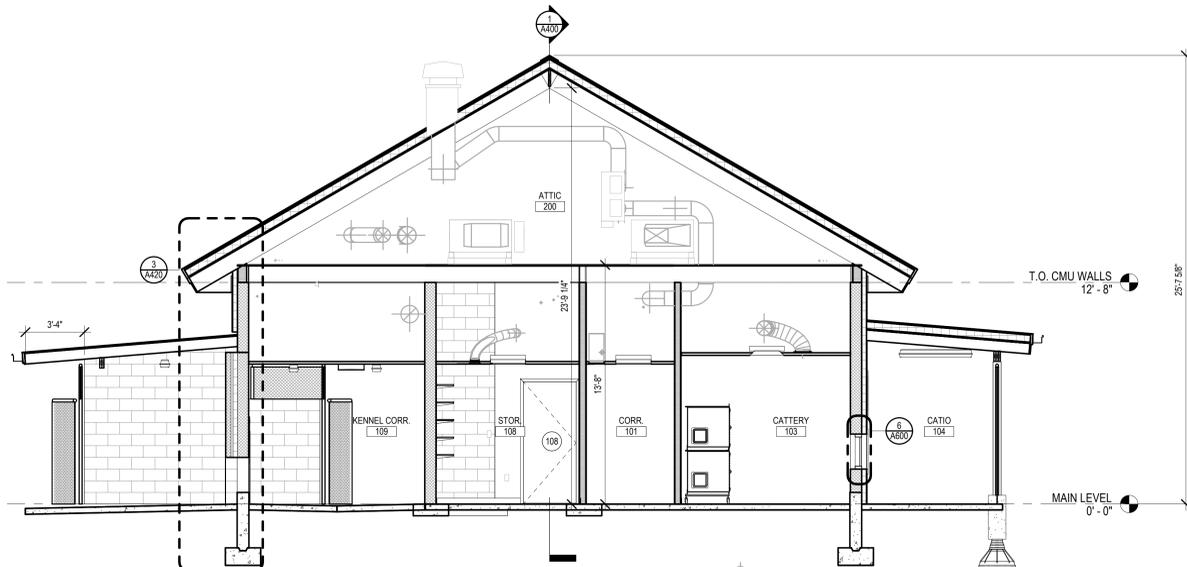
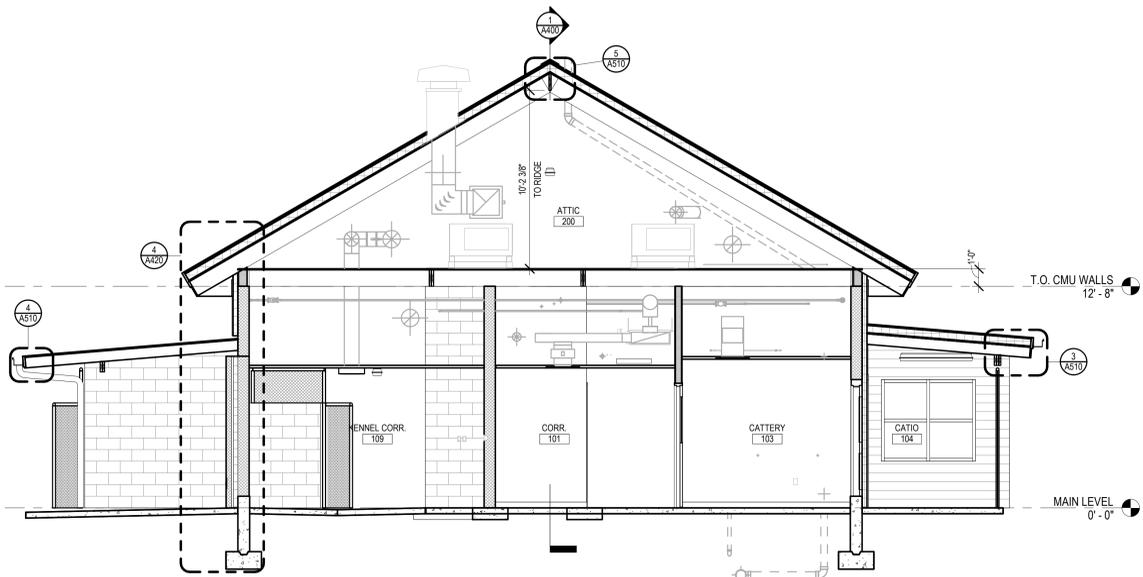


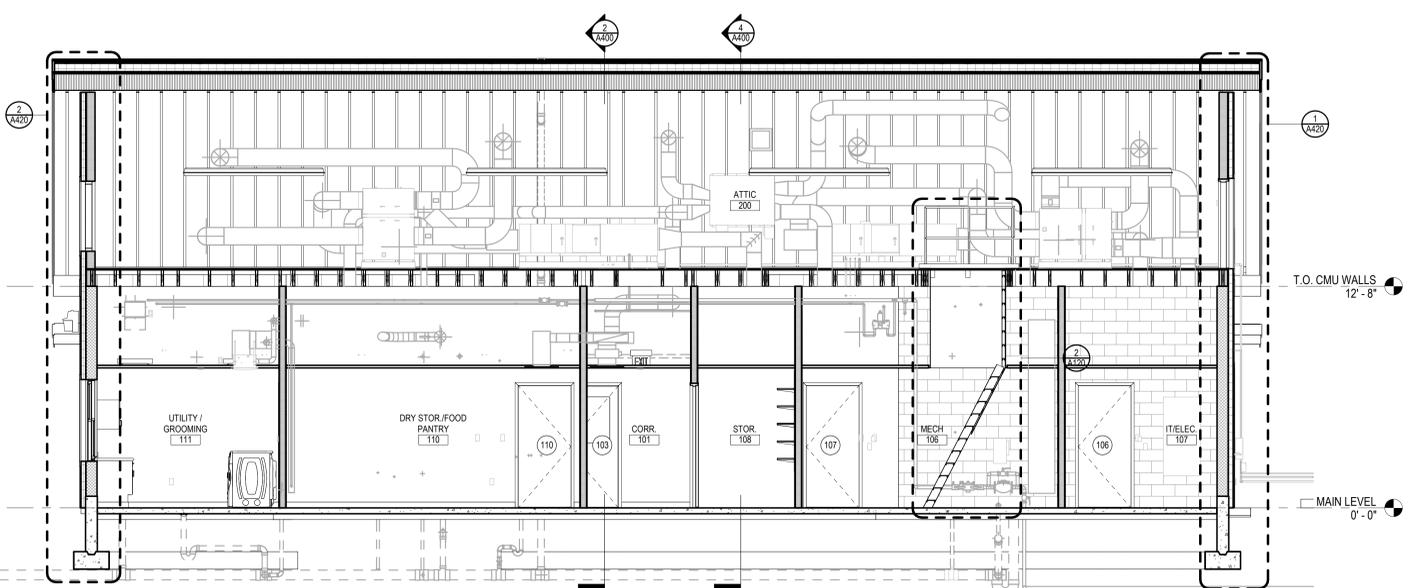
3 BUILDING SECTION
1/4" = 1'-0"



4 BUILDING SECTION
1/4" = 1'-0"



2 BUILDING SECTION
1/4" = 1'-0"



1 BUILDING SECTION
1/4" = 1'-0"

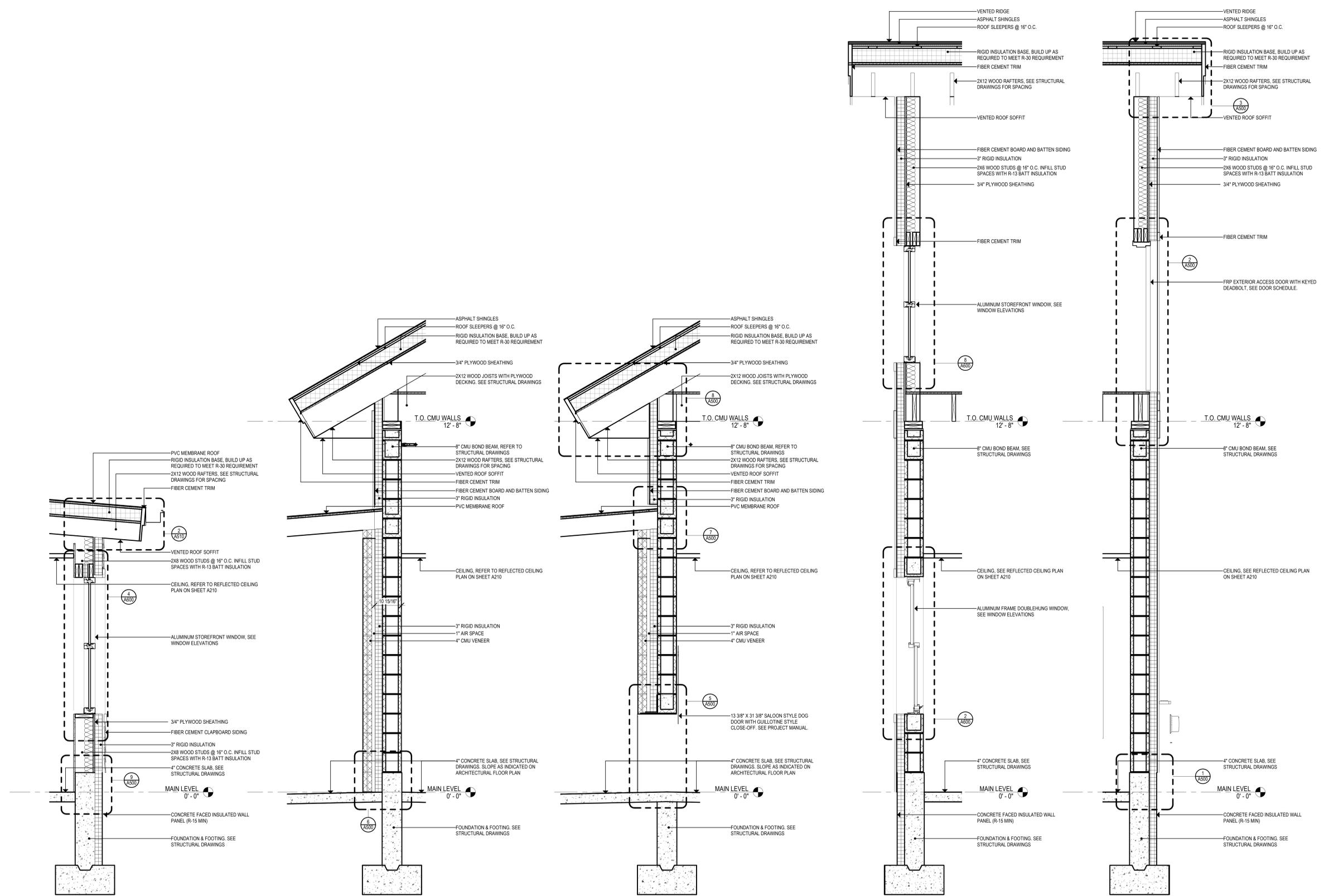
Project Title:
New Animal Facility at:
Montville Animal Shelter
225 Maple Ave.
Montville, CT

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311 STATE STREET NEW LONDON CT 06320
203 230 9007 silverpetrucelli.com

Revision	Description	Date	Revised By

Drawing Title:
BUILDING SECTIONS

Date: 09/29/2023
Scale: 1/4" = 1'-0"
Drawn By: MES
Project Number: 22.130
Drawing Number: **A400**



5 WALL SECTION
3/4" = 1'-0"

4 WALL SECTION
3/4" = 1'-0"

3 WALL SECTION
3/4" = 1'-0"

2 WALL SECTION
3/4" = 1'-0"

1 WALL SECTION
3/4" = 1'-0"

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave.
 Montville, CT

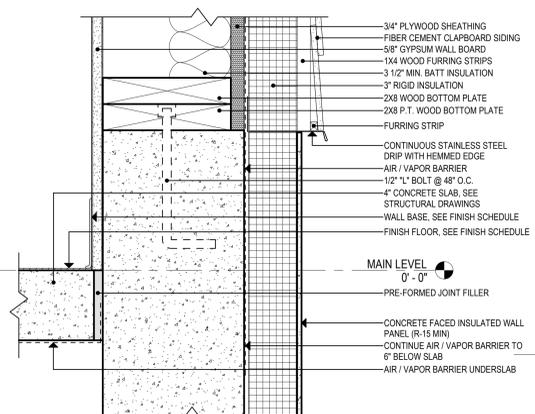


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 311 STATE STREET NEW LONDON CT 06320
 203 230 9007 silverpetrucelli.com

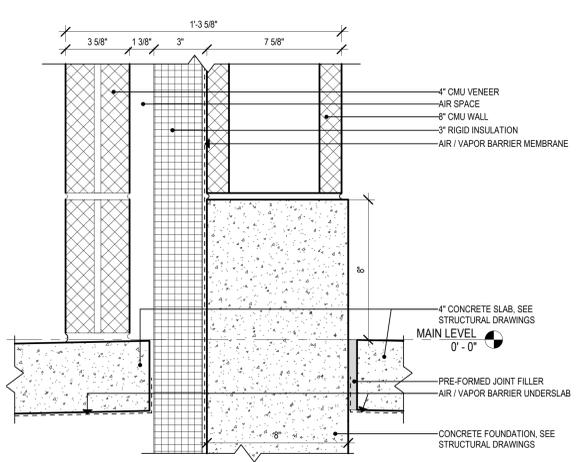
Revision	Description	Date	Revised By

Drawing Title:
WALL SECTIONS

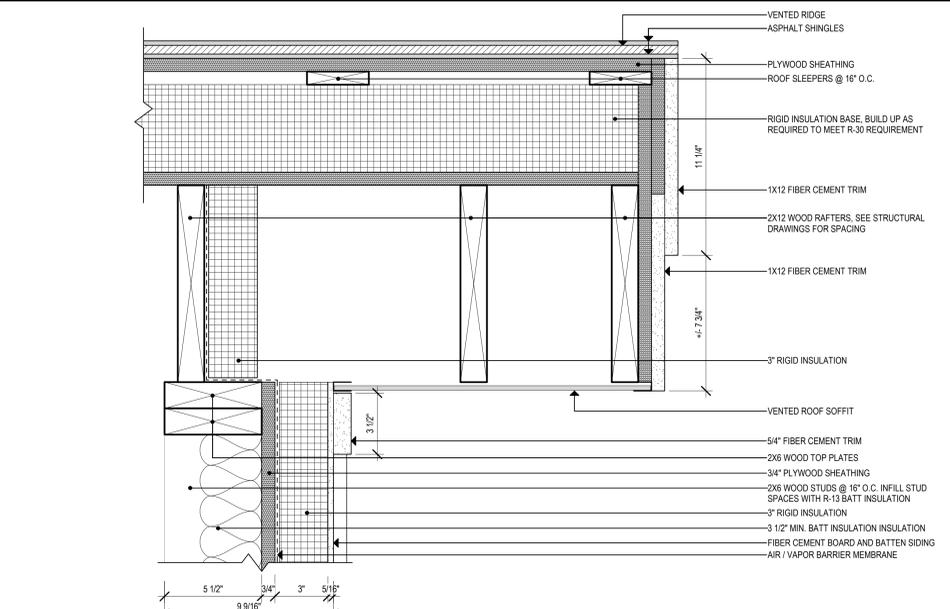
Date: 09/29/2023
 Scale: 3/4" = 1'-0"
 Drawn By: MES
 Project Number: 22.130
 Drawing Number: **A420**



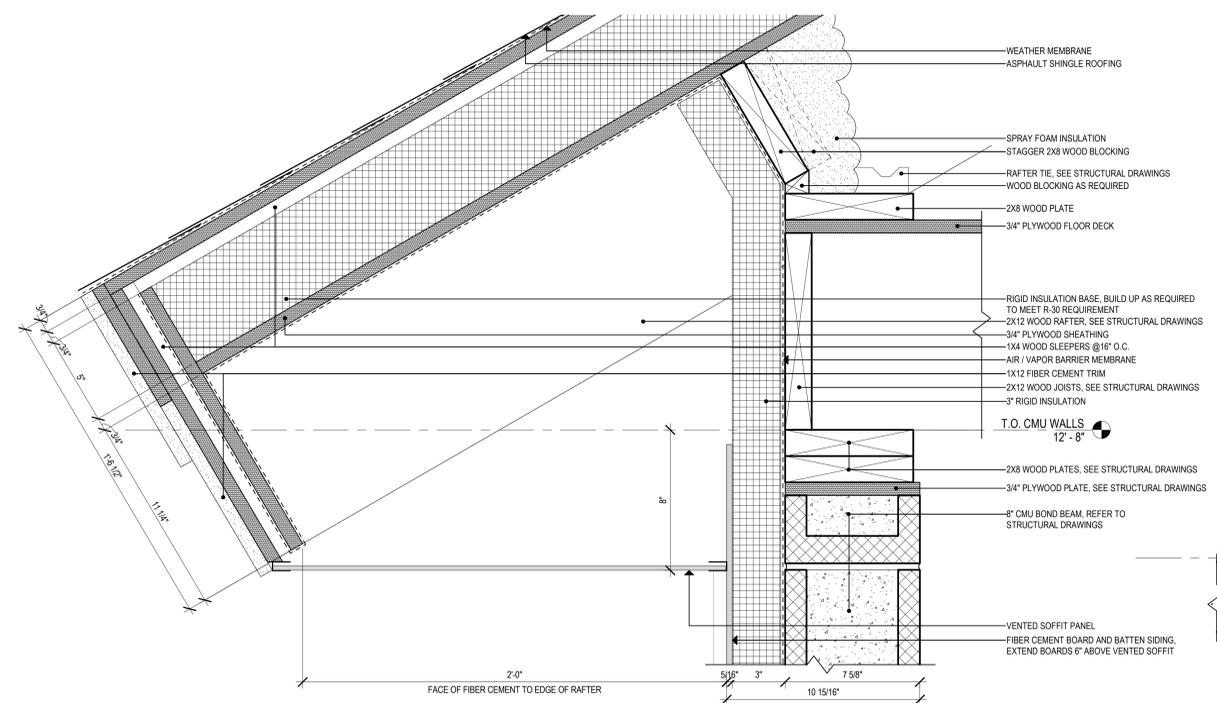
9 EXTERIOR WALL BASE AT VESTIBULE
3" = 1'-0"



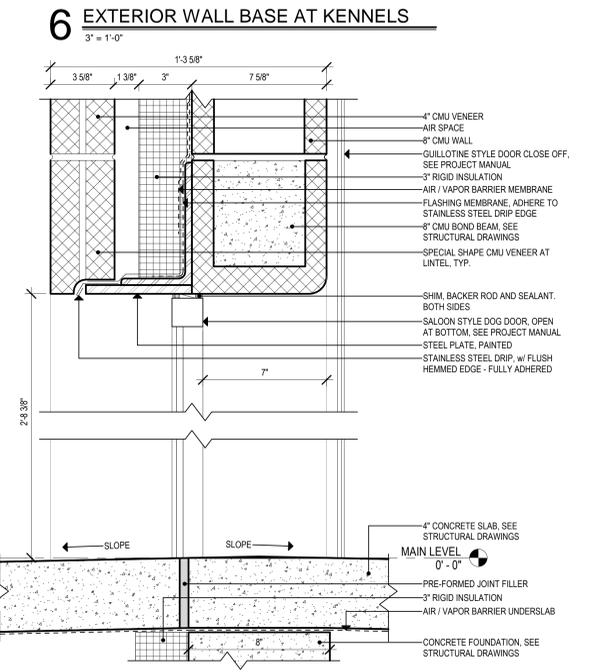
6 EXTERIOR WALL BASE AT KENNELS
3" = 1'-0"



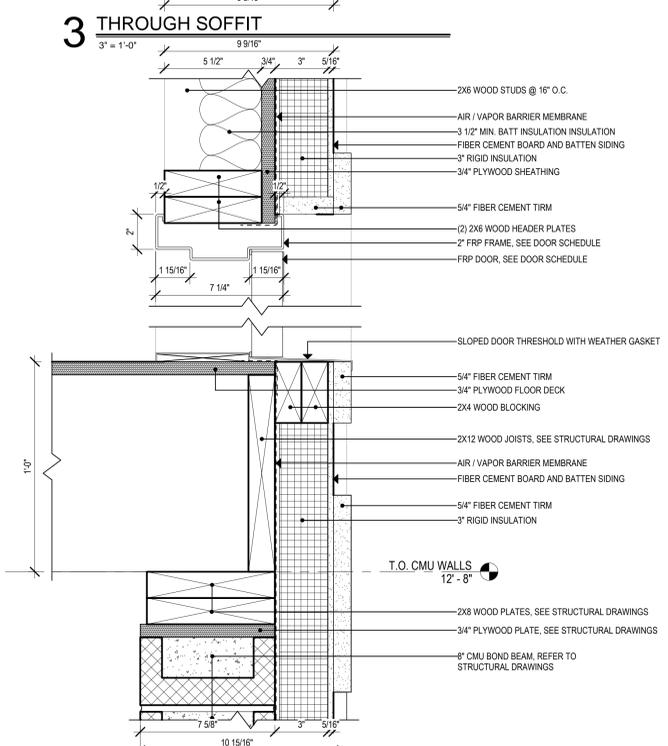
3 THROUGH SOFFIT
3" = 1'-0"



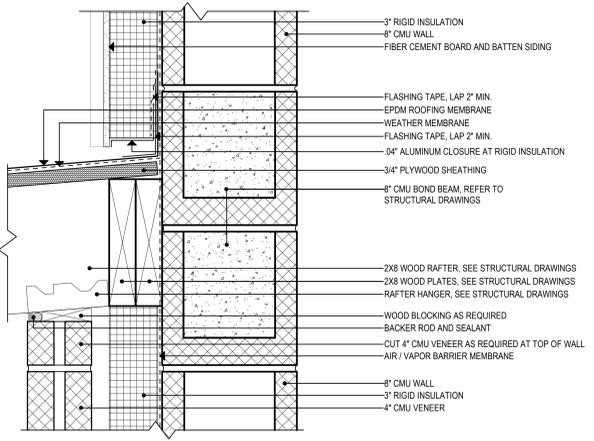
8 SOFFIT AT MAIN ROOF
3" = 1'-0"



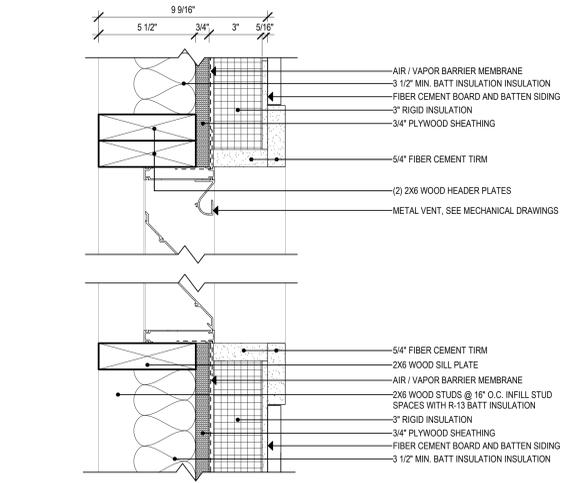
5 KENNEL OPENING SECTION
3" = 1'-0"



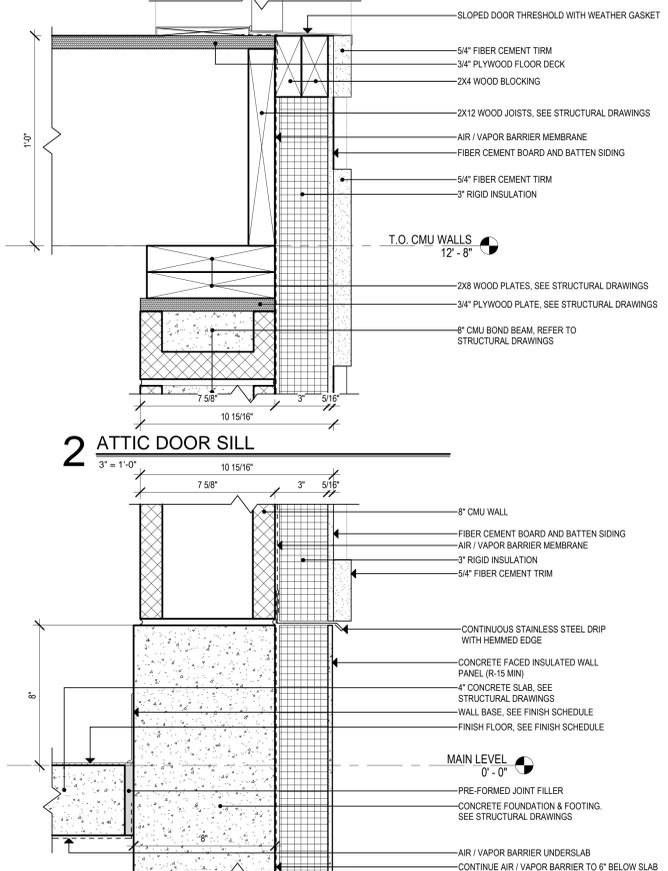
2 ATTIC DOOR SILL
3" = 1'-0"



7 LOW ROOF CONNECTION TO WALL
3" = 1'-0"



4 VENT SECTION
3" = 1'-0"



1 TYPICAL EXTERIOR WALL BASE
3" = 1'-0"

Project Title:
**New Animal Facility at:
Montville Animal Shelter**
225 Maple Ave.
Montville, CT

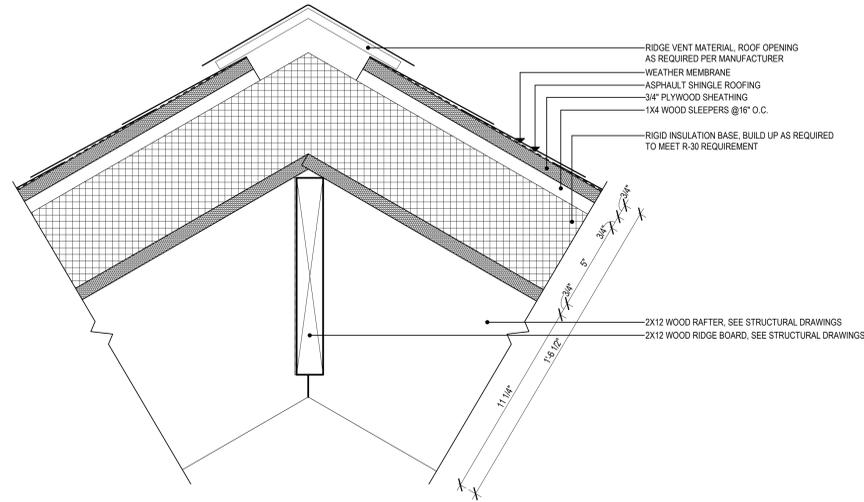


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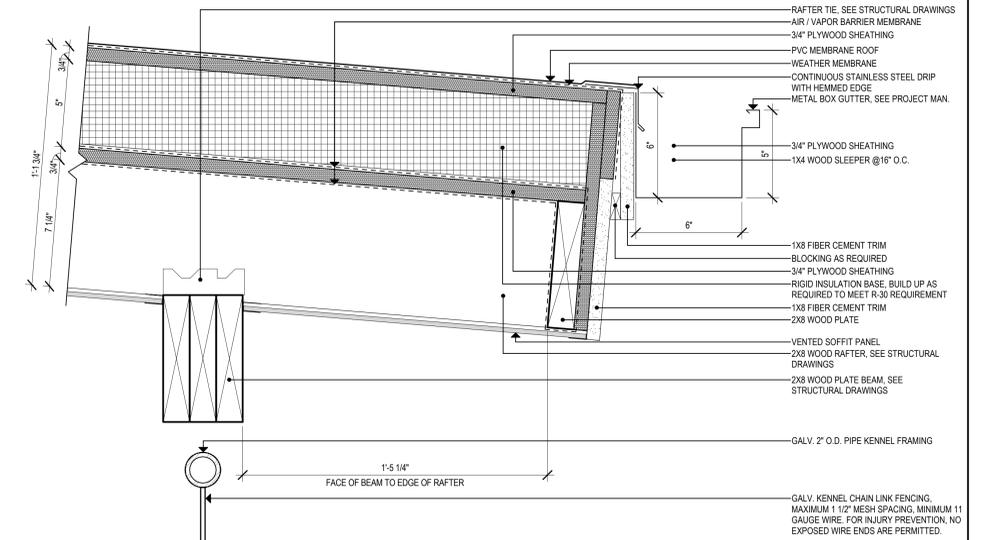
Revision	Description	Date	Revised By

Drawing Title:
SECTION DETAILS

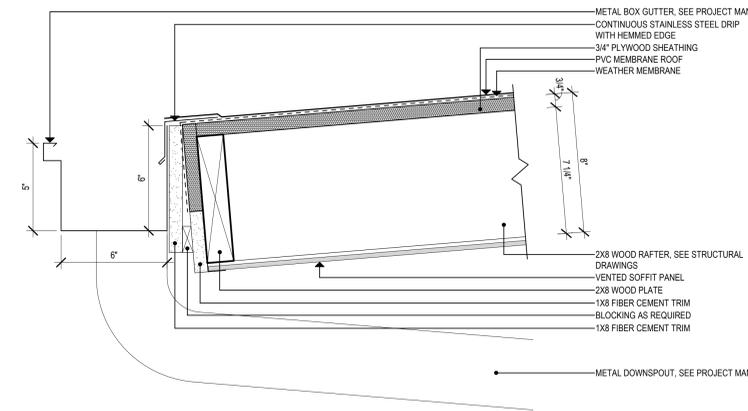
Date: 09/29/2023
Scale: 3" = 1'-0"
Drawn By: MES
Project Number: 22.130
Drawing Number: **A500**



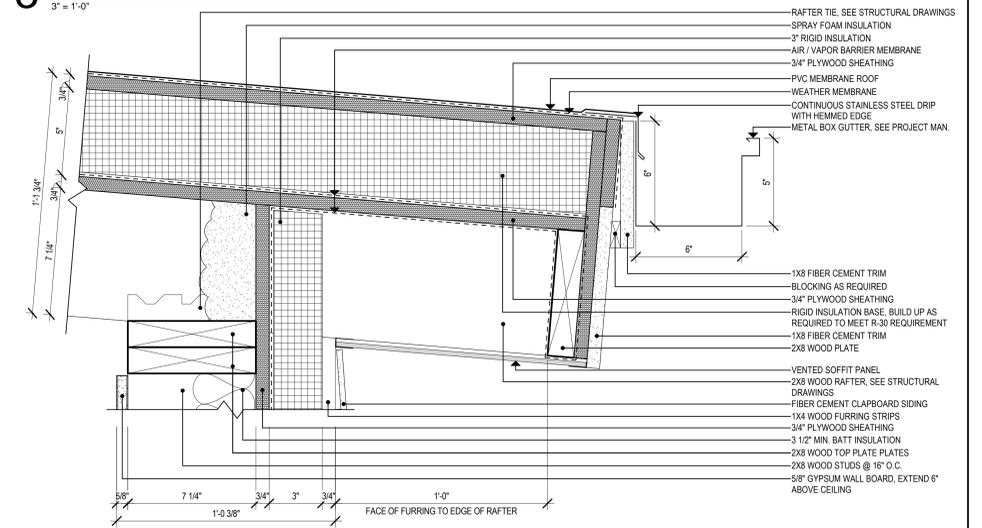
5 ROOF RIDGE
3" = 1'-0"



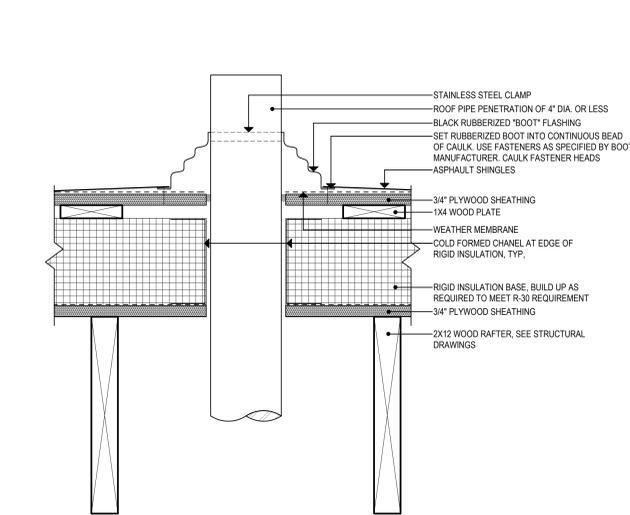
3 FRONT LOW ROOF EDGE - CATIO
3" = 1'-0"



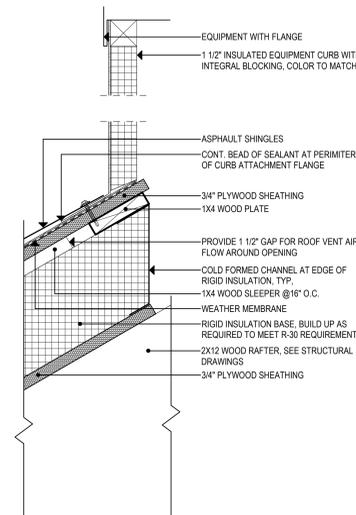
4 LOW ROOF EDGE - KENNELS
3" = 1'-0"



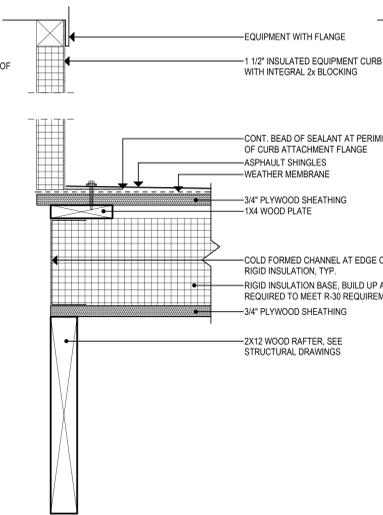
2 FRONT LOW ROOF EDGE - VESTIBULE
3" = 1'-0"



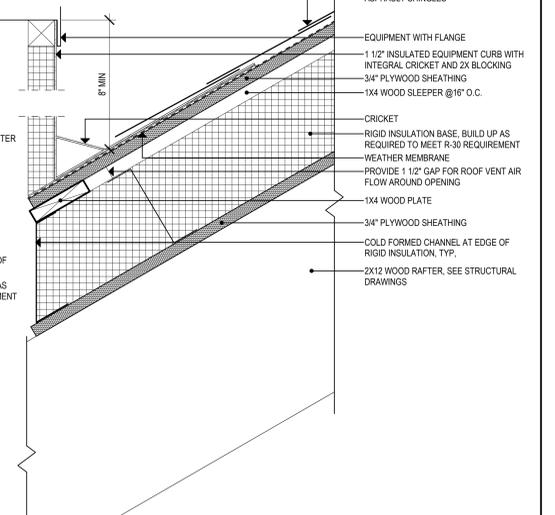
1 TYPICAL ROOF PENETRATION DEATILS
3" = 1'-0"



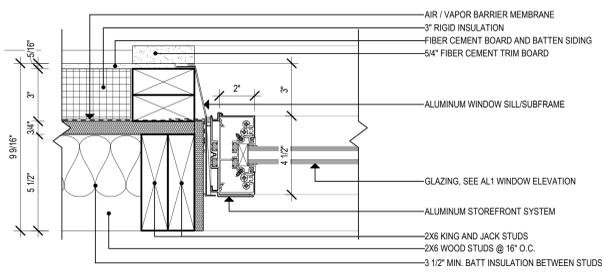
ROOF CURB BOTTOM



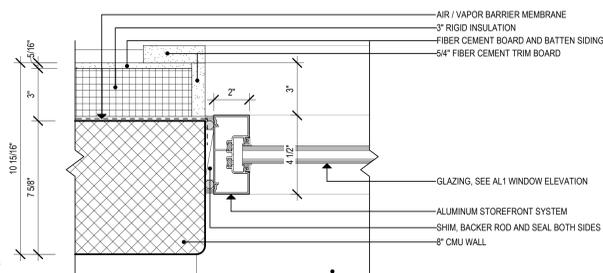
ROOF CURB SIDE



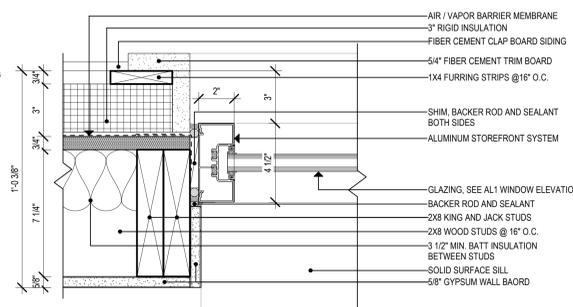
ROOF CURB TOP



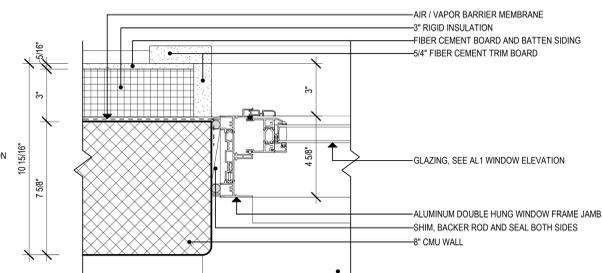
9 ROUND AL. FRAME WINDOW JAMB
3" = 1'-0"



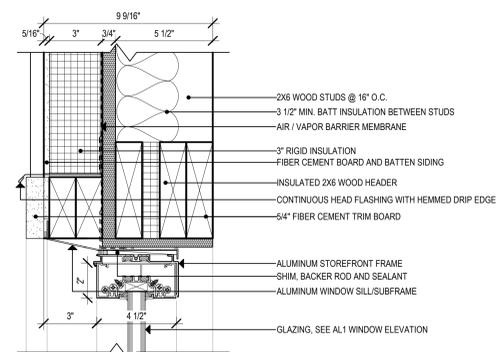
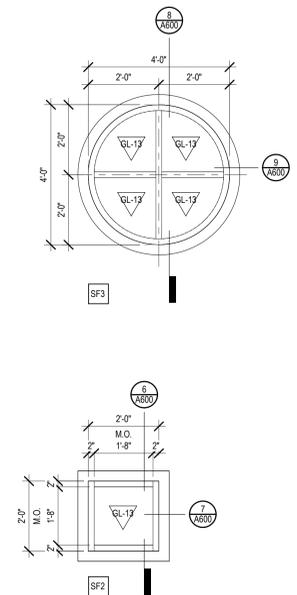
7 AL. FRAME WINDOW JAMB
3" = 1'-0"



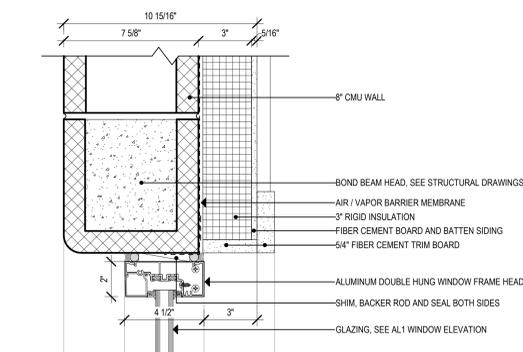
5 AL. FRAME WINDOW IN VEST. JAMB
3" = 1'-0"



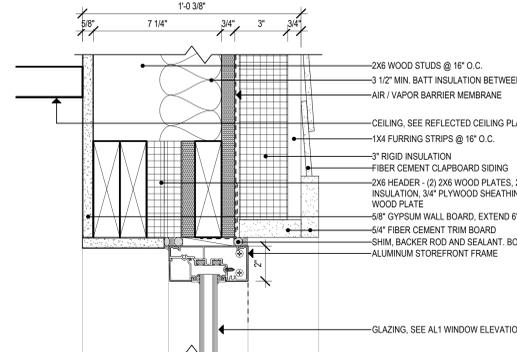
3 DOUBLE HUNG JAMB
3" = 1'-0"



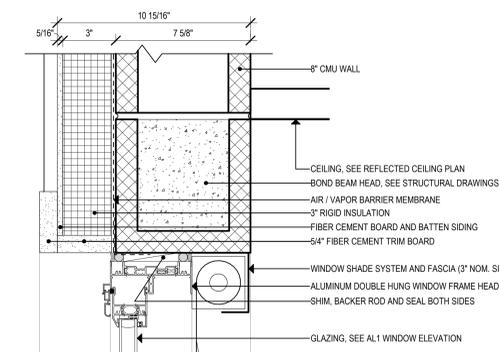
8 ROUND AL. FRAME WINDOW SILL & HEAD
3" = 1'-0"



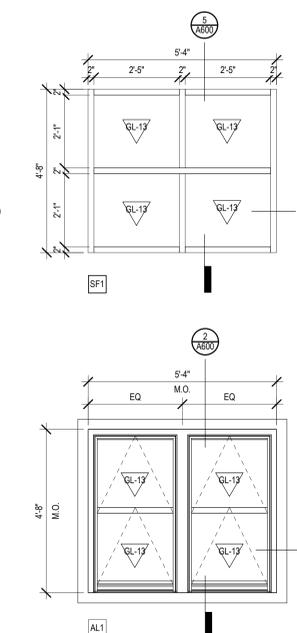
6 AL. FRAME WINDOW SILL & HEAD
3" = 1'-0"



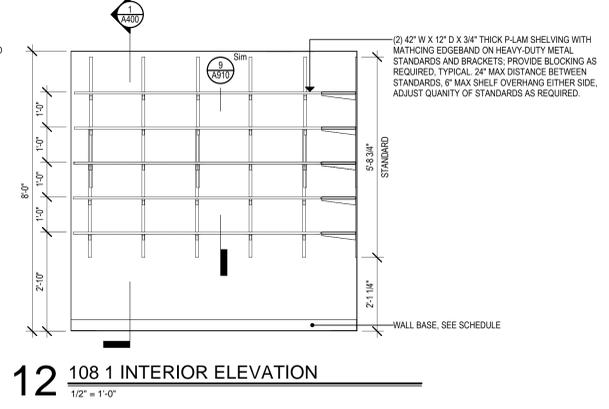
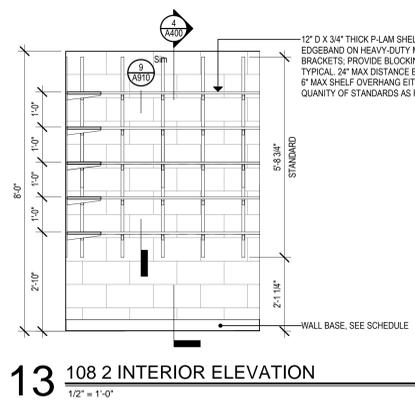
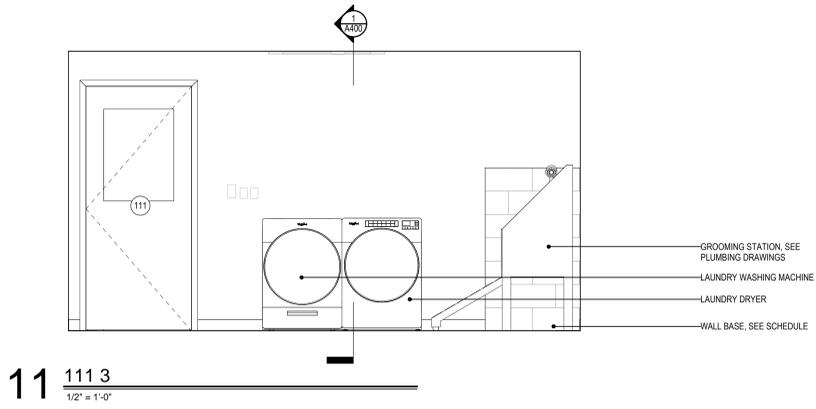
4 AL. FRAME WINDOW IN VEST. SILL & HEAD
3" = 1'-0"



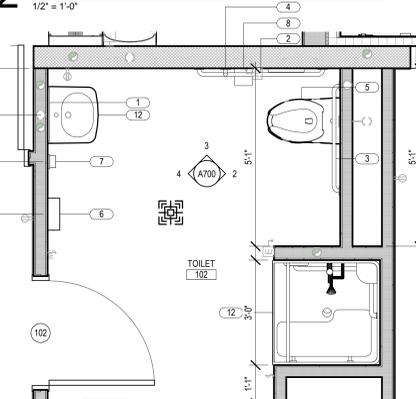
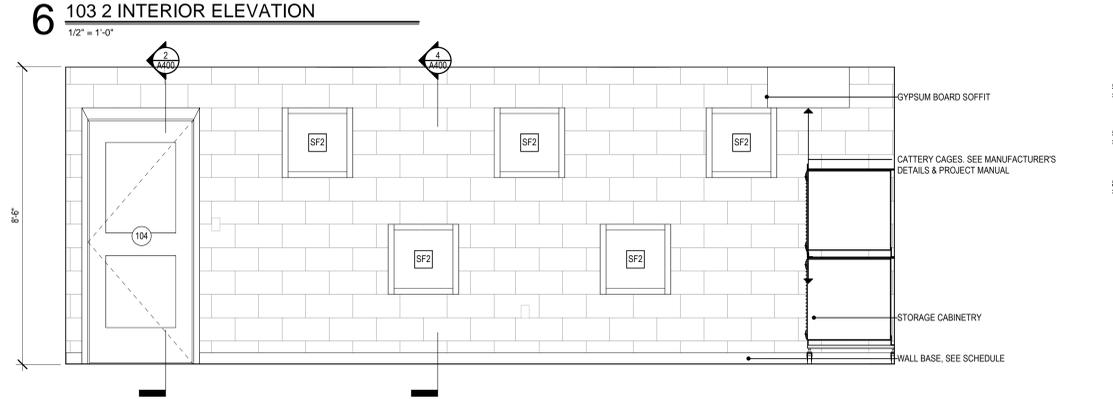
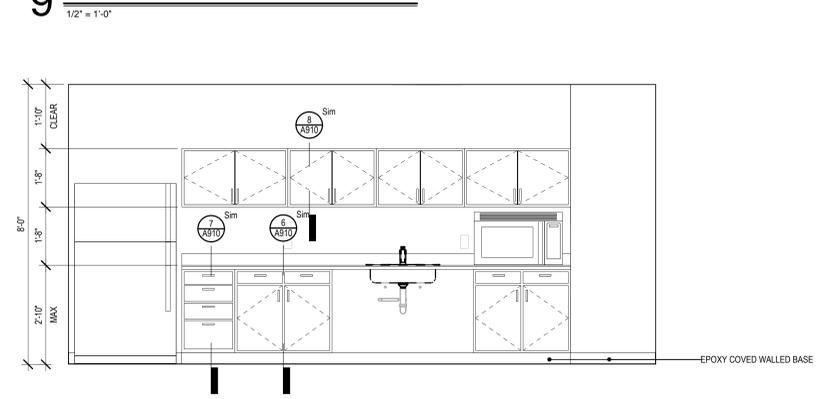
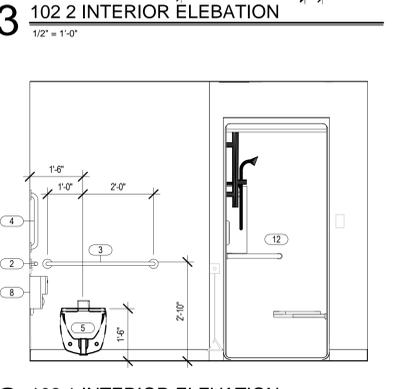
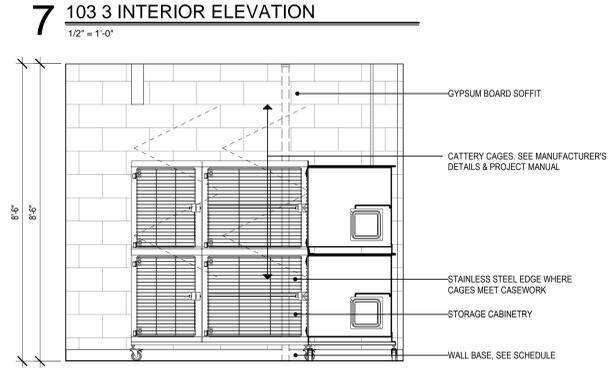
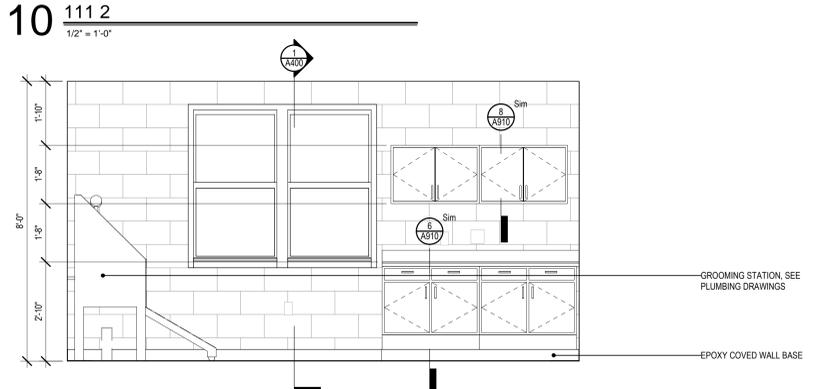
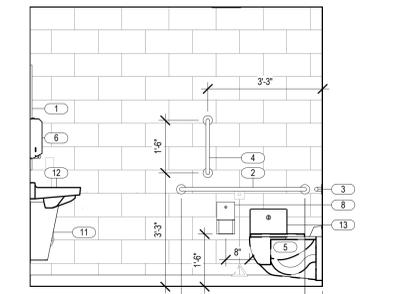
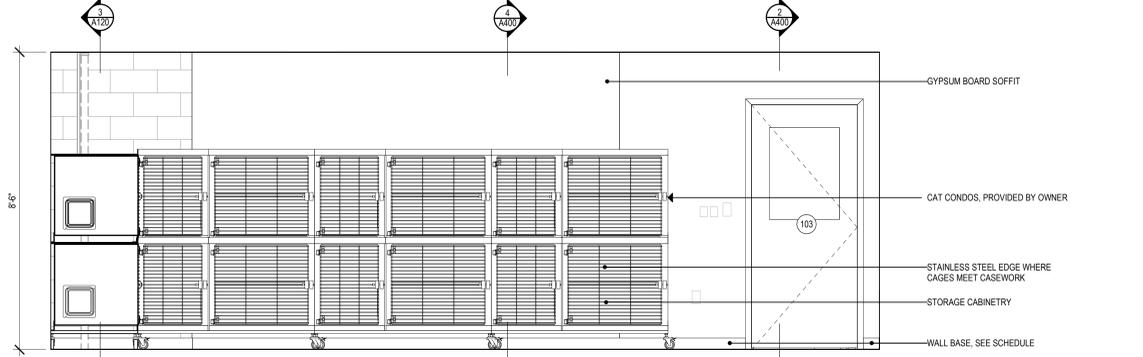
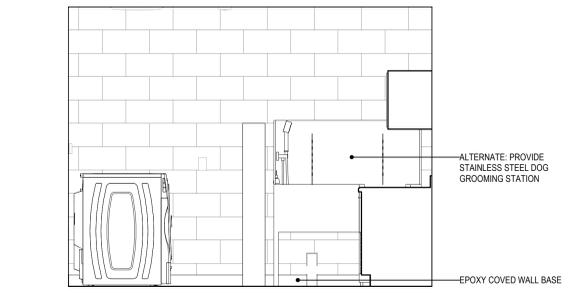
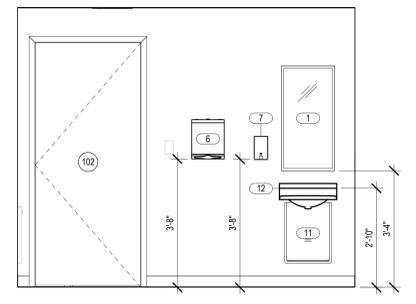
2 DOUBLE HUNG WINDOW SILL & HEAD
3" = 1'-0"



1 WINDOW ELEVATIONS
1/2" = 1'-0"



TOILET ACCESSORIES	
1	1'-6" X 3' MIRROR (CENTER ON LAV)
2	42" HORIZ GRAB BAR
3	36" HORIZ GRAB BAR
4	18" VERT. GRAB BAR
5	WALL MOUNTED H.C. WATER CLOSET (18" TO TOP OF SEAT)
6	SURFACE MTD. H.C. PAPER TOWEL DISPENSER/WASTE RECEPTAL
7	SURFACE MTD. H.C. SOAP DISPENSER
8	SURFACE MOUNTED H.C. TOILET PAPER DISPENSER
9	ADA ONE PIECE FIBERGLASS PRE-FABRICATED TRANSFER SHOWER - COORDINATE OPENING SIZE w/ SHOWER MANUFACTURER - SEE PLUMBING DRAWING
10	CURTAIN HOOK AND ROD
11	LAV GUARD
12	WALL MOUNTED H.C. LAV (2'-10" TO TOP); SEE PLUMBING DRAWINGS
13	RECESSED SANITARY NAPKIN DISPOSAL



Project Title:
New Animal Facility at:
Montville Animal Shelter
225 Maple Ave.
Montville, CT

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3190 WHITNEY AVENUE HAMDEN CT 06518
311 STATE STREET NEW LONDON CT 06320
203 230 9007 silverpetrucelli.com

Revision	Description	Date	Revised By

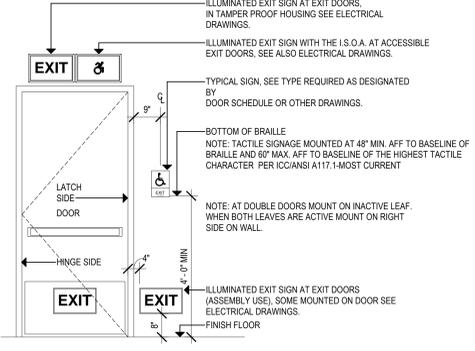
Drawing Title:
ENLARGED TOILET PLANS AND
INTERIOR ELEVATIONS

Date: 09/29/2023
Scale: 1/2" = 1'-0"
Drawn By: MES
Project Number: 22.130
Drawing Number: A700

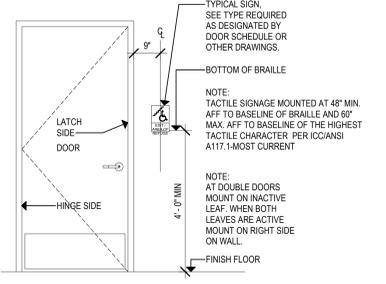
FINISH SCHEDULE								
NO.	NAME	FLOOR FINISH	BASE FINISH	NORTH WALL FINISH	EAST WALL FINISH	WEST WALL FINISH	CEILING FINISH	COMMENTS
100	VESTIBULE	VCT	RUBBER WALL BASE	PAINT	PAINT	PAINT	ACOUSTIC CEILING TILE	
101	CORR.	VCT	RUBBER WALL BASE	PAINT	PAINT	PAINT	PAINT	
102	TOILET	EP	COVERED EP	PAINT	PAINT	PAINT	PAINT	
103	CATTERY	VCT	RUBBER WALL BASE	PAINT	PAINT	PAINT	ACOUSTIC CEILING TILE	
104	CATO	BRUSHED CONCRETE	--	--	--	--	--	
105	QUARANTINE CORR.	EP	COVERED EP	PAINT	PAINT	PAINT	PAINT	
106	MECH	EP	COVERED EP	PAINT	PAINT	PAINT	ACOUSTIC CEILING TILE	
107	IT/TELEC.	EP	COVERED EP	PAINT	PAINT	PAINT	ACOUSTIC CEILING TILE	
108	STOR.	VCT	RUBBER WALL BASE	PAINT	PAINT	PAINT	ACOUSTIC CEILING TILE	
109	KENNEL CORR.	EP	COVERED EP	PAINT	PAINT	PAINT	PAINT	
110	DRY STOR./FOOD PANTRY	VCT	RUBBER WALL BASE	PAINT	PAINT	PAINT	ACOUSTIC CEILING TILE	
111	UTILITY / GROOMING	EP	RUBBER WALL BASE	PAINT	PAINT	PAINT	ACOUSTIC CEILING TILE	
112	OFFICE	VCT	RUBBER WALL BASE	PAINT	PAINT	PAINT	ACOUSTIC CEILING TILE	
200	ATTIC	--	--	--	--	--	--	

GENERAL FINISH NOTES:

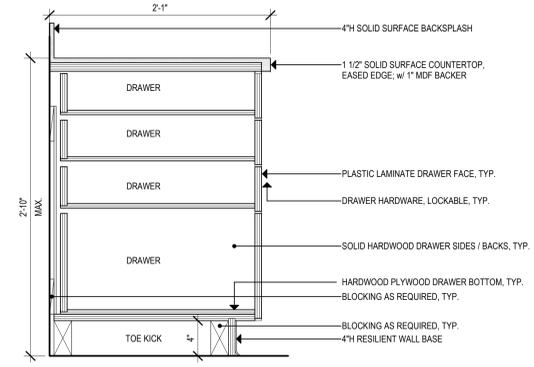
- ALL COLORS TO BE SELECTED BY ARCHITECT FROM MANUFACTURER'S FULL RANGE OF STANDARD COLORS
- VCT FLOORING TO BE A "WOODLIKE" PATTERN
- EP FLOORING TO BE SLIP RESISTANT
- FLOOR TRANSITIONS BETWEEN VCT AND EP SHALL OCCUR AT DOOR THRESHOLD PER MANUFACTURER REQUIREMENTS



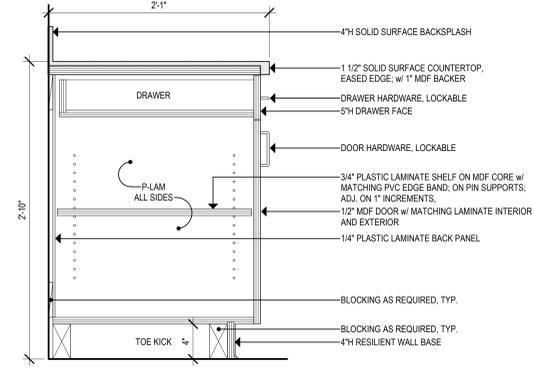
4 TYPICAL EXIT SIGN MOUNTING DETAIL
1/2" = 1'-0"



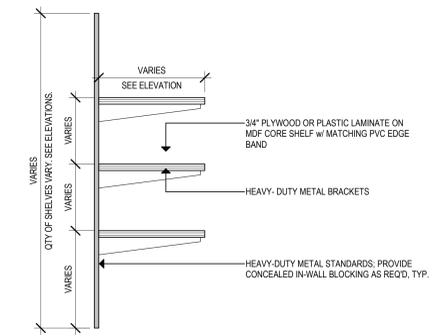
3 TYPICAL SIGN MOUNTING DETAIL
1/2" = 1'-0"



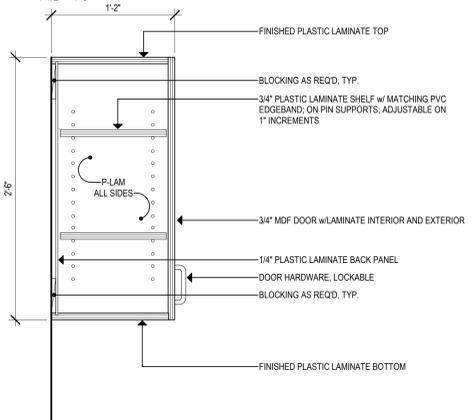
7 LOWER FOUR DRAWERS DETAIL
1/2" = 1'-0"



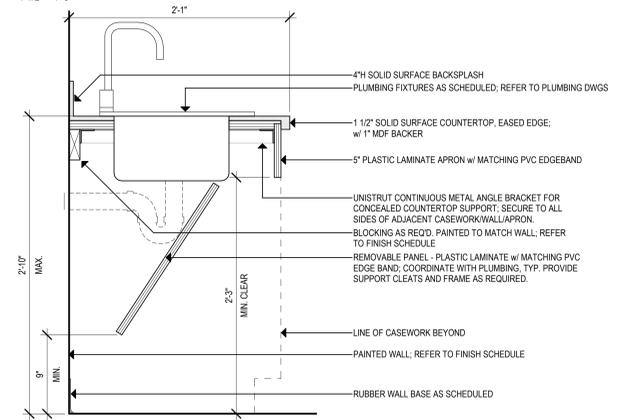
6 LOWER CABINET WITH DRAWER DETAIL
1/2" = 1'-0"



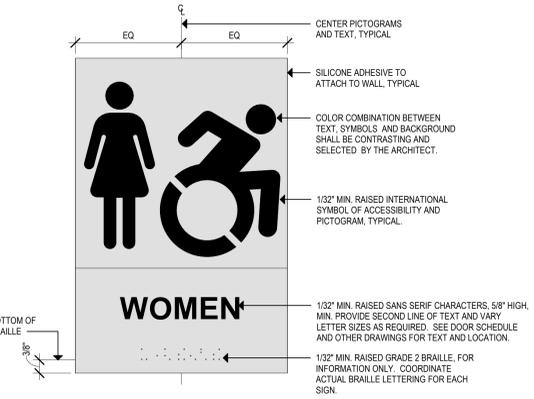
9 SHELVING DETAIL
1/2" = 1'-0"



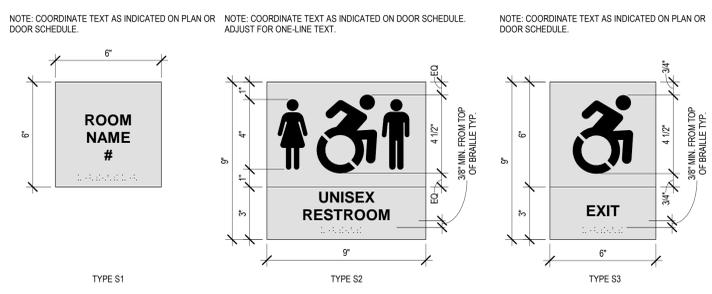
8 UPPER CABINET DETAIL
1/2" = 1'-0"



5 ACCESSIBLE SINK DETAIL
1/2" = 1'-0"



2 TYPICAL SIGN DETAIL
6" = 1'-0"



- SIGNAGE NOTES:
- SIGNS SHALL COMPLY WITH CURRENT BUILDING CODE, ANSI STANDARDS, ADA REGULATIONS AND GUIDELINES, AND ALL OTHER APPLICABLE REGULATIONS.
 - TEXT ON SIGNS SHALL BE COORDINATED IN FIELD TO REFLECT ROOM USE, AND SHALL BE APPROVED BY ARCHITECT AND OWNER PRIOR TO FABRICATION.
 - SEE ALSO TYPICAL SIGN DETAIL AND TYPICAL SIGN MOUNTING DETAILS ON THIS DRAWING.
 - SEE ELECTRICAL DRAWINGS FOR ALL ILLUMINATED SIGNAGE.

1 SIGNAGE TYPE ELEVATIONS
3" = 1'-0"

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203 230 9007 silverpetrucelli.com

Revision	Description	Date	Revised By

Drawing Title:
SIGNAGE DETAILS, FINISH SCHEDULE & CASEWORK DETAILS

Date: 09/29/2023
Scale: As Indicated
Drawn By: MES
Project Number: 22.130
Drawing Number: **A910**

PLUMBING GENERAL NOTES

GENERAL

THE INTENT OF THESE CONTRACT DOCUMENTS (SPECIFICATIONS AND DRAWINGS) IS FOR THE CONTRACTOR TO FURNISH AND INSTALL COMPLETE PLUMBING SYSTEMS. ALL SYSTEMS SHALL BE COMPLETE IN ALL RESPECTS, OPERATING, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.

WHEN A CONFLICT BETWEEN THE DRAWINGS, NOTES AND/OR SPECIFICATIONS OCCUR, THE MORE STRINGENT, AND/OR LARGER QUANTITY AND MORE EXPENSIVE SHALL APPLY. THE REQUIREMENTS LISTED WITHIN NOTES OR SPECIFICATIONS SHALL BE REQUIRED, PROVIDED AND INSTALLED WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.

ITEMS AND SERVICES NOT SHOWN ON DRAWINGS OR SPECIFICATIONS BUT REQUIRED TO RENDER THE WORK COMPLETE AND READY FOR OPERATION, SHALL BE PROVIDED WITHOUT ADDITIONAL COST.

WORK OF THIS SECTION SHALL BE GOVERNED BY THE CONTRACT DOCUMENTS. PROVIDE MATERIALS, LABOR, EQUIPMENT AND SERVICES NECESSARY TO FURNISH, DELIVER AND INSTALL ALL WORK AS SPECIFIED AND AS REQUIRED BY JOB CONDITIONS. WHERE A CONFLICT EXISTS BETWEEN THESE NOTES, THE DRAWINGS AND THE SPECIFICATIONS, THE MORE STRINGENT REQUIREMENT SHALL APPLY.

DRAWINGS ARE DIAGRAMMATIC AND INDICATE A GENERAL ARRANGEMENT OF WORK AND ARE NOT TO BE CONSIDERED SUB-CONTRACTOR DOCUMENTS. IT IS THE INTENT OF THESE DOCUMENTS TO INCLUDE THE PROVISION AND INSTALLATION OF ALL NECESSARY WORK AND MATERIALS FOR COMPLETE, OPERATIONAL AND CODE COMPLIANT SYSTEMS BY THE CONTRACTOR. GENERAL DESIGN CONCEPTS INDICATED MUST BE FOLLOWED OR BETTERED. THE BID SHALL INCLUDE OFFSETS, ADDITIONAL PIPING, VALVES AND EQUIPMENT AND COMPONENTS AS REQUIRED TO MEET CONSTRUCTION CONDITIONS FOR PROPER OPERATION. DO NOT SCALE DRAWINGS. CONSULT ARCHITECTURAL AND STRUCTURAL DRAWINGS FOR SPACE CONDITIONS AND ADDITIONAL REQUIREMENTS.

PERFORM THE WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE CONTRACT GENERAL CONDITIONS AND WITH THE PROVISIONS OF ALL APPLICABLE LOCAL, STATE, AND FEDERAL CODES AND LAWS.

WORK SHALL INCLUDE ALL INCIDENTALS, LABOR, MATERIAL, EQUIPMENT, APPLIANCES, SERVICES, HOISTING, SCAFFOLDING, SUPPORTS, TOOLS, CONSUMABLE ITEMS, FEES, LICENSES, AND ADMINISTRATIVE TASKS REQUIRED TO COMPLETE AND MAKE OPERABLE WORK SHOWN ON THE DRAWINGS, SPECIFIED HEREIN AND AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM.

ALL EQUIPMENT, MATERIALS AND RELATED SYSTEMS COMPONENTS SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE.

STORE MATERIALS INSIDE AND PROTECTED FROM DEBRIS, WEATHER AND MOISTURE.

REPAIR AND/OR REPLACE AT NO COST TO OWNER ALL EQUIPMENT AND MATERIALS DAMAGED DURING CONSTRUCTION.

ALTERATION WORK AND DEMOLITION

ALL EQUIPMENT, FIXTURES, PIPING, ETC. TO BE REMOVED, SHALL BE DISPOSED OF, TURNED OVER TO THE OWNER, OR SALVAGED AS DIRECTED BY THE OWNER. EQUIPMENT, FIXTURES, PIPING, DEVICES, ETC. SHALL NOT BE REMOVED FROM THE PREMISES WITHOUT THE OWNER'S APPROVAL.

UPON COMPLETION OF REMOVALS AND MODIFICATIONS, ALL PIPING TO REMAIN SHALL BE PROPERLY PLUGGED, VALVED, CAPPED AND/OR BY PASSED SUCH THAT UPON COMPLETION OF WORK ALL SYSTEMS TO REMAIN, REMAIN OPERATIONAL.

NO DEAD ENDS SHALL BE LEFT ON ANY PIPING SYSTEMS UPON COMPLETION OF WORK.

EXISTING EXPOSED PIPING SYSTEMS NOT TO BE REUSED, AND NOT SPECIFICALLY NOTED FOR REMOVAL SHALL BE COMPLETELY REMOVED.

ALL SYSTEMS SHALL BE LEFT IN WORKING ORDER TO THE SATISFACTION OF THE OWNER UPON COMPLETION OF ALL NEW WORK.

ALL EXISTING EXPOSED, UNNECESSARY PIPING RELATED TO NEW WORK SHALL BE COMPLETELY REMOVED.

RE-ROUTE OR REMOVE ALL EXISTING PIPING AND SYSTEMS WHERE NECESSARY TO AVOID NEW EQUIPMENT, STRUCTURAL, OR MASONRY WORK AS REQUIRED BY THE PROPOSED ALTERATIONS.

COORDINATION

THE CONTRACTOR SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS, INCLUDING PROJECT MANUAL, PLANS AND SPECIFICATIONS OF ALL TRADES BEFORE SUBMITTING BID. REFER TO SPECIFICATIONS, PROJECT MANUAL AND PLANS, INCLUDING ALL EQUIPMENT SCHEDULES FOR INFORMATION. CONTRACTOR SHALL WALK THROUGH BUILDING PRIOR TO SUBMITTING BID WHEN AVAILABLE.

ALL OF THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO FORM A TOTAL DESIGN PACKAGE. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER TO DETERMINE WHICH TRADE CONTRACTOR IS RESPONSIBLE FOR VARIOUS PORTIONS OF THE WORK.

ALL WORK AND ACTION DEPICTED AND DESCRIBED SHALL BE PERFORMED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.

THE PLUMBING CONTRACTOR SHALL VERIFY THESE DRAWINGS WITH EXISTING FIELD CONDITIONS AND SHALL COORDINATE WITH CIVIL ENGINEER LOCATIONS AND ELEVATIONS OF PLUMBING SERVICE LINES BEFORE PROCEEDING WITH CONSTRUCTION. THE UTILITY SERVICE LINES SHOWN ON THE DRAWINGS ARE FOR REFERENCE & BUILDING PERMIT ONLY. REFER TO CIVIL ENGINEERS DRAWINGS FOR UTILITY SERVICE LINES LAY-OUT & DETAILS.

CONTRACTORS SHALL COORDINATE THEIR WORK WITH ALL OWNER-FURNISHED EQUIPMENT, INCLUDING REQUIRED SERVICE CONNECTIONS, RECEPTACLES, ETC. BEFORE INSTALLATION.

THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF EQUIPMENT WITH ALL TRADES BEFORE STARTING CONSTRUCTION. ANY MODIFICATIONS TO THE EQUIPMENT LAYOUT REQUIRED FOR INSTALLATION ARE TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER. COORDINATE ALL PIPING AND CONDUITS LEAVING THE BUILDING WITH THE SITE CONTRACTOR BEFORE INSTALLATION. LOCATION AND SIZES OF ALL FLOOR, WALL AND ROOF PENETRATIONS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.

DEVELOP AND SUBMIT COORDINATION DRAWINGS AS OUTLINED.

SHEET METAL, PLUMBING AND FIRE PROTECTION SHOP DRAWINGS THAT HAVE BEEN COORDINATED WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. DRAWINGS MUST BE RETURNED FROM ENGINEER EITHER "REVIEWED" OR "FURNISHED AS CORRECTED" PRIOR TO BEING USED AS BASIS FOR COORDINATION DRAWINGS.

AFTER SHEET METAL AND PIPING DRAWINGS HAVE BEEN REVISED PER ENGINEERS COMMENTS, REPRODUCIBLE COPIES SHALL BE SENT TO THE TRADES IN THE FOLLOWING SEQUENCE FOR THE INCLUSION OF THEIR WORK:

- MECHANICAL SHEET METAL
- PLUMBING PIPING
- MECHANICAL PIPING
- SPRINKLER PIPING
- ELECTRICAL WORK

AFTER ALL TRADES HAVE INCLUDED THEIR WORK ON THE COORDINATION DRAWING AND NOTED CONFLICTS, ALL TRADES SHALL MEET TO RESOLVE CONFLICTS AND AGREE TO ACCEPTABLE SOLUTIONS. EACH TRADE SHALL SIGN COORDINATION DRAWINGS. ITEMS NOT SHOWN ON COORDINATION DRAWING IS RESPONSIBILITY OF OMITTING CONTRACTOR AND CONTRACTOR IS SUBJECT TO ADDITIONAL COSTS INCURRED BY OTHER TRADES.

THE ARCHITECT AND ENGINEER ARE NOT PART OF THE COORDINATION DRAWING PROCESS. THE ENGINEER WILL PROVIDE ASSISTANCE FOR NOTED CONFLICTS ONLY. COORDINATION DRAWINGS ARE NOT TO BE CONSIDERED PIPING OR DUCT SHOP DRAWINGS. THE CONTRACTOR IS REQUIRED TO SUBMIT INDIVIDUAL PIPING AND DUCTWORK SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. PIPING AND DUCTWORK SHOP DRAWINGS SHALL FOLLOW THE DESIGN INTENT OF THE CONTRACT DOCUMENTS.

SUBMIT FINAL SIGNED COORDINATION DRAWING TO ENGINEER FOR REVIEW. ENGINEER WILL REVIEW COORDINATION DRAWINGS FOR GENERAL ARRANGEMENT AND FOR NOTED CONFLICTS ONLY. SPECIFIC INSTALLATION REQUIREMENTS WILL BE REVIEWED ONLY IN INDIVIDUAL TRADE SHOP DRAWINGS.

ANY WORK FABRICATED OR INSTALLED PRIOR TO SIGN OFF BY ALL TRADES WHICH IS DEEMED TO BE IN CONFLICT WITH COORDINATION DRAWINGS SHALL BE REMOVED AND RE-INSTALLED IN CONFORMANCE WITH COORDINATION DRAWINGS.

EACH CONTRACTOR (MENTIONED ABOVE) IS RESPONSIBLE FOR THE COORDINATION OF HIS SUB-CONTRACTORS.

THE OVERALL COORDINATION OF THE COORDINATION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER IS NOT RESPONSIBLE FOR THE COORDINATION PROCESS. THE ENGINEER WILL RESPOND TO QUESTIONS THAT ARISE FROM THE COORDINATION PROCESS. DRAWINGS SUBMITTED WILL BE REVIEWED FOR CLEARLY IDENTIFIED CONFLICTS ONLY. SOLUTIONS TO CONFLICTS WILL NOT BEAR ADDITIONAL COST.

SHOP DRAWINGS

CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO BE APPROVED, REVISED, OR RESUBMITTED AS PER THE ENGINEERS COMMENTS, PRIOR TO CONSTRUCTION, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

- PLUMBING FIXTURES
- CLEAN OUTS
- DRAINS
- PIPING
- HANGERS/SUPPORTS
- INSULATION
- PIPE SEALS
- FITTINGS
- BRAZING
- VALVES
- THERMOSTATIC MIXING VALVES

AS BUILT DRAWINGS

PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS REFLECTING AS INSTALLED CONDITIONS. AS-BUILT DRAWINGS SHALL INDICATE ALL INSTALLED CONDITIONS OF SYSTEMS WITHIN THIS DISCIPLINE. DRAWINGS SHALL BE OF SIMILAR SCALE AS THE CONSTRUCTION DOCUMENTS AND INCLUDE DETAILS AS NECESSARY TO CLEARLY REFLECT THE INSTALLED CONDITION. DRAWINGS SHALL BE BOUND IN A COMPLETE AND CONSECUTIVE SET. SUPPLEMENTAL SKETCHES AND LOOSE PAPERWORK WILL NOT BE ACCEPTABLE AND WILL BE RETURNED FOR REVISION. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERS COMMENTS TO PRODUCE A CLEAR AND CONCISE SET OF DRAWINGS. DRAWINGS SHALL BE SUBMITTED IN BOTH HARD COPY AND ELECTRONIC (AUTO-CAD VERSION AS REQUIRED BY THE OWNER) VERSION. NUMBER OF COPIES OF EACH AS REQUESTED BY THE OWNER.

PROVIDE "AS-BUILT DRAWINGS" INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS OF THE ORIGINAL DESIGN OF THE WORK. INDICATE THE FOLLOWING INSTALLED CONDITIONS:

INCLUDE ALL CHANGES AND AN ACCURATE RECORD, ON REPRODUCTIONS OF THE CONTRACT DRAWINGS OR APPROPRIATE SHOP DRAWINGS, OF ALL DEVIATIONS, BETWEEN THE WORK SHOWN AND WORK INSTALLED.

MAINS AND BRANCHES OF PIPING SYSTEMS, WITH VALVES AND CONTROL DEVICES LOCATED AND NUMBERED, CONCEALED UNIONS LOCATED, AND WITH ITEMS REQUIRING MAINTENANCE LOCATED (I.E., TRAPS, STRAINERS, EXPANSION COMPENSATORS, TANKS, ETC.). VALVE LOCATION DIAGRAMS, COMPLETE WITH VALVE TAG CHART. EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.

APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.

CONTRACT MODIFICATIONS, ACTUAL EQUIPMENT AND MATERIALS INSTALLED.

SUBMIT FOR REVIEW BOUND SETS OF THE REQUIRED DRAWINGS, MANUALS AND OPERATING INSTRUCTIONS.

SUBMIT A COMPLETE MAINTENANCE MANUAL OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT.

HANGERS AND SUPPORT

SEISMIC RESTRAINT. PROVIDE SEISMIC RESTRAINT AND EXPANSION OF ALL PLUMBING EQUIPMENT AND SYSTEMS IN ACCORDANCE WITH STATE AND FEDERAL BUILDING CODE REQUIREMENTS. SUBMIT SHOP DRAWINGS SIGNED AND SEALED BY A LICENSED PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF THE PROJECT INDICATING ALL NECESSARY COMPONENT CUTS, PLAN LOCATIONS AND CALCULATIONS FOR A COMPLETE SYSTEM.

PROVIDE ALL NECESSARY STRUCTURAL MEMBERS INCLUDING ADDITIONAL STRUCTURAL SUPPORT TO SUPPORT PIPING AND EQUIPMENT. HANGERS AND SUPPORTS SHALL BE OF AN APPROVED DESIGN NECESSARY TO SUPPORT PIPING, EQUIPMENT AND TO KEEP PIPING IN PROPER ALIGNMENT AND PREVENT TRANSMISSION OF INJURIOUS THRUSTS AND VIBRATIONS. IN ALL CASES WHERE HANGERS, BRACKETS, ETC., ARE SUPPORTED FROM CONCRETE, CONSTRUCTION DO NOT WEAKEN CONCRETE OR PENETRATE WATERPROOFING. ALL HANGERS AND SUPPORTS SHALL BE CAPABLE OF SCREW ADJUSTMENT AFTER PIPING IS ERECTED. HANGERS SUPPORTING PIPING EXPANDING INTO LOOPS, BENDS AND OFFSETS SHALL BE SECURED TO THE BUILDING STRUCTURE IN SUCH A MANNER THAT HORIZONTAL ADJUSTMENT PERPENDICULAR TO THE RUN OF PIPING SUPPORTED MAY BE MADE TO ACCOMMODATE DISPLACEMENT DUE TO EXPANSION. ALL SUCH HANGERS SHALL BE FINALLY ADJUSTED BOTH IN THE VERTICAL AND HORIZONTAL DIRECTION, AS REQUIRED. HANGERS IN CONTACT WITH COPPER OR BRASS PIPE SHALL BE DIELECTRIC, COMPATIBLE WITH COPPER AND BRASS ALLOY OR PROVIDED WITH FELT SLEEVE.

PROVIDE ADDITIONAL SUPPORT FOR PIPING AND EQUIPMENT WHEN DECK IS NOT CAPABLE OF SUPPORT.

SEAL ALL PIPING PASSING THROUGH ALL FIRE AND/OR SMOKE RATED PARTITIONS AND WALLS WITH A UL LISTED, APPROVED AND TESTED FIRE AND/OR SMOKE SEALING MATERIAL, INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

PROVIDE AND INSTALL EXPANSION COMPENSATION FOR ALL PIPING. SUBMIT PLANS, CALCULATIONS AND EQUIPMENT DATA.

BAND IRON, THE WIRE, METAL STRAPPING OR WIRE STRAPPING SHALL NOT BE PERMITTED TO SUPPORT PIPING OR EQUIPMENT.

PIPE SEALS

SEAL ALL PIPING PASSING THROUGH ALL FIRE AND/OR SMOKE RATED PARTITIONS AND WALLS WITH A UL LISTED, APPROVED AND TESTED FIRE AND/OR SMOKE SEALING MATERIAL, INSTALLED IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.

ALL PIPING PENETRATING A SLAB ON GRADE, OR FOUNDATION WALL BELOW GRADE AND IN CONTACT WITH EARTH SHALL BE PROVIDED WITH A POURED IN PLACE SCHEDULE 80 GALVANIZED STEEL WATER TIGHT SLEEVE WITH INTEGRAL WATER STOP AND SEAL EQUAL TO "LINK SEAL".

FURNISH AND SET STEEL PIPE SLEEVES OF SCHEDULE 40 BLACK STEEL FOR ALL LOCATIONS OF INTERIOR PARTITIONS, WALLS AND FLOORS PROVIDING AT LEAST 1/2" CLEARANCE BETWEEN PIPE INSULATION AND SLEEVE OR PIPE AND SLEEVE. WALL SLEEVES SHALL BE SMOOTH CUT AND SET FLUSH WITH FINISHED WALLS. FLOOR SLEEVES SHALL EXTENDED 2" ABOVE THE FINISHED FLOOR.

ALL PIPING THROUGH WALLS, FLOORS OR CEILINGS SHALL HAVE SLEEVES AND ESCUTCHEONS. PROVIDE A TWO PIECE CHROME ESCUTCHEON WHERE PIPING PASSES THROUGH WALLS OR FLOORS OF FINISHED SPACES.

PLUMBING FIXTURES

PLUMBING FIXTURES SHALL BE NEW, COMPLETE WITH TRIMMINGS AND FITTINGS, INCLUDING FAUCETS, CARRIERS, SUPPLIES, STOPS, TRAPS, TAILPIECES, WASTE PLUGS, CASINGS, HANGERS, PLATES, BRACKETS, ANCHORS, SUPPORTS, HARDWARE AND FASTENING DEVICES. NOTE: ALL FIXTURES SHALL BE OF SAME MANUFACTURER. TRIMMINGS AND FITTINGS SHALL BE CONSTRUCTED OF FORGED, CAST, ROLLED OR EXTRUDED BRASS OR BRONZE WITH MONEL AND OTHER SUITABLE NON-CORROSIIVE PARTS. DESIGNED WITH EASILY RENEWABLE PARTS THAT ARE SUBJECT TO WEAR OR DETERIORATION. NO DIE CASTINGS AND STAMPINGS OTHER THAN BRASS OR STAINLESS STEEL. PROVIDE PLUMBING FIXTURES AND TRIM WITH ALL NECESSARY TRIM, DEVICES AND ACCESSORIES REQUIRED FOR PROPER OPERATIONS SPECIFICALLY NOTED OR NOT.

ESCUTCHEONS SHALL BE ONE-PIECE CHROME PLATED CAST BRASS OR STAINLESS STEEL.

P-TRAPS SHALL BE ONE PIECE CHROME PLATED CAST BRASS WITH CLEANOUT PLUG.

EXAMINE ROUGH-IN WORK OF POTABLE WATER AND WASTE PIPING SYSTEMS TO VERIFY ACTUAL LOCATIONS OF PIPING CONNECTIONS PRIOR TO INSTALLING FIXTURES. CORRECT ANY INCORRECT LOCATION OF PIPING, AND UNSATISFACTORY CONDITIONS FOR INSTALLATION OF PLUMBING FIXTURES. DO NOT PROCEED WITH WORK UNTIL UNSATISFACTORY CONDITIONS HAVE BEEN CORRECTED IN A MANNER ACCEPTABLE TO THE ENGINEER. ALL ROUGH-IN TO PLUMBING FIXTURES SHALL CONFORM TO FIXTURE MANUFACTURER PUBLISHED ROUGH-IN DIMENSIONS, AND REQUIREMENTS.

UPON COMPLETION OF INSTALLATION OF PLUMBING FIXTURES AND AFTER UNITS ARE WATER PRESSURIZED, TEST FIXTURES TO DEMONSTRATE CAPABILITY AND COMPLIANCE WITH REQUIREMENTS. CORRECT MALFUNCTIONING UNITS AT SITE, THEN RETEST TO DEMONSTRATE COMPLIANCE; OTHERWISE, REMOVE AND REPLACE WITH NEW UNITS AND PROCEED WITH RETESTING.

CLEAN PLUMBING FIXTURES, TRIM, AND STRAINERS OF DIRT AND DEBRIS UPON COMPLETION OF INSTALLATION.

ADJUST WATER PRESSURE AT DRINKING FOUNTAINS, FAUCETS, SHOWER VALVES, AND FLUSH VALVES TO PROVIDE PROPER FLOW STREAM AND SPECIFIED GPM.

SET FIXTURES LEVEL AND UNIFORMLY, WITH CONNECTIONS AT RIGHT ANGLES TO WALL AND PROPERLY CENTERED. LAY OUT ROUGHING ACCURATELY AND IN COORDINATION WITH SPACE AND FINISH REQUIREMENTS.

LOCATE WASTE OUTLETS AND WATER SUPPLIES AT CONSTANT HORIZONTAL LEVELS, WITH WASTE OUTLET CENTERED ON FIXTURE DRAIN CONNECTION AND WATER SUPPLIES SPOURED EQUALLY TO RIGHT AND LEFT.

REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION AND MOUNTING HEIGHTS OF EQUIPMENT. COLORS SHALL BE COORDINATED WITH THE ARCHITECT. CONTACT ARCHITECT FOR CLARIFICATION IF INFORMATION IS NOT CONTAINED IN THE DRAWINGS.

DRAINS AND CLEANOUTS

PROVIDE ALL POURED IN PLACE DRAINS AND CLEANOUTS WITH 24" X 24" FLASHING.

PROVIDE TRAP PRIMERS FOR EACH FLOOR DRAIN. CONNECT TRAP PRIMER TO NEAREST COLD WATER MAIN. PROVIDE ISOLATION VALVE AND EXTEND TO FLOOR DRAIN AS REQUIRED.

CLEANOUTS SHALL BE LOCATED AT MINIMUM INTERVALS OF 50 FEET FOR PIPING NPS 4 AND SMALLER AND 100 FEET FOR LARGER PIPING.

BUILDING SEWERS SHALL BE PROVIDED WITH CLEANOUTS LOCATED NOT MORE THAN 100 FEET APART MEASURED FROM THE UPSTREAM ENTRANCE OF THE CLEANOUT. FOR BUILDING SEWERS 8 INCHES AND LARGER, MANHOLES SHALL BE PROVIDED AND LOCATED NOT MORE THAN 200 FEET FROM THE JUNCTION OF THE BUILDING DRAIN AND BUILDING SEWER, AT EACH CHANGE IN DIRECTION AND AT INTERVALS OF NOT MORE THAN 400 FEET APART. MANHOLES AND MANHOLE COVERS SHALL BE OF AN APPROVED TYPE.

CLEANOUTS SHALL BE INSTALLED AT EACH CHANGE OF DIRECTION OF THE BUILDING DRAIN OR HORIZONTAL WASTE OR SOIL LINES GREATER THAN 45 DEGREES (INCLUDING P-TRAPS), WHERE MORE THAN ONE CHANGE OF DIRECTION OCCURS IN A RUN OF PIPING, ONLY ONE CLEANOUT SHALL BE REQUIRED FOR EACH 40 FEET OF DEVELOPED LENGTH OF THE DRAINAGE PIPING.

A CLEANOUT SHALL BE PROVIDED AT THE BASE OF EACH WASTE OR SOIL STACK.

THERE SHALL BE A CLEANOUT NEAR THE JUNCTION OF THE BUILDING DRAIN AND THE BUILDING SEWER. THE CLEANOUT SHALL BE EITHER INSIDE OR OUTSIDE THE BUILDING WALL AND SHALL BE BROUGHT UP TO THE FINISHED GROUND LEVEL OR TO THE BASEMENT FLOOR LEVEL. AN APPROVED TWO-WAY CLEANOUT IS ALLOWED TO BE USED AT THIS LOCATION TO SERVE AS A REQUIRED CLEANOUT FOR BOTH THE BUILDING DRAIN AND BUILDING SEWER. THE CLEANOUT AT THE JUNCTION OF THE BUILDING DRAIN AND BUILDING SEWER SHALL NOT BE REQUIRED IF THE CLEANOUT ON A 3-INCH OR LARGER DIAMETER SOIL STACK IS LOCATED WITHIN A DEVELOPED LENGTH OF 10 FEET OF THE BUILDING DRAIN AND BUILDING SEWER CONNECTION.

CONCEALED PIPING, CLEANOUTS ON CONCEALED PIPING OR PIPING UNDER A FLOOR SLAB OR IN A CRAWL SPACE OF LESS THAN 24 INCHES IN HEIGHT OR A PLENUM SHALL BE EXTENDED THROUGH AND TERMINATE FLUSH WITH THE FINISHED WALL, FLOOR OR GROUND SURFACE OR SHALL BE EXTENDED TO THE OUTSIDE OF THE BUILDING. CLEANOUT PLUGS SHALL NOT BE COVERED WITH CEMENT, PLASTER OR ANY OTHER PERMANENT FINISH MATERIAL, WHERE IT IS NECESSARY TO CONCEAL A CLEANOUT OR TO TERMINATE A CLEANOUT IN AN AREA SUBJECT TO VEHICULAR TRAFFIC, THE COVERING PLATE, ACCESS DOOR OR CLEANOUT SHALL BE OF AN APPROVED TYPE DESIGNED AND INSTALLED FOR THIS PURPOSE.

MINIMUM SIZE, CLEANOUTS SHALL BE THE SAME NOMINAL SIZE AS THE PIPE THEY SERVE UP TO 4 INCHES. FOR PIPES LARGER THAN 4 INCHES NOMINAL SIZE, THE MINIMUM SIZE OF THE CLEANOUT SHALL BE 4 INCHES.

CAST-IRON CLEANOUT SIZING SHALL BE IN ACCORDANCE WITH ASTM A 74 FOR HUB AND SPIGOT FITTINGS OR ASTM A 888 OR CSIP1 301 FOR HUBLESS FITTINGS.

ACCESS SHALL BE PROVIDED TO ALL CLEANOUTS.

PROVIDE CONDENSATE DRAINAGE. COMPLETE WITH CONDENSATE REMOVAL PUMP, FOR EACH COOLING COIL. CONDENSATE PUMP DISCHARGE SHALL BE CONNECTED VIA INDIRECT WASTE CONNECTION TO BUILDING SANITARY WASTE PIPING SYSTEM. COORDINATE PUMP WIRING WITH PROJECT ELECTRICIAN. IF GRAVITY DRAINAGE IS POSSIBLE WITHIN THE CONSTRAINTS OF PIPING PITCH, CONCEALMENT ABOVE CEILINGS, AND ONLY AFTER COMPLETE COORDINATION WITH STRUCTURE AND OTHER TRADES, THE CONTRACTOR MAY SUBMIT SKETCH PROPOSALS FOR GRAVITY ROUTING FOR REVIEW/APPROVAL.

MISCELLANEOUS SPECIALTIES

ALL EQUIPMENT, VALVES, STRAINERS, UNIONS, TRAPS, FLANGES AND OTHER APPURTENANCES REQUIRING ACCESS SHALL BE LOCATED IN ACCESSIBLE LOCATIONS. WHEN A PIECE OF EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING OR WALL, THEN THE APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. SUCH EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO CLEANOUTS, WATER HAMMER ARRESTORS AND VALVES. THESE SHALL BE COORDINATED WITH THE ARCHITECT. ACCESS DOORS SHALL BE RIGID CONSTRUCTION WITH TWO HINGES AND A LATCH. IN PLENUM CEILINGS, PROVIDE FELT BETWEEN THE DOOR AND FRAME TO MAKE AN AIR TIGHT SEAL. ACCESS DOORS SHALL BE RATED TO THE SAME OR GREATER RATING OF THE PARTITION IN WHICH THEY ARE INSTALLED. ACCESS DOORS SHALL BE FLUSH MOUNTED, PRIME COATED WITH RUST INHIBITIVE PAINT, CONCEALED FRAME, FLUSH SCREW DRIVER OPERATED LOCKS WITH METAL CAMS AND ANCHORS AS REQUIRED.

ACCESS DOOR SIZES SHALL BE:
12" X 12" AT EASILY ACCESSIBLE ITEMS
16" X 16" WHERE PARTIAL BODY ACCESS IS REQUIRED
24" X 24" WHERE FULL BODY ACCESS IS REQUIRED

INSTALL ELECTRONIC TRAP PRIMERS SERVING ALL DRAINS. INSTALL ALL TRAP PRIMER VALVES IN AN ACCESSIBLE LOCATION. PROVIDE AND INSTALL ACCESS PANELS AND DOORS WHERE REQUIRED TO GAIN ACCESS IN CONCEALED CONSTRUCTION.

PROVIDE FLEXIBLE CONNECTIONS IN ALL PIPING SYSTEMS CONNECTED TO PUMPS AND OTHER EQUIPMENT WHICH REQUIRES VIBRATION ISOLATION, EXCEPT WATER COILS. FLEXIBLE CONNECTIONS SHALL BE PROVIDED AS CLOSE TO THE EQUIPMENT AS POSSIBLE.

PIPING GENERAL

NO PIPING SHALL BE COVERED UNTIL TESTED APPROVED BY THE AUTHORITIES HAVING JURISDICTION.

ALL PIPING SHALL BE RUN PERPENDICULAR AND/OR PARALLEL TO FLOORS, INTERIOR WALLS, ETC. PIPING AND VALVES SHALL BE GROUPED NEATLY AND SHALL BE RUN AS TO MAXIMIZE HEADROOM OR PASSAGE CLEARANCE. ALL VALVES, CONTROLS AND ACCESSORIES CONCEALED IN FURRED SPACES AND REQUIRING ACCESS FOR OPERATION AND MAINTENANCE SHALL BE ARRANGED TO ASSURE THE USE OF A MINIMUM NUMBER OF ACCESS DOORS.

ALL PIPE LINES MADE WITH SCREWED FITTINGS MUST BE PROVIDED WITH A SUFFICIENT NUMBER OF FLANGES AND/OR UNIONS TO ALLOW FOR EASY AND CONVENIENT DISMANTLING OF THE SYSTEM WITHOUT BREAKING FITTINGS.

ALL PIPING SHALL RUN CONCEALED IN FURRED SPACES OF OCCUPIED AREAS OR CHASES. CONTRACTOR SHALL OBTAIN PERMISSION TO RUN ANY EXPOSED PIPES.

CAP ALL PIPE AND EQUIPMENT OUTLETS DURING CONSTRUCTION AND KEEP LINES AND INSIDE OF EQUIPMENT FREE OF FOREIGN MATERIALS.

PROVIDE FOR EXPANSION WITHOUT WARPING OR DISLOCATING LINES OR STRAINING CONNECTED EQUIPMENT. INSTALL PIPING TO CLEAR BUILDING CONSTRUCTION AND TO AVOID INTERFERENCE WITH OTHER WORK. THE CONTRACTOR SHALL PROVIDE AND INSTALL COMPLETE PIPING EXPANSION SYSTEM (INCLUDING SEISMIC JOINT EXPANSION) AND DEVICES AS REQUIRED FOR PROPER EXPANSION COMPENSATION STAMPED BY A PROFESSIONAL ENGINEER LICENSED IN THE STATE OF THE PROJECT.

THE DRAWINGS INDICATE SCHEMATICALLY THE SIZE AND LOCATION OF PIPING. PIPING SHALL BE SET UP AND DOWN AND OFFSET AS REQUIRED TO MEET CONSTRUCTION CONDITIONS.

THIS CONTRACTOR SHALL INFORM HIMSELF FROM THE GENERAL CONSTRUCTION SPECIFICATIONS AND PLANS, OF THE EXACT DIMENSION OF FINISHED WORK AND OF THE HEIGHT OF FINISHED CEILINGS IN ALL ROOMS WHERE EQUIPMENT OR PIPES ARE TO BE PLACED AND ARRANGE HIS WORK IN ACCORDANCE WITH THE SCHEDULE OF INTERIOR FINISHES, AS INDICATED ON THE ARCHITECTURAL DRAWINGS.

WATER PIPING SHALL BE RUN FREE OF TRAPS AND UNNECESSARY BENDS. ANY TRAPS FORMED SHALL BE PROVIDED WITH HOSE END DRAIN VALVES WITH THREADED CAP AND CHAIN TO COMPLETELY DRAIN THE SYSTEM.

PROVIDE SECTION CUT-OFF VALVE ON ALL MAINS AND BRANCHES. FITCH AND VALVE ALL WATER PIPING FOR CONVENIENT DRAINAGE.

UNIONS AND/OR FLANGES SHALL BE INSTALLED AT EACH PIECE OF EQUIPMENT, IN BYPASSES AND IN LONG PIPING RUNS (100 FEET OR MORE) TO PERMIT DISASSEMBLY FOR ALTERATION AND REPAIRS.

WHEREVER DISSIMILAR METALS ARE JOINED TOGETHER AN APPROVED DIELECTRIC FITTING SHALL BE USED. THE DIELECTRIC FITTING SHALL BE A LISTED ASSEMBLY.

RUN ALL SOIL, WASTE AND WENT PIPING SHOWN OR REQUIRED BY LOCAL CODES. PIPING SHOWN IN MINIMUM AND IN ACCORDANCE WITH STATE AND FEDERAL CODES. IF LOCAL CODES INDICATE ADDITIONAL VENTING OR LARGER SIZES, PROVIDE AS REQUIRED.

MAKE ALL CONNECTIONS THROUGH TRAPS, EACH TRAP TO BE VENTED, EITHER BY CIRCUIT, LOOP, OR INDIVIDUAL VENT, AS REQUIRED, BUT NOT LESS THAN SHOWN, OR AS REQUIRED BY LOCAL CODE.

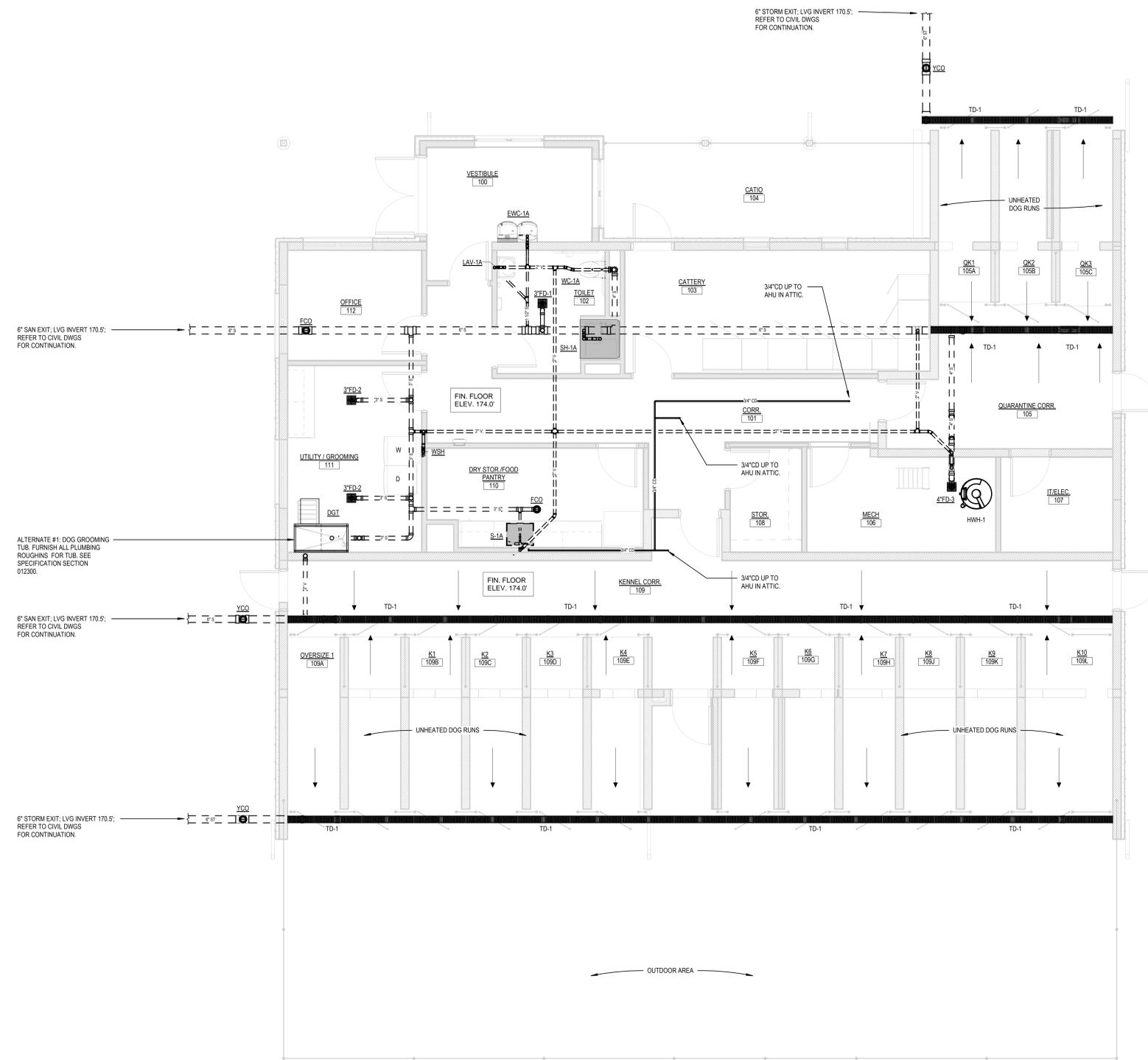
SET AND PROPERLY CONNECT ALL FIXTURES WITH HOT AND COLD WATER, VENT AND DRAINAGE PIPING, AS REQUIRED AND PROTECT FIXTURES UNTIL ACCEPTANCE AND TEST. CLEAN ALL FLUSH VALVES AFTER TWO WEEKS OF OPERATION.

PLUMBING ABBREVIATIONS

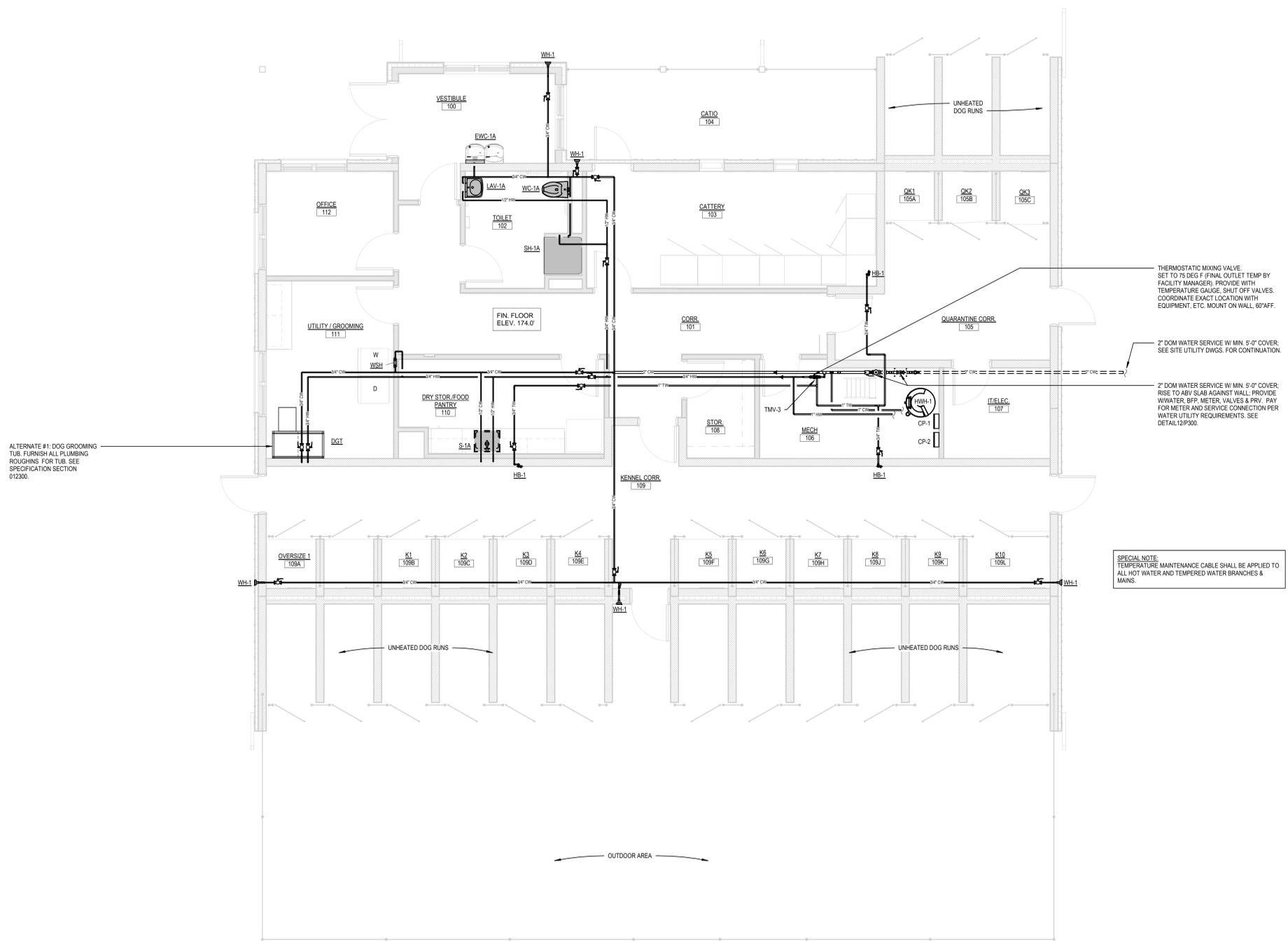
ABBREVIATION	DESCRIPTION
ADA	AMERICAN DISABILITIES ACT
A.F.F.	ABOVE FINISHED FLOOR
A.F.G.	ABOVE FINISHED GRADE
B.F.F.	BELOW FINISHED FLOOR
BFP	BACKFLOW PREVENTER
BIV	BUTTERFLY INDICATING VALVE
BLDG	BUILDING
BTU	BRITISH THERMAL UNIT
BTUH	BRITISH THERMAL UNITS PER HOUR
C.E.	CIVIL ENGINEER
CONT	CONTINUED
COP	CLEANOUT PLUG
CPVC	CHLORINATED POLYVINYL CHLORIDE
CV	CHECK VALVE
CW	COLD WATER
D.F.L.J.	DRAINAGE FIXTURE UNITS
DIA.	DIAMETER
DN	DOWN
DWG	DRAWING
EA	EACH
E.C.	ELECTRICAL CONTRACTOR
EWI	ELECTRIC WATER HEATER
EX	EXISTING
FOO	FLOOR CLEANOUT
FD	FLOOR DRAIN
FD/F	FLOOR DRAIN WITH FUNNEL
FD/FR	FLOOR DRAIN WITH ROUND FUNNEL
F.F.	FINISHED FLOOR
F.F.E.	FINISHED FLOOR ELEVATION
FLR	FLOOR
F.P.C.	FIRE PROTECTION CONTRACTOR
FS	FLOOR SINK
FSB	FLOOR SINK WITH SEDIMENT BUCKET
FSH	FLOOR SINK WITH HALF GRATE
FSQ	FLOOR SINK WITH THREE-QUARTER GRATE
FT	FEET
F.U.	FIXTURE UNITS
GAL	GALLONS
G.C.	GENERAL CONTRACTOR
GP	GALLONS PER FLUSH
GPH	GALLONS PER HOUR
GP	GALLONS PER MINUTE
GRH	GAS WATER HEATER
HD	HUB DRAIN
HP	HORSEPOWER
HR	HOUR
HW	HOT WATER
HWR	HOT WATER RECIRCULATION
KL	KILOWATTS
MAX	MAXIMUM
MBTUH	THOUSANDS OF BTU PER HOUR
M.C.	MECHANICAL CONTRACTOR
MIN	MINIMUM
MISC.	MISCELLANEOUS
NC	NORMALLY CLOSED
N.C.	NOT IN CONTRACT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
P.C.	PLUMBING CONTRACTOR
P.R.A.	PROJECTED ROOF AREA
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
RAD	RADIUS
RD	ROOF DRAIN
RO	ROOF OVERFLOW
RBFP	REDUCED PRESSURE BACKFLOW PREVENTER
RL	RAINWATER LEADER
S.C.	SITE CONTRACTOR
SF	SQUARE FEET
SS	SANITARY SEWER STACK
TB	THRUST BLOCK
TD	TRENCH DRAIN
TP	TRAP PRIMER
TYP.	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
V	VENT
VB	VACUUM BREAKER
V.I.F.	VERIFY IN FIELD
VS	VENT STACK
VTR	VENT THROUGH ROOF
WCO	WALL CLEANOUT
WH	WALL HYDRANT
WS	WASTE STACK
YCO	YARD CLEANOUT
Ø	DIAMETER

PLUMBING SYMBOL LEGEND

SYMBOL	DESCRIPTION
	AIR ADMITTING VALVE
	BALANCING VALVE
	BALL VALVE
	VALVE IN UNDERGROUND BOX
	BACKWATER VALVE
	CHECK VALVE
	GAS VALVE



1 MAIN LEVEL PLAN DRAINAGE
1/4" = 1'-0"



ALTERNATE #1 DOG GROOMING TUB. FURNISH ALL PLUMBING ROUGHINS FOR TUB. SEE SPECIFICATION SECTION 01200.

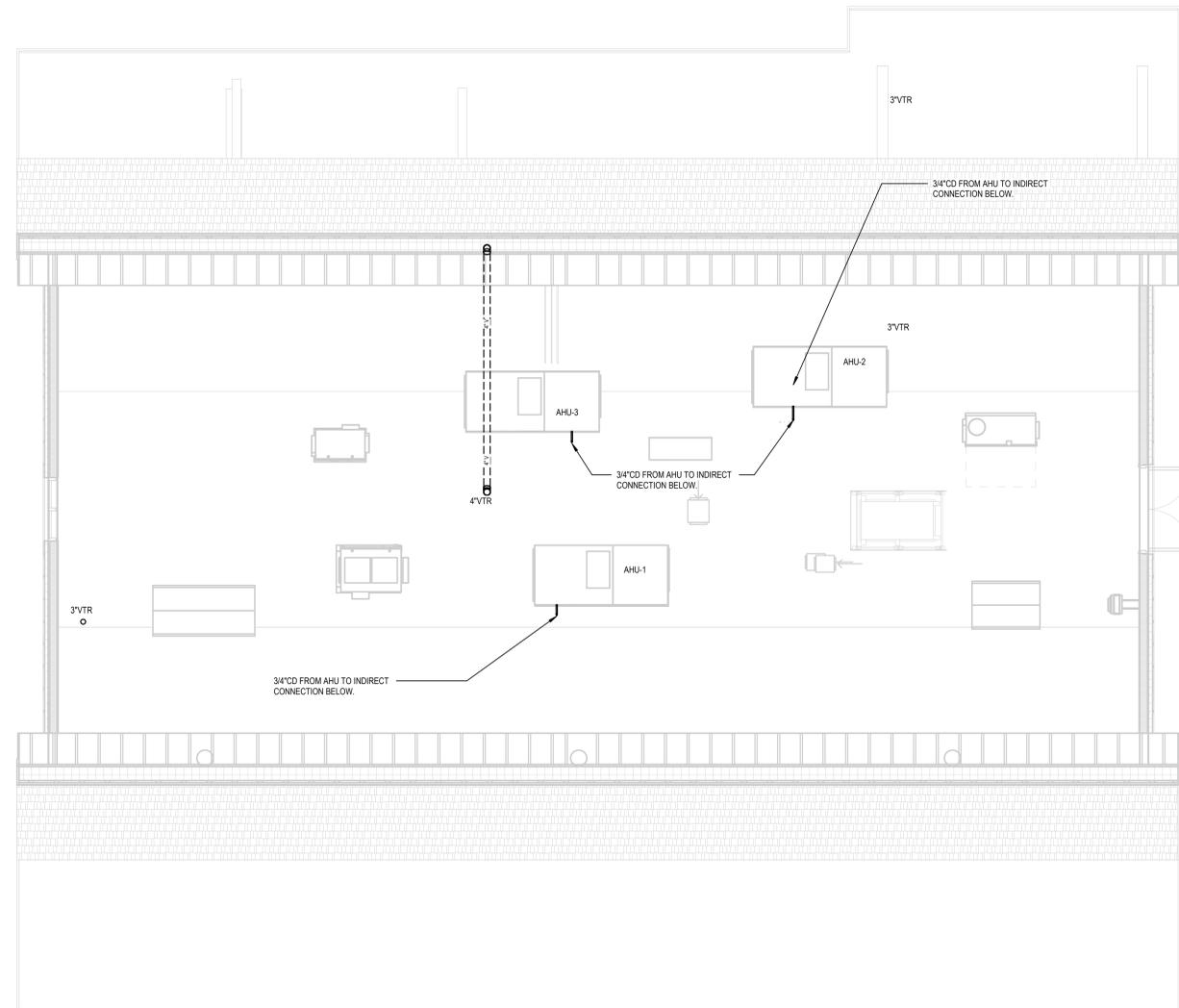
THERMOSTATIC MIXING VALVE. SET TO 75 DEG F. FINAL OUTLET TEMP BY FACILITY MANAGER. PROVIDE WITH TEMPERATURE GAUGE, SHUT OFF VALVES. COORDINATE EXACT LOCATION WITH EQUIPMENT, ETC. MOUNT ON WALL, 60" AFF.

2" DOM WATER SERVICE W/ MIN. 5'-0" COVER. SEE SITE UTILITY DWGS. FOR CONTINUATION.

2" DOM WATER SERVICE W/ MIN. 5'-0" COVER. RISE TO ABV SLAB AGAINST WALL. PROVIDE W/ WATER BFP, METER, VALVES & PRV. PAY FOR METER AND SERVICE CONNECTION PER WATER UTILITY REQUIREMENTS. SEE DETAIL 121P300.

SPECIAL NOTE: TEMPERATURE MAINTENANCE CABLE SHALL BE APPLIED TO ALL HOT WATER AND TEMPERED WATER BRANCHES & MAINS.

1 MAIN LEVEL PLAN SUPPLY
1/4" = 1'-0"



1 ATTIC PLAN
1/4" = 1'-0"

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave.
 Montville, CT

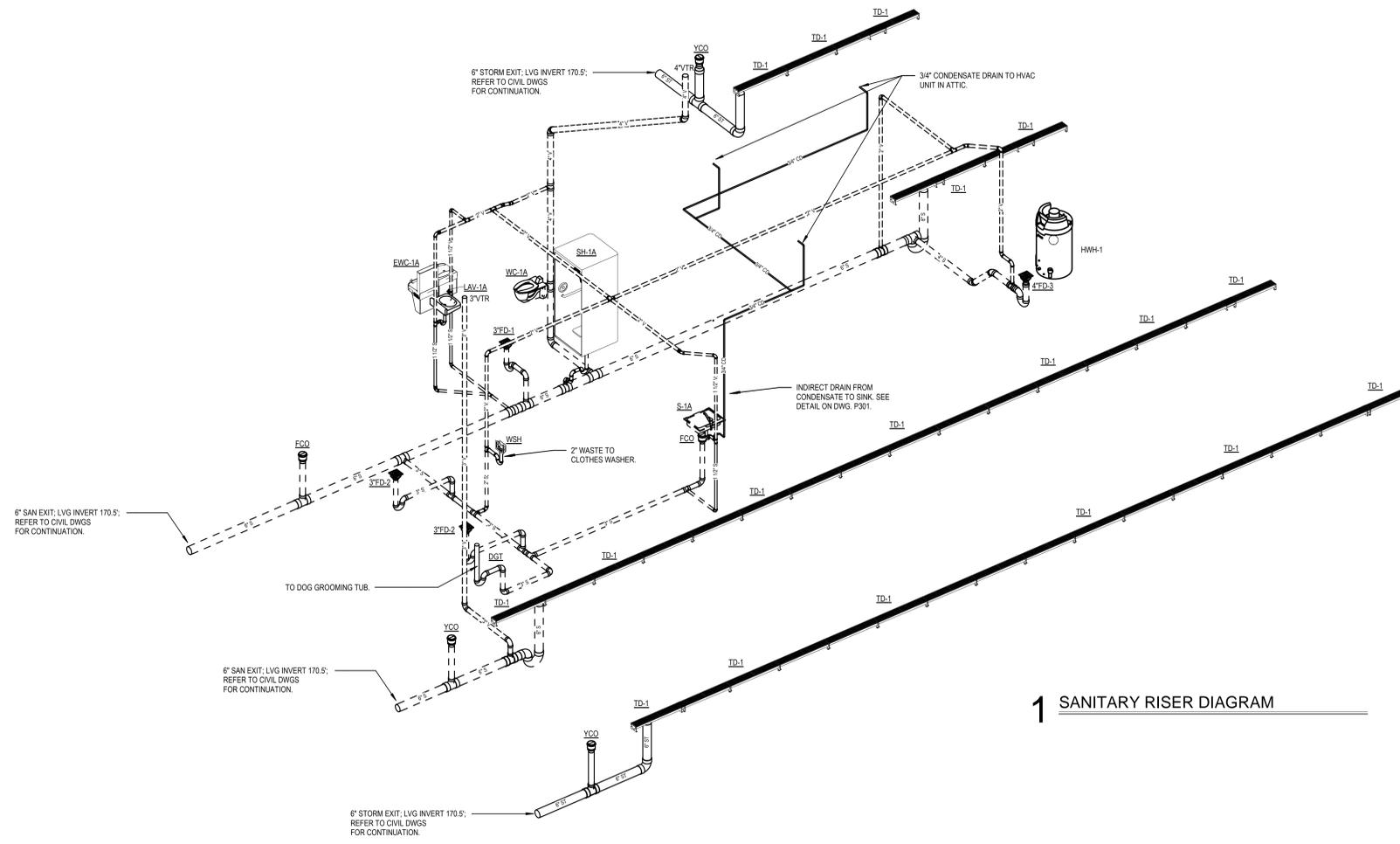


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 3190 WHITNEY AVENUE HAMDEN CT 06518
 311 STATE STREET NEW LONDON CT 06320
 203 230 9007 silverpetrucelli.com

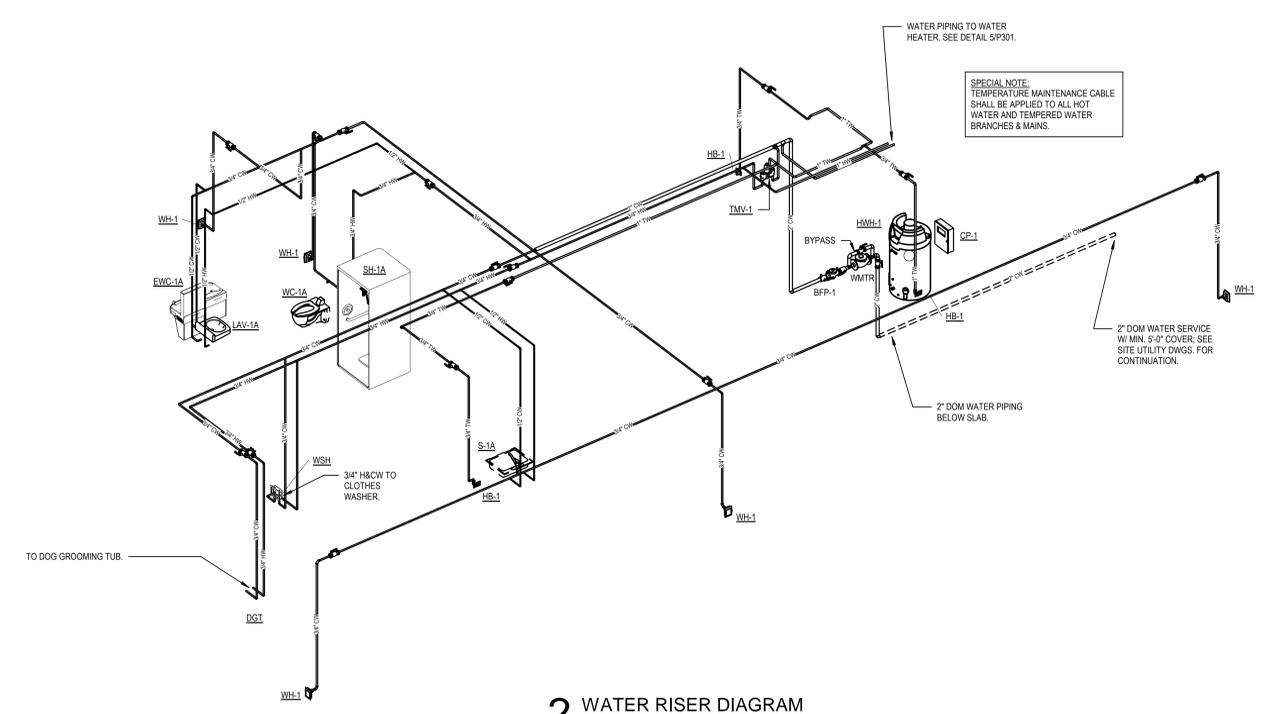
Revision:	Description:	Date:	Revised By:

Drawing Title:
PLUMBING ATTIC PLAN

Date: 09/29/2023
 Scale: 1/4" = 1'-0"
 Drawn By: JES
 Project Number: 22.130
 Drawing Number: **P120**



1 SANITARY RISER DIAGRAM



2 WATER RISER DIAGRAM

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave.
 Montville, CT



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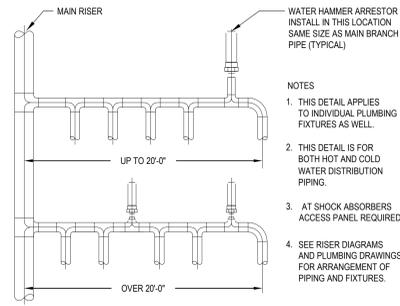
Revision:	Description:	Date:	Revised By:

Drawing Title:
PLUMBING RISER DIAGRAMS

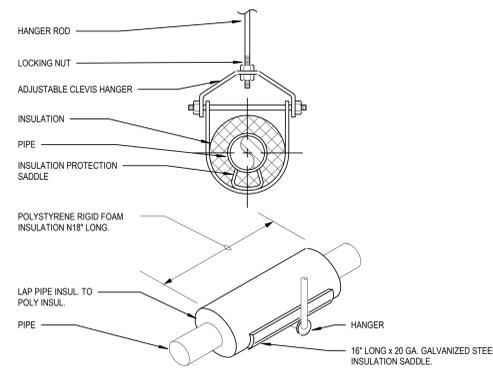
Date: 09/29/2023
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 Drawn By: JES
 Project Number: 22.130

Drawing Number:
P200

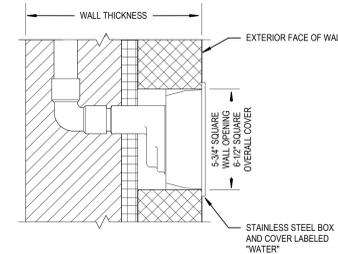
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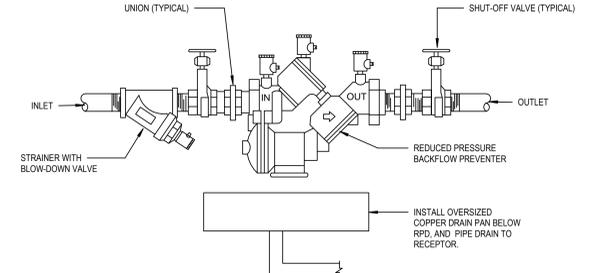
10 SHOCK ABSORBER DETAIL
NTS



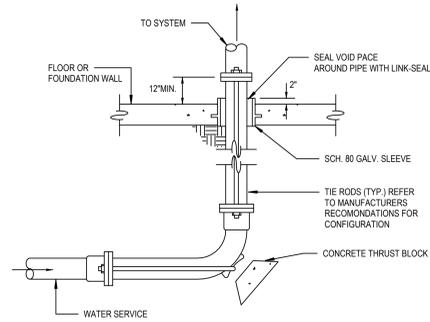
7 CLEVIS HANGER WITH SADDLE DETAIL
NTS



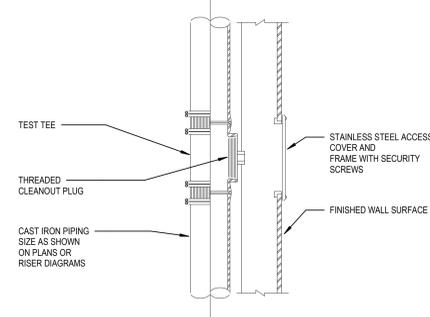
4 WALL HYDRANT DETAIL
NTS



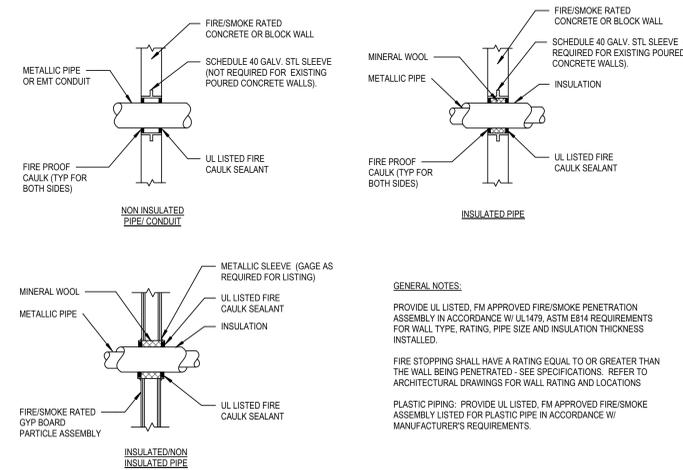
1 BACKFLOW PREVENTER DETAIL
NTS



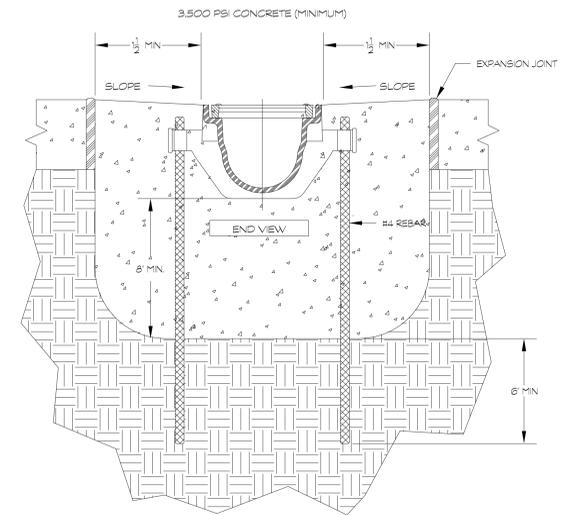
11 WATER PIPING ENTRY DETAIL
NTS



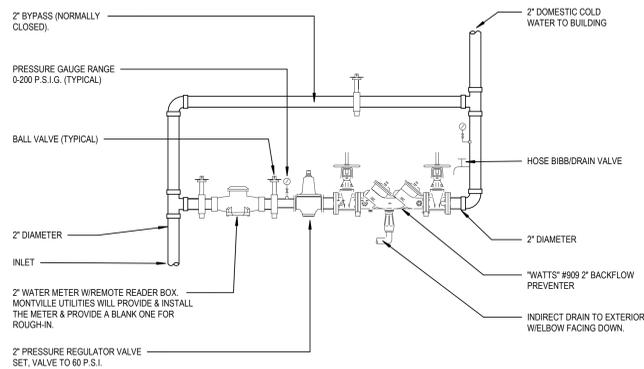
8 WALL CLEANOUT DETAIL
NTS



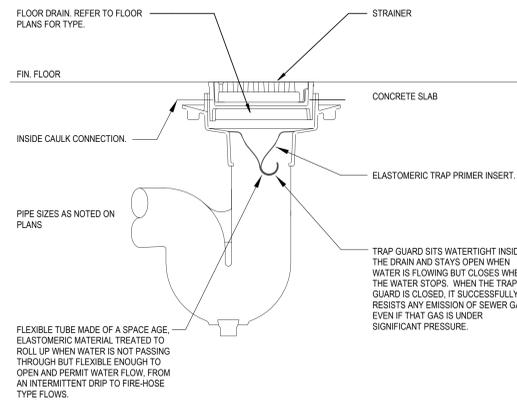
5 PIPE FIRE/SMOKE SEAL DETAIL
NTS



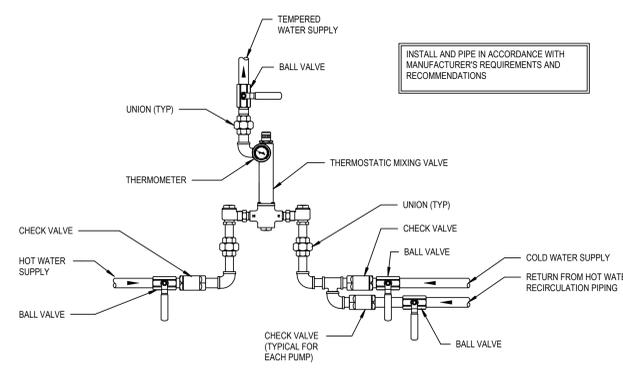
2 TRENCH DRAIN PIPING DETAIL
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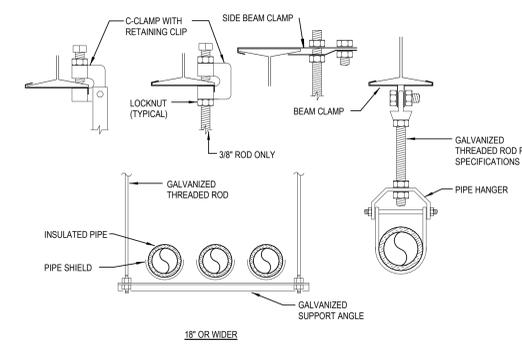
12 WATER SERVICE ENTRANCE DETAIL
NTS



9 TRAP PRIMER DETAIL
NTS



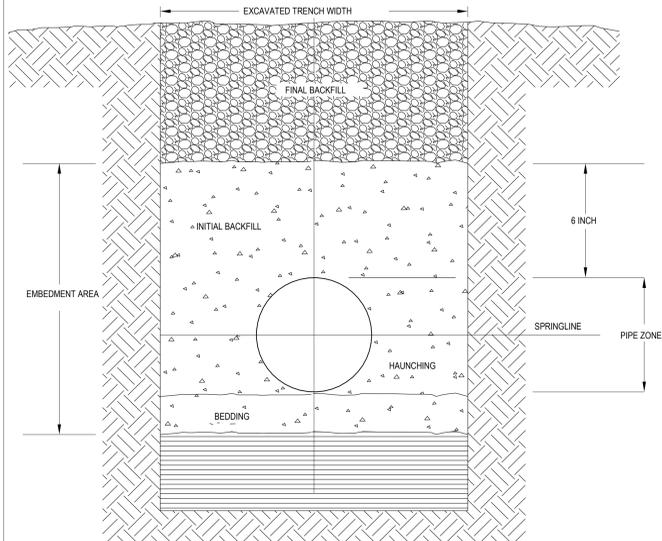
6 MASTER THERMOSTATIC MIXING VALVE
NTS



3 PIPE SUPPORT DETAIL
NTS

PIPE SIZE	ROD DIA.	SUPPORT ANGLE OR EQUIV. CHANNEL	MAX SPACING STEEL PIPE	MAX SPACING COPPER PIPE	MAXIMUM AREA*
1/2" TO 1"	3/8"	1 1/2" X 1 1/2" X 1/8"	8'-0" O.C.	6'-0" O.C.	4 SQ. FT.
1 1/4" TO 2"	3/8"	1 1/2" X 1 1/2" X 1/8"	10'-0" O.C.	8'-0" O.C.	10 SQ. FT.
2 1/2" TO 4"	1/2"	2" X 2" X 1/4"	12'-0" O.C.	10'-0" O.C.	10 SQ. FT.

* REDUCE SPACING TO NEXT SMALLER INTERVAL IF PIPE AREA EXCEEDS MAXIMUM

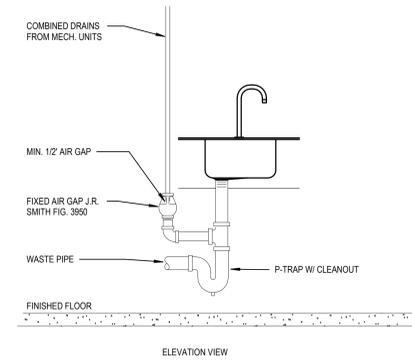


7 UNDERGROUND INSTALLATION OF PVC
NTS

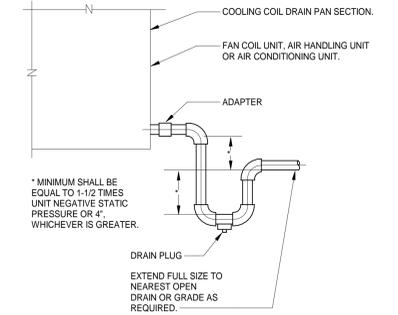
UNDERGROUND INSTALLATION OF PLASTIC PIPE

PLASTIC PIPE SHOULD ALWAYS BE BURIED IN STRICT ACCORDANCE WITH THE ASTM STANDARD RELEVANT TO THE TYPE OF PLASTIC PIPING SYSTEM BEING INSTALLED. THOSE STANDARDS ARE: ASTM D2321 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY-FLOW APPLICATIONS, ASTM D2774 STANDARD PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PRESSURE PIPING. NOTE: IN ADDITION TO THESE STANDARDS, PIPE SHOULD ALWAYS BE INSTALLED IN ACCORDANCE WITH ALL LOCAL CODE REQUIREMENTS. RECOMMENDATIONS FOR UNDERGROUND INSTALLATION OF PLASTIC DRAINAGE PIPE:

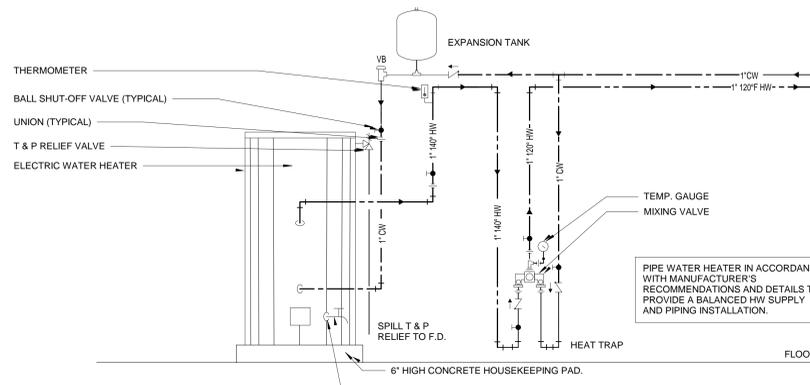
1. THE MINIMUM WIDTH OF THE TRENCH SHOULD BE THE PIPE OD (OUTSIDE DIAMETER) PLUS 16 INCHES OR THE PIPE OUTSIDE DIAMETER TIMES 1.25 PLUS 12 INCHES. THIS WILL ALLOW ADEQUATE ROOM FOR JOINING THE PIPE, SNAKING THE PIPE IN THE TRENCH TO ALLOW FOR EXPANSION AND CONTRACTION WHERE APPROPRIATE AND SPACE FOR BACKFILLING AND COMPACTION OF BACKFILL. THE SPACE BETWEEN THE PIPE AND TRENCH WALL MUST BE WIDER THAN THE COMPACTION EQUIPMENT USED TO COMPACT THE BACKFILL.
2. PROVIDE A MINIMUM OF 4 INCHES OF FIRM, STABLE AND UNIFORM BEDDING MATERIAL IN THE TRENCH BOTTOM. IF ROCK OR UNYIELDING MATERIAL IS ENCOUNTERED, A MINIMUM OF 6 INCHES OF BEDDING SHALL BE USED. BLOCKING SHOULD NOT BE USED TO CHANGE PIPE GRADE OR TO INTERMITTENTLY SUPPORT PIPE OVER LOW SECTIONS IN THE TRENCH.
3. THE PIPE SHOULD BE SURROUNDED WITH AN AGGREGATE MATERIAL WHICH CAN BE EASILY WORKED AROUND THE SIDES OF THE PIPE. BACKFILLING SHOULD BE PERFORMED IN LAYERS OF 6 INCHES WITH EACH LAYER BEING SUFFICIENTLY COMPACTED TO 85% TO 95% COMPACTION.
4. A MECHANICAL TAMPER IS RECOMMENDED FOR COMPACTING SAND AND GRAVEL. THESE MATERIALS CONTAIN FINE-GRAINS, SUCH AS SILT AND CLAY. IF A TAMPER IS NOT AVAILABLE, COMPACTION SHOULD BE DONE BY HAND.
5. THE TRENCH SHOULD BE COMPLETELY FILLED. THE BACKFILL SHOULD BE PLACED AND SPREAD IN UNIFORM LAYERS TO PREVENT ANY UNFILLED SPACES OR VOIDS. LARGE ROCKS, STONES, FROZEN GLOBS, OR OTHER LARGE DEBRIS SHOULD BE REMOVED. STONE BACKFILL SHALL PASS THROUGH AN 1-1/2" SIEVE. ROCK SIZE SHOULD BE ABOUT ONE-TENTH OF THE PIPE OUTSIDE DIAMETER. HEAVY TAMPERS OR ROLLING EQUIPMENT SHOULD ONLY BE USED TO CONSOLIDATE THE FINAL BACKFILL.
6. TO PREVENT DAMAGE TO THE PIPE AND DISTURBANCE TO PIPE EMBEDMENT, A MINIMUM DEPTH OF BACKFILL ABOVE THE PIPE SHOULD BE MAINTAINED. PIPE SHOULD ALWAYS BE INSTALLED BELOW THE FROST LEVEL. TYPICALLY, IT IS NOT ADVISABLE TO ALLOW VEHICULAR TRAFFIC OR HEAVY CONSTRUCTION EQUIPMENT TO TRAVERSE THE PIPE TRENCH.



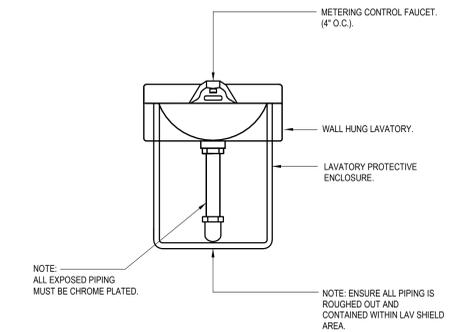
4 SINK INDIRECT DRAIN
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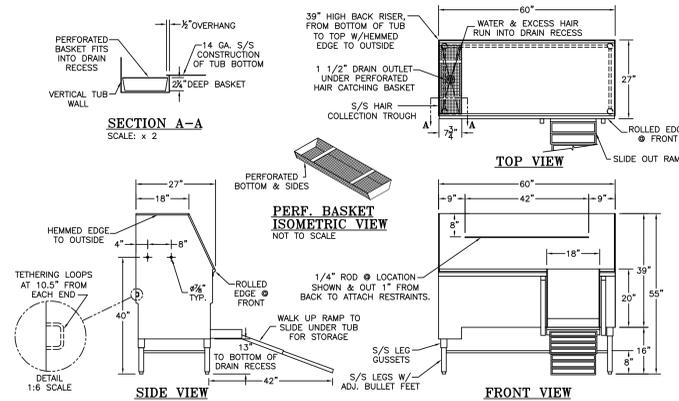
1 CONDENSATE DRAIN DETAIL
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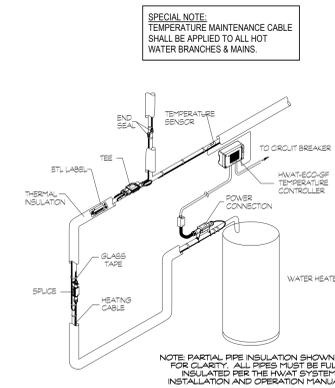
5 ELECTRIC WATER HEATER
NTS



2 WALL MOUNTED LAV ENCLOSURE
NTS



6 DOG GROOMING TUB
NTS



3 TEMPERATURE MAINTENANCE CABLE
NTS

Project Title:
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203 230 9007 silverpetrucci.com

Revision:	Description:	Date:	Revised By:

Drawing Title:
PLUMBING DETAILS

Date: 09/29/2023
Scale: As Indicated
Drawn By: JES
Project Number: 22-130
Drawing Number: **P301**

DRAIN SCHEDULE				
MARK	FIXTURE, MODEL NUMBER AND DESCRIPTION	ROUGH-IN		
		TRAP	WASTE	VENT
FD-1	FLOOR DRAIN: WADE MFG. TOILET ROOMS: 1100-STD6-27, CAST IRON BODY DRAIN w/ROUND NICKEL BRONZE TOP, SEDIMENT BUCKET AND VANDAL-PROOF SCREWS w/TRAP GUARD DEVICE.	AS NOTED ON DRWGS.	AS NOTED ON DRWGS.	AS NOTED ON DRWGS.
FD-2	FLOOR DRAIN (ANIMAL AREAS): WADE MFG. 9100 STAINLESS STEEL, 12" SQUARE FLOOR DRAIN WITH 8" DEEP ROUNDED FD SUMP AND STAINLESS STEEL SUSPENDED SEDIMENT BUCKET w/TRAP GUARD DEVICE.	AS NOTED ON DRWGS.	AS NOTED ON DRWGS.	AS NOTED ON DRWGS.
FD-3	FLOOR DRAIN (MECHANICAL ROOM): WADE 1210-27-39-TSD, HEAVY DUTY CAST IRON BODY, BOTTOM OUTLET. MECHANICAL ROOMS: CAST IRON BODY DRAIN w/ROUND CAST IRON ADJUSTABLE STRAINER HEAD, SEDIMENT BUCKET AND VANDAL-PROOF SCREWS. PROVIDE WITH BACKWATER VALVE & PROSET TO G-23 TRAP GUARD DEVICE.	AS NOTED ON DRWGS.	AS NOTED ON DRWGS.	AS NOTED ON DRWGS.
TD-1	TRENCH DRAIN: WADE/ABT MFG. TR08-08-504E-FG-F21G 8" ID WIDE HIGH DENSITY POLYETHYLENE MODULAR TRENCH DRAIN WITH 8" WIDE THROAT, RADIUS BOTTOM, INTERLOCKING ENDS, REBAR SADDLES, LOCK DEVICES, BLANK GRATE INSERTS AND GRATES AS SPECIFIED. GRATE: 10" DUCTILE IRON SLOTTED, ADA, GLASS A WITH END PLATE W/SLIP OUTLET (6") PER EACH & 90 DEGREE SECTION. PROVIDE WITH ALL REQUIRED ACCESSORIES, INLETS, OUTLETS, CUTS, ETC. FOR A COMPLETE SYSTEM. FURNISH WITH TF-14 #1901 MILNE CATCH BASIN AT END OF TRENCH DRAIN RUNS. PROVIDE A 1/4" SCALE INSTALLATION & FABRICATION DRAWING WITH SLOPES, DIMENSIONS, MODULES, ETC. FORMS: FBFR - PRE - MANUFACTURED TRENCH FORMS USING RECYCLABLE NON - CPC EPS FOAMS. FORMS TO BE ROUND BOTTOM, PRE-SLOPED OR NON - SLOPED. FORM SEGMENTS ARE 60" (203 MM) WIDE, TRENCH WIDTH CREATED TO BE WITHIN 1/16" (1.58MM), IF SPECIFIED. INVERT SLOPE PER APPLICATION REQUIREMENT AS NOTED ON PLANS. NON - SLOPING SECTIONS MUST HAVE WRITTEN APPROVAL BY ENGINEER PRIOR TO INSTALLATION. FORM WORK TO BE ANCHORED AGAINST FLOTATION TO THE EARTH WITHOUT PENETRATING THE SUBGRADE USING STEEL W/ FLOAT LESS AND AN ANCHOR SLAB POUR. MEANS TO ASSURE CONSTANT RAIL SPACING AND GRATE SEAT DIMENSION MUST BE PROVIDED. NON - PETROLEUM BASED FORM RELEASE IS TO BE USED FOR SMOOTH INTERIOR WALLS AND EASY FORM REMOVAL. GRATING - 08.504E FG: GALVANIZED DUCTILE IRON LONGITUDINALLY SLOTTED/ADA GRATES. GRATES TO HAVE A 0.4 FT ² /LF ² (0.119 M ² /M) OPEN AREA. GRATES SHALL PASS A PROOF LOAD 820 PSI (MODIFIED AASHTO M-306 TEST METHOD) APPLIED TO A 9 INCH WIDE X 8 INCH LONG LOAD CONTACT AREA. GRATES MUST BE FLUSH WITH TOP OF RAILS. COVERS ARE RETAINED IN CONTACT AGAINST VERTICAL LOADS WITH A BOLT AND TOGGLE. FRAMES / RAILS - F21G: POST FABRICATION HOT DIPPED GALVANIZED 1.75" X 1.75" X 0.188" (44.5 MM X 44.5 MM X 4.8 MM) STEEL RAILS, STANDARD HEADED CONCRETE ANCHORS CONFORMING TO OR EXCEEDING AMERICAN CONCRETE INSTITUTE'S SPECIFICATIONS. GRATE RAILS TO PROVIDE A MINIMUM OF 1.188 SQUARE INCHES CONCRETE BEARING AREA PER INCH OF TRENCH LENGTH ON EACH SIDE. AUXILIARY FRAMES ARE TO BE USED AS NOTED ON PLANS TO FACILITATE RAIL INTERSECTIONS. GRATE CHANGES AND EXPANSION, CONTROL & CONSTRUCTION JOINTS. LOAD BARS ARE TO BE INSTALLED AS NOTED ON THE PLANS TO REINFORCE RAILS WHERE UNSUPPORTED BY CONCRETE.	AS NOTED ON DRWGS.	AS NOTED ON DRWGS.	AS NOTED ON DRWGS.
NOTES: 1. PROVIDE TRAP PRIMERS FOR ALL DRAINS. DRAINS INCORPORATING A CONSTANT AND REGULAR WASTE ARE NOT REQUIRED TO INTERGRATE TRAP PRIMERS (I.E. SHOWER DRAINS, KITCHEN DRAINS, ETC). 2. TRANSITION COUPLINGS AND NO-HUB PIPE SHALL NOT BE INSTALLED BELOW SLAB OR IN ANY BURIED CONDITIONS IN CONTACT WITH EARTH				

CLEANOUT SCHEDULE				
MARK	FIXTURE, MODEL NUMBER AND DESCRIPTION	TRAP SIZE	REMARKS	
FCO	FLOOR CLEANOUT (ALL INTERIOR AREAS EXCEPT CARPETED AREAS). WADE 8000-1-75, ADJUSTABLE ROUND SCORATED HEAVY DUTY NICKEL BRONZE SECURED TOP WITH FRAME, CAST IRON BODY, FLASHING FLANGE AND CLAMP. BRONZE PLUG. PROVIDE WITH VANDAL PROOF SCREWS. PROVIDE NICKEL BRONZE FRAME IN WET AREAS.	AS NOTED ON DWG.	--	
FCO	FLOOR CLEANOUT (CARPETED AREAS). WADE 8000-1-75, ADJUSTABLE ROUND SCORATED HEAVY DUTY NICKEL BRONZE SECURED TOP WITH FRAME, CARPET MARKER, CAST IRON BODY, FLASHING FLANGE AND CLAMP. BRONZE PLUG. PROVIDE WITH VANDAL PROOF SCREWS.	AS NOTED ON DWG.	--	
YCO	FLOOR CLEANOUT (EXTERIOR AREAS). WADE 8401FCO-12-75 WITH CO-380 ROUND FLANGED HOUSING WITH HEAVY DUTY SCORATED DUCTILE IRON TOP. CLEANOUT FERRELLLE BODY WITH BRONZE PLUG. INSTALL CLEANOUTS WITH 18" SQUARE X 6" DEEP CONCRETE APRON IN NON-PAVED AREAS. PROVIDE WITH VANDAL PROOF SCREWS.	AS NOTED ON DWG.	--	
WCO	WALL PLATE CLEANOUT COVER. WADE #3034-COFCOTDUCO, PROVIDE AT CAST IRON CLEANOUTS WITH COUNTERSUNK BRASS PLUG AND STAINLESS STEEL COVER SECURED WITH VANDAL PROOF SCREWS.	--	--	
NOTES: 1. TRANSITION COUPLINGS AND NO-HUB PIPE SHALL NOT BE INSTALLED BELOW SLAB OR IN ANY BURIED CONDITIONS IN CONTACT WITH EARTH 2. PROVIDE ALL Poured IN PLACE CLEANOUTS WITH 24"x24" FLASHING				

BACKFLOW PREVENTER SCHEDULE								
MARK	SIZE	LOCATION	SERVICE	BODY MATERIAL	TEMPERATURE RANGE	MAX. WORKING PRESSURE	MANUFACTURER	REMARKS
							MODEL	
BFP-1	2"	WATER SERVICE ROOM	DOMESTIC WATER	FDA EPOXY COATED CAST IRON	33°F-110°F	175PSI	WATTS	LEAD FREE, STAINLESS STEEL INTERNAL PARTS.
							SERIES LF09-FS-SMALL	

INSULATION SCHEDULE					
SYSTEM	PIPE SIZE	INSULATION TYPE	INSULATION THICKNESS	FITTINGS, VALVES, FLANGES INSULATION TYPE	REMARKS
DOMESTIC COLD WATER	ALL	MINERAL FIBER, ASJ, SSL	1/2"	MOLDED, PRE-FORMED MINERAL FIBER WITH PVC JACKET	TYPE 1
DOMESTIC HOT WATER & HWC	< 1-1/2"	MINERAL FIBER, ASJ, SSL	1 1/2"	MOLDED, PRE-FORMED MINERAL FIBER WITH PVC JACKET	TYPE 1
DOMESTIC HOT WATER & HWC	> 1-1/2"	MINERAL FIBER, ASJ, SSL	2"	MOLDED, PRE-FORMED MINERAL FIBER WITH PVC JACKET	TYPE 1
DOMESTIC WATER UNDERGROUND & INSLAB	ALL	CLOSED CELL	1"	ARMAFLEX	--
CONDENSATE	ALL	MINERAL FIBER, ASJ, SSL	1/2"	MOLDED, PRE-FORMED MINERAL FIBER WITH PVC JACKET	TYPE 1
EXTERIOR PIPE	ALL	CELLULAR GLASS (FOAM GLASS)	2"	CELLULAR GLASS (FOAM GLASS)	ALUMINUM JACKET WITH FREEZE PROTECTION HEAT TRACE
NOTES: 1. FIBERGLASS INSULATION: THERMAL CONDUCTIVITY .22 TO .28 BTU x IN./H x FT x °F W/ 100°F MEAN TEMP. THICKNESS BASED ON ASHRAE 90.1, 2007 § 6.3 2. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS 3. ALL EXPOSED PIPE, ESPECIALLY ABOVE THE POOL AND GYMNASIUM SHALL BE COLOR CODED & PVC JACKETED. 4. FOR ITEMS INSTALLED IN PLENUM RATED CEILING, MATERIALS SHALL COMPLY WITH ASTM E 84 WITH FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS. 5. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION					

PLUMBING FIXTURE/EQUIPMENT SCHEDULE						
MARK	FIXTURE, MODEL NUMBER AND DESCRIPTION	ROUGH-IN				
		WASTE/ SANITARY	VENT	CW	HW	
DGT	ALTERNATE #1 - DOG GROOMING TUB, FOREVER STAINLESS MFG. 2808T COMPLETE WITH RAMP AND INTEGRAL DRAIN TROUGH WITH LIFT-OUT STAINLESS STEEL FINE-MESH BASKET. PROVIDE TUB MFR'S DELUXE WALL-MOUNTED MIXING FAUCET, BACKFLOW PREVENTER, FLEXIBLE STAINLESS STEEL HOSE WITH ANGLED CHROME PLATED BRASS SPRAY VALVE WITH AUTO SHUTOFF, AND 8-INCH ADD-ON GOOSENECK SPOUT WITH BUILT-IN CHECKS FOR CROSS-FLOW PREVENTION. 2" CHROME-PLATED CAST BRASS TRAP AND GROUND-JOINT SWIVEL ELBOW WITH BRASS TUBE TO WALL. CHROME-PLATED BRASS OR STEEL WALL FLANGE.	2"	1-1/2"	1/2"	1/2"	
EW-C-1A	ELECTRIC WATER COOLER WITH BOTTLE FILLER, MANUFACTURED BY HAWS 1011-8-1820HO WALL MOUNT ADA COMPLIANT, FILTERED 8 GPM STAINLESS, CHILLING CAPACITY OF 8.0 GPM OF 50° F DRINKING WATER, BASED ON 80°F INLET WATER AND 90° F AMBIENT. PER ASHRAE 18 TESTING. FEATURES SHALL INCLUDE FILTERED AND BE HEAVY DUTY VANDAL RESISTANT, FINISHED WITH VANDAL RESISTANT STRENGTHENED BUBBLER MECHANICAL FRONT BUBBLER BUTTON ACTIVATION. PRODUCT SHALL BE WALL MOUNT, SINGLE STATION, UNIT SHALL BE CERTIFIED TO UL 399 AND CAN/CSA C22.2 NO. 120. UNIT SHALL BE LEAD-FREE DESIGN WHICH IS CERTIFIED TO NSF-PANS 61 & 372 (LEAD-FREE) AND MEETS FEDERAL AND STATE LOW-LEAD REQUIREMENTS. PROVIDE WITH S/G CANE APRON. PROVIDE WITH P-TRAP, 120 V, 1.0 GPM, 5.0 AMPS, 370 WATTS.	1-1/2"	1-1/2"	1/2"	--	
HB-1	HOSE BIBB, NARROW WALL HYDRANT, WADE MODEL 8709, BRONZE BODY, REMOVABLE VALVE SEAT & STEM ASSEMBLY, THREADED END, INTEGRAL ANTI-SIPHON BACKFLOW PREVENTER, LOOSE TEE KEY, BOX WITH HINGED COVER.	--	--	1/2"	--	
L-1A	LAVATORY, WALL-HUNG LAVATORY, MANUFACTURED BY KOHLER, GREENWICH, MODEL K-2002, SINGLE CENTER FAUCET HOSE (20" X 1/8-1/4"), VITREOUS CHINA, FAUCET, CHICAGO FAUCETS MODEL 434-ABCP 0.5 GPM PRESSURE COMPENSATING, VANDAL-RESISTANT MULTI-LAMINAR SPRAY, THERMOSTATIC MIXING VALVE, 20" FLEXIBLE INLET HOSES WITH 3/8" COMPRESSION FITTINGS. ASSE 1070 CERTIFIED DOWN TO 0.35 GPM. WITH WADE 400 SERIES CARRIER. PROVIDE 1-1/2" CHROME PLATED CAST BRASS P-TRAP, SUPPLIES, BRASS ANGLE STOPS WITH LOOSE KEY OPERATION, GRID DRAIN, ETC. FOR COMPLETE INSTALLATION. COORDINATE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION. PROVIDE WITH TRUEBRO LAV SHIELD 102 E-Z.	1-1/2"	1-1/2"	1/2"	1/2"	
SA	WATER HAMMER ARRESTOR, WADE 4480 SERIES, 3/4" SIZE PER MANUFACTURER RECOMMENDATIONS AND REQUIREMENTS.	--	--	1/2"-1"	--	
S-1A	ELKAY LISTERSTONE STAINLESS STEEL #ELKHAD21546PD SINK, 23-1/2" X 18-1/4" X 4-3/8", SINGLE BOWL, UNDERMOUNT ADA SINK w/PERFECT DRAIN, 18 GAUGE TYPE 304 STAINLESS STEEL, WITH A SATIN FINISH, REAR CENTER DRAIN ONLY PADS. PROVIDE WITH CHICAGO 434-ABCP FAUCET, 1.5 GPM, LKPDAD18B DRAIN, LKW06G2115S5 BOTTOM GRID. PROVIDE WITH 1070 THERMOSTATIC MIXING VALVE, CHICAGO 131-CABRCF. PROVIDE 1-1/2" CHROME PLATED CAST BRASS P-TRAP, SUPPLIES, BRASS ANGLE STOPS CHICAGO ST851 SERIES WITH LOOSE KEY OPERATION, GRID DRAIN, ETC. FOR COMPLETE INSTALLATION. COORDINATE MOUNTING HEIGHTS WITH ARCHITECT PRIOR TO INSTALLATION.	1-1/2"	1-1/2"	1/2"	1/2"	
SH-1A	BARRIER-FREE PREFAB SHOWER, AQUATIC 3636FS, ONE-PIECE ACRYLIC SHOWER MODULE, COMPLETE WITH GRAB BARS, CURTAIN ROD AND FOLD-UP WHEEL CHAIR TRANSFER SEAT. FURNISH WITH DOME LIGHT (60 WATT), RECESSED ROUND SHOWER LIGHT. THRESHOLDS IN SHOWER MUST BE A MAXIMUM OF 1/2" HIGH TO MEET ADA REQUIREMENTS. CONTROLS: CHICAGO FAUCET, SH-PB1-13-031, 2.5 GPM COMMERCIAL SHOWERHAND SYSTEM WITH LEVER HANDLE, PRESSURE BALANCING MIXING VALVE WITH ADJUSTABLE STOP SCREW TO LIMIT HANDLE TURN. WALL-HANG SHOWER, AND A 5/8" FLEXIBLE METAL HOSE WITH IN-LINE VACUUM BREAKER, WALL CONNECTION AND FLANGE, 24 INCH SLIDE BAR FOR HAND SHOWER MOUNTING.	1-1/2"	1-1/2"	1/2"	1/2"	
TP-1 (SINGLE DRAIN)	TRAP PRIMER INSERT, WADE 4405, ELASTOMERIC, NORMALLY CLOSED TRAP GUARD DEVICE UTILIZES A NORMALLY CLOSED SEAL TO PREVENT EVAPORATION OF THE TRAP SEAL AND ALSO PROTECT AGAINST SEWER GASES FROM BACKING UP INTO HABITABLE AREAS. IT OPENS WITH FLUID AND ALLOWS LIQUID DRAINAGE TO FLOW THROUGH INTO THE BUILDING DRAIN.	--	--	--	--	
W-1A	WATER CLOSET, WALL HUNG ADA COMPLIANT WHEN PROPERLY INSTALLED AT MOUNTING HEIGHT, KOHLER K-4325 VITREOUS CHINA WALL HUNG WATER CLOSET, ELONGATED BOWL, SIPHON JET, TOP SPUD, 1.28 GALLON FLUSH W/SLID PLASTIC OPEN FRONT SEAT. EXPOSED, CHROME TOP SPUD MANUAL FLUSH VALVE, VACUUM BREAKER, WALL & SPUD FLANGES, WADE 330 CHAIR CARRIER, MOUNT AT ACCESSIBLE HEIGHT PER ARCHITECTURAL DWGS. SLOAN 111-1.28 ES-S-1 1M-102"Y, TRANSFORMER, WEL-154 120 VAC, TOP SPUD, SIPHON JET TOILET WITH WALL SUPPLY. GEURCH 2667 OPEN FRONT SEAT. PROVIDE ALL ITEMS REQUIRED FOR COMPLETE INSTALLATION.	4"	2"	1"	--	
WH-1	FREEZE PROOF HOSE BIBB, WADE MODEL 8304, CAST BRONZE NON-FREEZE WALL HYDRANT WITH STAINLESS STEEL HINGED LOCKING COVER, 3/4"HT OUTLET, INTEGRAL DOUBLE CHECK BACKFLOW PREVENTER PRESSURE RELIEF VALVE, AND 3/4" FEMALE & 1" MALE NPT INLET CONNECTION.	--	--	3/4"	--	
WSH	WASHING MACHINE OUTLET - SYMMONS W-602-X LAUNDRY MATE WITH SERVICE STOPS.	2"	1-1/2"	1/2"	1/2"	
TEMPERATURE MAINTENANCE CABLE	ELECTRIC HEAT TRACE, RAYCHEM, HWAT-R2 SERIES, UL LISTED SYSTEM WITH (2) 16AWG COPPER BUS WIRES ENCLOSED IN A PARALLEL, IN A POLYMER CORE. THE SYSTEM SHALL INCLUDE ALL POWER CONNECTIONS, SERIAL SPRINGS, TEE KITS AND FASTENING HARDWARE. CONTROLS SHALL BE THERMOSTATIC AMBIENT SENSING AND ALL CABLE SHALL MAINTAIN 100°F - 140°F WITH A 10°F AMBIENT TEMPERATURE. COORDINATE WITH ELECTRICAL CONTRACTOR AND MANUFACTURERS REQUIREMENTS AND RECOMMENDATIONS, WITH DIGITAL CONTROLLER RAYCHEM, (2) HWAT-ECO-FG, 02-182 LOCATED IN MECHANICAL ROOM NEXT TO WATER HEATER. SEE SPECIFICATIONS FOR MORE DETAILS.					
NOTES: 1. LAVATORY & WATER COOLERS SUPPLY SHALL BE BRASS W/ BRASS ANGLE STOPS FOR 1/2" WATER SUPPLY LINES, W/ LOOSE KEY (WICAP), AND WALL FLANGE. ALL COMPONENTS SHALL BE POLISHED CHROME FINISH. MANUFACTURER: BRASS CRAFT OR APPROVED EQUAL. 2. CAST BODY "P" TRAP 1-1/2" X 1-1/2" WITH HEAVY CAST J-BEND & FLAT CLEANOUT PLUG, SLP NUTS AND WALL FLANGE. ALL COMPONENTS SHALL BE POLISHED CHROME FINISH. MANUFACTURER: BRASS CRAFT OR APPROVED EQUAL. 3. STRAINERS SHALL BE FURNISHED WITH FIXTURES AS REQUIRED. FOR HIC LAVATORY OR SINKS PROVIDE OFFSET TAILPIECE. 4. PROVIDE TRUEBRO MODEL 103 (WHITE), ANTIMICROBIAL HAND LAV-GUARDS INSTALLATION KIT FOR ALL WHEELCHAIR LAVATORY & SINKS FOR WATER SUPPLIES & WASTE LINE. 5. PROVIDE WATER SUPPLY & "P" TRAP & OPTIONAL WATER FILTERS FOR ELECTRIC WATER COOLERS AS PER MANUFACTURERS RECOMMENDATIONS. 6. THE PLUMBING FIXTURES VENDOR SHALL COORDINATE WITH THE PLUMBING AND GENERAL CONTRACTOR ALL PLUMBING FIXTURES ROUGH IN DIMENSIONS BEFORE CONSTRUCTION BEGIN. 7. UNLESS SHOWN ABOVE, PLUMBING FIXTURES MANUFACTURER, TRIM COLOR AND FINISH SHALL BE FURNISHED AS DIRECTED BY OWNER/ARCHITECT. 8. REFER TO ARCHITECTURAL DRAWINGS FOR STANDARD, A.D.A MOUNTING AND FIXTURE HEIGHTS. REFER TO ARCHITECTURAL FOR LOCATION OF A.D.A COMPLIANT SHOWER SEAT AND SHOWER BARS 9. CONTRACTOR TO PROVIDE AN EXTRA 10% OF BATTERIES, AERATORS, CARTRIDGE, ETC.. 10. ALL HARD WIRED FAUCETS TO A HAVE BOX MOUNTED TRANSFORMER ABOVE CEILING. REFER TO ELECTRICAL DOCUMENTS FOR LOCATIONS AND CONNECTION POINT.						

EXPANSION TANK SCHEDULE				
MARK	MAKE & MODEL	SERVICE	WATER HEATER STORAGE CAPACITY (GALLONS)	* REQUIRED MINIMUM ACCEPTANCE VOLUME (GALLONS)
EXP-1	AMTROL ST-80VC	WH-1	100	25.65
* BASED OFF 1.5% EXPANSION FACTOR: 140 °F HOT WATER STORAGE TEMPERATURE, & 5.7 DESIGN PRESSURE FACTOR: 100 PSI MAXIMUM ALLOWABLE PRESSURE & 80 PSI LINE PRESSURE. (WATER HEATER VOLUME x 1.5 % x 5.7.)				
NOTES: 1. ASME CONSTRUCTION SHALL BE STANDARD 2. PROVIDE ALL NECESSARY ACCESSORIES. 3. PROVIDE AIR CHARGING FITTING				

PIPE HANGER SPACING TABLE			
PIPE MATERIAL	PIPE SIZES (INCHES)	HORIZONTAL PIPE MAX. HANGER DISTANCE (FT)	VERTICAL PIPE MAX. HANGER DISTANCE (FEET)
COPPER & COPPER ALLOY TUBING	1-1/4" & SMALLER	6'-0"	10'-0"
COPPER & COPPER ALLOY TUBING	1-1/2" & LARGER	10'-0"	10'-0"
COPPER & COPPER ALLOY PIPE	ALL	12'-0"	10'-0"
CAST IRON PIPE	ALL	5'-0" *	15'-0"
STEEL PIPE	ALL	12'-0"	15'-0"
STAINLESS STEEL DRAINAGE	ALL	10'-0"	10'-0" *
CPVC PIPE OR TUBING	1" & SMALLER	3'-0"	10'-0" *
CPVC PIPE OR TUBING	1-1/4" & LARGER	4'-0"	10'-0" *
PVC PIPE	ALL	4'-0"	10'-0" *
NOTES: * MAXIMUM HORIZONTAL SPACING OF CAST IRON PIPE HANGERS SHALL BE INCREASED TO 10'-0" WHERE 10' LENGTHS OF PIPE ARE USED * MIDSTORY GUIDE FOR SIZES 2" AND SMALLER NOT ALL PIPE MATERIALS ON THIS TABLE WILL PERTAIN TO THIS PROJECT			

ELECTRIC WATER HEATER SCHEDULE											
MARK	MAKE & MODEL	TYPE	STORAGE	RECOVERY @ TEMP RISE	MIXING VALVE	ELECTRICAL				REMARKS	
						KW INPUT	# ELEMENTS	VOLTAGE	AMPS		PHASE
HW-1	AO SMITH DRE-80-18	ELECTRIC	80 GALLONS	92 GPH @ 80°F	TMV-1	18	3	208V	50	3	SEE NOTES
NOTES: 1. INSTALL WATER HEATER IN ACCORDANCE WITH BUILDING CODE - PLUMBING & MECHANICAL (WITH LATEST AMENDMENTS) CODES, ENERGY CODE, AND APPLICABLE STANDARDS AND MANUFACTURERS RECOMMENDATIONS. 2. PROVIDE BRASS DRAIN VALVE, & ALL REQUIRED OPTIONS TO COMPLETE THE INSTALLATION. 3. PROVIDE THERMAL EXPANSION TANK (EXPL.) MANUFACTURED BY AMTROL, THERM-X-TROL MODEL ST-12-DD, 150 PSIG WORKING PRESSURE, 6.4 GAL TANK VOLUME, FACTORY PRECHARGE 55 PSIG 4. REFER TO SPECIFICATION FOR VENTING CRITERIA											

THERMOSTATIC MIXING VALVE SCHEDULE										
MARK	EQUIPMENT BEING SERVED (I.E. WATER HEATER, ETC...)	AREA SERVED	FLOW RATE @ 10PSI DIFFERENTIAL	MINIMUM FLOW RATE GPM	INLET TEMP.	OUTLET TEMP.	INLET SIZE	OUTLET SIZE	MANUFACTURER	REMARKS
									MODEL	
TMV-1	WH-1	120°F LOOP	42 GPM	2 GPM	140°F	120°F	1"	1"	ACORN MV17-3	ASSE 1017
TMV-2	SINKS	120°F LOOP	2.1 GPM	0.25 GPM	120°F	105°F	1/2"	1/2"	POWERS LFG480-00	ASSE 1070
TMV-3	TEMPERED WATER TO HOSE BIBBS	120°F LOOP	11 GPM	0.5 GPM	120°F	75°F	1"	1"	POWERS LMF490-10	ASSE 1070
NOTES: 1. MAXIMUM PRESSURE DIFFERENTIAL SHALL BE 10PSI FOR MIXING VALVE 2. WITH DIAL THERMOMETER, ADJUSTABLE SET POINT, INTEGRAL STRAINER CHECKSTOPS ON INLETS, PROVIDE SHUTOFFS/UNIONS AT ALL CONNECTIONS 3. MINIMUM LOW RATE WHEN VALVE IS INSTALLED AT OR NEAR HOT WATER SOURCE WITH RECIRCULATED TEMPERED WATER AND CONTINUOUSLY OPERATING CIRCULATION PUMP.										

PIPE AND FITTING SCHEDULE						
DESCRIPTION	SIZE	PIPE		FITTING		REMARKS
		TYPE	SCHEDULE	TYPE	RATING	
SOIL, WASTE AND VENT ABOVE GROUND	ALL	CLNH	SV	CI	SV / 40	4 BAND FOR 4" AND SMALLER 5 BAND FOR LARGER THAN 4"
SOIL, WASTE AND VENT BELOW GROUND	ALL	CLH&S	SV	CI	SV / 40	--
DOMESTIC WATER WITHIN BUILDING	ALL	COPPER	TYPE L	CUS	STD	HARD TEMPERED
INDIRECT WASTE AND CONDENSATE PIPING	ALL	COPPER	TYPE L	CUS	STD	HARD TEMPERED
DOMESTIC HOT & COLD WATER PIPING WITHIN BUILDING, BELOW SLAB	2" AND SMALLER	PEX	--	--	--	NO JOINTS ALLOWED BELOW SLAB
NOTES: 1. TRANSITION COUPLINGS AND NO-HUB PIPE SHALL NOT BE INSTALLED BELOW SLAB OR IN ANY BURIED CONDITIONS IN CONTACT WITH EARTH 2. ALL PIPING IN RETURN AIR CEILING PLENUM INSTALLATIONS SHALL BE UL LISTED FOR THIS APPLICATION 3. MECHANICAL JOINTS ARE ALLOWED FOR SERVICE. PROPOSED ONLY IN WALLS AND CEILINGS BUT MUST BE READILY ACCESSIBLE. 2550 PVDIF IS UL LISTED FOR RETURN AIR CEILING PLENUM INSTALLATIONS 4. FOR ITEMS INSTALLED IN PLENUM RATED CEILING, MATERIALS SHALL COMPLY WITH ASTM E 84 WITH FLAME-SPREAD INDEX OF 25 OR LESS, AND SMOKE-DEVELOPED INDEX OF 50 OR LESS. 5. FIRE-BARRIER PENETRATIONS: MAINTAIN INDICATED FIRE RATING OF WALLS, PARTITIONS, CEILINGS, AND FLOORS AT PIPE PENETRATIONS. REFER TO ARCHITECTURAL PLANS FOR LOCATIONS. SEAL PIPE PENETRATIONS WITH FIRESTOP MATERIALS. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.						
ABBREVIATIONS	DESCRIPTION	ABBREVIATIONS	DESCRIPTION	ABBREVIATIONS	DESCRIPTION	
AWWA	AMERICAN WATER WORKS ASSOCIATION	MIT	MALLEABLE IRON THREADED			
CI	CAST IRON	NH	NO HUB WISUPER DUTY HUSKY SD 4000 CLAMP			
CLDI	CEMENT LINED DUCTILE IRON	PEX	PEX PIPING			
CPVC	CHLORINATED POLYVINYL CHLORIDE	PF	PRESSURE FITTING			
CUS	WROUGHT COPPER SOLDER (95S)	PVDF	POLYVINYLIDENE FLUORIDE PIPING			
DI	DUCTILE IRON	POLY-PRO	POLYPROPYLENE PIPING			
DMJ	DUCTILE IRON MECHANICAL JOINT	STD	STANDARD			
GES	GROOVED END STEEL	STL-BLK	BLACK STEEL			
GJ	GROOVED JOINT SYSTEM FITTINGS/COUPLINGS	SV	SERVICE WEIGHT			
GS	GALVANIZED STEEL	TJ	THREADED JOINTS			
H&S	HUB AND SPIGOT	WE	BUT WELD			
MJ	MECHANICAL JOINT					

VALVE SCHEDULE									
DESCRIPTION	SIZE	TYPE					CLASS	REMARKS	
		BUTTERFLY	CHECK	BALL	PLUG	BALANCE			
DOMESTIC COLD WATER	2" AND SMALLER	--	CVT	BVT	--	--	125PSI	--	
DOMESTIC HOT WATER	2" AND SMALLER	--	CVT	BVT	--	CBV	125PSI	--	
DOMESTIC COLD WATER	2-1/2" AND LARGER	BFY	CVF	--	--	--	125PSI	--	
DOMESTIC HOT WATER	2-1/2" AND LARGER	BFY	CVF	--	--	CBV	125PSI	--	
BACKFLOW PREVENTER	2" AND SMALLER	--	--	BVT	--	--	125PSI	--	
BACKFLOW PREVENTER	2-1/2" AND LARGER	GVF	--	--	--	--	125PSI	--	
CIRCUIT SOLVER	3/4"	--	--	--	--	--	200PSI	THERMOMEGATECH CS-3/4-120	
PRESSURE REDUCING VALVE	3"	--	--	--	--	--	200PSI	WATTS 2300	
NOTES: 1. SOLENOID VALVE: UL LISTED, FM APPROVED FOR GAS SERVICE, EXPLOSION PROOF, TWO-WAY NORMALLY CLOSED, ASCO 8044 SERIES W/ MANUAL RESET, (EMERGENCY GAS SHUT-OFF VALVE ASSEMBLY) 2. CALIBRATED PRESSURE RELIEF VALVE: INSTALL A MINIMUM OF 12" ABOVE WATER HEATER AND PIPE DISCHARGE TO ADEQUATE LOCATION, WATTS MODEL 540C									
ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
BVA	BALL VALVE COMPRESSED AIR - 3-PIECE, FULL PORT, BRONZE	CPRV	CALIBRATED PRESSURE RELIEF VALVE						
BVF	BALL VALVE FLANGED - FULL PORT, BRONZE	CVF	CHECK VALVE FLANGED - IMMB						
PGVT	PLUG VALVE THREADED - AGA APPROVED	CVT	CHECK VALVE THREADED - BRONZE						
BVT	BALL VALVE THREADED - 2-PIECE, FULL PORT, 400PSI, BRONZE	GVF	GATE VALVE FLANGED - IMMB						
BFY	BUTTERFLY VALVE FLANGED - EPDM SEAT, STAINLESS STEEL DISC, 200PSI	GVY	GATE VALVE THREADED - BRONZE						
CBV	CALIBRATED BALANCING VALVE								

ABBREVIATIONS (NOT ALL SYMBOLS ARE USED)					
ABV	ABOVE	FA	FACE AREA	NTS	NOT TO SCALE
ACCU#	AIR COOLED CONDITIONING UNIT	FBO	FURNISHED BY OTHERS	OA	OUTSIDE AIR
AD	ACCESS DOOR	FBO	FURNISHED BY OTHERS	OAT	OUTDOOR AIR TEMPERATURE
AF	AIRFOIL	FIBO	FURNISHED AND INSTALLED BY OTHERS	OAI	OUTDOOR AIR INTAKE
AFF	ABOVE FINISHED FLOOR	FIN FL	FINISH FLOOR	P.#	PUMP
AHU#	AIR HANDLING UNIT	FLA	FULL LOAD AMPERES	PD	PRESSURE DROP
APD	AIR PRESSURE DROP	FT	FEET	PH	PHASE
ASHP	AIR SOURCE HEAT PUMP	PRV	PRESSURE REDUCING VALVE	PSI	POUND PER SQUARE INCH
AUTO	AUTOMATIC	GC	GENERAL CONTRACTOR	RA	RETURN AIR
AVG	AVERAGE	GPM	GALLONS PER MINUTE	RF#	RETURN/RELIEF AIR FAN
B-#	BOILER	HD	FEET OF HEAD	RAT	RETURN AIR TEMPERATURE
BD	BELT DRIVE	HP	HORSEPOWER	REF	REFRIGERATION PIPING
BTUH	BRITISH THERMAL UNIT/HR	HTG	HEATING	RH	RELATIVE HUMIDITY
CAP	CAPACITY	HVAC	HEATING, VENTILATING & AIR CONDITIONING	RM	ROOM
CFM	CUBIC FEET PER MINUTE	HX#	HEAT EXCHANGER	RPM	REVOLUTIONS PER MINUTE
CLG	CEILING	ID	INSIDE DIMENSION	SA	SUPPLY AIR
CONV#	HOT WATER CONVECTOR	IN	INCHES	SAF#	SUPPLY AIR FAN
CUH#	CABINET UNIT HEATER HOT WATER	KW	KILOWATT	SAT	SUPPLY AIR TEMPERATURE
CV	CONTROL VALVE	LAT	LEAVING AIR TEMPERATURE	SD	SMOKE DAMPER
dBA	DECIBELS	LRA	LOCKED ROTOR AMPERES	SP	STATIC PRESSURE
DB	DRY BULB	LVG	LEAVING	SQ FT	SQUARE FOOT (AREA)
DD	DIRECT DRIVE	LWT	LEAVING WATER TEMPERATURE	TSTAT	THERMOSTAT
DN	DOWN	MAT	MIXED AIR TEMPERATURE	TD	TEMPERATURE DIFFERENCE
DX	DIRECT EXPANSION	MAX	MAXIMUM	TEMP	TEMPERATURE
EAT	ENTERING AIR TEMPERATURE	MBH	1000 BTU/HR	TYP	TYPICAL
ECM	ELECTRONICALLY COMMUTATED MOTOR	MCA	MINIMUM CIRCUIT AMPACITY	UH#	UNIT HEATER HOT WATER
EER	ENERGY EFFICIENCY RATIO	MD	MOTORIZED DAMPER	VD	VOLUME DAMPER
EF#	EXHAUST FAN	MER	MECHANICAL EQUIPMENT ROOM	VFD	VARIABLE FREQUENCY DRIVE
ESP	EXTERNAL STATIC PRESSURE	MFS	MAXIMUM FUSE SIZE	VRF	VARIABLE REFRIGERANT FLOW
ERV#	ENERGY RECOVERY UNIT	MIN	MINIMUM	WB	WET BULB
ET#	EXPANSION TANK	MJA	MAKE-UP AIR	WMS	WIRE MESH SCREEN
EUH#	ELECTRIC UNIT HEATER	MV	MOTORIZED VALVE	WPD	WATER PRESSURE DROP
EWT	ENTERING WATER TEMPERATURE	NC	NORMALLY CLOSED	WT	WEIGHT (LBS)
EXH	EXHAUST	NIC	NOT IN THIS CONTRACT	ZD	ZONE DAMPER
EX	EXISTING	NO	NORMALLY OPEN		
F	DEGREES FAHRENHEIT				

SYMBOL LEGEND (NOT ALL SYMBOLS ARE USED)			
	CAP		MECHANICAL NOTE REFERENCE. NUMBER INDICATES NOTE
	PIPE CONNECTION BOTTOM		CUBIC FEET PER MINUTE
	PIPE CONNECTION TOP		VOLUME DAMPER
	PIPE COUPLING (JOINT)		MOTORIZED DAMPER
	PIPE ELBOW, TURNED DOWN		SUPPLY OR OUTSIDE AIR DUCT UP OR SUPPLY DIFFUSER/REGISTER
	PIPE TEE		SUPPLY OR OUTSIDE AIR DUCT DOWN
	SPACE TEMPERATURE SENSOR		RETURN OR EXHAUST DUCT UP OR CEILING RETURN/EXHAUST GRILLE
	PRESSURE SENSOR		RETURN OR EXHAUST DUCT DOWN
	DIRECTION OF FLOW		FLEXIBLE CONNECTION
	DIA		
	PIPE TEE, OUTLET UP		RECTANGULAR TO ROUND TRANSITION
	PIPE ELBOW, TURNED UP		TRANSITION
	PIPE TEE, OUTLET DOWN		DUCT WORK, DIRECTION OF FLOW
	RETURN OR EXHAUST DUCT UP		POSITIVE PRESSURE DUCT
	SUPPLY OR OUTSIDE AIR DUCT UP		NEGATIVE PRESSURE DUCT
	MOTORIZED DAMPER		CHANGE OF ELEVATION, RISE (R) DROP (D)
	COMBINATION TEMPERATURE AND HUMIDITY SENSOR		DUCT ACCESS DOOR
	DUCT MOUNTED HUMIDITY SENSOR		RELATIVE HUMIDITY SENSOR

PIPING NOTES

- UNLESS OTHERWISE NOTED, ALL PIPING IS OVERHEAD, TIGHT TO UNDERSIDE OF STRUCTURE OR SLAB, WITH SPACE FOR INSULATION.
- ALL PIPING WORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN PIPING AROUND OBSTRUCTIONS SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- ALL PENETRATIONS THRU WALLS, FLOORS & CEILINGS SHALL BE SEALED USING U.L. LISTED METHODS APPROPRIATE FOR INDICATED RATING

GENERAL

- THE INTENT OF THESE CONTRACT DOCUMENTS IS FOR THE CONTRACTOR TO FURNISH AND INSTALL COMPLETE MECHANICAL SYSTEMS. THESE MECHANICAL SYSTEMS INCLUDE HVAC AND ALL ASSOCIATED SPECIAL SYSTEMS. ALL SYSTEMS SHALL BE COMPLETE IN ALL RESPECTS, OPERATING, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
- THE CONTRACTOR SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS, INCLUDING PROJECT MANUAL, PLANS AND SPECIFICATIONS OF ALL TRADES BEFORE SUBMITTING BID. REFER TO SPECIFICATIONS, PROJECT MANUAL AND PLANS, INCLUDING ALL EQUIPMENT SCHEDULES FOR MECHANICAL INFORMATION. CONTRACTOR SHALL WALK THROUGH BUILDING PRIOR TO SUBMITTING BID.
- ALL OF THE CONTRACT DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY TO FORM A TOTAL DESIGN PACKAGE. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER TO DETERMINE WHICH TRADE CONTRACTOR IS RESPONSIBLE FOR VARIOUS PORTIONS OF THE WORK.
- ALL WORK AND ACTION DEPICTED AND DESCRIBED SHALL BE PERFORMED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.
- PROVIDE SUPPORT/BRACING OF EQUIPMENT AND BUILDING SERVICES FOR SEISMIC RESTRAINT AS REQUIRED BY CODE.
- OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.
- ALL EQUIPMENT, MATERIALS AND RELATED SYSTEMS COMPONENTS SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE.
- REPAIR AND/OR REPLACE AT NO COST TO OWNER ALL EQUIPMENT AND MATERIALS DAMAGED DURING CONSTRUCTION.
- THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF EQUIPMENT WITH ALL TRADES BEFORE STARTING CONSTRUCTION. ANY MODIFICATIONS TO THE EQUIPMENT LAYOUT REQUIRED FOR INSTALLATION ARE TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
- REFER TO THE ARCHITECTURAL DRAWINGS FOR THE EXACT LOCATION OF LIGHT FIXTURES AND MOUNTING HEIGHTS OF EQUIPMENT. INCLUSIVE OF RECEPTACLES, SWITCHES, THERMOSTATS, ETC. ALL SUCH EQUIPMENT AND COLORS SHALL BE COORDINATED WITH THE ARCHITECT. CONTACT ARCHITECT FOR CLARIFICATION OF MOUNTING REQUIREMENTS, IF INFORMATION IS NOT CONTAINED IN THE DRAWINGS.
- ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE APPLICABLE CODES IN THE ORDINANCES AND THE REGULATORY AGENCIES HAVING JURISDICTION.
- ALL EQUIPMENT SHALL BE LOCATED IN ACCESSIBLE LOCATIONS. WHEN A PIECE OF EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING OR WALL, THEN THE APPROPRIATE ACCESS DOOR / PANEL SHALL BE PROVIDED. THESE SHALL BE COORDINATED WITH THE ARCHITECT.
- WHEN CONFLICTS OCCUR BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL CARRY AS PART OF THE BID THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
- CONTRACTORS SHALL COORDINATE THEIR WORK WITH ALL OWNER-FURNISHED EQUIPMENT, INCLUDING REQUIRED SERVICE CONNECTIONS, RECEPTACLES, ETC. BEFORE INSTALLATION.
- CONTRACTORS SHALL PROVIDE ALL REQUIRED SLEEVES AND SEALS FOR PIPES OR CONDUIT PENETRATING WALLS OR FLOOR SLABS WITH FIRE STOPPING SEALANT WHERE REQUIRED.
- ALL EQUIPMENT, PIPING, DUCT WORK SHALL BE SUPPORTED AS DETAILED, SPECIFIED AND REQUIRED TO PROVIDE A VIBRATION FREE INSTALLATION.
- LOCATE ALL TEMPERATURE, PRESSURE AND FLOW MEASURING DEVICES IN ACCESSIBLE LOCATIONS WITH STRAIGHT SECTION OF PIPE OR DUCT UP/DOWN STREAM AS RECOMMENDED BY THE MANUFACTURER FOR GOOD ACCURACY.
- PROVIDE ACCESS PANELS FOR INSTALLATION IN WALLS AND CEILINGS, WHERE REQUIRED, TO SERVICE DAMPERS, VALVES, SMOKE DETECTORS, FIRE DAMPERS AND OTHER CONCEALED MECHANICAL EQUIPMENT.
- LOCATION AND SIZES OF ALL WALL PENETRATIONS SHALL BE COORDINATED WITH ALL OTHER TRADES INVOLVED.
- ALL PENETRATIONS THRU RATED WALLS AND CEILINGS SHALL BE SEALED USING U.L. LISTED METHODS APPROPRIATE FOR INDICATED RATING

DUCTWORK NOTES

- DUCTWORK LAYOUTS AS INDICATED ON THE DRAWINGS ARE DIAGRAMMATIC; PROVIDE ADDITIONAL TRANSITIONS AND OFFSETS AS REQUIRED FOR COORDINATION WITH BUILDING CONSTRUCTION AND THE WORK OF OTHER TRADES. OFFSETS IN DUCTS, INCLUDING DIVIDED DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- ALL DUCTWORK DIMENSIONS, AS SHOWN ON THE DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZE SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.
- THE SUPPLY DUCTWORK SHALL BE PURGED TO ENSURE ALL FOREIGN PARTICLES ARE REMOVED PRIOR TO FINAL CONNECTION OF AIR DIFFUSERS AND REGISTERS.
- ALL DUCTWORK, EXISTING AND NEW, SHALL BE PROVIDED WITH INSULATION IN ACCORDANCE WITH THE CURRENT VERSION OF INTERNATIONAL ENERGY CONSERVATION CODE.
- PROVIDE VOLUME DAMPERS, AS SPECIFIED AND AS INDICATED ON THE DRAWINGS.
- PROVIDE FIRE DAMPERS AT DUCT PENETRATIONS OF FIRE RATED PARTITIONS.
- FLEX DUCT RUNS, WHERE SHOWN ON DRAWINGS, SHALL NOT BE LONGER THAN 5 FT.
- PROVIDE SMOKE DETECTORS ON THE SUPPLY AND RETURN SIDE OF ALL AIR HANDLING EQUIPMENT 2000 CFM AND OVER.
- MAINTAIN MANUFACTURER'S RECOMMENDED MINIMUM CLEARANCES FOR INSTALLATION OF EQUIPMENT.
- PROVIDE ALL 90 DEGREE SQUARE ELBOWS WITH DOUBLE RADIUS TURNING VANES UNLESS OTHERWISE INDICATED. UNVANED ELBOWS SHALL BE SMOOTH RADIUS CONSTRUCTION WITH A RADIUS EQUAL TO 1-1/2 TIMES THE WIDTH OF THE DUCT. PROVIDE ACCESS DOORS UPSTREAM OF ALL ELBOWS WITH TURNING VANES.
- COORDINATE DIFFUSER, REGISTER AND GRILLE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS, LIGHTING AND OTHER CEILING ITEMS.
- PROVIDE INSULATED FLEXIBLE CONNECTIONS IN ALL DUCTWORK SYSTEMS CONNECTED TO AIR HANDLING UNITS, FANS AND OTHER EQUIPMENT WHICH REQUIRE VIBRATION ISOLATION. FLEXIBLE CONNECTIONS SHALL BE AT THE POINT OF CONNECTION TO THE EQUIPMENT UNLESS OTHERWISE INDICATED.
- ALL DUCTWORK SHALL BE COORDINATED WITH ALL TRADES INVOLVED. OFFSETS IN DUCTS, INCLUDING DIVIDED DUCTS AND TRANSITIONS AROUND OBSTRUCTIONS, SHALL BE PROVIDED AT NO ADDITIONAL COST TO THE OWNER.
- PROVIDE ACCESS DOORS IN DUCTWORK TO PROVIDE ACCESS FOR ALL SMOKE DETECTORS, FIRE DAMPERS, SMOKE DAMPERS, VOLUME DAMPERS, COILS AND OTHER ITEMS LOCATED IN DUCTWORK WHICH REQUIRE SERVICE OR INSPECTION.
- PROVIDE ACCESS DOORS IN DUCTWORK FOR OPERATION, ADJUSTMENT AND MAINTENANCE OF ALL FANS, VALVES, FIRE DAMPER FUSIBLE LINKS AND MECHANICAL EQUIPMENT.
- DUCTWORK SHALL BE PRESSURE TESTED AND SEALED FOR LEAKAGE.
- ALL DUCT SECTIONS DELIVERED TO THE SITE SHALL HAVE SEALED ENDS. SEAL OPEN ENDS ON DUCT DAILY AS WORK PROGRESS. AIR SYSTEM SHALL BE PURGED TO ENSURE ALL FOREIGN PARTICLES ARE REMOVED PRIOR TO FINAL CONNECTION OF SUPPLY AIR DIFFUSERS.

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave
 Montville, CT



SILVER PETRUCELLI + ASSOCIATES
 3190 WHITNEY AVENUE HAMDEN CT 06518
 311 STATE STREET NEW LONDON CT 06320
 203 230 9007 silverpetrucelli.com

Revision:	Description:	Date:	Revised By:

Drawing Title:
NOTES, LEGEND AND ABBREVIATIONS

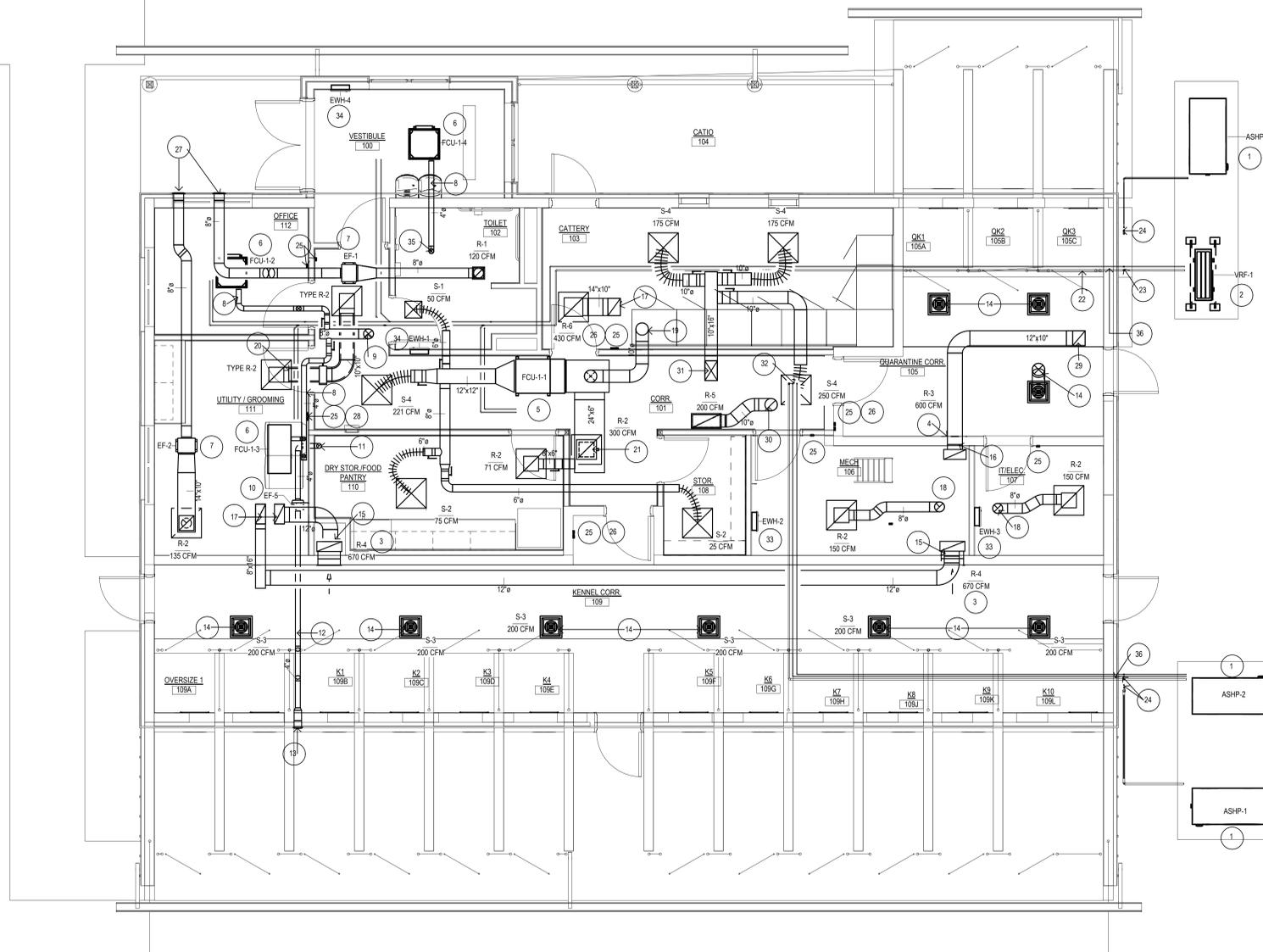
Date: 09/29/2023
 Scale: NONE
 Drawn By: AMG
 Project Number: 22.130
 Drawing Number: M000

CONSTRUCTION NOTES

- 1 AIR COOLED HEAT PUMP OUTDOOR UNIT. INSTALL IN ACCORDANCE WITH THE UNIT MANUFACTURER'S CLEARANCE REQUIREMENTS. MOUNT ON A 6" THICK CONCRETE PAD.
- 2 AIR COOLED VARIABLE REFRIGERANT FLOW OUTDOOR UNIT. INSTALL IN ACCORDANCE WITH THE UNIT MANUFACTURER'S CLEARANCE REQUIREMENTS. PROVIDE WITH 18" PLATFORM MOUNTED ON A 6 INCH THICK CONCRETE PAD.
- 3 LOW RETURN AIR GRILLE WITH WEEP HOLES. PROVIDE 18 x 24 WELDED STAINLESS STEEL PLENUM IN CHASE. PITCH BOTTOM OF PLENUM TOWARDS GRILLE. BOTTOM OF PLENUM AT 12' AFF. COORDINATE ELEVATION IN FIELD.
- 4 LOW RETURN AIR GRILLE WITH WEEP HOLES. PROVIDE 16 x 24 WELDED STAINLESS STEEL PLENUM IN CHASE. PITCH BOTTOM OF PLENUM TOWARDS GRILLE. BOTTOM OF PLENUM AT 12' AFF. COORDINATE ELEVATION IN FIELD.
- 5 ABOVE CEILING VRF INDOOR UNIT SUSPENDED FROM THE STRUCTURE. PROVIDE WITH VIBRATION ISOLATION. INSTALL UNIT AND REFRIGERATION PIPING IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS. REFRIGERATION PIPING SHALL BE ROUTED ABOVE CEILING. COORDINATE EXACT LOCATION WITH ARCHITECTURAL CEILING PLAN. REFER TO PLUMBING DRAWINGS AND DIVISION 22 SECTIONS FOR CONDENSATE DRAIN PIPING. PROVIDE WITH SECONDARY DRAIN PAN WITH MOISTURE SENSOR. COORDINATE REQUIREMENTS.
- 6 VRF INDOOR UNIT SUSPENDED FROM THE STRUCTURE. PROVIDE WITH VIBRATION ISOLATION. INSTALL UNIT AND REFRIGERATION PIPING IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS. REFRIGERATION PIPING SHALL BE ROUTED ABOVE CEILING. COORDINATE EXACT LOCATION WITH ARCHITECTURAL CEILING PLAN. REFER TO PLUMBING DRAWINGS AND DIVISION 22 SECTIONS FOR CONDENSATE DRAIN PIPING. COORDINATE REQUIREMENTS.
- 7 EXHAUST FAN SUSPENDED FROM THE STRUCTURE. PROVIDE WITH VIBRATION ISOLATION.
- 8 4" OUTSIDE AIR DUCTWORK CONNECT TO INDOOR UNIT. BALANCE TO 25 CFM.
- 9 8" OUTSIDE AIR DUCTWORK UP TO ATTIC. ROUTE IN BETWEEN JOIST.
- 10 DRYER BOOSTER FAN SUSPENDED FROM THE STRUCTURE. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- 11 4" STAINLESS STEEL DRYER EXHAUST DOWN.
- 12 4" STAINLESS STEEL DRYER EXHAUST DUCT ROUTED ABOVE CEILING.
- 13 6" STAINLESS STEEL DRYER VENT CAP WITH BACKDRAFT DAMPER EQUIVALENT TO SEIHO RCC-S. TERMINATE AT EXTERIOR WALL ABOVE LOW ROOF.
- 14 10" SUPPLY UP TO ATTIC. ROUTE IN BETWEEN JOIST.
- 15 12" RETURN DUCT CONNECT TO 20 x 8" RETURN AIR RISER IN CHASE.
- 16 12 x 10" RETURN DUCT CONNECT TO 18 x 8" RETURN AIR DOWN IN CHASE.
- 17 8 x 16" RETURN AIR UP TO ATTIC. ROUTE IN BETWEEN JOIST.
- 18 8" EXHAUST AIR UP TO ATTIC. ROUTE IN BETWEEN JOIST.
- 19 10" OUTSIDE AIR UP TO ATTIC. ROUTE IN BETWEEN JOIST. BALANCE TO 300 CFM.
- 20 LINED TRANSFER DUCT. PROVIDE WITH MOTORIZED DAMPER.
- 21 12x12" RETURN AIR BOTTOM CONNECTION TO TYPE R-2 GRILLE. PROVIDE WITH MOTORIZED DAMPER.
- 22 REFRIGERANT PIPING ROUTED ABOVE CEILING. SUCTION AND LIQUID REFRIGERANT PIPING SHALL BE PROVIDED WITH CONTINUOUS INSULATION WITH VAPOR BARRIER. REFER TO M701 VRF DIAGRAM FOR REFRIGERANT PIPE SIZES.
- 23 GENERAL LOCATION OF REFRIGERATION PIPING DROP EXPOSED ALONG EXTERIOR WALL. SUCTION AND LIQUID REFRIGERANT PIPING SHALL BE PROVIDED WITH CONTINUOUS INSULATION WITH VAPOR BARRIER. ALL EXTERIOR EXPOSED PIPING SHALL BE PROVIDED WITH STAINLESS STEEL JACKET. PROVIDE PIPE SUPPORT. ANCHOR AND SUPPORT SHALL BE SUITABLE FOR EXTERIOR WALL MATERIAL.
- 24 GENERAL LOCATION OF REFRIGERATION PIPING DROP EXPOSED ALONG EXTERIOR WALL. SUCTION, LIQUID AND HOT GAS REHEAT REFRIGERANT PIPING SHALL BE PROVIDED WITH CONTINUOUS INSULATION WITH VAPOR BARRIER. ALL EXTERIOR EXPOSED PIPING SHALL BE PROVIDED WITH STAINLESS JACKET. PROVIDE PIPE SUPPORT. ANCHOR AND SUPPORT SHALL BE SUITABLE FOR EXTERIOR WALL MATERIAL.
- 25 GENERAL LOCATION OF WALL MOUNTED TEMPERATURE SENSOR.
- 26 GENERAL LOCATION OF WALL MOUNTED HUMIDITY SENSOR.
- 27 8" ALUMINUM VENT CAP WITH INSECT SCREEN EQUIVALENT TO SEIHO SFX. VENT CAP SHALL BE LOCATED AT EXTERIOR WALL ABOVE LOW ROOF. COLOR BY ARCHITECT.
- 28 GENERAL LOCATION OF EXHAUST FAN WALL SWITCH.
- 29 10 x 12" RETURN AIR UP TO ATTIC. ROUTE IN BETWEEN JOIST.
- 30 10" RETURN AIR UP TO ATTIC. ROUTE IN BETWEEN JOIST.
- 31 10 x 16" SUPPLY AIR UP TO ATTIC. ROUTE IN BETWEEN JOIST.
- 32 SUCTION, LIQUID AND HOT GAS REHEAT REFRIGERANT PIPING UP TO THE ATTIC. PROVIDE WITH CONTINUOUS INSULATION WITH VAPOR BARRIER. MANUFACTURER SHALL ADVISE ON PIPE SIZING BASED ON ACTUAL ROUTING.
- 33 SURFACE MOUNTED ELECTRIC WALL HEATER. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- 34 RECESSED MOUNTED ELECTRIC WALL HEATER. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS.
- 35 4" OUTSIDE AIR DUCTWORK UP TO ATTIC. ROUTE IN BETWEEN JOIST.

GENERAL NOTES:

- 1 REFER TO M000 FOR NOTES, LEGEND AND ABBREVIATIONS.
- 2 REFER TO M801 FOR DETAILS.
- 3 REFER TO M701 FOR VRF DIAGRAM.
- 4 ALL DUCTWORK SHALL BE ROUTED ABOVE CEILING AND IN SOFFITS. NO EXPOSED DUCTWORK SHALL BE ALLOWED, UNLESS OTHERWISE NOTED.
- 5 PROVIDE MANUAL VOLUME DAMPER AT EVERY BRANCH TAKE-OFF WHETHER OR NOT INDICATED IN PLANS. VOLUME DAMPERS AT INACCESSIBLE CEILING LOCATIONS SHALL BE PROVIDED WITH REMOTE ACTUATOR. COORDINATE LOCATIONS WITH ARCHITECTURAL CEILING PLANS.
- 6 ALL NEW CORRIDOR WALL OPENINGS ABOVE CEILING AND ALL FLOOR AND WALL PENETRATIONS SHALL BE COORDINATED WITH DIVISION 4.
- 7 ALL RATED WALL THROUGH PENETRATIONS SHALL BE PROVIDED WITH THE REQUIRED FIRESTOP SYSTEM. COORDINATE WITH DIVISION 7.
- 8 DELIVER ALL DUCT SECTIONS WITH SEALED ENDS TO PREVENT DEBRIS AND DUST FROM GETTING INSIDE. SEAL OPEN ENDS OF DUCT DAILY AS WORK PROGRESS UNTIL REGISTERS AND GRILLES ARE INSTALLED.
- 9 ALL DIFFUSER BOOTS / BACKPANS, RETURN GRILLE AND EXHAUST AIR PLENUM BOXES ABOVE CEILING SHALL BE PROVIDED WITH INSULATION WITH MINIMUM INSTALLED R VALUE OF 6.
- 10 ALL DUCTWORK DIMENSIONS, AS SHOWN ON DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZES SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS.
- 11 ALL MISCELLANEOUS OPENING, FRAMING AND TRUSS SPACING ADJUSTMENTS REQUIRED TO ROUTE DUCTWORK TO THE ATTIC SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND TRUSS SUPPLIER.



1 MAIN LEVEL PLAN
1/4" = 1'-0"

Project Title:
New Animal Facility at:
Montville Animal Shelter
225 Maple Ave
Montville, CT



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Revision:	Description:	Date:	Revised By:

Drawing Title:
MAIN LEVEL PLAN

Date: 09/29/2023
Scale: 1/4" = 1'-0"
Drawn By: AMG
Project Number: 22.130

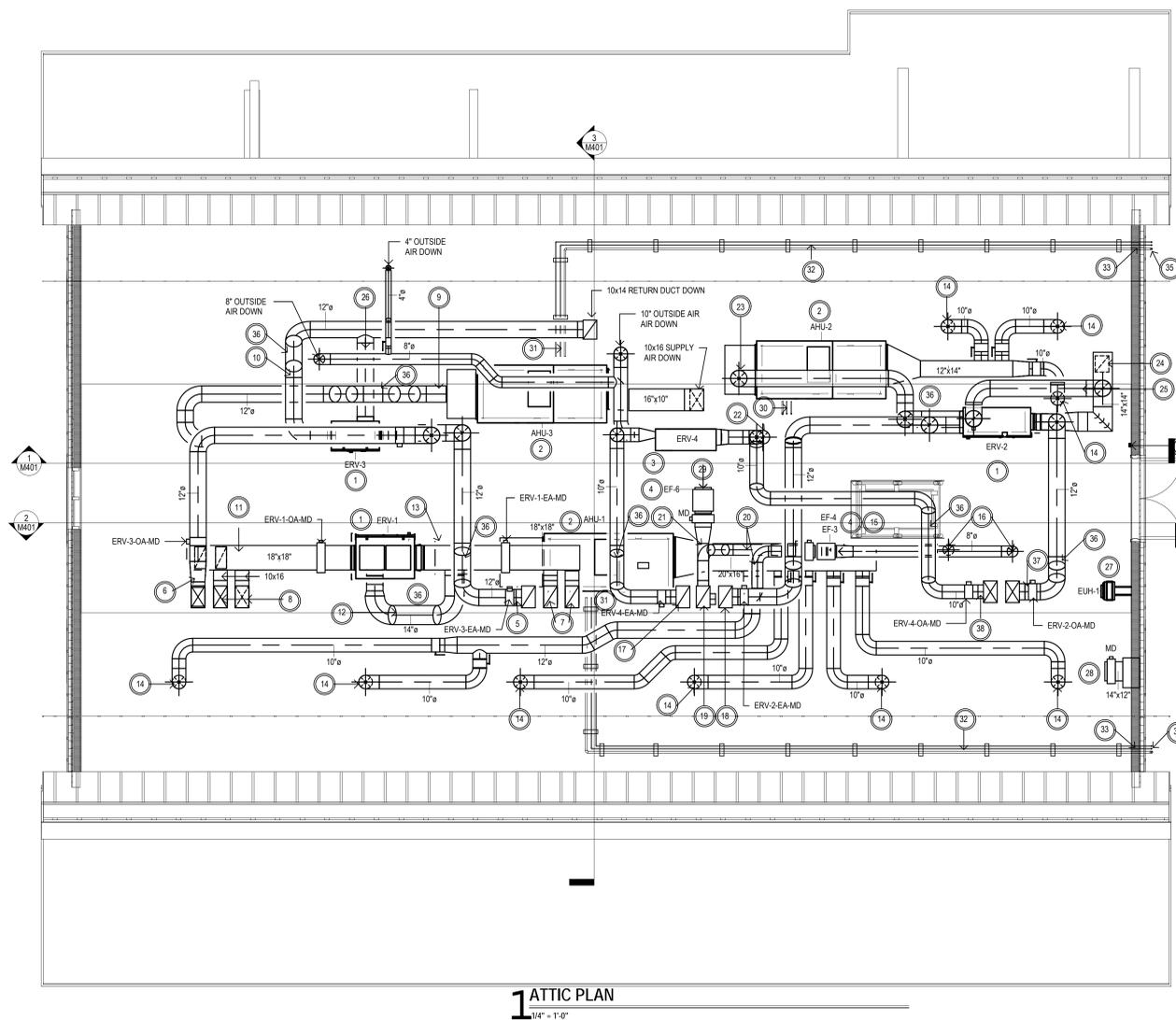
M101

CONSTRUCTION NOTES

- 1 ENERGY RECOVERY VENTILATOR WITH BYPASS. MOUNTED ON SUPPORT RAILS. INSTALL UNIT IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS. PROVIDE VIBRATION ISOLATION BETWEEN FRAME AND THE UNIT. COORDINATE UNIT FOOTPRINT AND LOADING WITH ISOLATION RAIL MANUFACTURER. REFER TO 231548.13 FOR EQUIPMENT SUPPORT AND VIBRATION CONTROLS. PROVIDE INSULATED FLEXIBLE CONNECTIONS TO THE UNIT. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. INSTALL FACTORY PROVIDED BYPASS AND EXHAUST MOTORIZED DAMPERS. REFER TO M701 FOR SCHEMATIC FLOW DIAGRAM
- 2 AIR HANDLING UNIT MOUNTED ON SUPPORT RAILS. INSTALL UNIT IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS. PROVIDE RESTRAINED SPRING ISOLATOR BETWEEN THE SUPPORT RAILS AND THE UNIT. COORDINATE LOADING WITH ISOLATOR MANUFACTURER. PROVIDE INSULATED FLEXIBLE PIPE CONNECTIONS TO THE UNIT. REFER TO 230548.13 FOR EQUIPMENT SUPPORT AND VIBRATION CONTROLS. PROVIDE UNIT WITH SECONDARY DRAIN FAN WITH FLOAT SWITCH OR MOISTURE SENSOR. PROVIDE CONDENSATE DRAIN PIPING IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS. ROUTE TO NEAREST INDIRECT DRAIN OR FLOOR DRAIN. COORDINATE WITH DIVISION 22.
- 3 ENERGY RECOVERY VENTILATOR. MOUNTED ON A FRAME SUSPENDED FROM THE STRUCTURE. MOUNT BOTTOM OF UNIT AT 30 INCHES ABOVE ATTIC FLOOR. INSTALL UNIT IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS. PROVIDE VIBRATION ISOLATION BETWEEN FRAME AND THE UNIT. COORDINATE UNIT FOOTPRINT AND LOADING WITH ISOLATION RAIL MANUFACTURER. REFER TO 231548.13 FOR EQUIPMENT SUPPORT AND VIBRATION CONTROLS. PROVIDE INSULATED FLEXIBLE CONNECTIONS TO THE UNIT. INSTALL IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS. REFER TO M701 FOR SCHEMATIC FLOW DIAGRAM
- 4 EXHAUST FAN SUSPENDED FROM THE STRUCTURE. PROVIDE WITH VIBRATION ISOLATION.
- 5 12" EXHAUST FROM ERV-3 CONNECT TO 10 x 16 EXHAUST AIR DUCT UP TO EXHAUST VENTILATOR ON ROOF. ROUTE EXHAUST DUCT IN BETWEEN ROOF JOIST.
- 6 12" OUTSIDE AIR DUCT TO ERV-3. CONNECT TO 10 x 16 OUTSIDE AIR UP INTAKE VENTILATOR ON ROOF. ROUTE OUTSIDE AIR DUCT IN BETWEEN ROOF JOIST.
- 7 10 x 16 EXHAUST FROM ERV-1 UP TO EXHAUST VENTILATOR ON ROOF. ROUTE EXHAUST DUCT IN BETWEEN ROOF JOIST.
- 8 10 x 16 OUTSIDE AIR DUCT TO ERV-1 FROM 10 x 16 OUTSIDE AIR CONNECTED TO INTAKE VENTILATOR ON ROOF. ROUTE OUTSIDE AIR DUCT IN BETWEEN ROOF JOIST.
- 9 12" OUTSIDE AIR DUCT FROM ERV-3 TO AHU-3 RETURN AIR PLENUM
- 10 12" RETURN AIR DUCT TO ERV-3. PROVIDE REQUIRED OFFSET FITTINGS TO CLEAR CROSSING DUCTWORK
- 11 18x18 RETURN AIR DUCT ROUTED BELOW 18x18 OUTSIDE AIR DUCT.
- 12 14" BYPASS DUCT. CONNECT TO 18x18 EXHAUST DUCT
- 13 24x12 SUPPLY DUCT FROM ERV-1 TO AHU-1 RETURN AIR PLENUM
- 14 10" SUPPLY AIR DROP TO CEILING SPACE BELOW. PROVIDE VOLUME DAMPER AT TAKE-OFF
- 15 EF-3 LOCATED BELOW EF-4. COORDINATE ELEVATION IN FIELD
- 16 8" EXHAUST DUCT DOWN. REFER TO M101 FOR CONTINUATION
- 17 10" EXHAUST FROM ERV-4 CONNECT TO 10 x 16 EXHAUST AIR DUCT UP TO EXHAUST VENTILATOR ON ROOF. ROUTE EXHAUST DUCT IN BETWEEN ROOF JOIST.
- 18 12" EXHAUST FROM ERV-2 CONNECT TO 10 x 16 EXHAUST AIR DUCT UP TO EXHAUST VENTILATOR ON ROOF. ROUTE EXHAUST DUCT IN BETWEEN ROOF JOIST.
- 19 10 x 16 EXHAUST AIR DUCT UP TO EXHAUST VENTILATOR ON ROOF. ROUTE EXHAUST DUCT IN BETWEEN ROOF JOIST.
- 20 8" EXHAUST FROM EF CONNECT TO 10 x 16 EXHAUST AIR DUCT
- 21 8x12 EXHAUST FROM EF CONNECT TO 10 x 16 EXHAUST AIR DUCT
- 22 10" RETURN DUCT DOWN. REFER TO M101 FOR CONTINUATION
- 23 12" OUTSIDE AIR DUCT FROM ERV-2 TO AHU-2 RETURN AIR PLENUM
- 24 10x12 RETURN DUCT BOTTOM TAKE-OFF. DROP TO CEILING SPACE BELOW. REFER TO M101 FOR CONTINUATION
- 25 12" BYPASS DUCT CONNECT TO 14x14 RETURN DUCT AND ERV-3 BYPASS DAMPER
- 26 12" BYPASS DUCT CONNECT TO 12" RETURN DUCT AND ERV-3 BYPASS DAMPER
- 27 ELECTRIC UNIT HEATER LOCATION. INSTALL IN ACCORDANCE WITH THE MANUFACTURER'S INSTALLATION AND CLEARANCE REQUIREMENTS
- 28 14 x 12 OUTSIDE AIR DUCTWORK. TERMINATE WITH WIRE MESH SCREEN
- 29 TERMINATE WITH WIRE MESH SCREEN
- 30 SUCTION, LIQUID AND HOT GAS REHEAT REFRIGERANT PIPING. FROM BELOW TO AHU-2. PROVIDE FLEXIBLE PIPE CONNECTION. PROVIDE WITH CONTINUOUS INSULATION WITH VAPOR BARRIER. MANUFACTURER SHALL ADVISE ON PIPE SIZING BASED ON ACTUAL ROUTING
- 31 SUCTION, LIQUID AND HOT GAS REHEAT REFRIGERANT PIPING. TO AHU. PROVIDE FLEXIBLE PIPE CONNECTION.
- 32 SUCTION, LIQUID AND HOT GAS REHEAT REFRIGERANT PIPE GENERAL ROUTING. PROVIDE WITH CONTINUOUS INSULATION WITH VAPOR BARRIER. PROVIDE WITH PIPE SUPPORT. MANUFACTURER SHALL ADVISE ON PIPE SIZING BASED ON ACTUAL ROUTING
- 33 INSULATED REFRIGERANT PIPING THROUGH EXTERIOR WALL. PROVIDE EXTERIOR WALL PENETRATIONS WITH SLEEVE SEAL SYSTEM
- 34 WALL MOUNTED SPACE SENSOR. COORDINATE EXACT LOCATION IN FIELD
- 35 GENERAL LOCATION OF REFRIGERATION PIPING DROP EXPOSED ALONG EXTERIOR WALL. SUCTION AND LIQUID REFRIGERANT PIPING SHALL BE PROVIDED WITH CONTINUOUS INSULATION WITH VAPOR BARRIER. ALL EXTERIOR EXPOSED PIPING SHALL BE PROVIDED WITH STAINLESS STEEL JACKET. PROVIDE PIPE SUPPORT. ANCHOR AND SUPPORT SHALL BE SUITABLE FOR EXTERIOR WALL MATERIAL
- 36 GENERAL LOCATION OF CHANGE IN ELEVATION. PROVIDE REQUIRED OFFSETS AND TRANSITIONS.
- 37 12" OUTSIDE AIR DUCT TO ERV-2. CONNECT TO 10 x 16 OUTSIDE AIR UP INTAKE VENTILATOR ON ROOF. ROUTE OUTSIDE AIR DUCT IN BETWEEN ROOF JOIST.
- 38 10" OUTSIDE AIR DUCT TO ERV-4. CONNECT TO 10 x 16 OUTSIDE AIR UP INTAKE VENTILATOR ON ROOF. ROUTE OUTSIDE AIR DUCT IN BETWEEN ROOF JOIST.

GENERAL NOTES:

- 1 REFER TO M000 FOR NOTES, LEGEND AND ABBREVIATIONS
- 2 REFER TO M801 FOR DETAILS
- 3 REFER TO M701 FOR SCHEMATIC FLOW DIAGRAM AND VRF DIAGRAM
- 4 ALL DUCTWORK SHALL BE ROUTED ABOVE CEILING AND IN SOFFITS. NO EXPOSED DUCTWORK SHALL BE ALLOWED, UNLESS OTHERWISE NOTED.
- 5 PROVIDE MANUAL VOLUME DAMPER AT EVERY BRANCH TAKE-OFF WHETHER OR NOT INDICATED IN PLANS. VOLUME DAMPERS AT INACCESSIBLE CEILING LOCATIONS SHALL BE PROVIDED WITH REMOTE ACTUATOR. COORDINATE LOCATIONS WITH ARCHITECTURAL CEILING PLANS.
- 6 ALL NEW CORRIDOR WALL OPENINGS ABOVE CEILING AND ALL FLOOR AND WALL PENETRATIONS SHALL BE COORDINATED WITH DIVISION 4
- 7 ALL RATED WALL THROUGH PENETRATIONS SHALL BE PROVIDED WITH THE REQUIRED FIRESTOP SYSTEM. COORDINATE WITH DIVISION 7
- 8 DELIVER ALL DUCT SECTIONS WITH SEALED ENDS TO PREVENT DEBRIS AND DUST FROM GETTING INSIDE. SEAL OPEN ENDS OF DUCT DAILY AS WORK PROGRESS UNTIL REGISTERS AND GRILLES ARE INSTALLED.
- 9 ALL DIFFUSER BOOTS, BACKPANS, RETURN GRILLE AND EXHAUST AIR PLENUM BOXES ABOVE CEILING SHALL BE PROVIDED WITH INSULATION WITH MINIMUM INSTALLED R VALUE OF 6.
- 10 ALL DUCTWORK DIMENSIONS, AS SHOWN ON DRAWINGS, ARE INTERNAL CLEAR DIMENSIONS AND DUCT SIZES SHALL BE INCREASED TO COMPENSATE FOR DUCT LINING THICKNESS
- 11 ALL MISCELLANEOUS OPENING, FRAMING AND TRUSS SPACING ADJUSTMENTS REQUIRED TO ROUTE DUCTWORK TO THE ATTIC SHALL BE COORDINATED WITH THE GENERAL CONTRACTOR AND TRUSS SUPPLIER



1 ATTIC PLAN
1/4" = 1'-0"

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave
 Montville, CT

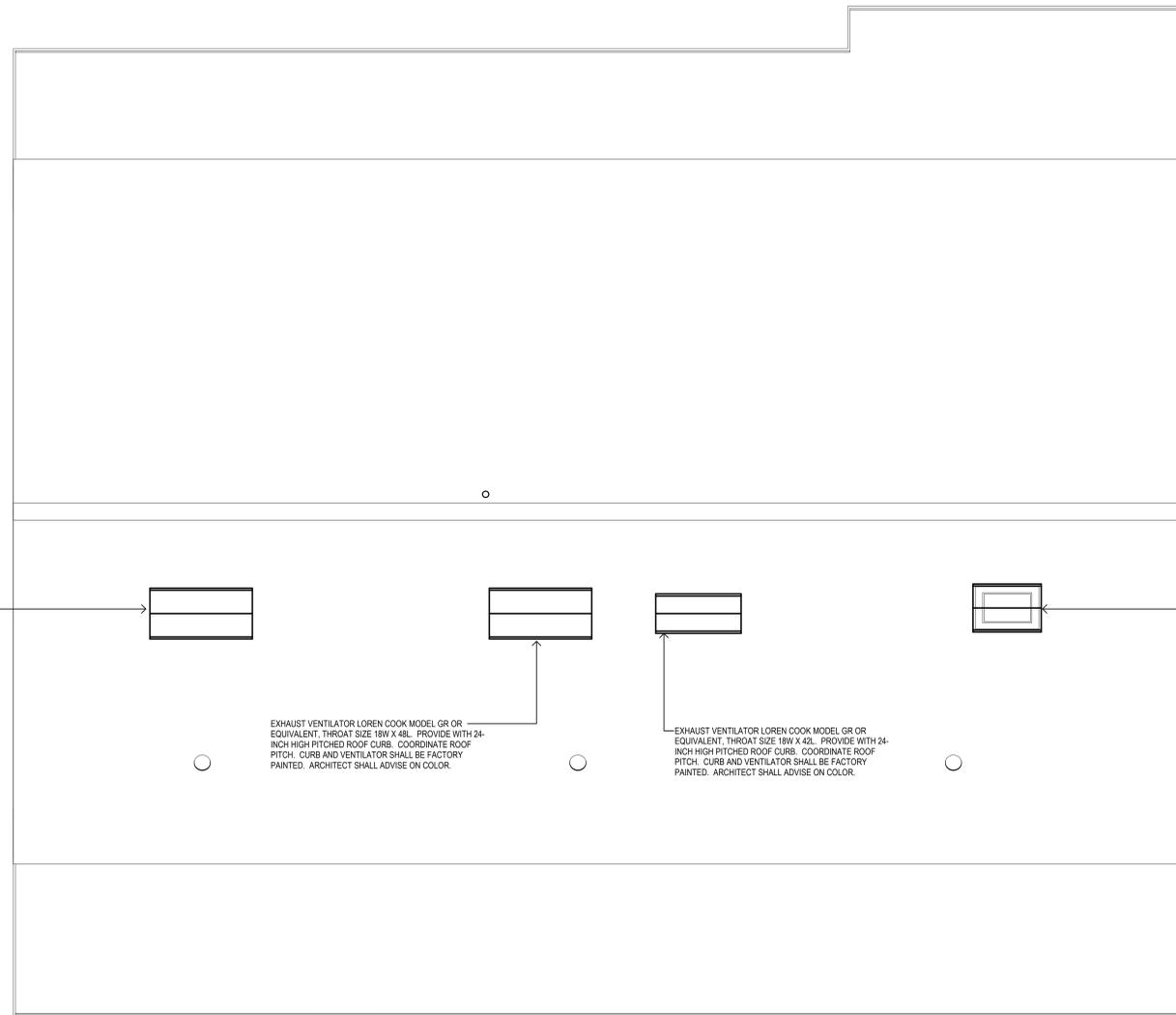


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Revision:	Description:	Date:	Revised By:

Drawing Title:
ATTIC PLAN

Date: 09/29/2023
 Scale: 1/4" = 1'-0"
 Drawn By: AMG
 Project Number: 22.130
 Drawing Number: **M102**



OUTSIDE AIR INTAKE VENTILATOR, LOREN COOK MODEL GI OR EQUIVALENT, THROAT SIZE 18W X 48L. PROVIDE WITH 24-INCH HIGH PITCHED ROOF CURB. COORDINATE ROOF PITCH. CURB AND VENTILATOR SHALL BE FACTORY PAINTED. ARCHITECT SHALL ADVISE ON COLOR.

EXHAUST VENTILATOR LOREN COOK MODEL GR OR EQUIVALENT, THROAT SIZE 18W X 48L. PROVIDE WITH 24-INCH HIGH PITCHED ROOF CURB. COORDINATE ROOF PITCH. CURB AND VENTILATOR SHALL BE FACTORY PAINTED. ARCHITECT SHALL ADVISE ON COLOR.

EXHAUST VENTILATOR LOREN COOK MODEL GR OR EQUIVALENT, THROAT SIZE 18W X 48L. PROVIDE WITH 24-INCH HIGH PITCHED ROOF CURB. COORDINATE ROOF PITCH. CURB AND VENTILATOR SHALL BE FACTORY PAINTED. ARCHITECT SHALL ADVISE ON COLOR.

OUTSIDE AIR INTAKE VENTILATOR, LOREN COOK MODEL GI OR EQUIVALENT, THROAT SIZE 18W X 48L. PROVIDE WITH 24-INCH HIGH PITCHED ROOF CURB. COORDINATE ROOF PITCH. CURB AND VENTILATOR SHALL BE FACTORY PAINTED. ARCHITECT SHALL ADVISE ON COLOR.

GENERAL NOTES

1. REFER TO M000 FOR NOTES, LEGEND AND ABBREVIATION
2. REFER TO M801 FOR DETAILS
3. PROVIDE SEPARATION DISTANCE OF 10'-0" BETWEEN OUTSIDE AIR INTAKE AND ANY EXHAUST OR PLUMBING VENT TERMINATIONS. IF SEPARATION DISTANCE IS LESS THAN 10'-0", VENT TERMINATIONS SHALL BE EXTENDED 24 INCHES HIGHER THAN THE OUTSIDE AIR INTAKE.

1 ROOF PLAN
1/4" = 1'-0"

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave
 Montville, CT



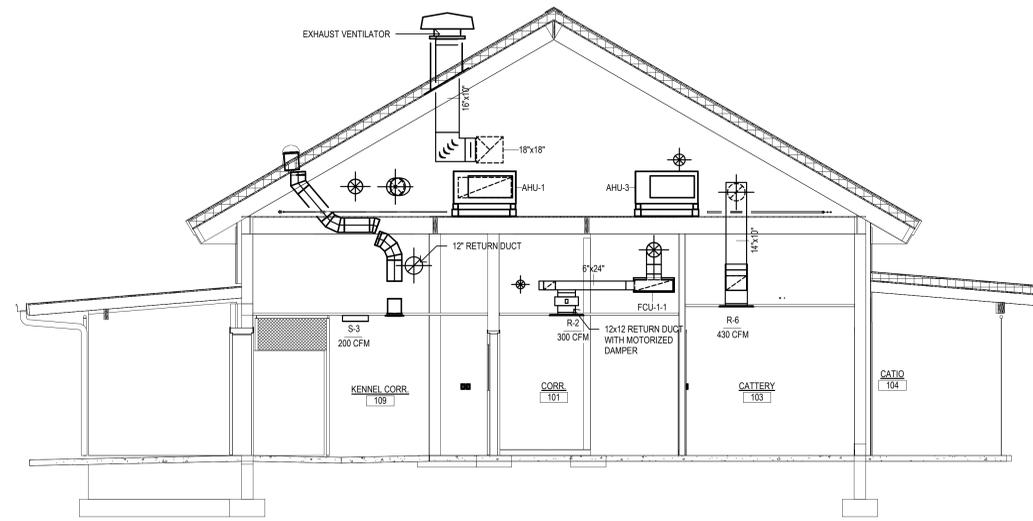
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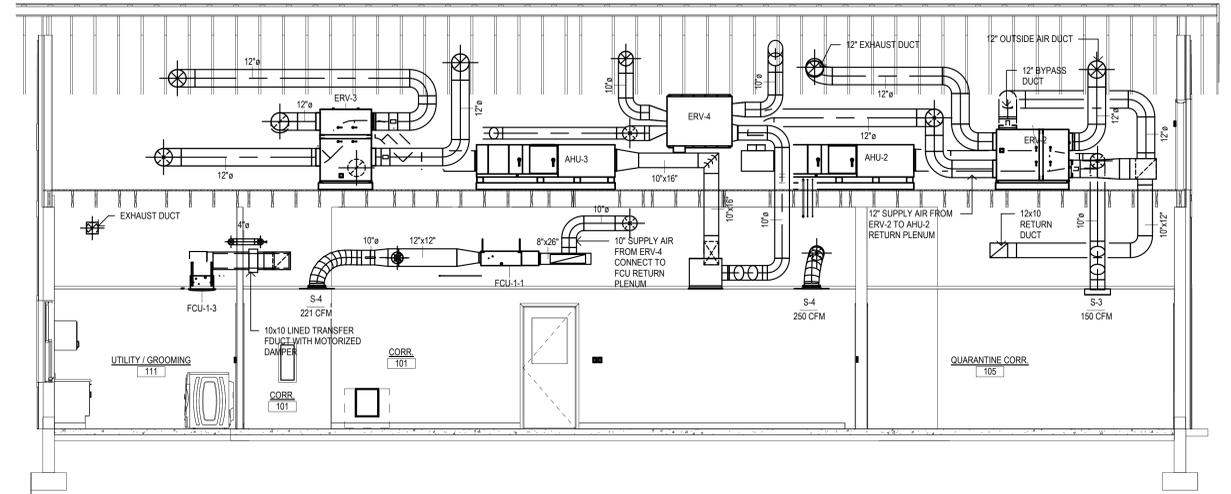
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ROOF PLAN

Date:
 09/29/2023
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 Drawn By:
 AMG
 Project Number:
 22.130

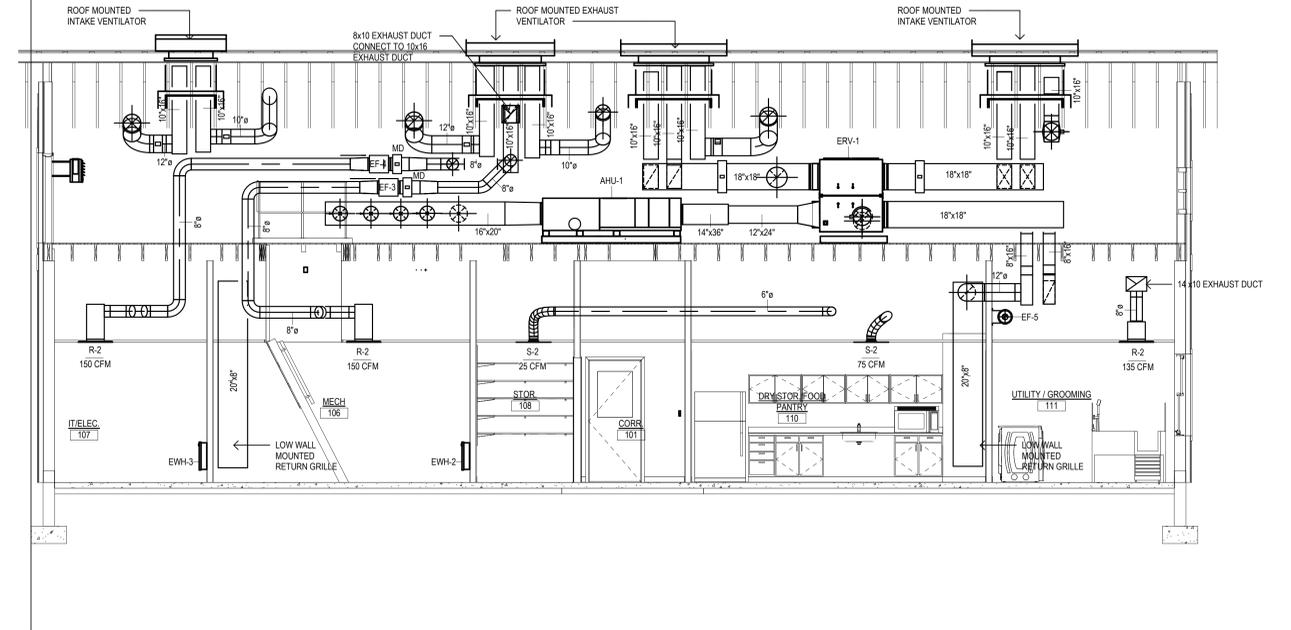
Drawing Number:
M103



3 SECTION C
1/4" = 1'-0"



1 SECTION A
1/4" = 1'-0"



2 SECTION B
1/4" = 1'-0"

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave
 Montville, CT

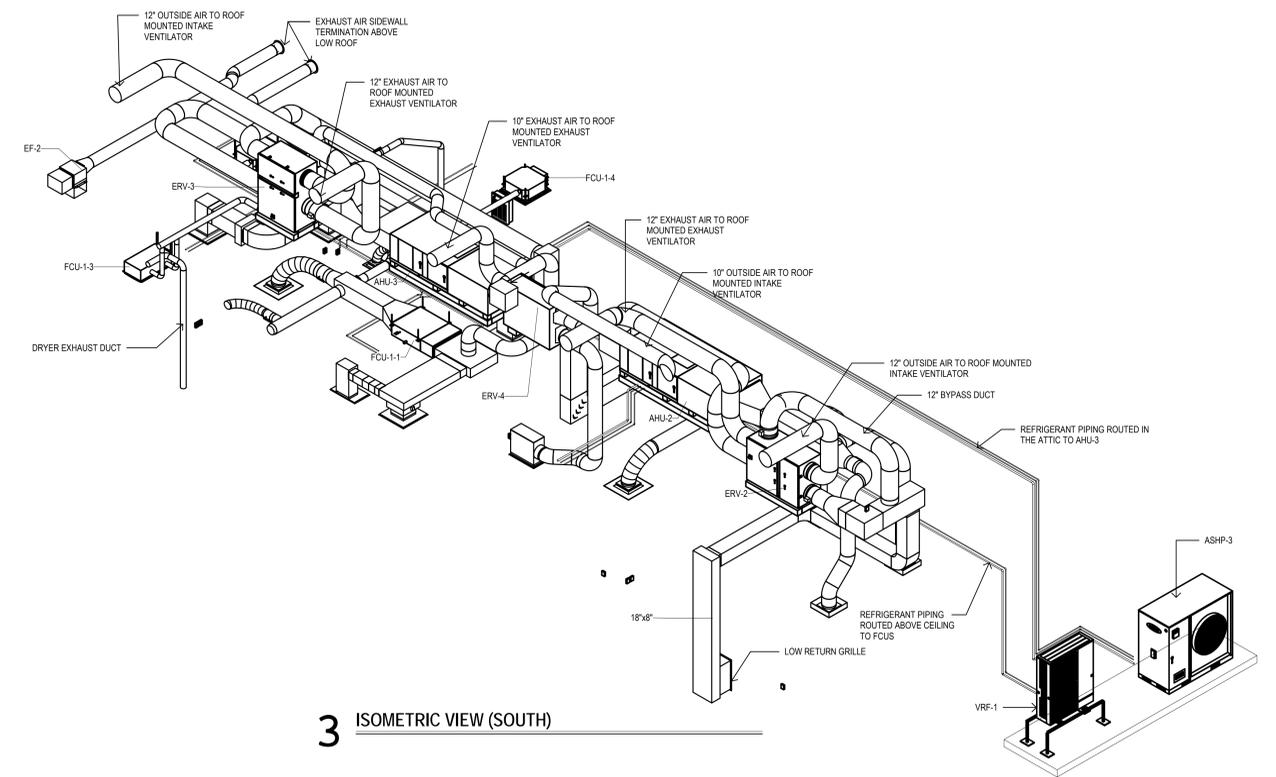


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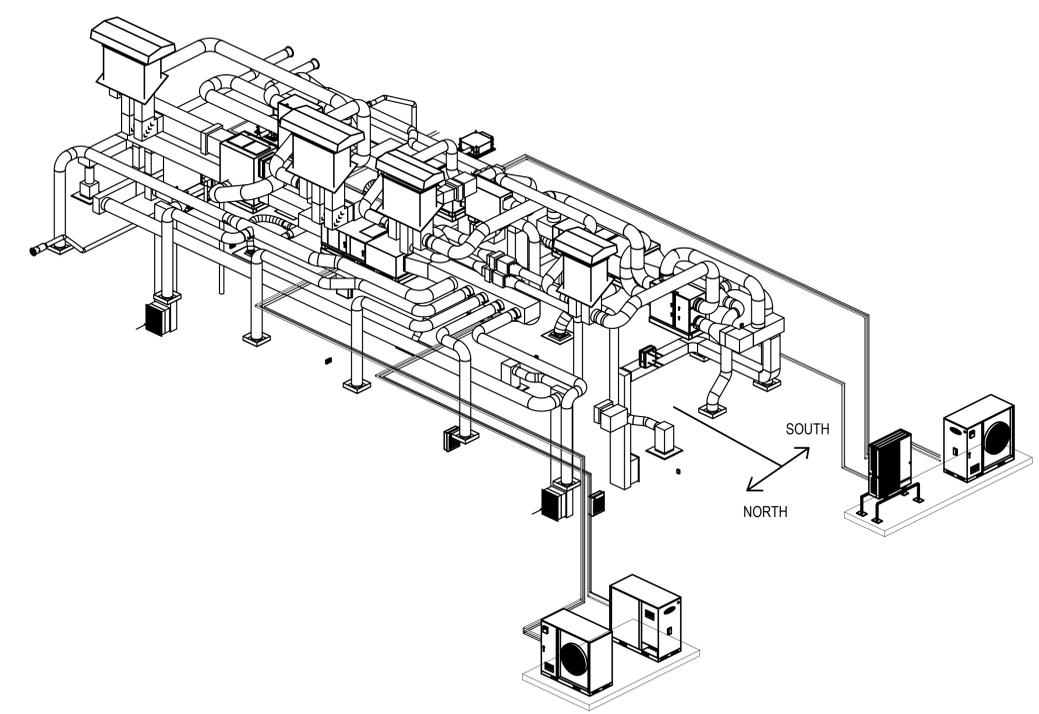
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Drawing Title:
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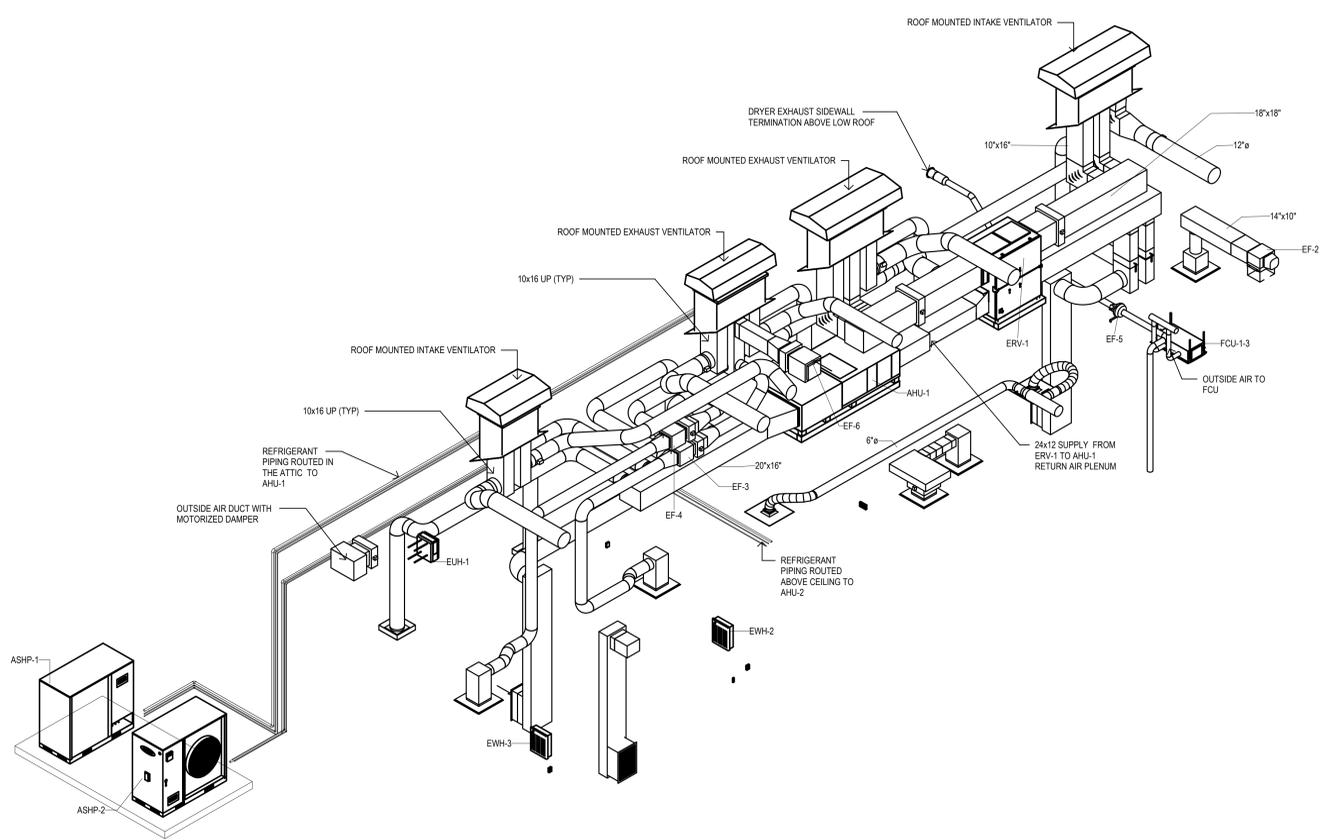
Date: 09/29/2023
 Scale: 1/4" = 1'-0"
 Drawn By: AMG
 Project Number: 22.130
 Drawing Number: **M401**



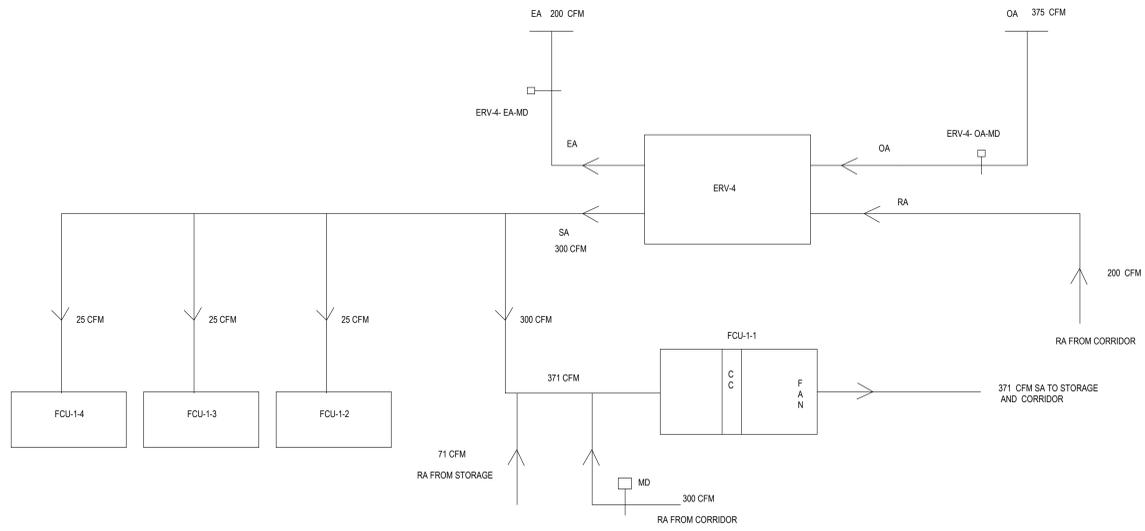
3 ISOMETRIC VIEW (SOUTH)



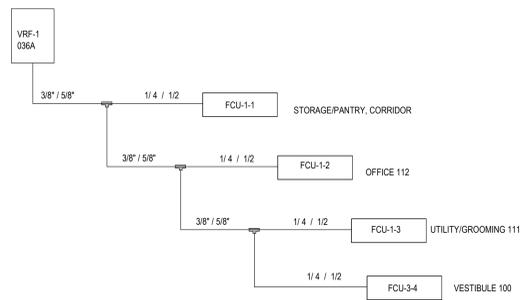
1 OVERALL ISOMETRIC VIEW



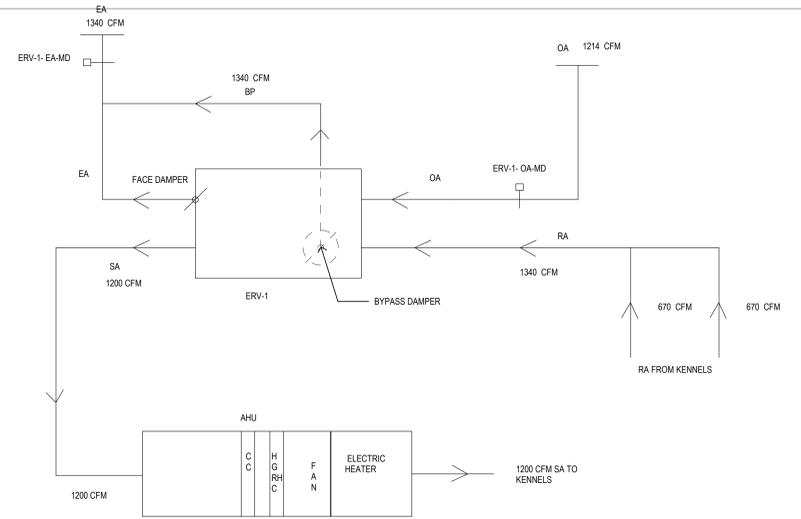
2 ISOMETRIC VIEW (NORTH)



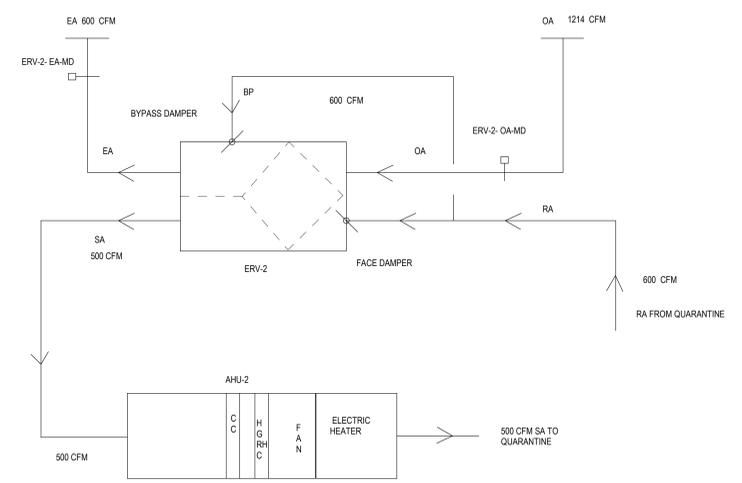
STORAGE AND CORRIDOR SCHEMATIC FLOW



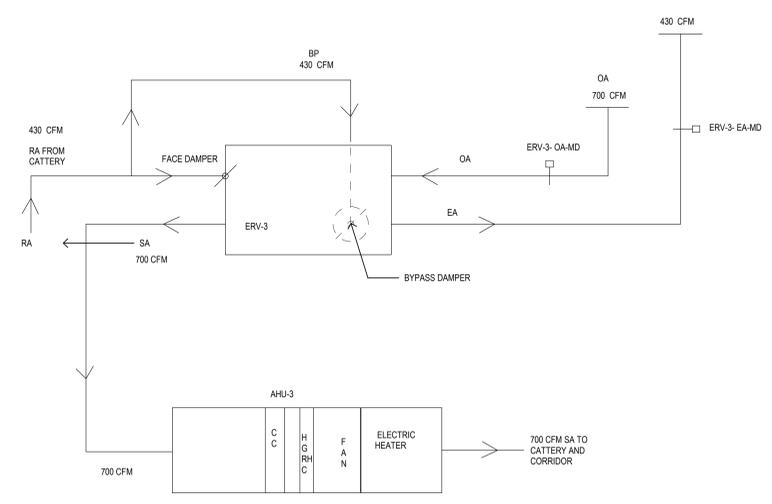
VRF DIAGRAM



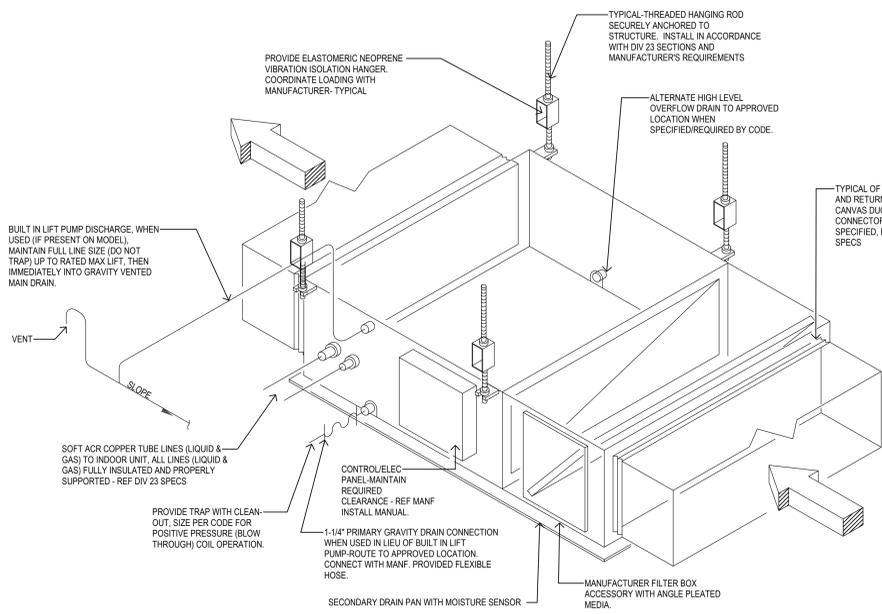
KENNELS SCHEMATIC FLOW



QUARANTINE SCHEMATIC FLOW

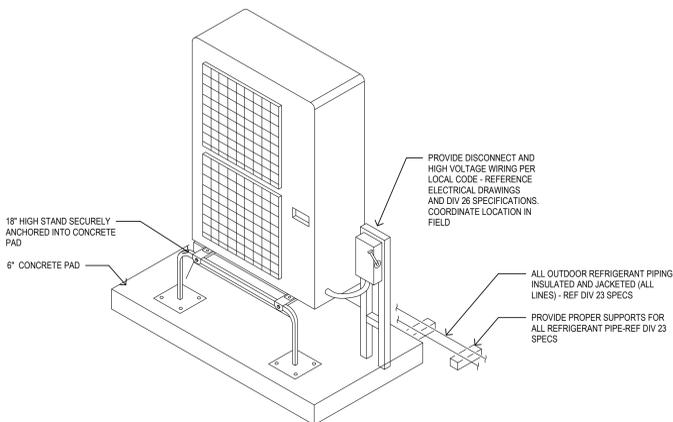


CATTERY AND CORRIDOR SCHEMATIC FLOW



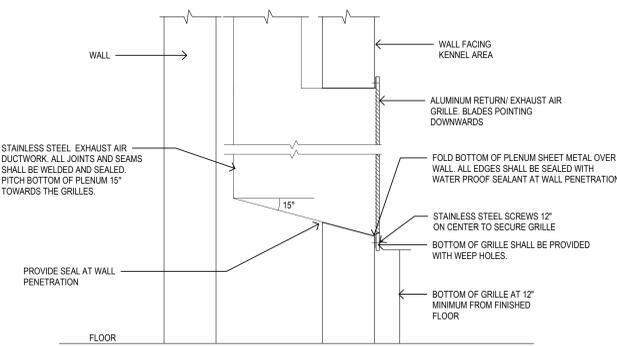
14
801 NOT TO SCALE

VRF DUCTED INDOOR UNIT DETAIL



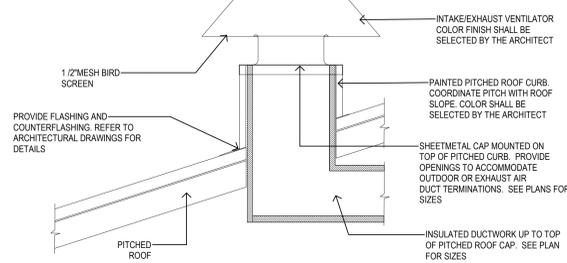
15
801 NOT TO SCALE

VRF OUTDOOR UNIT MOUNTING DETAIL



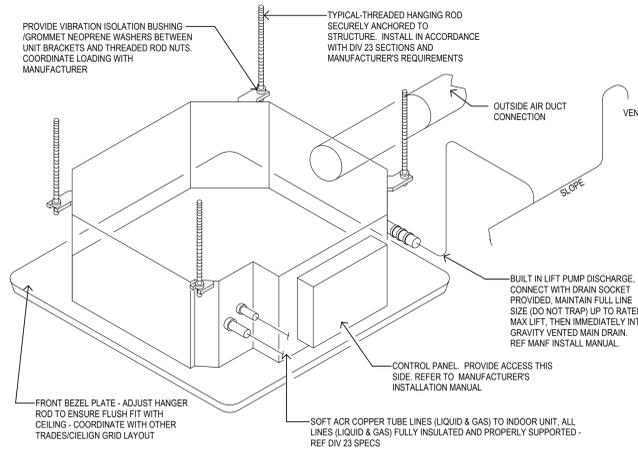
10
801 NOT TO SCALE

LOW EXHAUST GRILLE INSTALLATION DETAIL



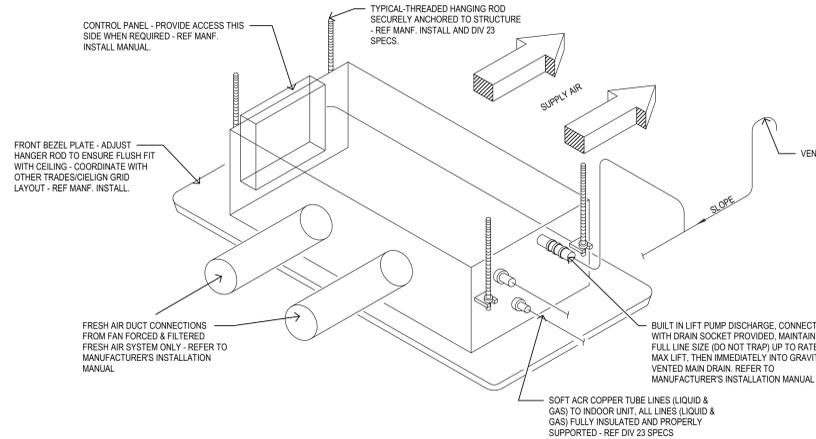
11
801 NOT TO SCALE

INTAKE/EXHAUST VENTILATOR DETAILS



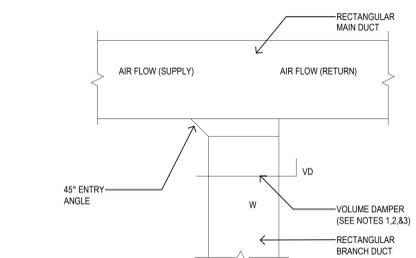
12
801 NOT TO SCALE

VRF CASSETTE INDOOR UNIT DETAIL



13
801 NOT TO SCALE

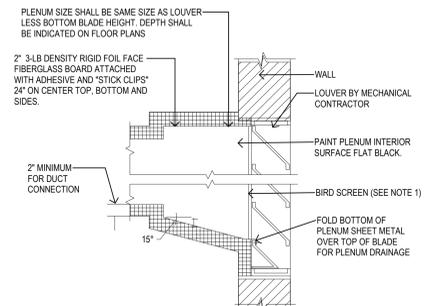
VRF CASSETTE (ONE-WAY) INDOOR UNIT DETAIL



- NOTES:
- UP TO 1.5 SQ. FT. CROSS SECTIONAL AREA AND NOT EXCEEDING 24" IN WIDTH USE SINGLE BLADE VOLUME DAMPER
 - FOR CROSS SECTIONAL AREAS FROM 1.5 TO 3.0 SQ. FT. AND NOT EXCEEDING 24" IN WIDTH, USE 3 SINGLE BLADE/VOLUME DAMPERS INDIVIDUALLY OPERATED TO FUNCTION IN AN OPPOSED MANNER
 - FOR CROSS SECTIONAL AREAS GREATER THAN 3.0 SQ. FT. AND/OR EXCEEDING 24" IN WIDTH, USE GANG OPERATED OPPOSED BLADE VOLUME DAMPER AND FRAME ASSEMBLY

6
801 NOT TO SCALE

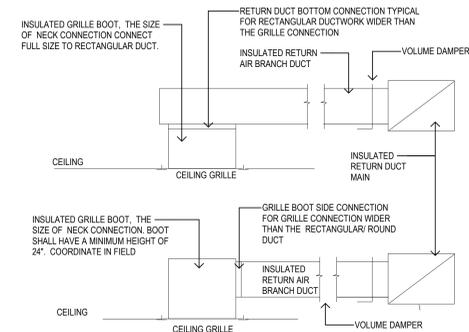
TYPICAL RECTANGULAR SUPPLY/RETURN DUCT TAKE-OFF



- NOTES:
- COVER INSIDE FACE OF LOUVER WITH 1/2" MESH ALUMINUM BIRD SCREEN SCREWED IN PLACE. IF NOT SUPPLIED WITH LOUVER.
 - INSULATE UNUSED PORTION OF LOUVER WITH 2" GLASS FIBER INSULATING BOARD.
 - SEAL ALL PLENUM SEAMS WATERTIGHT WITH SILICONE SEALANT.
 - TYPICAL FOR SUPPLY AND EXHAUST PLENUMS.
 - PROVIDE ACCESS DOOR IN PLENUM. DOOR SHALL BE FIELD COORDINATED FOR ACCESS. DOOR SIZE SHALL BE 36" HIGH x 18" WIDE. REFER TO SPEC FOR DOOR CONSTRUCTION.

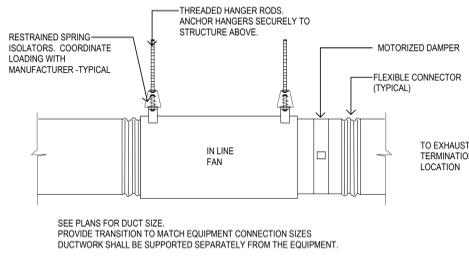
7
801 NOT TO SCALE

INTAKE AND EXHAUST LOUVER INSTALLATION DETAIL



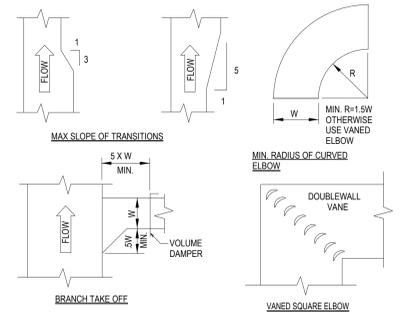
8
801 NOT TO SCALE

TYPICAL RETURN AIR GRILLE BOOT



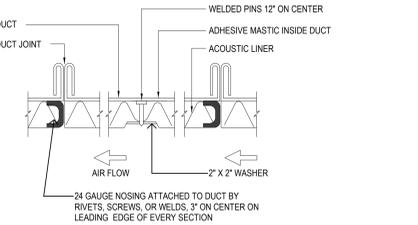
9
801 NOT TO SCALE

IN-LINE FAN MOUNTING DETAIL



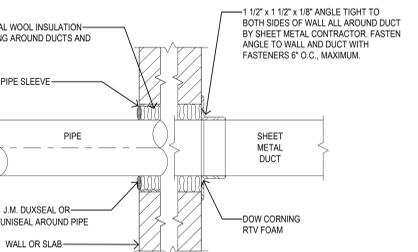
1
801 NOT TO SCALE

DUCT CONSTRUCTION DETAIL



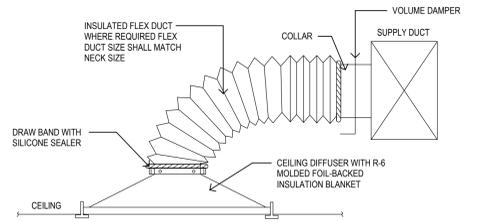
2
801 NOT TO SCALE

ACOUSTIC DUCT LINING



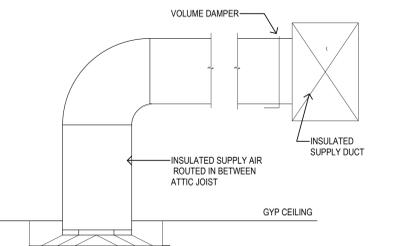
3
801 NOT TO SCALE

CAULKING OF DUCTS AND PIPES- NON-RATED WALL



4
801 NOT TO SCALE

TYPICAL CEILING DIFFUSER CONNECTION



5
801 NOT TO SCALE

TYPICAL DROPPED FACE DIFFUSER CONNECTION

ELECTRIC UNIT HEATER						
(BASED ON QMARK)						
TAG	LOCATION	KW	AIRFLOW	VOLTPH	MODEL	NOTES
EUH-1	ATTIC	7.5	650	208/3	MUH072-PRO-SSP	1, 2

NOTES:

- PROVIDE WITH MOUNTING BRACKET
- PROVIDE WITH REMOTE MOUNTED SMART SERIES PLUS THERMOSTAT. SMART SERIES PLUS CONTROL WITH BACNET COMPATIBILITY. DISCONNECT SWITCH, 24V TRANSFORMER

INDOOR AIR HANDLING UNIT																											
TAG	AREA SERVED	MANUFACTURER AND MODEL	ELECTRICAL				OUTSIDE AIR (CFM)	SUPPLY FAN				DIRECT EXPANSION COIL				HOT GAS REHEAT COIL			ELECTRIC HEATING COIL					FILTER	REFRIGERANT	WEIGHT (LBS)	NOTES
			VOLTS/Hz/PHz	MCA	FLA	MOCP		CFM	ESP	MOTOR HP	TYPE	NET TC (MBH)	NET SC (MBH)	EAT DB/WB (°F)	LAT DB/WB (°F)	CAPACITY (MBH)	LAT DB/WB (°F)	RH (%)	TC (MBH)	EAT DB/WB (°F)	LAT DB (°F)	INPUT (KW)	HEATER QTY				
AHU-1	KENNEL	AAON H3-BRB-8	208/60/3	76	61	80	1200	1200	0.75	1.0	DIRECT DRIVE VFD	53.46	32.03	79.3/68	52.75/52.27	25	72/59.85	49	71.7	51.0/39.4	95	21.0	4	MERV 13	R410A	670	1,2,3,4
AHU-2	QUARANTINE	AAON H3-BRB-2	208/60/3	24	15	25	500	500	0.75	1.0	DIRECT DRIVE VFD	31.30	18.23	79.9/67.7	44.39/44.28	15	72/56.36	37	19.7	57/43.3	92	7.0	1	MERV 13	R410A	670	1,2,3,4
AHU-3	CATTERY	AAON H3-BRB-2	208/60/3	45	36	45	700	700	0.75	1.0	DIRECT DRIVE VFD	35.84	21.81	81.8/68.9	51.24/51.02	16	72/59.33	47	47.8	39.8/32.6	92	14.0	2	MERV 13	R410A	670	1,2,3,4

NOTES:

- SUSPEND FROM STRUCTURE. PROVIDE WITH SPRING ISOLATOR
- PROVIDE DISCONNECT SWITCH. REFER TO DIV 26
- REFER TO SPECIFICATION SECTION FOR MORE INFORMATION
- MANUFACTURER PROVIDED BACNET CONTROLLER. REFER TO 23 09 93 FOR SEQUENCE OF OPERATION

VRF UNIT SCHEDULE													
TAG	MODEL	MODULES	NOMINAL CAPACITY		COOLING EFFICIENCY IEEREER (SEER)	HEATING COP @ 47F (HSPF)	CORRECTED CAPACITY		NOMINAL SYSTEM CONNECTED CAPACITY	ELECTRICAL DATA			NOTES/OPTIONS
			COOLING (BTU/HR)	HEATING (BTU/HR)			COOLING (BTU/HR)	HEATING (BTU/HR)		VOLTAGE/PH	MCA	MOCP	
VRF-1	NTXMSH36A	P36	36,000	45,000	0/13.8 (20.65)	3.85 (12.1)	36,173	43,934	77.8%	208/230V, 1 PH	36	40	1, 2, 3

NOTES:

- NOMINAL COOLING CAPACITY ARE BASED ON INDOOR COIL EAT OF 80/67 F (DB/WB), OUTDOOR TEMPERATURE OF 91 F DB
- NOMINAL HEATING CAPACITY ARE BASED ON INDOOR COIL EAT OF 70 F DB, OUTDOOR TEMPERATURE OF 43 F WB
- EFFICIENCY VALUES OF EER, IEER, COP ARE BASED AHRI 1230 TEST METHOD OF MIXTURE OF DUCTED AND NOT DUCTED INDOOR UNITS

ELECTRIC WALL HEATER						
(BASED ON QMARK)						
TAG	LOCATION	WATTS	CAPACITY BTUH	VOLTPH	MODEL	NOTES
EWH-1	TOILET 102	1500	5,115	120/1	CWH3150F	1, 2
EWH-2	MECH 106	1500	5,115	120/1	CWH3150F	1, 3
EWH-3	ELECTRICAL 107	1500	5,115	120/1	CWH3150F	1, 3
EWH-4	VESTIBULE 100	1500	5,115	120/1	CWH3150F	1, 2

NOTES:

- PROVIDE WITH UNIT MOUNTED THERMOSTAT
- PROVIDE WITH RECESSED MOUNTING FRAME
- PROVIDE SURFACE MOUNTING FRAME

AIR COOLED CONDENSING UNIT														
TAG	UNIT SERVED	MANUFACTURER AND MODEL	ELECTRICAL				NOMINAL TONS	COMPRESSOR CAPACITY CONTROL	REFRIGERANT	CONNECTION SIZE			WEIGHT (LBS)	NOTES
			VOLTS/Hz/PHz	MCA	FLA	MOCP				SUCTION	LIQUID	HOT GAS REHEAT		
ASHP-1	AHU-1	AAON CFA-005	208/60/3	24	20	40	5	VARIABLE CAPACITY SCROLL	R410A	1.13 IN	0.63 IN	0.88 IN	1, 2, 3	
ASHP-2	AHU-2	AAON CFA-003	208/60/3	17	15	25	3	VARIABLE CAPACITY SCROLL	R410A	1.13 IN	0.5 IN	0.88 IN	1, 2, 3	
ASHP-3	AHU-3	AAON CFA-003	208/60/3	17	15	25	3	VARIABLE CAPACITY SCROLL	R410A	1.13 IN	0.5 IN	0.88 IN	1, 2, 3	

NOTES:

- MOUNT UNIT ON 8" HOUSEKEEPING PAD
- PROVIDE DISCONNECT SWITCH. REFER TO DIV 26
- MANUFACTURER SHALL ADVISE ON THE FINAL SIZE OF REFRIGERATION PIPING BASED PIPE ROUTING

VRF INDOOR UNIT SCHEDULE																	
TAG	TYPE	NOMINAL CAPACITY (BTU/HR)		DESIGN ENTERING TEMPERATURE (F)		PERFORMANCE DATA			FAN DATA			ELECTRICAL		REF PIPE SIZE LIQUID/SUCTION (INCH)	NOTES	AREA SERVED	
						CORRECTED CAPACITY (BTU/HR)			ESTIMATED LAT (F)		PEAK FAN CFM	SOUND PRESSURE PER FAN SPEED (DBA)	V/FPHZ				MCA/MS (AMP)
		COOLING	HEATING	COOLING (DB/WB)	HEATING DB	TOTAL COOLING	SENSIBLE COOLING	HEATING	COOLING	HEATING							
FCU-1-1	CEILING CONCEALED DUCTED	12,000	13,500	79.5/67.8	51.8	12,000	8,359	12,464	58.7	99	371 0.60" ESP	26-30-34	208/230V/1-PH	2.13/1/5	1/4 / 1/2	1 TO 4, 6	ENTRY, STORAGE, CORRIDOR
FCU-1-2	CEILING CASSETTE	5,000	6,000	80/67	70	4,995	4,381	5,584	65.2	88.5	280	26-28-30	208/230V/1-PH	0.24/1/5	1/4 / 1/2	2 TO 5	UTILITY / GROOMING
FCU-1-3	1-WAY CEILING CASSETTE	6,000	6,700	80/67	70	5,994	5,081	6,681	64.4	90.2	307	27-30-33-35	208/230V/1-PH	0.25/1/5	1/4 / 1/2	2 TO 5	OFFICE
FCU-1-4	CEILING CASSETTE	5,000	6,000	80/67	70	4,995	4,381	5,584	65.2	88.5	280	26-28-30	208/230V/1-PH	0.24/1/5	1/4 / 1/2	2 TO 5	VESTIBULE 100

NOTES:

- PROVIDE CEILING CONCEALED DUCTED UNITS WITH FILTER BOX AND MERV13 FILTER
- PROVIDE GAS AND LIQUID LINE BRAZED ISOLATION VALVES TO FACILITATE SERVICEABILITY AND MAINTENANCE. INSTALLED DIRECTLY DOWNSTREAM OF BRANCH CONTROLLER PORT OR REFRIGERANT TEE LEADING TO EACH INDOOR UNIT
- FULL DEMAND CORRECTED CAPACITY INCLUDES DE-RATE ASSOCIATED WITH INDOOR VS OUTDOOR CONNECTED CAPACITY INDICATED ON THE OUTDOOR UNIT SCHEDULE FOR ASSOCIATED SYSTEM. IT IS THE DESIGNER'S RESPONSIBILITY TO ENSURE "DIAMOND SYSTEM BUILDERS" IS SET IN THE APPROPRIATE OUTPUT CAPACITY SETTING PRIOR TO GENERATING THIS SCHEDULE
- HEATING CORRECTED CAPACITY SHALL BE BASED ON FULL DEMAND
- 25 CFM OUTSIDE AIR DUCT DIRECTLY TO THE UNIT
- 300 CFM TEMPERED OUTDOOR AIR FROM ERV

SUPPLY/DIFFUSER/GRILLE SCHEDULE									
TAG	MANUFACTURER	MODEL	NECK SIZE	LOUVERED FACE SIZE	MODULE SIZE	MAX AIRFLOW (CFM)	MAX NC	DESCRIPTION	NOTES
S-1	TITUS	TDC-AA	6	-	12 x 12	100	16	LOUVERED FACE DIFFUSER	1, 2
S-2	TITUS	TDC-AA	6	-	24 x 24	100	16	LOUVERED FACE DIFFUSER	1, 3, 4
S-3	TITUS	TDV-AA	9 x 9	-	12 x 12	200	14	LOUVERED FACE DIFFUSER INDUCTION VANES	1, 4, 6
S-4	TITUS	TDV-AA	10	12 x 12	24 x 24	250	14	LOUVERED FACE DIFFUSER INDUCTION VANES	1, 3, 4
R-1	TITUS	350FL	8 x 8	-	8 x 8	150	10	CEILING GRILLE	1, 2
R-2	TITUS	PAR-AA	12 x 12	12 x 12	24 x 24	320	10	PERFORATED GRILLE	1, 3, 5
R-3	METALAIR	4500	16 x 24	-	16 x 24	500	15	HEAVY DUTY SIDEWALL GRILLE	1, 7, 8
R-4	METALAIR	4500	18 x 24	-	18 x 24	625	15	HEAVY DUTY SIDEWALL GRILLE	1, 7, 8
R-5	TITUS	PAR-AA	10 x 22	10 x 22	12 x 24	320	10	PERFORATED GRILLE	1, 3, 5
R-6	TITUS	PAR-AA	15 x 15	15 x 15	24 x 24	500	10	PERFORATED GRILLE	1, 3, 5

NOTES:

- PROVIDE IN ALL ALUMINUM CONSTRUCTION
- PROVIDE BORDER FOR SURFACE MOUNT
- PROVIDE BORDER FOR LAY-IN INSTALLATION. COORDINATE WITH CEILING LAYOUT
- DIFFUSER BACKPAN SHALL BE PROVIDED WITH R-6 INSULATION
- PROVIDE WITH ACOUSTICALLY LINED PLENUM BOX
- PROVIDE DROPPED FACE BORDER
- SIDEWALL MOUNTED. PROVIDE WITH WEEP HOLES AT THE BOTTOM OF GRILLE TO ALLOW FOR DRAINAGE
- PROVIDE WITH WELDED STAINLESS STEEL PLENUM BOX. BOTTOM OF PLENUM BOX SHALL BE PITCHED TOWARDS THE GRILLE TO ALLOW FOR DRAINAGE

ENERGY RECOVERY VENTILATOR SCHEDULE																												
TAG	UNIT SERVED	MANUFACTURER MODEL	UNIT ELECTRICAL DATA			MOTORS		SUMMER						WINTER						FILTER		UNIT WEIGHT (LBS)	NOTES					
			V/FPHZ	UNIT MCA AMP	MOP AMP			OUTDOOR AIR	VENTILATION SUPPLY AIR	RETURN AIR	HEAT EXCHANGER EFFECTIVENESS (%)	OUTDOOR AIR	VENTILATION SUPPLY AIR	RETURN AIR	HEAT EXCHANGER EFFECTIVENESS (%)	OUTSIDE AIR	RETURN AIR											
			TYPE	QTY @ HP	FLA (AMP)	CFM	°F DB/WB	CFM	°F DB/WB	CFM	°F DB/WB	SENSIBLE	TOTAL	CFM	°F DB/WB	CFM	°F DB/WB	CFM	°F DB/WB	SENSIBLE	TOTAL							
ERV-1	AHU-1	RENEVAIRE HE-1.5JINH	120/60/1	18	20	ECM	2 @ 1.0	8	1214	89.9/73.1	1200	79.3/68	1340	75/62.5	71.5	50.5	1214	3.5/1.6	1200	51/39.4	1340	70/51.5	71.5	69	MERV 8	MERV 8	500	1 TO 7
ERV-2	AHU-2	RENEVAIRE HE-1XJINH	120/60/1	18.2	25	ECM	2 @ 0.50	8.1	510	89.9/73.1	500	77.9/67.7	600	75/62.5	80.5	63.1	510	3.5/1.6	500	57/43.3	600	70/51.5	80.5	78.4	MERV 8	MERV 8	275	1 TO 7
ERV-3	AHU-3	RENEVAIRE HE-1XJINV	120/60/1	18.2	25	ECM	2 @ 0.50	8.1	706	89.9/73.1	700	81.8/68.9	430	75/62.5	88.9	68.7	706	3.5/1.6	700	39.8/32.6	430	70/51.4	88.9	88.2	MERV 8	MERV 8	275	1 TO 7
ERV-4	VRF FCUs	RENEVAIRE EV450JIN	120/60/1	10.1	15	ECM	1 @ 0.50	8.1	381	89.9/73.1	375	83/70	200	75/62.5	47	34	381	3.5/1.6	375	34.7/29.3	200	70/51.5	-	43	MERV 8	MERV 8	199	1 TO 5, 7, 8

NOTES:

- MANUFACTURER PROVIDED BACNET CONTROLLER AND SENSORS. INTERFACE WITH BAS. REFER TO SECTION 230993
- MANUFACTURER SHALL PROVIDE DISCONNECT SWITCH.
- FAN MOTOR SHALL BE ECM DIRECT DRIVE
- UNIT SHALL BE PROVIDED WITH ENTHALPIC MOTORIZED DAMPERS ALL AIRSTREAMS
- UNIT SHALL BE PROVIDED WITH BY PASS ECONOMIZER DAMPERS
- PROVIDE WITH SUPPORT FRAME SUSPENDED FROM THE STRUCTURE. PROVIDE WITH VIBRATION ISOLATION BETWEEN UNIT AND SUPPORT FRAME. REFER TO 230548
- REFER TO SPECIFICATION SECTION 23 74 33 FOR MORE INFORMATION
- MECHANICAL CONTRACTOR TO PROVIDE VOLUME DAMPER AT EXHAUST DUCT TO BALANCE EXHAUST AIRFLOW

FAN SCHEDULE										
TAG	AREA SERVED	TYPE	CFM	EXTERNAL STATIC PRESS (IN. WG.)	FAN RPM	ELECTRICAL		SONES	MODEL	NOTES
						VOLTS/Ø	HP			
EF-1	TOILET 102	CABINET IN-LINE	120	0.375	1514	115/1	0.013	2.0	GNVF-340	1, 2
EF-2	GROOMING	CABINET IN-LINE	135	0.50	1272	115/1	1/6	2.5	GNVF-500	1, 3
EF-3	MECH RM 106	IN-LINE	150	0.50	1432	115/1	1/6	3.9	90SQN17DL VF	5, 7
EF-4	IT / ELECTRICAL	IN-LINE	150	0.50	1432	115/1	1/6	3.9	90SQN17DL VF	5, 7
EF-5	DRYER BOOSTER	IN-LINE	150	0.20	-	115/1	83 W	-	FANTECH DEDPV-705	4
EF-6	ATTIC	IN-LINE	450	0.50	1444	115/1	1/4	5.3	120SQN17DEC	7, 8

NOTES:

- PROVIDE CABINET IN-LINE EXHAUST FAN WITH DISCONNECT SWITCH, VIBRATION ISOLATOR, BACKDRAFT DAMPER AND SOLID STATE SPEED CONTROLLER
- INTERLOCK WITH OCCUPANCY SENSOR. REFER TO ELECTRICAL DRAWING FOR WIRING.
- INTERLOCK WITH WALL SWITCH. WALL SWITCH SHALL HAVE TIMED OPERATION. REFER TO ELECTRICAL DRAWING FOR WIRING.
- UL 705 DRYER BOOSTER. PROVIDE WITH DELT4W SECONDARY DRYER LINT TRAP. PRESSURE SENSING SWITCH, TEMPERATURE LIMIT SWITCH, WALL MOUNTED INDICATOR PANEL WITH 50 FT CABLE AND UNIT PROVIDED FAST CLAMPS FOR EASY INSTALLATION AND MAINTENANCE. PROVIDE WITH DRYER VENT BOX
- INTERLOCK WITH OCCUPANCY SENSOR AND WITH ROOM TEMPERATURE SENSOR. REFER TO ELECTRICAL DRAWING FOR WIRING AND 23 09 93 FOR CONTROLS SEQUENCE OF OPERATION
- DIRECT DRIVE IN-LINE FAN. PROVIDE WITH DISCONNECT SWITCH. FAN HOUSING WITH 0.5 INCH THICK INSULATION. ELECTRONIC COMMUTATION DRIVE MOTOR WITH 0-10V WIRE INPUT, RESTRAINED SPRING ISOLATOR. PROVIDE WITH GRAVITY BACKDRAFT DAMPER
- DIRECT DRIVE IN-LINE FAN. PROVIDE WITH DISCONNECT SWITCH. FAN HOUSING WITH 0.5 INCH THICK INSULATION. ELECTRONIC COMMUTATION DRIVE MOTOR WITH 0-10V WIRE INPUT, RESTRAINED SPRING ISOLATOR. PROVIDE WITH MOTORIZED BACKDRAFT DAMPER. SAME VOLTAGE AS FAN WITH END SWITCH. REFER TO ELECTRICAL FOR WIRING.
- INTERLOCK WITH LIGHT SWITCH AND SPACE TEMPERATURE SENSOR. REFER TO 23 09 93 FOR SEQUENCE OF OPERATION

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave
 Montville, CT



SILVER PETRUCELLI + ASSOCIATES
 3190 WHITNEY AVENUE HAMDEN CT 06518
 311 STATE STREET NEW LONDON CT 06320
 203 230 9007 silverpetrucci.com

Revision:	Description:	Date:	Revised By:

Drawing Title:
MECHANICAL SCHEDULE

Date: 09/29/2023
 Scale: NONE
 Drawn By: AMG
 Project Number: 22.130
 Drawing Number: **M901**

GENERAL NOTES

GENERAL

- WHEN A CONFLICT BETWEEN THE DRAWINGS, NOTES AND/OR SPECIFICATIONS OCCUR, THE MORE STRINGENT, AND/OR LARGER QUANTITY AND/OR MORE EXPENSIVE SHALL APPLY. THE REQUIREMENTS LISTED WITHIN NOTES OR SPECIFICATIONS SHALL BE REQUIRED, PROVIDED AND INSTALLED WHETHER SPECIFICALLY INDICATED ON THE DRAWINGS OR NOT.
- ALL WORK AND ACTION DEPICTED AND DESCRIBED SHALL BE PERFORMED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.
- REPAIR AND/OR REPLACE AT NO COST TO THE OWNER ALL EQUIPMENT, DEVICES AND MATERIALS DAMAGED DURING CONSTRUCTION.
- ALL EQUIPMENT SHALL BE LOCATED IN ACCESSIBLE LOCATIONS. WHEN A PIECE OF EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING OR WALL, THEN AN APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. THESE SHALL BE COORDINATED WITH THE OWNER AND ARCHITECT.
- ANY COP REQUEST FOR ELECTRICAL WORK AFTER AWARD MUST BE BASED ON NORMAL NECA COMMERCIAL LABOR UNITS & NATIONAL AVERAGE MATERIAL AMP MATERIAL COST PRICES; NATIONAL AVERAGE AMP DATA BASE FOR MATERIAL AND NECA LABOR RATES MUST BE SUBMITTED TO THE ENGINEER OF RECORD AT THE TIME OF AWARD.

WIRING & RACEWAY

- THE DRAWINGS SHOW THE GENERAL LAYOUT AND TYPICAL DETAILS. PROVIDE ALL NECESSARY EQUIPMENT AND LABOR FOR A COMPLETE SYSTEM. DRAWINGS ARE BASED ON THE SPECIFIED EQUIPMENT, RACEWAY LAYOUTS, BOXES AND WIRING OF THE SYSTEMS ARE SUBJECT TO APPROVED SHOP DRAWINGS.
- ENSURE THAT ITEMS TO BE FURNISHED FIT THE SPACE AVAILABLE. MAKE NECESSARY FIELD MEASUREMENTS TO ASCERTAIN SPACE REQUIREMENTS, INCLUDING THOSE FOR CONNECTIONS, AND PROVIDE SUCH SIZES AND SHAPES OF EQUIPMENT THAT FINAL INSTALLATION SHALL SATISFY THE INTENT OF THE DRAWINGS AND SPECIFICATIONS.
- LOCATIONS OF OUTLETS, SWITCHES, APPLIANCES, ETC. AS SHOWN ON ELECTRICAL PLANS ARE APPROXIMATE. COORDINATE WITH ARCHITECTURAL AND MECHANICAL PLANS AND DETAILS, AND PROJECT CONDITIONS. INSTALL SWITCHES WITH "OFF" POSITION DOWN. INSTALL RECEPTACLES WITH GROUNDING POLE IN THE UP POSITION FOR VERTICAL MOUNTING AND AT RIGHT FOR HORIZONTAL MOUNTING.
- LOCATE AND INSTALL ELECTRICAL EQUIPMENT, JUNCTION AND PULL BOXES, PANELBOARDS, SWITCHES, CONTROLS, AND OTHER APPARATUS REQUIRING MAINTENANCE, INSPECTION, AND OPERATION SO AS TO BE READILY ACCESSIBLE.

RACEWAY INSTALLATION

- IN ALL ARCHITECTURALLY FINISHED SPACES, CONDUITS AND CABLES SHALL BE RUN CONCEALED IN HUNG OR FURRED CEILINGS, SLABS, MASONRY, AND PARTITIONS UNLESS OTHERWISE INDICATED. SAW CUTTING AND FINISHED PATCHING SHALL BE REQUIRED IN EXISTING SLABS AND MASONRY WALLS. IN UNFINISHED SPACES, RACEWAYS MAY BE RUN EXPOSED.
- UNLESS OTHERWISE INDICATED, EXACT ROUTING OF RACEWAYS SHALL BE DETERMINED BY THE CONTRACTOR TO SUIT PROJECT REQUIREMENTS AND FIELD CONDITIONS.
- PROVIDE SEPARATE RACEWAYS, JUNCTION BOXES, PULL BOXES AND WIREWAYS FOR ALL EMERGENCY SYSTEM WIRING.
- CONTRACTOR SHALL PROVIDE ALL REQUIRED SLEEVES AND SEALS FOR PIPES OR CONDUITS PENETRATING WALLS OR FLOOR SLABS WITH UL LISTED FIRE STOPPING SEALANT MATCHING OR EXCEEDING THE FLUR OR WALL RATINGS WHERE REQUIRED.
- ELECTRICAL CONDUITS AND BOXES SHALL BE CONCEALED IN WALLS OR ABOVE CEILINGS WHEREVER POSSIBLE. WHERE SURFACE CONDUITS ARE REQUIRED IT MUST MATCH THE WALL COLOR (PAINTED) THAT IT IS BEING ATTACHED TO, REFER TO RACEWAY & BOX SPECIFICATION FOR FURTHER DETAILS.

WIRING INSTALLATION

- DO NOT USE WIRE SMALLER THAN NO. 12 AWG FOR ANY POWER OR LIGHTING CIRCUIT. USE LARGER SIZES WHERE INDICATED, AS REQUIRED BY CODES, AND AS FOLLOWS:

30 AMPERE CIRCUIT:	NO. 10
40 AMPERE CIRCUIT:	NO. 8
50 AMPERE CIRCUIT:	NO. 6
60 AMPERE CIRCUIT:	NO. 6
- MINIMUM HOMERUN AND BRANCH CIRCUIT WIRING SIZES AND MAXIMUM HOMERUN CONDUIT FILL FOR 120 VOLT, 20 AMPERE CIRCUITS SHALL BE AS FOLLOWS:

LENGTH	CIRCUIT WIRE SIZE	HOMERUN WIRE SIZE	CONDUIT SIZE (Ø WIRES/CONDUIT)
0' - 50'	#12	#12	3/4"
51' - 100'	#12	#10	3/4"
101' - 200'	#10	#8	1"

GREATER THAN 200' - REQUEST DIRECTION FROM ARCHITECT.

NOTE: PROVIDE DERATING PER CODE WHEN INSTALLING MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.

GREATER THAN 200' - REQUEST DIRECTION FROM ARCHITECT.

NOTE: PROVIDE DERATING PER CODE WHEN INSTALLING MORE THAN 3 CURRENT CARRYING CONDUCTORS IN A SINGLE CONDUIT.

- DO NOT USE WIRE SMALLER THAN NO. 14 AWG FOR CONTROL CIRCUITS UNLESS OTHERWISE RECOMMENDED BY THE EQUIPMENT OR SYSTEMS MANUFACTURER ON WIRING SHOP DRAWINGS, AND SO APPROVED BY THE ENGINEER.

- WHERE GREATER THAN THREE (3) CURRENT CARRYING CONDUCTORS ARE INSTALLED IN ANY ONE CONDUIT OR CABLE, CONDUCTORS MUST BE DERATED AND SIZES INCREASED, IF NEEDED, TO ACCOMMODATE CONDUITORS DERATING AS REQUIRED BY NEC ARTICLE 310.

- CONDUCTORS SHALL BE COMPLETELY INSTALLED AND CONNECTED. PROVIDE ALL TERMINALS, LUGS, AND CONNECTORS TO SUIT THE APPLICATION, AND IN COMPLIANCE WITH EQUIPMENT MANUFACTURERS' RECOMMENDATIONS.

- UNDER NO CIRCUMSTANCES SHALL ANY SWITCH OR CIRCUIT BREAKER BREAK A NEUTRAL CONDUCTOR.
- THE CIRCUIT NUMBERS INDICATED ON THE DRAWINGS ARE INTENDED AS A GUIDE FOR PROPER CONNECTION OF CIRCUITS AT PANELS. HOWEVER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO ENSURE THAT THE FINAL CUTTING WORK FULFILLS THE FOLLOWING CONDITIONS:
 - LOADS ON PANEL BUSES SHALL BE PHASE BALANCED AS EVENLY AS POSSIBLE.

GROUNDING INSTALLATION

- EQUIPMENT GROUNDING
 - INSTALL AN INSULATED GROUND CONDUCTOR, RUN IN THE RACEWAY WITH THE PHASE CONDUCTORS, FOR EACH FEEDER SERVICING PANELBOARDS, LIGHTING DIMMER PANELS, MOTOR CONTROL CENTERS, MOTORS, EQUIPMENT AND APPLIANCES UNLESS OTHERWISE NOTED.
 - INCLUDE AN INSULATED GROUND CONDUCTOR IN ALL CONDUIT RUNS CONTAINING SECTIONS OF FLEXIBLE CONDUIT UNLESS OTHERWISE NOTED.
 - INCLUDE AN INSULATED GROUND CONDUCTOR IN ALL BRANCH CIRCUIT RACEWAYS OR CABLES UNLESS OTHERWISE NOTED.

TELECOMMUNICATIONS CLOSET GROUNDING

- PROVIDE A #4 AWG GROUND CONDUCTOR RISER IN 1" EMT CONDUIT TO EACH TELECOMMUNICATIONS CLOSET GROUNDING BUSBAR (TGB) FROM THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB), AND TO MAIN SERVICE GROUNDING ELECTRODE SYSTEM.
- CONNECT THE GROUND RISER TO THE "TMGB" AND "TGB" PER TABLE STANDARDS 607.
- PROVIDE ADDITIONAL #4 AWG GROUND CABLE CONNECTIONS FROM EACH "TMGB" AND "TGB" TO THE CLOSEST BUILDING STEEL AND TO THE GROUND BUS IN THE ELECTRIC PANEL FEEDING OUTLETS AND EQUIPMENT IN THE ASSOCIATED TELECOMMUNICATIONS ROOM/CLOSET.
- GROUND EACH TELECOMMUNICATIONS, FIRE ALARM, SECURITY, AND BMS SYSTEM EQUIPMENT AND CONTROL PANEL WITHIN EACH TELECOMMUNICATIONS ROOM/CLOSET TO THE ASSOCIATED CLOSET "TMGB" OR "TGB" WITH #4 AWG CONDUCTOR PER TABLE STANDARD 607.

RACEWAYS FOR TELECOMMUNICATION SYSTEMS

- PROVIDE EMPTY CONDUIT SYSTEMS FOR TELECOMMUNICATION WORK, COMPLETE WITH PULL BOXES, OUTLET BOXES, AND CONDUIT AS INDICATED ON THE DRAWINGS.
- PROVIDE MINIMUM INSIDE BENDING RADIUS OF 10 TIMES CONDUIT INSIDE DIAMETER FOR ALL TELECOMMUNICATIONS RACEWAYS.
- WHEN COMPLETED THE CONDUIT SYSTEMS SHALL BE READY FOR INSTALLATION OF WIRING AND EQUIPMENT.
- FOR EACH OUTLET PROVIDE A 1" EMPTY EMT CONDUIT ROUTED INTO THE CEILING CAVITY OR TO THE CLOSEST TELECOMMUNICATIONS CLOSET. PROVIDE A PULL STRING IN EACH CONDUIT RUN AND TERMINATE BEYOND THE BUSHED ELBOW.

MECHANICAL EQUIPMENT WIRING

- UNLESS OTHERWISE INDICATED OR SPECIFIED HEREIN, ALL MOTORS, MOTOR STARTERS, MOTOR CONTROLLERS, VARIABLE SPEED/FREQUENCY DRIVES, AND ASSOCIATED CONTROL DEVICES ARE FURNISHED AND INSTALLED UNDER THIS DIVISION. COORDINATE INSTALLATION AND LOCATIONS WITH OTHER DIVISION CONTRACTORS.
- POWER WIRING FROM THE INDICATED SOURCE TO THE STARTER/CONTROLLER/DRIVE UNIT, AND FROM THE STARTER/CONTROLLER/DRIVE UNIT TO THE MOTOR, INCLUDING ANY LOCAL DISCONNECT SWITCHES PROVIDED AND INSTALLED BY THIS DIVISION, AND ALL ASSOCIATED LUGS, TERMINALS, AND CONNECTIONS, ARE THE WORK OF THIS DIVISION.
- CONTROL CIRCUIT WIRING IS GENERALLY FURNISHED AND INSTALLED UNDER OTHER DIVISIONS, EXCEPT THAT ANY SUCH WIRING SHOWN ON ELECTRICAL DRAWINGS IS WORK OF THIS DIVISION.
- PROVIDE 120 VOLT POWER TO ALL TEMPERATURE CONTROL PANELS (TOP'S) SUPPLIED AND INSTALLED BY MECHANICAL CONTRACTOR. USE EMERGENCY POWER SOURCES WHEN AVAILABLE. COORDINATE ALL POWER REQUIREMENTS AND PANEL LOCATIONS WITH TEMPERATURE CONTROLS CONTRACTOR.
- COOPERATE AND COORDINATE WITH OTHER TRADES IN THE INSTALLATION, CONNECTION, AND TESTING OF MECHANICAL EQUIPMENT. PERFORM WORK OF THIS SECTION IN ACCORDANCE WITH EQUIPMENT MANUFACTURERS' INSTRUCTIONS.

COORDINATION DRAWINGS

- DEVELOP AND SUBMIT COORDINATION DRAWINGS AS OUTLINED.
 - SHEET METAL, PLUMBING AND FIRE PROTECTION SHOP DRAWINGS THAT HAVE BEEN COORDINATED WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS SHALL BE SUBMITTED TO ENGINEER FOR REVIEW. DRAWINGS MUST BE RETURNED FROM ENGINEER EITHER "REVIEWED" OR "FURNISH AS CORRECTED" PRIOR TO BEING USED AS BASIS FOR COORDINATION DRAWINGS.
 - AFTER SHEET METAL AND PIPING DRAWINGS HAVE BEEN REVISED PER ENGINEERS COMMENTS, REPRODUCIBLE COPIES SHALL BE SENT TO THE TRADES IN THE FOLLOWING SEQUENCE FOR INCLUSION OF THEIR WORK:
 - MECHANICAL SHEET METAL
 - PLUMBING PIPING
 - MECHANICAL PIPING
 - SPRINKLER PIPING
 - ELECTRICAL WORK
- AFTER ALL TRADES HAVE INCLUDED THEIR WORK ON THE COORDINATION DRAWING AND NOTED CONFLICTS, ALL TRADES SHALL MEET TO RESOLVE CONFLICTS AND AGREE TO ACCEPTABLE SOLUTIONS. EACH TRADE SHALL SIGN COORDINATION DRAWINGS. ITEMS NOT SHOWN ON COORDINATION DRAWING IS RESPONSIBILITY OF OMITTING CONTRACTOR AND CONTRACTOR IS SUBJECT TO ADDITIONAL COSTS INCURRED BY OTHER TRADES.

- THE ARCHITECT AND ENGINEER ARE NOT PART OF THE COORDINATION DRAWING PROCESS. THE ENGINEER WILL PROVIDE ASSISTANCE FOR NOTED CONFLICTS ONLY. COORDINATION DRAWINGS ARE NOT BE CONSIDERED PIPING OR DUCT SHOP DRAWINGS. THE CONTRACTOR IS REQUIRED TO SUBMIT INDIVIDUAL PIPING AND DUCTWORK SHOP DRAWINGS FOR REVIEW BY THE ENGINEER. PIPING AND DUCTWORK SHOP DRAWINGS SHALL FOLLOW THE DESIGN INTENT OF THE CONTRACT DOCUMENTS.

- SUBMIT FINAL SIGNED COORDINATION DRAWING TO ENGINEER FOR REVIEW. ENGINEER WILL REVIEW COORDINATION DRAWINGS FOR GENERAL ARRANGEMENT AND FOR NOTED CONFLICTS ONLY. SPECIFIC INSTALLATION REQUIREMENTS WILL BE REVIEWED ONLY IN INDIVIDUAL TRADE SHOP DRAWINGS.

- ANY WORK FABRICATED OR INSTALLED PRIOR TO SIGN OFF BY ALL TRADES WHICH IS DEEMED TO BE IN CONFLICT WITH COORDINATION DRAWINGS SHALL BE REMOVED AND RE-INSTALLED IN CONFORMANCE WITH COORDINATION DRAWINGS AT NO ADDITIONAL COST TO THE OWNER.

- EACH CONTRACTOR (MENTIONED ABOVE) ARE RESPONSIBLE FOR COORDINATION OF THEIR SUB-CONTRACTORS.

- THE OVERALL COORDINATION OF THE COORDINATION PROCESS IS THE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER IS NOT RESPONSIBLE FOR THE COORDINATION PROCESS. THE ENGINEER WILL RESPOND TO QUESTIONS THAT ARISE FROM THE COORDINATION PROCESS. DRAWINGS SUBMITTED WILL BE REVIEWED FOR CLEARLY IDENTIFIED CONFLICTS ONLY. SOLUTIONS TO CONFLICTS WILL NOT BEAR ADDITIONAL COST.

AS-BUILT DRAWINGS

- PROVIDE COMPLETE SET OF AS-BUILT DRAWINGS REFLECTING AS INSTALLED CONDITIONS. AS-BUILT DRAWINGS SHALL INDICATE ALL INSTALLED CONDITIONS OF SYSTEMS WITHIN THIS DISCIPLINE. DRAWINGS SHALL BE SIMILAR SCALE AS THE CONSTRUCTION DOCUMENTS AND INCLUDE DETAILS AS NECESSARY TO CLEARLY REFLECT THE INSTALLED CONDITION. DRAWINGS SHALL BE BOUND IN A COMPLETE AND CONSECUTIVE SET. SUPPLEMENTAL SKETCHES AND LOOSE PAPERWORK WILL NOT BE ACCEPTABLE AND WILL BE RETURNED FOR REVISION. THE CONTRACTOR SHALL COMPLY WITH THE ENGINEERS COMMENTS TO PRODUCE A CLEAR AND CONCISE SET OF DRAWINGS. DRAWINGS SHALL BE SUBMITTED IN BOTH HARD COPY AND ELECTRONICALLY (AUTOCAD) VERSION AS REQUIRED BY OWNER) VERSION. NUMBER OF COPIES OF EACH AS REQUESTED BY THE OWNER.
- PROVIDE "AS-BUILT DRAWINGS" INDICATING IN A NEAT AND ACCURATE MANNER A COMPLETE RECORD OF ALL REVISIONS TO THE ORIGINAL DESIGN OF THE WORK. INDICATE THE FOLLOWING INSTALLED CONDITIONS:
 - INCLUDE ALL CHANGES AND AN ACCURATE RECORD, ON REPRODUCTIONS OF THE CONTRACT DRAWINGS OR APPROPRIATE SHOP DRAWING.
 - DRAWINGS, OF ALL DEVIATIONS, BETWEEN THE WORK SHOWN AND THE WORK INSTALLED.
 - EQUIPMENT LOCATIONS (EXPOSED AND CONCEALED), DIMENSIONED FROM PROMINENT BUILDING LINES.
 - APPROVED SUBSTITUTIONS, CONTRACT MODIFICATIONS, AND ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
 - CONTRACT MODIFICATIONS, ACTUAL EQUIPMENT AND MATERIALS INSTALLED.
 - SUBMIT FOR REVIEW BOUND SETS OF THE REQUIRED DRAWINGS, MANUALS AND OPERATING INSTRUCTIONS.
 - SUBMIT A COMPLETE MAINTENANCE MANUAL OF ALL EQUIPMENT INSTALLED UNDER THIS CONTRACT.

ELECTRICAL LEGEND

- ELECTRICAL PANELBOARD RATED FOR 120/208V-3PHASE
- NON-FUSED DISCONNECT SWITCH.
- FUSED DISCONNECT SWITCH.
-
-
- 2X2 RECESSED LUMINAIRE
- WRAPAROUND LED LUMINAIRE (REFER TO LIGHT FIXTURE SCHEDULE FOR LENGTH)
- WALL MOUNTED LED LUMINAIRE
- RECESSED DOWNLIGHT
- CEILING MOUNTED EXIT SIGN. SHADING INDICATES DIRECTION OF FIXTURE FACE.
- CEILING MOUNTED EXIT SIGN. SHADING INDICATES DIRECTION OF FIXTURE FACE. ARROW INDICATES DIRECTION OF CHEVRON.
- SINGLE-POLE SWITCH; MOUNT AT 48" AFF.
- 3-WAY SWITCH; MOUNT AT 48" AFF.
- 4-WAY SWITCH; MOUNT AT 48" AFF.
- SINGLE-POLE MOTION SENSOR SWITCH; MOUNT AT 48" AFF.
- DIMMING LIGHT SWITCH.
- SINGLE-POLE PILOT SWITCH; MOUNT AT 48" AFF.
- CEILING MOUNTED OCCUPANCY SENSOR.
- TOGGLE SWITCH WITH THERMAL OVERLOAD PROTECTION.
- DUPLEX RECEPTACLE; MOUNTED ABOVE COUNTER 42" A.F.F. OR 48" A.F.F. (IN TOILET).
- DUPLEX GROUND FAULT RECEPTACLE; MOUNTED ABOVE COUNTER 42" A.F.F. OR 48" A.F.F. (IN TOILET).
- DUPLEX RECEPTACLE; MOUNT AT 18" AFF UNLESS OTHERWISE SPECIFIED.
- QUAD RECEPTACLE; MOUNTED ABOVE COUNTER 42" A.F.F.
- QUAD RECEPTACLE; MOUNT AT 18" AFF UNLESS OTHERWISE SPECIFIED.
- NEMA POWER RECEPTACLE; MOUNT AT 18" AFF UNLESS OTHERWISE SPECIFIED.
- VOICE/DATA OUTLET, 4" X 4" OUTLET BOX WITH A 1 GANG COVER 18 INCHES ABOVE FINISHED FLOOR OR AS NOTED WITH 3/4" CONDUIT TO 8" ABOVE ACCESSIBLE CEILING AND TWO CAT 6 CABLES V.XID.X = NUMBER OF VOICE/DATA PORTS.
- FLUSH OUTLET BOX FOR WALL-MOUNTED TELEPHONE
- CALL-FOR-AID SWITCH; MOUNT AT 48" AFF WITH CORD EXTENDING TO WITHIN 12" OF FLOOR.
- CALL-FOR-AID CORRIDOR LIGHT/BUZZER.
- BRANCH CIRCUIT HOMERUN.
- CONDUIT AND WIRE.
- CONDUIT AND WIRE, SWITCHED.

ABBREVIATION

- AFF ABOVE FINISHED FLOOR
- C CEILING MOUNTED
- DM DRYER MACHINE
- G GROUND FAULT INTERRUPTER
- REF REFRIGERATOR
- MW MICROWAVE
- WP WEATHERPROOF
- WM WASHER MACHINE
- W WALL MOUNTED

Project Title:
New Animal Facility at:
Montville Animal Shelter
225 Maple Ave.
Montville, CT



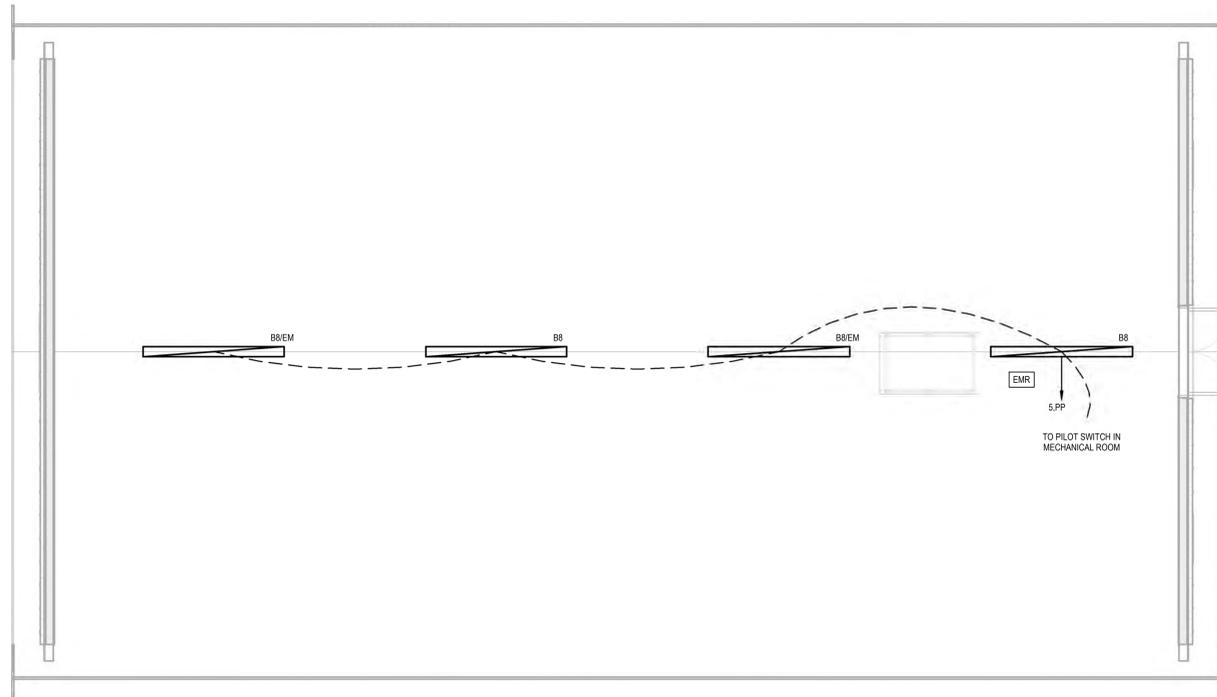
SILVER PETRUCCELLI + ASSOCIATES
3190 WHITNEY AVENUE HAMDEN CT 06518
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203 230 9007 silverpetrucci.com

Revision:	Description:	Date:	Revised By:

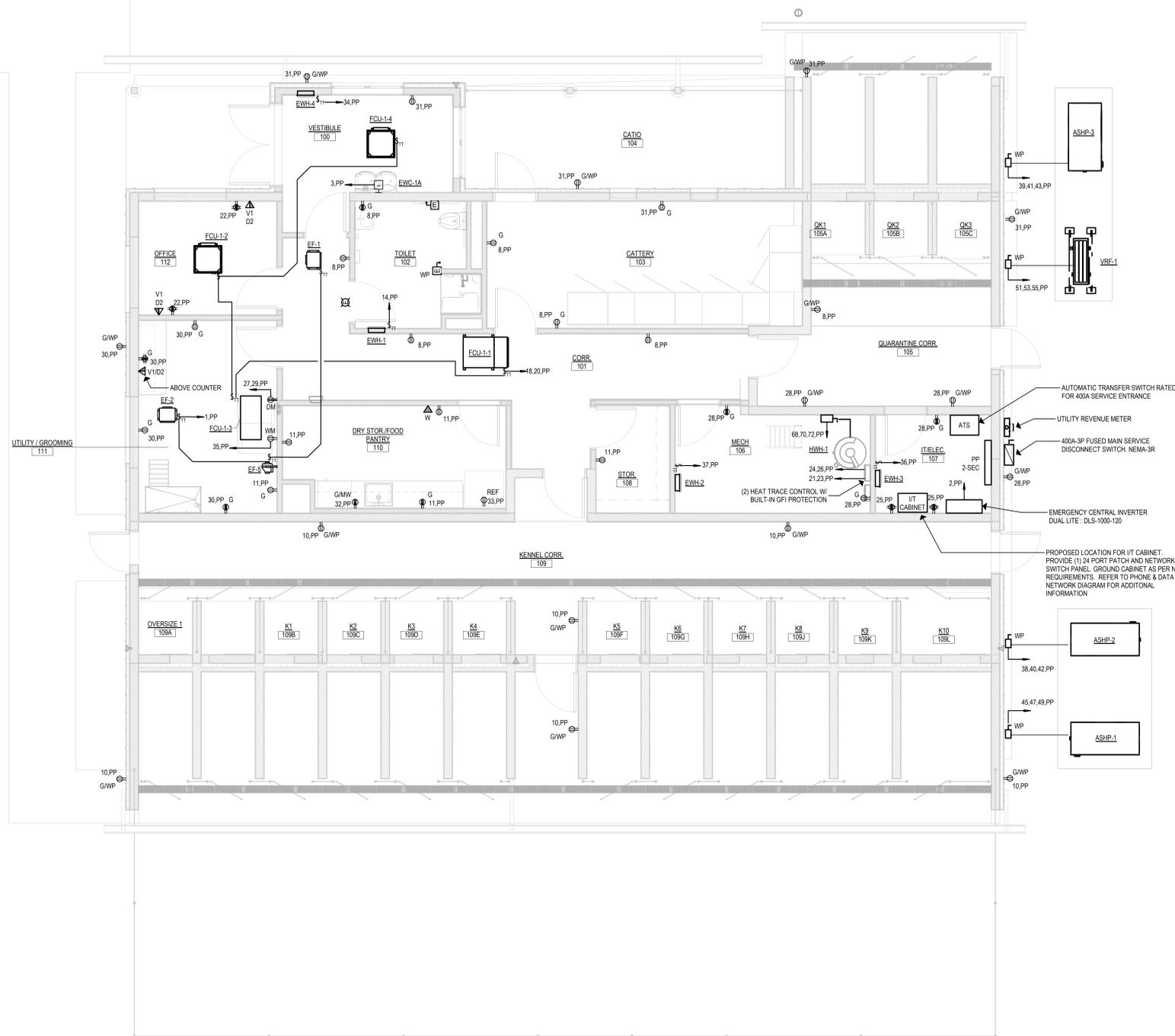
Drawing Title:
ELECTRICAL GENERAL NOTES AND
LEGEND

Date:
09/29/2023
Scale:
AS NOTED
Drawn By:
JRP
Project Number:
22.130

E001



1 ELECTRICAL ATTIC LIGHTING PLAN
1/4" = 1'-0"



- GENERAL POWER NOTES**
- ALL WORK SHALL CONFORM WITH THE ELECTRICAL SPECIFICATIONS AND LATEST ACCEPTED NATIONAL ELECTRICAL CODE (NEC).
 - ALL ELECTRICAL EQUIPMENT INCLUDED BUT NOT LIMITED TO ELECTRICAL PANELS, DISCONNECTS, STARTERS AND VFD TO BE INSTALLED SHALL BE MOUNTED ON 3/4" FIRE RATED PLYWOOD BACKBOARD TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
 - PROVIDE UNISTRUT AS REQUIRED TO INSTALL DISCONNECT, VFD OR STARTER NEAR EQUIPMENT AND ACCESSIBLE.
 - FINAL LOCATION OF POWER SHALL BE COORDINATED WITH FURNITURE AND EQUIPMENT.
 - DEVICES TO BE INSTALLED ABOVE COUNTER SHALL BE MOUNTED 6" FROM COUNTER SURFACE (WHEN THERE IS NO BACK SPLASH) OR 6" FROM BACK SPLASH.
 - ALL ELECTRICAL EQUIPMENT INCLUDED BUT NOT LIMITED TO ELECTRICAL PANELS, DISCONNECT, STARTERS, AND VFD SHALL BE MOUNTED ON 3/4" FIRE RATED PLYWOOD BACKBOARD TO BE PROVIDED BY ELECTRICAL CONTRACTOR.
 - PROVIDE UNISTRUT AS REQUIRED TO INSTALL DISCONNECT MEANS NEAR EQUIPMENT AND ACCESSIBLE.
 - REFER TO ONE-LINE RISER DIAGRAM ON SHEET E600 FOR ADDITIONAL INFORMATION ON ELECTRICAL EQUIPMENT AND DISTRIBUTION.

1 ELECTRICAL MAIN LEVEL POWER PLAN
1/4" = 1'-0"

Project Title:
**New Animal Facility at:
 Montville Animal Shelter**
 225 Maple Ave.
 Montville, CT



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Drawing Title:
**ELECTRICAL MAIN LEVEL POWER
 PLAN**

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 Scale: AS NOTED
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E200

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