

HVAC ABBREVIATION LEGEND

NOTE: ALL ABBREVIATIONS MAY NOT APPLY

GENERAL/AIR		HYDRONIC	
ABV	ABOVE	KW	KILOWATT
AFB	ABOVE FINISHED FLOOR	LAT	LEAVING AIR TEMPERATURE
ARCH	ARCHITECT	LB	POUND
ASHRAE	AMERICAN SOCIETY OF REFRIGERATION AND AIR CONDITIONING ENGINEERS	MA	MIXED AIR
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MAX	MAXIMUM
BOP	BOTTOM OF PIPE	MC	MECHANICAL CONTRACTOR
BPD	BACK PRESSURE DAMPER	MD	MANUAL DAMPER
BTUH	BRITISH THERMAL UNITS PER HOUR	MFR	MANUFACTURER
CAD	CEILING AIR DIFFUSER	MIN	MINIMUM
CD	CONDENSATE DRAIN	MUA	MAKE-UP AIR UNIT
CFM	CUBIC FEET PER MINUTE	NC	NOISE CRITERIA
CPVC	CHLORINATED POLY VINYL CHLORIDE	NEC	NATIONAL ELECTRIC CODE
CT	COOLING TOWER	NG	NATURAL GAS
CUH	CABINET UNIT HEATER	NIC	NOT IN CONTRACT
DB	DRY BULB	NO	NUMBER
dB	DECIBEL	NTS	NOT TO SCALE
DDC	DIRECT DIGITAL CONTROL	OA	OUTSIDE AIR
DISC SW	DISCONNECT SWITCH	∅	PRESSURE DIFFERENCE
DN	DOWN	PC	PLUMBING CONTRACTOR
DWG	DRAWING	RA	RETURN AIR
DTL	DETAIL	RA	RETURN AIR
EA	EXHAUST AIR	RAG	RETURN AIR GRILLE
EAT	ENTERING AIR TEMPERATURE	SA	SUPPLY AIR
EC	ELECTRICAL CONTRACTOR	SAR	SUPPLY AIR REGISTER
EER	ENERGY EFFICIENCY RATIO	SD	SMOKE DAMPER
EFF	EFFICIENCY	SEER	SEASONAL ENERGY EFFICIENCY RATIO
EMS	ENERGY MANAGEMENT SYSTEM	SLAD	SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
EQUIP	EQUIPMENT	SMACNA	SHEET METAL & AIR CONDITIONING CONTRACTORS NATIONAL ASSOCIATION
ESP	EXTERNAL STATIC PRESSURE	ESP	EXTERNAL STATIC PRESSURE
°F	DEGREES FARENHEIT	SPEC	SPECIFICATION
FD	FIRE DAMPER	SO FT	SQUARE FEET
FRM	FIRE RESISTANT	SO IN	SQUARE INCHES
FRPM	FAN REVOLUTIONS PER MINUTE	STN	SECTION
GA	GAUGE	T	THERMOSTAT
GC	GENERAL CONTRACTOR	TCC	TEMPERATURE CONTROL CONTRACTOR
GPM	GALLONS PER MINUTE	TOL	TOP OF LOUVER
HEPA	HIGH EFFICIENCY PARTICULATE AIR FILTER	∆T	TEMPERATURE DIFFERENCE
HORIZ	HORIZONTAL	TYP	TYPICAL
HP	HORSEPOWER	UL	UNDERWRITERS LABORATORY
HVAC	HEATING/VENTILATION/AIR CONDITIONING	VFD	VARIABLE FREQUENCY DRIVE
HZ	HERTZ	WB	WET BULB
		W/	WITH
AAV	AUTOMATIC AIR VENT		
AS	AIR SEPARATOR		
B	BOILER		
BD	BLOW-DOWN PIPING		
BFP	BOILER FEED PUMP		
BFV	BUTTERFLY VALVE		
WC	WATER COOLED CHILLER		
CWS	CHILLED WATER SUPPLY		
CWS	CHILLED WATER RETURN		
P	CIRCULATING PUMP		
ES/FM	END SUCTION/FRAME MOUNT		
EWT	ENTERING WATER TEMPERATURE		
FT HD	FEET HEAD		
F&T	FLOAT AND THERMOSTATIC		
GLY	GLYCOL		
GV	GATE VALVE		
HW	HOT WATER		
LWT	LEAVING WATER TEMPERATURE		
MV	MOTORIZED VALVE		
NC	NORMALLY CLOSED		
NO	NORMALLY OPEN		
NPSH	NET POSITIVE SUCTION HEAD		
OS&Y	OUTSIDE SCREW & YOLK		
PRV	PRESSURE REDUCING VALVE		
PSIA	POUNDS/SQUARE INCH - ABSOLUTE		
PSIG	POUNDS/SQUARE INCH - GAUGE		
PVC	POLYVINYL CHLORIDE		
T	TANK		
TDH	TOTAL DYNAMIC HEAD		

MECHANICAL DESIGN CRITERIA

APPLICABLE BUILDING CODE

2012 KENTUCKY BUILDING CODE
2012 INTERNATIONAL MECHANICAL CODE
2012 INTERNATIONAL ENERGY CONSERVATION CODE (IECC)

UTILITY COORDINATION

ALL UTILITY CONNECTIONS TO BE COORDINATED WITH LOCAL UTILITY IN CHARGE.
UTILITY CONNECTIONS SHOWN ON PLAN HAVE BEEN COORDINATED FOR DESIGN PHASE.
CONNECTIONS MUST BE COORDINATED COMPLETELY WITH RESPECTIVE UTILITY
SEE INFORMATION BELOW FOR CONTACT WITH RESPECTIVE UTILITY.

CONTRACTOR TO OBTAIN ALL PERMITS AND COMPLY WITH UTILITY STANDARDS FOR INSTALLATION
CONTACT 811 "CALL BEFORE YOU DIG" SERVICE PRIOR TO WORK ON SITE.

ELECTRICAL SERVICE

COMPANY - KENERGY

SEWER SERVICE

COMPANY - RWRA

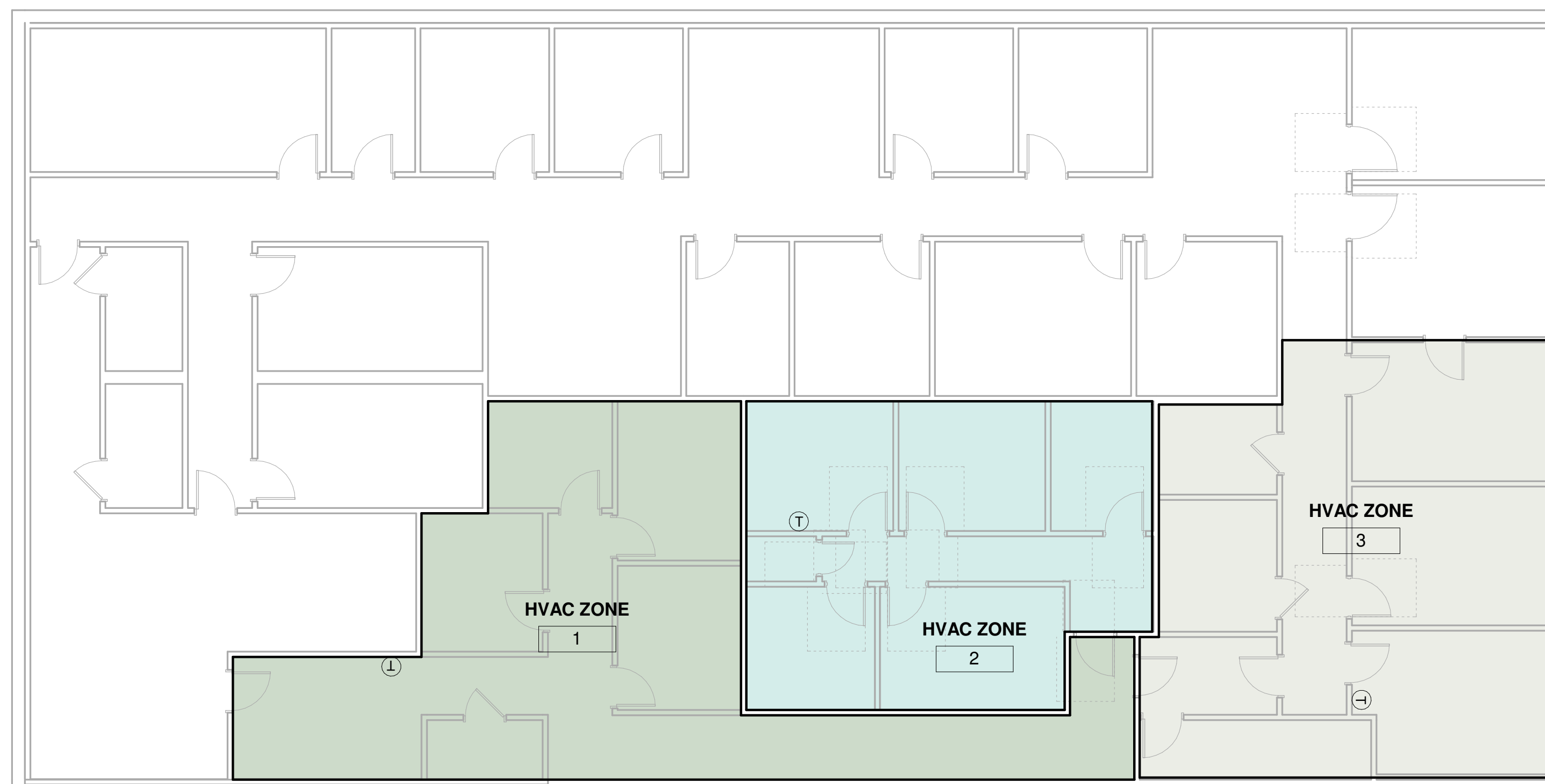
WATER SERVICE

COMPANY - SOUTHEAST DAVIESS COUNTY WATER

DRAWINGS ARE DESIGNED TO BE PRINTED IN COLOR.

HVAC ZONE COLOR LEGEND

- HVAC ZONE 1
- HVAC ZONE 2
- HVAC ZONE 3



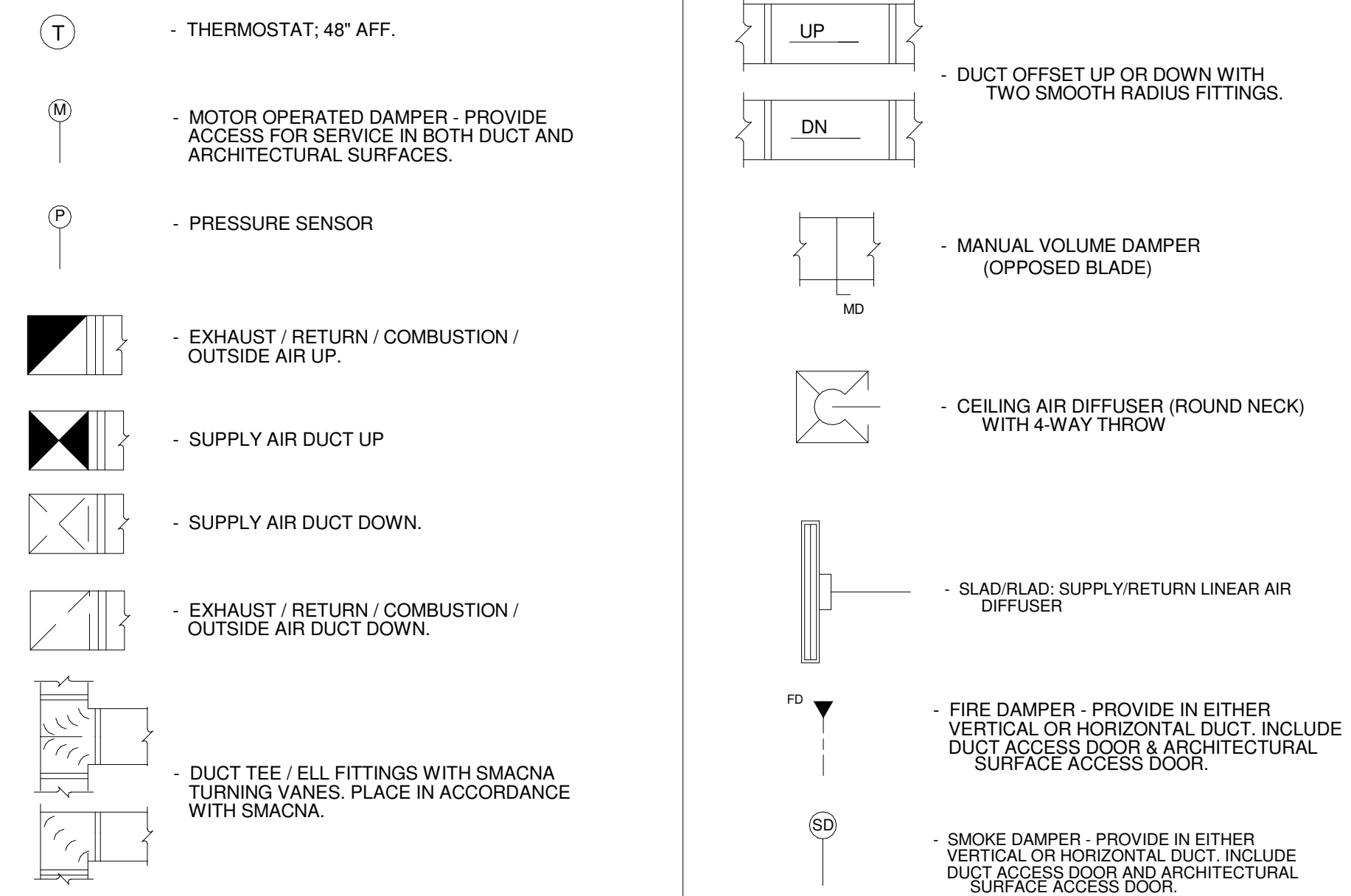
MECHANICAL HVAC ZONE PLAN

1

1/8" = 1'-0"

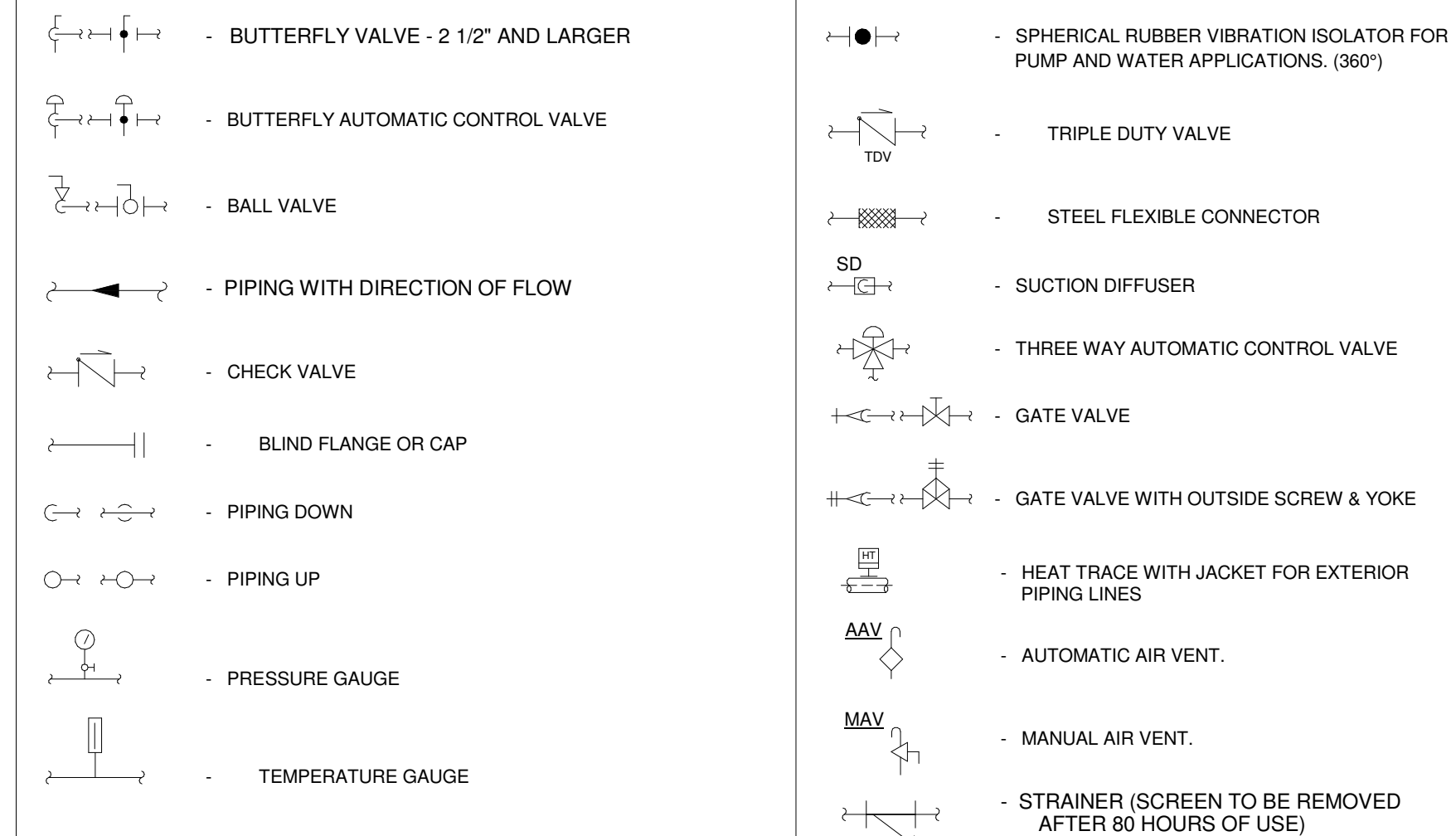
HVAC SYMBOLS LEGEND (AIR)

NOTE: NOT ALL SYMBOLS MAY APPLY



HVAC SYMBOLS LEGEND (HYDRONICS)

NOTE: NOT ALL SYMBOLS MAY APPLY



GENERAL NOTES:

1. ALL WORK SHALL BE DONE BY A LICENSED CONTRACTOR.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR JOBSITE SAFETY, INCLUDING REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION.
3. COORDINATE ALL WORK AND SCHEDULES WITH OWNER, PROJECT MANAGER, OTHER CONTRACTORS AND APPROPRIATE UTILITE COMPANIES.
4. ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, INCLUDING ADDENDA, AND APPLICABLE CODES AND STANDARDS.
5. CONTRACTOR SHALL INCLUDE ALL MATERIALS, LABOR, TOOLS, ETC. FOR A COMPLETE AND OPERABLE INSTALLATION. ALL MATERIALS SHALL BE NEW, SPECIFICATION GRADE, AND UL LISTED PRODUCTS UNLESS OTHERWISE NOTED.
6. ALL CONSTRUCTION DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR, UNLESS NOTES OTHERWISE.
7. THERE SHALL BE NOTHING ABANDONED IN PLACE, UNLESS SPECIFICALLY IDENTIFIED AS SUCH.
8. ALL TRADES SHALL COORDINATE THE ROUTING AND INSTALLATION OF HIS WORK WITH THAT OF ALL OTHER TRADES THROUGH THE GENERAL CONTRACTOR.
9. CONTRACTOR SHALL VISIT SITE TO VERIFY ALL EXISTING CONDITIONS THAT MAY AFFECT WORK.
10. STORE MATERIALS AS DIRECTED. PROTECT STORED MATERIALS AND INSTALLED WORK FROM DAMAGE.
11. REMOVE DIRT, DEBRIS AND ANY UNUSED MATERIAL FROM SITE REGULARLY AND DISPOSE OF BY PROPER LEGAL METHODS.
12. PATCH AND FINISH CONSTRUCTION DAMAGE DURING THE COURSE OF HVAC INSTILLATION. PROVIDE PROPER SEALS AT ALL WALL AND FLOOR PENETRATIONS.
13. PERFORM TESTING AND MAKE FINAL ADJUSTMENTS TO VERIFY PERFORMANCE OF ALL SYSTEMS AND EQUIPMENT.
14. MAINTAIN "AS BUILT" RECORD DRAWINGS OF ALL INSTALLED ITEMS AND PROVIDE TO PROJECT MANAGER AT COMPLETION.
15. CONTRACTOR TO INCLUDE REQUIRED EXTENDED WORK HOURS, WEEKEND AND HOLIDAY OVERTIME FOR DISCONNECTION AND/OR TIE INS OF UTILITY SYSTEMS REQUIRING ISOLATION AND/OR SHUTDOWN OF THE OWNERS SYSTEMS, ACTIVE PROCESS AREAS AND / OR OPERATIONS.

NOTE: THESE NOTES ARE GENERAL IN NATURE. SPECIFIC MEANS, METHODS AND MATERIALS ARE DETAILED IN THE SPECIFICATIONS AND CONTRACTOR IS DIRECTED TO THOROUGHLY REVIEW THE FULL SPECIFICATION.



KIRTLEY ANNEX BUILDING

2426 St. Ann Street
Owensboro, KY 42301

AXIOM
ARCHITECTURE

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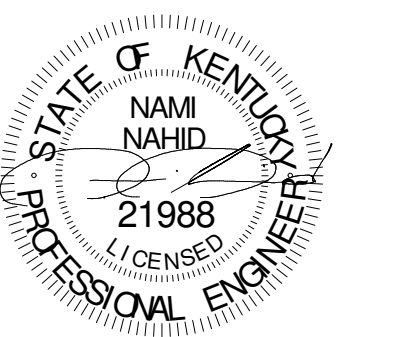
MECHANICAL

SKY
ENGINEERING
MECHANICAL • ELECTRICAL • PLUMBING

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Architect's Project # DC09



FEB. 19, 2019

GENERAL MECHANICAL

M-000



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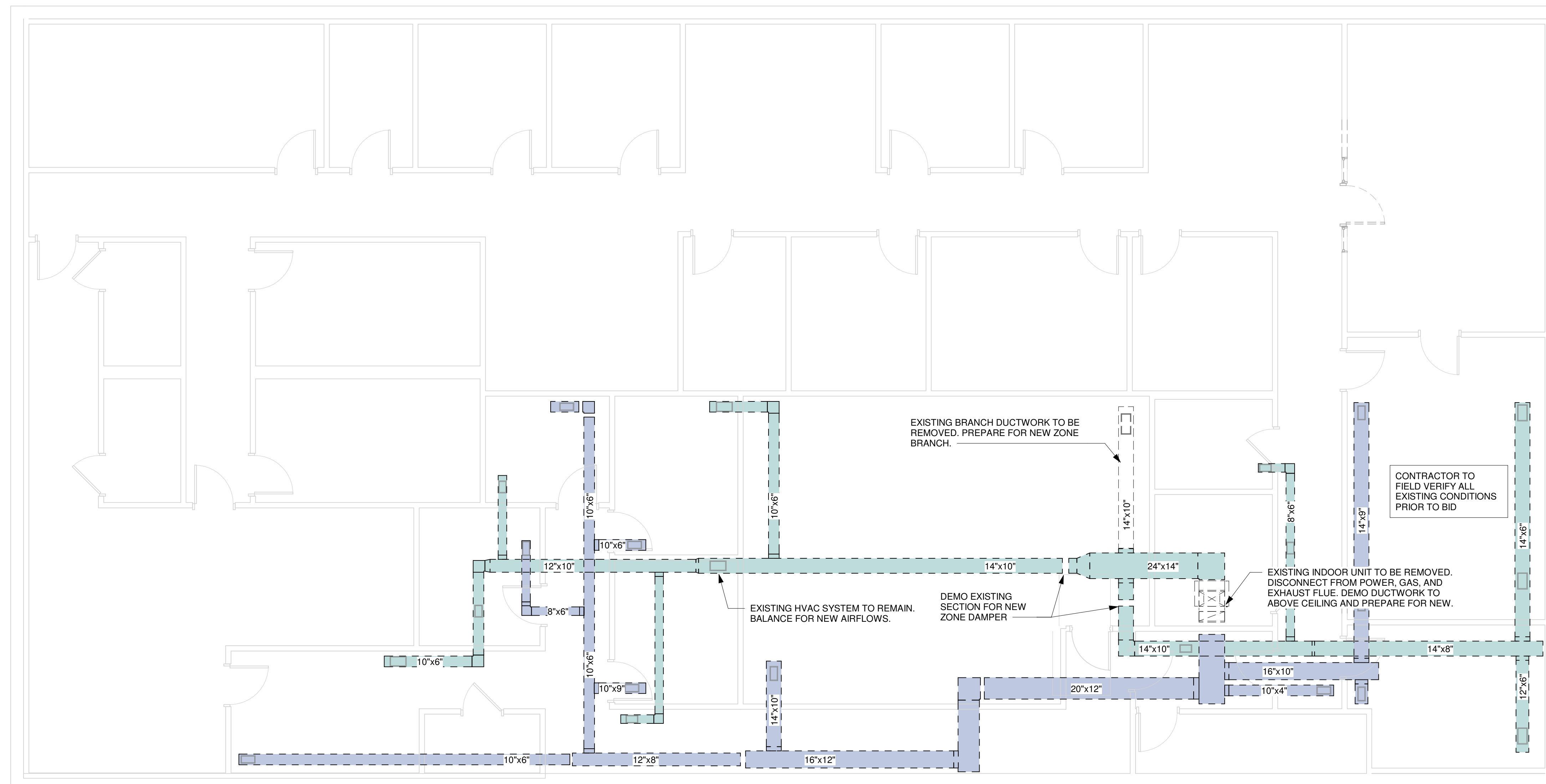


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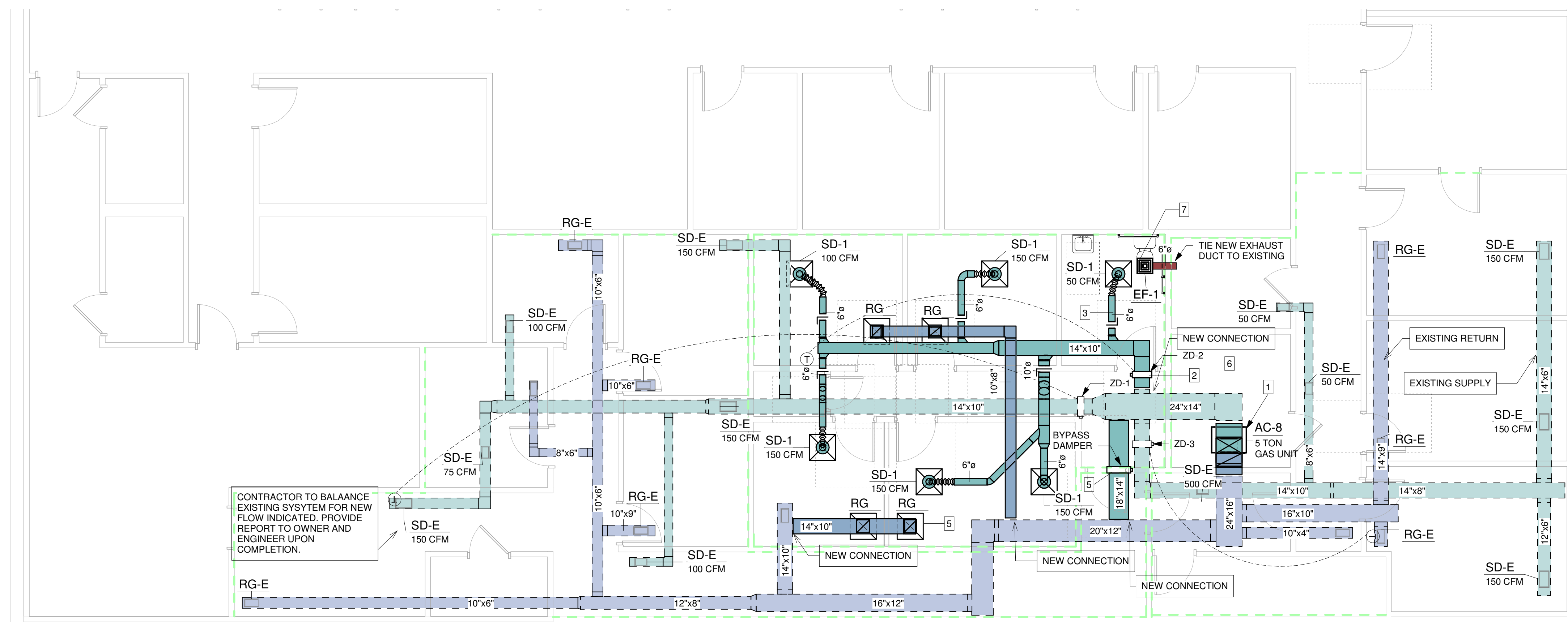
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1 MECHANICAL DEMO PLAN
3/16" = 1'-0"

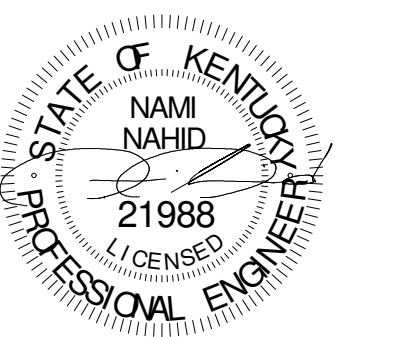


2 MECHANICAL PLAN
3/16" = 1'-0"

NEW NOTES

1. NEW INDOOR UNIT TO BE MOUNTED IN LOCATION OF EXISTING. EXISTING DUCTWORK TO BE RECONNECTED TO SUPPLY AND RETURN OPENING WITH MINIMAL TRANSITIONS AND MINIMAL ELBOWS. INSTALL NEW UNIT PER DETAILS. RECONNECT EXISTING POWER, DUCTWORK, PIPING AND OUTSIDE AIR DUCT. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS.
2. NEW 14"x10" BRANCH LINE TO SERVE NEWLY RENOVATED AREA. CONTRACTOR TO INSTALL NEW ZONE DAMPER IN LOCATION INDICATED AND TIE TO THERMOSTAT. SEE SEQUENCE OF OPERATION FOR ADDITIONAL DETAILS. TYPICAL FOR THREE.
3. NEW BRANCH DUCTWORK TO SERVE NEWLY RENOVATED AREAS AS INDICATED. INSTALL NEW BRANCH SUPPLY DUCT WITH DAMPERS AND BALANCE ACCORDINGLY.
4. NEW 18"x14" BYPASS DUCTWORK WITH CONTROL DAMPER INSTALLED BETWEEN MAIN SUPPLY AND MAIN RETURN.
5. NEW RETURN DUCTWORK TO SERVE NEW RENO AREA.
6. EXISTING UNITS LOCATED IN MECHANICAL ROOM TO REMAIN. CONTRACTOR TO VERIFY EXISTING EQUIPMENT AND SIZE.
7. INSTALL NEW CEILING MOUNTED EXHAUST FAN PER DETAILS. PROVIDE WITH BACKDRAFT DAMPER. TIE UNIT OPERATION TO WALL SWITCH.

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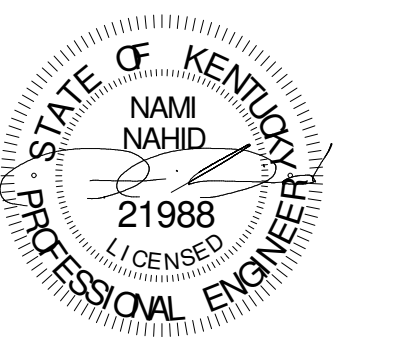
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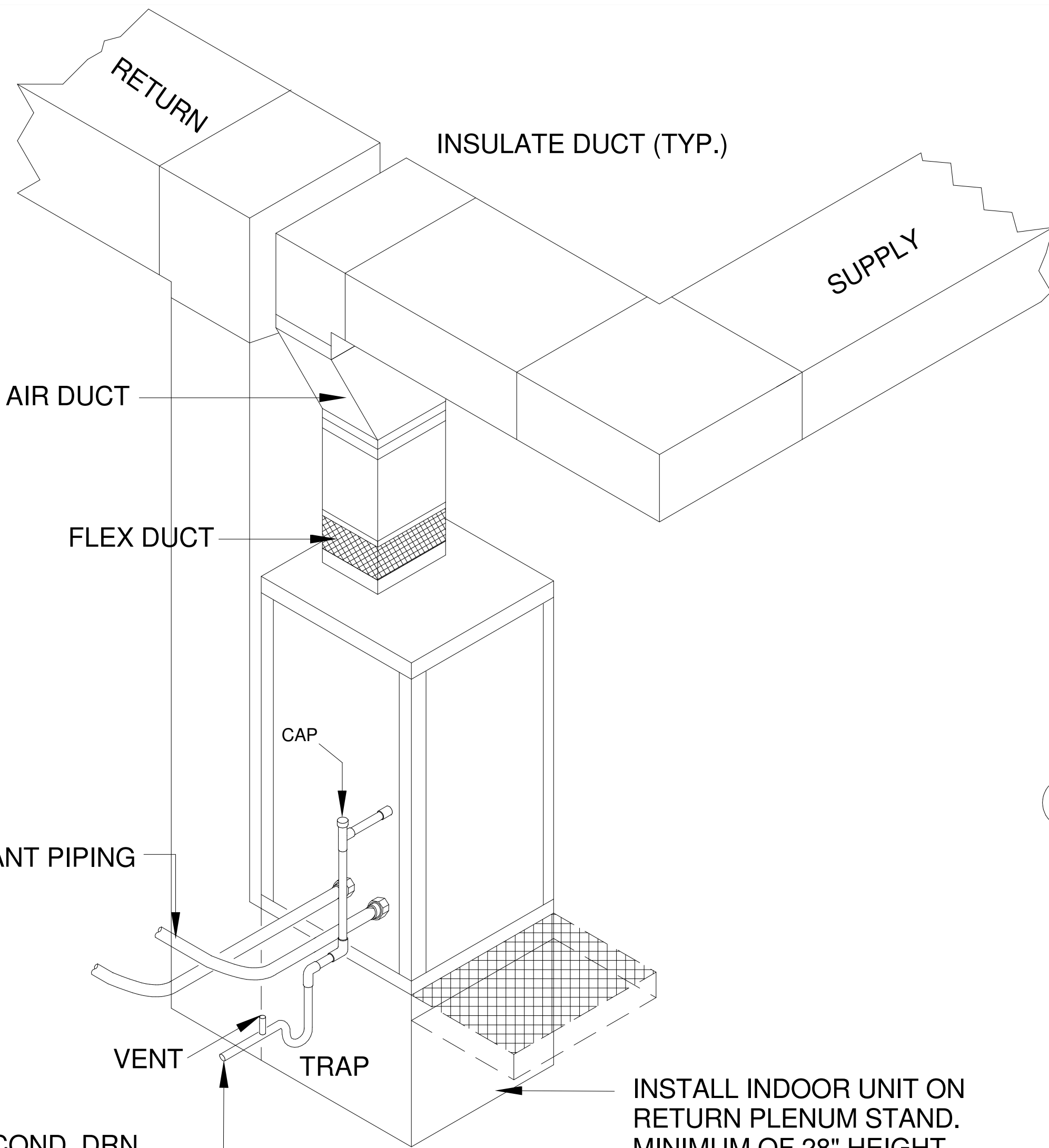
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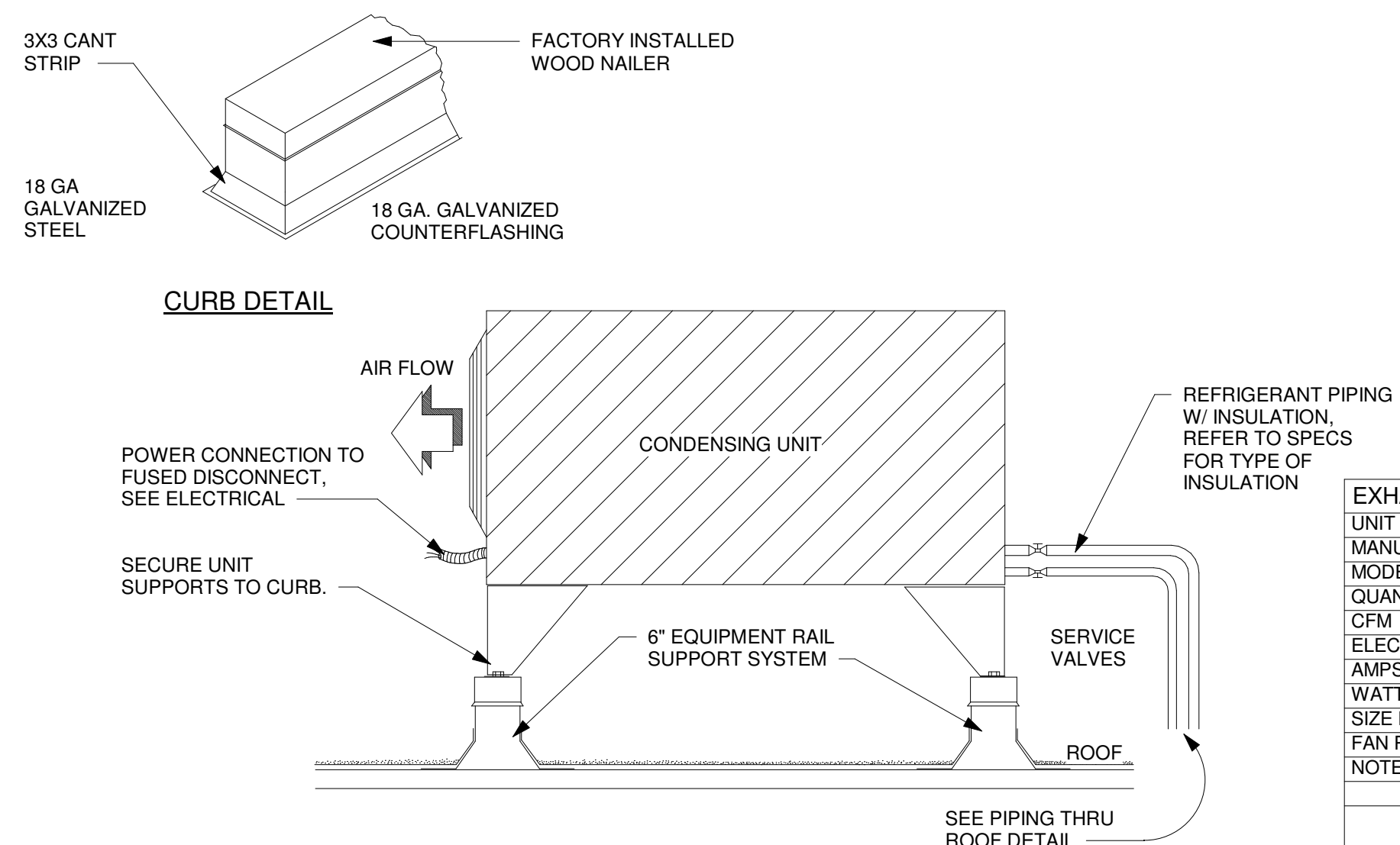
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MECHANICAL SCHEDULES
AND DETAILS

M-200



3 TYPICAL CONDENSING UNIT ON ROOF
1/4" = 1'-0"



EXHAUST FAN SCHEDULE	
UNIT TAG	EF-1
MANUFACTURER	GREENHECK
MODEL	SP-A125
QUANTITY	6
CFM	104 @ 0.25" STATIC
ELECTRICAL	115/60/1
AMPS	0.82
WATTS	52.5
SIZE HP	---
FAN RPM	1100
NOTES:	1,2,3,4

- NOTES:
1. PROVIDE INDIVIDUAL SWITCH FOR EXHAUST FAN.
2. PROVIDE BACKDRAFT DAMPER ON FANS.
3. COORDINATE WITH LIGHTING AND CEILING GRID CONTRACTOR
4. PROVIDE DISCHARGE WALL CAP FLUSH WITH EXTERIOR FINISH.

DIFFUSER, GRILLE, & REGISTER SCHEDULE								
UNIT TAG	FRAME SIZE	NECK SIZE	TYPE	LOCATION & MOUNTING	MATERIAL	FINISH	MODEL NO.	NOTES
SD-1	24X24	SEE PLAN	PLAQUE FACE	CEILING / LAY-IN	ALUM.	OFF-WHITE	SPD	1,2
RG-2	48X24	SEE PLAN	PERFORATED	CEILING / LAY IN	ALUM.	OFF-WHITE	80	1,3

- NOTES:
1. BASED ON PRICE
2. PROVIDE COVER INSULATION OVER DIFFUSER.

PIPING, DUCTWORK, AND INSULATION SCHEDULE

REFRIGERANT PIPING
WEATHER EXPOSED REFRIGERANT PIPING:
RIGID COPPER TYPE L, INSULATED WITH 1" BLACK FOAM AND ADDITIONAL UV PROTECTED PVC JACKET OVER INSTALLATION. PENETRATE REFRIGERANT PIPING THRU SIDE-WALL WITH A SLEEVED OPENING AND SEALED WATER TIGHT AFTER INSTALLATION.

REFRIGERANT PIPING WITHIN BUILDING:
RIGID COPPER TYPE L, INSULATE PIPING WITH 1" BLACK FOAM. SUPPORT PIPING FROM STRUCTURE WITH UNISTRUTS FLEXIBLE INSULATED COPPER SHALL ONLY BE USED FOR SINGLE UNIT CONNECTION WITH MAXIMUM LENGTH OF 6'-0".

DUCTWORK AND AIR DEVICES INSULATION
DUCTWORK AS PER LATEST SMACNA GUIDELINES FOR LOW PRESSURE SYSTEM.
INSULATED ALL (SUPPLY, RETURN, EXHAUST, OUTSIDE AIR) WITH FIBERGLASS INSULATION (R-8) AND VAPOR BARRIER WRAP. ALL DIFFUSERS AND GRILLES SHALL HAVE ABOVE DIFFUSER MOLDED INSULATION ON FACE PLATES.

VRV DRAIN PIPING
ALL INDOOR UNITS SHALL HAVE PVC CONDENSATE DRAIN PIPING ROUTED TO NEAREST FLOOR / JAN. SINK. PIPING MAY BE COMBINED FOR MULTIPLE INDOOR UNITS. SLOPE PIPING FOR GRAVITY DRAIN. INSULATE CONDENSATE LINE WITH 3/4" ARMAFLEX INSULATION THROUGHOUT, TO DRAIN POINT LOCATION

HVAC CONTROLS SYSTEM

GENERAL NOTES
New HVAC split system serving renovation area nad existing to be variable indoor unit and variable condensing unit. Unit to operate based on building load. New thermostats installed in each zone, with master thermostat determining if system is in heating or cooling located per plan. Contractor to provide new zoning kit tied to indoor air handler. All equipment to be made of same manufacture including, indoor unit, outdoor unit and zone dampers. Each zone to have temperature thermostat located on wall. Thermostat to operate at 75 deg F setpoint. In heating mode if temperature falls more than 2 deg F below set point unit to turn on heat and run until temperature in room is at least one degree above set point. In cooling mode if temperature rises above 75 by more than 1 deg F then unit to turn on cooling until temperatur in room falls below set point by at least 2 deg.

Indoor Unit
Indoor unit to operate fan speed based on pressure feedback from zone damper sensor. When increase in pressure is sensed, fan is to ramp down and bypass damper to open. Fan to operate to maintain pressure in duct. Heating controlled based on building load. Furnace to turn down at rate equivalent to airflow as required. Modulating gas heater to maintain discharge air temperature. Cooling operation controlled via building load. When zone dampers are calling for cooling, All zone dampers to open and unit to operate at full capacity. When one or more zone dampers closes due to temperature set point reached then unit to ramp down cooling equivalent to airflow required. Bypass damper to act as buffer and not to reduce airflow needed to operate effectively.

Outdoor Unit
Outdoor unit to operate based on indoor cooling load. Variable compressor to ramp up and down to maintain indoor unit cooling need.

Zone Dampers
Zone dampers controlled by zone thermostat. If unit calls for heating or cooling then zone damper to open. If one or more zone dampers are to close then zone damper located on bypass to open 100%.

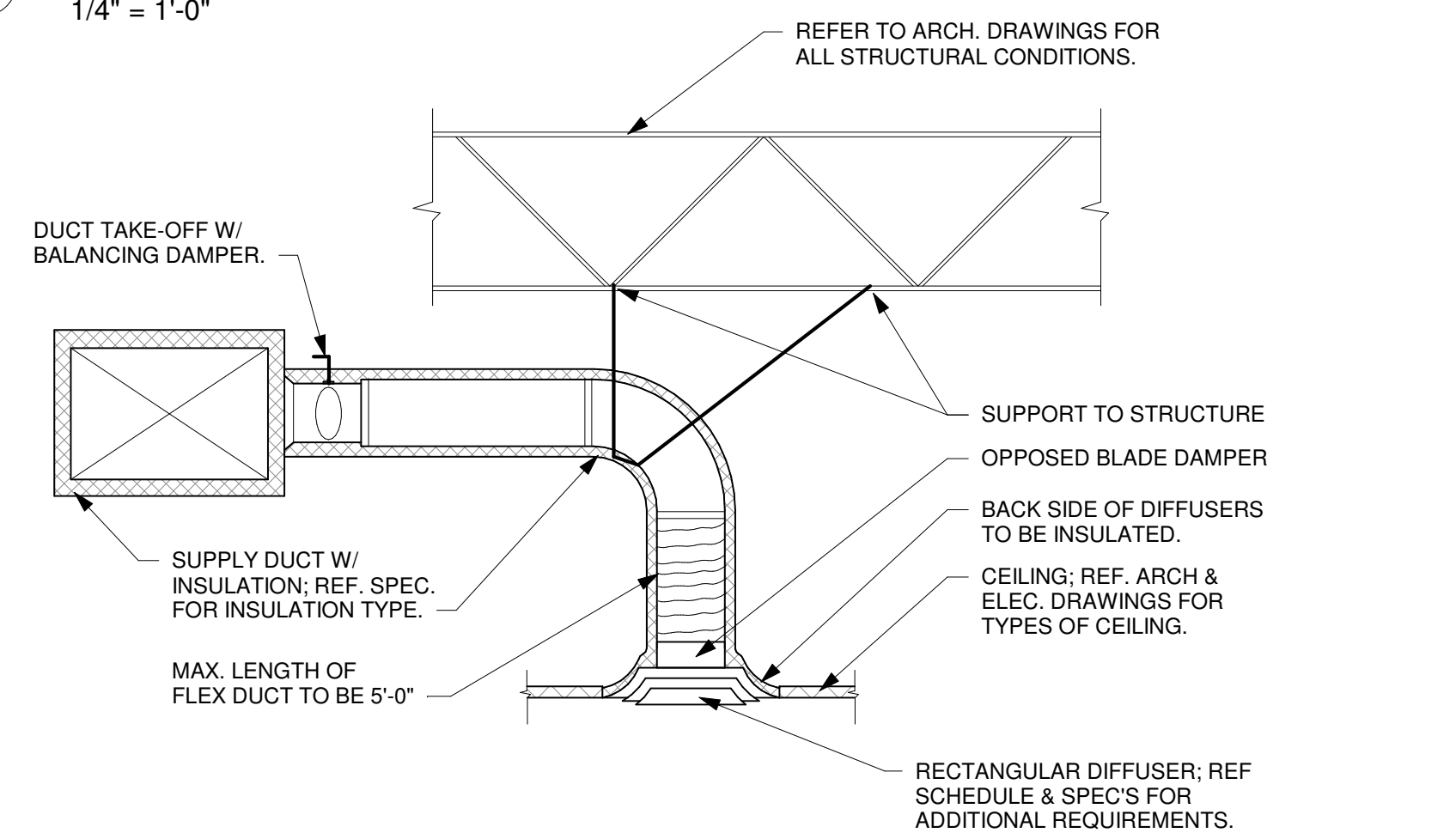
Exhaust Fan
New Exhaust Fan to be controlled via switch located by door.

SPLIT SYSTEM SCHEDULE

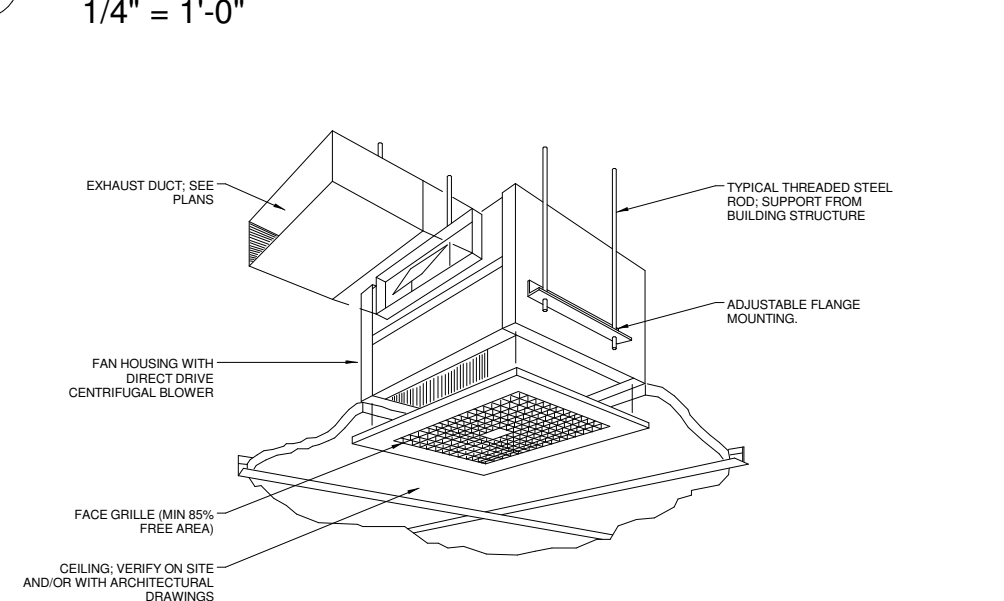
UNIT TAG	AC-1
QTY	1
MANUFACTURER	DAIKIN
TYPE	VERTICAL
SYSTEM TONNAGE	5
SYSTEM NOTES	VARIABLE
AIR HANDLING UNIT	DM96VE1205DN
QUANTITY	1
MOTOR	VARIABLE - ECM
AIR FLOW CFM	2000
E.S.P. IN WG.	0.5
SPEED	HIGH
FAN H.P.	1
POWER	115 / 1
MOP	15.0
HEATING	GAS FURNACE
TYPE	CONCEALED COMB.
STAGES	TWO STAGE
EFFICIENCY	96%
HIGH INPUT (BTUH)	120,000
HIGH OUTPUT (BTUH)	115,200
COOLING COIL	
MODEL	CAPT4961D4
CAPACITY (BTU/HR)	60,000
STYLE COIL	A
DRAIN PAN	STAINLESS STEEL
CERTIFICATION	ARI
CONDENSING UNIT	CU-1
SERIES	DX16SA0601
COOLING STAGES	1
SEER	15
POWER	480V / 3ph
COMPRESSOR	VARIABLE
MCA (AMP)	8.8
FUSE SIZE (AMP)	
ACCESSORIES	
FILTER TYPE	1" (MERV-8)
THERMOSTAT	PROGRAMMABLE

- NOTES:
1. PROGRAMMABLE THERMOSTAT WITH WALL PLATE.
2. SYSTEM SHALL BE UL LISTED
3. 1" FILTER HOUSING WITH ACCESS DOOR
4. OTHER ACCEPTABLE MANUFACTURERS: LENNOX - RHEEM
MINIMUM SEER: 15

1 INDOOR UNIT DETAIL
1/4" = 1'-0"



2 FLEXIBLE DUCT CONNECTION
1/4" = 1'-0"



4 CEILING EXHAUST FAN DETAILS
1/8" = 1'-0"



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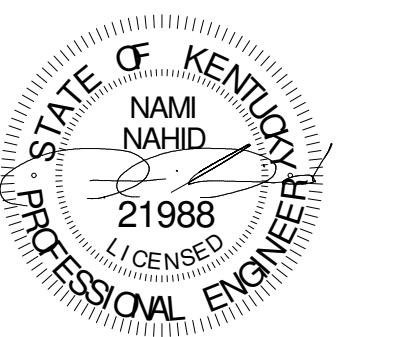


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PLUMBING FIXTURE SCHEDULE

MARK	FIXTURE DESCRIPTION
(P-1) ADA	ADA, TANK AMERICAN STANDARD CADET PRO MODEL # 3517A.101.020. PROVIDE OPEN FRONT TOILET SEAT TO MATCH EQUIPMENT. PROVIDE ALL ACCESSORIES FOR COMPLETE UNIT INSTALLATION.
(P-2)	AMERICAN STANDARD LAVATORY WALL MOUNT MODEL 0321-026-020 WITH AMERICAN STANDARD FAUCET MODEL 5502140.002 PROVIDE ANY OTHER ACCESSORIES NEEDED FOR COMPLETE UNIT INSTALLATION. PROVIDED ADA PIPING COVER.
C.O.	INTERIOR: ZURN MODEL ZN1400-4NL EXTERIOR: ZURN MODEL Z1400-4NL
W.H.	NON-FREEZE WALL HYDRANT: STR WALL HYDRANT MODEL 67C FIREPROOF WITH SLEEVE. COORDINATE WITH GC ON LOCATION.
F.D.	FLOOR DRAIN ZURN MODEL # FD2210.
H.B.	HOSE BIB: ZURN MODEL Z1341

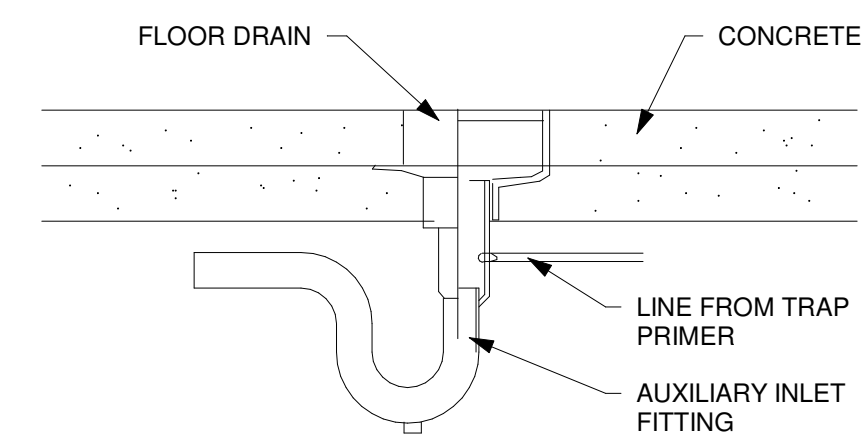
FIXTURE CONNECTION SCHEDULE

DESCRIPTION	CONNECTION SIZE			
	WASTE	C.W.	H.W.	VENT
SINK	2"	1/2"	1/2"	1-1/2"
URINAL	2"	3/4"	-	1-1/2"
LAVATORY (TOILET/ADA)	2"	1/2"	1/2"	1-1/2"
WATER CLOSET (TANK TYPE)	3"	3/4"	-	1-1/2"
WATER CLOSET (FLUSH VALVE)	3"	1-1/2"	-	1-1/2"
SHOWER	3"	3/4"	3/4"	1-1/2"
MOP BASIN	3"	1/2"	1/2"	1-1/2"
DRINKING FOUNTAIN	2"	1/2"	-	1-1/2"
FLOOR DRAIN	4"	1/2" T.P.	-	1-1/2"
TRAP PRIMER UNIT	-	1/2"	-	-

NOTE: FIXTURE CONNECTION SCHEDULE SHALL BE USED FOR TYPICAL CONNECTION. SEE RISER AND PLANS FOR ADDITIONAL WASTE, CW, HW, AND VENT SIZES.

SHOCK ABSORBER SCHEDULE

PIPE SIZE	FIXTURE RANGE	MODEL NUMBER
1/2"	1 - 11	PPI # SC-500
3/4"	12 - 32	PPI # SC-750
1"	33 - 60	PPI # SC-1000
1-1/2"	114 - 154	PPI # SC-1500
2"	155 - 330	PPI # SC-2000



FLOOR DRAIN INSTALLATION DETAIL

NOT TO SCALE

PLUMBING NOTES

- INSTALL STOPS IN SUPPLIES TO ALL FIXTURES.
- INSTALL SHUT-OFF VALVES AT ALL EQUIPMENT.
- PROVIDE VENTS, CLEANOUTS, AND PLUMBING AS REQ'D BY STATE PLUMBING CODE.
- PIPING SHALL BE CONCEALED IN FINISHED AREAS, UNLESS NOTED OTHERWISE.
- CONTRACTOR SHALL VERIFY DIMENSIONS BEFORE STARTING WORK.
- ALL EQUIPMENT INSTALLED AS PER CERTIFIED SHOP DRAWING FROM MFR.
- PROVIDE ACCESS PANELS FOR CONCEALED VALVES AND OPEN SITE DRAINS.
- PROVIDE HYDRAULIC SHOCK ABSORBERS WHERE QUICK-CLOSING VALVES ARE UTILIZED AND AS OTHERWISE REQUIRED BY CODE.
- ROOF OPENINGS SHALL MEET ROOF BOND CANTS AND FLASHINGS BY ROOFING CONTRACTOR. ALL COLLARS ON VENTS, ETC. BY ROOFING CONTRACTOR.
- HOSE BIBBS & WALL HYDRANTS SHALL BE A MIN. OF 18" ABOVE FR. GRADE.
- FLOOR DRAINS IN MECH. ROOMS SHALL HAVE TRAP PRIMERS.
- PIPING MUST CONFORM TO LOCAL AND STATE SEISMIC CODES.
- SMOKE TIGHT FOR PIPING PENETRATION THRU SMOKE TIGHT WALL.
- PIPING PENETRATING FIRE RATED WALLS SHALL HAVE UL FIRE RATED CAULKING ASSEMBLY SYSTEM.
- C-CLAMPS ARE NOT TO BE USED WITHOUT A SEISMIC RETAINER STRAP ON ANY PROJECTS LOCATED WITHIN A SEISMIC ZONE.
- EXPOSED PIPING IN FINISHED SPACES SHALL BE PAINTED. NO PIPING SHALL BE RUN DIRECTLY OVER ANY ELECTRICAL PANELS, TRANSFORMERS, SWITCHGEAR ETC.
- WHEN BRANCH LINE EXCEEDS 20FT IN LENGTH, AN ADDITIONAL WATER HAMMER ARRESTER SHOULD BE INSTALLED, USING BRANCH LINE PIPE SIZE, AT THE END OF THE BRANCH LINE BETWEEN THE LAST TWO FIXTURES. WATER HAMMER ARRESTER FOR A BRANCH SERVING A PIECE OF EQUIPMENT WITH A QUICK-CLOSING VALVE SHOULD BE PLACED AS CLOSE AS POSSIBLE TO THE EQUIPMENT ISOLATION VALVE.

GENERAL PLUMBING NOTES

- ALL CONSTRUCTION DEBRIS SHALL BE DISPOSED OF BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
- THERE SHALL BE NOTHING ABANDONED IN PLACE, UNLESS SPECIFICALLY IDENTIFIED AS SUCH.
- THESE PLANS ARE DIAGRAMMATIC IN NATURE. CONTRACTORS SHALL INCLUDE APPROPRIATE ALLOWANCES FOR OFFSETS AS REQUIRED TO ACCOMMODATE VERTICAL AND HORIZONTAL VARIATIONS IN THE LOCATIONS AND ELEVATIONS OF DUCTWORK, PIPING AND EXISTING CONDITIONS.
- EACH TRADE SHALL COORDINATE THE ROUTING AND INSTALLATION OF HIS WORK WITH THAT OF ALL OTHER TRADES THROUGH THE GENERAL CONTRACTOR. IN ANY INSTANCES OF CONFLICT, SYSTEMS REQUIRING "GRADE" OR "SLOPE" FOR DRAINAGE (SANITARY SEWER, SANITARY VENT, EQUIPMENT DRAINS, ETC...) SHALL HAVE PRIORITY.
- PENETRATIONS OF WALLS OR FLOORS FOR THE PASSAGE OF PIPING, OR OTHER EQUIPMENT SHALL BE PROPERLY SEALED AFTER INSTALLATION OF EQUIPMENT. FIELD VERIFY EXISTING WALL PENETRATIONS AND PROPERLY SEAL AS REQUIRED TO MAINTAIN WALL OR FLOOR RATING.
- PROVIDE ALL EQUIPMENT, MATERIAL, LABOR, SUPERVISION, COSTS AND SERVICES REQUIRED TO INSTALL COMPLETE AND WORKING SYSTEMS, INCLUDING ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLE, INCIDENTAL OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFIED OR SHOWN.
- ALL WORK SHALL COMPLY WITH THE REQUIREMENTS OF THE CONTRACT DOCUMENTS, INCLUDING ADDENDA, AND APPLICABLE CODES AND STANDARDS.
- PROVIDE ACCESS TO ALL CONCEALED EQUIPMENT AND VALVES. COORDINATE LOCATION OF ACCESS PANELS WITH ARCHITECT.
- SLOPE OF HORIZONTAL DRAINAGE PIPE: 2-1/2" OR LESS SHALL HAVE A MINIMUM SLOPE OF 1/4" PER FOOT, 3" TO 6" SHALL HAVE A MINIMUM SLOPE OF 1/8" PER FOOT, AND 8" OR LARGER SHALL HAVE A MINIMUM SLOPE OF 1/16" PER FOOT UNLESS NOTED OTHERWISE.
- ALL FLOOR DRAINS, FLOOR SINKS, HUB DRAINS, OR INDIRECT CONNECTIONS SHALL BE PROVIDED WITH TRAP PRIMER VALVE(S) EXTENDING TO NEAREST COLD WATER SUPPLY UNLESS SHOWN OTHERWISE.
- VENT STACK SHALL BE LOCATED A MINIMUM OF 10'-0" AWAY FROM ANY HVAC UNIT.
- EXTEND SANITARY SEWER, DOMESTIC WATER, STORM, AND FIRE MAIN PIPING AS REQUIRED IN ORDER TO CONNECT TO STUB-OUT PROVIDED BY CIVIL.

MATERIALS

DOMESTIC WATER PIPE - ABOVE SLAB PEX
UNDERGROUND PEX

PEX PIPE FITTINGS SHALL BE PEX BARB.
PEX PIPE USAGE BASED ON COLOR. BLUE PEX FOR DOMESTIC, RED PEX FOR HOT WATER.

WASTE PIPING BELOW SLAB - SCHEDULE 40 PVC
WASTE AND VENT PIPING ABOVE SLAB CAN BE SCH. 40 PVC
PVC PIPE FITTINGS 4" AND SMALLER SHALL BE ASTM D-1785, TYPE 1, GRADE 1, SOCKET TYPE WITH ASTM D-2564 SOLVENT CEMENT.

ALL DOMESTIC WATER LINES INSULATED WITH 1" BLACK FOAM STENCILED EVERY 10'-0" INSTALLED

SPECIFICATIONS

HANDICAP LAVATORY P-TRAP AND ANGLE VALVE ASSEMBLIES SHALL BE INSULATED WITH THE FULLY MOLDED, TRUEBRO, HANDI LAV-GUARD INSULATION KIT WITH 3-PIECE INTERLOCKING TRAP

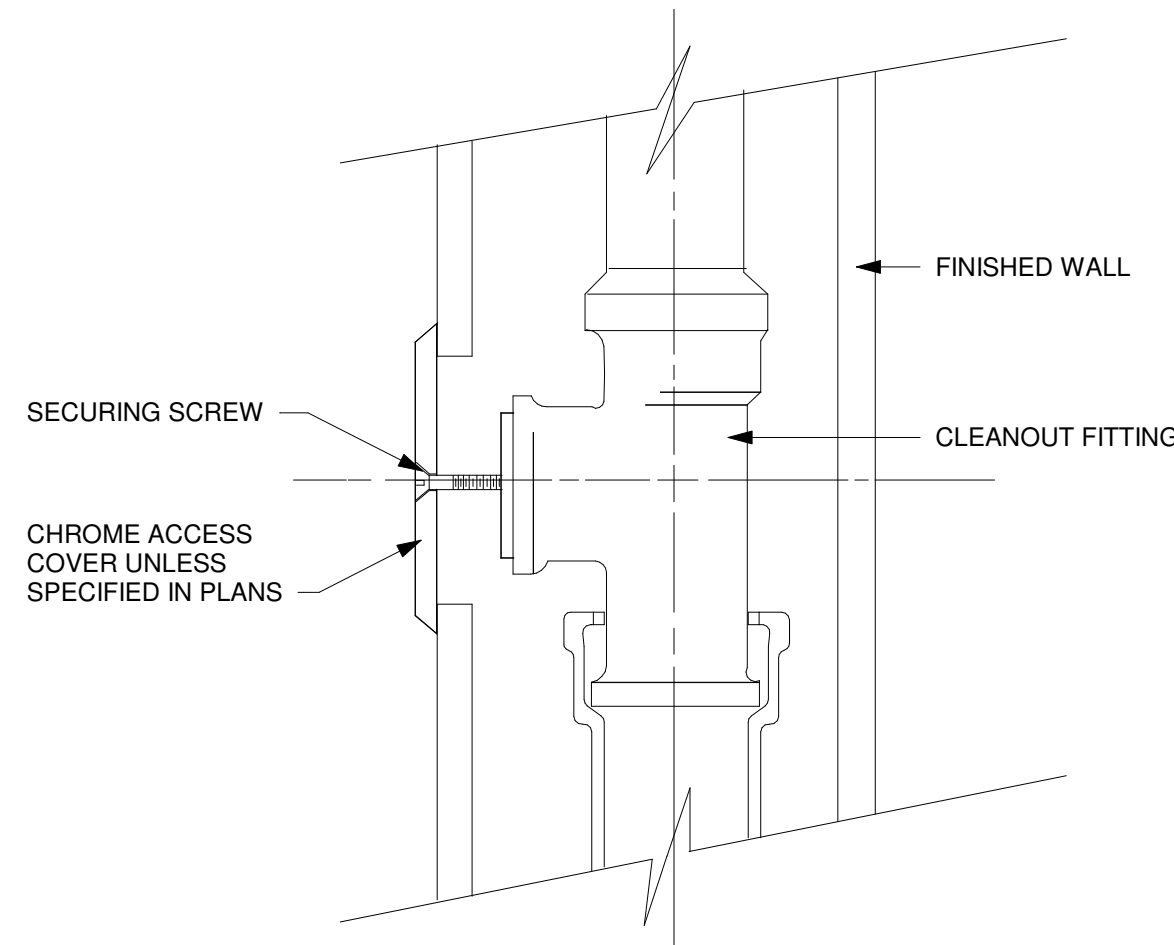
ASSEMBLY AND 2-PIECE INTERLOCKING ANGLE VALVE ASSEMBLIES. FASTENERS SHALL BE NYLON-TYPE SUPPLIED WITH KIT

TRUEBRO
P.O. BOX 429, ELLINGTON, CT 06029
PHONE: (203) 875-2868

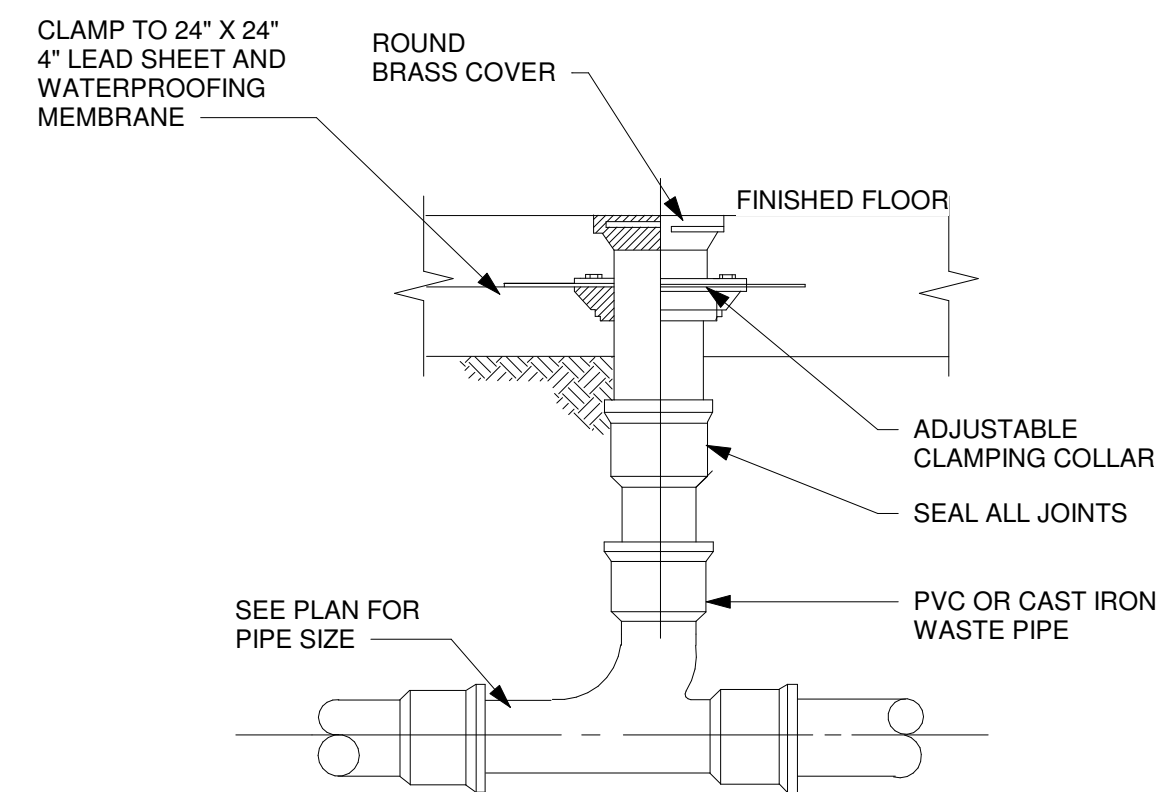
HANDI LAV-GUARD KIT FITS:

1 1/4" OR 1 1/2" TUBULAR PLASTIC P-TRAPS
1 1/4" OR 1 1/2" TUBULAR BRASS P-TRAPS

1 1/4" OR 1 1/2" SEMI-CAST BRASS P-TRAPS
1 1/4" STRAIGHT LAVATORY TAIL PIECE
1/2" SWEAT ANGLE STOP VALVE, KEYED OR REGULAR
1/2" COMP. ANGLE STOP VALVE, KEYED OR REGULAR
3/8" I.P. ANGLE STOP VALVE, KEYED OR REGULAR
3/8" O.D. SUPPLY TUBE



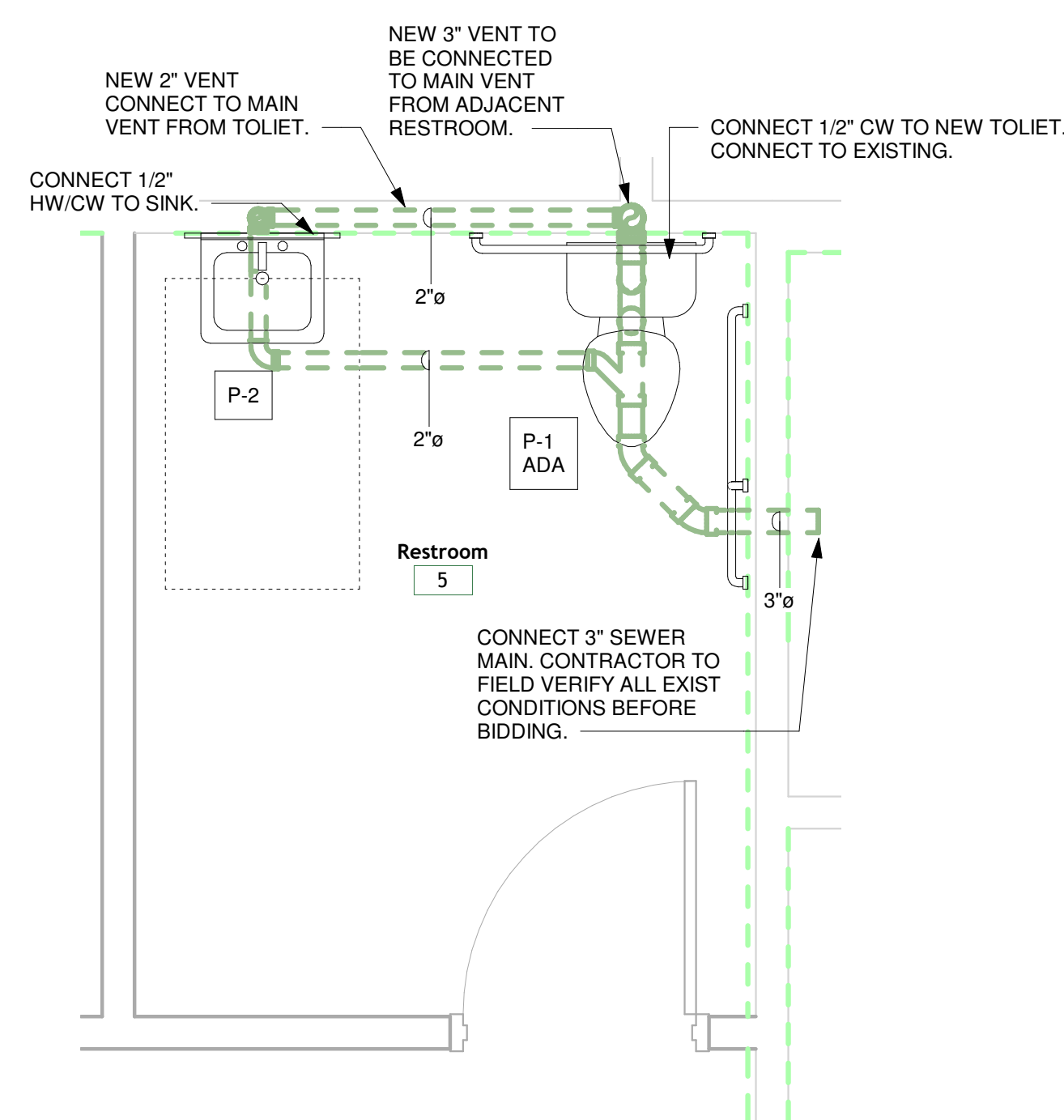
WALL CLEANOUT



FLOOR CLEANOUT

INTERIOR CLEANOUT DETAIL

NOT TO SCALE



1

PLUMBING FIRST FLOOR

1/2" = 1'-0"

2

PLUMBING RISER

