	TARKETT	SHEET VINYL	ACCZENT; 251	CONCRETE COOL GREY 28500	2300 cm x 200 cm	BATHROOM
WALL BASE (WB-)						
WB-1	JOHNSONITE-TARKETT	TRADITIONAL WALL BASE	CB/DC-XX	STORM CLOUD CG		TYPICAL UNO.
WOOD (WD-)						
WD-1	CKF CABINETS	SOLID WOOD & VENEER PIONEER DOOR STYLE	ELEMENT	MAPLE; CASHEW		BASIS OF DESIGN

UNIT FINISH SCHEDULE

ROOM NAME	FLOOR FINISH	WALL FINISH					CEILING MATERIAL	COMMENTS
		BASE	NORTH	EAST	SOUTH	WEST		
1 BEDROOM								
LIVING	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
BEDROOM	CPT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
KITCHEN	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-2	PNT-3	
BATH	VINYL-1	WB-1	PNT-2	PNT-2	PNT-2	PNT-2	PNT-3	
STUDIO								
LIVING/BED	CPT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
KITCHEN	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
BATH	VINYL-1	WB-1	PNT-2	PNT-2	PNT-2	PNT-2	PNT-3	

Revisions |

1	09/19/2024	Addendum 01
2	09/25/2024	Addendum 02

Project No. | 23042
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 - WHERE FLOOR IS TRANSITIONING TO A DIFFERENT MATERIAL, INSTALL A TRANSITION STRIP.
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 - DEBRIS SHALL BE PROMPTLY REMOVED FROM THE BUILDING AND THE SITE AND DISPOSED OF IN A LEGAL MANNER. SURFACES IN THE CONSTRUCTION AREA SHALL BE MAINTAINED IN A BROOM CLEAN CONDITION AT THE END OF EACH WORK DAY.
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- NEW WALL/ELEMENT TO BE CONSTRUCTED, FIELD VERIFY TYPES AND CONDITIONS
 - EXISTING WALL/ELEMENT TO REMAIN AND BE PROTECTED, FIELD VERIFY TYPES AND CONDITIONS

KEYNOTE LEGEND

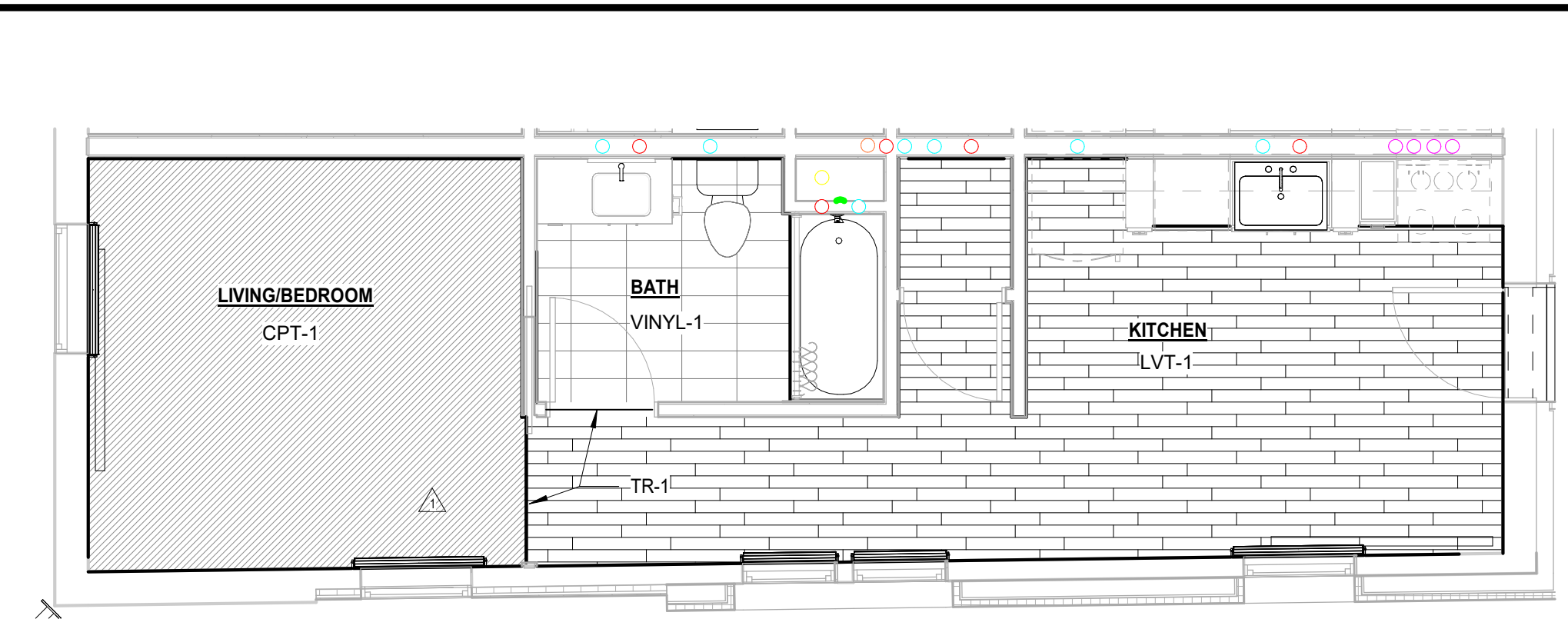
NO.	DESCRIPTION
13	STACKED WASHER AND DRYER - OFCI
21	ROLLER BLINDS, TYP. SEE A202 FOR LOCATIONS

TOILET ACCESSORIES SCHEDULE

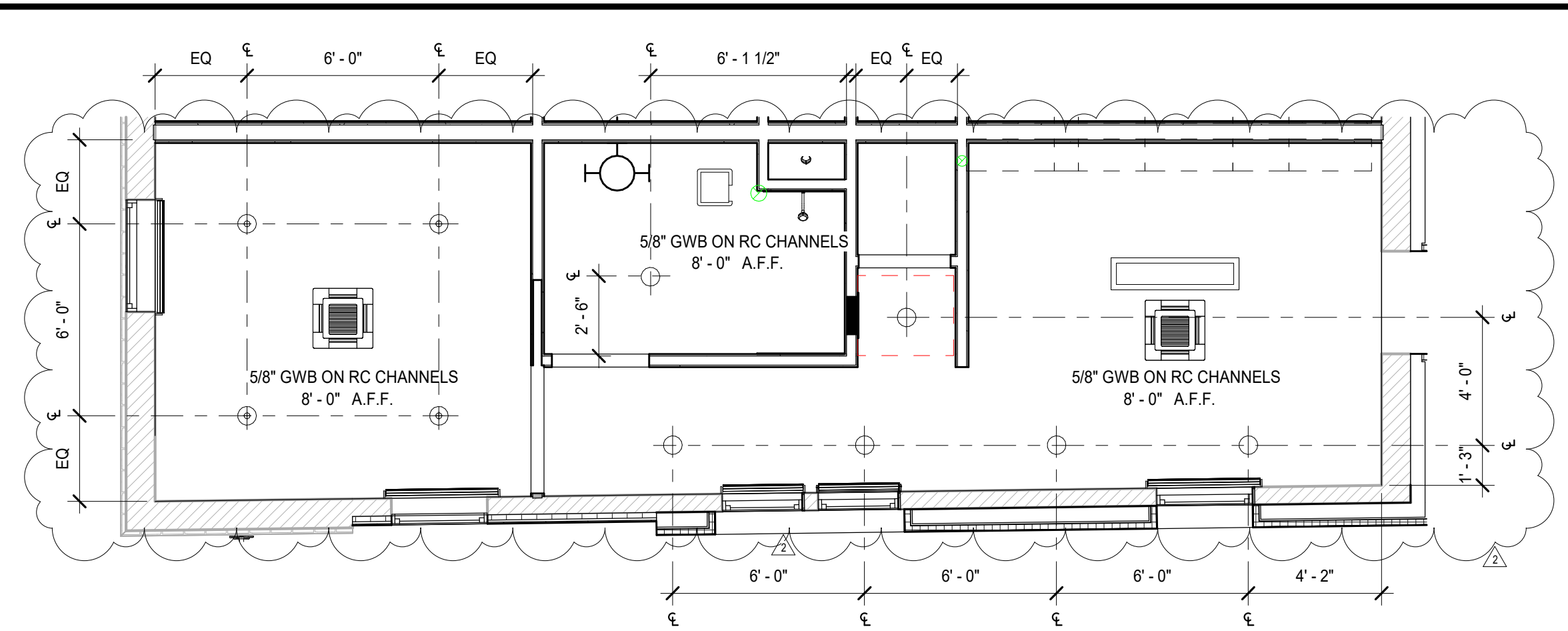
TAG	DESCRIPTION	MODEL
TA-4B	Toilet Tissue Dispenser	508-52
TA-7	Wall mounted tub/shower valve	
TA-7-1	Wall mounted shower head	
TA-12	Shower Curtain Rod	
TA-20	Towel Bar - 24" W	907-24
TA-21	Round Mirror 22 Inch	K-31367-CPL

NOTE: HATCH INDICATES MATERIAL TYPE AND IS NOT A REPRESENTATION OF INDIVIDUAL MATERIAL COURSING

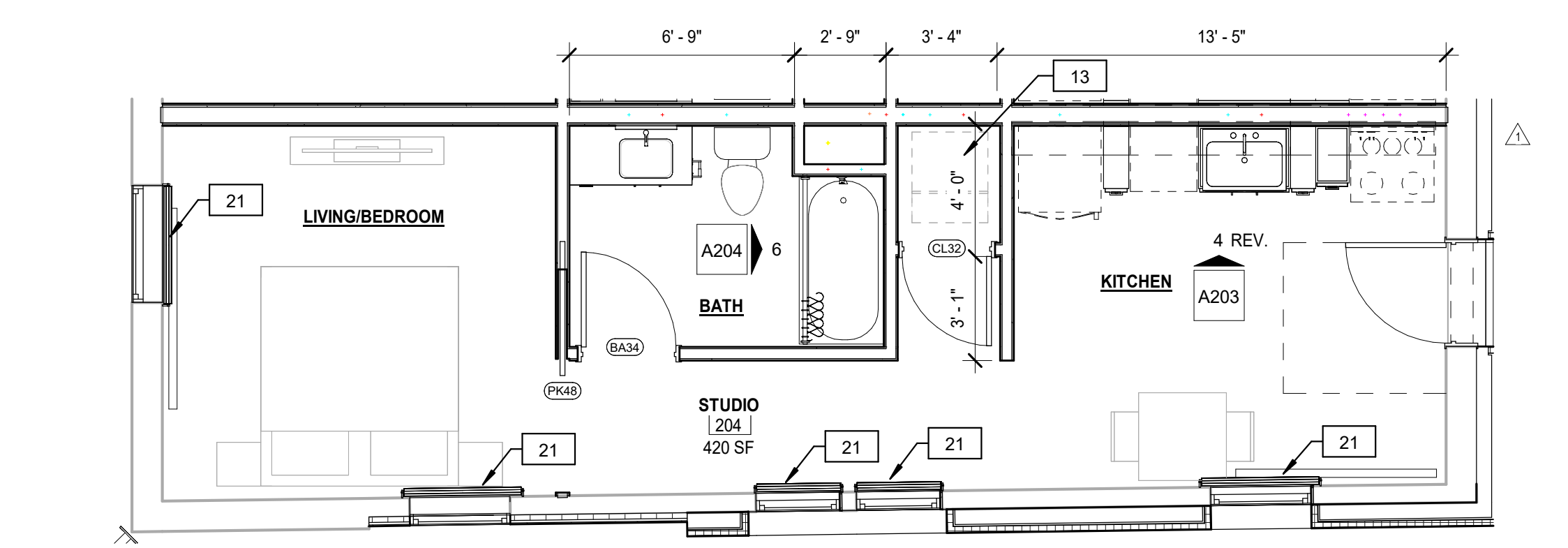
- FLOORS**
- CARPET TILE (CPT-1)
 - VINYL TILE (VINYL-1)
 - LUXURY VINYL TILE (LVT-1)



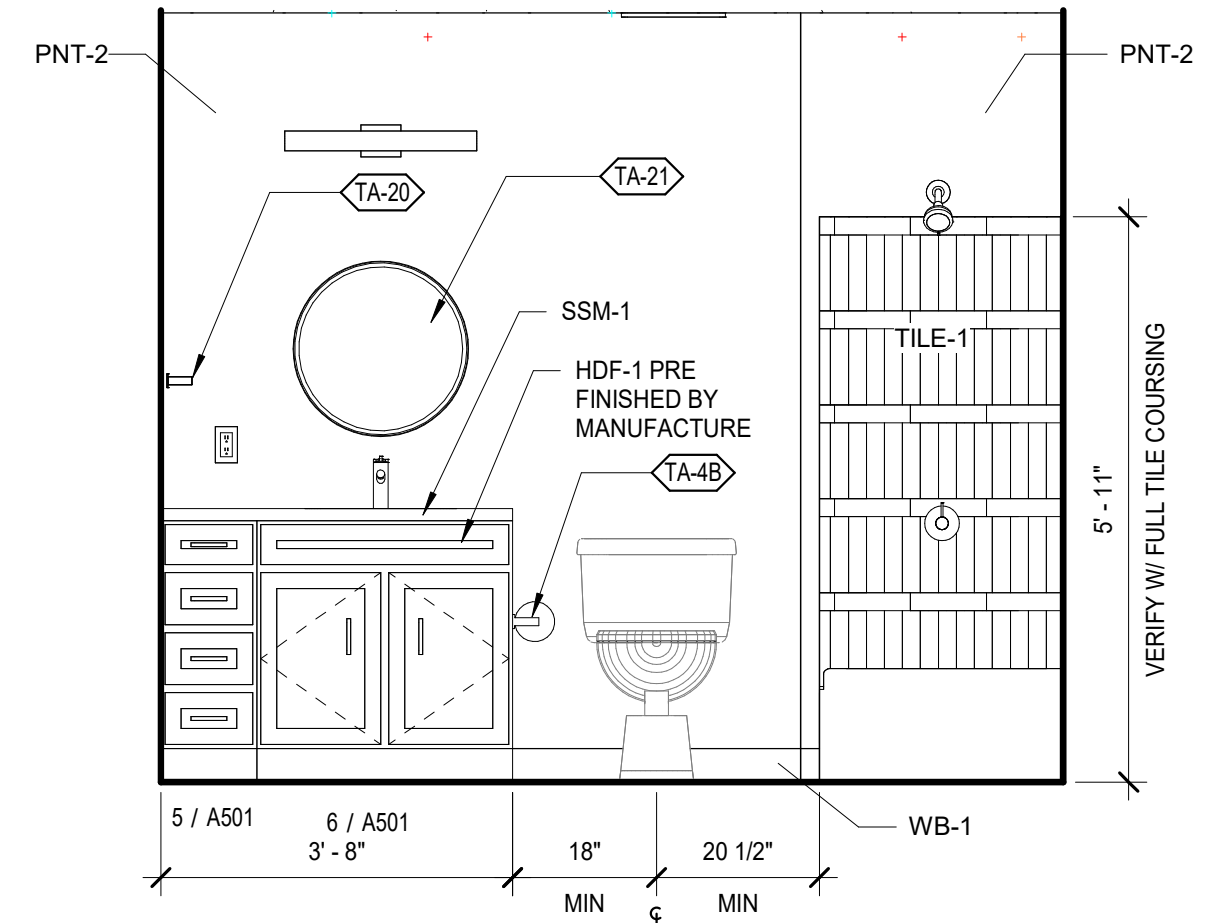
2 TYPICAL UNIT B - STUDIO FINISH PLAN
A204 1/4" = 1'-0"



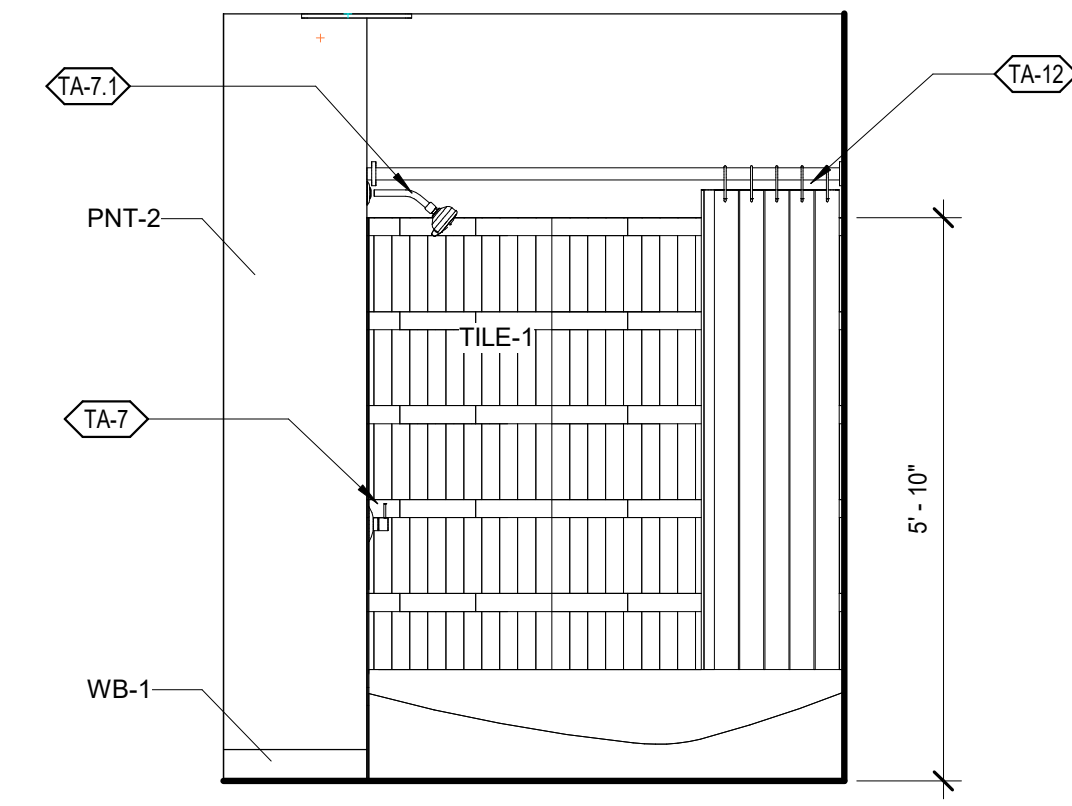
1 TYPICAL UNIT B - STUDIO REFLECTED CEILING PLAN
A204 1/4" = 1'-0"



3 TYPICAL UNIT B - STUDIO FLOOR PLAN
A204 1/4" = 1'-0"



5 STUDIO BATHROOM ELEVATION
A204 1/2" = 1'-0"



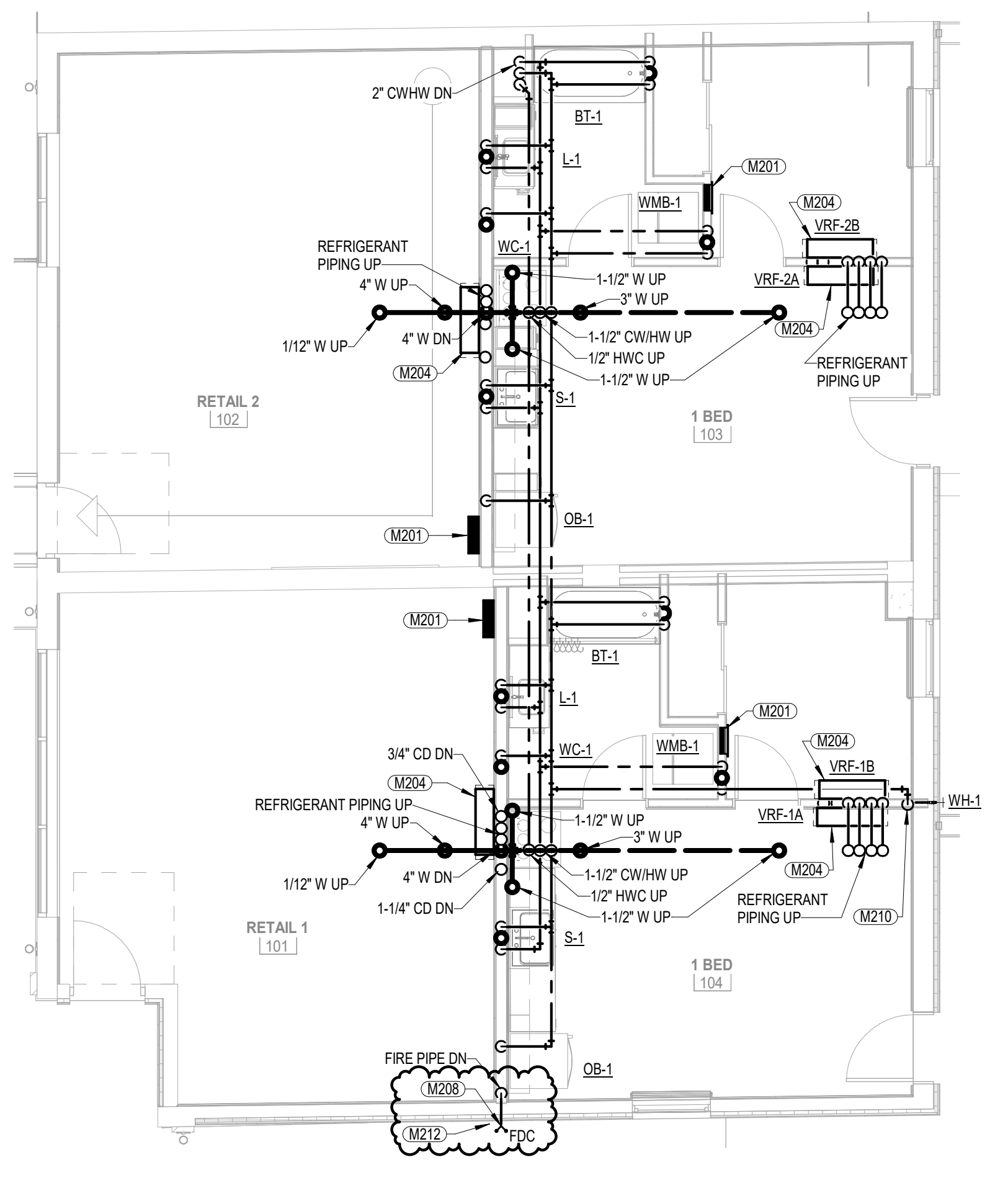
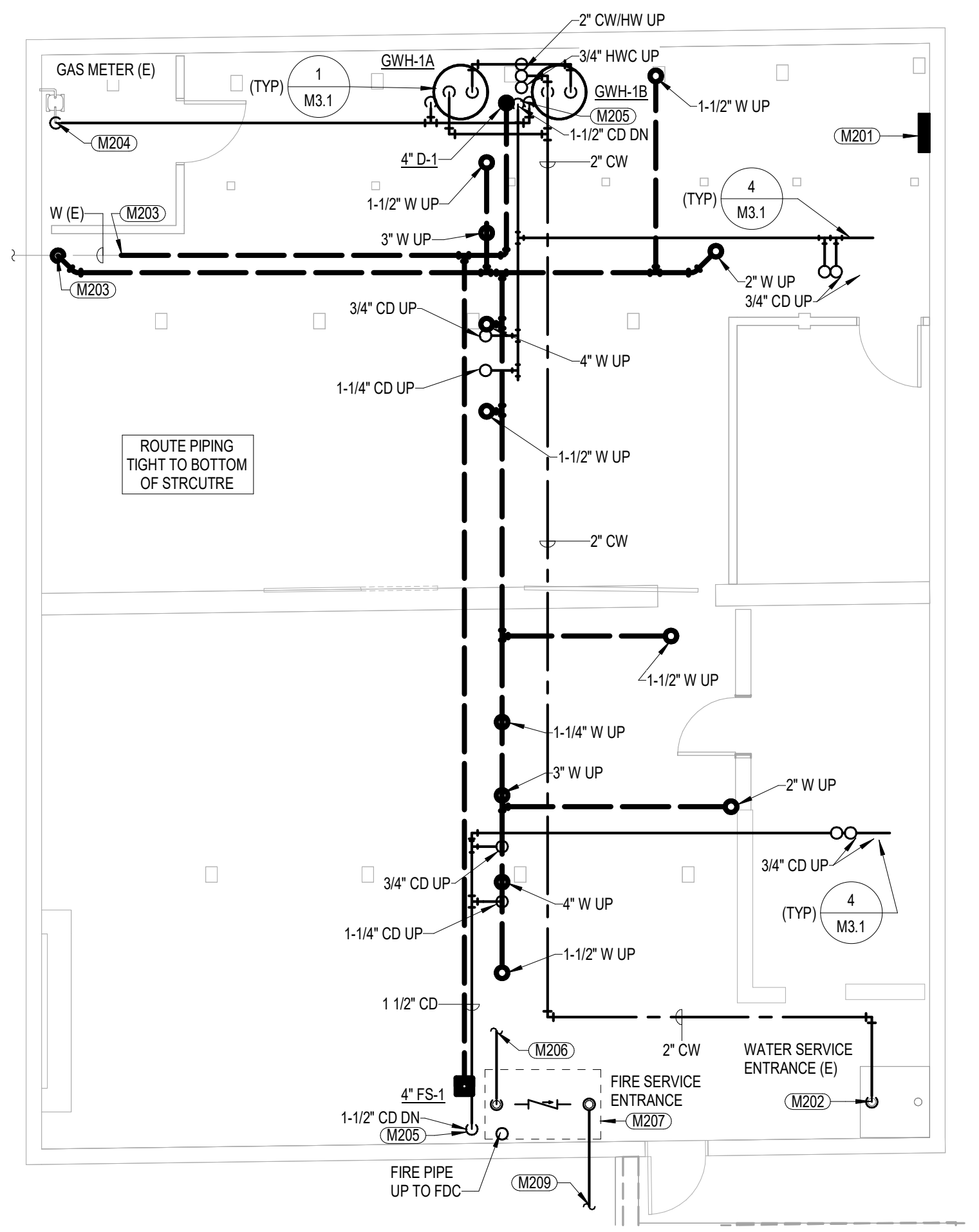
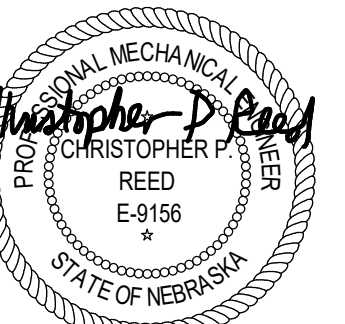
6 STUDIO BATHROOM ELEVATION BATH
A204 1/2" = 1'-0"

FINISH SPECIFICATIONS

ABBREVIATION	MANUFACTURER	DESCRIPTION	PRODUCT INFORMATION	COLOR	SIZE	REMARKS
CARPET (CPT-)						
CPT-1	PATCRAFT	CARPET TILE	ARTEFACT, PATINA I0511	MARK OF TIME 00200	12" X 48"	
GROUT (GR-)						
GR-1	MAPEI	SERENE	USE WITH TILE-1	WARM GRAY; 93		
HIGH DENSITY FIBER BOARD (HDF-)						
HDF-1	CKF CABINETS	HDF PIONEER DOOR STYLE	ELEMENT	PAINT GRADE, NAVAL		BASIS OF DESIGN
LUXURY VINYL TILE (LVT-)						
LVT-1	TARKETT	LUXURY VINYL TILE	ID LATITUDE WOOD	7533 NORDIC	6" X 48"	
PAINT (PNT-)						
PNT-1	SHERWIN WILLIAMS	EGGSHELL	TINSMITH; 7657			MAINFIELD PAINT COLOR
PNT-2	SHERWIN WILLIAMS	EGGSHELL	CADET; 9143			ACCENT WALL PAINT
PNT-3	SHERWIN WILLIAMS	EGGSHELL	CEILING BRIGHT WHITE; 7007			GWB CEILING PAINT COLOR
PNT-4	SHERWIN WILLIAMS	EGGSHELL	HIGH REFLECTIVE WHITE; 7757			RETAIL FIELD PAINT COLOR
SOLID SURFACE(SSM-)						
SSM-1	CORIAN	CORIAN COUNTERTOPS	SOLID SURFACE	CIRRUS WHITE	1/2" THICK	W/ 1 1/2" MITER AND 4" BACKSPASH WHERE NOTED
TILE (TILE-)						
TILE-1	DAL TILE	PROCELAIN WALL TILE	REMEDY	EXLJIR RD20	2 1/4" X 9 1/2"	BATHROOM WALL TILE
TRANSITION STRIP (TR-)						
TR-1	SCHLUTER	TRANSITION STRIP	VINEPRO-S	TBD		PROVIDE SAMPLES FROM MFR. STD. COLOR LINE FOR APPROVAL BY ARCHITECT.
VINYL (VINYL-)						
VINYL-1	TARKETT	SHEET VINYL	ACCZENT; 251	CONCRETE COOL GREY 28500	2300 cm x 200 cm	BATHROOM
WALL BASE (WB-)						
WB-1	JOHNSONITE-TARKETT	TRADITIONAL WALL BASE	CB/DC-XX	STORM CLOUD CG		TYPICAL UNO.
WOOD (WD-)						
WD-1	CKF CABINETS	SOLID WOOD & VENEER PIONEER DOOR STYLE	ELEMENT	MAPLE; CASHEW		BASIS OF DESIGN

UNIT FINISH SCHEDULE

ROOM NAME	FLOOR FINISH	WALL FINISH					CEILING MATERIAL	COMMENTS
		BASE	NORTH	EAST	SOUTH	WEST		
1.BEDROOM								
LIVING	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
BEDROOM	CPT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
KITCHEN	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-2	PNT-3	
BATH	VINYL-1	WB-1	PNT-2	PNT-2	PNT-2	PNT-2	PNT-3	
STUDIO								
LIVING/BED	CPT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
KITCHEN	LVT-1	WB-1	PNT-1	PNT-1	PNT-1	PNT-1	PNT-3	
BATH	VINYL-1	WB-1	PNT-2	PNT-2	PNT-2	PNT-2	PNT-3	



PIPING GENERAL NOTES

- DO NOT ROUTE PIPING ABOVE ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- ALL ITEMS SHOWN LIGHT OR INDICATED ON PLAN AS (E) ARE EXISTING, AND (R) ARE TO BE RELOCATED. ALL ITEMS SHOWN DARK ARE NEW. NOT ALL MECHANICAL ITEMS ARE SHOWN.
- EXISTING MECHANICAL WORK IS BASED ON ORIGINAL DRAWINGS AND APPROXIMATIONS FROM FIELD OBSERVATIONS. NOT ALL EXISTING MECHANICAL IS INDICATED. CONTACT ARCHITECT/ENGINEER IF EXISTING CONDITIONS SIGNIFICANTLY VARY FROM THOSE SHOWN.
- CONTRACTOR SHALL FIELD VERIFY ALL EXISTING CONDITIONS PRIOR TO NEW WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR ADJUSTING DUCTWORK AS NECESSARY TO AVOID CONFLICTS WITH EXISTING STRUCTURE AND WITH ALL TRADES OF NEW WORK.
- PLAN WORK TO MINIMIZE SHUT-DOWNS. COORDINATE ALL REQUIRED SHUT-DOWNS WITH OWNER.
- MAINTAIN MINIMUM 10'-0" CLEARANCE TO WASTE VENTS FROM ALL FRESH AIR INTAKES.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND FOR EASY MAINTENANCE AND FILTER ACCESS.
- COORDINATE EXACT LOCATION OF ALL FLOOR, WALL, AND ROOF PENETRATIONS AND WORK TO BE PERFORMED ABOVE THE FLOORS AND ROOF WITH GENERAL CONTRACTOR. SEAL ALL PENETRATIONS OF EXTERIOR ENVELOPE WEATHER TIGHT.
- UNLESS OTHERWISE NOTED, ROUTE PIPING AS HIGH AS POSSIBLE. UTILIZE JOIST SPACE AND OPEN WEBBING OF JOISTS TO AVOID CONFLICTS. COORDINATE EXACT ROUTING WITH STRUCTURE, LIGHTS, DUCTWORK, AND ALL OTHER TRADES. PROVIDE NECESSARY OFFSETS, TRANSITIONS, AND EXTENSIONS AS REQUIRED TO COMPLETE INSTALLATION AT NO ADDITIONAL COST TO OWNER.
- PLANS ARE SCHEMATIC IN NATURE. PIPE ROUTING IS SHOWN FOR CLARITY AND FOR GENERAL ROUTING INFORMATION. COORDINATE EXACT ROUTING WITH ALL OTHER TRADES. PROVIDE ALL ADDITIONAL OFFSETS AS REQUIRED TO COMPLETE INSTALLATION.
- INSTALL ALL VALVES ABOVE ACCESSIBLE CEILING OR IN ACCESSIBLE LOCATIONS. PROVIDE ACCESS PANELS WHERE REQUIRED.
- DO NOT ROUTE WATER PIPING IN EXTERIOR WALLS UNLESS OTHERWISE NOTED. PIPING ROUTED IN EXTERIOR WALLS SHALL BE LOCATED ON THE INTERIOR SIDE OF INSULATION.
- FIRE CAULK ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS AND ASSEMBLIES. CAULK AROUND ALL PIPE PENETRATIONS THROUGH FULL HEIGHT SOUND WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL CONSTRUCTION. ALL PENETRATIONS OF FIRE-RESISTANT CONSTRUCTION SHALL BE SEALED WITH A LISTED FIRESTOPPING ASSEMBLY BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATION.
- ALL PLUMBING SHALL BE IN ACCORDANCE WITH THE LOCAL PLUMBING CODE. NOT ALL CLEANOUTS SHOWN. PROVIDE CLEANOUTS AS REQUIRED PER AUTHORITY HAVING JURISDICTION. COORDINATE CLEANOUT LOCATIONS WITH GENERAL CONTRACTOR.
- SEE WASTE AND VENT RISER DIAGRAMS ON SHEET M3.2 FOR COMPLETE PLUMBING SIZES AND CONFIGURATION.
- SEE PLUMBING FIXTURE SCHEDULE SHEET M4.1 FOR PLUMBING FIXTURE CONNECTION REQUIREMENTS.

KEYNOTES

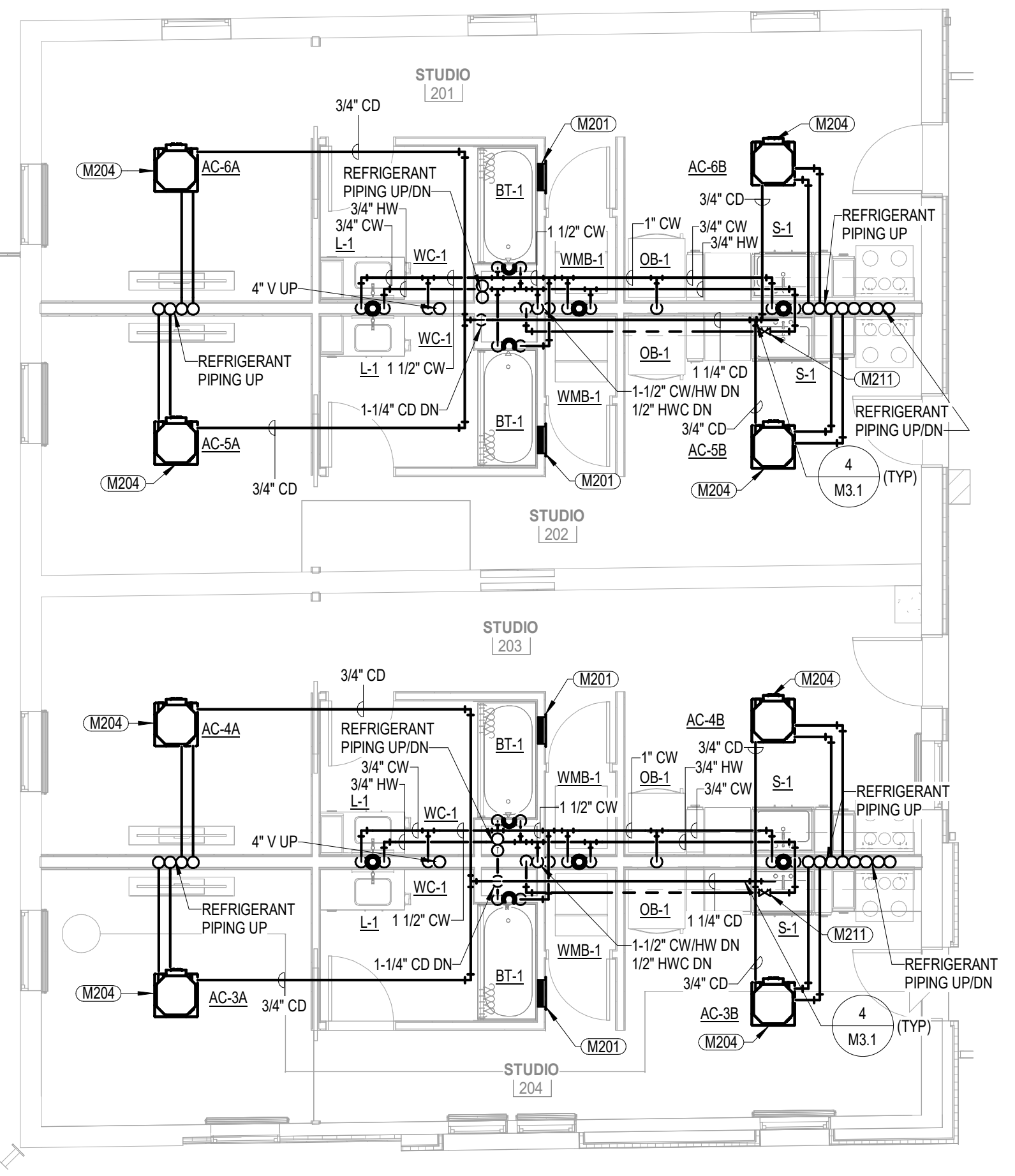
- M201 DO NOT ROUTE PIPING OVER ELECTRICAL PANELS. MAINTAIN ALL CODE REQUIRED CLEARANCES.
- M202 CONNECT NEW 2" CW PIPE TO EXISTING CW PIPING AT LOCATION INDICATED. FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION OF EXISTING PIPING PRIOR TO CONNECTION. TRANSITION, EXTEND AND OFFSET NEW PIPING AS REQUIRED TO MAKE CONNECTION AND AVOID CONFLICTS.
- M203 CONNECT NEW 4" W PIPE TO EXISTING W PIPING AT LOCATION INDICATED. FIELD VERIFY EXACT SIZE, LOCATION AND ELEVATION OF EXISTING PIPING PRIOR TO CONNECTION. TRANSITION, EXTEND AND OFFSET NEW PIPING AS REQUIRED TO MAKE CONNECTION AND AVOID CONFLICTS.
- M204 PROVIDE COMPLETE REFRIGERANT PIPING FOR VRF SYSTEM. ROUTING IS INDICATED SCHEMATICALLY. ALL PIPING SHALL BE SIZED, INSTALLED AND INSULATED PER MANUFACTURER'S RECOMMENDATIONS AND LOCAL CODE REQUIREMENTS. PIPE ROUTING SHALL BE COORDINATED WITH EXISTING CONDITIONS. ALL PIPING SHALL BE CONCEALED ABOVE CEILING OF IN WALLS.
- M205 ROUTE CONDENSATE PIPING DOWN TIGHT TO WALL TO INDIRECT DISCHARGE AND FLOOR DRAIN/FLOOR SINK.
- M206 FIRE SPRINKLER PIPE SIZING AND ROUTING BY FIRE SPRINKLER CONTRACTOR. COORDINATE PIPING WITH ALL OTHER TRADES.
- M207 6" FIRE WATER MAIN FOR SPRINKLER SERVICE. MAINTAIN CLEAR SPACE FOR FIRE SERVICE ENTRANCE. PROVIDE BACKFLOW PREVENTER AND ALL VALVES AND COMPONENTS AS REQUIRED BY NFPA 13 AND AUTHORITY HAVING JURISDICTION.
- M208 VERIFY LOCATION OF FIRE DEPARTMENT CONNECTION WITH AUTHORITY HAVING JURISDICTION.
- M209 SEE CIVIL FOR CONTINUATION.
- M210 ROUTE 3/4" CW DN IN WALL TO WH-1. ROUTE PIPE ON INTERIOR SIDE OF INSULATION. PROVIDE OWNER WITH OPERATING KEY.
- M211 UPWARD PIPING VALVE SET TO 150 PSI.
- M212 PROVIDE POST INDICATOR VALVE. COORDINATE FINAL LOCATION WITH AHJ. VERIFY WITH AHJ THAT A WALL MOUNTED POST INDICATOR VALVE IS ACCEPTABLE.

FIRE SPRINKLER GENERAL NOTES

- ENTIRE BUILDING SHALL BE PROTECTED BY FIRE SPRINKLER SYSTEM IN ACCORDANCE WITH THE REQUIREMENTS OF NFPA 13 AND THE AUTHORITY HAVING JURISDICTION. FIRE SPRINKLER CONTRACTOR SHALL VERIFY AVAILABLE PRESSURE AND FLOW AND SIZE PIPING TO MEET THE REQUIREMENTS OF NFPA 13 AND THE AUTHORITY HAVING JURISDICTION.
- HYDRAULIC CALCULATIONS AND SPRINKLER PIPING LAYOUT SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. A SECOND SET OF SHOP DRAWINGS SHALL BE SUBMITTED AFTER THE STATE FIRE MARSHAL HAS REVIEWED DESIGN.
- PROVIDE AN AUTOMATIC WET PIPE SPRINKLER SYSTEM THROUGHOUT THE BUILDING. COMPLETE IN ALL ASPECTS AND READY FOR OPERATION INCLUDING ALL TEST AND DRAIN LINES, PRESSURE GAUGES, HANGERS AND SUPPORTS, SIGNS, AND OTHER STANDARD APPURTENANCES. WIRING SHALL BE PROVIDED UNDER THE ELECTRICAL DIVISION.
- PROVIDE FIRE SERVICE ENTRANCE WITH DOUBLE CHECK BACKFLOW PREVENTER, ISOLATION VALVES, CHECK VALVES, FLOW SWITCH, ETC. AS REQUIRED BY NFPA 13, AUTHORITY HAVING JURISDICTION, AND ALL LOCAL CODES.
- PIPING MATERIAL AND SPRINKLER HEADS SHALL MEET THE REQUIREMENTS OF NFPA 13. FINAL PIPE SIZING AND HEAD LAYOUT BY FIRE SPRINKLER CONTRACTOR.
- MINIMIZE EXPOSED PIPING IN AREAS WITHOUT CEILING. IN SPACES WITHOUT CEILING, SPRINKLER HEADS AND PIPING SHALL BE LOCATED AS HIGH AS POSSIBLE. ROUTE FIRE SPRINKLER MAINS ALONG STRUCTURE TO MINIMIZE VISIBILITY. PAINT EXPOSED PIPING PER ARCHITECTURAL SPECIFICATIONS. DO NOT PAINT HEADS.
- NEW FIRE SPRINKLER HEADS IN ALL AREAS WITH CEILING SHALL BE CONCEALED TYPE WITH STANDARD COLOR COVER PLATES SELECTED BY ARCHITECT FLUSH TO CEILING. FIRE SPRINKLER HEADS SHALL BE CENTERED IN TILE WHERE INSTALLED IN LAY-IN TILE CEILING. COORDINATE WITH ELECTRICAL AND MECHANICAL CONTRACTOR.
- DO NOT INSTALL FIRE SPRINKLER PIPING OR FIRE SPRINKLER HEADS ABOVE ELECTRICAL PANELS OR CODE REQUIRED CLEARANCE SPACES. MINIMIZE PIPING ROUTED THROUGH ELECTRICAL AND IT ROOMS. PROVIDE PIPE GUARDS ON ALL HEADS LOCATED IN THESE SPACES.
- COORDINATE ALL WALL AND FLOOR PENETRATIONS WITH GENERAL CONTRACTOR. SEAL PENETRATIONS OF EXTERIOR ENVELOPE WATERTIGHT. FIRE CAULK ALL PIPE PENETRATIONS THROUGH FIRE RATED WALLS AND ASSEMBLIES. CAULK AROUND ALL PIPE PENETRATIONS THROUGH FULL HEIGHT SOUND WALLS. REFER TO ARCHITECTURAL DRAWINGS FOR WALL CONSTRUCTION. ALL PENETRATIONS OF FIRE-RESISTANT CONSTRUCTION SHALL BE SEALED WITH A LISTED FIRESTOPPING ASSEMBLY BY THE CONTRACTOR RESPONSIBLE FOR THE PENETRATION.
- COORDINATE FIRE SPRINKLER PIPE ROUTING AND FIRE SPRINKLER HEAD LOCATIONS WITH DIFFUSERS, REGISTERS, AND GRILLES, FIRE ALARM DETECTORS, LIGHTS AND CEILING PLANS.
- CONTRACTOR SHALL COORDINATE ALL PIPE ROUTING WITH ALL OTHER TRADES. CONTRACTOR SHALL PROVIDE ALL ADDITIONAL OFFSETS AS REQUIRED TO COMPLETE INSTALLATION AND AVOID CONFLICTS. IF CONFLICTS DO OCCUR SUCH THAT LIGHTS, DUCTWORK, OR CEILING SYSTEMS CANNOT BE INSTALLED DUE TO SPRINKLER PIPING INTERFERENCE, THE PIPING SHALL BE RELOCATED AT NO ADDITIONAL EXPENSE TO THE PROJECT.
- INSTALL ALL VALVES IN ACCESSIBLE LOCATIONS.
- MAINTAIN MANUFACTURER'S REQUIRED CLEARANCE AROUND ALL MECHANICAL EQUIPMENT TO ALLOW PROPER OPERATION AND FOR EASY MAINTENANCE.

1 BASEMENT - PIPING
M2.1 3/16" = 1'-0"
0' 4' 8' 16'

2 FIRST FLOOR - PIPING
M2.1 3/16" = 1'-0"
0' 4' 8' 16'



3 SECOND FLOOR - PIPING
M2.1 3/16" = 1'-0"
0' 4' 8' 16'

MEI PROJECT NO: 24030



mechanical | electrical | lighting | technology | sustainability
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 note:
 do not scale drawings. verify all dimensions and clearances from architectural, structural, shop and other appropriate drawings or as site. buy out and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes and verify non-interference with other work. do not fabricate prior to verification of clearance for all trades.

Revisions	
1	09/24/24 Addendum 2

Project No. | 23042
 Issue Date | 07.29.24

FLOOR PLANS - PIPING

MECHANICAL SPECIFICATIONS

SECTION 210100 - GENERAL REQUIREMENTS FOR FIRE SUPPRESSION

A. RELATED DOCUMENTS

- Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- Division 21, 22 and 23 Conditions apply to this Section.
- SUMMARY**
- This Section includes general mechanical requirements and shall apply to all phases of the work specified indicated on the drawings or required to provide for complete installation of fire suppression systems.
- Refer to Section 230100 for General Requirements for Mechanical
- Refer to Section 230500 for Basic Mechanical Materials and Methods
- Refer to Section 230505 for Basic Piping Materials and Methods

SECTION 210100 - WATER-BASED FIRE-SUPPRESSION SYSTEMS (NEW CONSTRUCTION)

- Entire building shall be protected by a fire sprinkler system in accordance with the requirements of NFPA 13 and the Authority Having Jurisdiction. Fire sprinkler contractor shall verify available existing water pressure and flow and size piping to meet the requirements of NFPA 13 and the Authority Having Jurisdiction. Hydraulic calculations and sprinkler piping layout shall be submitted to engineer for review. A second set of shop drawings shall be submitted after the state fire marshal has reviewed design.
- Provide fire service entrance with double check backflow preventor, isolation valves, check valves, flow switch, etc. as required by NFPA 13, local code requirements, and Authority Having Jurisdiction.
- Drawings indicate general layout. Final pipe sizing, pipe routing, and sprinkler head layout shall be by the fire sprinkler contractor.
- Piping material, fire sprinkler heads, and accessories shall be constructed of materials that meet the requirements of NFPA 13 and the Authority Having Jurisdiction. Steel piping shall be minimum Schedule 10 wall thickness. Warm occupied areas shall be protected by a wet pipe sprinkler system. Attic and areas subject to freezing shall be protected by a dry pipe system.
- Sprinkler heads shall be as follows:
 - Sprinkler heads in unheated attic or other areas subject to freezing shall be dry pipe pendant or sidewall sprinklers.
 - Sprinkler heads in areas without ceilings shall be upright or pendant type.
 - Sprinkler heads in areas with ceiling shall be **concealed sprinkler heads with cover plate. Cover plate color shall be selected by the architect from manufacturer's standard colors.**
 - Fire sprinkler heads shall be centered in tile where installed in lay-in tile ceilings.
- Space above ceilings is limited. Coordinate location of all sprinkler heads and piping with all other trades. If conflicts do occur such that lights, mechanical piping, plumbing or ceiling systems cannot be installed due to sprinkler piping interference, the sprinkler piping shall be relocated at no additional cost to the project.

SECTION 220100 - GENERAL REQUIREMENTS FOR PLUMBING

A. RELATED DOCUMENTS

- Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- Division 22 and 23 Conditions apply to this Section.
- SUMMARY**
- This Section includes general mechanical requirements and shall apply to all phases of the work specified indicated on the drawings or required to provide for complete installation of plumbing systems.
- Refer to Section 230100 for General Requirements for Mechanical
- Refer to Section 230500 for Basic Mechanical Materials and Methods

SECTION 230720 - PIPE INSULATION FOR PLUMBING

- MINERAL-FIBER INSULATION:** Glass fibers bonded with a thermosetting resin. Preformed Pipe Insulation: Comply with ASTM C 547, Type I, with factory-applied, all-purpose, vapor-retarder jacket. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Apply insulation to pipes by securing each layer of preformed pipe insulation to pipe with wire, tape, or bands without deforming insulation materials.
- FLEXIBLE ELASTOMERIC THERMAL INSULATION:** Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Type I for tubular materials and Type II for sheet materials. Adhesive as recommended by insulation material manufacturer. Ultraviolet-Protective coating as recommended by insulation manufacturer. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Follow manufacturer's written instructions for applying insulation. Seal longitudinal seams and end joints with manufacturer's recommended adhesive.

- VAPOR RETARDER:** On piping systems operating below ambient space temperature, seal joints and seams with vapor-retarder mastic. Seal penetrations in insulation at hangers, supports, anchors, and other projections with vapor-retarder mastic Mastics.

D. INSULATION APPLICATION SCHEDULE

- Service: Domestic cold water (CW)
Thickness/Material: 1/2" Mineral Fiber
Vapor Retarder Required: Yes
- Service: Domestic hot water and circulating water (HW, HWC)
Thickness/Material: Mineral Fiber. Apply the following insulation thicknesses:
 - Systems without recirculation: 1/2"
 - 1/2" to 2" pipe: 1"
 - 2 1/2" and larger: 1-1/2"Vapor Retarder Required: No
- Plumbing vents (V or AV), 2 foot section below roof
Thickness/Material: 1/2" Mineral Fiber
Vapor Retarder Required: Yes
- Service: Sanitary waste piping
Insulation Material: None

SECTION 221116 - WATER DISTRIBUTION PIPING

- DOMESTIC WATER PIPING:** Above ground; hard copper tube, ASTM B 88, Type L; copper, 95-5 solder-joint fittings, and soldered joints. Underground; Soft copper tube, ASTM B 88, Type K; wrought-copper, solder-joint pressure fittings; and soldered joints.
- VALVES:** Provide gate, ball or butterfly isolation valves close to main on each branch and riser serving plumbing fixtures or equipment, and where indicated. Provide globe, ball or butterfly valve for throttling where indicated. Provide supply stops at each plumbing fixture. Provide calibrated or automatic balancing valves as indicated.
- TESTING:** Test water distribution piping according to authority having jurisdiction. Clean and disinfect water distribution piping. Fill water piping. Check components to determine that they are not air bound and that piping is full of water.

SECTION 221316 - DRAINAGE AND VENT PIPING

- ABOVEGROUND, SANITARY WASTE AND VENT AND STORM PIPING:** CISPI 301, ASTM A888, Hubless, cast-iron soil pipe; hubless, cast-iron soil-pipe fittings and hubless, cast-iron, Neoprene sleeve coupling with stainless steel clamps.
PVC Plastic Pipe (ASTM D 2665, solid wall, Schedule 40), PVC Socket Fittings (ASTM D 2665, made to ASTM D 3311 drain, waste, and vent pipe patterns), and solvent cemented joints. Do not install PVC piping in return air plenum.
- UNDERGROUND, SANITARY WASTE, AND VENT AND STORM PIPING:** ASTM A74, Hub-and-spigot, cast-iron soil pipe, Service class, hub-and-spigot, cast-iron, soil-pipe fittings, lead & oakum or compression joints. PVC Plastic Pipe (ASTM D 2665, solid wall, Schedule 40), PVC Socket Fittings (ASTM D 2665, made to ASTM D 3311 drain, waste, and vent pipe patterns), and solvent welded joints.
- PIPING INSTALLATION:** Make changes in direction for drainage and vent piping using appropriate branches, bends, and long-sweep bends. Do not make change in direction of flow greater than 90 degrees. Lay buried building drain piping beginning at low point of each system. Install true to grades and alignment indicated, with unbroken continuity of invert. Place hub ends of piping upstream. Install required gaskets according to manufacturer's written instructions.
- SLOPE:** Install drainage and vent piping at the following minimum slopes, unless otherwise indicated:
 - Sanitary Piping: 2 percent downward in direction of flow for piping 3-inch NPS and smaller; 1 percent downward in direction of flow for piping 4-inch NPS and larger.
 - Vent Piping: 1 percent down toward vertical fixture vent or toward vent stack.
- TESTING:** Test drainage and vent piping according to procedures of authorities having jurisdiction.

SECTION 221319 - PLUMBING SPECIALTIES

- WATER HAMMER ARRESTERS:** ASME A112.26.1M, ASSE 1010, or PDI-WH 201, bellows or piston type with pressurized cushioning chamber. Provide at each battery of fixtures.
- WATER PRESSURE REGULATORS:** water regulators, rated for initial working pressure of 150 psig minimum, of size, flow rate, and inlet for 80 psig outlet pressure. Install on building service piping.
- WALL HYDRANTS (WH-1):** nonfreeze, automatic draining, anti-backflow type, key operation, with 3/4-inch NPS threaded or solder-joint inlet, and garden-hose threads on outlet. Include operating key for each hydrant. Nickel bronze finish, Woodford Model B65 or equal.
- WALL CLEANOUTS (WCO):** Cast iron or PVC body adaptable to pipe with cast bronze, brass or PVC cleanout plug; stainless steel cover, vandal proof screws. Install as shown and as required by code.
- CLEANOUT PLUGS (CO):** PVC, Cast iron or brass, threads complying with ANSI B2.1, countersunk head. Engrave heads to identify system.
- FLOOR CLEANOUTS (FCO):** Cast iron body and frame with cleanout plug and adjustable round nickel bronze top. Provide to match floor system:
 - Exposed finish type, standard mill finish.
 - Exposed flush type, standard non-slip scored or abrasive finish.
 - Exposed flush type, standard mill finish and carpet marker.
 - Heavy duty for traffic applications.

- VENT FLASHING (VTR):** 24" square minimum. Non-plasticized, chlorinated, polyethylene, concealed, waterproof membrane, 0.40" thick, solvent weldable or Lead sheet, 2-1/2" lbs/sf, concealed.

224000 PLUMBING FIXTURES

- Installation:** Install handles for accessible water closets and urinals with handle mounted on wide side of compartment. Install individual stop valve in each water supply to fixture. Install water-supply stop valves in accessible locations. Install traps on fixture outlets. Omit traps on fixtures having integral traps and on indirect wastes. Vent all fixtures as required by local code. Seal joints between fixtures and walls, floors, and counters using sanitary-type, 1-part, mildew-resistant, silicone sealant. Match sealant color to fixture color. Install hot and cold water supply, waste and vent piping of sizes indicated, but not smaller than required by authorities having jurisdiction.

- See Plumbing Fixture Schedule on this sheet for plumbing fixture specifications.

SECTION 230100 - GENERAL REQUIREMENTS FOR MECHANICAL

- WARRANTIES:** All materials, workmanship and equipment shall be warranted against defects or against injury from proper and usual wear for a period of one year after the date of substantial completion. Any item that becomes defective within the warranty period shall be repaired or replaced, at no additional cost to the Owner. Warranty shall include repair of faulty workmanship.
- DEFINITIONS ABBREVIATIONS:** The following shall apply throughout the contract documents:
Furnish Supply and deliver to site ready for installation
Indicated Noted, scheduled or specified
Provide Furnish, install and connect complete and ready for final use
ADA Americans with Disabilities Act
ANSI American National Standards Institute
ASME American Society of Mechanical Engineers
ASHRAE American Society of Heating, Refrigeration and Air Conditioning Engineers
NEC National Electric Code (NFPA 70)
NEMA National Electrical Manufacturers Association
NFPA National Fire Protection Association
SMACNA Sheet Metal and Air Conditioning Contractors National Association
UL Underwriters Laboratories Inc.

- CODES AND STANDARDS:** All work shall be performed by competent craftsmen skilled in the trade involved and shall be done in a manner consistent with normal industry standards. All work shall conform to the currently adopted edition of the National Electric Code (NEC), Local Building Code, Local Plumbing Code, Local Mechanical Code, Local Fire Code, and all other applicable state and local codes or standards. Where there is a conflict between the code and the contract documents, the code shall have precedence only then it is more stringent than the contract documents.
- PERMITS:** Contractor shall become familiar and comply with all requirements regarding permits, fees, licenses, etc. All permits, licenses, inspections and arrangements required for the work shall be obtained by Contractor's effort and expense. All utilities shall be installed in accordance with the local rules and regulations and all charges shall be paid by the Contractor.
- SUBMITTALS:** Shop drawings shall be submitted to Architect/Engineer for all items of mechanical equipment including the following:
Diffusers, Registers, Grilles
Sheet Metal Accessories
HVAC equipment
Plumbing Fixtures
Plumbing Specialties

- Shop drawings include fabrication and installation drawings, diagrams, schedules and other data specifically prepared for the project. Include dimensions and notations showing compliance with specified standards. Unless otherwise noted, submit a minimum of six (6) copies of shop drawings for review. Electronic copies (in pdf format) by e-mail are acceptable in lieu of hard copies.
- Architect/Engineer will review or take appropriate action for submittals. Review is only to determine general conformance with design shown on contract documents. Review of submittals shall not relieve contractor of responsibility for deviation from requirements of the contract documents or from errors or omissions within submittals.

- MATERIALS:** All materials and equipment used in the construction of the project shall be new unused and undamaged unless otherwise specified. Materials and equipment shall be of latest design standards of manufacturer specified. Verify installation details and requirements for materials and equipment furnished by others and installed under this contract.
- DEMONSTRATION AND TRAINING:** Instruct Owner's personnel to adjust, operate, and maintain mechanical systems. Schedule training with Owner with at least seven days' advance notice.

- STARTING AND ADJUSTING:** Start and test all equipment and operating components to confirm proper operation. Test and adjust all systems to achieve designed capacity and performance. All equipment and systems discrepancies shall be corrected prior to final acceptance.

SECTION 230500 - BASIC MECHANICAL MATERIALS AND METHODS

- PIPING INSTALLATION:** Install piping at required slope. Install components with pressure rating equal to or greater than system operating pressure. Install piping in concealed locations, except in equipment rooms and service areas. Install piping free of sags and bends. Install piping at right angles or parallel to building walls. Install piping tight to slabs, beams, joists, columns, walls, and other building elements. Locate groups of pipes parallel to each other, spaced to permit valve servicing. Install fittings for changes in direction and branch connections. Install pipe escutcheons for exposed pipe penetrations walls and ceilings. Install sleeves for pipes passing through concrete and masonry walls, and concrete floor and roof slabs. Provide electric fitting where two different types of pipe materials are joined. Comply with MSS-69 for pipe hanger selection and application.

- EQUIPMENT INSTALLATION:** Install equipment per manufacturer's recommendations. Install equipment as high as possible. Install equipment level and plumb, parallel and perpendicular to building. Install mechanical equipment to facilitate service, maintenance, and repair or replacement of components. Connect equipment for ease of disconnecting, with minimum interference to other installations. Install equipment giving right of way to piping installed at required slope.

C. LABELING AND IDENTIFYING

Piping: Provide pipe markers on each system where pipe is exposed to view and above removable ceilings. Include pipe description of system and arrows showing normal direction of flow.

Equipment: Install engraved plastic-laminate sign or equipment marker on or near each major item of mechanical equipment.

CUTTING AND PATCHING: Cut, channel, chase, and drill floors, walls, partitions, ceilings, and other surfaces necessary for mechanical installations. Perform cutting by skilled mechanics of trades involved. Repair cut surfaces to match adjacent surfaces.

SECTION 230593 - TESTING, ADJUSTING AND BALANCING

- Examine air-handling equipment to ensure clean filters have been installed, bearings are greased, belts are aligned and tight, and equipment with functioning controls is ready for operation. Check dampers for proper position.
- Perform testing and balancing procedures on each system according to the procedures contained in NEBB's "Procedural Standards for Testing, Adjusting, and Balancing of Environmental Systems" and this Section.
- Adjust fans to deliver total design airflow within the maximum allowable rpm listed by the fan manufacturer. Provide new fan sheaves as required. Measure fan airflow, static pressure, rpm and amp draw.
- Adjust volume dampers to achieve design airflow within 10% of specified values. Adjust diffusers, registers and grilles. Adjust minimum and maximum outside airflow.
- Prepare report listing date, project information, equipment data and measured airflow results. Report shall include drawing indicating locations of air outlets and final measured airflow of each outlet. Submit four copies of report to engineer for review.

SECTION 230700 - DUCT INSULATION

- MINERAL-FIBER BLANKET THERMAL INSULATION:** Glass fibers bonded with a thermosetting resin. Comply with ASTM C 563, Type II, with all-service jacket manufactured from kraft paper, reinforcing scrim, aluminum foil, and vinyl film. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Apply insulation materials, accessories, and finishes according to the manufacturer's written instructions with the least number of joints practical. Seal joints and seams with vapor-retarder mastic on cold air ducts. Seal penetrations in insulation at hangers, supports, anchors, and other projections with vapor-retarder mastic.

B. APPLICATION SCHEDULE

- Service: GENERAL EXHAUST AIR - From fan back 36" into building
Thickness/Material: 2" Mineral-fiber Blanket
Minimum Installed R-Value: R5
Vapor Retarder Required: Yes

SECTION 230720 - PIPE INSULATION FOR HVAC

- MINERAL-FIBER INSULATION:** Glass fibers bonded with a thermosetting resin. Preformed Pipe Insulation: Comply with ASTM C 547, Type I, with factory-applied, all-purpose, vapor-retarder jacket. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Apply insulation to pipes by securing each layer of preformed pipe insulation to pipe with wire, tape, or bands without deforming insulation materials.
- FLEXIBLE ELASTOMERIC THERMAL INSULATION:** Closed-cell, sponge- or expanded-rubber materials. Comply with ASTM C 534, Type I for tubular materials and Type II for sheet materials. Adhesive as recommended by insulation material manufacturer. Ultraviolet-Protective coating as recommended by insulation manufacturer. Flame-spread rating of 25 or less, and smoke-developed rating of 50 or less. Follow manufacturer's written instructions for applying insulation. Seal longitudinal seams and end joints with manufacturer's recommended adhesive.
- VAPOR RETARDER:** On piping systems operating below ambient space temperature, seal joints and seams with vapor-retarder mastic. Seal penetrations in insulation at hangers, supports, anchors, and other projections with vapor-retarder mastic.
- INSULATION APPLICATION SCHEDULE**

- Service: Condensate drain piping (CD)
Thickness/Material: Mineral Fiber. Apply the following insulation thicknesses:
 - PVC piping: None
 - Copper: 1/2"
Vapor Retarder Required: Yes
- Service: Refrigerant suction (RS), refrigerant liquid (RL) and refrigerant hot gas discharge (RD)
Thickness/Material: 1-1/2" Flexible Elastomeric
Vapor Retarder Required: Yes
Finish: Two coats of manufacturer's coating when exposed to outside

SECTION 231123 - NATURAL GAS PIPING

- STEEL PIPE:** Pipe: ASTM A 53, Type E or S, Grade B, Schedule 40; black, Malleable-iron, Threaded Fittings ASME B16.3, Class 150, standard pattern, with threaded ends according to ASME B1.20.1. Unions: ASME B16.39, Class 150, malleable iron with brass-to-iron seal, ground joint, and threaded ends according to ASME B1.20.1. Joint Compound and Tape: Suitable for natural gas.
- Install and test gas piping according to NFPA 54 "National Fuel Gas Code" and Authority having jurisdiction.

SECTION 232300 - REFRIGERANT PIPING

A. REFRIGERANT PIPING

- Aboveground, ASTM B 280, Type ACR copper tubing with brazed joints (using AWS A5.8 filler material).

B. REFRIGERANT VALVES

- Service Valves:
 - Body: Forged brass with brass cap including key end to remove core.
 - Core: Removable ball-type check valve with stainless-steel spring.
 - Seat: Polytetrafluoroethylene.
 - End Connections: Copper spring.
 - Working Pressure Rating: 500 psig.
- Solenoid Valves: Comply with ARI 760 and UL 429; listed and labeled by an NRTL.
 - Body and Bonnet: Plated steel.
 - Solenoid Tube, Plunger, Closing Spring, and Seal Orifice: Stainless steel.
 - Seat: Polytetrafluoroethylene.
 - End Connections: Threaded.
 - Electrical: Molded, watertight coil in NEMA 250 enclosure of type required by location with 1/2-inch conduit adapter, and 24V ac coil.
 - Working Pressure Rating: 400 psig.
 - Maximum Operating Temperature: 240 deg F.
 - Manual operator.

C. INSTALLATION:

- Refrigerant piping to be installed per ASHRAE 15.
- Sizing, pipe arrangement, and refrigerant specialties shall be determined by the equipment manufacturer based on the final layout / routing worked out in the field. Installation shall follow the recommended requirements of the equipment manufacturer.
- Piping shall be free of sags and bends and routed in as direct as possible path between components.
- Pipe shall be insulated per insulation schedule. Use of thermal shields must be used at support points (attaching support/clamps directly to the piping will be unacceptable).

- TESTING:** Purge refrigerant piping systems with dry nitrogen. Prepare and pressure test piping according to ASHRAE 15. Charge system refrigerant.

SECTION 233113 - METAL DUCTS AND ACCESSORIES

- GENERAL:** Drawings indicate general arrangement of ducts, fittings, and accessories. Minor modifications to route, size and shape of duct may be made to meet structural and other interference. Changes which could affect system performance shall be reviewed by Architect/Engineer prior to fabrication or installation of duct. Coordinate layout with suspended ceiling, fire- and smoke-control dampers, lighting layouts, and similar finished work.

- DUCT FABRICATION:** Sizes shown on plans are inside clear dimensions. Ductwork utilizing duct liner shall be increased in size to accommodate the duct liner thickness.

- MATERIAL:** Construct all rectangular and round ducts from galvanized sheet steel. Lock-forming quality; ASTM A 653/A 653M, G90 coating designation; mill-phosphatized finish for surfaces of ducts exposed to view.

- QUALITY ASSURANCE:** Fabricate and install duct per SMACNA's "HVAC Duct Construction Standards—Metal and Flexible" and applicable codes. Comply with requirements for metal thickness, reinforcing types and intervals, tie-rod applications, and joint types and intervals. Comply with NFPA 90A, "Installation of Air Conditioning and Ventilating Systems," unless otherwise indicated.

- PRESSURE CLASS:** Unless otherwise noted construct all ducts to 2.0' WG positive or 2.0' WG negative pressure class.

- DUCT SEALING:** UL classified, non-combustible, flame spread 25 or less, smoke developed rating of 540 or less, resistant to water, pressure rupture rating of 16" WG minimum, suitable for use alone or with tape, application in operational temperature ranges appropriate for usage. Seal all duct per SMACNA class 'C' duct seal requirements.

- TURNING VANES:** Fabricate of 1-1/2" wide, curved blades 3/4" on center. Provide turning vanes in all mitered elbows and duct turns.

- DUCT ACCESS DOORS:** Install insulated duct access doors with hinges and latches for access to inlet side of coils, equipment, control dampers, fire dampers, and smoke dampers.

- FLEXIBLE CONNECTORS:** Flame-retarded or noncombustible fabrics, coatings, and adhesives complying with UL 181, Class 1. Neoprene double-coated woven glass fiber fabric in accordance with NFPA 90A, suitable for temperatures and pressures of application, approximately 6" wide, crimped into metal edge strip. Provide flexible connections to motor driven equipment.

- FLEXIBLE DUCTS:** Factory-fabricated, insulated, round duct, with an outer jacket enclosing 1-1/2-inch-thick, glass-fiber insulation around a continuous inner liner, steel-wire helix encapsulated in polyethylene inner liner. Comply with UL 181, Class 1. Final connections to air outlets and terminal units may be made with flexible duct. Install flexible ducts with metal collars or sleeves with draw bands. Length of flexible duct shall not exceed 36" path shall not exceed 45'.

MEI PROJECT NO: 24030



mechanical | electrical | lighting | technology | sustainability

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note:

do not scale drawings. verify all dimensions and clearances from architectural, structural, shop and other appropriate drawings or at site. lay out and coordinate all work prior to installation to provide clearances required for operation, maintenance, and codes and verify non-interference with other work. do not fabricate prior to verification of clearance for all trades.



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Revisions |

1	09/24/24	Addendum 2
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Project No. | 23042

Issue Date | 07.29.24

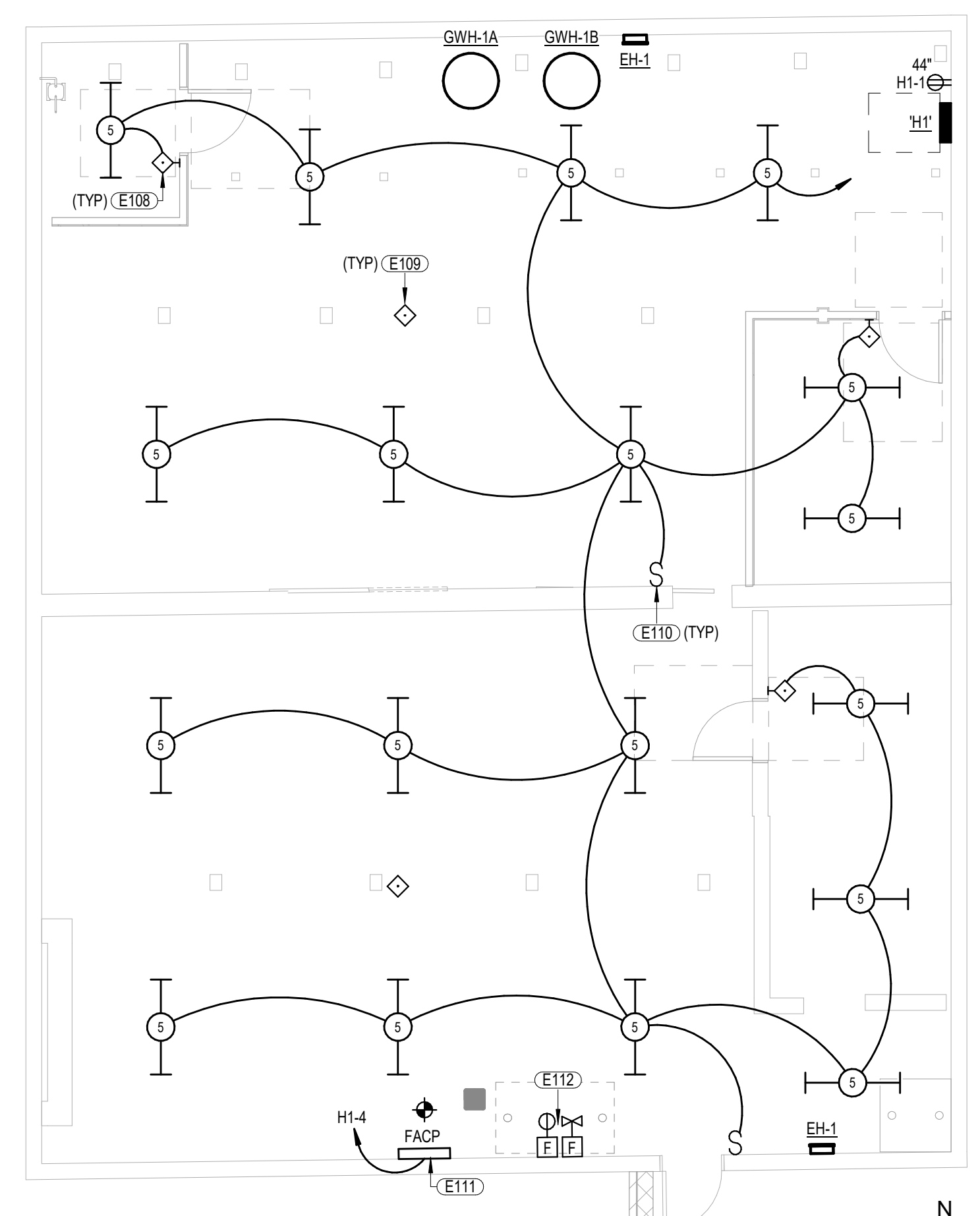
MECHANICAL SPECIFICATIONS

Sheet No. | M5.1

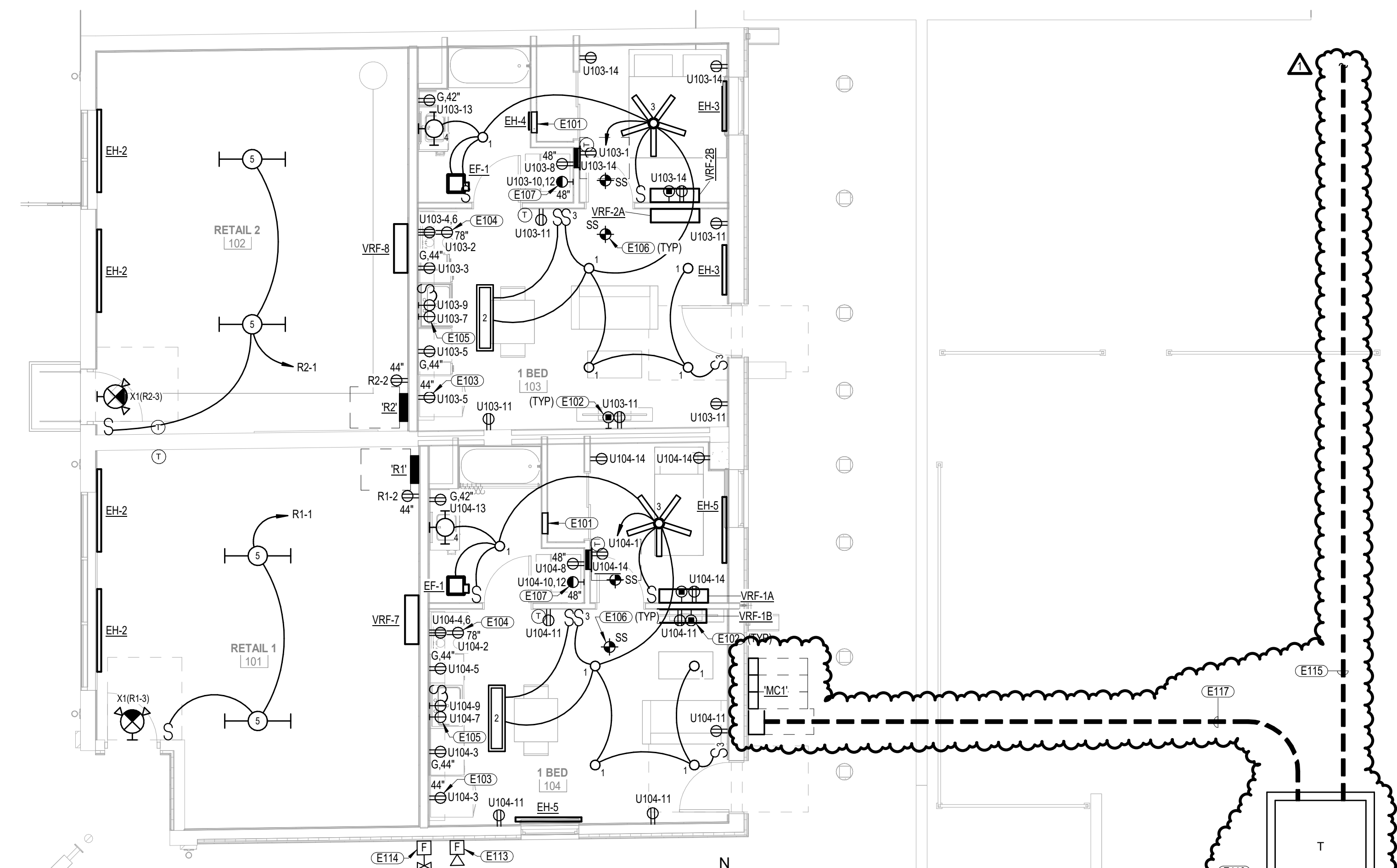
Revisions	
1	09/24/24 Addendum 2

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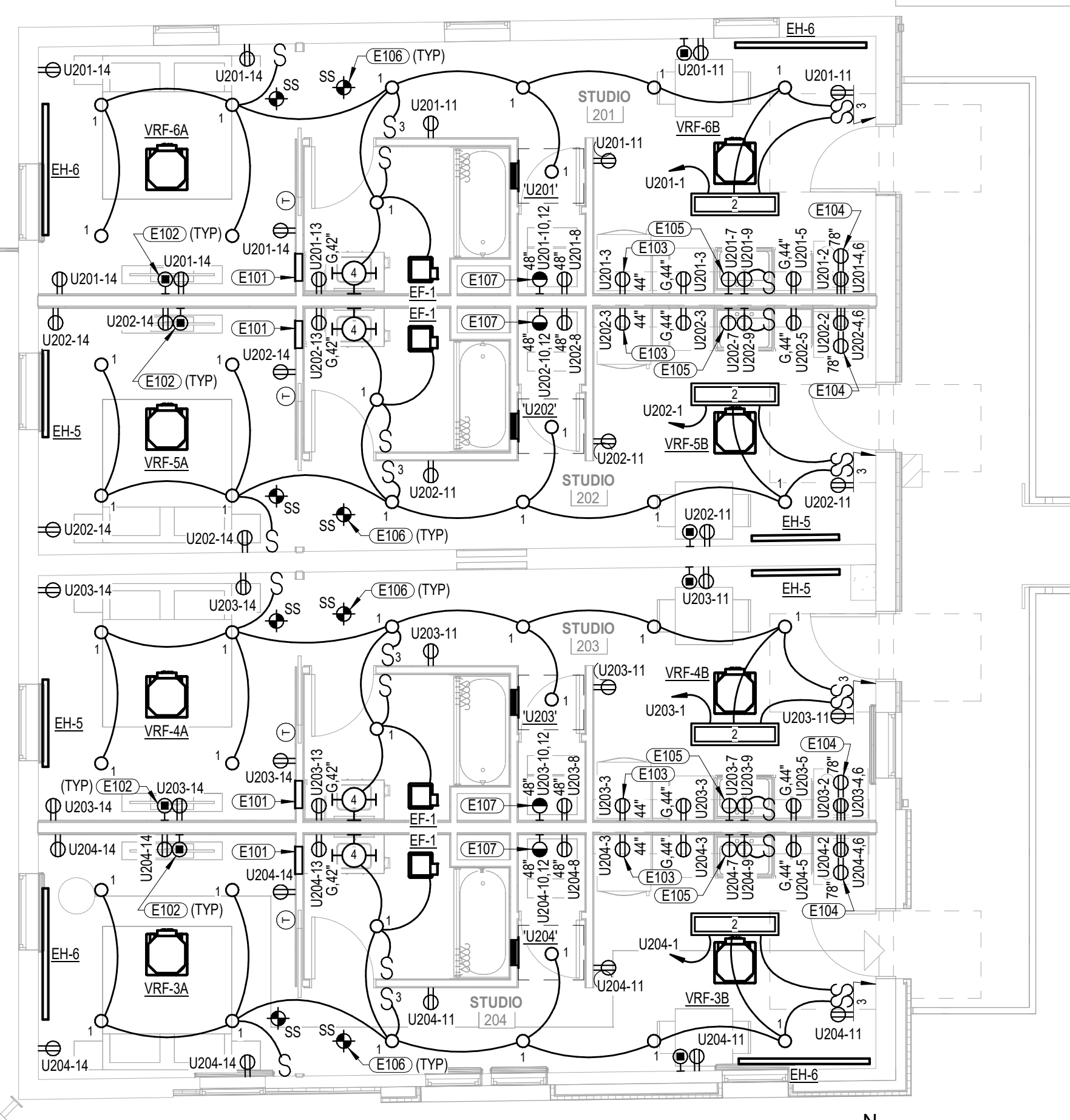
FLOOR PLANS - ELECTRICAL



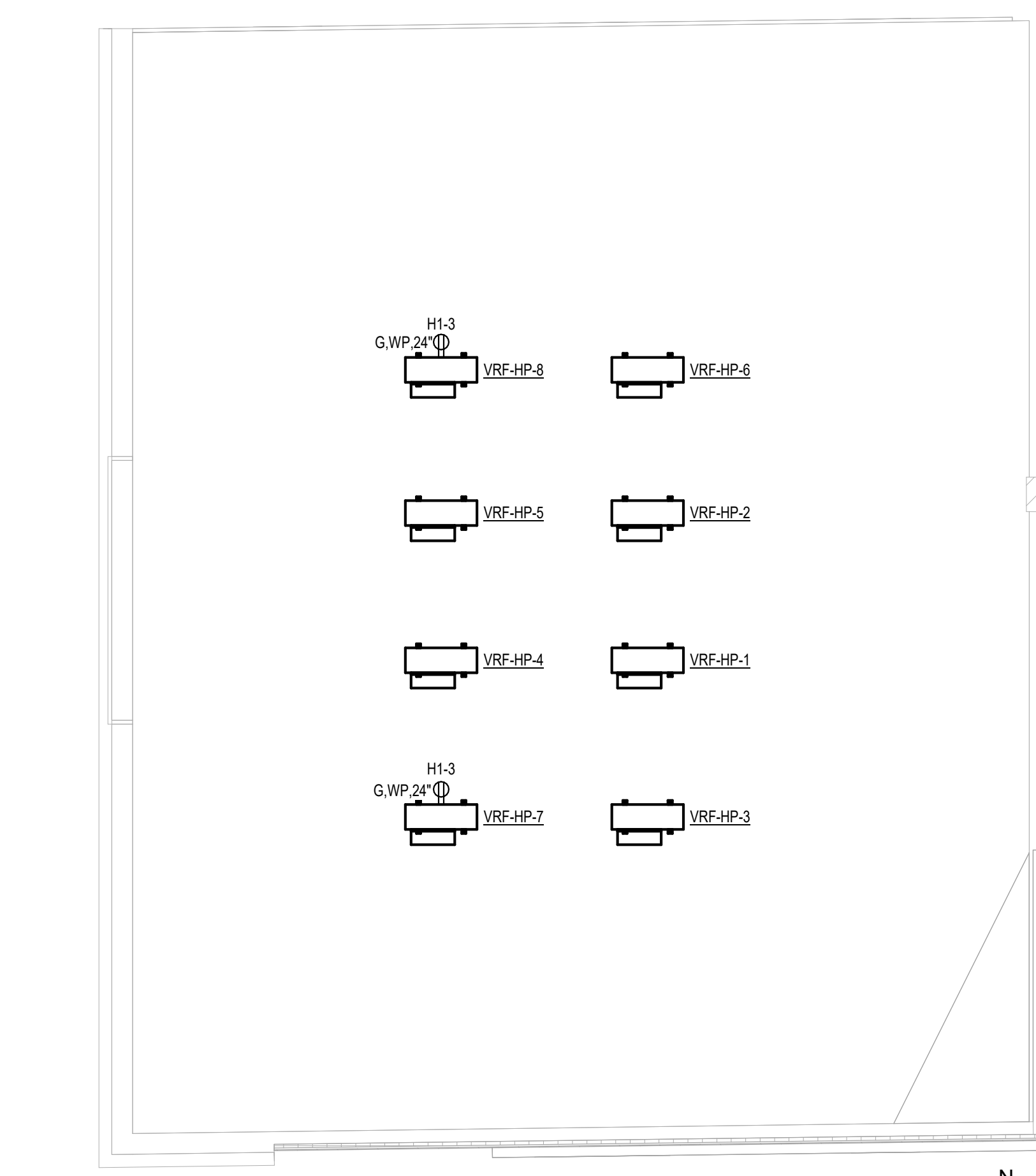
1 BASEMENT - ELECTRICAL
E1.1 3/16" = 1'-0"
0' 4' 8' 16'



2 FIRST FLOOR - ELECTRICAL
E1.1 3/16" = 1'-0"
0' 4' 8' 16'



3 SECOND FLOOR - ELECTRICAL
E1.1 3/16" = 1'-0"
0' 4' 8' 16'



4 ROOF PLAN - ELECTRICAL
E1.1 3/16" = 1'-0"
0' 4' 8' 16'

GENERAL NOTES:

1. SEE ELECTRICAL COVER SHEET E0.0 FOR ELECTRICAL GENERAL NOTES.

KEYNOTES

- E101 PROVIDE TELEPHONE/CATV TERMINAL BOX. SUTTLE SHO ACCESS ENCLOSURE #MME-15E-1G2 (OR APPROVED EQUAL). INSTALL FLUSH IN WALL AT 36" AFF. PROVIDE DUPLEX RECEPTACLE INSIDE CABINET AND CIRCUIT TO NEAREST HALLWAY RECEPTACLE CIRCUIT. PROVIDE 1-1/4" CONDUIT CONCEALED TO COMMUNICATIONS BOARD IN BASEMENT.
- E102 PROVIDE SINGLE GANG CADDY RING FOR DATA ROUGH-IN. SEE DETAIL 4E2.0 FOR ADDITIONAL INFORMATION.
- E103 RECEPTACLE SHALL BE CONNECTED AS FEED-THRU FROM ADJACENT GFCI.
- E104 RECEPTACLE FOR MICROWAVE OR OTR HOOD. VERIFY EXACT MOUNTING HEIGHT WITH CABINETS AND APPLIANCES.
- E105 RECEPTACLE FOR DISHWASHER. SEE DETAIL 3E2.0 FOR MORE INFORMATION. PRIOR TO ROUGH IN, COORDINATE LOCATION OF RECEPTACLE AND CONDUIT WITH GENERAL CONTRACTOR AND OTHER TRADES TO AVOID CONFLICTS BETWEEN ELECTRICAL AND PLUMBING WORK.
- E106 PROVIDE SYSTEM SMOKE DETECTORS WITHIN APARTMENT UNIT WITH LOW FREQUENCY SOUNDER BASE (SEE SPECIFICATIONS). INTERLOCK DETECTORS WITHIN UNIT PER NFPA REQUIREMENTS. COORDINATE FAN COIL UNIT AND RESTROOM EXHAUST FAN TO AUXILIARY CONTACTS TO SHUT DOWN IN THE EVENT OF ALARM CONDITION IN RESPECTIVE UNIT.
- E107 PROVIDE 120V POWER CONNECTION TO IN-LINE CLOTHES DRYER BOOSTER FAN WHERE REQUIRED. VERIFY FAN LOCATION WITH MECHANICAL CONTRACTOR. PROVIDE SINGLE POLE TOGGLE SWITCH DISCONNECT AT FAN. COORDINATE SWITCH AND FAN ACCESS MEANS WITH GENERAL CONTRACTOR.
- E108 PROVIDE LINE VOLTAGE WALL BOX OCCUPANCY SENSOR - SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION.

KEYNOTES

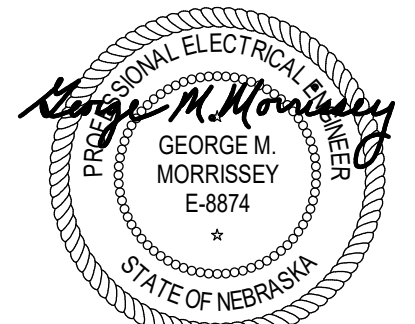
- E109 PROVIDE NEW CEILING MOUNTED OCCUPANCY SENSOR - SEE SPECIFICATIONS. ROUTE CIRCUIT THROUGH NEW POWER PACK WITH AUXILIARY RELAYS, CONTROLLED BY NEW OCCUPANCY SENSOR(S). PROVIDE AUXILIARY POWER PACKS AS REQUIRED.
- E110 CONNECT SWITCH DOWNSTREAM OF OCCUPANCY SENSORS. SWITCH SHALL SERVE AS MANUAL SHUTOFF ONLY.
- E111 PROVIDE NEW ADDRESSABLE FIRE ALARM CONTROL PANEL - SEE SPECIFICATIONS. PROVIDE LOCKABLE CIRCUIT BREAKER.
- E112 PROVIDE FIRE ALARM CONNECTION TO FLOW AND TAMPER SWITCHES AT FIRE ALARM RISER. COORDINATE LOCATION AND QUANTITY OF SWITCHES REQUIRED WITH FIRE SPRINKLER CONTRACTOR PRIOR TO ROUGH IN.
- E113 PROVIDE NOTIFICATION APPLIANCE ABOVE FIRE DEPARTMENT CONNECTION. COORDINATE LOCATION WITH FIRE MARSHAL AND FIRE SPRINKLER CONTRACTOR PRIOR TO ROUGH IN.
- E114 PROVIDE FIRE ALARM CONNECTION TO TAMPER SWITCH AT POST INDICATOR VALVE. USE RGS CONDUIT ABOVE GRADE. COORDINATE LOCATION WITH FIRE SPRINKLER CONTRACTOR AND CIVIL SITE.
- E115 PROVIDE NEW UNDERGROUND PRIMARY CONDUIT PER OPDP METER SPECIFICATION. COORDINATE CONDUIT ROUTING WITH OPDP, CIVIL DRAWINGS AND GENERAL CONTRACTOR PRIOR TO CONSTRUCTION. CLEARLY MARK ALL STUB UP LOCATIONS.
- E116 APPROXIMATE LOCATION OF NEW UTILITY TRANSFORMER. PROVIDE NEW TRANSFORMER PAD PER OPDP METER SPECIFICATION. COORDINATE EXACT LOCATION AND REQUIREMENTS WITH OPDP, CIVIL DRAWINGS AND GENERAL CONTRACTOR PRIOR TO CONSTRUCTION.
- E117 PROVIDE NEW UNDERGROUND SECONDARY CONDUIT - SEE RISER DIAGRAM FOR ADDITIONAL INFORMATION. COORDINATE CONDUIT ROUTING WITH OPDP, CIVIL DRAWINGS AND GENERAL CONTRACTOR PRIOR TO CONSTRUCTION. CLEARLY MARK ALL STUB UP LOCATIONS.



MEI PROJECT NO: 24030

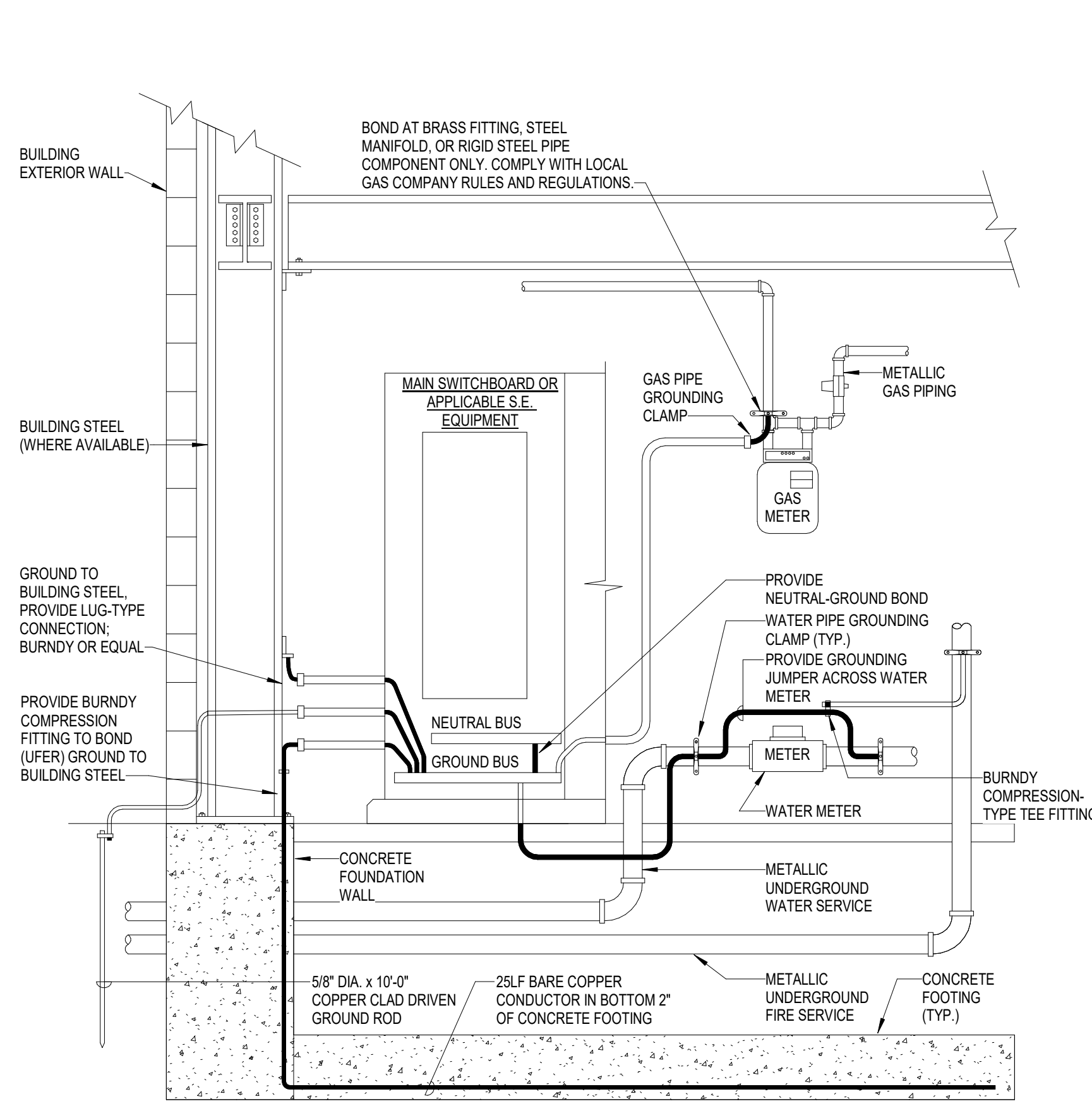
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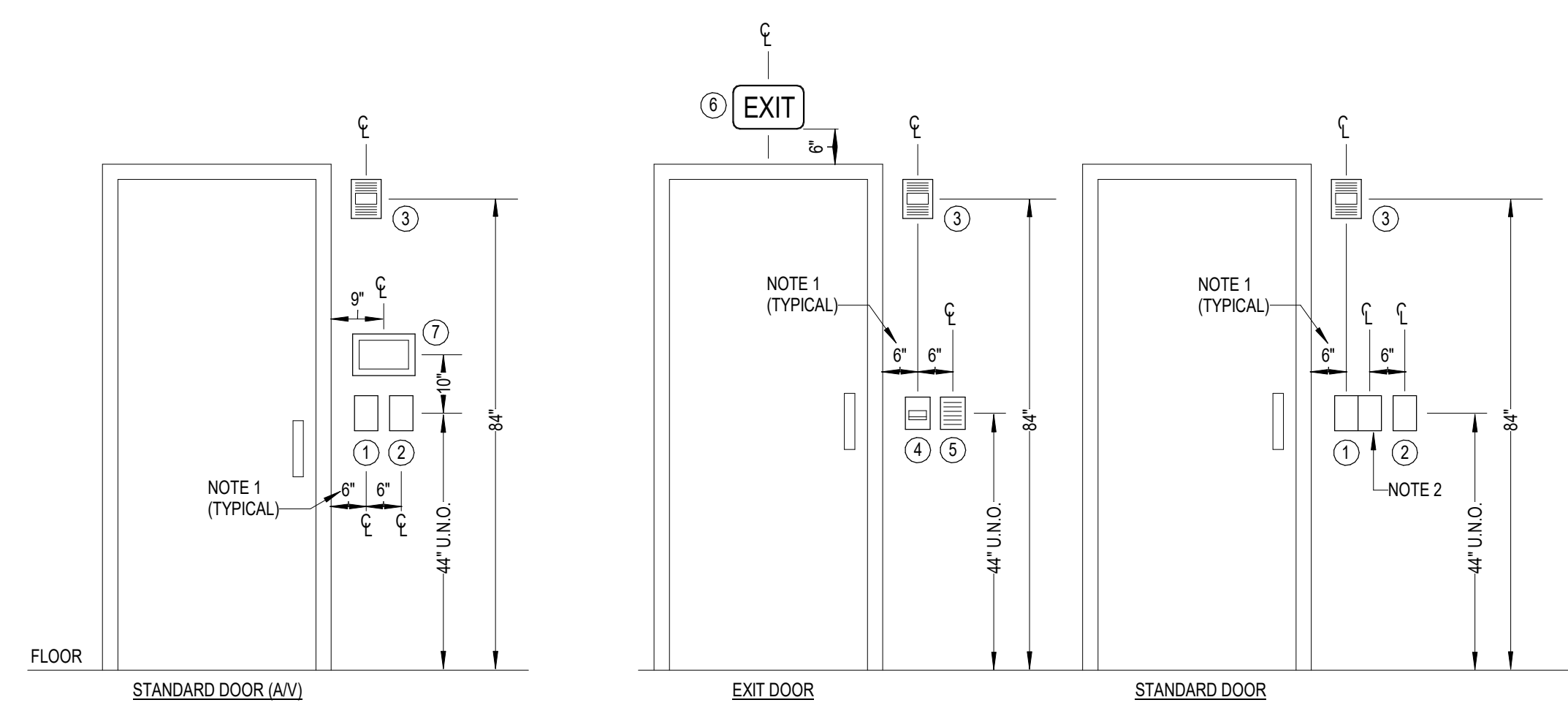
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RALSTON APARTMENT RENOVATIONS
 5617 S 77TH ST
 RALSTON, NE 68127

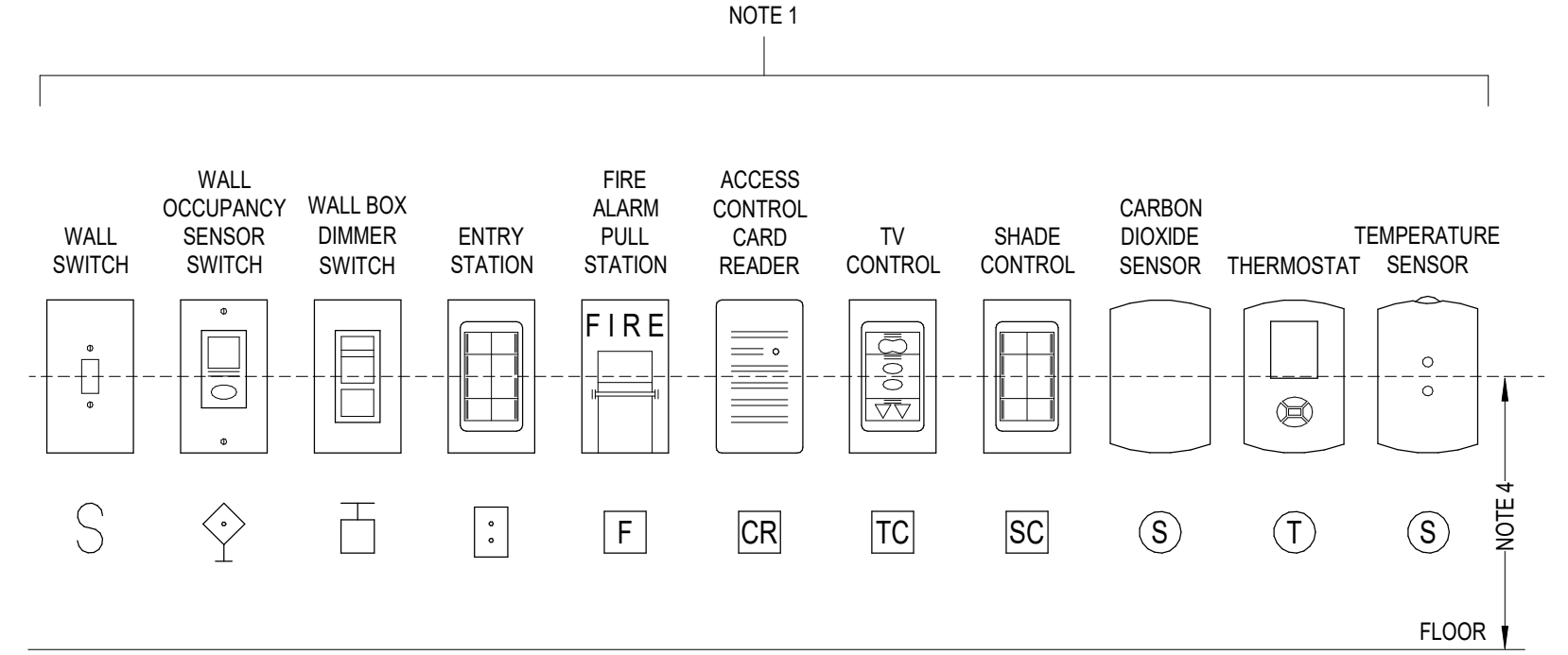


- NOTES:**
- PHYSICAL LAYOUT SHOULD BE DETERMINED FROM FLOOR PLAN DRAWINGS AND FIELD DIMENSIONS.
 - ALL GROUNDING CONDUCTORS SIZED IN ACCORDANCE WITH NEC TABLE 250.66.
 - ALL CLAMPS AND FITTINGS SHALL BE UL LISTED FOR THE APPLICATION.

1 MAIN SERVICE GROUNDING DETAIL
E2.0 NOT TO SCALE



- DEVICES:**
- WALL SWITCH, WALL OCCUPANCY SENSOR SWITCH, WALL BOX DIMMER SWITCH, OR ENTRY STATION
 - THERMOSTAT, TEMPERATURE SENSOR, OR CARBON DIOXIDE SENSOR ROUGH-IN
 - FIRE ALARM AUDIOVISUAL INDICATING DEVICE
 - FIRE ALARM PULL STATION
 - ACCESS CONTROL CARD READER
 - EXIT SIGN
 - AV TOUCHSCREEN



- NOTES:**
- ALIGN DEVICES VERTICALLY AND HORIZONTALLY WHEREVER POSSIBLE. NOT ALL DEVICES OR CONFIGURATIONS ARE DEPICTED ON THIS DETAIL. FOR ANY CONFIGURATIONS WITH FOUR OR MORE DEVICES, COORDINATE ARRANGEMENT WITH THE ENGINEER PRIOR TO ROUGH-IN. SEE FLOOR PLANS FOR INDIVIDUAL DOOR REQUIREMENTS.
 - WHERE MULTIPLE SWITCHES OR WALL BOX DIMMERS ARE GANGED TOGETHER, ALIGN FIRST GANG WITH DEVICES ABOVE AND ADD DEVICES TO THE RIGHT AS REQUIRED.
 - DIMENSIONS ARE TO BE MEASURED FROM OUTSIDE EDGE OF DOOR FRAME OR TRIM. WHERE SIDE LIGHT WINDOWS ARE PROVIDED, DIMENSIONS SHOULD BE MEASURED FROM OUTSIDE EDGE OF SIDE LIGHT WINDOW FRAME OR TRIM.
 - ALL DEVICES SHALL BE LOCATED TO MAINTAIN ALL A.D.A. MOUNTING HEIGHT REQUIREMENTS AND SUCH THAT CENTER OF ADJACENT DEVICES ARE AT SAME ELEVATION (TYPICALLY 44" A.F.F. TO CENTER OF DEVICE). NOTIFY ENGINEER OF ANY CONFLICTS WITH THE PROPOSED INSTALLATION.

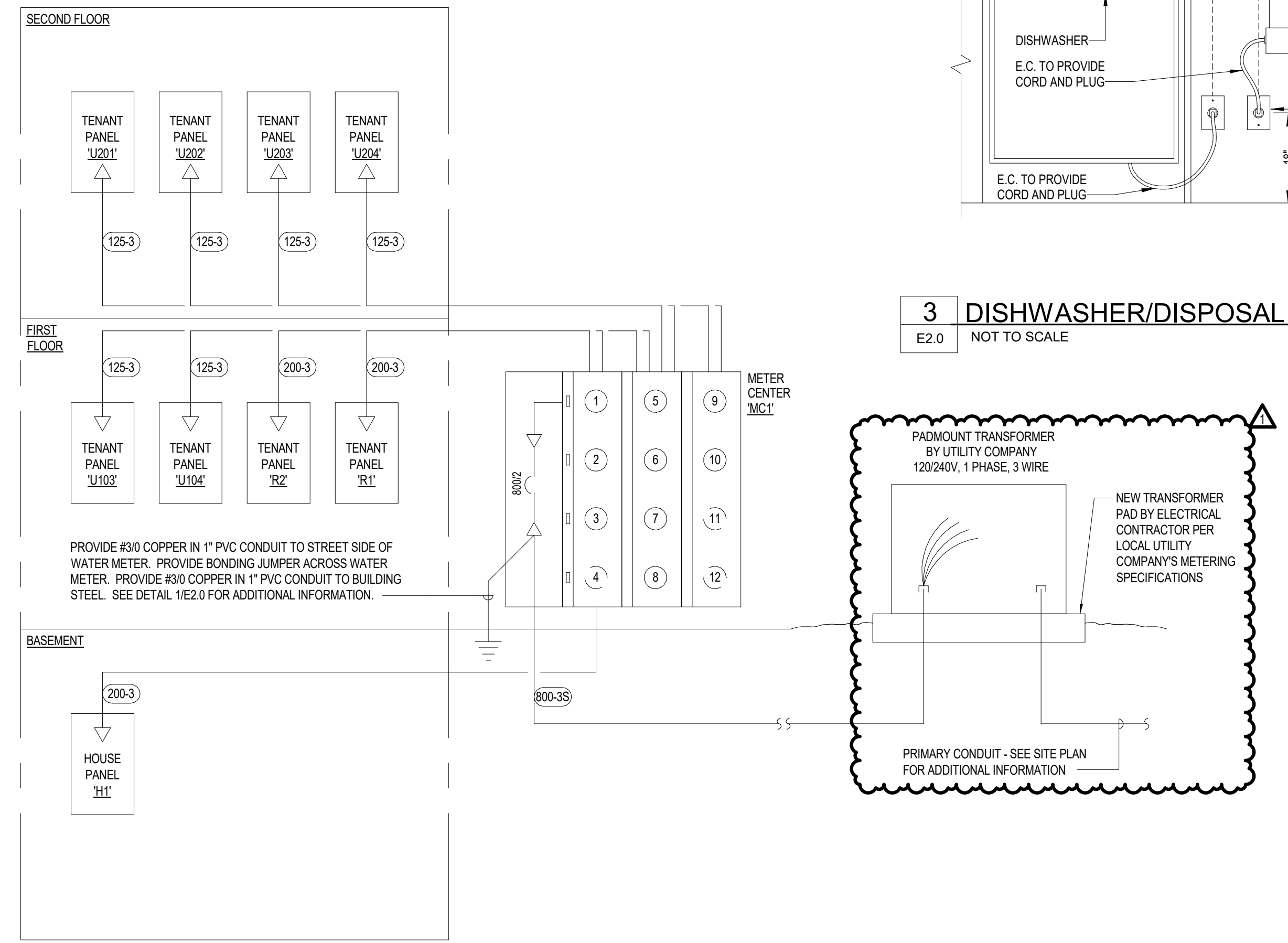
2 DEVICE ALIGNMENT DETAIL
E2.0 NOT TO SCALE

METER CENTER SCHEDULE				
DESCRIPTION	NO.	LABEL	SOCKET SIZE	MAIN C.B.
'MC1'				
240Y/120V, 1PH, 3W, INPUT	1	HOUSE PANEL 'H1'	225A	200/2
240Y/120V, 1PH 3W, OUTPUT	2	TENANT PANEL 'R1'	225A	200/2
800A MAIN BREAKER	3	TENANT PANEL 'R2'	225A	200/2
RINGLESS METER SOCKETS				
XX K A I C.	4	SPACE	225A	...
	5	TENANT PANEL 'U103'	225A	125/2
	6	TENANT PANEL 'U104'	225A	125/2
	7	TENANT PANEL 'U201'	225A	125/2
	8	TENANT PANEL 'U202'	225A	125/2
	9	TENANT PANEL 'U203'	225A	125/2
	10	TENANT PANEL 'U204'	225A	125/2
	11	SPACE	225A	...
	12	SPACE	225A	...

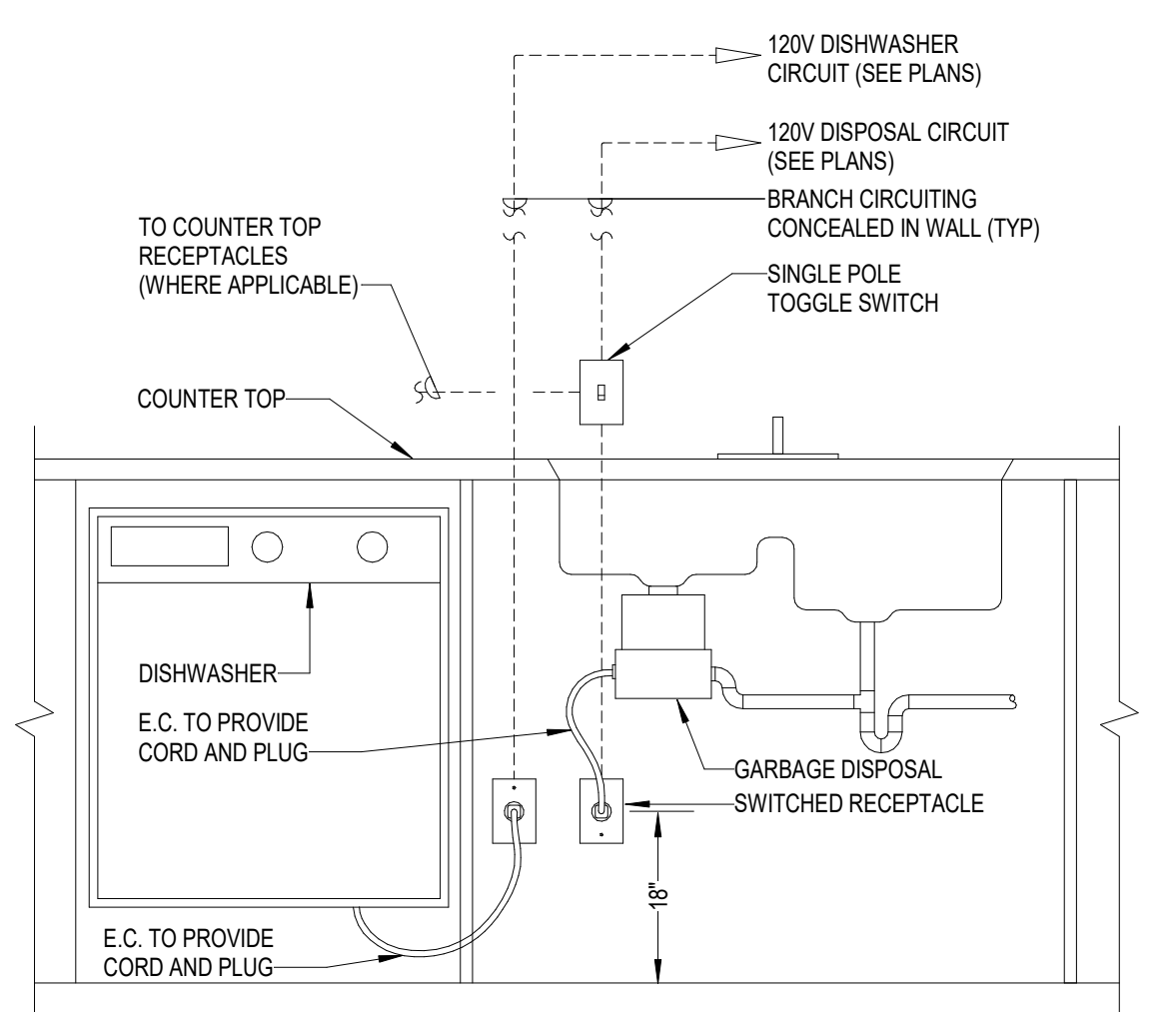
FEEDER SCHEDULE	
MARK	WIRE AND CONDUIT
(125-3)	3-#1, #6 G - 1-1/2" C.
(200-3)	3-#3/0, #6 G - 2" C.
(800-3S)	3-600 KCMIL IN EACH OF (2) 3-1/2" C.

- FEEDER SCHEDULE NOTES:**
- AT CONTRACTOR'S OPTION, COMPACT ELECTRICAL GRADE ALUMINUM CONDUCTORS MAY BE USED FOR FEEDERS 100 AMPS AND LARGER. IF ALUMINUM IS USED, CONTRACTOR TO SIZE ALUMINUM EQUAL TO FEEDER SCHEDULE (COPPER) AS INDICATED ON CONTRACT DOCUMENTS AND SHALL BE SUBMITTED TO ENGINEER FOR REVIEW.

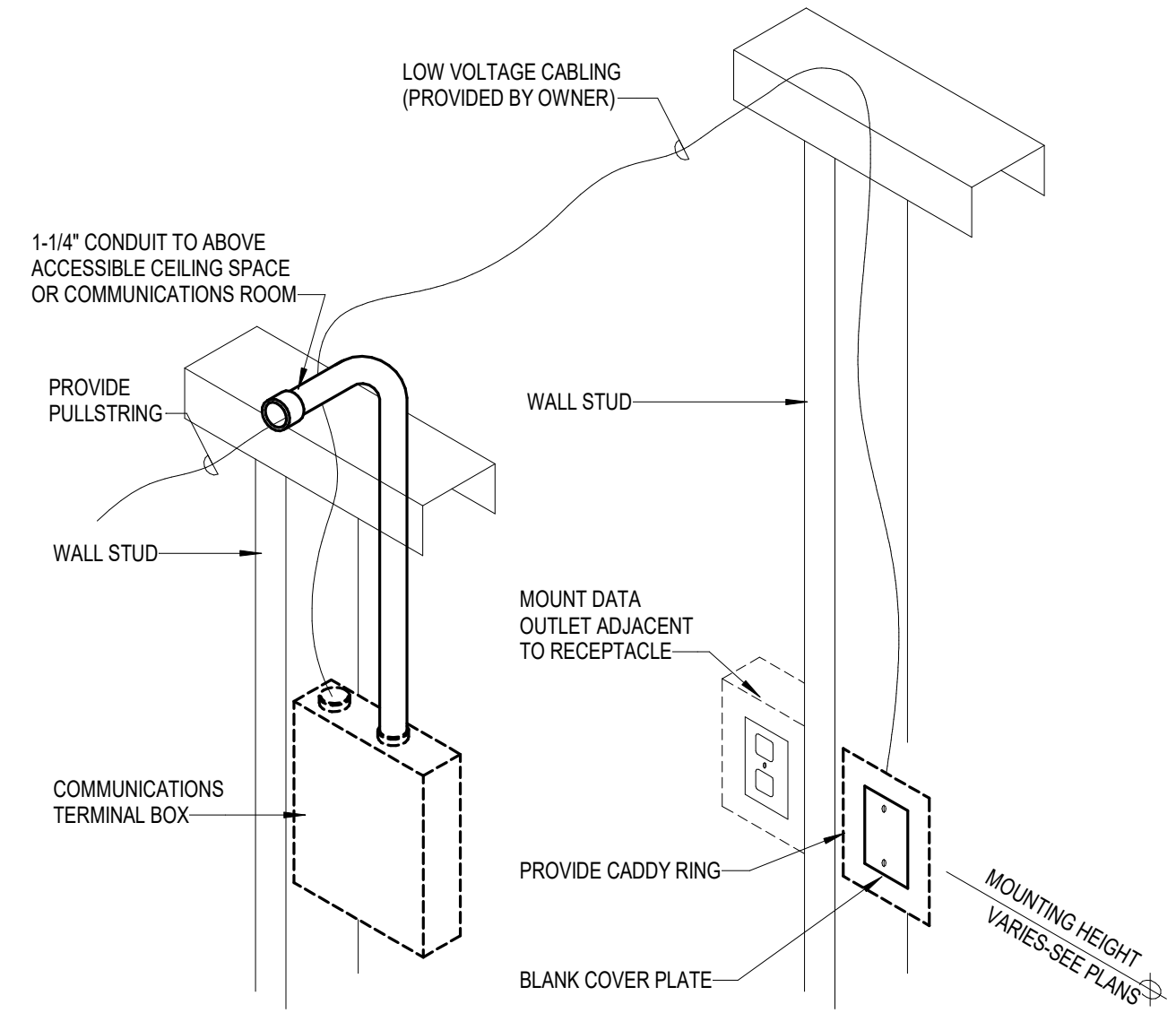
5 ELECTRICAL RISER DIAGRAM
E2.0 NOT TO SCALE



3 DISHWASHER/DISPOSAL CONNECTION
E2.0 NOT TO SCALE



4 UNIT DATA/COMM ROUGH-IN DETAIL
E2.0 NOT TO SCALE



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Revisions	
1	09/24/24 Addendum 2

Project No. | 23042
Issue Date | 07.29.24

**ELECTRICAL
DETAILS &
RISER**

Sheet No. | **E2.0**

MEI PROJECT NO: 24030

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