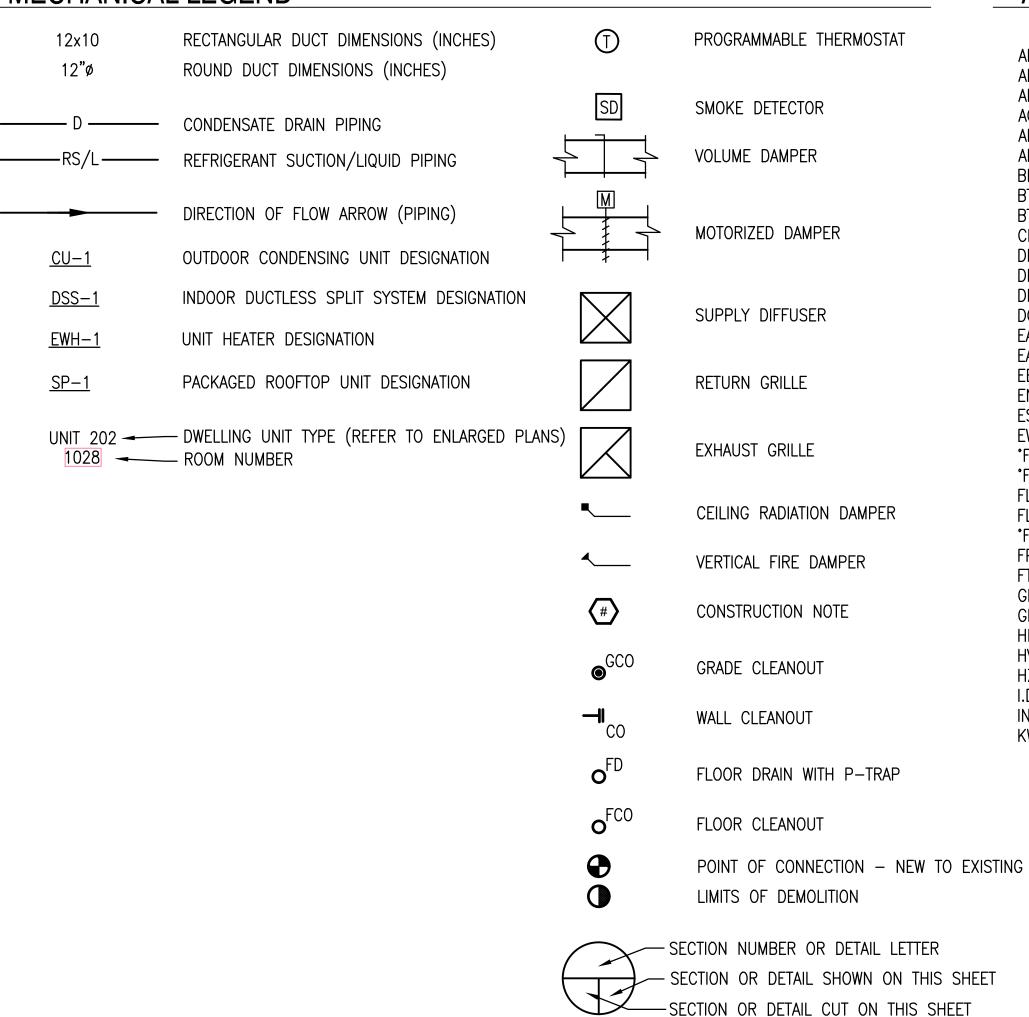
#### MECHANICAL GENERAL NOTES

- GENERAL NOTES ON THIS DRAWING ARE APPLICABLE TO EACH MECHANICAL DRAWING OF THIS SET. REFER TO EACH DRAWING FOR SPECIFIC NOTES APPLICABLE TO THAT DRAWING.
- OVERHEAD PIPING IN SPACES WITHOUT HUNG CEILINGS SHALL BE RUN AS CLOSE TO THE ROOF DECK AS PRACTICABLE, AS CLOSE TO PARALLEL JOISTS AS POSSIBLE AND ABOVE LIGHTING FIXTURES TO CONCEAL PIPING.
- ARRANGE DUCTWORK AND PIPING, PARTICULARLY ABOVE CEILINGS, AS REQUIRED TO CLEAR STRUCTURE. DUCTS. CONDUITS. ETC. ALLOWING SPACE FOR PIPING HANGERS. EXPANSION LOOPS AND ACCESS TO VALVES, FILTERS AND MAINTENANCE OF EQUIPMENT.
- EQUIPMENT WITH FILTERS SHALL BE INSTALLED SO THAT FILTERS CAN BE EASILY REMOVED AND REPLACED.
- CONTRACTOR SHALL VERIFY REFRIGERANT PIPE SIZES WITH EQUIPMENT MANUFACTURER FOR THE INDICATED INSTALLATION.
- COORDINATE LOCATION AND INSTALLATION OF EQUIPMENT WITH ALL OTHER TRADES.
- THERMOSTATS SHALL BE LOCATED IN THE ROOMS INDICATED. INSTALL AT 48" ABOVE FINISHED FLOOR.
- MANUAL BALANCING DAMPERS SHALL BE LOCATED AT EACH SUPPLY, RETURN, AND EXHAUST DIFFUSER AND SHALL BE LOCATED AT EACH DIFFUSER/GRILLE TAKEOFF.
- PIPING SHALL BE SUPPORTED IN ACCORDANCE WITH THE SPECIFICATION. ADDITIONAL SUPPORTS AND HANGERS SHALL BE ADJACENT TO ELBOWS TO PREVENT WEIGHT OF PIPING BEING PLACED ON EQUIPMENT.
- 10. LOCATE AND SIZE ROOF CURBS FOR MECHANICAL EQUIPMENT IN ACCORDANCE WITH ACTUAL EQUIPMENT PURCHASED.
- 11. FOR LOCATION OF MOTOR STARTERS, REFER TO ELECTRICAL DRAWINGS.
- 12. INSTALL CEILING REGISTERS A MINIMUM OF 4" FROM EXTERIOR WALL.
- 13. PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS INCLUDING DAMPER MOTORS AND/OR MOTOR OPERATED DAMPERS.
- 14. ACCESS DOORS IN RATED WALLS OR CEILINGS SHALL BE FIRE-RATED.
- 15. FURNISH ALL MECHANICAL EQUIPMENT WITH DISCONNECTS.
- 16. ALL CONDENSATE PIPING SHALL BE SCHEDULE 40 PVC. ALL UNDERGROUND CONDENSATE PIPING SHALL BE 2" UNLESS OTHERWISE NOTED. SLOPE CONDENSATE PIPING AT A MINIMUM OF 1/8" PER FOOT.
- 17. PROVIDE ALL ANCHORS/GUIDES AND VALVES RECOMMENDED BY THE MANUFACTURER.
- REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF DOORS. WINDOWS. AND OTHER ARCHITECTURAL FEATURES.
- 19. PROVIDE ACCESS DOORS IN DUCTWORK WHERE INDICATED OR REQUIRED FOR ACCESS TO SYSTEM COMPONENTS SUCH AS FILTERS, FIRE DAMPERS, OR SMOKE DETECTORS.
- 20. ALL BUILDING CONDENSATE AND REFRIGERANT PIPING SHALL RUN CONCEALED UP TO ROOF EXCEPT WITHIN EQUIPMENT CLOSETS.

## MECHANICAL LEGEND



**ABBREVIATIONS** 

ANALOG INPUT **ADJUSTABLE** LEAVING AIR TEMPERATURE ABOVE FINISHED FLOOR LINEAR FEET LEAVING ANALOG OUTPUT LVG AIR PRESSURE DROP MAKEUP AIR APPROXIMATELY MAXIMUM **APPX** MAX BRAKE HORSEPOWER ONE THOUSAND BTUH'S BRITISH THERMAL UNIT MCA MINIMUM CIRCUIT AMPS BRITISH THERMAL UNIT PER HOUR MERV MINIMUM EFFICIENCY REPORTING VALUE CUBIC FEET PER MINUTE MIN MINIMUM DIGITAL INPUT MAXIMUM OVER CURRENT PROTECTION DIAMETER NUMBER DOWN DN OUTSIDE AIR DIGITAL OUTPUT 0.D. OUTSIDE DIAMETER EXHAUST AIR OPCI OWNER PROVIDED, CONTRACTOR INSTALLED ENTERING AIR TEMPERATURE PCF POUNDS PER CUBIC FOOT ENERGY EFFICIENCY RATIO PRESSURE DROP ENTERING PRE-ENGINEERED METAL BUILDING EXTERNAL STATIC PRESSURE PH PHASE ENTERING WATER TEMPERATURE PRV PRESSURE REDUCING VALVE DEGREES FAHRENHEIT POUNDS PER SQUARE INCH PSI DEGREES FAHRENHEIT DRY BULB POUNDS PER SQUARE INCH GAGE PSIG FULL LOAD AMPS RLA RATED LOAD AMPS **FLOOR** FLR RPM REVOLUTIONS PER MINUTE DEGREES FAHRENHEIT WET BULB SUPPLY AIR FEET PER MINUTE SCH FPM **SCHEDULE** FEET SENSIBLE GALLONS PER HOUR STATIC PRESSURE GALLONS PER MINUTE SQ FT SQUARE FEET HORSEPOWER TYP **TYPICAL** HEATING. VENTILATING AND AIR CONDITIONING UC DOOR UNDERCUT HERTZ UNLESS OTHERWISE NOTED UON INSIDE DIAMETER VEL VELOCITY **INCHES** VARIABLE FREQUENCY DRIVE KILOWATT WATER COLUMN

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# MECHANICAL SPECIFICATIONS

#### PART 1 – GENERAL

- 1.1 THE SCOPE OF THE WORK INCLUDES LABOR. MATERIALS, APPARATUS, TRANSPORTATION AND TOOLS REQUIRED FOR THE ADDITION OF NEW ELEVATORS AND ELEVATOR EQUIPMENT ROOMS TO TWO APARTMENT COMPLEXES.
- 1.2 ALL WORK SHALL BE DONE IN STRICT ACCORDANCE WITH THE 2018 VIRGINIA MECHANICAL AND PLUMBING CODES AS WELL AS ASME 17.1 - 2016 "SAFETY CODES FOR ELEVATORS AND ESCALATORS"
- 1.3 CONTRACTOR SHALL CONTACT LOCAL UTILITIES TO OBTAIN ALL REQUIREMENTS, APPROVAL AND PERMITS. THE CONTRACTOR SHALL PAY ALL FEES REQUIRED FOR THE INSTALLATION OF THEIR WORK.
- 1.4 CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO DETERMINE THE EXTENT OF THE WORK. LACK OF KNOWLEDGE OF EXISTING CONDITIONS WILL NOT BE CONSIDERED A BASIS FOR CHANGE ORDERS.
- 1.5 CONTRACTOR SHALL PERFORM ANY AND ALL TRENCHING. EXCAVATION, AND BACKFILLING REQUIRED FOR THE INSTALLATION OF THEIR WORK.
- 1.5 DELIVER AND INSTALL THE MECHANICAL MATERIALS AND EQUIPMENT COVERED BY THE PLANS AND SPECIFICATIONS TO THE OWNER COMPLETE AND IN FIRST CLASS CONDITION IN EVERY RESPECT. GUARANTEE THAT THE MATERIALS, EQUIPMENT AND WORKMANSHIP PROVIDED BY THEM SHALL BE ENTIRELY FREE FROM DEFECTS, AND THAT THE CONTRACTOR WILL REPAIR AND REPLACE AT THEIR OWN EXPENSE AS MAY BE DIRECTED BY THE OWNER, ANY MATERIAL, EQUIPMENT OR WORKMANSHIP IN WHICH DEFECTS MAY DEVELOP. PROVIDE A WRITTEN WARRANTY FOR A PERIOD OF 12 MONTHS AGAINST DEFECTIVE WORKMANSHIP AND MATERIAL AFTER FINAL ACCEPTANCE AT NO ADDITIONAL COST TO THE OWNER.

### PART 2 - PRODUCTS

2.1 DUCTLESS SPLIT SYSTEM HEAT PUMPS: PROVIDE AS SCHEDULED ON DRAWINGS OR EQUAL. PROVIDE WITH REMOTE THERMOSTAT CONTROLLER. PROVIDE

INDOOR UNITS WITH INTEGRAL CONDENSATE PUMPS.

- 2.2 SUMP PUMP: PROVIDE AS SCHEDULED ON DRAWINGS OR EQUAL. PROVIDE WITH OIL MINDER CONTROL SYSTEM TO DETECT PRESENCE OF OIL IN
- 2.3 REFRIGERANT PIPING: REFER TO MANUFACTURER'S INSTALLATION MANUAL FOR SIZING. INSULATE SUCTION PIPING WITH 1" ARMAFLEX PIPE INSULATION.
- 2.5 DVW PIPING: CAST IRON TO MATCH EXISTING.

- 3.1 COORDINATE WORK CLOSELY WITH OTHER TRADES AND MAINTENANCE STAFF.
- 3.2 THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR, AND BE REQUIRED TO MAKE GOOD AT THEIR OWN EXPENSE, ANY AND ALL DAMAGES TO ANY WORK OR MATERIALS IN PLACE ON THE PREMISES. OR INCLUDED IN THIS CONTRACT, DURING THE EXECUTION OF THEIR CONTRACT. CONTRACTOR SHALL BE RESPONSIBLE FOR CLEAN-UP OF OCCUPIED SPACE AT THE COMPLETION OF EACH WORK PERIOD.
- 3.3 CONTRACTOR SHALL PROVIDE AN APPROPRIATE LISTED THROUGH-PENETRATION FIRE STOPPING ASSEMBLY AT EACH PENETRATION OF FIRE RATED CONSTRUCTION (I.E. WALLS AND SLABS, ETC.) SLEEVES SHALL ONLY BE PERMITTED WHERE INDICATED IN THE CONTRACTOR SELECTED THROUGH-PENETRATION FIRE STOPPING ASSEMBLY. REFER TO ARCHITECTURAL DRAWINGS FOR LOCATION OF ALL RATED ASSEMBLIES AND ASSOCIATED UL

- THE SUMP.
- 2.4 CONDENSATE PIPING: SCH. 40 PVC.

#### PART 3 — EXECUTION

- DESIGNATIONS.

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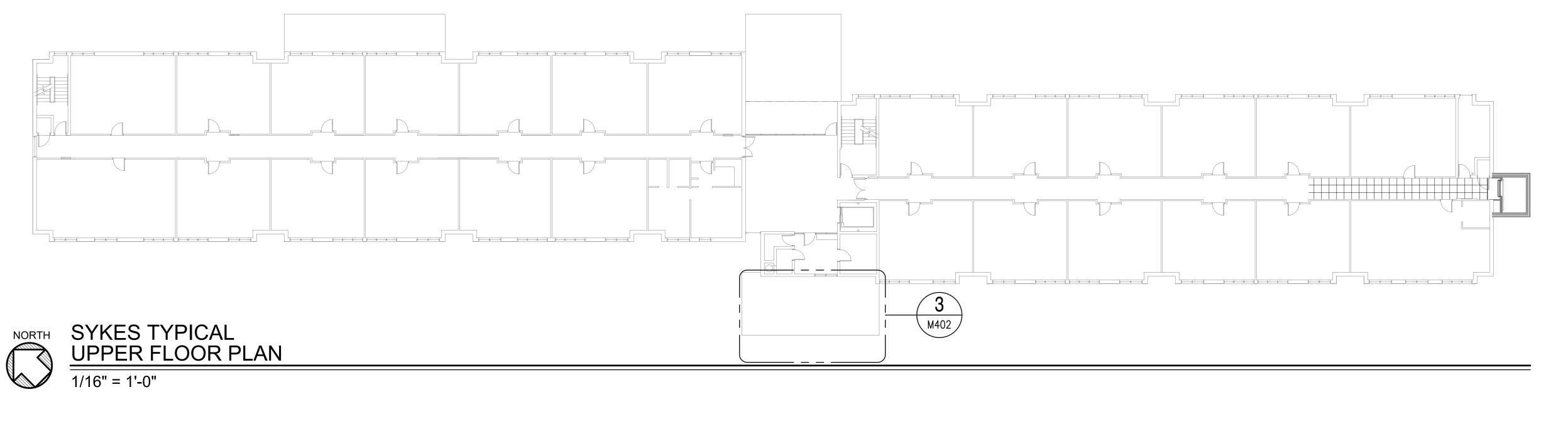
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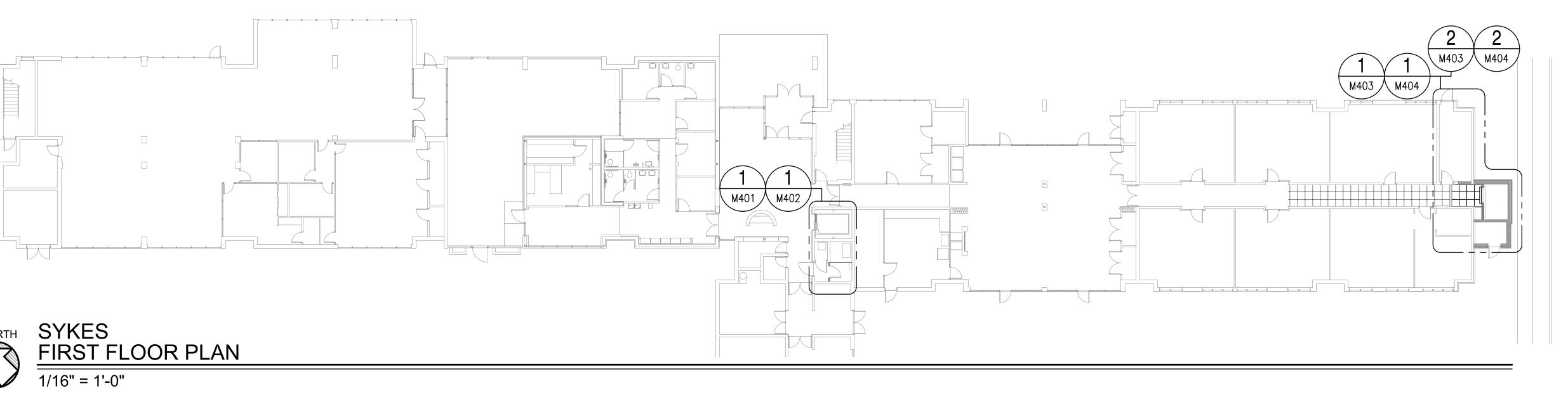
SYKES AND PARTREA ELEVATOR ADDITIONS AND UPGRADES NORFOLK, VA

SYKED FLOOR PLANS

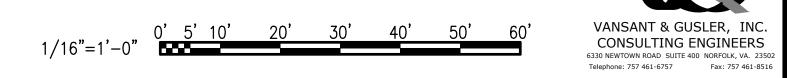
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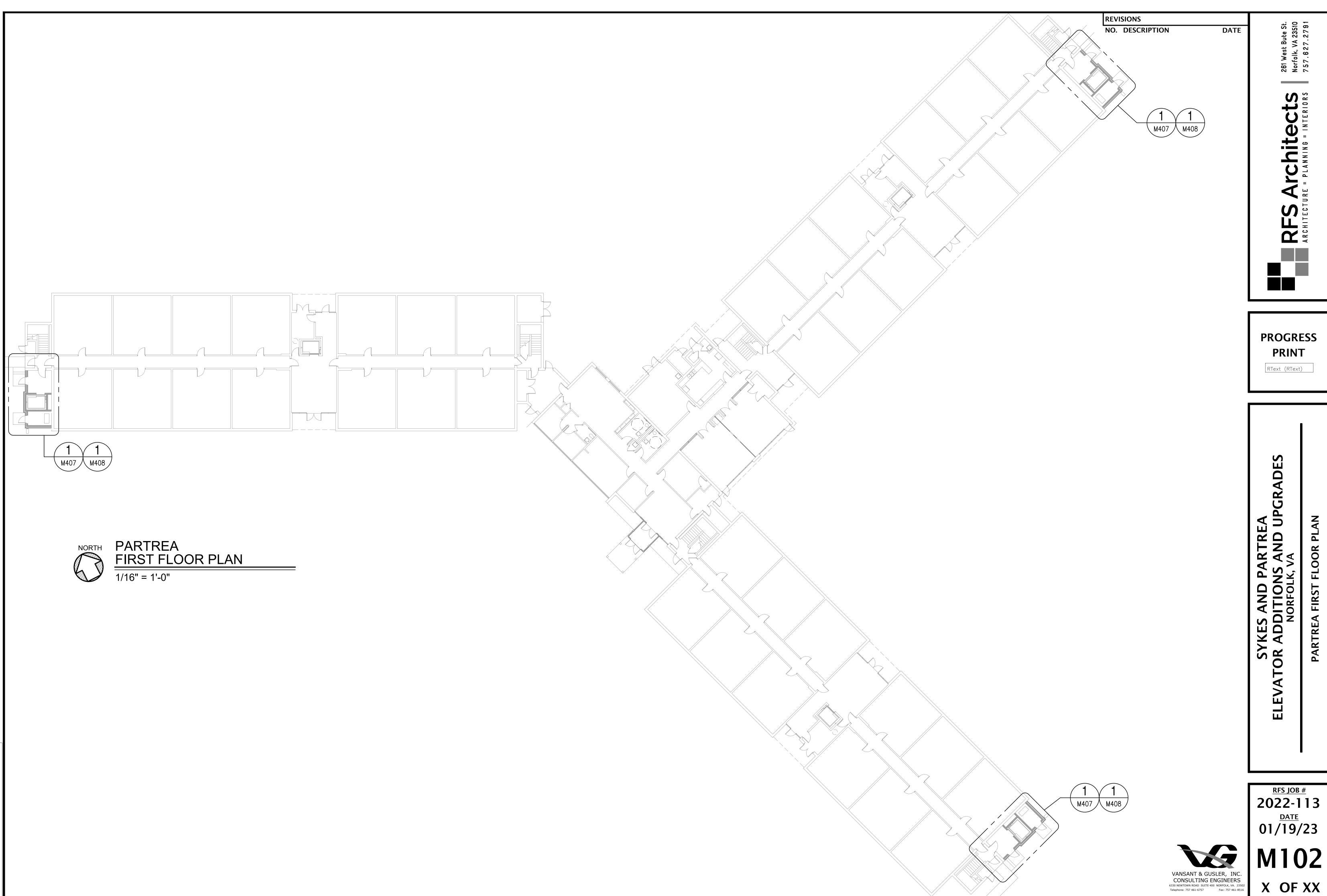
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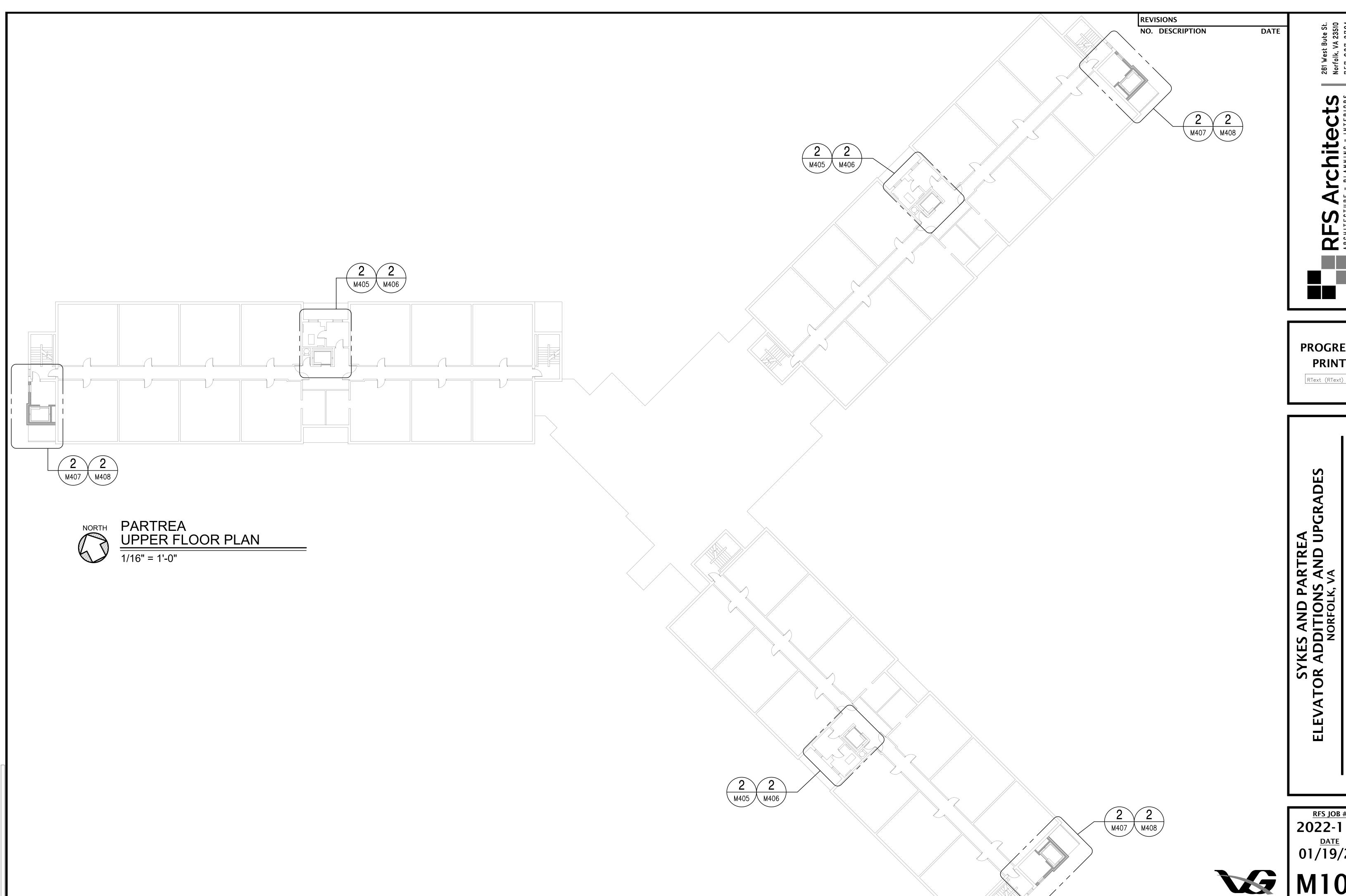




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PARTREA UPPER FLOOR PLAN

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GENERAL NOTES

- 1. CONTRACTOR SHALL FIELD VERIFY THE SIZES OF THE EXISTING PIPES AND DUCTWORK GIVEN ON THE DRAWINGS.
- 2. SEAL ALL EXISTING DUCTWORK AND PIPING PENETRATING ELEVATOR EQUIPMENT ROOM WITH FIRE STOPPING MATERIALS.

SHEET KEYNOTES

DEMOLITION LIMIT.

DEMOLISH EXISTING 12x4 SUPPLY DUCT AND DIFFUSER TO

2. REMOVE EXISTING 3" FLOOR DRAIN AND P-TRAP. DEMOLISH 3"

UNDERGROUND SANITARY PIPING TO DEMOLITION LIMIT.

3. DEMOLISH EXISTING 1-1/2" VENT RISER IN WALL. DEMOLISH VENT

ELEVATOR NO.

CEILING

PIPING ABOVE CEILING TO DEMOLITION LIMIT.

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**ELEVATOR MECHANICAL** 

SYKES AND PARTREA ELEVATOR ADDITIONS AND UPGRADES NORFOLK, VA

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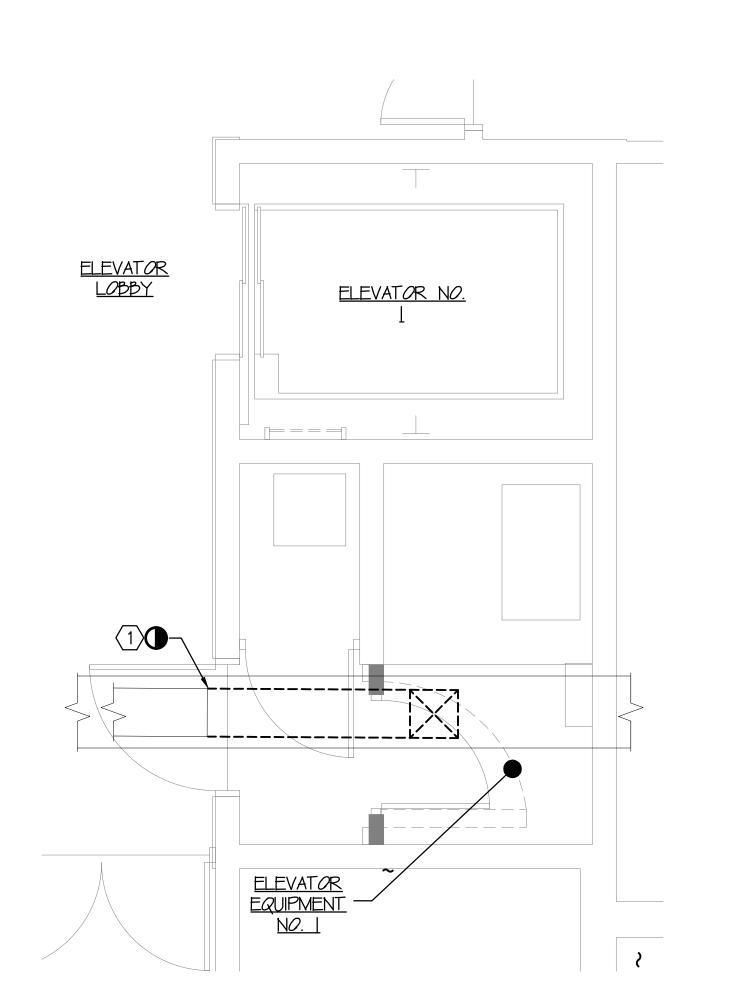
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"=1'-0"

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SYKES FIRST FLOOR
ENLARGED MECHANICAL PLAN - DEMOLITION

3/8" = 1'-0"



SYKES FIRST FLOOR
ENLARGED PLUMBING PLAN - DEMOLITION

ELEVATOR EQUIPMENT NO. |

3/8" = 1'-0"

ELEVAT*O*R L*O*BBY

PIPES AND DUCTWORK GIVEN ON THE DRAWINGS.

- **⚠** SHEET KEYNOTES CAP EXISTING SUPPLY DUCT.
- 2. REFRIGERANT SUCTION AND LIQUID PIPING UP TO 2ND FLOOR ROOF ABOVE.

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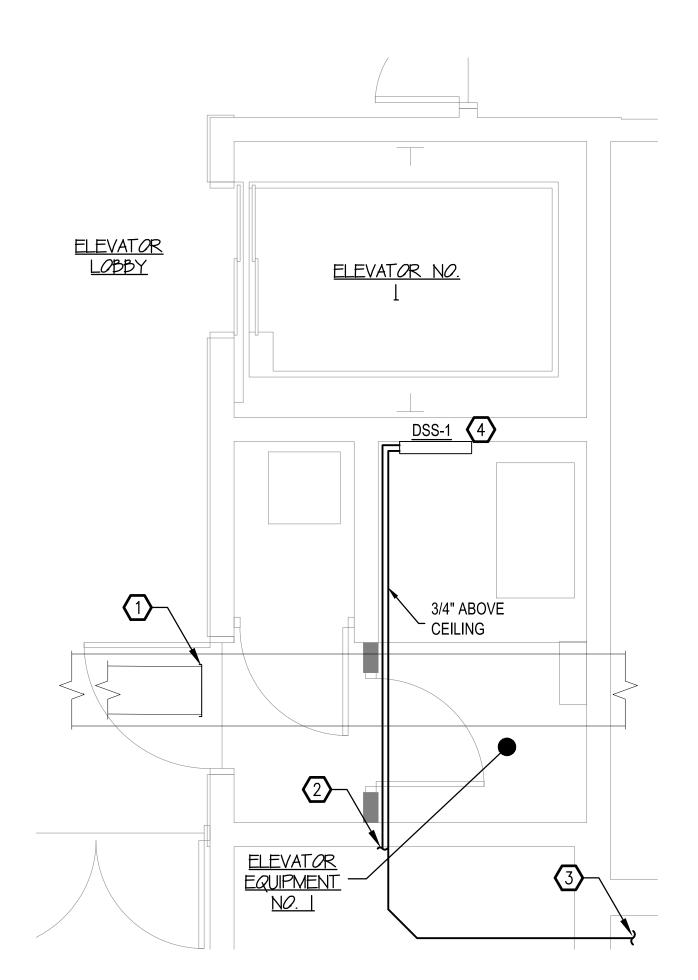
- 3. PROVIDE SPLASH BLOCK AT TERMINATION OF EXISTING CONDENSATE PIPING AT EXTERIOR.
- 4. PROVIDE WALL-MOUNTED DUCTLESS SPLIT SYSTEM WITH MANUFACTURER'S MOUNTING KIT AND INTEGRAL CONDENSATE PUMP. PUMP CONDENSATE ABOVE CEILING.
- 5. RELOCATE 3" FLOOR DRAIN. MOVE EXISTING PIPING TERMINATIONS TO DISCHARGE IN FLOOR DRAIN.
- 6. PROVIDE WALL CLEANOUT AND 1-1/2" SANITARY VENT RISER.
- 7. PROVIDE OUTDOOR CONDENSING UNIT MOUNTED ON ROOF WITH PREMANUFACTURED ROOF SUPPORT.

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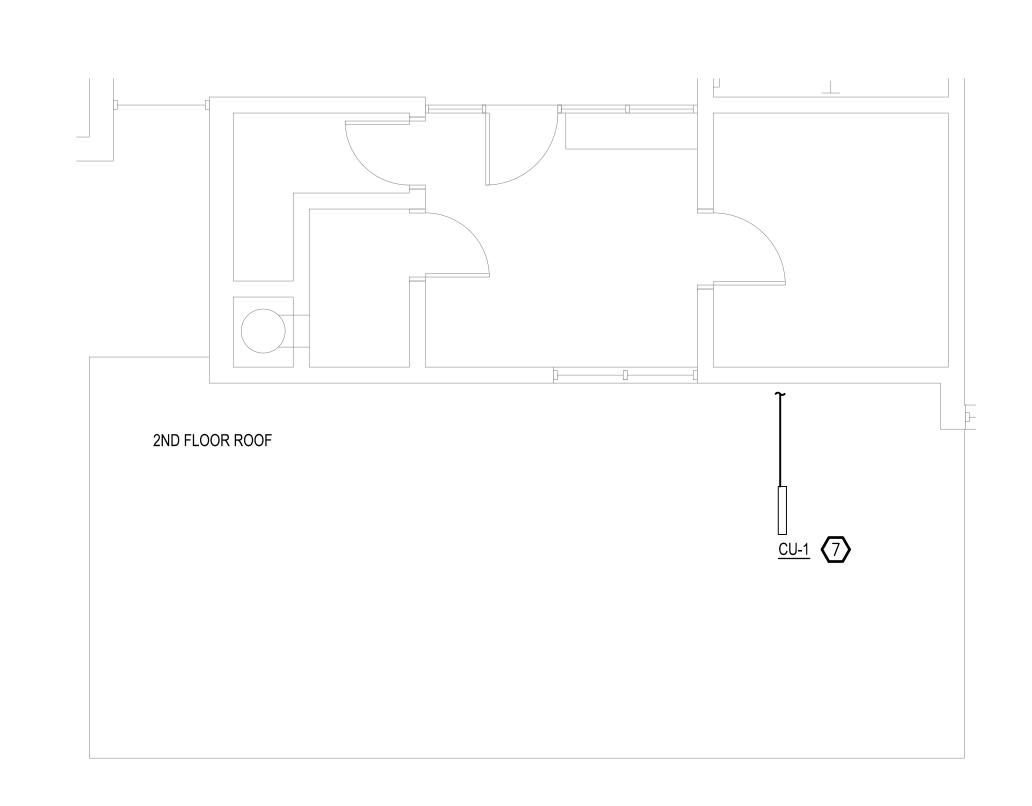
SYKES FIRST FLOOR ENLARGED MECHANICAL PLAN - NEW WORK 1 M101 M402

3/8" = 1'-0"

M101 M402

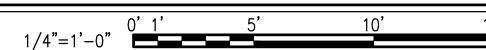
SYKES FIRST FLOOR ENLARGED PLUMBING PLAN - NEW WORK

3/8" = 1'-0"



SYKES ENLARGED SECOND FLOOR ROOF MECHANICAL PLAN - NEW WORK

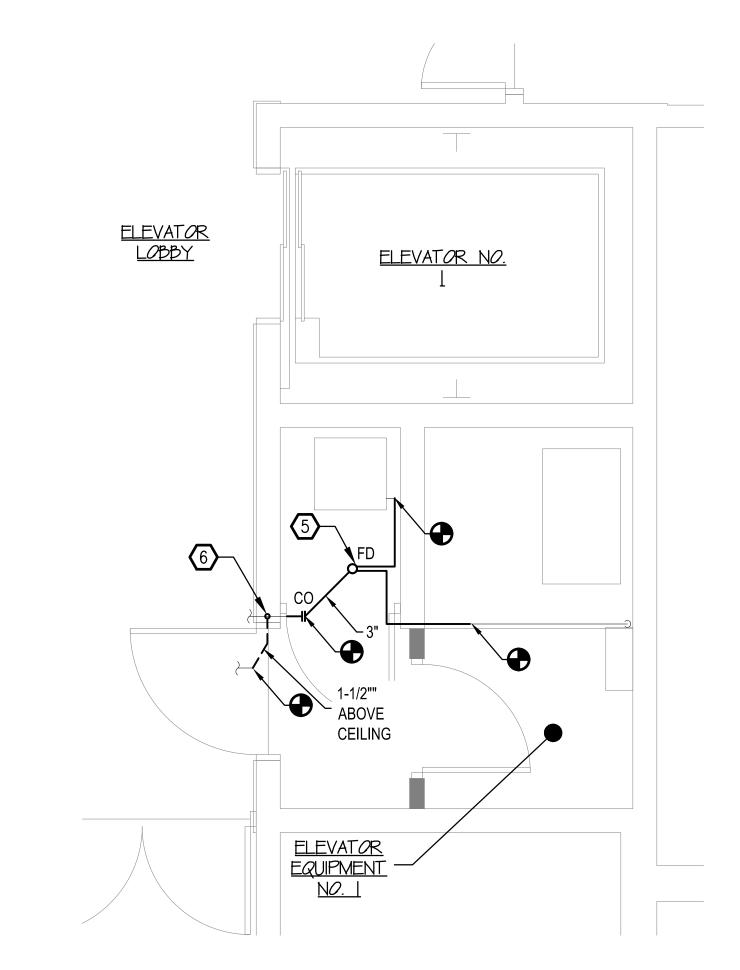
1/4" = 1'-0"



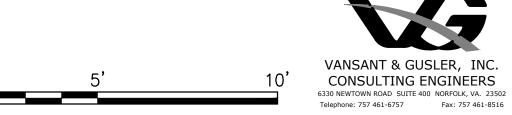
SYKES AND PARTREA ELEVATOR ADDITIONS AND UPGRADES NORFOLK, VA

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3 M101 M402



<u>KITCHEN</u>

1 11/11/15

SYKES FIRST FLOOR ENLARGED MECHANICAL NEW WORK PLAN 3/8" = 1'-0"

ELEVATOR EQUIPMENT NO.2

SYKES FIRST FLOOR ENLARGED PLUMBING NEW WORK PLAN

ELEVAT*O*R NO.2

SP-1 -/ 2" RUN ABOVE FLOOR OF

ELEVATOR EQUIPMENT NO.2

ELEVATOR SHAFT

3/8" = 1'-0"

<u>STAIR</u> <u>NO. 3</u>

4"(E) ¬

<u>KITCHEN</u>

1 11/11/16

<u>corridor</u>

GENERAL NOTES

CONTRACTOR SHALL FIELD VERIFY THE SIZES OF THE EXISTING PIPES GIVEN ON THE DRAWINGS.

2. SEAL ALL PIPING PENETRATING ELEVATOR EQUIPMENT ROOM WITH FIRE STOPPING MATERIALS.

**SHEET KEYNOTES** 

PROVIDE WALL-MOUNTED DUCTLESS SPLIT SYSTEM. PROVIDE WITH MANUFACTURER'S MOUNTING BRACKET. UNIT SHALL NOT BE MOUNTED ABOVE ELEVATOR EQUIPMENT.

2. OUTDOOR CONDENSING UNIT MOUNTED ON ROOF OF NEW ELEVATOR EQUIPMENT ROOM. PROVIDE PREMANUFACTURED ROOF SUPPORT.

3. PROVIDE PITCH POCKET AT ROOF PENETRATION.

4. PROVIDE SPLASH BLOCK AT TERMINATION OF 3/4" PVC CONDENSATE PIPING.

5. PROVIDE 4" FLOOR CLEANOUT.

6. PROVIDE SUMP PUMP WITH OIL MINDER.

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SYKES AND PARTREA ELEVATOR ADDITIONS AND UPGRADES NORFOLK, VA

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**REVISIONS** 

1. DEMOLISH EXISTING EXHAUST GRILLE AND PERMANENTLY CAP.

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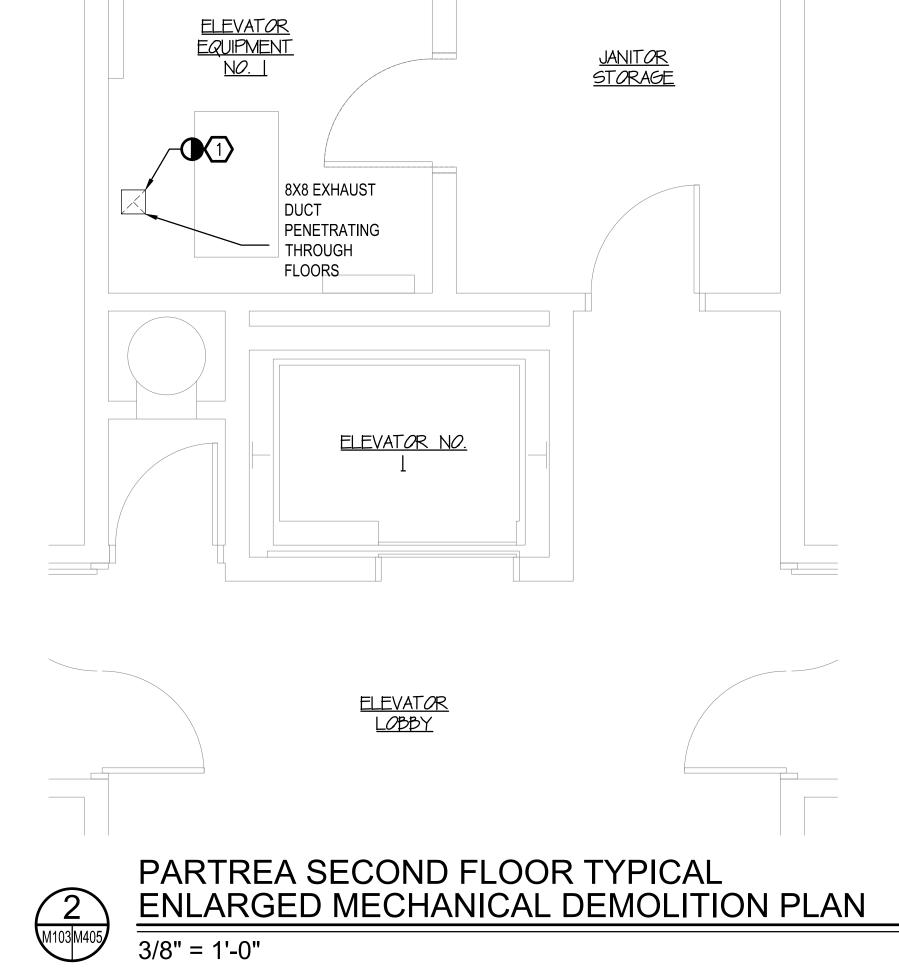
**EXISTING ELEVATOR MECHANICAL** 

SYKES AND PARTREA ELEVATOR ADDITIONS AND UPGRADES NORFOLK, VA

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<u>ELEVAT*O*R</u> <u>EQUIPMENT</u>

<u>NO. I</u>

DSS-3A/B/C 1

2 M103 M406

3/8" = 1'-0"

1. 1. SEAL ALL PIPING PENETRATING ELEVATOR EQUIPMENT ROOM WITH FIRE STOPPING MATERIALS.

ELEVATOR NO.

ELEVATOR LOBBY

PARTREA UPPER FLOOR TYPICAL ENLARGED MECHANICAL NEW WORK PLAN

**SHEET KEYNOTES** 

<u>JANIT*O*R</u> ST*O*RAGE

PROVIDE WALL-MOUNTED DUCTLESS SPLIT SYSTEM. PROVIDE WITH MANUFACTURER'S MOUNTING BRACKET. UNIT SHALL NOT BE MOUNTED ABOVE ELEVATOR EQUIPMENT.

2. OUTDOOR CONDENSING UNIT MOUNTED ON ADJACENT PORCH ROOF. PROVIDE PREMANUFACTURED ROOF SUPPORT.

3. TERMINATE CONDENSATE PIPING ON PORCH ROOF.

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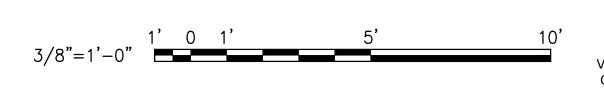
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SYKES AND PARTREA ELEVATOR ADDITIONS AND UPGRADES NORFOLK, VA

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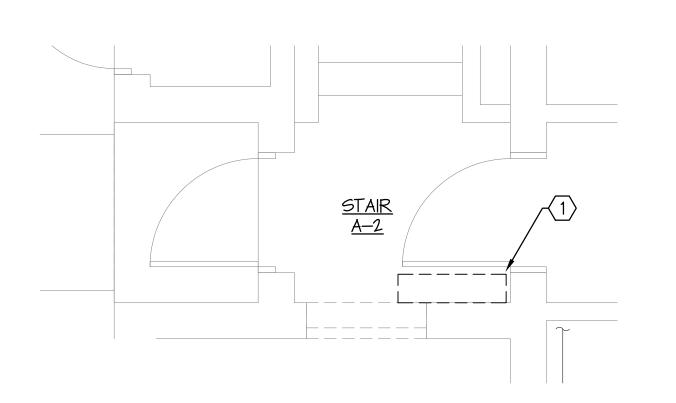
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DEMOLISH HOT WATER UNIT HEATER AND CAP HOT WATER CONNECTIONS PERMANENTLY.

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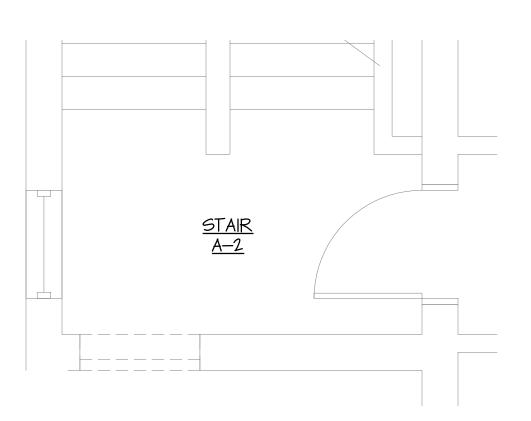
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3/8" = 1'-0"

1 M102 M407



PARTREA UPPER FLOOR ENLARGED MECHANICAL DEMOLITION PLAN 3/8" = 1'-0"



**SHEET KEYNOTES** 

ROOF SUPPORT.

CONDENSATE PIPING.

REVISIONS PROVIDE WALL-MOUNTED DUCTLESS SPLIT SYSTEM. PROVIDE

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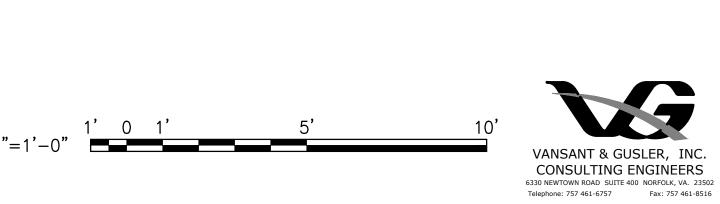
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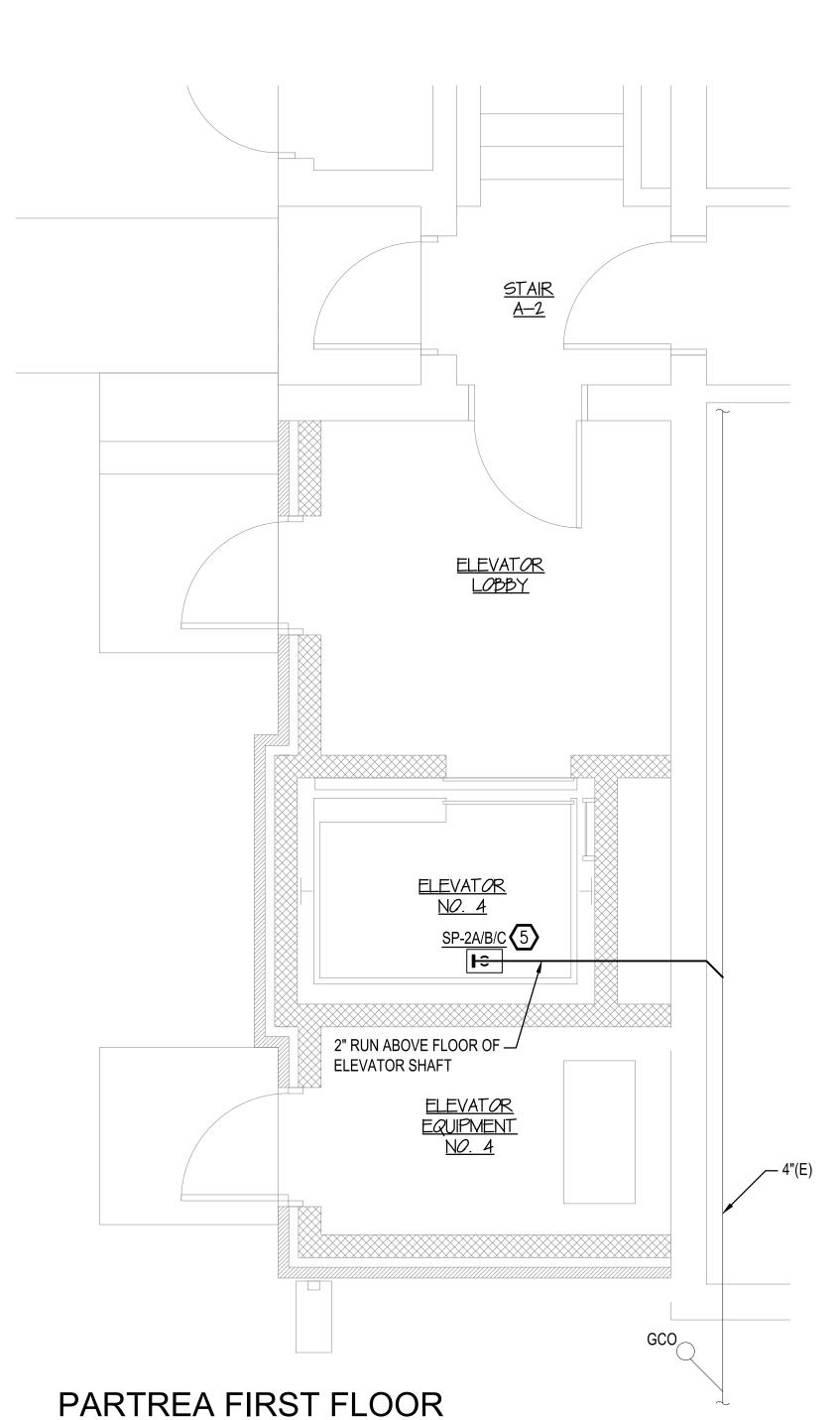
SYKES AND PARTREA ELEVATOR ADDITIONS AND UPGRADES NORFOLK, VA ADDITION MECHANICAL

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PARTREA FIRST FLOOR ENLARGED MECHANICAL NEW WORK PLAN

3/8" = 1'-0" 1 M102 M408

<u>STAIR</u> <u>A—2</u>

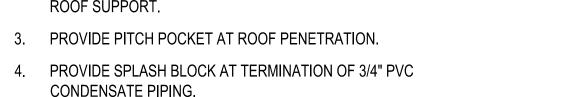
ELEVATOR LOBBY

ELEVAT*O*R No. 4

ELEVATOR EQUIPMENT NO. 4

PARTREA FIRST FLOOR
ENLARGED PLUMBING NEW WORK PLAN

3/8" = 1'-0" 2 M103 M408



5. PROVIDE SUMP PUMP WITH OIL MINDER.

BE MOUNTED ABOVE ELEVATOR EQUIPMENT.

2. OUTDOOR CONDENSING UNIT MOUNTED ON ROOF OF NEW

WITH MANUFACTURER'S MOUNTING BRACKET. UNIT SHALL NOT

ELEVATOR EQUIPMENT ROOM. PROVIDE PREMANUFACTURED

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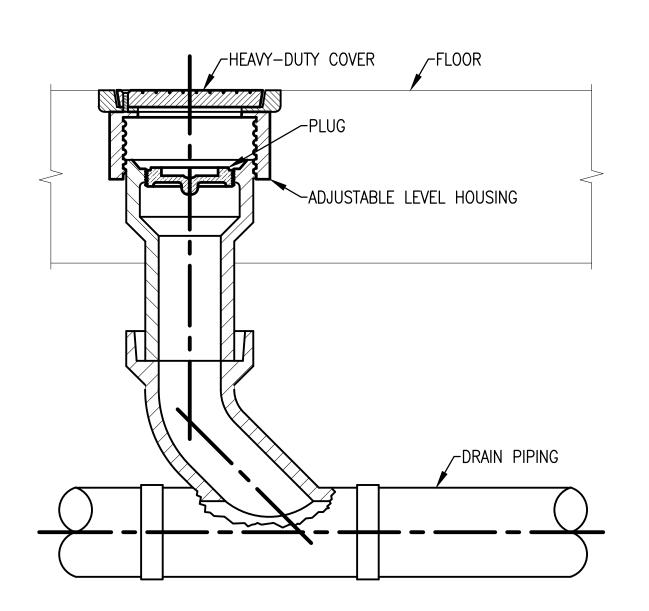
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CLEANOUT TEE

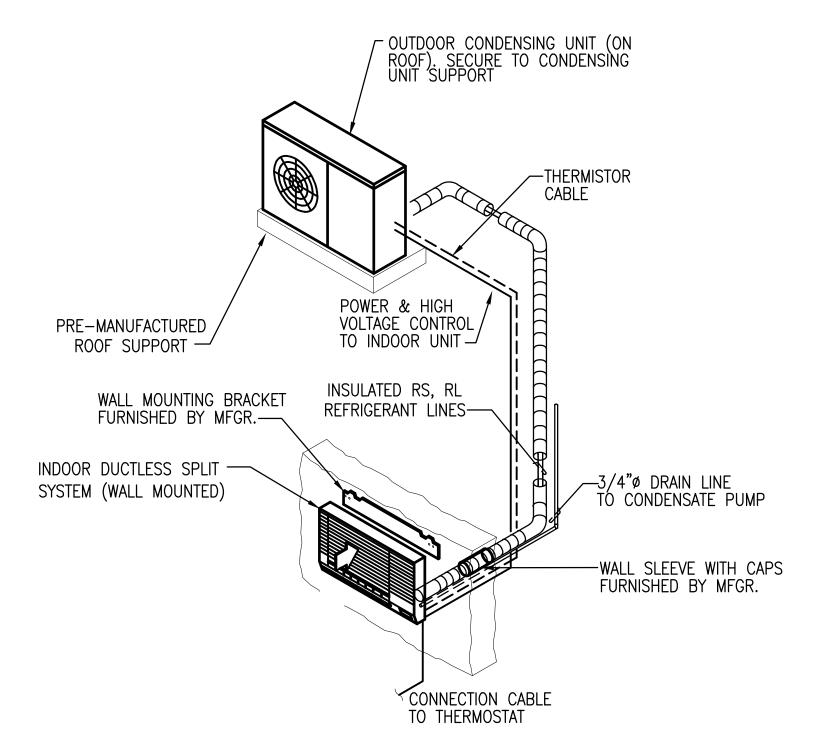
CAST IRON 1/8 BENDS

CAST IRON PIPING

WALL CLEANOUT DETAIL
NO SCALE

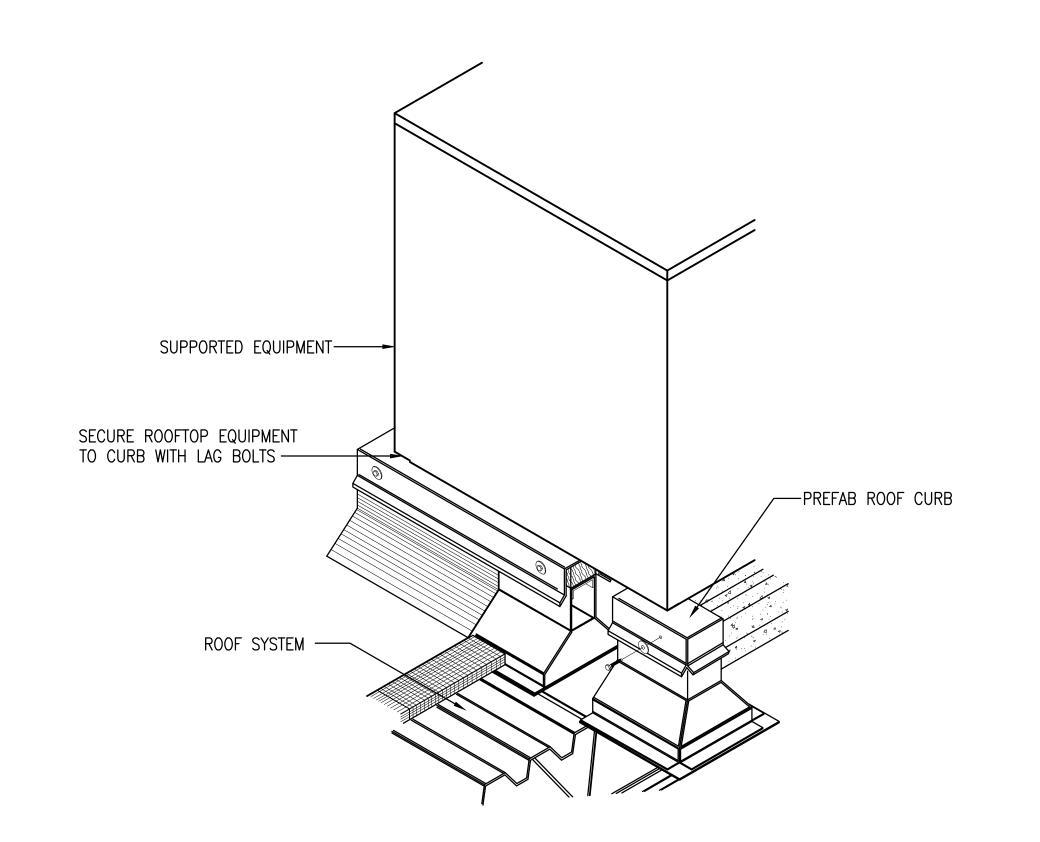


FLOOR CLEANOUT DETAIL
NO SCALE



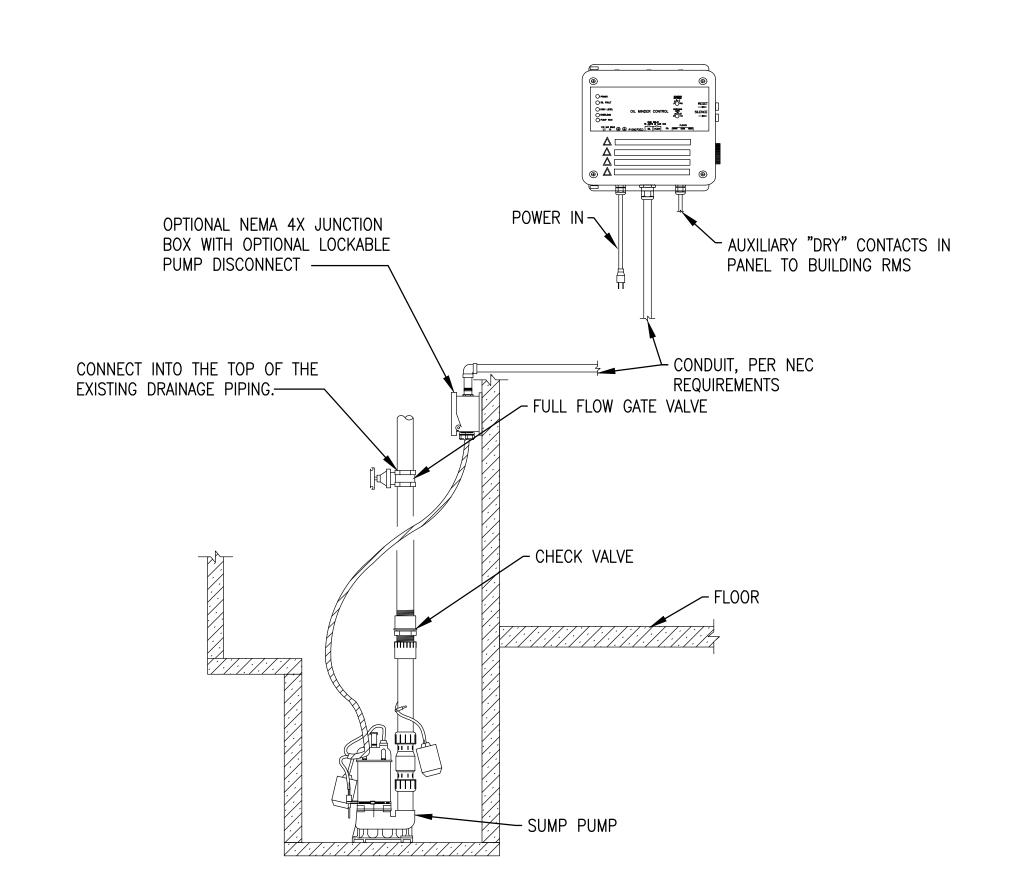
DUCTLESS SPLIT SYSTEM AIR CONDITIONER DETAIL

NO SCALE



CONDENSING UNIT ROOF SUPPORT DETAIL

NO SCALE



SUMP PUMP WITH OIL MINDER CONTROLLER DETAIL
NO SCALE

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NO. DESCRIPTION

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SYKES AND PARTREA
ELEVATOR ADDITIONS AND UPGRADES
NORFOLK, VA SCHEDULES

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