GENERAL MECHANICAL NOTES

1. SHOULD THERE BE ANY DISCREPANCIES BETWEEN CONTRACT DOCUMENTS AND SPECIFICATIONS THE GREATER QUALITY OR QUANTITY OF WORK SHALL BE PERFORMED. THIS WORK MUST BE SUBMITTED IN WRITING TO ENGINEER PRIOR TO FINAL BID APPROVAL. NO EXTRAS SHALL BE ALLOWED AFTER THAT TIME. THIS SHALL ALSO PERTAIN TO ANY DISCREPANCIES IN THE CONTRACT DOCUMENTS OR BETWEEN TRADES.
2. NO MODIFICATIONS TO THE SPECIFICATIONS, CONSTRUCTION DOCUMENTS, OR INTENT OF THE SCOPE OF WORK SHALL BE ALLOWED WITHOUT PRIOR WRITTEN AUTHORIZATION FROM THE ENGINEER. ALL MODIFICATIONS, CHANGE ORDERS, ALTERNATES AND VALUE ENGINEERING SHALL BE SUBMITTED IN WRITING TO THE ARCHITECT AND ENGINEER FOR REVIEW.
3. GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL TRADES RESPONSIBLE FOR FINAL CONNECTION OR ALL EQUIPMENT.
4. CONTRACTORS ARE RESPONSIBLE UNDERSTANDING AND BEING EDUCATED ON THE REQUIREMENTS TO OBTAIN NGBS NET ZERO CERTIFICATION AND PHIUS CERTIFICATION, AS WELL AS ALL PREREQUISITE CERTIFICATIONS NEEDED TO OBTAIN PHIUS. RESPONSIBILITY OF THE GENERAL CONTRACTOR AND TRADES TO PROVIDE REQUIRED FIELD TESTING REQUIRED TO OBTAIN CERTIFICATIONS. ALSO, ANY MODIFICATIONS NEEDED TO SYSTEMS AFTER INITIAL TESTING TO PASS RETESTING IF REQUIRED.

PLUMBING GENERAL NOTES

1. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF ALL PLUMBING FIXTURES.
2. COORDINATE ALL LOCATIONS, SIZES, AND ELEVATIONS OF ALL SLEEVES THROUGH WALLS AND SLABS WITH STRUCTURAL AND ARCHITECTURAL DRAWINGS.
3. ALL OUTLETS FOR FUTURE CONNECTIONS SHALL BE VALVES, CAPPED AND INSTALLED TO PERMIT EASY ACCESS AND CONNECTION FOR FUTURE USE.
4. VERIFY DEPTHS, SIZES AND LOCATIONS OF EXISTING UTILIZES IN THE FIELD. INCLUDING POINTS OF CONNECTIONS PRIOR TO START OF WORK.
5. FAUCETS AND PLUMBING FIXTURES SHALL MEET WATER SENSE REQUIREMENTS AND STATE ENERGY STANDARDS.
6. RUN ALL SANITARY PIPING AT 1/8" PER FOOT MINIMUM SLOPE AND 1-1/2" TO 2-1/2" PIPES SHALL BE AT 1/4" PER FOOT.
7. REFER TO ARCHITECTURAL DRAWINGS FOR PHASING LIMITATIONS ON SEQUENCE OF CONSTRUCTION.
8. CONTRACTOR SHALL MAINTAIN ADEQUATE CLEARANCES ABOVE AND AROUND ELECTRICAL PANELS, EQUIPMENT AND TRANSFORMERS WHEN ROUTING DOMESTIC WATER, SANITARY AND STORM PIPING.
9. CONTRACTOR SHALL COMPLETE ALL MANUFACTURER REQUIRED MAINTENANCE THROUGHOUT THE DURATION OF CONSTRUCTION AS WELL AS ANY TEMPORARY MEASURES TO PREVENT DAMAGE AND PRESERVE EQUIPMENT.
10. OVERFLOW RAIN CONDUCTORS SHALL BE ROUTED TO EXTERIOR WALLS AND SPILL TO GRADE.
11. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH STATE AND COUNTRY DEPARTMENT OF HEALTH CROSS CONTAMINATION CODE REQUIREMENTS.
12. PROVIDE CLEANOUTS AT THE BASE OF ALL STACKS.
13. ALL VENTS THROUGH THE ROOF MUST BE A MINIMUM OF 10' CLEARANCE FROM OUTDOOR AIR INTAKES AND 12" ABOVE THE ROOF.

GENERAL FIRE PROTECTION NOTES:

1. UNLESS OTHERWISE NOTED THE ENTIRE BUILDING SHALL BE PROVIDED WITH WET SPRINKLER FIRE PROTECTION COVERAGE IN ACCORDANCE WITH NFPA 13R. THE SYSTEM SHALL BE HYDRAULICALLY DESIGN. FIRE PROTECTION TRADE SHALL OBTAIN HYDRANT FLOW TEST AS REQUIRED FROM CITY OF SOUTHFIELD.
2. FIRE PROTECTION BRANCH MAINS SERVING ELECTRICAL EQUIPMENT ROOMS AND ROOMS INDICATED ON THE PLAN SHALL BE PROVIDED WITH A SUPERVISED O.S- & Y VALVE IN A WALL BOX IMMEDIATELY OUTSIDE THE ROOM. VALVE SHALL BE ON THE INCOMING LINE SIDE PRIOR TO DISTRIBUTION TO HEADS.
3. REFER TO SPECIFICATIONS FOR SPRINKLER HEAD TYPES INTENDED FOR USE IN EACH SPACE.
4. FIRE PROTECTION TRADE SHALL SUBMIT PLANS AND CALCULATIONS TO THE CITY OF SOUTHFIELD FIRE MARSHALS OFFICE AND THE BUILDING'S INSURING AGENCY FOR APPROVAL. CONTRACTOR SHALL MAKE ALL NECESSARY CHANGES AND CORRECTIONS AS INSTRUCTED AND RE-SUBMIT PLANS AND CALCULATIONS FOR RECORD TO THE ARCHITECT AS WELL AS THE FIRE MARSHAL OFFICE.
5. FIRE PROTECTION CONTRACTOR SHALL BE RESPONSIBLE TO SURVEY THE EXISTING SYSTEM & DESIGN/BUILD MODIFICATIONS AS REQUIRED FOR EXISTING AND NEW SPACES.
6. COORDINATE WITH ARCHITECTURAL FLOOR PLANS AND REFLECTED CEILING PLANS. OBTAIN NEEDED DRAWINGS FROM THE ARCHITECT FOR DESIGN PURPOSED IF NEEDED.

GENERAL UTILITY NOTES:

1. DURING CONSTRUCTION CONTRACTOR SHALL USE EXTREME CAUTION WHEN OPERATING NEAR ANY OVERHEAD OR UNDERGROUND UTILITIES.
2. PRIOR TO CONSTRUCTION, ALL LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHALL BE VERIFIED IN THE FIELD.
3. UTILITY INFORMATION AS SHOWN INDICATES APPROXIMATE LOCATIONS AND NO GUARANTEES IS GIVEN AS TO THE COMPLETENESS OR ACCURACY.

PLUMBING SHEET NOTES:

1. THE DRAWINGS ARE DIAGRAMMATIC AND REPRESENT THE GENERAL INTENT AND ARRANGEMENT OF SYSTEMS. THEY ARE NOT TO BE CONSIDERED FABRICATION/COORDINATION/SHOP DRAWINGS AND COORDINATION WITH OTHER TRADES WILL BE REQUIRED. PROVIDE ADDITIONAL FITTINGS AND OFFSETS THAT MAY BE REQUIRED TO COMPLETE EACH SYSTEM AND TO AVOID INTERFERENCES WITH ALL OTHER SYSTEMS AND ANY OTHER EXISTING SPACE CONSTRAINTS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH ALL TRADES FOR UTILIZATION OF SPACE CONSTRAINTS.
2. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR LOCATION OF LIGHTS, CEILING DROPS AND ELEVATIONS.
3. A SPRINKLER SYSTEM IS REQUIRED FOR THE BUILDING, LOCATE SEMI-RECESSED PENDANT MOUNTED SPRINKLER HEADS TO SUIT THE CEILING CONFIGURATION. SPRINKLER HEADS SHALL BE STANDARD SEMI-RECESSED PENDANT TYPE WITH CHROME PLATED FINISH.
4. SNAKE OUT ALL SEWERS AND VERIFY ADEQUATE FLOW. TO PROVIDE ADEQUATE FLOW, THE CONTRACTOR SHALL SNAKE OUT AND THOROUGHLY FLUSH ALL SANITARY SEWERS FROM THE START POINT OF ALL BRANCHES ALL THE WAY TO THE FIRST TURN OUTSIDE OF THE BUILDING, ON ALL LEADS.
5. REFER TO PLUMBING FIXTURE SCHEDULE FOR ROUGH IN PIPE SIZES TO FIXTURES.
6. CONDENSATE DRAINS (INSULATED) TO BE ROUTED TO NEAREST FLOOR DRAIN, AND ROUTED IN A MANNER THAT DOES NOT PROVIDE A TRIP HAZARD AND HAS THE LEAST AMOUNT OF PIPING ON THE FLOOR.
7. CAP PIPING ABOVE CEILING, BELOW FLOOR OR INSIDE WALL (TYP).

ABBREVIATIONS

AD	AREA DRAIN
BFP	BACKFLOW PREVENTOR
BT	BATHTUB
CD	CONDENSATE DRAIN
CI	CAST IRON
CL	CENTER LINE
CLG	CEILING
CO	CLEANOUT
CODP	CLEANOUT DECK PLATE
COWP	CLEAN OUT WALL PLATE
COL	COLUMN
CP	CONTROL PANEL
CW	DOMESTIC COLD WATER
DCV	DOUBLE CHECK VALVE
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
DF	DRINKING FOUNTAIN
DFU	DRAINAGE FIXTURE UNIT
DIA	DIAMETER
DN	PIPE DOWN THRU FLOOR
DR	DRAIN
DT	DRAINTILE
DW	DISH WASHER
DWG	DRAWING
EL	ELEVATION
ELEC	ELECTRIC
EWC	ELECTRIC WATER COOLER
EWH	ELECTRIC WATER HEATER
EX.	EXISTING
F	FIRE SERVICE
FAI	FRESH AIR INTAKE
FCO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FFD	FUNNEL FLOOR DRAIN
FL	FLOOR
FU	FIXTURE UNIT
FS	FLOOR SINK
G	GAS
GAL	GALLON
GC	GENERAL CONTRACTOR
GI	GREASE INTERCEPTOR
GM	GAS METER
GV	GATE VALVE
GW	GRAY WASTE
HB	HOSE BIB
HC	HANDICAPPED
HVAC	HEATING, VENTILATION & AIR CONDITIONING
HWH	HOT WATER HEATER
HW	DOMESTIC HOT WATER
HWR	DOMESTIC HOT WATER RETURN
HZ	HIGH ZONE
IG	IRRIGATION PIPING
IE	INVERT ELEVATION
IW	INDIRECT WASTE
JS	JANITOR SINK

KS	KITCHEN SINK
L	LEADER
LAV	LAVATORY
LP	LOW PRESSURE
LZ	LOW ZONE
MAX	MAXIMUM
MIN	MINIMUM
MGCV	MASTER GAS CONTRAL VALVE
MICV	METER INLET CONTROL VALVE
MS	MOP SINK
MZ	MID ZONE
NFWH	NON-FREEZE WALL HYDRANT
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OD	OVERFLOW DRAIN
OS&Y	OUTSIDE SCREW & YOKE
PG	PRESSURE GAUGE
PLMB	PLUMBING
PO	PLUGGED OUTLET
POE	POINT OF ENTRY
PS	PANTRY SINK
RD	ROOF DRAIN
REF	REFRIGERATOR
RPZ	REDUCED PRESSURE ZONE
RM	ROOM
S	SOIL
SA	SHOCK OBSORBER
S, SAN	SANITARY
ST	STORM DRAIN
SE	SEWAGE EJECTOR
SP	SUMP PUMP
SH	SHOWER
SPEC	SPECIFICATIONS
SQ. FT.	SQUARE FEET
TD	TRENCH DRAIN
TMV	THERMOSTATIC MIXING VALVE
T	TRAP
TYP	TYPICAL
UR	URINAL
V	VENT
VTR	VENT THROUGH ROOF
VB	VACUUM BREAKER
W	WASTE
WC	WATER CLOSET
WH	WALL HUNG
WHA	WATER HAMMER ARRESTER
WSFU	WATER SUPPLY FIXTURE UNIT

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
SAN	SANITARY WASTE (S OR W)
ST	STORM DRAINAGE PIPING (ST)
OD	OVERFLOW STORM DRAINAGE PIPING
ED	ELEVATOR DRAIN PIPING 9
EPD	EJECTOR PUMP DISCHARGE PIPING
PD	PUMP DISCHARGE PIPING
DT	DRAINTILE
V	VENT PIPING
CW	DOMESTIC COLD WATER PIPING
HW	DOMESTIC HOT WATER PIPING
	DOMESTIC HOT WATER RETURN PIPING
IW	INDIRECT WASTE PIPING
G	NATURAL GAS SUPPLY
X X X	REMOVE EXISTING PIPING
	PIPING WITH ELECTRIC TRACE HEATING
	PIPING INTERRUPTED OR TO BE CONTINUED
	CAP OR END OF PIPE
P400 XXX	SECTION SHEET No. SECTION NUMBER
P #	SYSTEM DESCRIPTION RISER NUMBER — SANITARY RISER
ST #	SYSTEM DESCRIPTION RISER NUMBER — STORM RISER
G #	SYSTEM DESCRIPTION RISER NUMBER — GAS RISER
	POINT OF DISCONNECT
	CONNECT NEW TO EXISTING
	CLEANOUT
	CLEANOUT DECK PLATE
	DRAIN
	P-TRAP
	SHOCK ABSORBER
TP	TRAP PRIMER
	ARROW INDICATES DIRECTION OF FLOW
	ELBOW UP OR RISE
	ELBOW DN OR DROP
	BALANCING VALVE

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
	BOTTOM CONNECTION
	TOP CONNECTION
	UNION SCREWED
	PIPE SLEEVE
	WATERPROOF PIPE SLEEVE
	NON FREEZE WALL HYDRANT
	VALVE ON PIPE RISE
	BACK FLOW PREVENTER
	CHECK VALVE
	GATE VALVE
	BALL VALVE
	GAS VALVE
	PRESSURE REDUCING VALVE
	TEMPERATURE & PRESSURE RELIEF VALVE
	PRESSURE REGULATING VALVE
	THERMOSTATIC MIXING VALVE
	VALVED CAPPED OUTET
S	SOLENOID VALVE
	OUTSIDE STEM AND YOKE VALVE W/ TAMPER SWITCH
	STRAINER
P	PRESSURE GAUGE
	HOSE BIB
	VACUUM BREAKER
	THERMOMETER
	PUMP
	CIRCULATOR PUMP
	SCHEMATIC PUMP
	FLOOR SINK
	VENT THRU ROOF
M	METER
F	FILTER
	FAI
	VENT INCREASER

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KEY PLANS

SHEET TITLE

PLUMBING NOTES, SYMBOLS AND ABBREVIATIONS

SCALE: AS NOTED

ISSUED FOR	DATE
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SHEET NO. P-001

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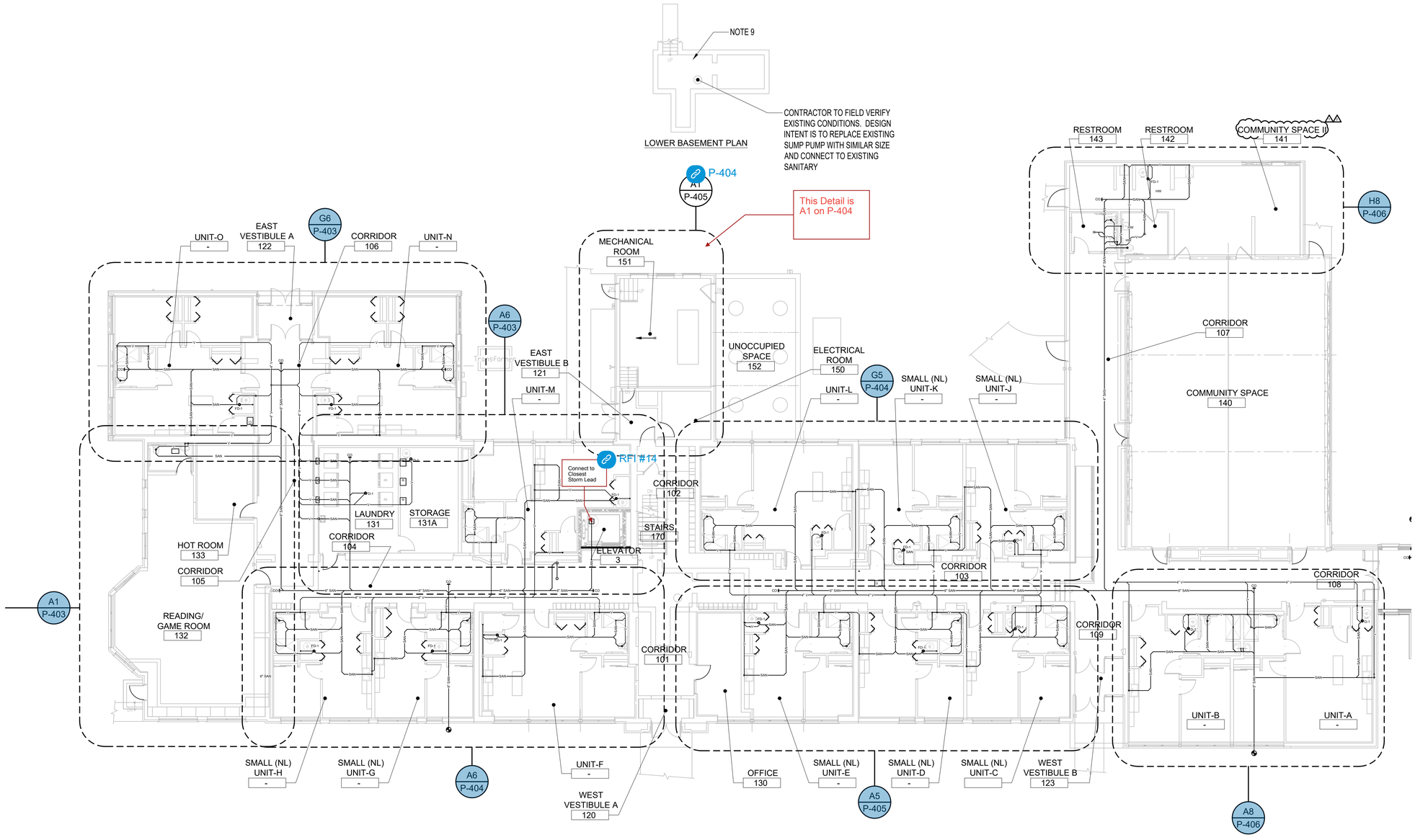

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
3. VENT UP AND DOWN
4. SANITARY UP AND DOWN AND PROVIDE VERTICAL CLEANOUT.
5. REFER TO TYPICAL APARTMENT WATER RISER DIAGRAM FOR PIPING ARRANGEMENT AND SIZES.
6. CONTRACTOR TO CONTACT MISS DIG PRIOR TO START OF ANY UNDERGROUND WORK, COORDINATE WORK WITH CIVIL PLANS.
7. HEAT PUMP HOT WATER, REFER TO MANUFACTURER DRAWINGS FOR PROPER VENTILATION REQUIREMENTS FOR DOOR CLEARANCES AND SPACE REQUIREMENTS. REFER TO PLUMBING DETAILS FOR HEAT PUMP WATER HEATER PIPING AND EQUIPMENT REQUIRED.
8. GARBAGE DISPOSAL, SEE PLUMBING SCHEDULE FOR SPECIFICATIONS AND INSTALL FOR MANUFACTURER REQUIREMENTS. TO BE CONTROLLED BY SWITCH LOCATED ABOVE COUNTER SEE ELECTRICAL.
9. ALL SANITARY LINES ARE BELOW FLOOR ELEVATION TO ALLOW FOR PROPER PITCH AND NEEDED FLOW. EXACT LOCATION OF TUNNEL AND BASEMENT ARE UNKNOWN AND SANITARY COULD BE IN BASEMENT OR TUNNEL. ROUTE IN A WAY TO MINIMIZE CORING. ALL VENTING AND WATER DISTRIBUTION ABOVE FINISH CEILING AS HIGH AS POSSIBLE WITHOUT INTERFERING WITH OTHER TRADES.
10. IF UNIT IS CONISDERED ADA SUBSTITUTE FIXTURES TO ADA TYPE. COORDINATE WITH ARCH DRAWINGS.
11. DISHWASHER - PROVIDE HOT WATER

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KEY PLANS

SHEET TITLE

FIRST FLOOR - SANITARY, VENTING AND STORM WATER PLAN

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SHEET NO. P-101

A1 FIRST FLOOR - SANITARY, VENTING AND STORM WATER PLAN

P-101 | 3/32" = 1'-0"

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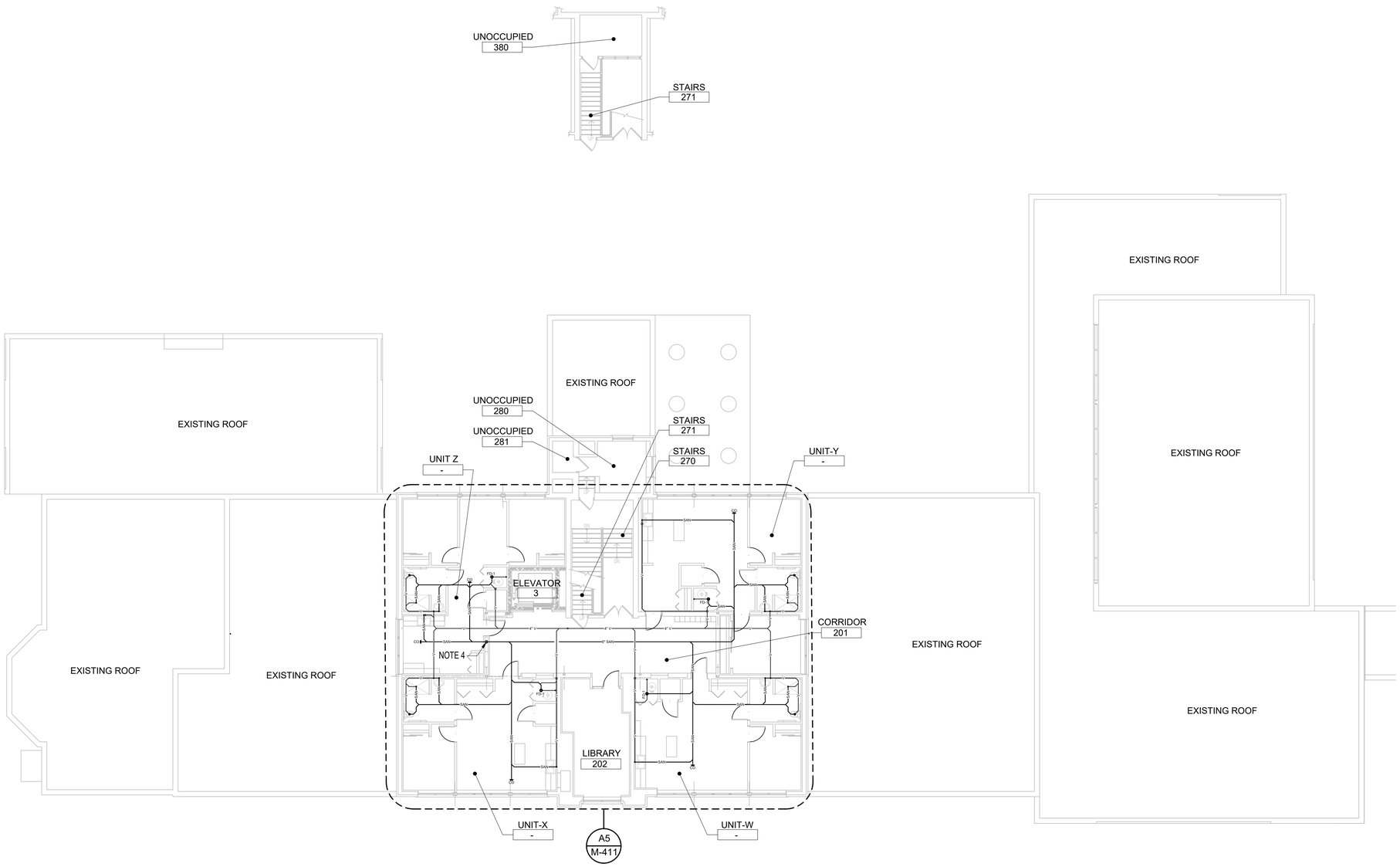

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
3. VENT UP AND DOWN
4. SANITARY UP AND DOWN AND PROVIDE VERTICAL CLEANOUT.
5. REFER TO TYPICAL APARTMENT WATER RISER DIAGRAM FOR PIPING ARRANGEMENT AND SIZES.
6. CONTRACTOR TO CONTACT MISS DIG PRIOR TO START OF ANY UNDERGROUND WORK, COORDINATE WORK WITH CIVIL PLANS.
7. HEAT PUMP HOT WATER, REFER TO MANUFACTURER DRAWINGS FOR PROPER VENTILATION REQUIREMENTS FOR DOOR CLEARANCES AND SPACE REQUIREMENTS. REFER TO PLUMBING DETAILS FOR HEAT PUMP WATER HEATER PIPING AND EQUIPMENT REQUIRED.
8. GARBAGE DISPOSAL, SEE PLUMBING SCHEDULE FOR SPECIFICATIONS AND INSTALL FOR MANUFACTURER REQUIREMENTS. TO BE CONTROLLED BY SWITCH LOCATED ABOVE COUNTER SEE ELECTRICAL.
9. ALL SANITARY LINES ARE BELOW FLOOR ELEVATION TO ALLOW FOR PROPER PITCH AND NEEDED FLOW. EXACT LOCATION OF TUNNEL AND BASEMENT ARE UNKNOWN AND SANITARY COULD BE IN BASEMENT OR TUNNEL. ROUTE IN A WAY TO MINIMIZE CORING. ALL VENTING AND WATER DISTRIBUTION ABOVE FINISH CEILING AS HIGH AS POSSIBLE WITHOUT INTERFERING WITH OTHER TRADES.
10. IF UNIT IS CONISDERED ADA SUBSTITUTE FIXTURES TO ADA TYPE. COORDINATE WITH ARCH DRAWINGS.
11. DISHWASHER - PROVIDE HOT WATER

A1 SECOND FLOOR - SANITARY, VENTING AND STORM WATER PLAN

P-103 SCALE: 3/32" = 1'-0"

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SHEET TITLE

SECOND FLOOR SANITARY, VENTING AND STORM WATER PLAN

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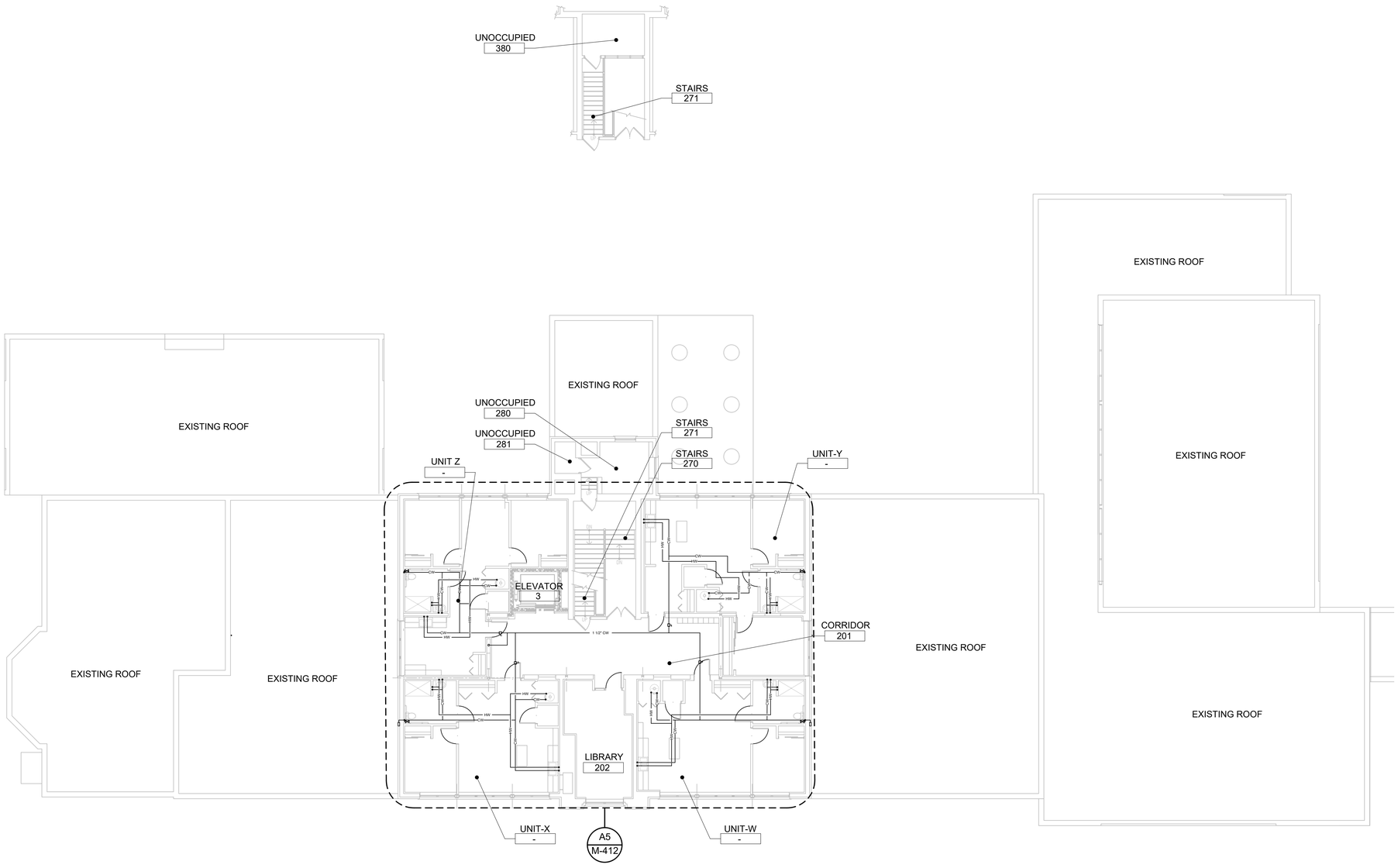

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
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7. HEAT PUMP HOT WATER, REFER TO MANUFACTURER DRAWINGS FOR PROPER VENTILATION REQUIREMENTS FOR DOOR CLEARANCES AND SPACE REQUIREMENTS. REFER TO PLUMBING DETAILS FOR HEAT PUMP WATER HEATER PIPING AND EQUIPMENT REQUIRED.
8. GARBAGE DISPOSAL, SEE PLUMBING SCHEDULE FOR SPECIFICATIONS AND INSTALL FOR MANUFACTURER REQUIREMENTS. TO BE CONTROLLED BY SWITCH LOCATED ABOVE COUNTER SEE ELECTRICAL.
9. ALL SANITARY LINES ARE BELOW FLOOR ELEVATION TO ALLOW FOR PROPER PITCH AND NEEDED FLOW. EXACT LOCATION OF TUNNEL AND BASEMENT ARE UNKNOWN AND SANITARY COULD BE IN BASEMENT OR TUNNEL. ROUTE IN A WAY TO MINIMIZE CORING. ALL VENTING AND WATER DISTRIBUTION ABOVE FINISH CEILING AS HIGH AS POSSIBLE WITHOUT INTERFERING WITH OTHER TRADES.
10. IF UNIT IS CONISDERED ADA SUBSTITUTE FIXTURES TO ADA TYPE. COORDINATE WITH ARCH DRAWINGS.
11. DISHWASHER - PROVIDE HOT WATER SUPPLY AND SHUT OFF FROM SINK SUPPLY. PROVIDE SANITARY TO GARBAGE DISPOSAL. COORDINATE LOCATION WITH ARCHITECTURAL.

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KEY PLANS

SHEET TITLE

SECOND FLOOR - PLUMBING PLAN

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SHEET NO. P-203

A1 SECOND FLOOR - PLUMBING PLAN

P-203 | 3/32" = 1'-0"

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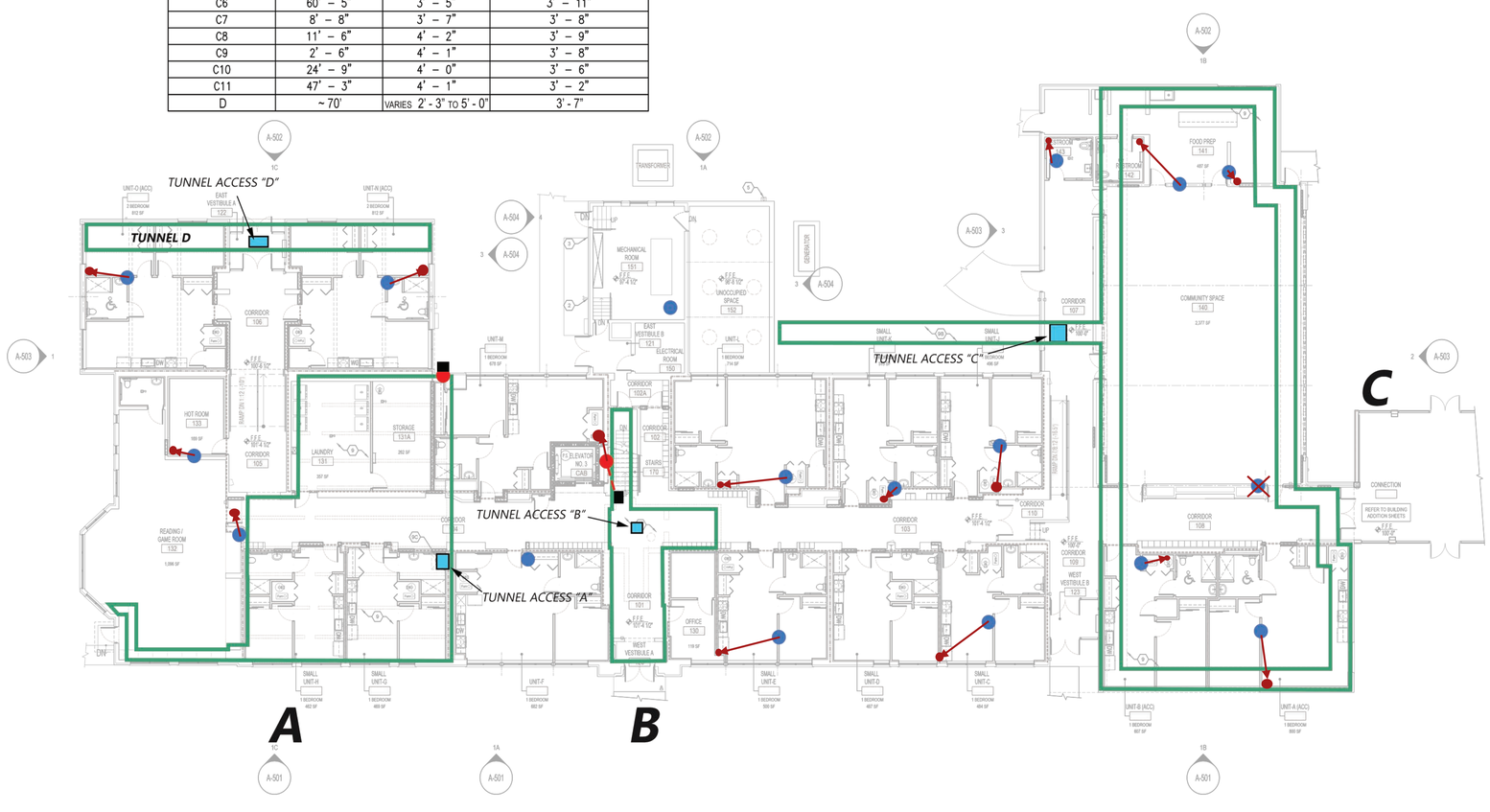
McDowell & Associates

JOB NUMBER: 24-16496

PASSIVE/ACTIVE RADON LOCATION MAP

TUNNEL DIMENSIONS			
LOCATION	LENGTH	WIDTH	HEIGHT
A1	31' – 8"	5'–0"	VARIES (2'–5" TO 3'–1")
A2	31' – 8"	5'–1"	VARIES (1'–11" TO 3'–1")
A3	31' – 8"	4' – 11"	VARIES (1'–11" TO 3'–1")
A4	31' – 8"	4'–9"	VARIES (1'11" TO 2'–11")
A5	42'–3"	5'–5"	VARIES (1'–11" TO 3'–2")
A6	42'–3"	5' – 6"	VARIES (1'–11" TO 3'–2")
A7	42'–3"	4' – 8"	VARIES (2'–0" TO 3'–1")
A8	42'–3"	6' – 1"	VARIES (1'–11" TO 3'–1")
A9	42'–3"	5' – 3"	VARIES (1'–11" TO 3'–5")
A10	65' – 11"	4' – 10"	VARIES (1'–11" TO 3'–8")
A11	9' – 3"	2' – 0"	3' – 9"
A12	3' – 8"	2' – 0"	3' – 9"
B1	22' – 8"	11' – 6"	VARIES
B2	11' – 3"	7' – 8"	8' – 8"
B3	10' – 0"	7' – 8"	8' – 8"
C1	68' – 5"	4' – 2"	3' – 7"
C2	116' – 5"	4' – 2"	3' – 7"
C3	31' – 8"	3' – 7"	3' – 7"
C4	19' – 9"	4' – 0"	3' – 9"
C5	4' – 4"	3' – 7"	3' – 6"
C6	60' – 5"	3' – 5"	3' – 11"
C7	8' – 8"	3' – 7"	3' – 8"
C8	11' – 6"	4' – 2"	3' – 9"
C9	2' – 6"	4' – 1"	3' – 8"
C10	24' – 9"	4' – 0"	3' – 6"
C11	47' – 3"	4' – 1"	3' – 2"
D	~ 70'	VARIES 2' - 3" TO 5' - 0"	3' - 7"



LEGEND

- *PASSIVE RADON VENT*
- *ACTIVE RADON VENT*
- *T-CONNECT TO TUNNEL "B"*
- *NEMA BOX WITH GAUGE*

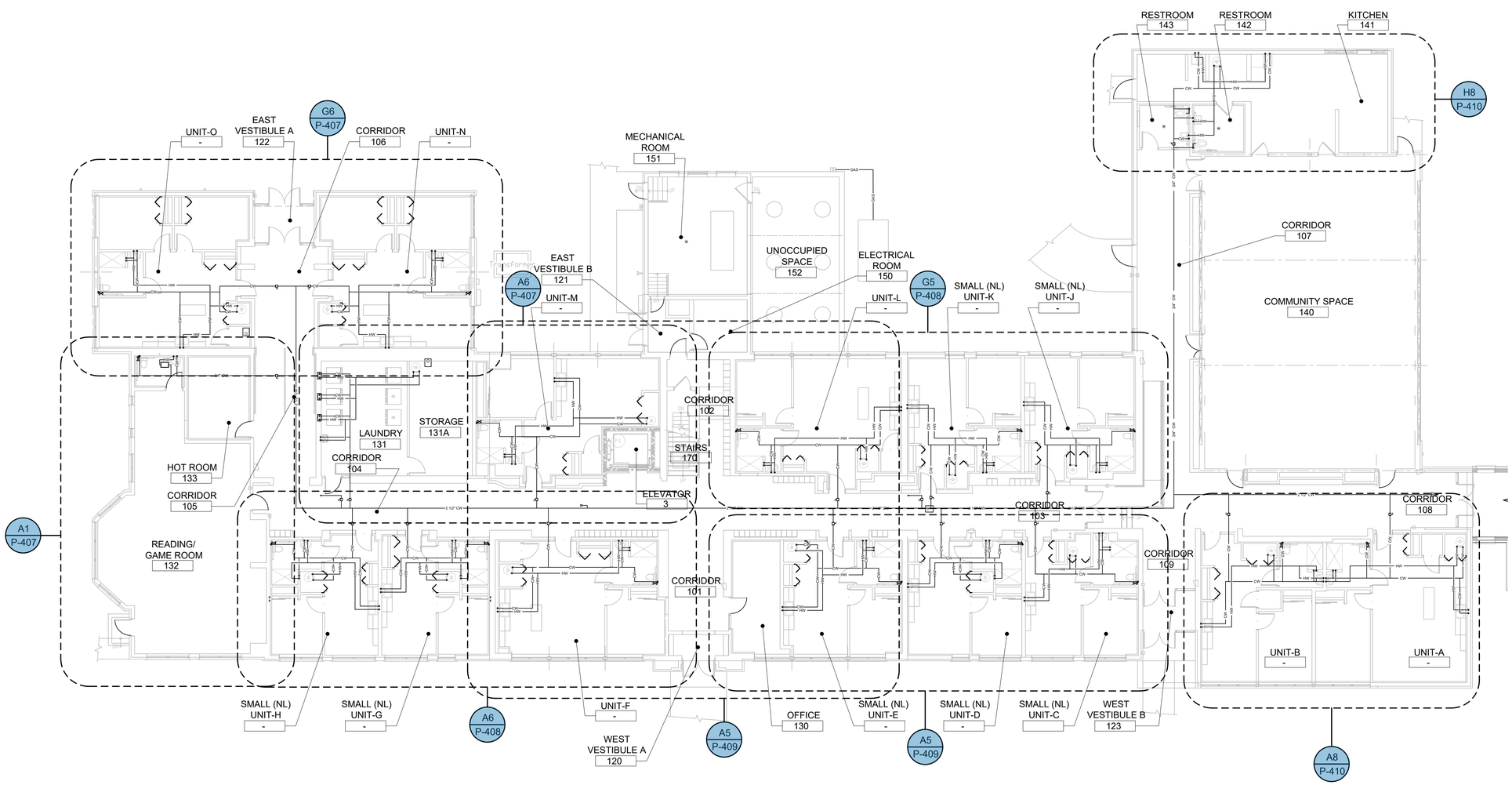
NOTES:

- *ALL LOCATIONS APPROXIMATE*
- *BASE DRAWING BY SDG ARCHITECTS & PLANNERS*
- *MPK 11/11/24*

N

1" = 30'

0 *30'*



GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
3. VENT UP AND DOWN
4. SANITARY UP AND DOWN AND PROVIDE VERTICAL CLEANOUT.
5. REFER TO TYPICAL APARTMENT WATER RISER DIAGRAM FOR PIPING ARRANGEMENT AND SIZES.
6. CONTRACTOR TO CONTACT MISS DIG PRIOR TO START OF ANY UNDERGROUND WORK, COORDINATE WORK WITH CIVIL PLANS.
7. HEAT PUMP HOT WATER, REFER TO MANUFACTURER DRAWINGS FOR PROPER VENTILATION REQUIREMENTS FOR DOOR CLEARANCES AND SPACE REQUIREMENTS. REFER TO PLUMBING DETAILS FOR HEAT PUMP WATER HEATER PIPING AND EQUIPMENT REQUIRED.
8. GARBAGE DISPOSAL, SEE PLUMBING SCHEDULE FOR SPECIFICATIONS AND INSTALL FOR MANUFACTURER REQUIREMENTS. TO BE CONTROLLED BY SWITCH LOCATED ABOVE COUNTER SEE ELECTRICAL.
9. ALL SANITARY LINES ARE BELOW FLOOR ELEVATION TO ALLOW FOR PROPER PITCH AND NEEDED FLOW. EXACT LOCATION OF TUNNEL AND BASEMENT ARE UNKNOWN AND SANITARY COULD BE IN BASEMENT OR TUNNEL. ROUTE IN A WAY TO MINIMIZE CORING. ALL VENTING AND WATER DISTRIBUTION ABOVE FINISH CEILING AS HIGH AS POSSIBLE WITHOUT INTERFERING WITH OTHER TRADES.
10. IF UNIT IS CONISDERED ADA SUBSTITUTE FIXTURES TO ADA TYPE. COORDINATE WITH ARCH DRAWINGS.
11. DISHWASHER - PROVIDE HOT WATER SUPPLY AND SHUT OFF FROM SINK SUPPLY. PROVIDE SANITARY TO GARBAGE DISPOSAL. COORDINATE LOCATION WITH ARCHITECTURAL.

A1 FIRST FLOOR - PLUMBING PLAN

P-201 | 3/32" = 1'-0"

John Grace Arms
21030 Indian St, Southfield MI 48033
Developed by
John Grace Arms LDHA LLC

SDG
Architects + Planners
607 Shelby Street
Suite 704
Detroit, MI 48226
Tel: 313-961-9000
Fax: 313-964-3233

A & A Engineering & Consulting
28062 Vista Way, South Lyon, MI 48178

REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
NO. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE
FIRST FLOOR PLUMBING PLAN

SCALE: AS NOTED

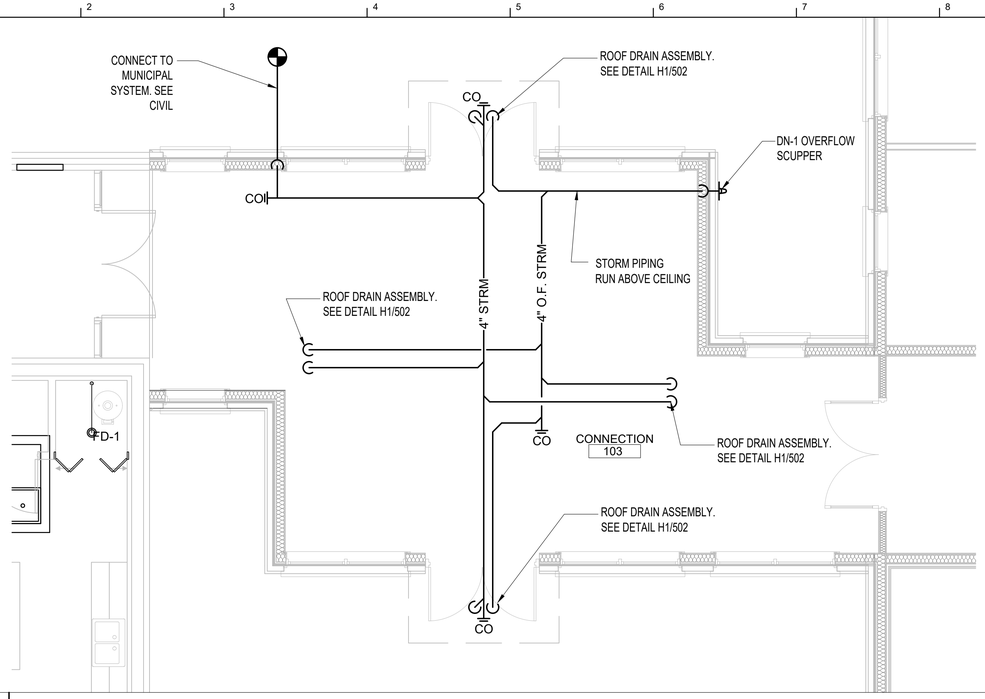
ISSUED FOR	DATE
PERMIT	10.20.24

DRAWN BY
CHECKED
APPROVED

FILE NO. 21026.00

SHEET NO. P-201

12/19/2024 6:28:09 PM



G1 CONNECTION 103 - STORM WATER PLAN

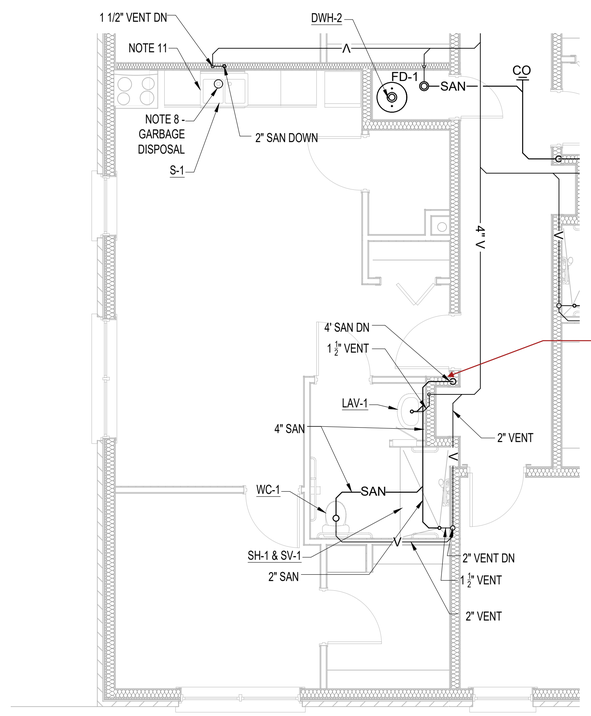
P-402 | 1/4" = 1'-0"

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

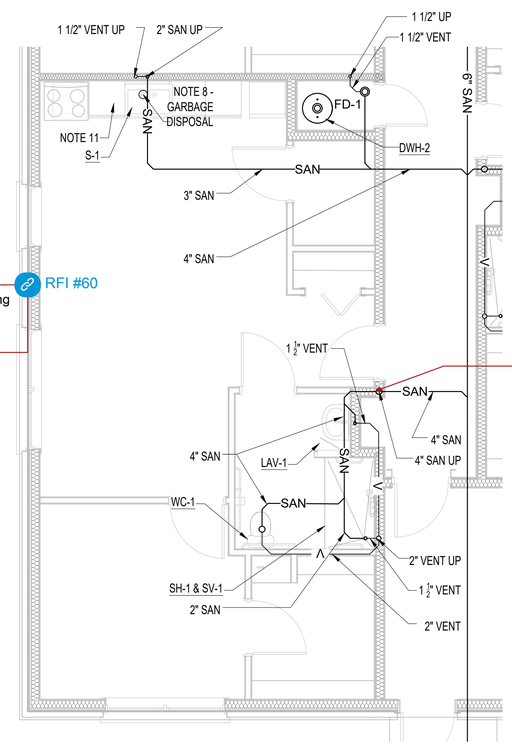
PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
3. VENT UP AND DOWN
4. SANITARY UP AND DOWN AND PROVIDE VERTICAL CLEANOUT.
5. REFER TO TYPICAL APARTMENT WATER RISER DIAGRAM FOR PIPING ARRANGEMENT AND SIZES.
6. CONTRACTOR TO CONTACT MISS DIG PRIOR TO START OF ANY UNDERGROUND WORK, COORDINATE WORK WITH CIVIL PLANS.
7. HEAT PUMP HOT WATER, REFER TO MANUFACTURER DRAWINGS FOR PROPER VENTILATION REQUIREMENTS FOR DOOR CLEARANCES AND SPACE REQUIREMENTS. REFER TO PLUMBING DETAILS FOR HEAT PUMP WATER HEATER PIPING AND EQUIPMENT REQUIRED.
8. GARBAGE DISPOSAL, SEE PLUMBING SCHEDULE FOR SPECIFICATIONS AND INSTALL FOR MANUFACTURER REQUIREMENTS. TO BE CONTROLLED BY SWITCH LOCATED ABOVE COUNTER SEE ELECTRICAL.
9. ALL SANITARY LINES ARE BELOW FLOOR ELEVATION TO ALLOW FOR PROPER PITCH AND NEEDED FLOW. EXACT LOCATION OF TUNNEL AND BASEMENT ARE UNKNOWN AND SANITARY COULD BE IN BASEMENT OR TUNNEL. ROUTE IN A WAY TO MINIMIZE CORING. ALL VENTING AND WATER DISTRIBUTION ABOVE FINISH CEILING AS HIGH AS POSSIBLE WITHOUT INTERFERING WITH OTHER TRADES.
10. IF UNIT IS CONISDERED ADA SUBSTITUTE FIXTURES TO ADA TYPE. COORDINATE WITH ARCH DRAWINGS.
11. DISHWASHER - PROVIDE HOT WATER SUPPLY AND SHUT OFF FROM SINK SUPPLY. PROVIDE SANITARY TO GARBAGE DISPOSAL. COORDINATE LOCATION WITH ARCHITECTURAL.



A1 1B UNIT A - 2ND FLR SANITARY/VENTING PLAN

P-402 | 1/4" = 1'-0"



RFI #60

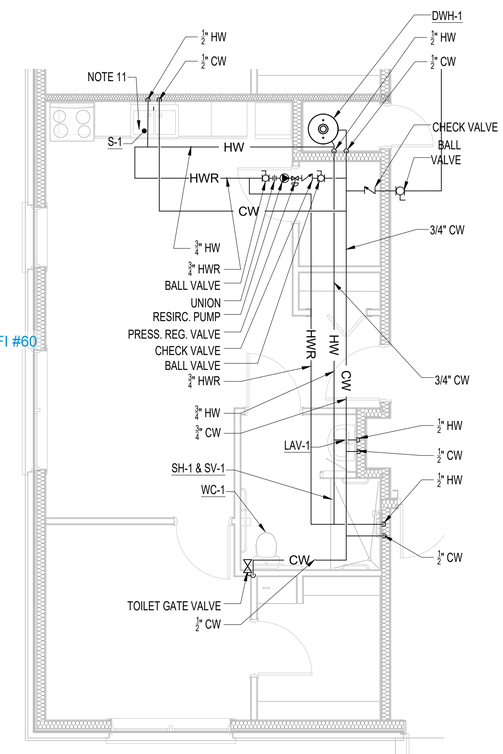
This clean out will be moving to an adjacent interior wall

RFI #60

This clean out will be moving to an adjacent interior wall

A6 1B UNIT A - 1ST FLR SANITARY/VENTING PLAN

P-402 | 1/4" = 1'-0"



A12 1B UNIT A - PLUMBING PLAN

P-402 | 1/4" = 1'-0"

John Grace Arms
21030 Indian St, Southfield MI 48033
Developed by
John Grace Arms LDHA LLC

SDG Architects + Planners
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28062 Vista Way, South Lyon, MI 48178

REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
NO. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE

ENLARGED PLUMBING PLANS

SCALE: AS NOTED

ISSUED FOR	DATE
PERMIT	10.20.24

DRAWN BY

CHECKED

APPROVED

FILE NO. 21026.00

SHEET NO. P-402

12/19/2024 6:26:25 PM

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
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4. SANITARY UP AND DOWN AND PROVIDE VERTICAL CLEANOUT.
5. REFER TO TYPICAL APARTMENT WATER RISER DIAGRAM FOR PIPING ARRANGEMENT AND SIZES.
6. CONTRACTOR TO CONTACT MISS DIG PRIOR TO START OF ANY UNDERGROUND WORK, COORDINATE WORK WITH CIVIL PLANS.
7. HEAT PUMP HOT WATER, REFER TO MANUFACTURER DRAWINGS FOR PROPER VENTILATION REQUIREMENTS FOR DOOR CLEARANCES AND SPACE REQUIREMENTS. REFER TO PLUMBING DETAILS FOR HEAT PUMP WATER HEATER PIPING AND EQUIPMENT REQUIRED.
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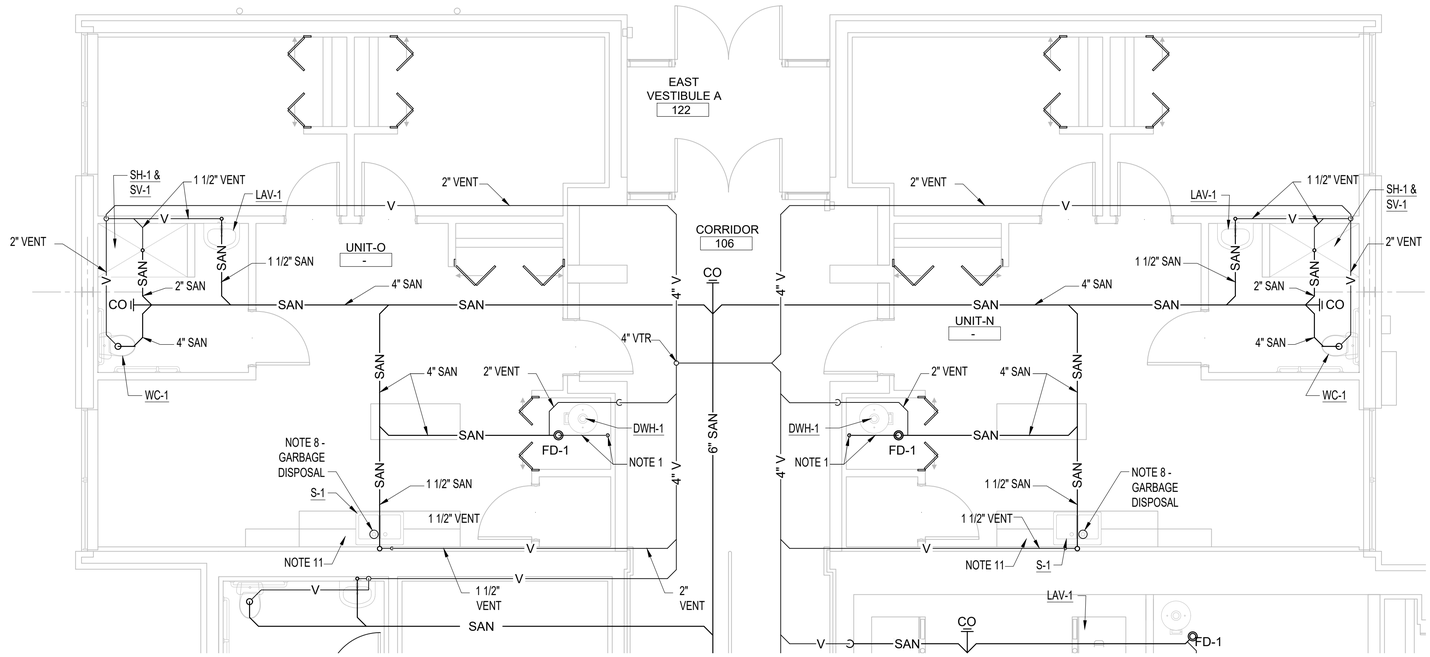
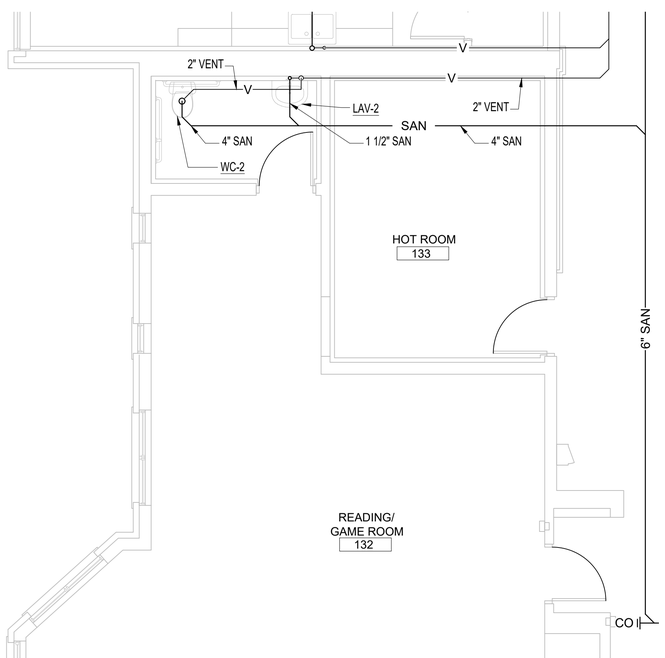
10. IF UNIT IS CONISDERED ADA SUBSTITUTE FIXTURES TO ADA TYPE. COORDINATE WITH ARCH DRAWINGS.
11. DISHWASHER - PROVIDE HOT WATER SUPPLY AND SHUT OFF FROM SINK SUPPLY. PROVIDE SANITARY TO GARBAGE DISPOSAL. COORDINATE LOCATION WITH ARCHITECTURAL.
12. SUB BASEMENT, WHICH IS LOCATION OF ELEVATOR PIT WAS NOT SAFETY ACCESSIBLE AT TIME OF DESIGN AND CANNOT FIELD VERIFY EXISTING CONDITIONS AT SUMP OR DRAWING TILE SYSTEM. IN ADDITION EXISTING STORM SYSTEM CANNOT BE FIELD VERIFIED AT TIME OF DESIGN DUE TO SAFE ACCESS NOT AVAILABLE. △

1. SEE PLUMBING SHEET NOTES AND SHEET KEYED NOTES ON P-001



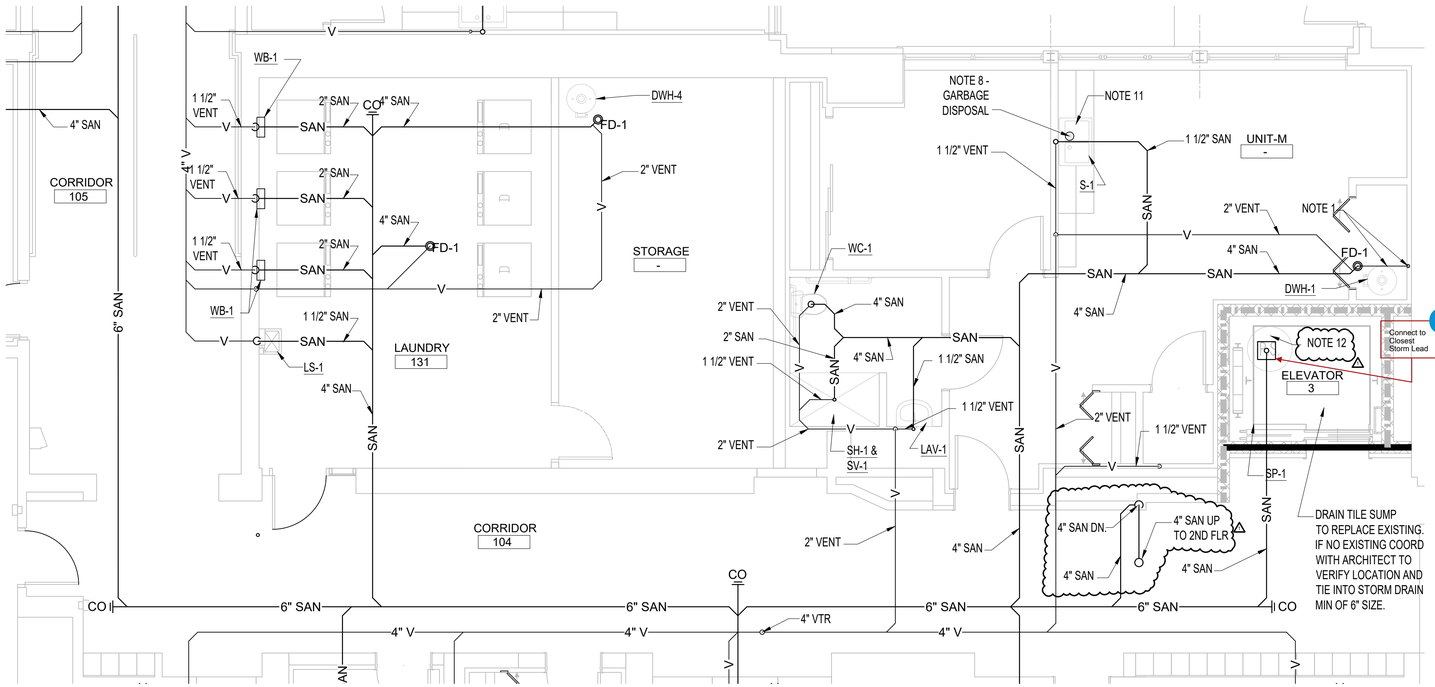
G6 ENLARGED PLUMBING PLANS

P-403 1/4" = 1'-0"



A1 ENLARGED PLUMBING PLANS

P-403 1/4" = 1'-0"



A6 ENLARGED PLUMBING PLANS

P-403 1/4" = 1'-0"

John Grace Arms
21030 Indian St, Southfield MI 48033
Developed by
John Grace Arms LDHA LLC

SDG Architects + Planners
607 Shelby Street
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Detroit, MI 48226
Tel: 313-961-9000
Fax: 313-964-3233

A & A Engineering & Consulting
28862 Vista Way, South Lyon, MI 48178

REGISTRATION SEAL

STATE OF MICHIGAN
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ENGINEER
No. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE

ENLARGED PLUMBING PLANS

RFI #14

SCALE: AS NOTED

ISSUED FOR	DATE
PERMIT	10.20.24
△BULLETIN 3	5.19.25

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FILE NO. 21026.00

SHEET NO. P-403

5/19/2025 5:34:20 AM

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
3. VENT UP AND DOWN
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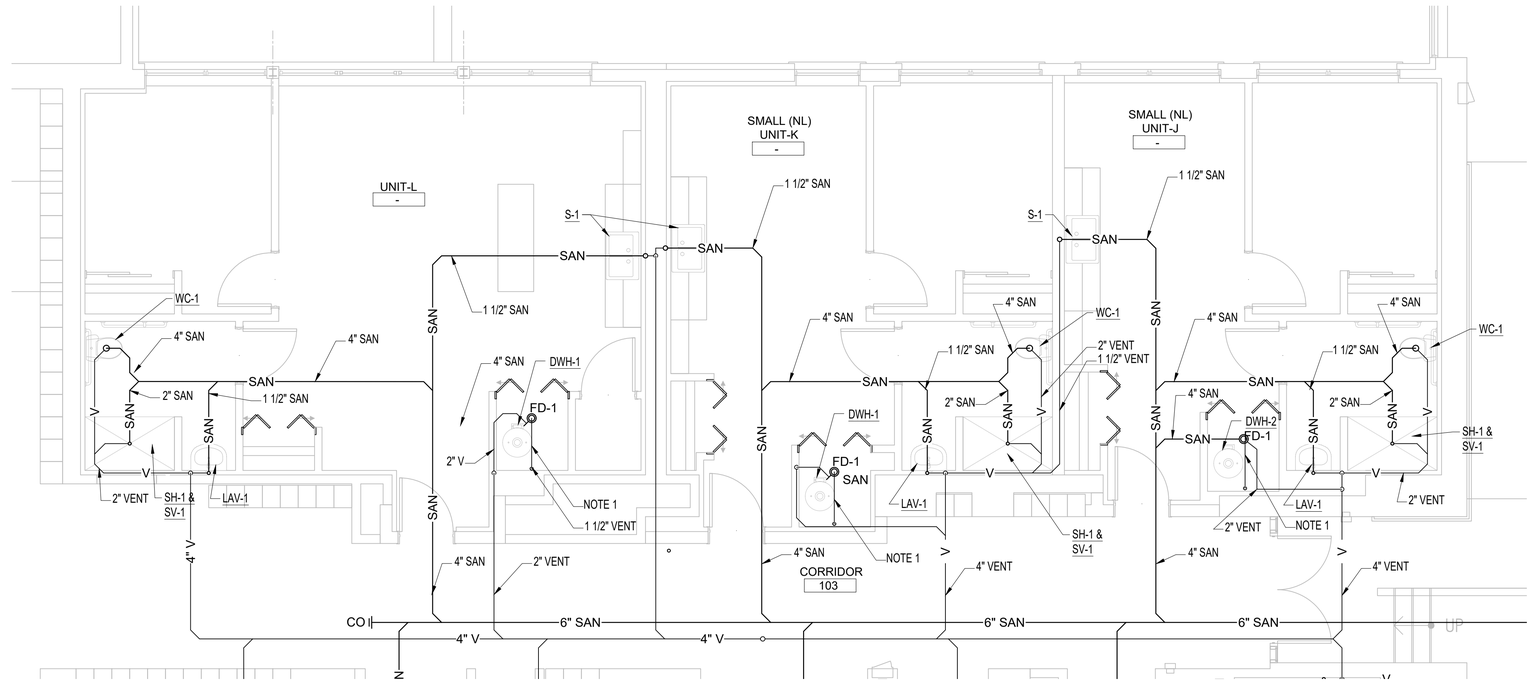
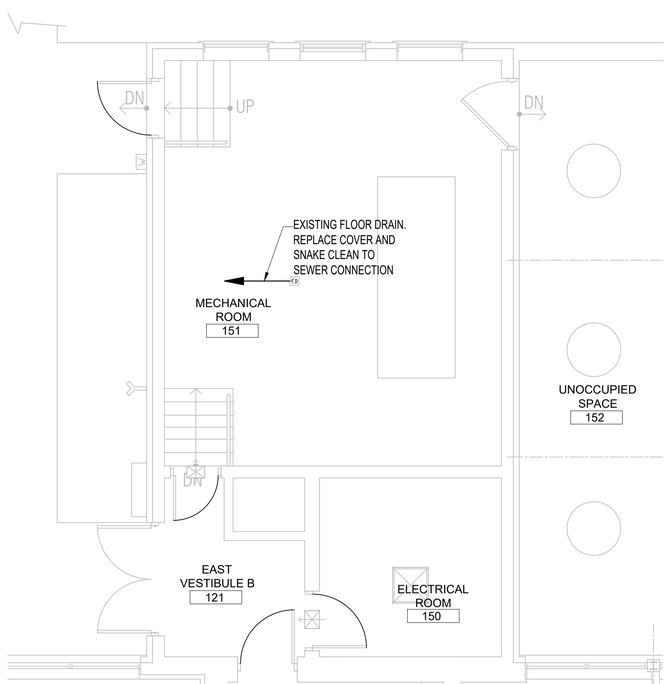
1. SEE PLUMBING SHEET NOTES AND SHEET KEYED NOTES ON P-001



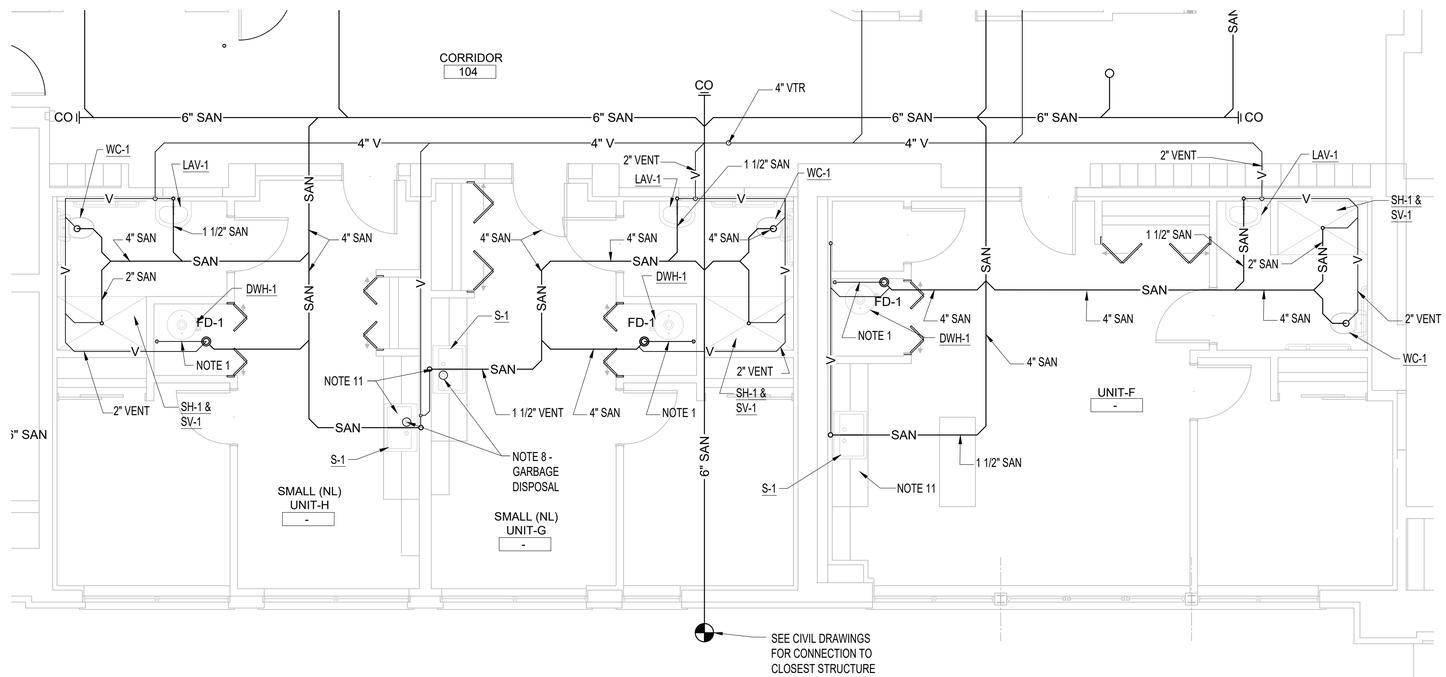
G5 ENLARGED PLUMBING PLANS

P-404 1/4" = 1'-0"



A1 ENLARGED PLUMBINGPLANS

P-404 1/4" = 1'-0"



A6 ENLARGED PLUMBING PLANS

P-404 1/4" = 1'-0"

John Grace Arms
21030 Indian St, Southfield MI 48033
Developed by
John Grace Arms LDHA LLC

SDG Architects + Planners
607 Shelby Street
Suite 704
Detroit, MI 48226
Tel: 313-961-9000
Fax: 313-964-3233

A & A Engineering & Consulting
28062 Vista Way, South Lyon, MI 48178

REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
No. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE

SCALE: AS NOTED

ISSUED FOR	DATE
PERMIT	10.20.24

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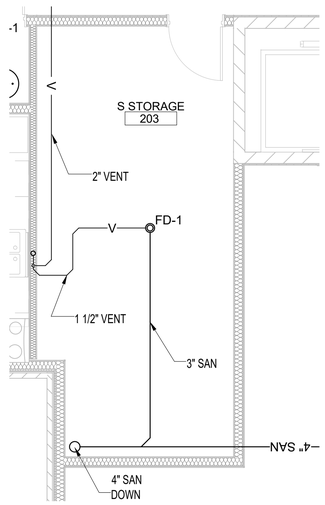
APPROVED

FILE NO. 21026.00

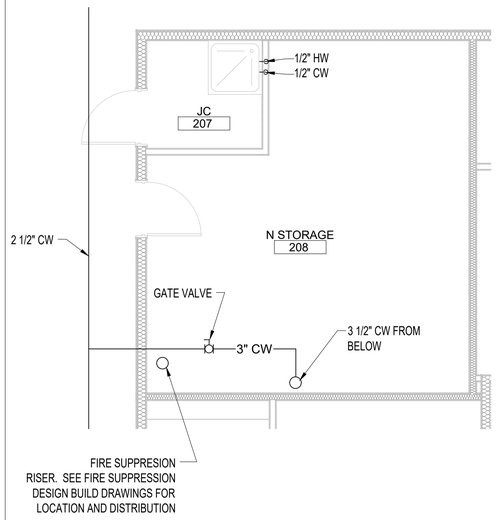
SHEET NO. P-404

12/19/2024 6:25:42 PM



G1 | ENLARGED PLUMBING PLANS

P-405 | 1/4" = 1'-0"



G4 | ENLARGED PLUMBING PLANS

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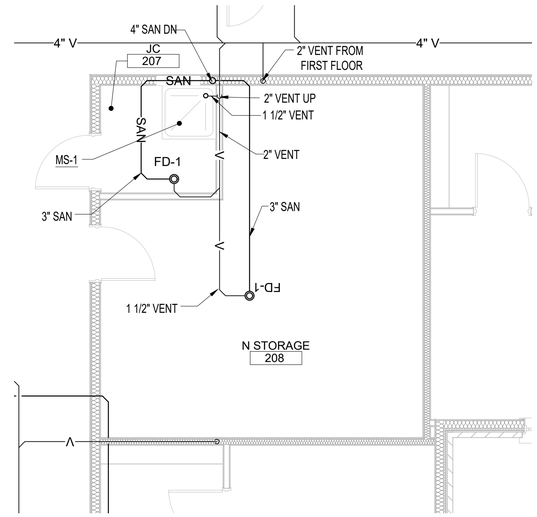

G9 | ENLARGED PLUMBING PLANS

P-405 | 1/4" = 1'-0"

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
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6. CONTRACTOR TO CONTACT MISS DIG PRIOR TO START OF ANY UNDERGROUND WORK, COORDINATE WORK WITH CIVIL PLANS.
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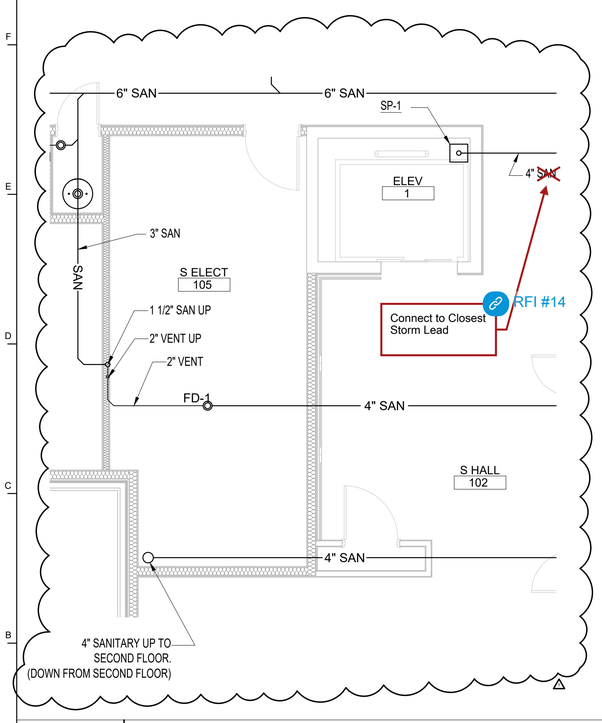
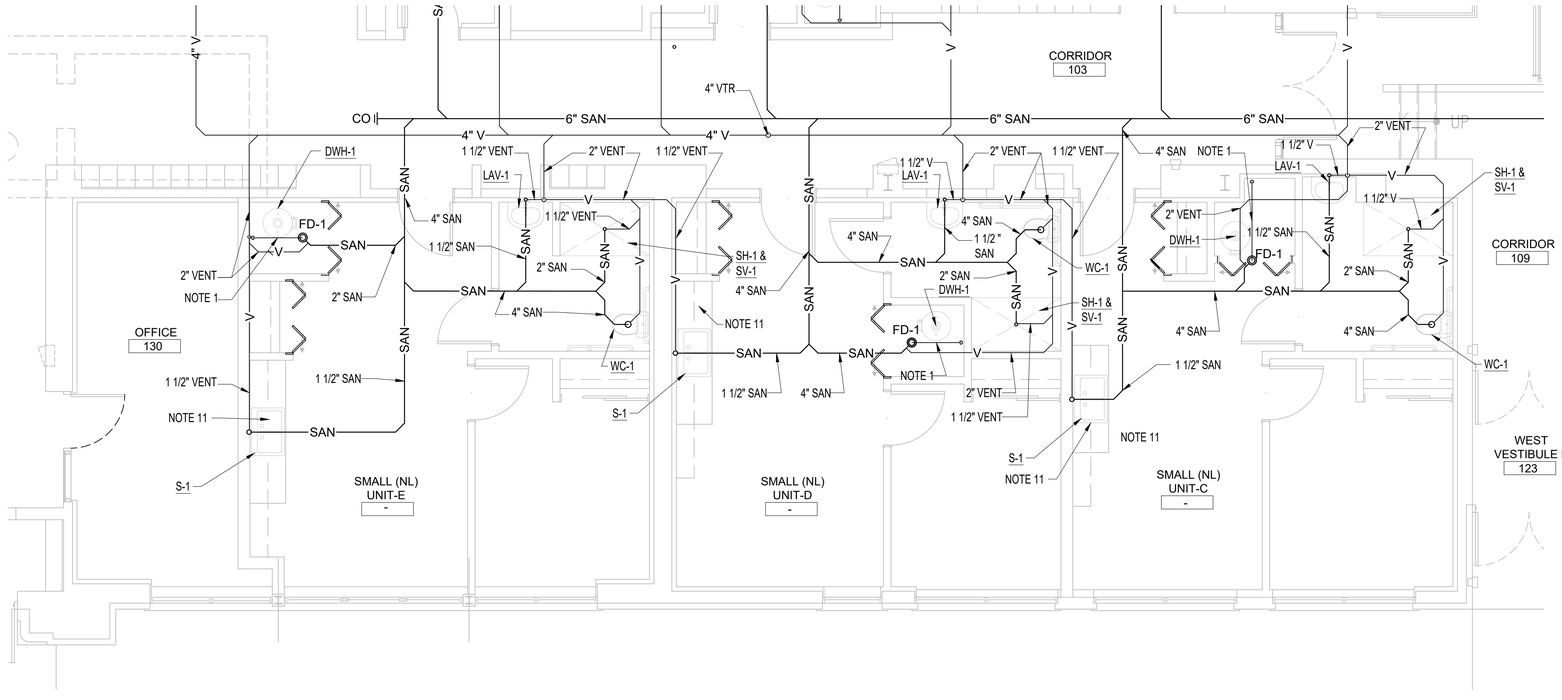


A1 | ENLARGED PLUMBING PLANS

P-405 | 1/4" = 1'-0"



A5 | ENLARGED PLUMBING PLANS

P-405 | 1/4" = 1'-0"

John Grace Arms
21030 Indian St, Southfield MI 48033
Developed by
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SDG
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REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
NO. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE
ENLARGED PLUMBING PLANS

SCALE: AS NOTED

ISSUED FOR	DATE
PERMIT	10.20.24
△BULLETIN 1	2.19.25

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FILE NO. 21026.00

SHEET NO. P-405

2/18/2025 4:10:00 PM

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
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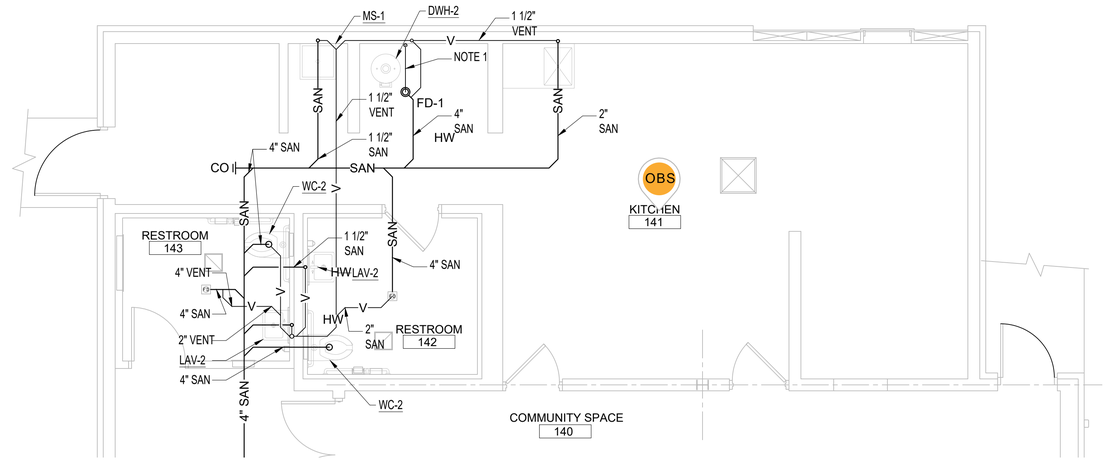
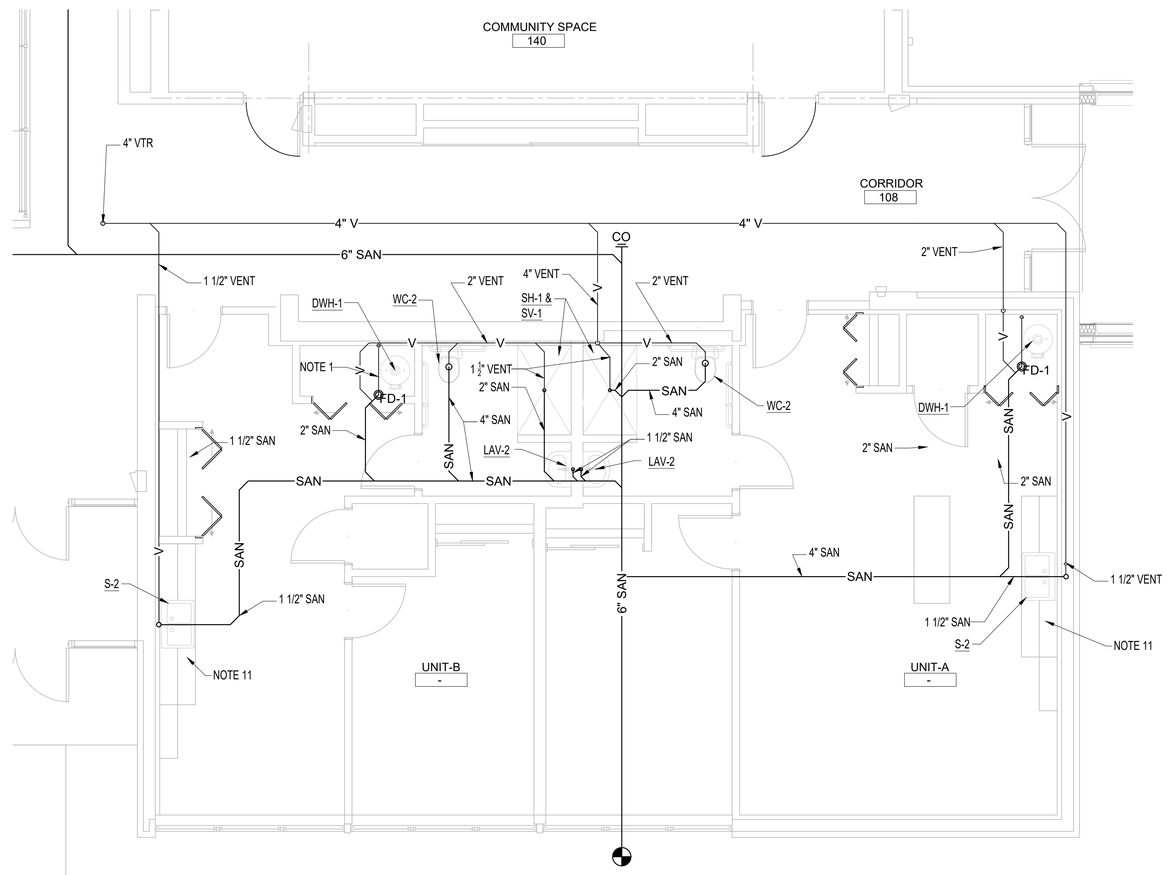


H8 ENLARGED PLUMBING PLANS

P-406 | 1/4" = 1'-0"



A5 ENLARGED PLUMBING PLANS

P-406 | 1/4" = 1'-0"

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REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
No. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE
ENLARGED PLUMBING PLANS

SCALE: AS NOTED

ISSUED FOR	DATE
PERMIT	10.20.24

DRAWN BY

CHECKED

APPROVED

21026.00
FILE NO.

P-406
SHEET NO.

12/19/2024 6:24:50 PM

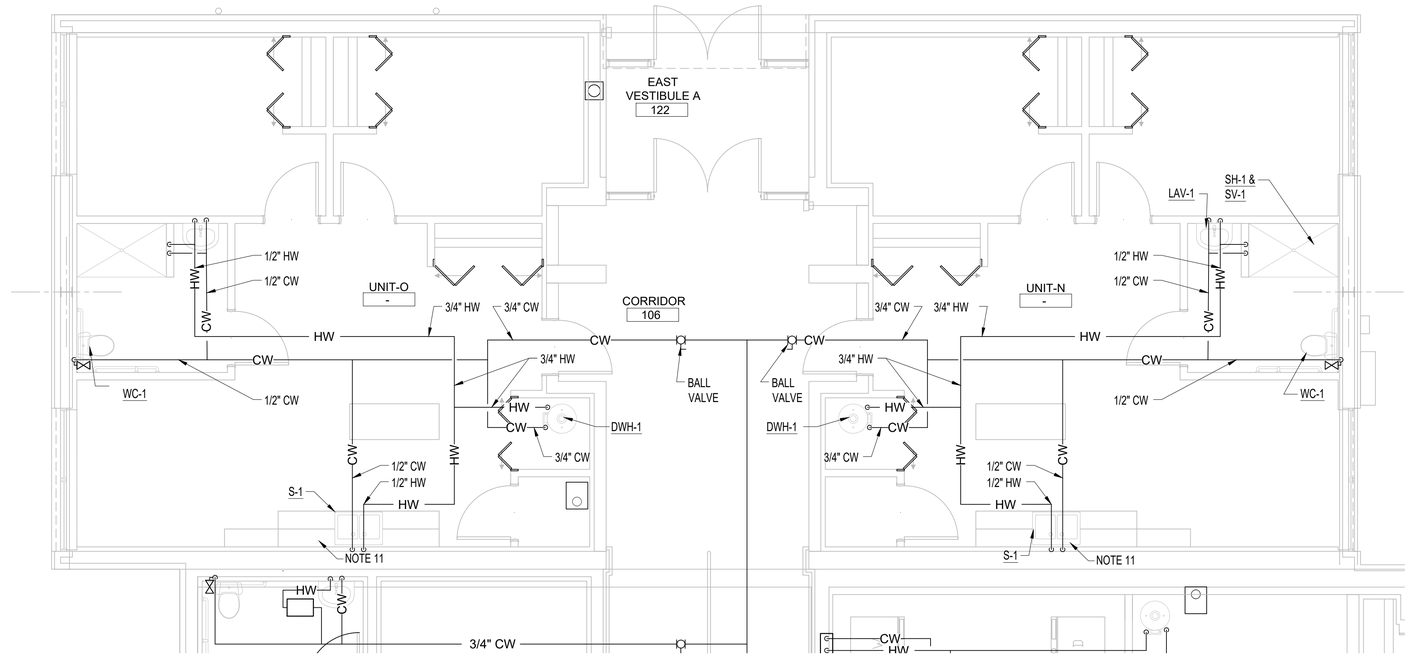
GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

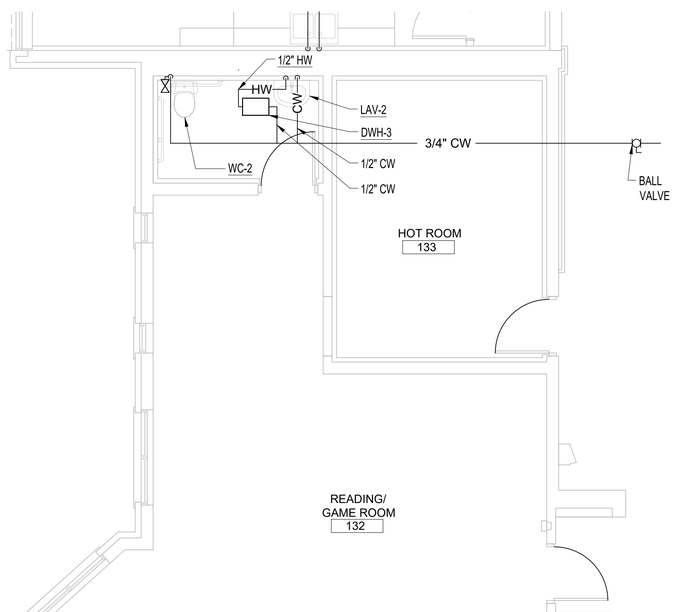
1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
3. VENT UP AND DOWN
4. SANITARY UP AND DOWN AND PROVIDE VERTICAL CLEANOUT.
5. REFER TO TYPICAL APARTMENT WATER RISER DIAGRAM FOR PIPING ARRANGEMENT AND SIZES.
6. CONTRACTOR TO CONTACT MISS DIG PRIOR TO START OF ANY UNDERGROUND WORK, COORDINATE WORK WITH CIVIL PLANS.
7. HEAT PUMP HOT WATER, REFER TO MANUFACTURER DRAWINGS FOR PROPER VENTILATION REQUIREMENTS FOR DOOR CLEARANCES AND SPACE REQUIREMENTS. REFER TO PLUMBING DETAILS FOR HEAT PUMP WATER HEATER PIPING AND EQUIPMENT REQUIRED.
8. GARBAGE DISPOSAL, SEE PLUMBING SCHEDULE FOR SPECIFICATIONS AND INSTALL FOR MANUFACTURER REQUIREMENTS. TO BE CONTROLLED BY SWITCH LOCATED ABOVE COUNTER SEE ELECTRICAL.
9. ALL SANITARY LINES ARE BELOW FLOOR ELEVATION TO ALLOW FOR PROPER PITCH AND NEEDED FLOW. EXACT LOCATION OF TUNNEL AND BASEMENT ARE UNKNOWN AND SANITARY COULD BE IN BASEMENT OR TUNNEL. ROUTE IN A WAY TO MINIMIZE CORING. ALL VENTING AND WATER DISTRIBUTION ABOVE FINISH CEILING AS HIGH AS POSSIBLE WITHOUT INTERFERING WITH OTHER TRADES.
10. IF UNIT IS CONISDERED ADA SUBSTITUTE FIXTURES TO ADA TYPE. COORDINATE WITH ARCH DRAWINGS.
11. DISHWASHER - PROVIDE HOT WATER SUPPLY AND SHUT OFF FROM SINK SUPPLY. PROVIDE SANITARY TO GARBAGE DISPOSAL. COORDINATE LOCATION WITH ARCHITECTURAL.

1. SEE PLUMBING SHEET NOTES AND SHEET KEYED NOTES ON P-001



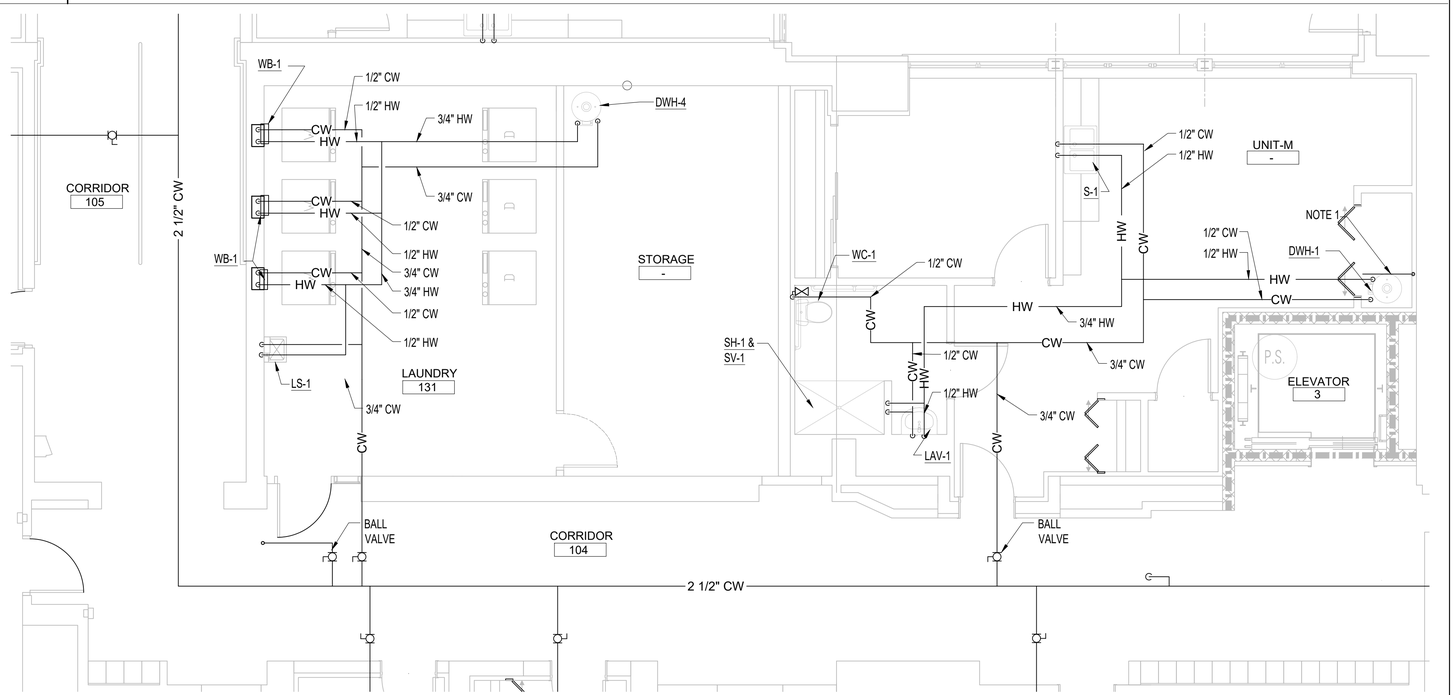
G6 ENLARGED PLUMBING PLANS

P-407 1/4" = 1'-0"



A1 ENLARGED PLUMBING PLANS

P-407 1/4" = 1'-0"



A6 ENLARGED PLUMBING PLANS

P-407 1/4" = 1'-0"

John Grace Arms
21030 Indian St, Southfield MI 48033
Developed by
John Grace Arms LDHA LLC

SDG Architects + Planners
607 Shelby Street
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Detroit, MI 48226
Tel: 313-961-9000
Fax: 313-964-3233

A & A Engineering & Consulting
28062 Vista Way, South Lyon, MI 48178

REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
NO. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE
ENLARGED PLUMBING PLANS

SCALE: AS NOTED

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SHEET NO. P-407

12/19/2024 6:24:29 PM

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

1. EXTEND CONDENSATE DRAIN TO NEAREST FLOOR DRAIN IN WATER HEATER ROOM.
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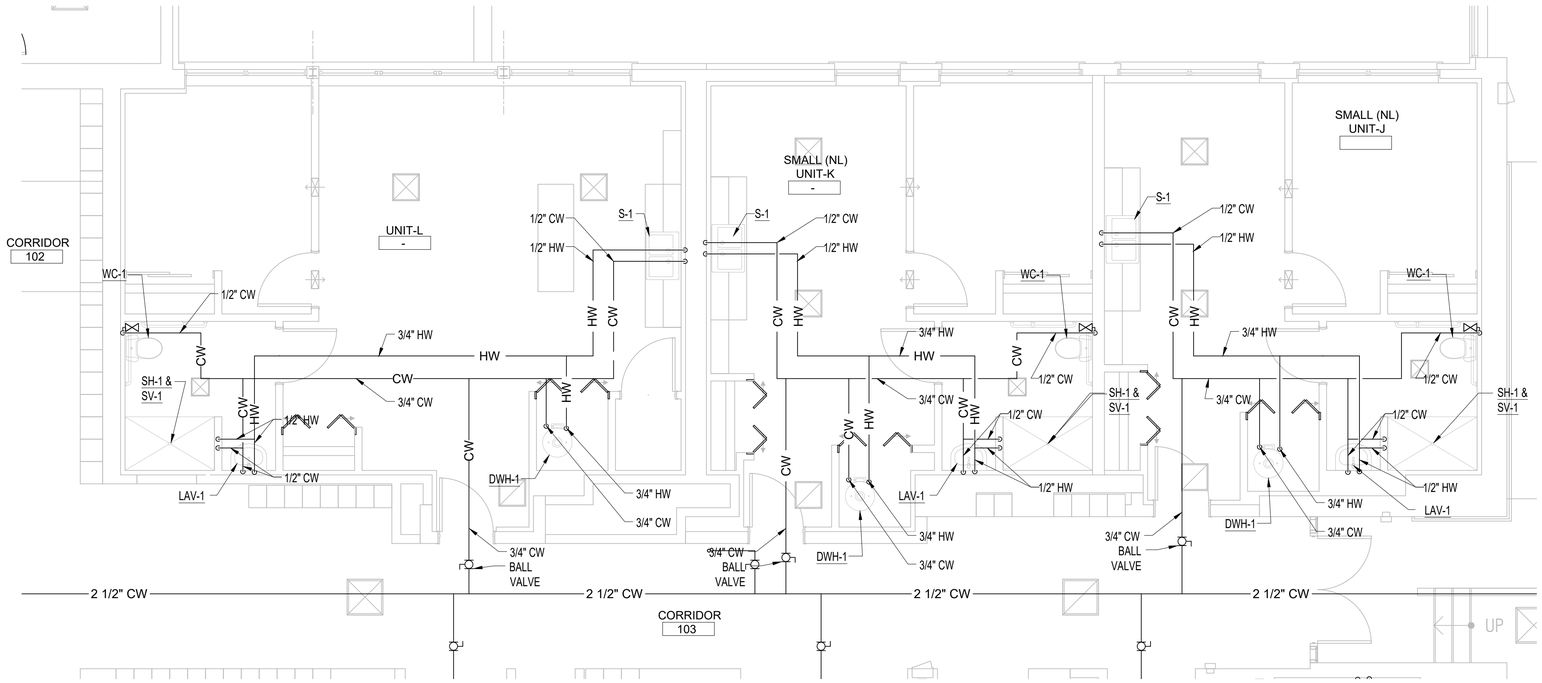
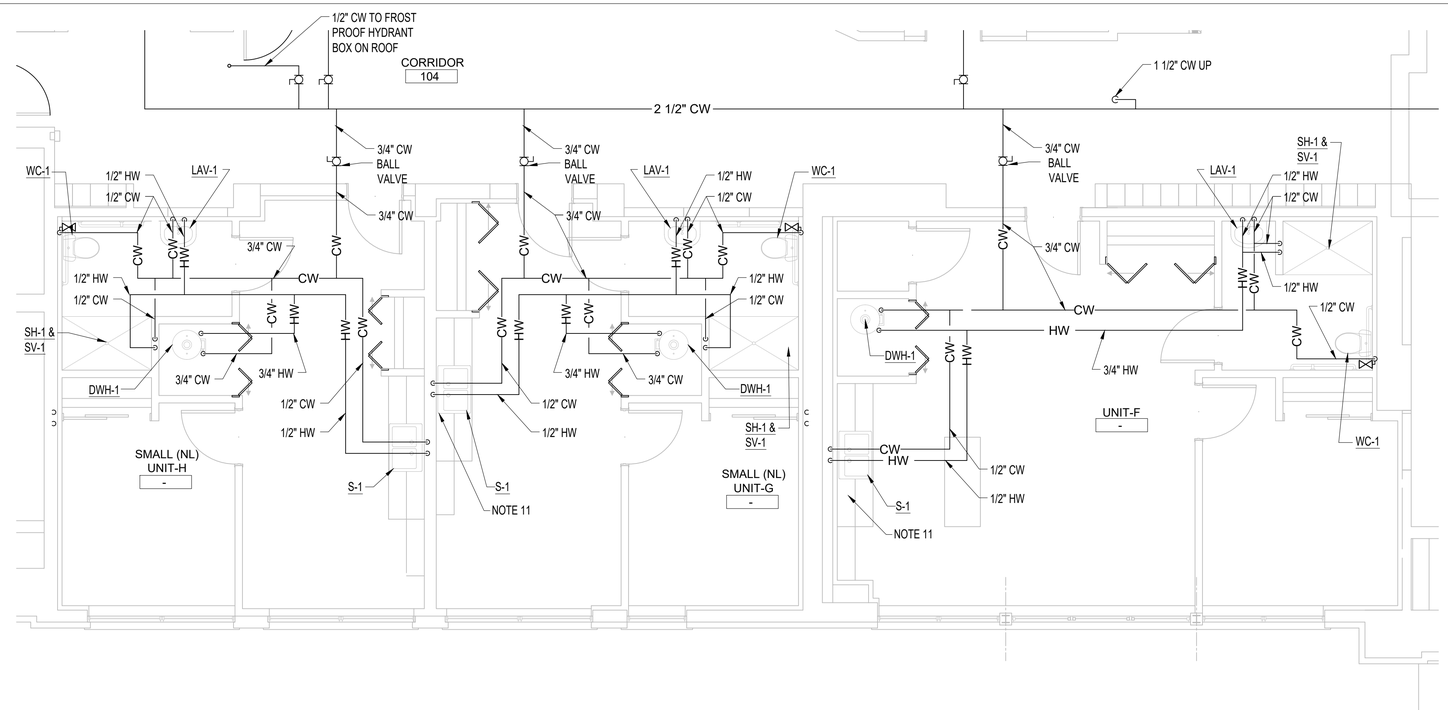
10. IF UNIT IS CONISDERED ADA SUBSTITUTE FIXTURES TO ADA TYPE. COORDINATE WITH ARCH DRAWINGS.
11. DISHWASHER - PROVIDE HOT WATER SUPPLY AND SHUT OFF FROM SINK SUPPLY. PROVIDE SANITARY TO GARBAGE DISPOSAL. COORDINATE LOCATION WITH ARCHITECTURAL.



G5 ENLARGED PLUMBING PLANS

P-408 1/4" = 1'-0"



A6 ENLARGED PLUMBING PLANS

P-408 1/4" = 1'-0"

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21030 Indian St, Southfield MI 48033
Developed by
John Grace Arms LDHA LLC

SDG
Architects + Planners
607 Shelby Street
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REGISTRATION SEAL

STATE OF MICHIGAN
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LICENSED PROFESSIONAL ENGINEER

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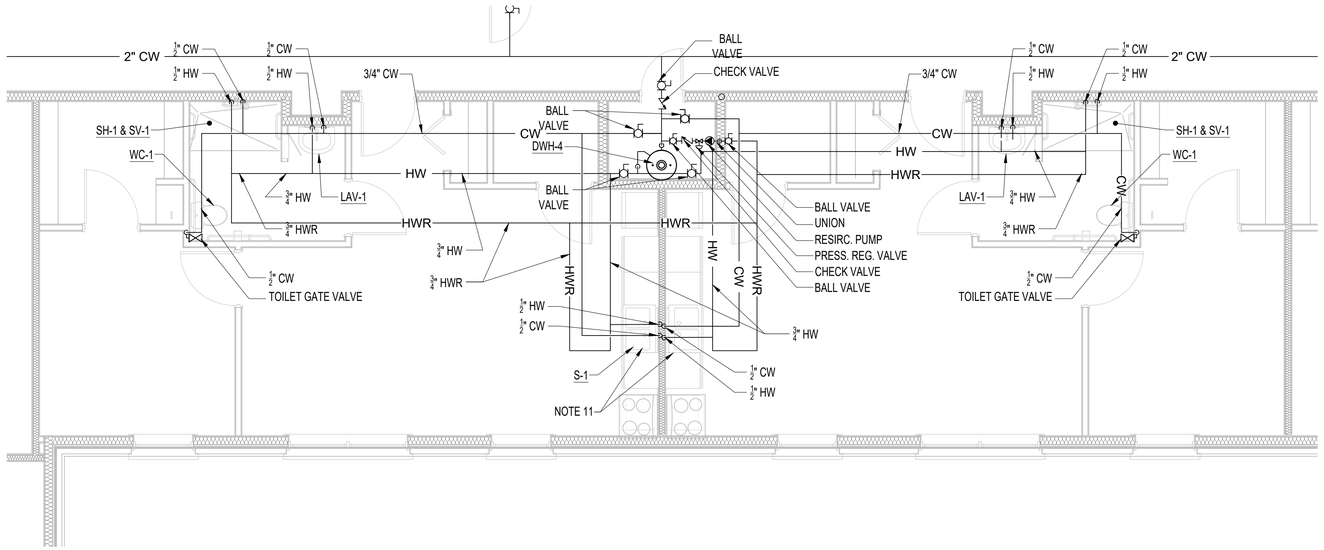

G5 ENLARGED PLUMBING PLANS

P-409 1/4" = 1'-0"

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

PLUMBING SHEET KEYED NOTES:

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2. EXISTING NATURAL GAS METER AND REGULATOR BY UTILITY COMPANY. VERIFY EXISTING REGULATOR PRESSURE AND COORDINATE TO ENSURE PROPER PRESSURE IS PROVIDE FOR SERVICE TO NATURAL GAS GENERATOR.
3. VENT UP AND DOWN
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5. REFER TO TYPICAL APARTMENT WATER RISER DIAGRAM FOR PIPING ARRANGEMENT AND SIZES.
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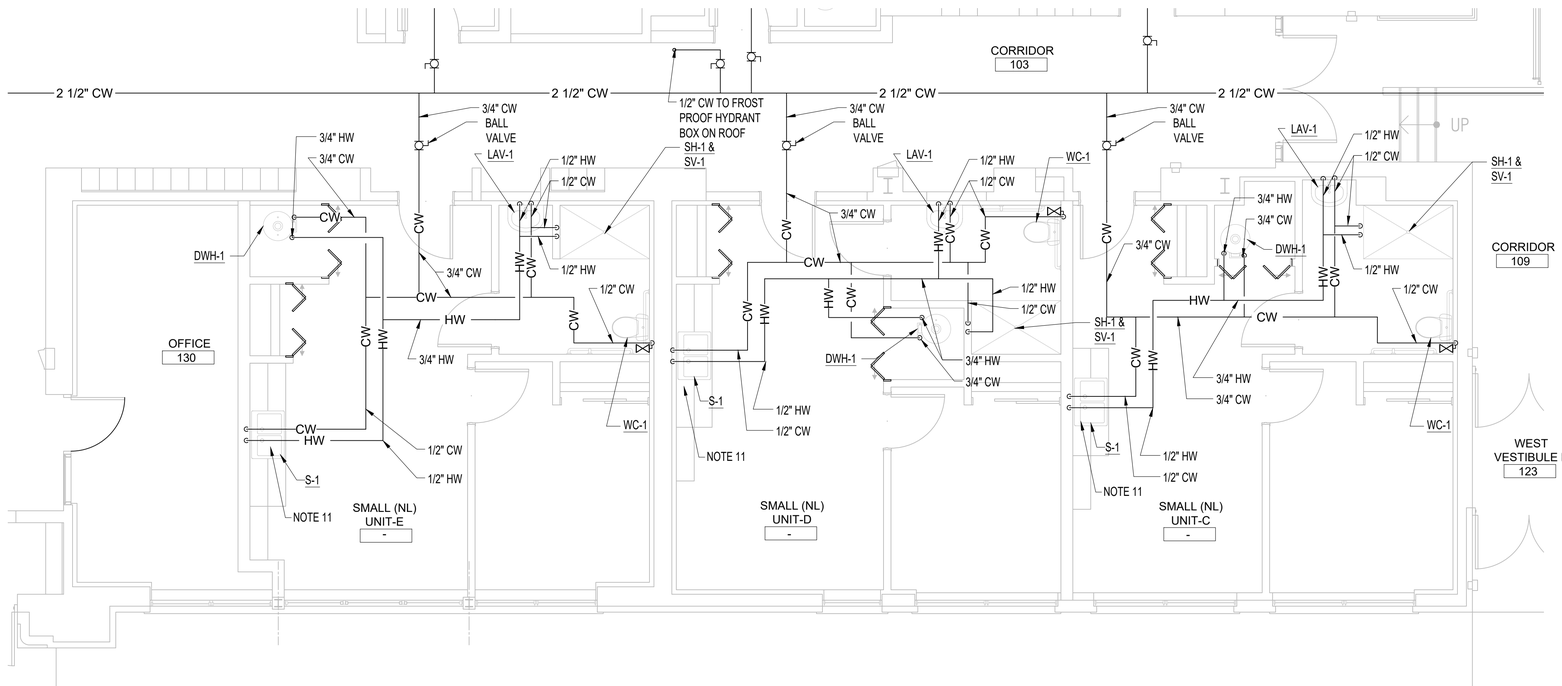

A5 ENLARGED PLUMBING PLANS

P-409 1/4" = 1'-0"

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12/19/2024 6:24:00 PM

GENERAL

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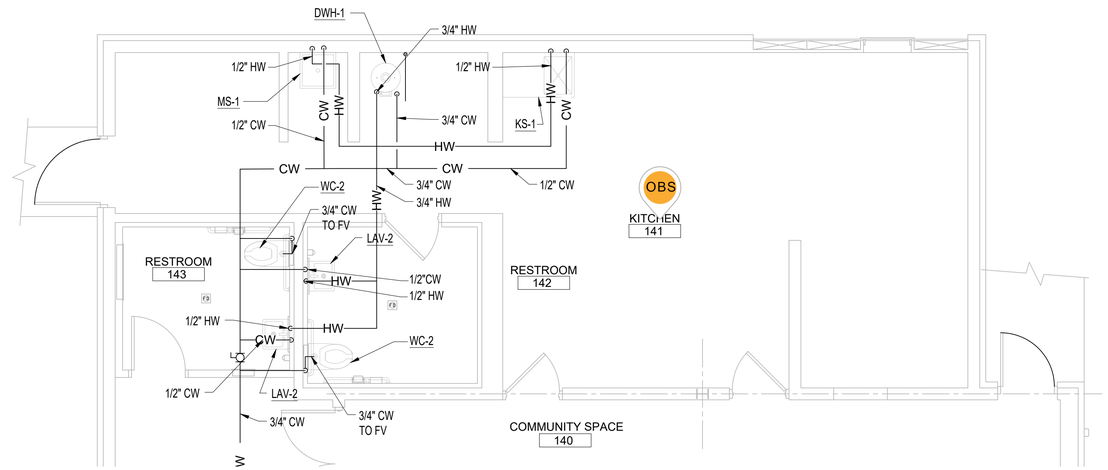
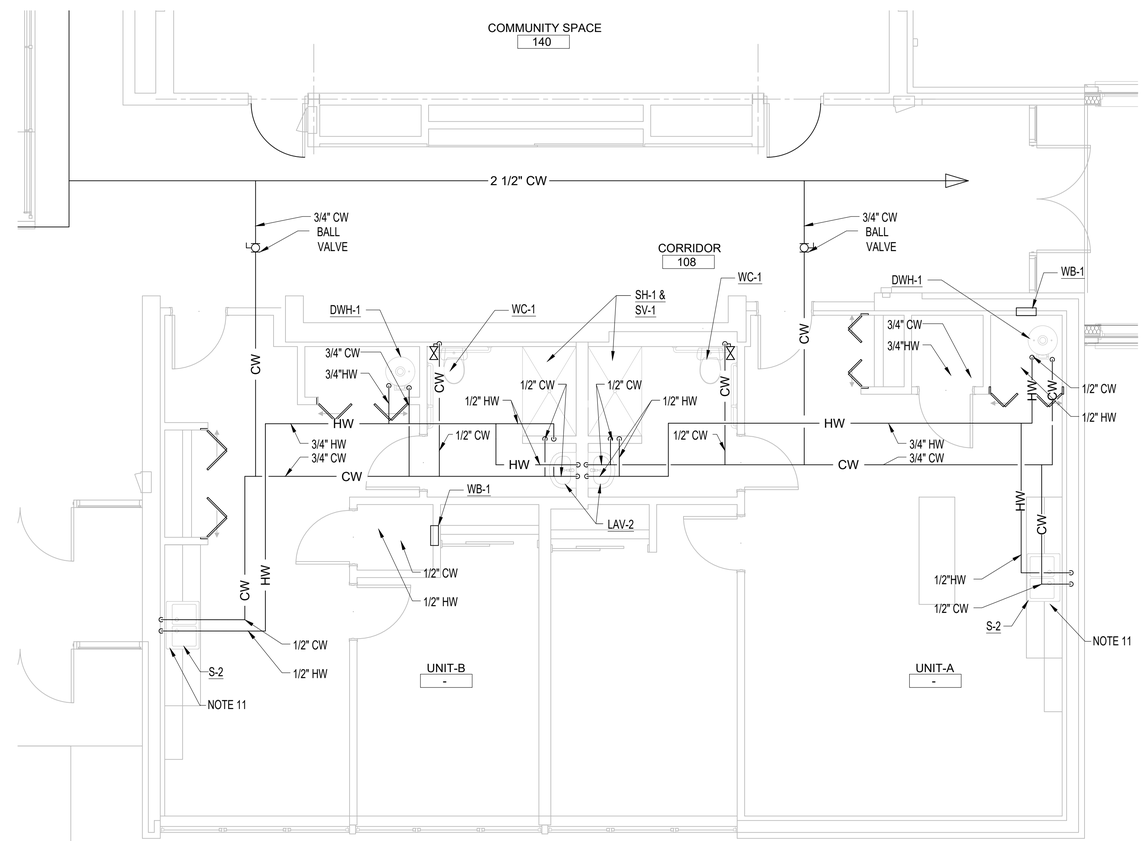


H8 ENLARGED PLUMBING PLANS

P-410 | 1/4" = 1'-0"



A5 ENLARGED PLUMBING PLANS

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REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
NO. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE
ENLARGED PLUMBING PLANS

SCALE: AS NOTED

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FILE NO. 21026.00

SHEET NO. P-410

12/19/2024 6:23:45 PM

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

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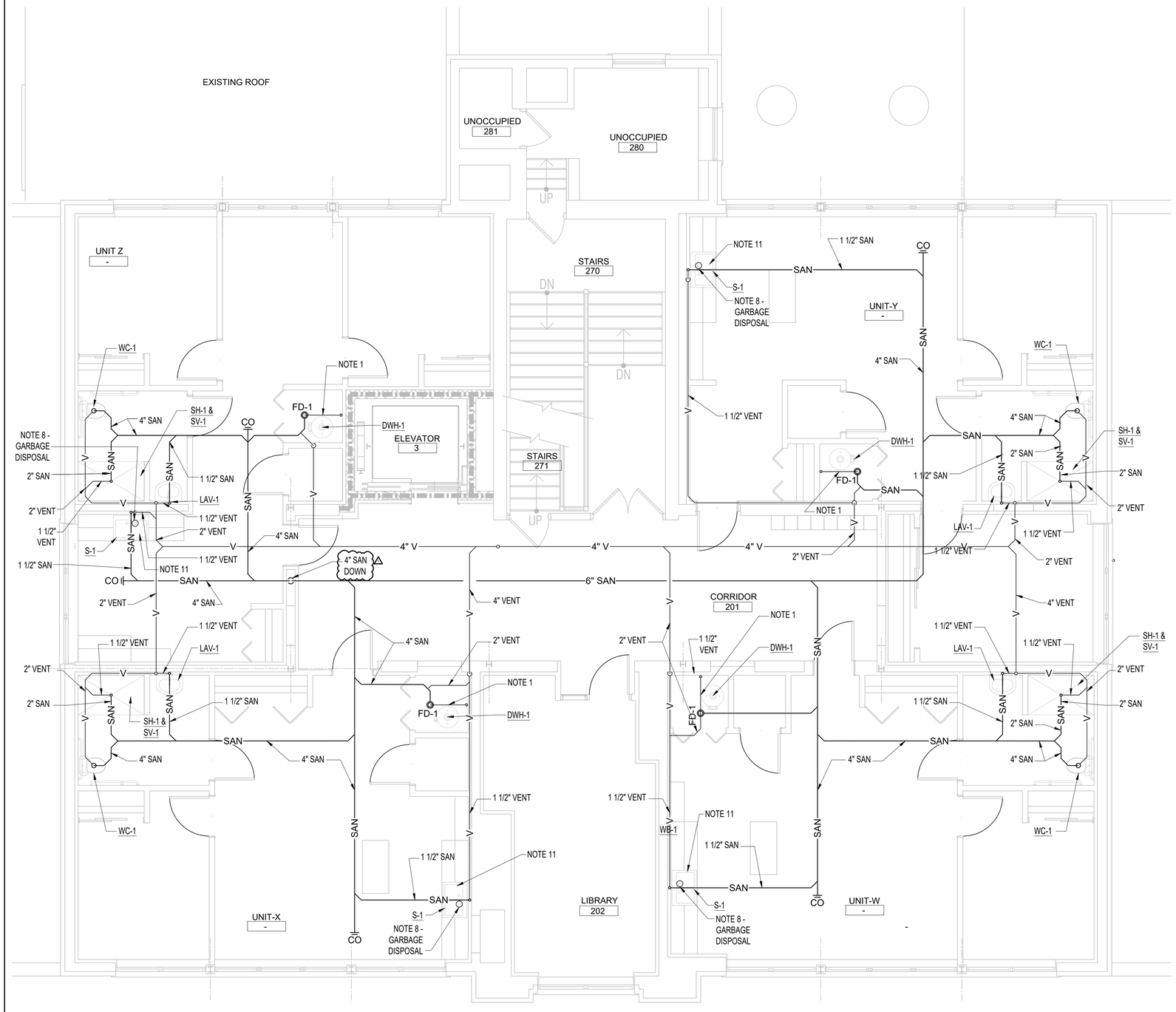

A5 SECOND FLOOR - SANITARY AND VENTING PLANS

P-411 | 1/4" = 1'-0"

John Grace Arms
21030 Indian St, Southfield MI 48033
Developed by
John Grace Arms LDHA LLC

SDG Architects + Planners
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Tel: 313-961-9000
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A & A Engineering & Consulting
28862 Vista Way, South Lyon, MI 48178

REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
No. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE
ENLARGED PLUMBING PLANS

SCALE: AS NOTED

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5/19/2025 5:34:11 AM

GENERAL

1. SEE SHEET P-001 FOR PLUMBING NOTES

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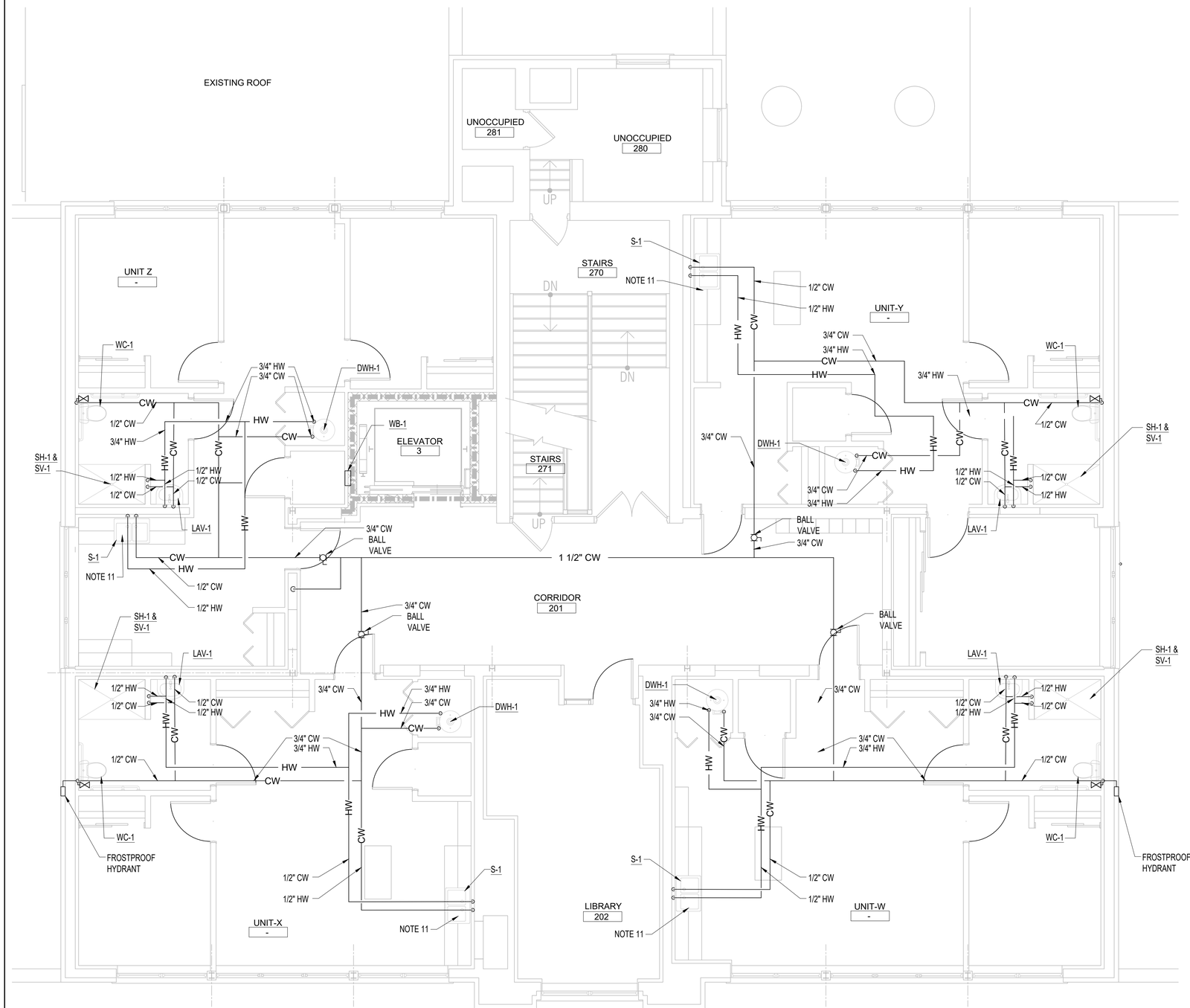

A5 ENLARGED PLUMBING PLANS

P-412 | 1/4" = 1'-0"

John Grace Arms
21030 Indian St, Southfield MI 48033
Developed by
John Grace Arms LDHA LLC

SDG Architects + Planners
607 Shelby Street
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Detroit, MI 48226
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REGISTRATION SEAL

STATE OF MICHIGAN
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LICENSED PROFESSIONAL ENGINEER

KEY PLANS

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SCALE: AS NOTED

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John Grace Arms - Existing Upper Roof Storm Drains Calculations

Design Location - Southfield, MI
MPC 2021 Figure 1106.1(2) - 100-year 1-hour rain fall =2.75in
Total Flat Roof SF = 4597 SF
Roof slope 1/4 for flat roof

2 story veritcal elevation (34 ft)
Flat Roof
GPM=R* A* 0.0104
GPM= 2.75 * 4597 * .0104
GPM= 131.5 GPM

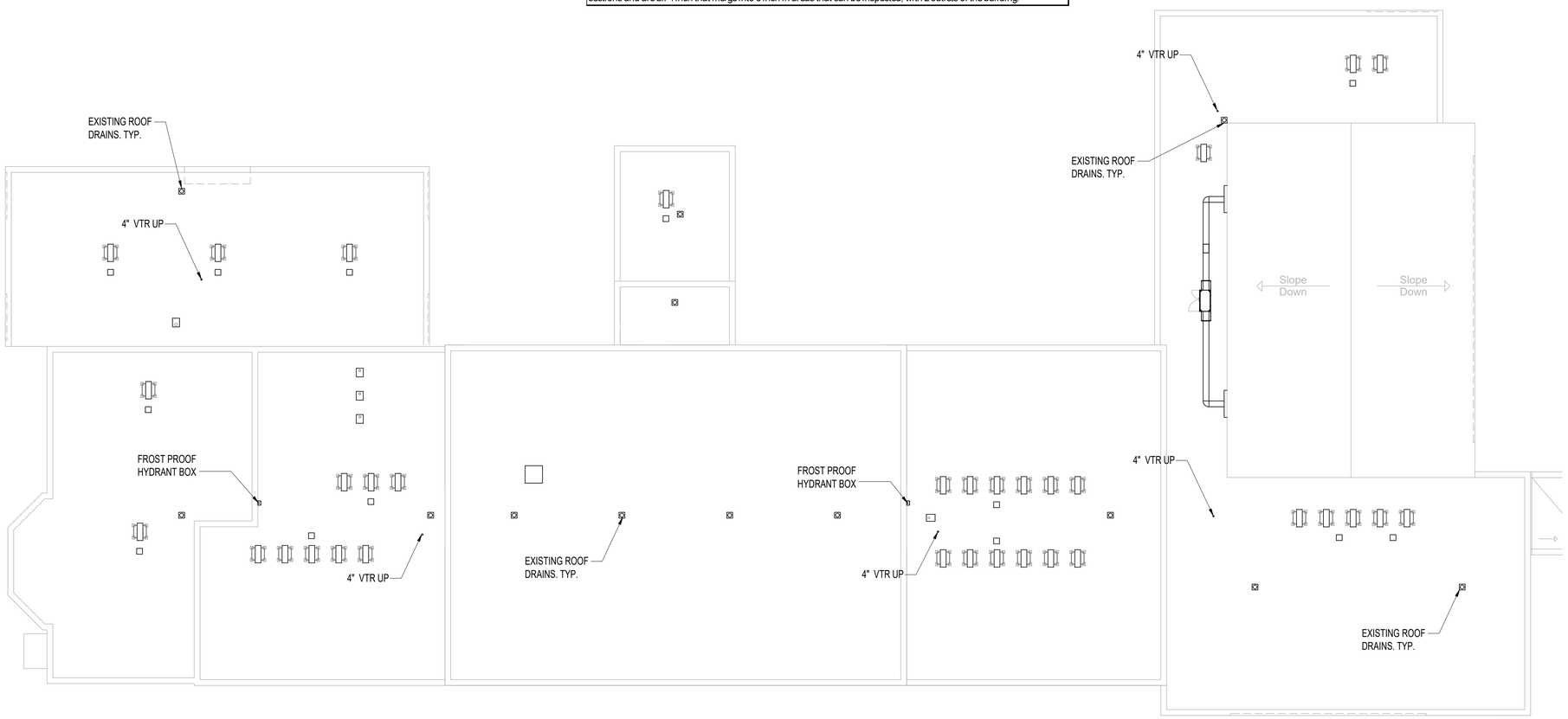
Based on table 1106.2 in 2021 Michigan Plumbing Code would require minimum combined size of 4 in pipe size. Existing roof has a total of 4 conductors and are 4 inches.

John Grace Arms - Existing Lower Roof Storm Drains Calculations

Design Location - Southfield, MI
MPC 2021 Figure 1106.1(2) - 100-year 1-hour rain fall =2.75in
Total Flat Roof SF = 15560 SF
Roof slope 1/4 for flat roof

Single story veritcal elevation (15 ft)
Flat Roof
GPM=R* A* 0.0104
GPM= 2.75 * 15560 * .0104
GPM= 445 GPM

Based on table 1106.2 in 2021 Michigan Plumbing Code would require minimum combined size of 8 in pipe size for all sections of roof. Existing lowered roof has a total of 9 roof conductors for various sections and are all 4 inch that merge into 8 inch in areas that can be inspected, with 2 outlets of the building.



GENERAL

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3. VENT UP AND DOWN
4. SANITARY UP AND DOWN AND PROVIDE VERTICAL CLEANOUT. IF RISER IS IN A FIRE RATED WALL, CLEANOUT COVER MUST BE RATED FOR SAME RATED AS WALL ASSEMBLY
5. REFER TO TYPICAL APARTMENT WATER RISER DIAGRAM FOR PIPING ARRANGEMENT AND SIZES.
6. CONTRACTOR TO CONTACT MISS DIG PRIOR TO START OF ANY UNDERGROUND WORK, COORDINATE WORK WITH CIVIL PLANS.
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11. DISHWASHER - PROVIDE HOT WATER SUPPLY AND SHUT OFF FROM SINK SUPPLY. PROVIDE SANITARY TO GARBAGE DISPOSAL. COORDINATE LOCATION WITH ARCHITECTURAL.
12. ALL EXISTING ROOF CONDUCTORS ARE TO BE IDENTIFIED AND REPLACED. ROUTING OF THE ROOF CONDUCTORS IS INTENDED TO HAVE THE SAME PATHWAY AND SIZES AS EXISTING. COORDINATE WITH ARCHITECTURAL FOR ROUTING OF ANY POTENTIAL INTERFERENCES OR ADDITIONAL DEMO NEEDED TO COMPLETE REPLACEMENT. COORDINATE WITH CIVIL FOR LOCATIONS OF COMBINED ROOF DRAINAGE PIPING LEAVING THE BUILDING. EXISTING ROUTING OF ROOF CONDUCTORS WERE UNABLE TO BE IDENTIFIED DURING THE TIME OF DESIGN. RESPONSIBILITY OF THE GENERAL CONTRACTOR TO IDENTIFY, REPLACE AND PHASE IN A MANNER TO AVOID ANY OPEN ROOF CONDUCTORS THAT WOULD ALLOW WATER INTO THE BUILDING.

John Grace Arms
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STEPHEN M. HENNARD
ENGINEER
NO. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE

ROOF - PLUMBING PLAN

SCALE: AS NOTED

ISSUED FOR	DATE
PERMIT	10.20.24
△ BULLETIN 3	5.19.25
△ BULLETIN 5	10.13.25

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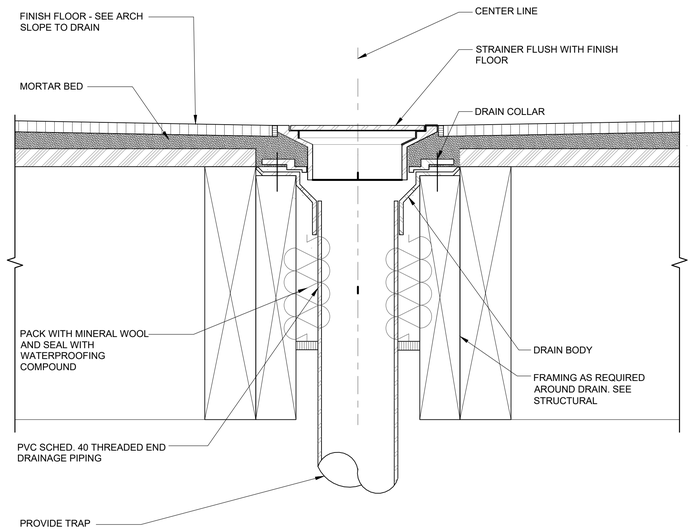
P-301
SHEET NO.

A1 | **ROOF - PLUMBING PLAN**

P-301 | 3/32" = 1'-0"

10/11/2025 6:17:40 AM

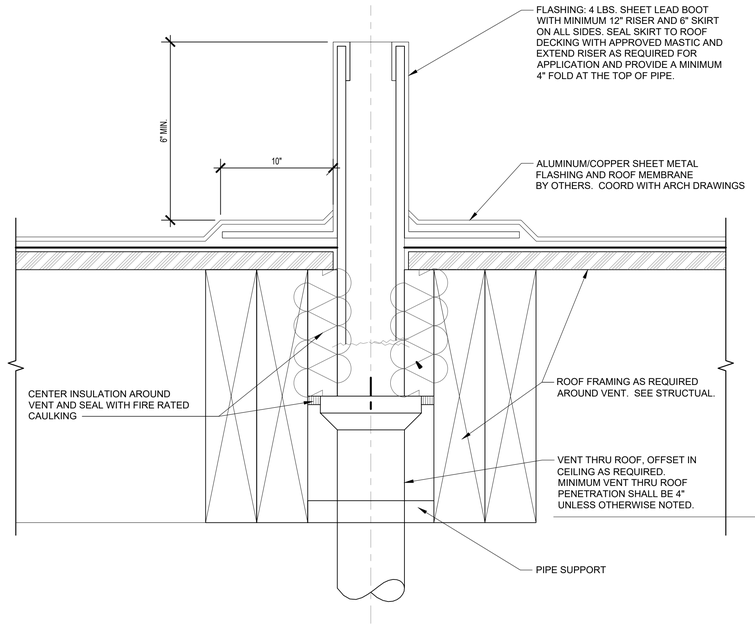


NOTES:

1. WATERPROOF EXISTING FLOOR OF ROOM WHERE FLOOR DRAIN IS TO BE LOCATED USING THOROSEAL SEALANT OR APPROVED EQUAL.

F1 TYPICAL FLOOR DRAIN INSTALLATION

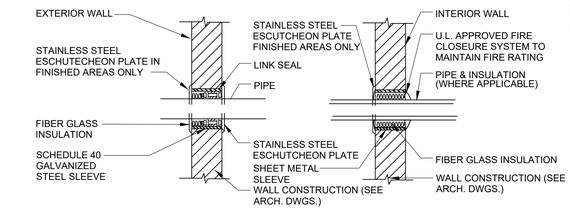
P-501 NTS



NOTE:
ALL VENT THRU ROOF PENETRATIONS SHALL BE LOCATED A MINIMUM OF 10'-0" IN ALL DIRECTIONS FROM ALL FRESH AIR INTAKES AND/OR OPERABLE DOORS AND WINDOWS.

F8 VENT THRU ROOF DETAIL

P-501 NTS

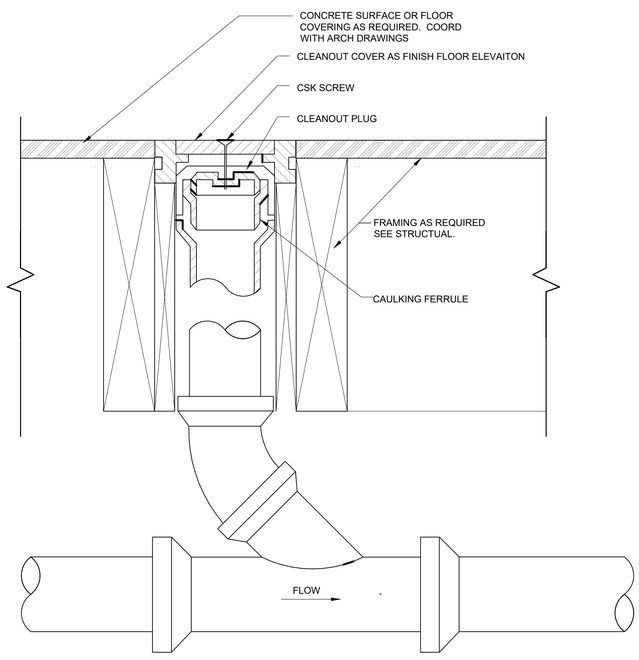


WALL PENETRATION DETAIL

FIRE RATED WALL PENETRATION DETAIL

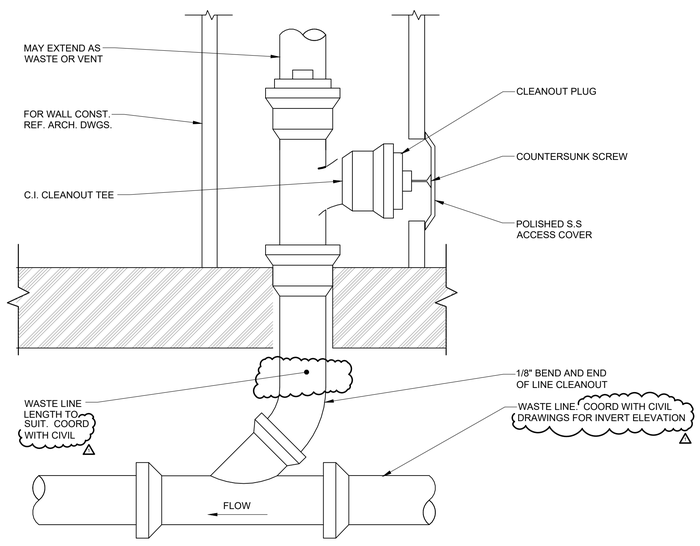
A8 WALL PENETRATIONS

P-501 NTS



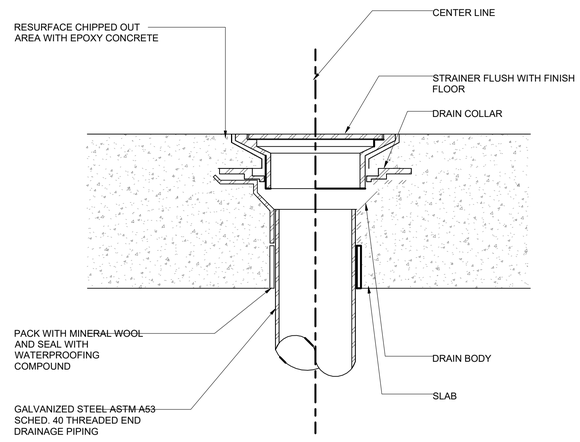
A1 FLOOR CLEANOUT - FINISHED ROOMS

P-501 NTS



A8 WALL CLEANOUT - FINISHED ROOMS

P-501 NTS



NOTES:

1. WATERPROOF EXISTING FLOOR OF ROOM WHERE FLOOR DRAIN IS TO BE LOCATED USING THOROSEAL SEALANT OR APPROVED EQUAL.
2. FOR EXISTING FLOOR DRAINS INSTALL CORRECT SIZE WATER LESS SEAL PROTECTION SYSTEM. BASIS OF DESIGN: GREEN DRAIN MODEL GD125

A13 FLOOR DRAIN IN CONCRETE

P-501 NTS

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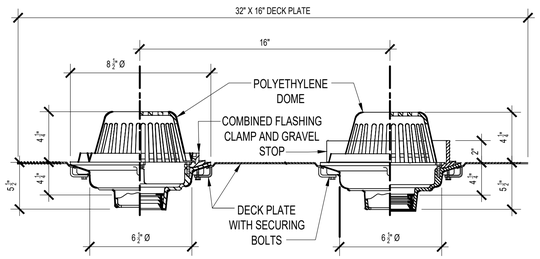
JOHN GRACE ARMS - VESTIBULE STORM DRAINS CALCULATIONS

DESIGN LOCATION - SOUTHFIELD, MI
MPC 2021 FIGURE 1106.1(2) - 100-YEAR 1-HOUR RAIN FALL =2.75IN
TOTAL ROOF SF = 1237 SF
ROOF SLOPE 1/16 TO CONDUCTOR & SINGLE STORY VERITCAL ELEVATION (11FT)

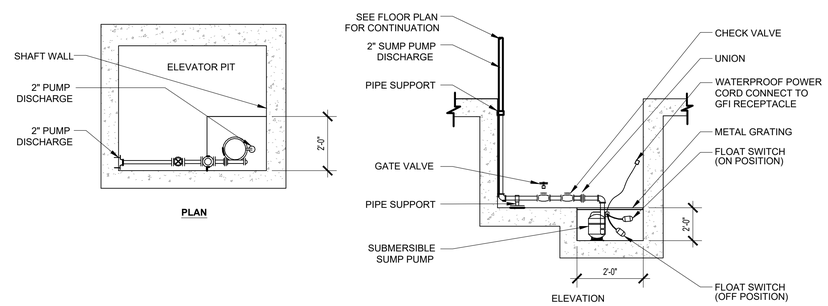
GPM=R * A * 0.0104
GPM= 2.75 * 1237 * .0104
GPM=35.4

BASED ON TABLE 1106.2 IN 2021 MICHIGAN PLUMBING CODE RIGHT UNDER SIZE REQUIREMENTS FOR 3IN CONDUCTOR
UPSIZING TO 4 IN PRIMARY AND OVERFLOW CONDUCTOR.



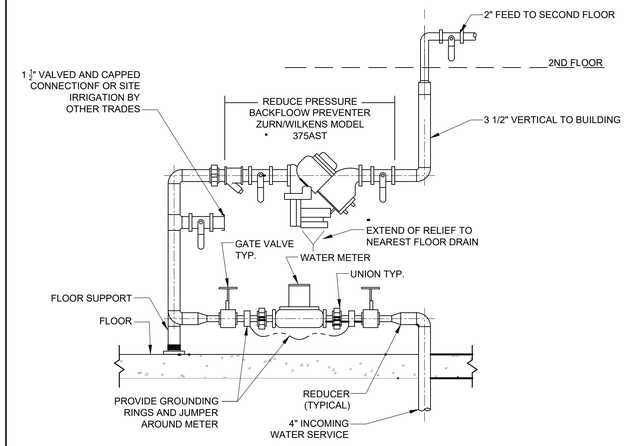
H1 ROOF AND OVERFLOW DRAIN DETAIL

P-502 NTS



H8 ELEVATOR SUMP DETAIL

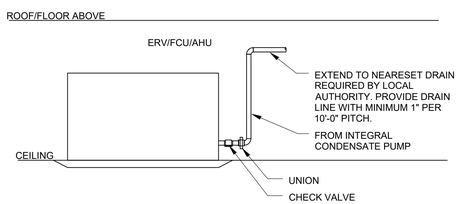
P-502 NTS



NOTE:
WATER MEETER SHALL BE MOUNTED ON WALL

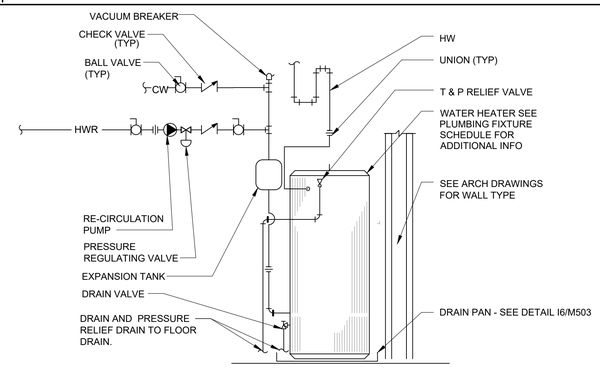
H13 WATER METER DETAIL

P-502 NTS



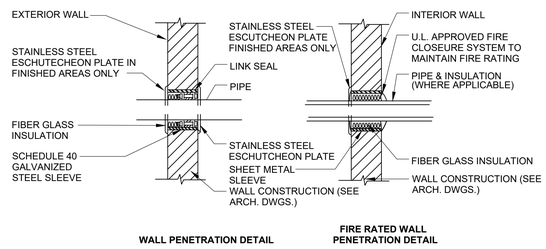
E1 CONDENSATE DRAIN DETAIL

P-502 NTS



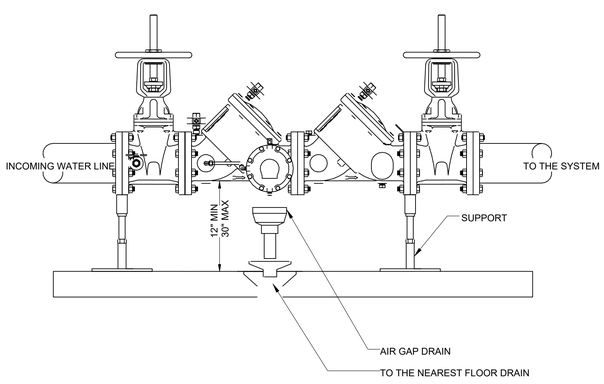
E8 WATER HEATER WITH RECIRCULATION PUMP

P-502 NTS



E13 WALL PENETRATIONS

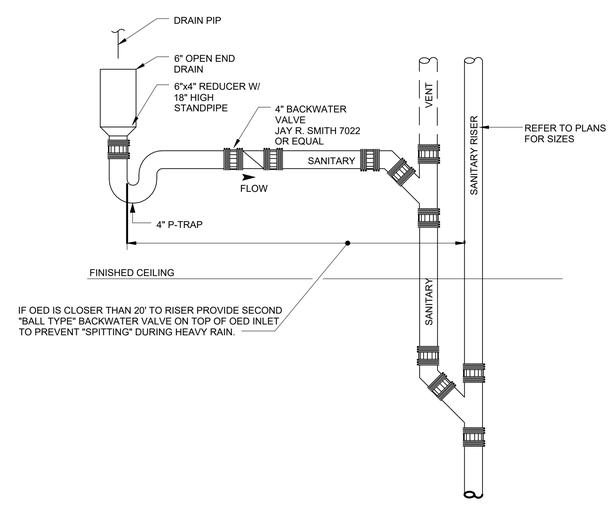
P-502 NTS



NOTE:
1. BACKFLOW PREVENTION DEVICE SHOULD BE LEAD FREE.

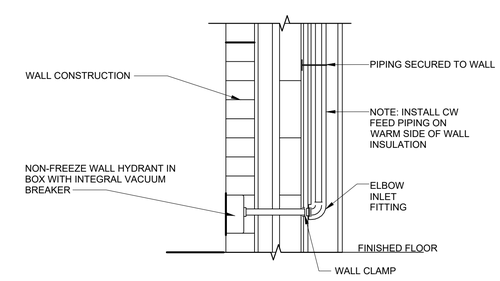
A1 BACK FLOW PREVENTOR DETAIL

P-502 NTS



A8 OPEN ENDED DRAIN (OED)

P-502 NTS



A13 WALL HYDRANT DETAIL

P-502 NTS

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KEY PLANS

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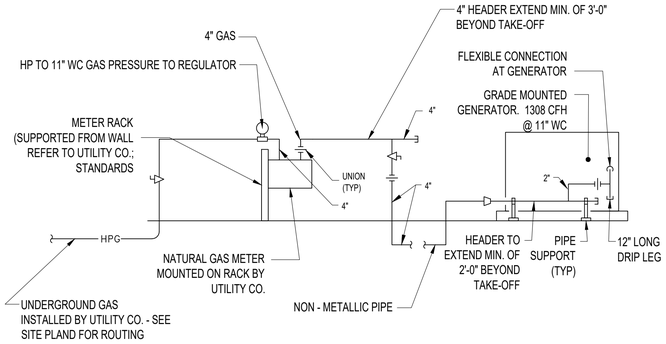
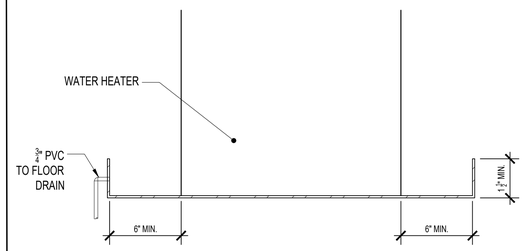


I11 NATURAL GAS RISER AT GENERATOR

P-503 NTS



NOTE: PAN TO BE MADE OF GLAVANIZE STEEL OR ALUMINUM, MIN. .0236" THICK

I6 DRAIN PAN FOR W.H.

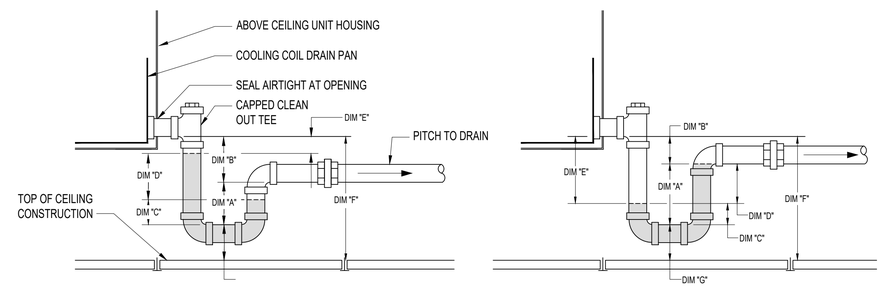
P-503 NTS

TRAP DIMENSION TABLE

TYPE OF SYSTEM		DIMENSIONS "A" (INCHES) MIN.	DIMENSIONS "B" (INCHES)	DIMENSIONS "C" (INCHES) (TRAP SEAL)	DIMENSIONS "D" (INCHES)	DIMENSIONS "E" (INCHES)	DIMENSIONS "F" (INCHES) DRAIN PIPE SIZE (INCHES)			
							1 1/2"	2"	2 1/2", 3"	4"
DRAW THROUGH	-2.1 TO -3	3.5	3.5	2	3	2	10.0	11.0	12.0	13.0
	UP TO -2	3.0	3.0	2	2	2	9.0	10.0	11.0	12.0
BLOW THROUGH	UP TO +2	4.0	2.0	2	2	4	9.0	10.0	11.0	12.0
	+2.1 TO +3	5.0	2.0	2	3	5	10.0	11.0	12.0	13.0

NOTES: A. REFER TO TERMINAL DEVICES USED FOR COOLING, COMPUTER ROOM AIR CONDITIONING UNITS, FAN COIL UNITS SPLIT SYSTEM AIR CONDITIONING UNIT ETC. FOR (-) OR (+) STATIC PRESSURE AT COIL DRAIN PAN

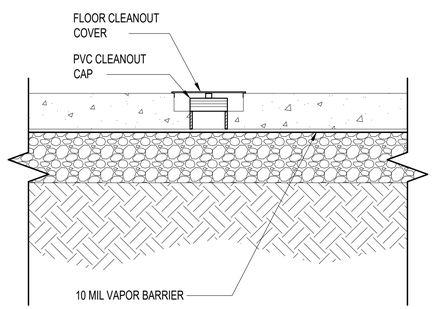
B. DIMENSION "G" IS MIN: 3" FOR UP TO 1 1/2" DRAIN PIPE
4" FOR 2" DRAIN PIPE
5" FOR 2 1/2" OR 3" DRAIN PIPE
6" FOR 4" DRAIN PIPE



DRAW THROUGH BLOW THROUGH

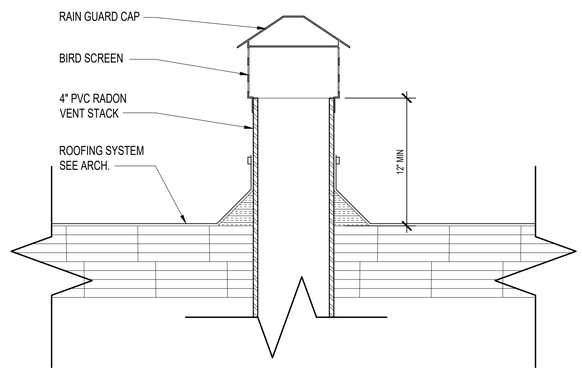
G9 CONDENSATE DRAIN PAN TRAP DETAIL (ABOVE CEILING UNITS)

P-503 NTS



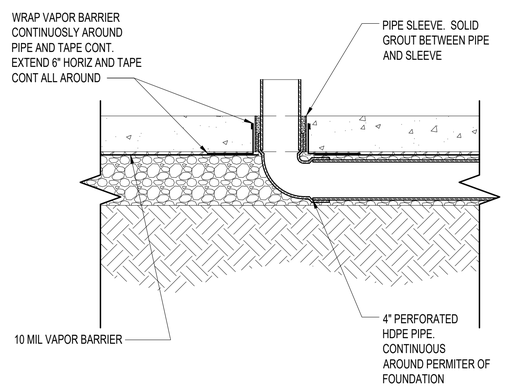
E1 RADON EVACUATION PORT

P-503 SCALE: 1" = 1'-0"



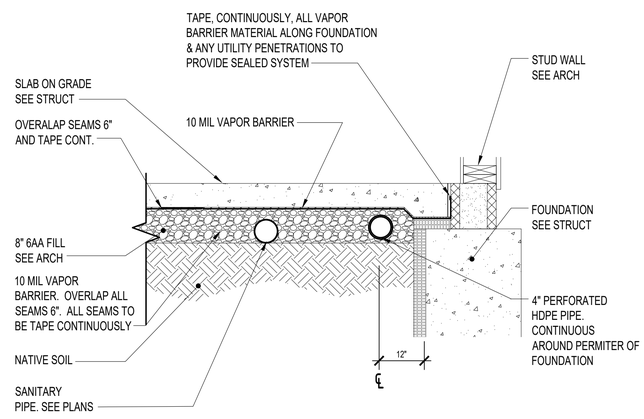
E5 PASSIVE RADON SYSTEM STACK CAP DETAIL

P-503 SCALE:3" = 1'-0"



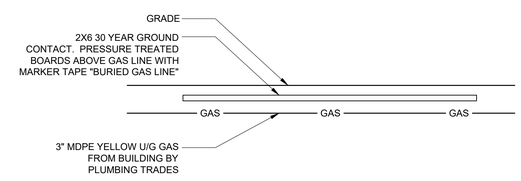
A1 UNDER SLAB RADON SYSTEM PIPE SLEEVE

P-503 SCALE: 1 1/2" = 1'-0"



A7 UNDER SLAB RADON PIPING DETAIL

P-503 SCALE: 1" = 1'-0"



A13 NATURAL GAS DETAIL

P-503 NTS

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DOMESTIC WATER HEATER SCHEDULE

Tag	Item	Make	Model Number	Description	Pipe Sizing Cold Water	Pipe Sizing Hot Water	Notes
DWH-1	Heat Pump Water Heater	Rheem	PROPH40 T2 RH375-30	40 gallon heat pump w ater heater. 3.83 UEF rating. 10 year limited parts and tank w arranty	3/4 "	3/4 "	1, 2, 3, 8, REFER TO DETAILS
DWH-2	Heat Pump Water Heater	Rheem	PROPH40 T2 RH375-15	40 gallon heat pump w ater heater. 3.88 UEF rating. 10 year limited parts and tank w arranty	3/4 "	3/4 "	1, 2, 3, 8, REFER TO DETAILS
DWH-3	Electric Water Heater	Eemax	SPEX4208T ML	Electric tankless w ater heater	3/8"	3\8"	1, 5, 8, 9, 10
DWH-4	Heat Pump Water Heater	Rheem	PROPH50 T2 RH375-30	50 gallon heat pump w ater heater. 3.88 UEF rating. 10 year limited parts and tank w arranty	1"	1"	1, 2, 3, 8, REFER TO DETAILS
CV-1	Check Valve	Zurn Wilkins	40XL2	Lead-free brass soft seated check valve w ith stainless steel spring. Rated for 210 degrees and 400 psi			Size and locate for incoming cold w ater line.
ET-1	Potable Expansion Tank	Calefactio	HGTE-1	Bladded type lead free thermal expansion tank w ith 100% exceptance factor. 1/2 FNPT stainless steel connection	1/2"		Total volume and acceptance .4 gallons. Precharged to 50 psi. 200 Degrees max temperature. 150 Maximum operating pressure.

Notes

1 INTERNAL PRESSURE SENSOR, RELIEF PIPED TO NEAREST FLOOR DRAIN
2 SEE MANUFACTURER GUIDELINES FOR ROOM VENITATION, COORDINATE WITH ARCHITECT AND GENERAL CONTRACTOR PROPER DOOR CLEARANCE OR DUCTED SYSTEM.
3 RECIRCULATION PUMP TO HAVE SMART CONTROL FEATURE THAT DOES NOT REQUIRE EXTERNAL AQUASTAT.
4 TOTAL VOLUME 21 GALLONS, PRE-CHARGED TO 12 PSI AND MAX TEMP OF 240 F.
5 WALL MOUNTED WITH BACKING BOARD.
6 INSTALL EXPANSION TANK BRACKET AND SUPPORT TO SOLID WALL- BRACKET200MM
7 TOTAL VOLUME 2.1 GALLONS, PRE-CHARGED TO 50 PSI AND MAX TEMP OF 200 F.
8 COORDINATE FINAL LOCATION WITH ELECTRICAL CONTRACTOR AND PROVIDE LOCAL DISCONNECT.
9 PROVIDE AND INSTALL SERVICE/ISOLATION VALVES AND PRESSURE RELIEF PART NUMBER RTG20326
10 LOW FLOW ACTIVATION, ADJUSTABLE THERMOSTAT, VOLTAGE 208V AND 4.1 KW

RECIRCULATION PUMP SCHEDULE

Tag	Item	Make	Model Number	Number of Pumps	Capacity - GPM	H.P.	Motor Amps	Motor Voltage/Phase	Motor Width	Notes
RC -1	Hot water return recirculaton pump	Taco	006-IQBC4	1	11.5	1/40	0.52	115/1	3 3/4	1/2 Sweat connection, self learning function

Notes

1 FLANGED CONNECTION, SMART MODEL WITH PROVIDED THERMOSTAT.
2 COORDINATE FINAL LOCATION WITH ELECTRICAL CONTRACTOR FOR ELECTRICAL OUTLET- 115V.

SUMP PUMP SCHEDULE

Tag	Item	Make	Model Number	Number of Pumps	Capacity - GPM	H.P.	Motor Amps	Motor Voltage/Phase	Sump Basin Width	Sump Basin Depth	Notes
SP-1	Elevator Pit Drainage	Bell & Gossett	2WF0511	1	50	0.5	14.5	115 / 1	18 in	30 in	1,2,3
SP-2	Basement sump pump	Bell & Gossett	ST51AV	1	61	0.5	7.5	115 / 1			1,2,3

Notes

1 Provide SJE pumpmaster plus pump sw itch. Plug and pow er cord connection to 120V receptecale. Provide severe durt oil & w ater resistant pow er and control cords
2 Provide a full flow check valve and gate valve on the discharge pipe from sump pump.
3 Sump cover to be open grate type.

PLUMBING FIXTURE SCHEDULE

TAG	FIXTURE	ROUGH-IN SERVICES COLD WATER	HOT WATER	WASTE	VENT	MANUFACTURER	MODEL	FAUCET MANUF	FAUCET MODEL	FLOW RATE	ACCESSORIES	REMARKS
LAV -1	LAVATORY COUNTERTOP SINK	½	½	1 ½	1 ½	SLOAN	SS-3002 – DROP IN OVAL	-	-	-	1,2,4,5,7,8, 9, 10, 11	-
LAV -2	LAVATORY SINK -ADA WALL WOUNT	½	½	1 ½	1 ½	SLOAN	SS-3003	-	-	-	1, 2, 4, 5, 7, 8, 9, 10, 11	-
S-1	SINK – 2 COMP	½	½	1 ½	1 ½	ELKAY	LR-3322 – LUSTERTONE	-	-	-	1, 2, 4, 6, 10, 12, 13, 14	-
S- 2	SINK – 2 COMP ADA	½	½	1 ½	1 ½	ELKAY	LRAD-332265 - LUSTERTONE	-	-	-	1, 2, 4, 6, 10, 12, 13, 14	-
SH- 1	SHOWER INSERT – ONE PIECE			2	1 ½	CLARION	RE6036NS-WH				1, 2, 15, 16	
SV -1	SHOWER MIXING VALVE	½	½			DELTA	T13290			2.0 GPM	1, 2,	LEVER HANDLE ONLY
SV – 2	SHOWER MIXING VALVE ADA	½	½			DELTA	T13H152			2.0 GPM	1, 2,	HANDHELD ADA W/ 60" HOSE SLIDE BAR, LEVER HANDLE ONLY
WC -1	WATER CLOSET	½		4	2	PROFLO	PF1400T			1.28		1, 2, 3, 4
FD -1	FLOOR DRAIN			SEE PLANS		PROFLO	PF42873					1, 2, 18, 19
MS – 1	MOP SINK	½	½	3	1 ½	PROFLO	PFMB2424				1, 2, 20	
WB -1	WASHING MACHINE WALL BOX	½	½	2		GUY GRAY	B200				1, 2	
WH - 1	WALL HYDRANT NON FREEZE	¾				WOODFORD	B67					WALL BOX, DOUBLE CHECK BACKFLOW
DN -1	DOWNSPOUT NOZZLE			SEE PLANS		MIFAB	R1940				1, 2	STAINLESS STEEL SCREEN
LS-1	LAUNDRY ROOM SINK FAUCET	½	½	2	1 ½	TEHILA	LUXE 040US9000DRSS				1, 2, 4,5 6, 17	
KS-1	PREP SINK & TABLE COMBO	½	½	SEE PLANS		ULINE	H-9652L				1, 2	PROVIDE ALL NECESSARY TRAP & CONNECTIONS

1. Verify color/finish w ith Architect.
2. Provide all sleeve, templates as required for rough-in of fixtures. Coordinate w ith Architect and trades.
3. Provide compatible seat, preferred PROFLO PFTSCOF2000WH w ith sta-tite fasteners.
4. Provide Brasscraft commercial angle supply w ith riser.
5. Provide w rap on supply and w aste piping equal to Keeney trap w rap.
6. Provide Brasscraft 1 -1/2 brass cast P trap
7. Provide Brasscraft 1 -1/4 brass cast P trap
8. Provide 1 – 1/4 offset drain w ith tailpiece
9. Provide chair carrier w ith foot supports, mount per ADA requirements.
10. Tempering valve: Pow ers LFE480, ASSE 1070
11. Lavatory faucet: Proflo PFWSC4744CP
12. Drain outlet w ith tailpiece: Jones Stephens Corp S14-014T
13. Sink faucet: Kohler K-30615 single lever
14. Garbage Disposer: In -sink erator Badger 5, w ith cord and plug, ½ hp, 120V, 1 phase, 6.9amps
15. Show er drain: Proflo PF42940 w / deep seal trap fit to size.
16. Install Clarion E-Z w all trim on perimeter, use mildew resistant silicone caulk to seal show er insert.

BACKFLOW SCHEDULE

TAG	SERVICE	TYPE	SIZE	LOCATION	MANUF	MODEL #	REMARKS
BF - 1	DOMESTIC WATER	PRESSURE REGULATING	4 IN	MECHANCIAL ROOM	ZURN	375AST	EXTEND DRAIN TO NEAREST FLOOR DRAIN
BF - 2	FIRE PROTECTION	-	-	-	-	-	TO BE INCLUDED IN FIRE SUPPRESSION MODELING

John Grace Arms
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Developed by
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REGISTRATION SEAL

STATE OF MICHIGAN
STEPHEN M. HENNARD
ENGINEER
NO. 6201059975
LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE
PLUMBING SCHEDULES

SCALE: AS NOTED

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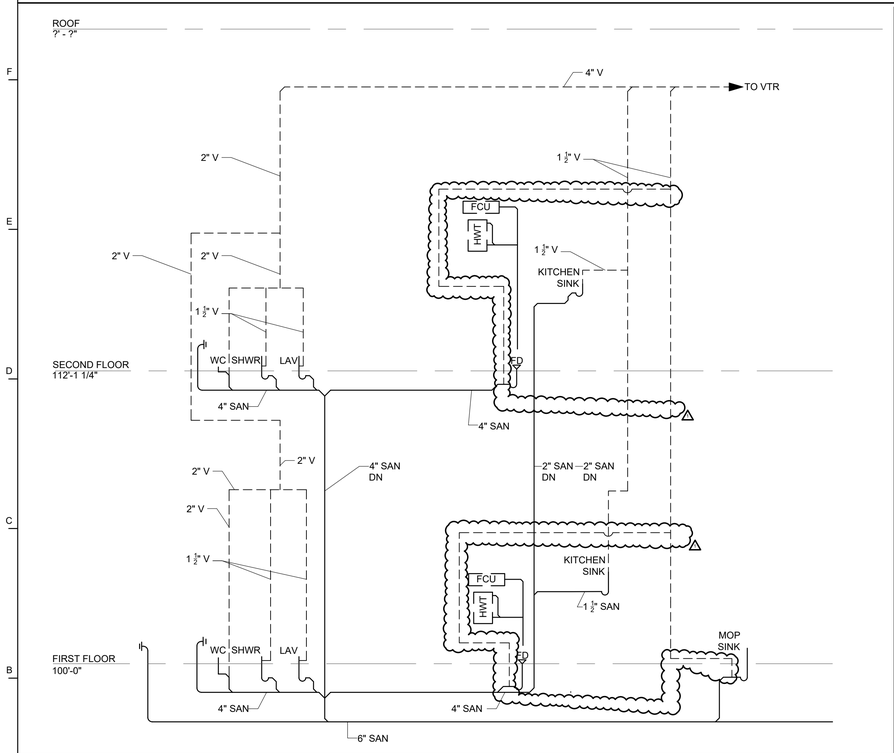
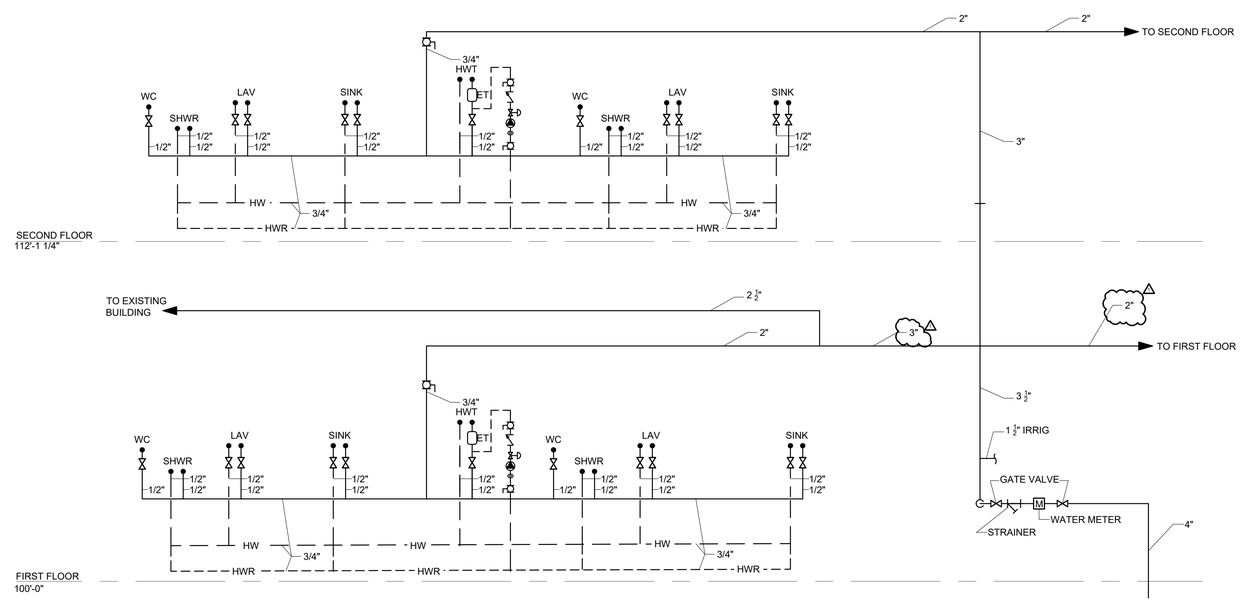


A1 SANITARY SCHEMATIC RISER DIAGRAM

P-701 NTS



A7 DOMESTIC SCHEMATIC WATER RISER DIAGRAM

P-701 NTS

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KEY PLANS

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SCHEMATIC PLUMBING RISER DIAGRAMS

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DEMO NOTES

1. IN ALL VESTIBULES, DEMO EXISTING RADIATORS. REMOVE ALL ASSOCIATED STEAM AND DRAIN LINES BACK TO SOURCE
2. DEMO ALL MECHANICAL AND ELECTRICAL EQUIPMENT. IF EQUIPMENT HAS VENTING THROUGH ROOF MATCH NEW ROOF DETAIL TO PATCH. SEE ROOF PLAN. ABANDON ALL FIRE SUPPRESSION AND WATER SERVICES. EXISTING FLOOR DRAIN TO REMAIN, SCOPE TO FIND ROUTING AND CONNECT WITH NEW SANITARY SYSTEM. EXISTING PATHWAY IS NOT KNOWN AT TIME OF DRAWINGS.
3. THIS ROOM COULD NOT BE ACCESSED AT TIME OF DRAWINGS, DEMO ANY AND ALL ELECTRICAL, MECHANICAL AND PLUMBING IN THIS ROOM. IF EXISTING FLOOR DRAIN IN THE ROOM KEEP IN PLACE AND TIE INTO NEW SANITARY LEAD ON THE NEW PLUMBING DRAWINGS
4. DEMO PLUMBING AND MECHANICAL EQUIPMENT, INCLUDING ANY DISTRIBUTION BACK TO SOURCE. DEMO EXISTING FUME HOOD SYSTEM PATCH ROOF AS REQUIRED PER ROOF PLAN.
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7. DEMO ALL EXISTING CAST ROOF DRAINS BACK TO ROOF. COORDINATE DEMO WITH NEW INSTALL TO PREVENT OPEN ROOF DRAINS WITHIN THE BUILDING. AT THE POINT OF DESIGN ALL ROOF CONDUCTOR PATHWAYS COULD NOT BE IDENTIFIED OR VERIFIED. IF ADDTTIONAL ROOF CONDUCTORS ARE DISCOVERED, THESE WILL ALSO NEED TO BE DEMOLISHED AND REPLACED. CHASES ALSO INCLUDE STEAM LINE DISTRIBUTION WHICH WILL ALSO BE DEMOLISHED AND REMOVED BACK TO SOURCE. PRIOR TO REMOVAL OF ANY PIPE INSULATION, HAVE QUALIFIED TESTING AGENCY TEST FOR ASBESTOS. REMOVE ALL PIPE INSULATION AND DISPOSE OF PER LAW.
8. ALL EXISTING ROOF CONDUCTORS ARE TO BE IDENTIFIED AND REPLACED. ROUTING OF THE ROOF CONDUCTORS IS INTENDED TO HAVE THE SAME PATHWAY AND SIZES AS EXISTING. COORDINATE WITH ARCHITECTURAL FOR ROUTING OF ANY POTENTIAL INTERFERENCES OR ADDITIONAL DEMO NEEDED TO COMPLETE REPLACEMENT. COORDINATE WITH CIVIL FOR LOCATIONS OF COMBINED ROOF DRAINAGE PIPING LEAVING THE BUILDING. EXISTING ROUTING OF ROOF CONDUCTORS WERE UNABLE TO BE IDENTIFIED DURING THE TIME OF DESIGN. RESPONSIBILITY OF THE GENERAL CONTRACTOR TO IDENTIFY, REPLACE AND PHASE IN A MANNER TO AVOID ANY OPEN ROOF CONDUCTORS THAT WOULD ALLOW WATER INTO THE BUILDING.

GENERAL DEMO NOTES

1. IN ALL EXISTING ROOMS AND CORRIDORS, COORDINATE WITH ARCHITECUAL PLANS AND REMOVE ALL EXISTING STEAM RADIATORS, DRAINS, WATER DISTRIBUTION, DUCTWORK, PNEUMATICS, THERMOSTATS, REGISTERS THAT WILL NOT BE NECESSARY TO BE REUSED FOR HISTORIC PRESERVATION. IF ANY ITEMS ARE TO BE DEEMED HISTORIC FOR EXISTING MECHANICAL OR PLUMBING SYSTEMS CARE AND PROTECTION SHALL BE PROVIDED THROUGHOUT THE DEMO AND CONSTRUCTION PROCESS TO ENSURE ITEMS ARE NOT DAMAGED.
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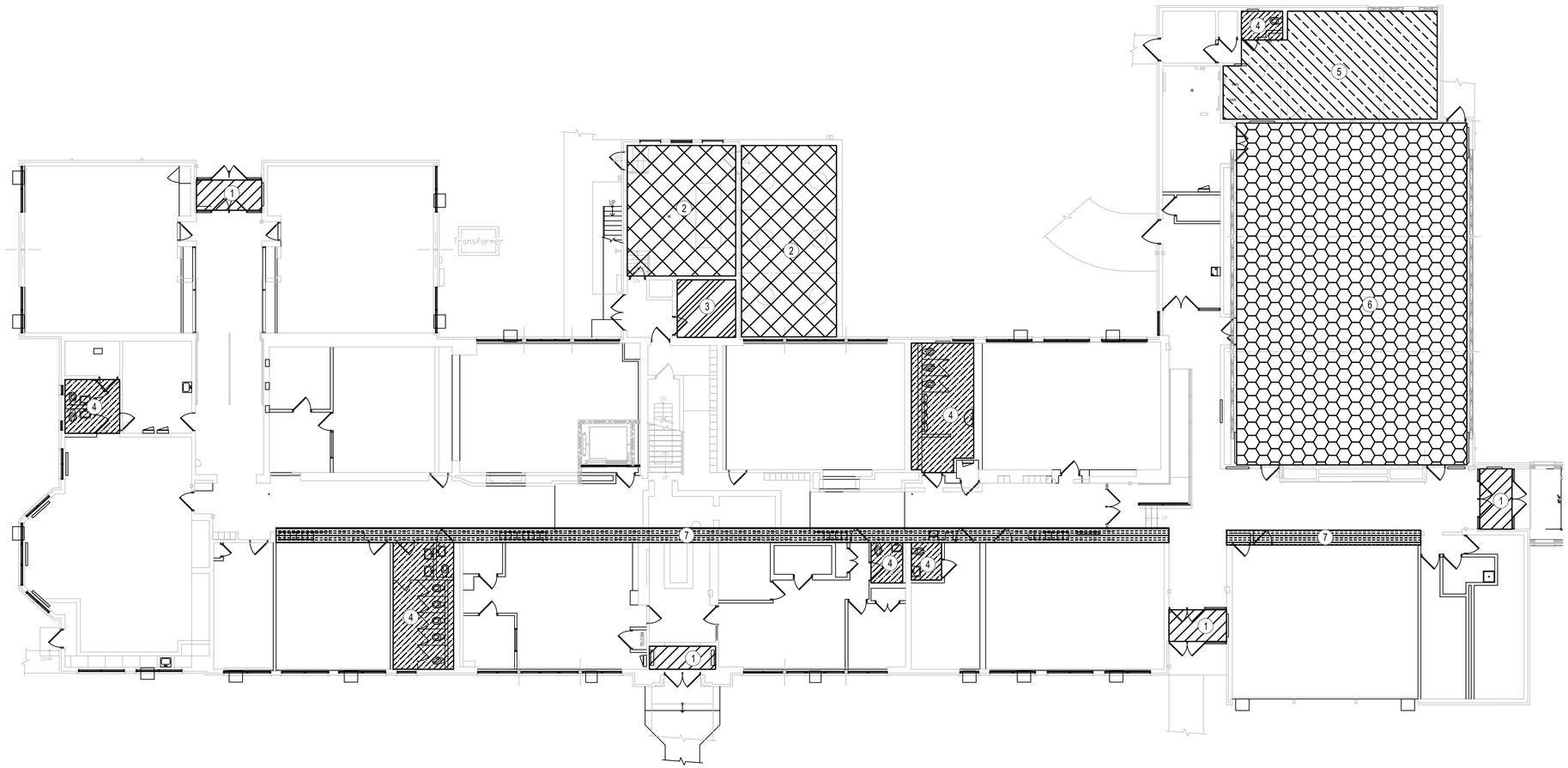

A1 FIRST FLOOR PLUMBING DEMOLITION PLAN

P-101 3/32" = 1'-0"

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REGISTRATION SEAL

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LICENSED PROFESSIONAL ENGINEER

KEY PLANS

SHEET TITLE
FIRST FLOOR PUMBING DEMOLITION PLAN

SCALE: AS NOTED

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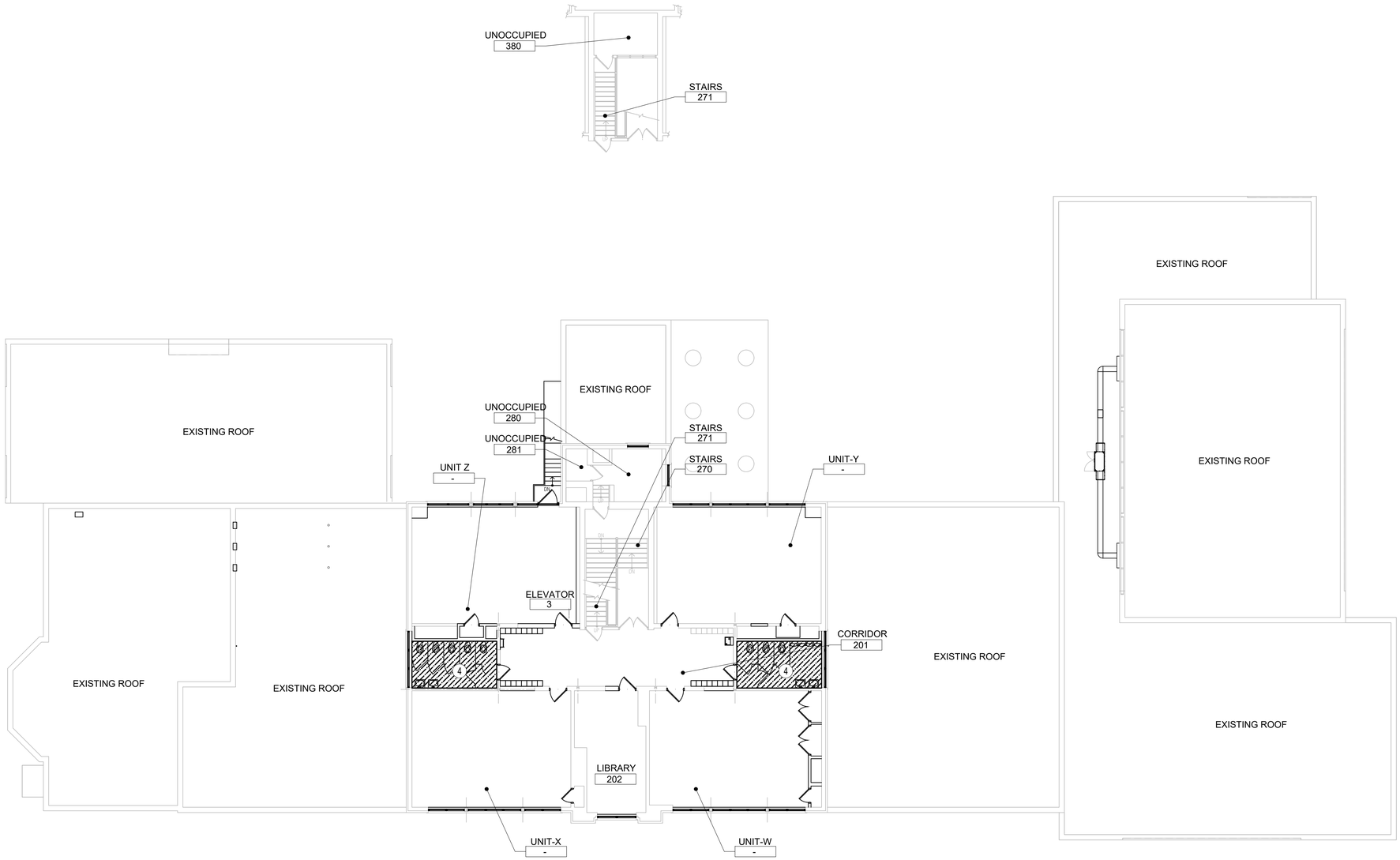

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A1 SECOND FLOOR PLUMBING DEMOLITION PLAN

PD-102 SCALE: 3/32" = 1'-0"

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KEY PLANS

SHEET TITLE
SECOND FLOOR PLUMBING DEMOLITION PLAN

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